SECTION MWI
METER, WARNING LAMP & INDICATOR

CONTENTS

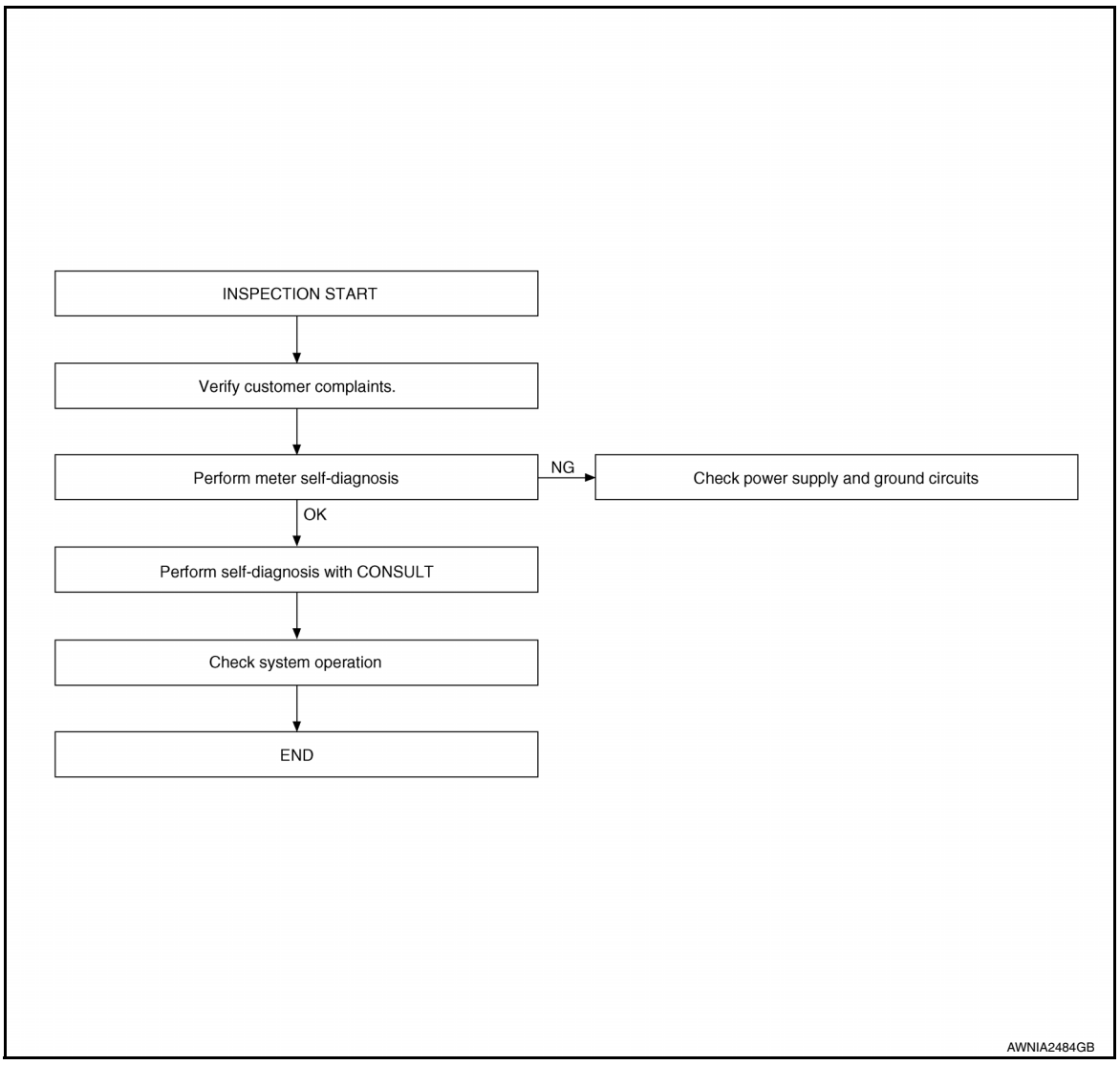
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000010049525

OVERALL SEQUENCE



DETAILED FLOW

1.CONFIRM SYMPTOM

Confirm symptom or customer complaint.

>> GO TO 2

2.CHECK SELF-DIAGNOSIS OPERATION OF COMBINATION METER

Perform self-diagnosis of combination meter. Refer to MWI-29, "Diagnosis Description".

Does self-diagnosis mode operate?

YES >> GO TO 3
NO >> Check power supply and ground circuit of combination meter. Refer to MWI-37, "COMBINATION METER : Diagnosis Procedure". Then, GO TO 4

3.CHECK COMBINATION METER (CONSULT)

Select “METER/M&A” on CONSULT and perform “SELF-DIAGNOSIS” of combination meter. Refer to MWI-29, "CONSULT Function (METER/M&A)".

Self-diagnostic results content

No malfunction detected>>Repair or replace the cause of symptom. Then, GO TO 4
Malfunction detected>>Refer to MWI-51, "DTC Index". Then, GO TO 4

4. CONFIRM OPERATION

Does the combination meter operate normally?

YES or NO

YES >> Inspection End.
NO >> GO TO 1

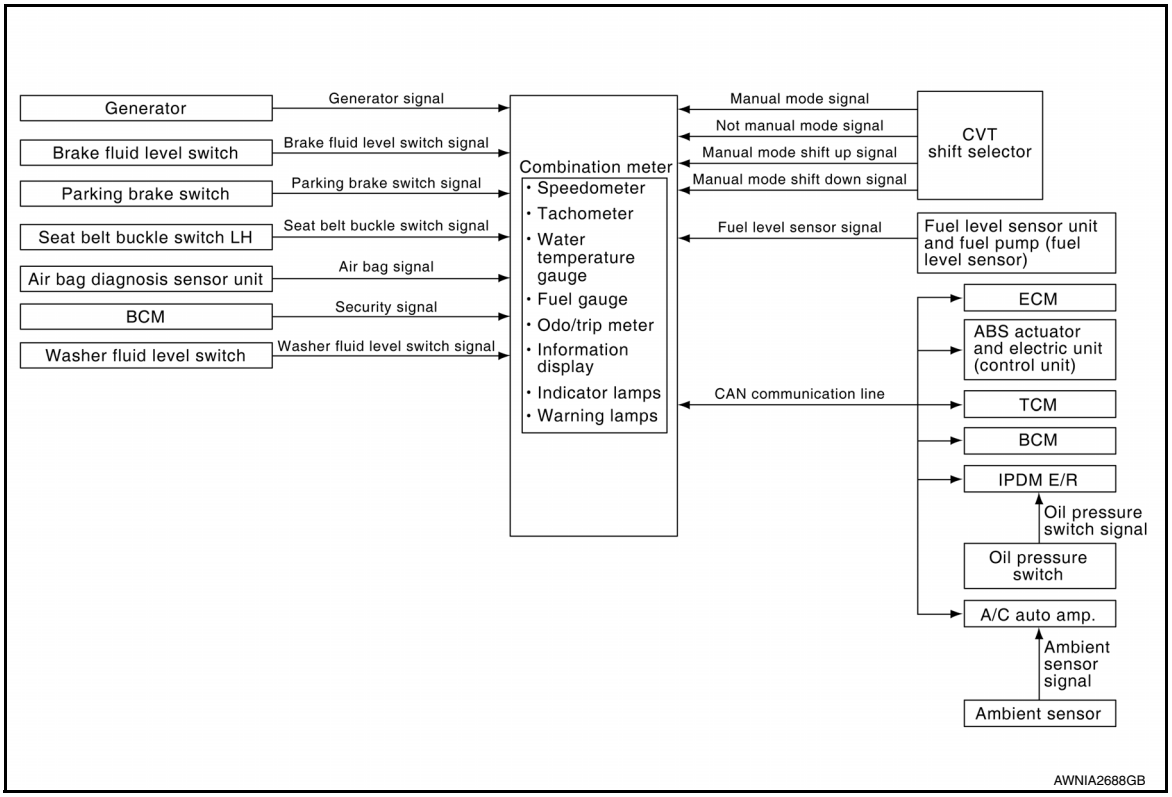
SYSTEM DESCRIPTION

METER SYSTEM

METER SYSTEM

METER SYSTEM : System Diagram

INFOID:0000000010049526



METER SYSTEM : System Description

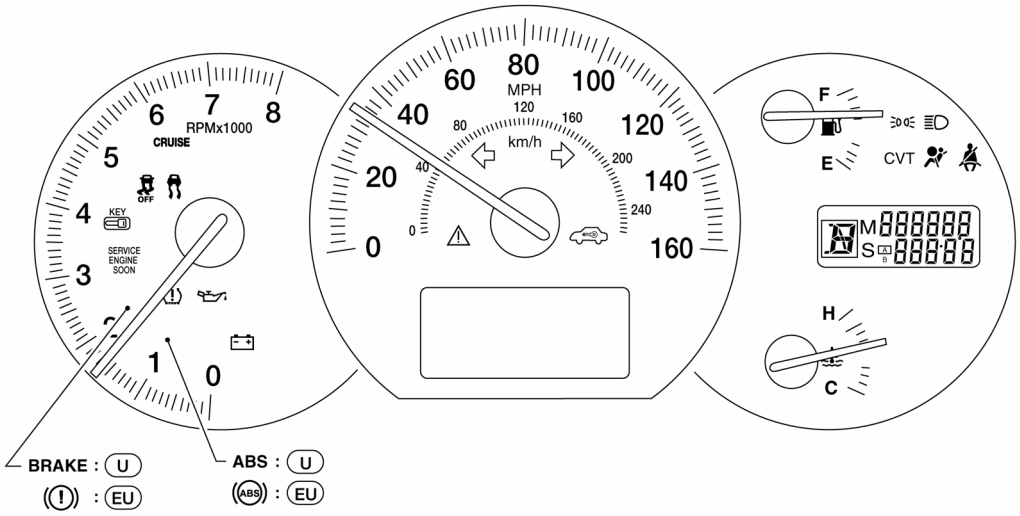
INFOID:0000000010049527

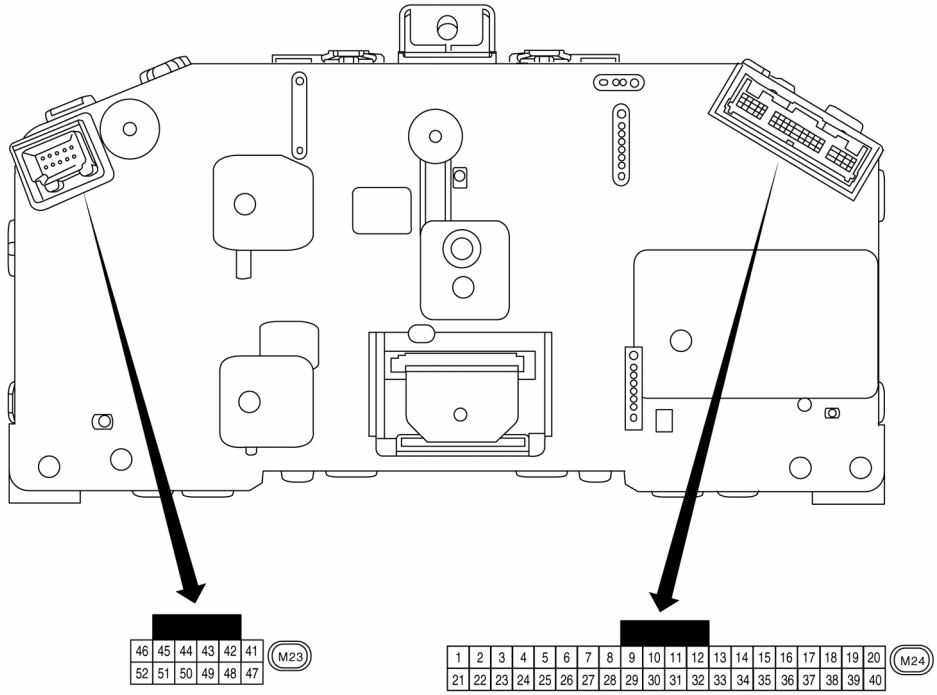
COMBINATION METER

- Speedometer, odo/trip meter, tachometer, fuel gauge, water temperature gauge and information display are controlled by the unified meter control unit, which is built into the combination meter.
- Warning and indicator lamps are controlled by the unified meter control unit and by components connected directly to the combination meter.
- Digital meter is adopted for odo/trip meter.*
  *The record of the odometer is kept even if the battery cable is disconnected. The record of the trip meter is erased when the battery cable is disconnected.
- Odo/trip meter and information display segments can be checked in diagnosis mode.
- Meter/gauge can be checked in diagnosis mode.

METER SYSTEM : Arrangement of Combination Meter

INFOID:0000000010049528





EU : Except USA
U : USA

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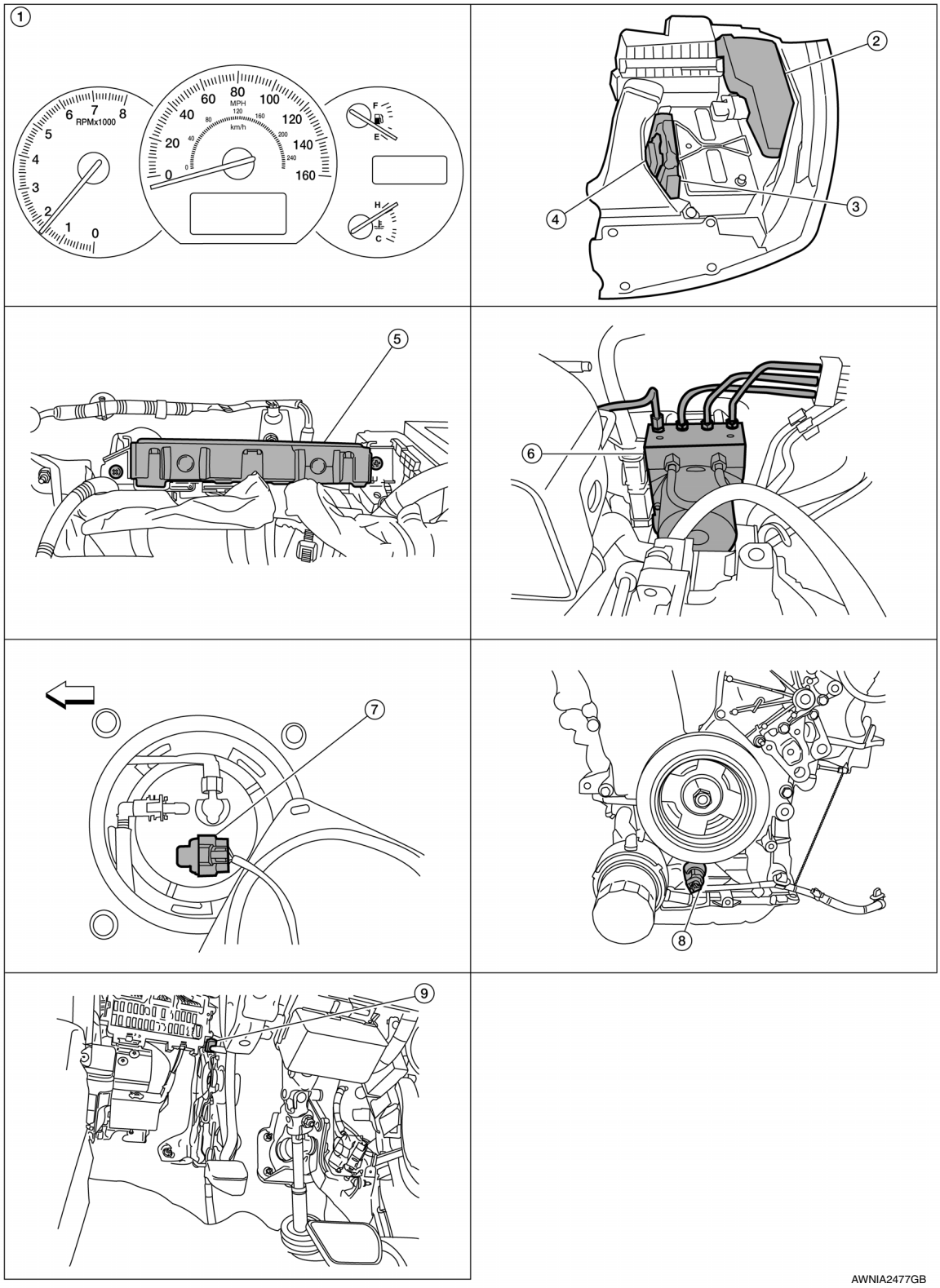
METER SYSTEM : Component Parts Location

INFOID:0000000010049529



1. Combination meter M23, M24
2. IPDM E/R E17, E18, E201, F10
3. ECM E10

4. TCM F15
5. BCM M18, M19, M20, M21 (view with instrument panel removed)
6. ABS actuator and electric unit (control unit) E26
7. Fuel level sensor unit and fuel pump (fuel level sensor) B42 (view with rear seat and inspection hole cover removed)
8. Oil pressure switch F41 (view with engine removed)
9. Parking brake switch E35 (view with instrument lower cover LH removed)

⇐: Front

METER SYSTEM : Component Description

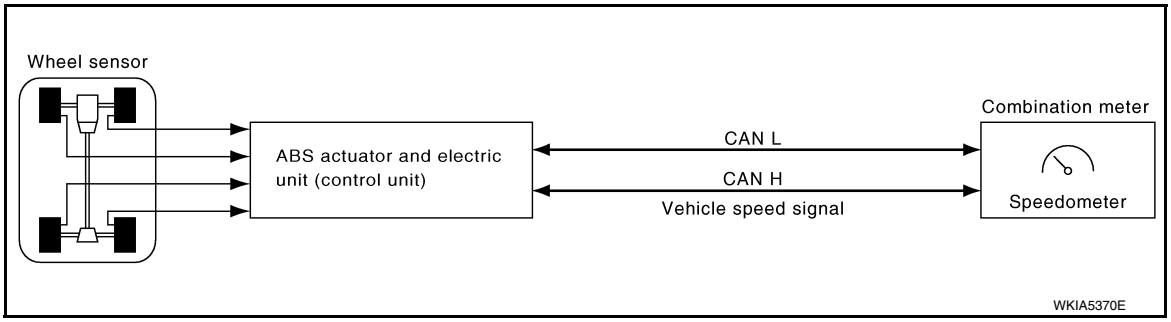
INFOID:0000000010049530

Unit	Description
Combination meter	Controls the following with the signals received from each unit via CAN communication and the signals from switches and sensors. • Speedometer • Tachometer • Engine coolant temperature gauge • Fuel gauge • Odo/trip meter • Warning lamps • Indicator lamps • Warning chime • Information display
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 combination meter via BCM with CAN communication line.
Fuel level sensor unit and fuel pump (fuel level sensor)	Refer to MWI-40, "Description".
Oil pressure switch	Refer to MWI-42, "Description".
ECM	Transmits the following signals to the combination meter with CAN communication line. • Engine speed signal • Engine coolant temperature signal • Fuel consumption monitor signal
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the combination meter with CAN communication line.
BCM	• Transmits signals provided by various units to the combination meter with CAN communication line. • Transmits the security signal to the combination meter.
TCM	Transmits shift position signal to the combination meter with CAN communication line.
Washer fluid level switch	Transmits the washer fluid level signal to the combination meter.
Brake fluid level switch	Transmits the brake fluid level switch signal to the combination meter.
Parking brake switch	Refer to MWI-44, "Description".

SPEEDOMETER

SPEEDOMETER : System Diagram

INFOID:0000000010049531



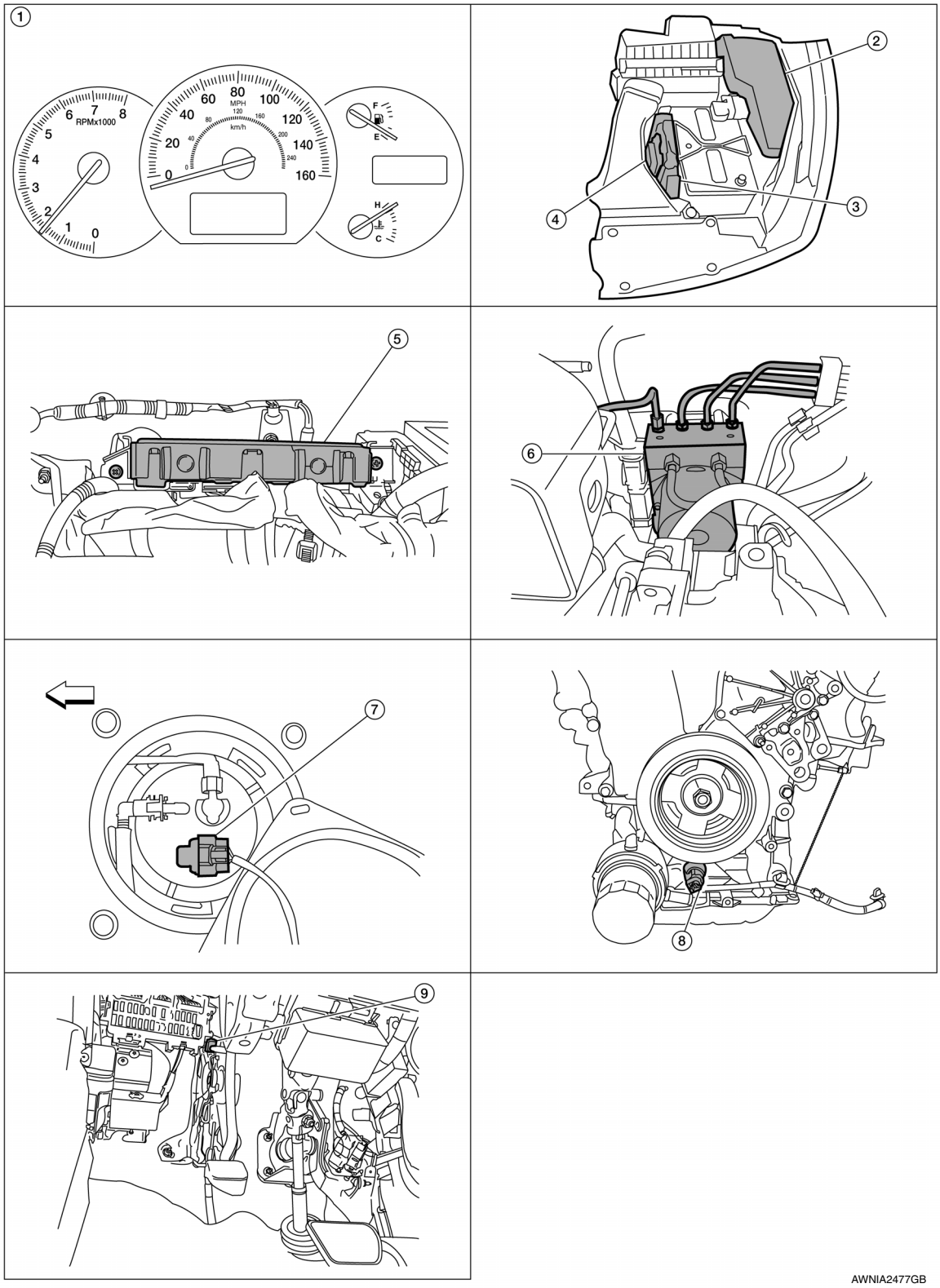
SPEEDOMETER : System Description

INFOID:0000000010049532

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

SPEEDOMETER : Component Parts Location

INFOID:0000000010049533



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8. Oil pressure switch F41 (view with engine removed)
9. Parking brake switch E35 (view with instrument lower cover LH removed)

⇐: Front

SPEEDOMETER : Component Description

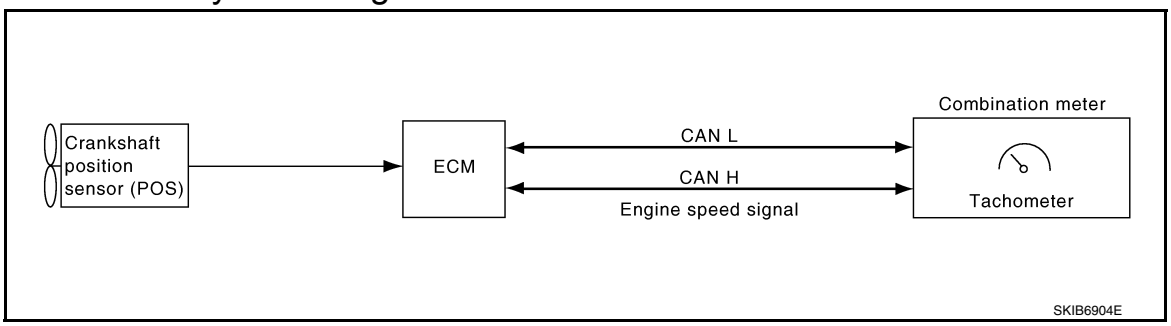
INFOID:0000000010049534

Unit	Description
Combination meter	Indicates the vehicle speed according to the vehicle speed signal received from ABS actuator and electric unit (control unit) via CAN communication.
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the combination meter with CAN communication line.

TACHOMETER

TACHOMETER : System Diagram

INFOID:0000000010049535



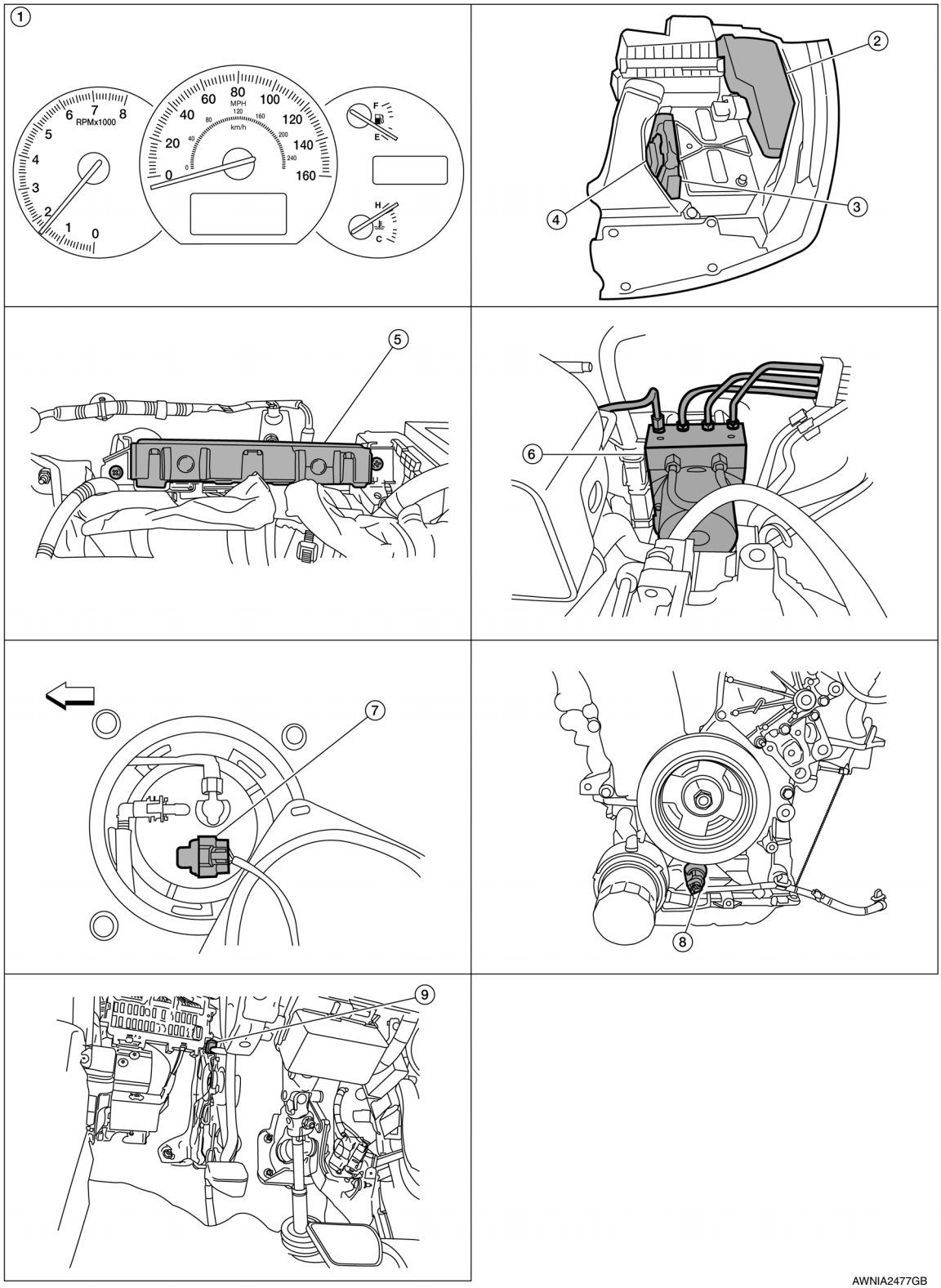
TACHOMETER : System Description

INFOID:0000000010049536

The tachometer indicates engine speed in revolutions per minute (RPM).
The ECM provides an engine speed signal to the combination meter via CAN communication lines.

TACHOMETER : Component Parts Location

INFOID:0000000010049537



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   ⇐: Front
8. Oil pressure switch F41 (view with engine removed)
9. Parking brake switch E35 (view with instrument lower cover LH removed)

TACHOMETER : Component Description

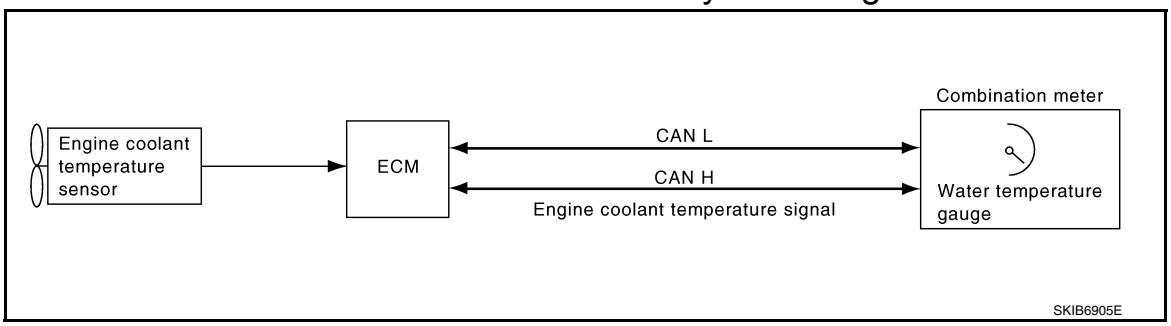
INFOID:0000000010049538

Unit	Description
Combination meter	Indicates the engine speed in RPM according to the engine speed signal received from ECM via CAN communication.
ECM	Transmits the engine speed signal to the combination meter with CAN communication line.

ENGINE COOLANT TEMPERATURE GAUGE

ENGINE COOLANT TEMPERATURE GAUGE : System Diagram

INFOID:0000000010049539



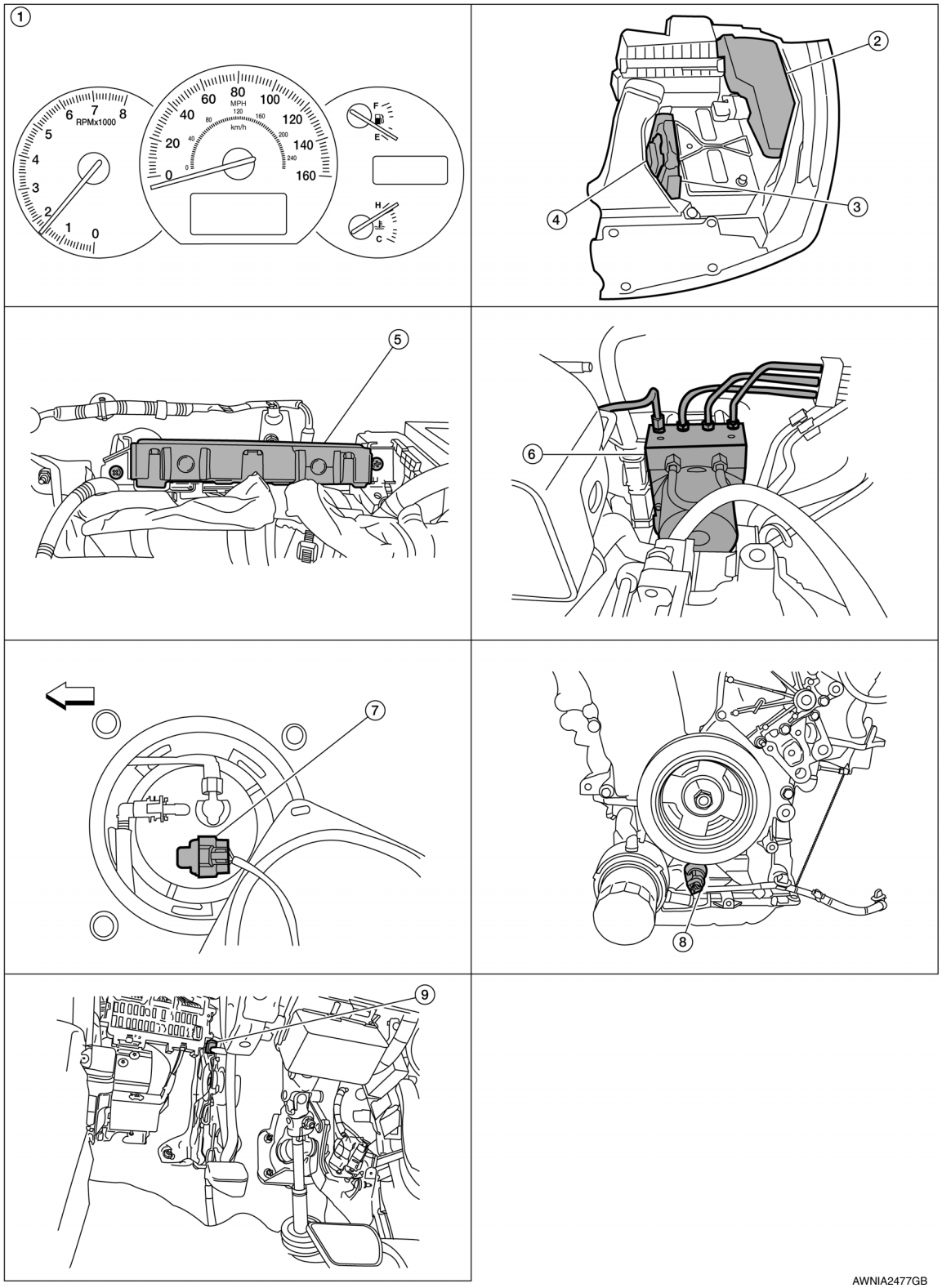
ENGINE COOLANT TEMPERATURE GAUGE : System Description

INFOID:0000000010049540

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

ENGINE COOLANT TEMPERATURE GAUGE : Component Parts Location

INFOID:0000000010049541



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8. Oil pressure switch F41 (view with engine removed)
9. Parking brake switch E35 (view with instrument lower cover LH removed)

⇐: Front

ENGINE COOLANT TEMPERATURE GAUGE : Component Description

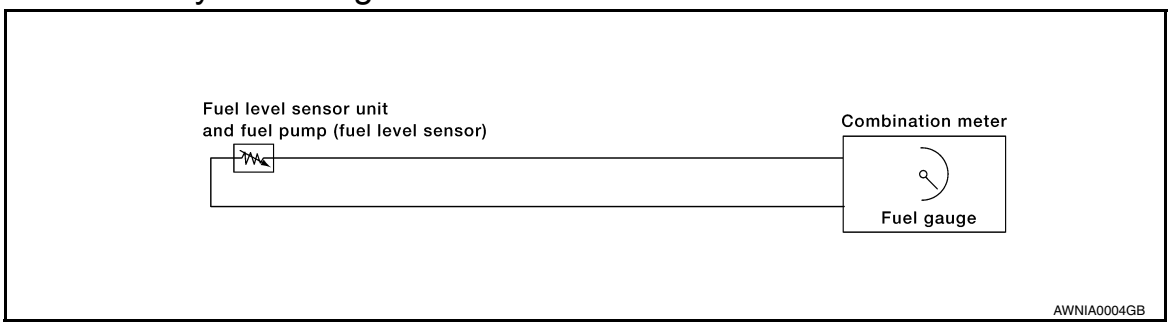
INFOID:0000000010049542

Unit	Description
Combination meter	Indicates the engine coolant temperature according to the engine coolant temperature signal received from ECM via CAN communication.
ECM	Transmits the engine coolant temperature signal to the combination meter via CAN communication.

FUEL GAUGE

FUEL GAUGE : System Diagram

INFOID:0000000010049543



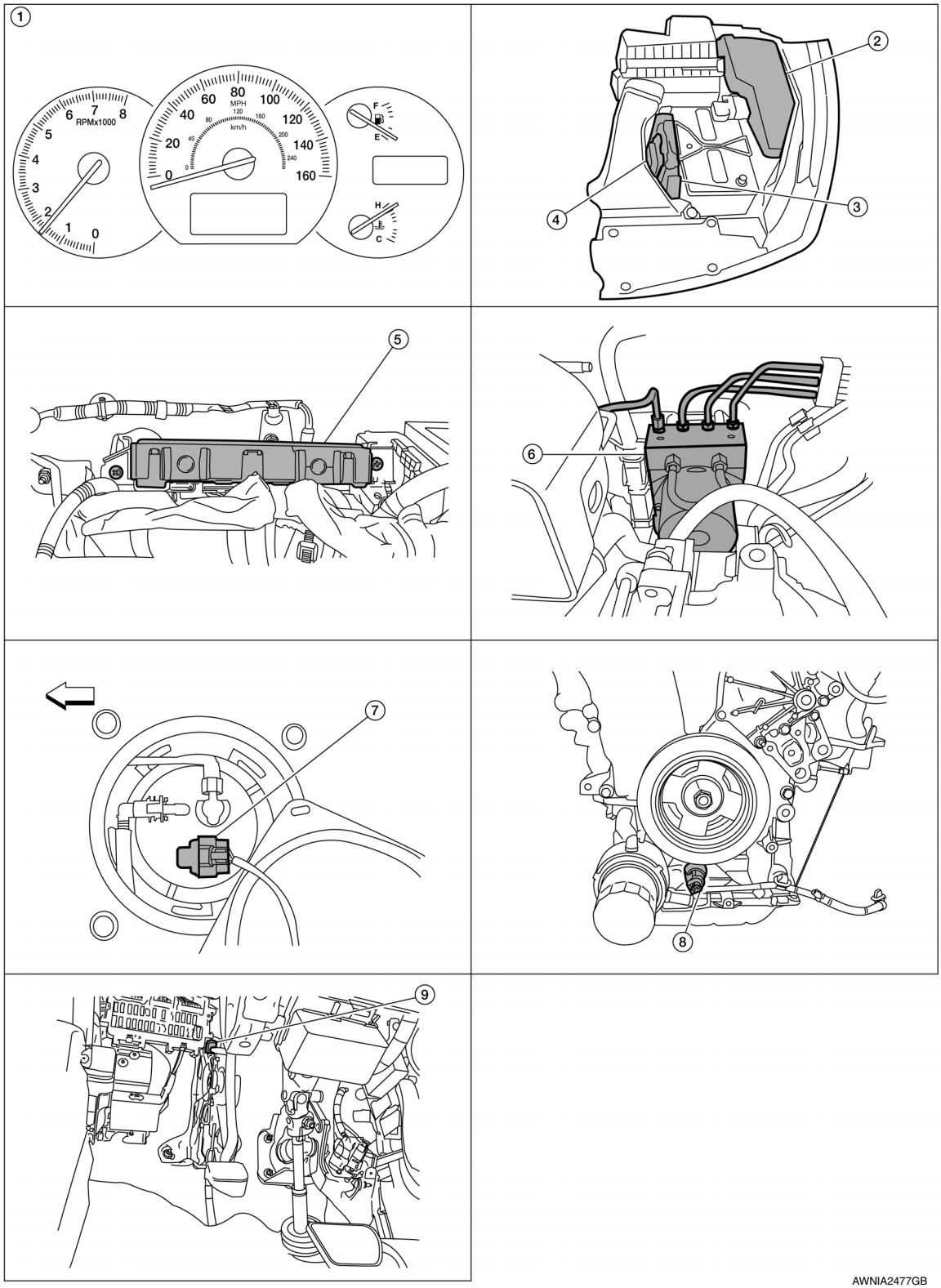
FUEL GAUGE : System Description

INFOID:0000000010049544

The fuel gauge indicates the approximate fuel level in the fuel tank.
The fuel gauge is regulated by the unified meter control unit and a variable resistor signal supplied by the fuel level sensor unit and fuel pump (fuel level sensor).

FUEL GAUGE : Component Parts Location

INFOID:0000000010049545



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7. Fuel level sensor unit and fuel pump (fuel level sensor) B42 (view with rear seat and inspection hole cover removed)
   ⇐: Front
8. Oil pressure switch F41 (view with engine removed)
9. Parking brake switch E35 (view with instrument lower cover LH removed)

FUEL GAUGE : Component Description

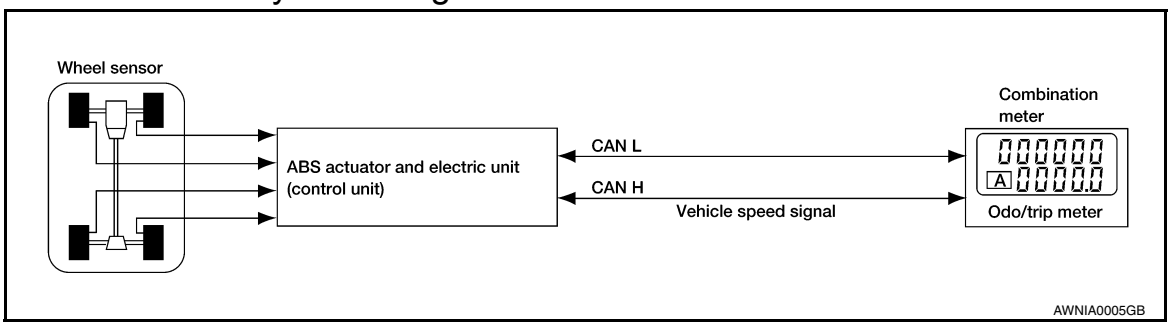
INFOID:0000000010049546

Unit	Description
Combination meter	Indicates the fuel level according to the fuel level sensor signal received from the fuel level sensor unit and fuel pump (fuel level sensor).
Fuel level sensor unit and fuel pump (fuel level sensor)	Refer to MWI-40, "Description".

ODO/TRIP METER

ODO/TRIP METER : System Diagram

INFOID:0000000010049547



ODO/TRIP METER : System Description

INFOID:0000000010049548

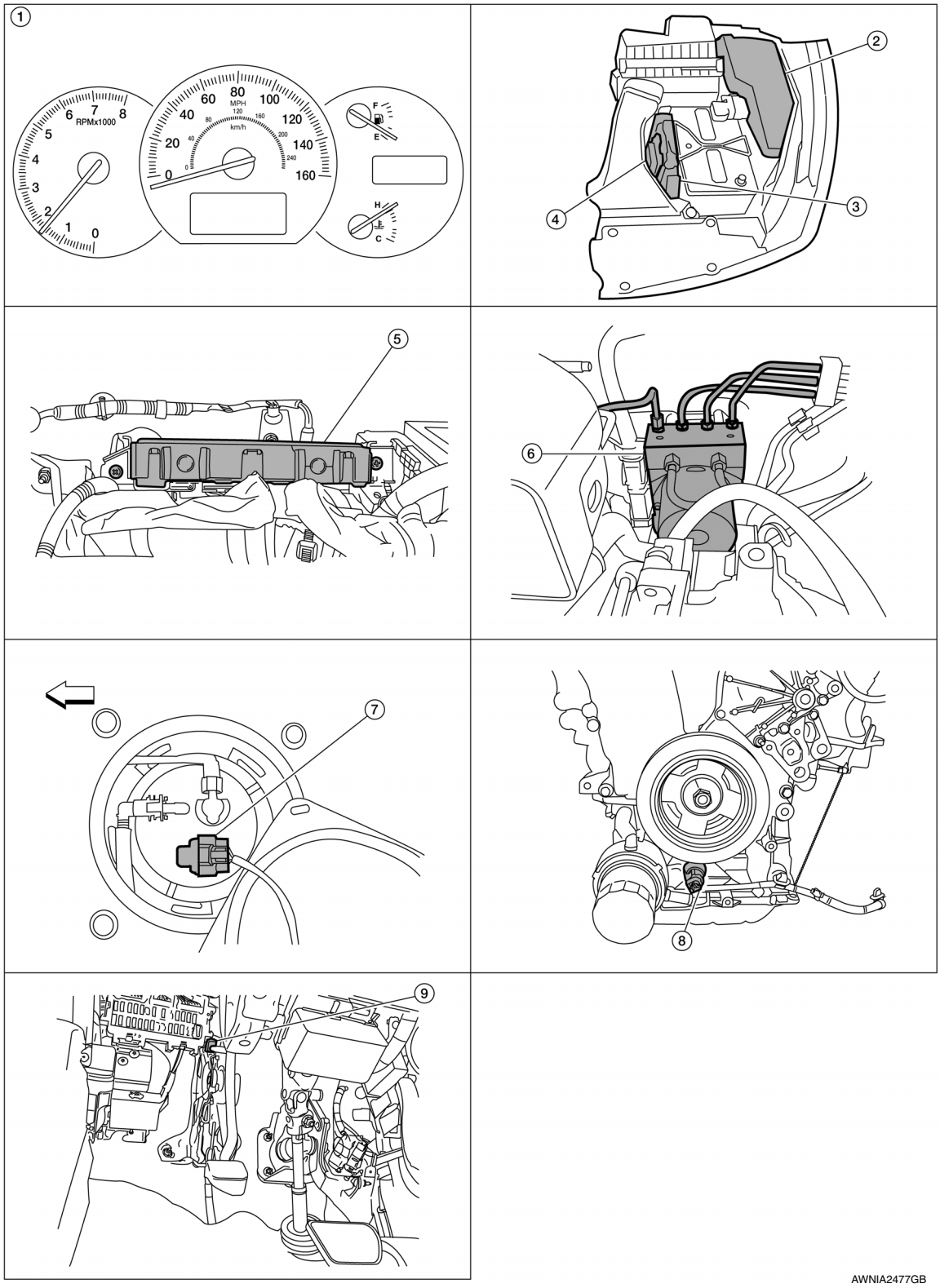
The vehicle speed signal and the memory signals from the meter memory circuit are processed by the combination meter and the mileage is displayed.

HOW TO CHANGE THE DISPLAY FOR ODO/TRIP METER

Refer to Owner's Manual for odo/trip meter operating instructions.

ODO/TRIP METER : Component Parts Location

INFOID:0000000010049549



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8. Oil pressure switch F41 (view with engine removed)
9. Parking brake switch E35 (view with instrument lower cover LH removed)

⇐: Front

ODO/TRIP METER : Component Description

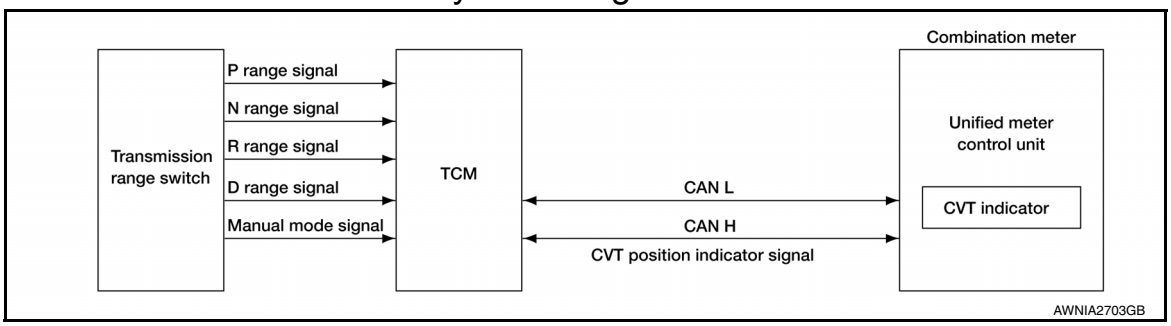
INFOID:0000000010049550

Unit	Description
Combination meter	Indicates the vehicle speed according to the vehicle speed signal received from ABS actuator and electric unit (control unit) via CAN communication.
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the combination meter with CAN communication line.

SHIFT POSITION INDICATOR

SHIFT POSITION INDICATOR : System Diagram

INFOID:0000000010049551



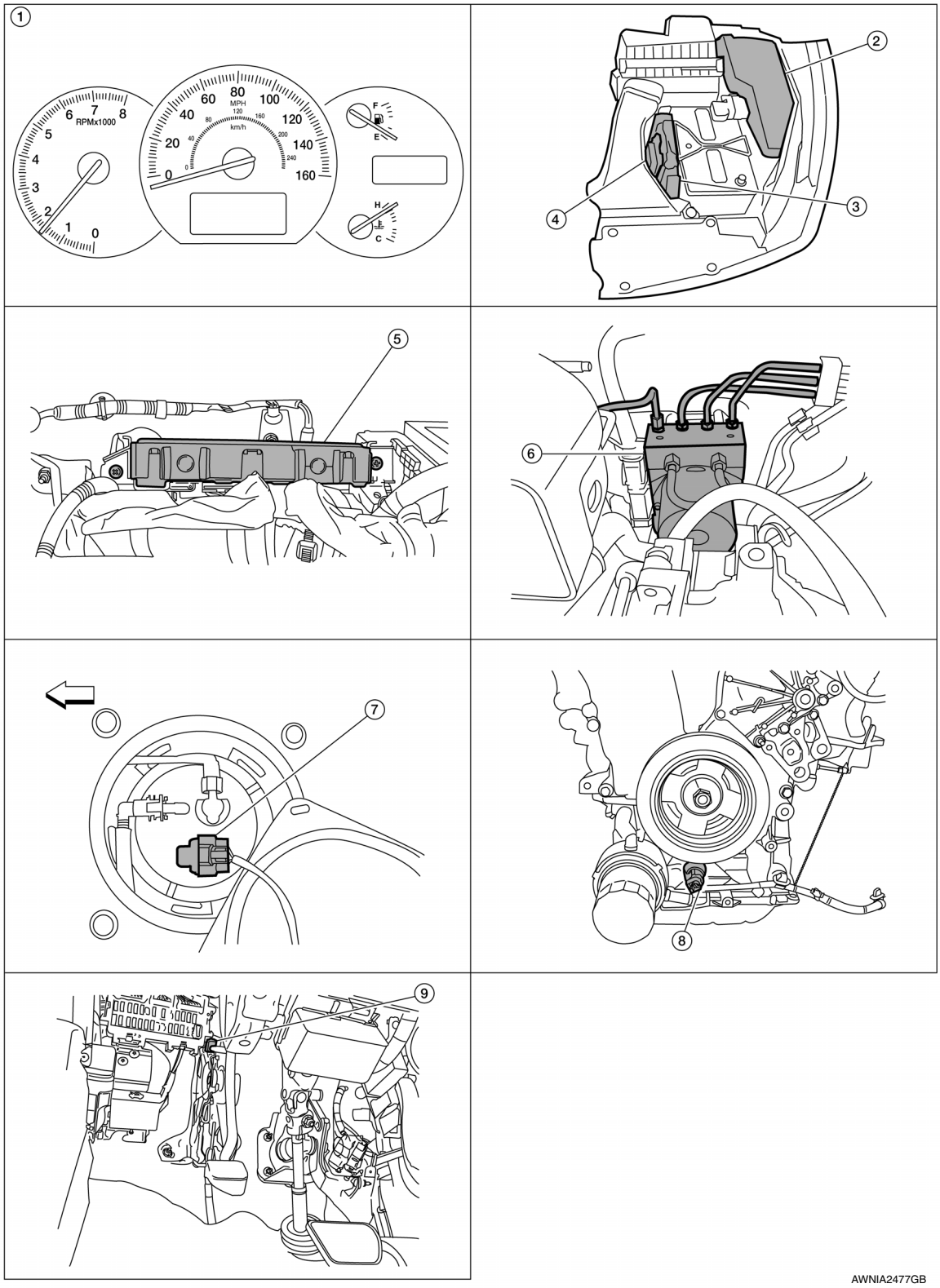
SHIFT POSITION INDICATOR : System Description

INFOID:0000000010049552

The TCM receives CVT indicator signals from the transmission range switch. The TCM then sends CVT position indicator signals to the combination meter via CAN communication lines. The combination meter indicates the received shift position.

SHIFT POSITION INDICATOR : Component Parts Location

INFOID:0000000010049553



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8. Oil pressure switch F41 (view with engine removed)
9. Parking brake switch E35 (view with instrument lower cover LH removed)

⇐: Front

SHIFT POSITION INDICATOR : Component Description

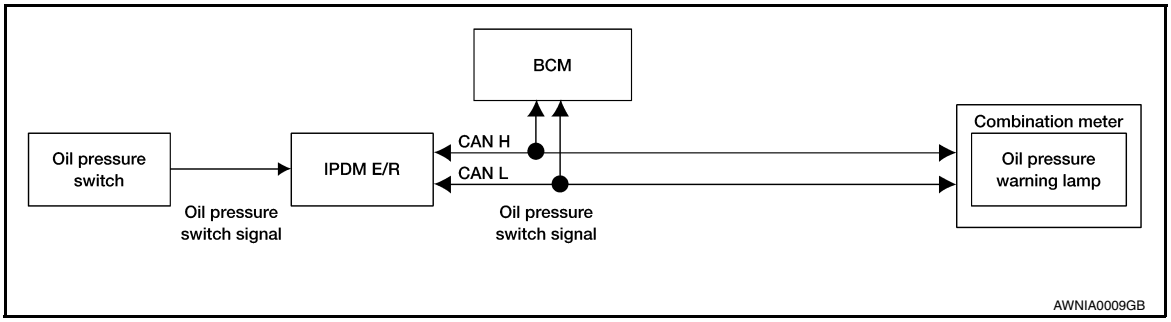
INFOID:0000000010049554

Unit	Description
Combination meter	Displays the shift position using shift position signal received from TCM.
TCM	Transmits the shift position signal to the combination meter via CAN communication.

WARNING LAMPS/INDICATOR LAMPS

WARNING LAMPS/INDICATOR LAMPS : System Diagram

INFOID:0000000010049555



WARNING LAMPS/INDICATOR LAMPS : System Description

INFOID:0000000010049556

OIL PRESSURE WARNING LAMP

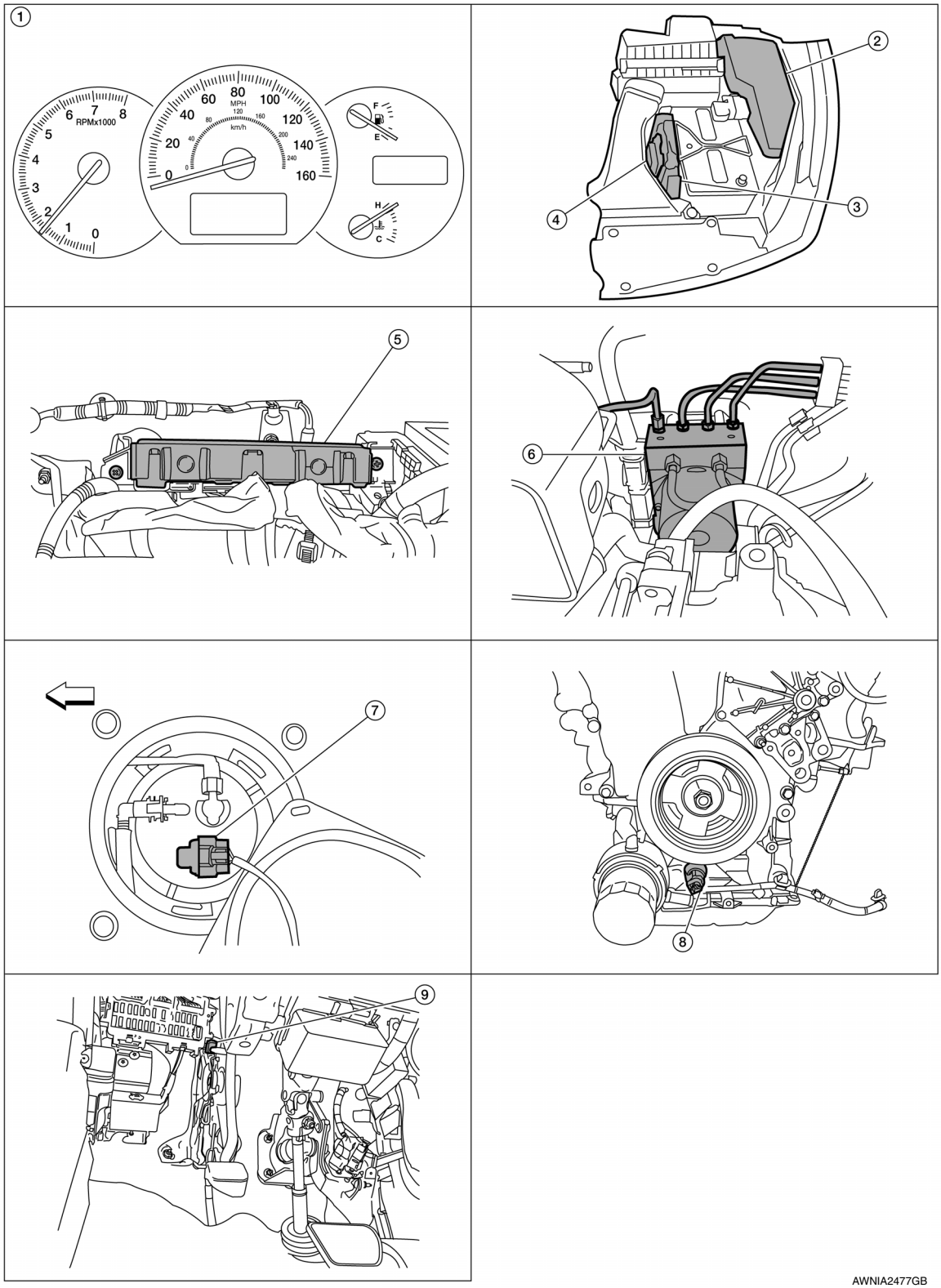
The oil pressure warning lamp is controlled by the IPDM E/R (intelligent power distribution module engine room).

Low oil pressure causes the oil pressure switch to provide a ground signal to the IPDM E/R. The IPDM E/R then signals the combination meter (unified meter control unit) via the CAN communication lines and ground is provided to the oil pressure warning lamp.

When power and ground are supplied, the oil pressure warning lamp illuminates.

WARNING LAMPS/INDICATOR LAMPS : Component Parts Location

INFOID:0000000010049557



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   ⇐: Front
8. Oil pressure switch F41 (view with engine removed)
9. Parking brake switch E35 (view with instrument lower cover LH removed)

WARNING LAMPS/INDICATOR LAMPS : Component Description

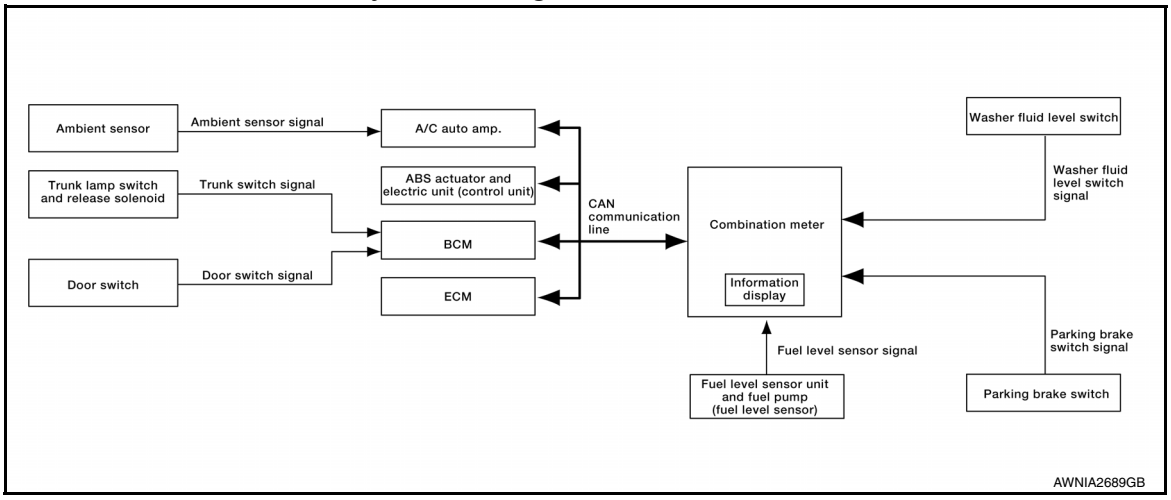
INFOID:0000000010049558

Unit	Description
Combination meter	Turns the oil pressure warning lamp ON/OFF according to the oil pressure switch signal received from BCM by means of communication.
IPDM E/R	Reads the ON/OFF signals from the oil pressure switch and transmits the oil pressure switch signal to the combination meter via BCM with the CAN communication line.
Oil pressure switch	Refer to MWI-42, "Description".
BCM	Transmits the oil pressure switch signal received from IPDM E/R via CAN communication to the combination meter via CAN communication.

INFORMATION DISPLAY

INFORMATION DISPLAY : System Diagram

INFOID:0000000010049559



INFORMATION DISPLAY : System Description

INFOID:0000000010049560

FUNCTION

The information display can indicate the following items.

- Outside air temperature
- Trip/fuel consumption readings
- Intelligent Key operation information
- Tire pressure information
- Maintenance information
- Warning/Indication messages (Door ajar, low fuel, low washer fluid, parking brake, cruise control, loose fuel cap, check tire pressure)

OUTSIDE AIR TEMPERATURE INDICATION

The outside air temperature indication is displayed while the ignition switch is in the ON position.
Indication range is between -30 and 55°C (-22 and 131°F). When outside temperature is less than 3°C (37°F), display shows ICY. The indicated temperature is not affected by engine heat. It changes only when one of the following conditions exists.

- When vehicle speed is more than approximately 20 km/h (12 MPH).
- The ignition switch has been turned OFF for more than 3.5 hours.
- When outside air temperature is less than the indicated temperature.

MPG
Average fuel consumption indication is calculated using vehicle speed signals from the ABS actuator and electric unit (control unit) and fuel consumption information from the ECM.

MPG/MPH
The average speed mode can be selected to display the average fuel consumption and average speed since last reset. The indications are calculated using vehicle speed signals from the ABS actuator and electric unit (control unit) and fuel consumption information from the ECM.

RANGE
The range indication provides the driver with an estimation of the distance that can be driven before refueling. The range is calculated using signals from the fuel level sensor unit and fuel pump (fuel level sensor) (fuel remaining), ECM (fuel consumption) and vehicle speed signals from the ABS actuator and electric unit (control unit).

TIRE PRESSURE DISPLAY
Displays the individual tire pressure details. The BCM sends the tire pressure signals to the combination meter via CAN communication lines.

DOOR AJAR WARNING
This warning appears when the Intelligent Key is in the vehicle and any door or the trunk is opened.

LOW FUEL WARNING
This warning appears when the fuel level in the fuel tank reaches approximately 12.3 ℓ (3 1/4 US gal, 2 3/4 Imp gal). A variable resistor signal is supplied to the combination meter from the fuel level sensor unit and fuel pump (fuel level sensor) to determine the amount of fuel in the fuel tank.

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

CHECK TIRE PRESSURE WARNING
The CHECK TIRE PRESSURE indicator will display in the information display when BCM has detected a low tire pressure condition. After 8 seconds, the Tire Pressure Warning Mode will flash and the low tire pressure will be highlighted (one of the four numbers). These two screens will continue to toggle every eight seconds until the low tire pressure condition has been corrected and the vehicle has been driven above 25 km/h (16 MPH).

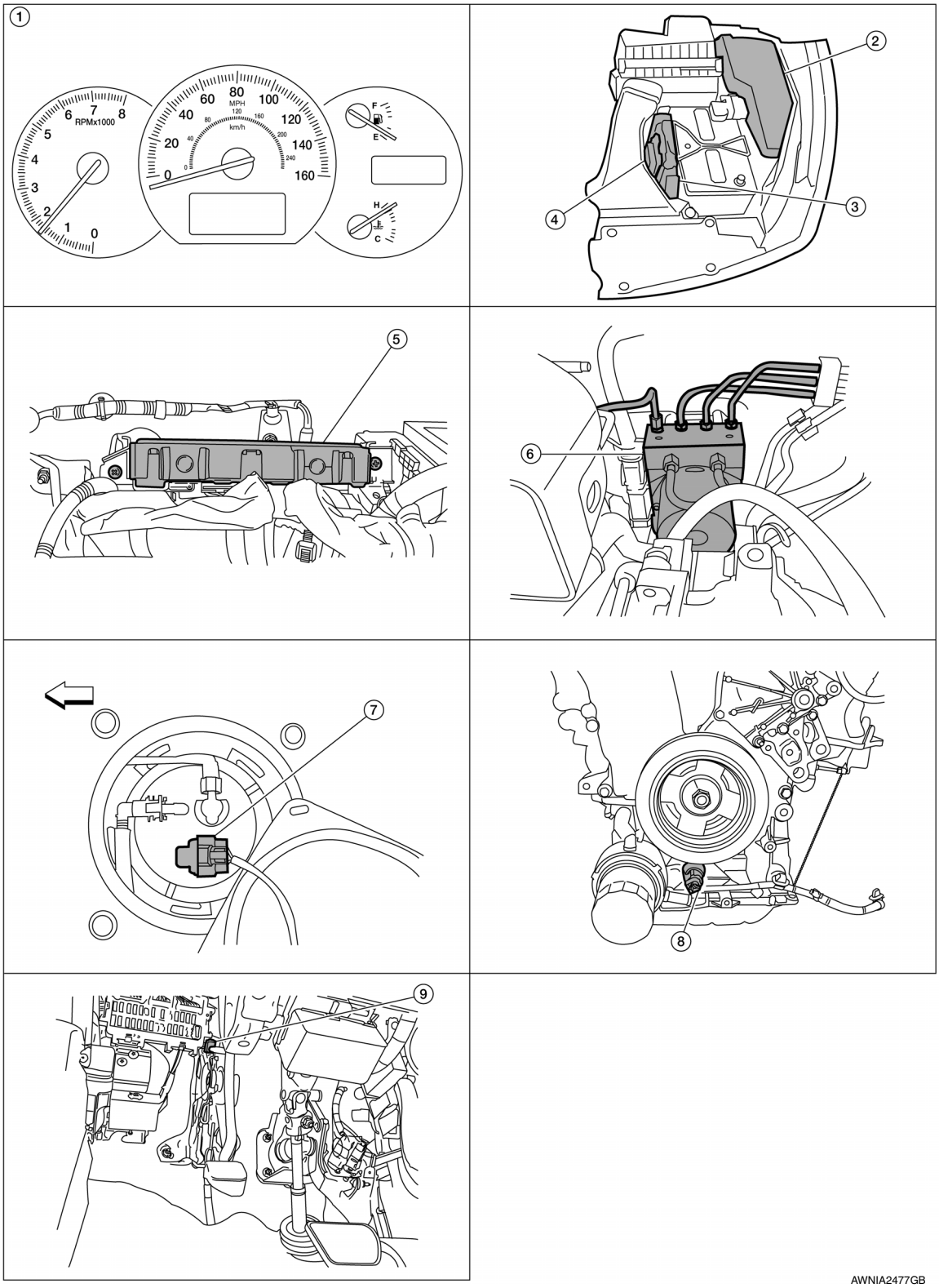
LOW WINDSHIELD WASHER FLUID WARNING
This warning appears when the windshield washer fluid level is low. When the windshield washer fluid level is low, the washer fluid level switch provides a ground signal to the combination meter (unified meter control unit). The message will be displayed after the ignition switch is turned on for 3 minutes. Once fluid is added, the message will stay on for 30 seconds and then turn off.

PARKING BRAKE INDICATOR
When the ignition switch is in the ON position and the parking brake is depressed, the indicator will turn on. When the parking brake is depressed, the parking brake switch provides a ground signal to the combination meter (unified meter control unit). Then, when the ignition switch is turned ON and vehicle speed is greater than 5 km/h (3 MPH), the message is displayed.

CRUISE SET INDICATOR
The cruise set indicator message is displayed when the vehicle speed is controlled by the ASCD system. The ECM provides an ASCD ON signal to the combination meter (unified meter control unit) via CAN communication lines.

INFORMATION DISPLAY : Component Parts Location

INFOID:0000000010049561



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3. ECM E10

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7. Fuel level sensor unit and fuel pump (fuel level sensor) B42 (view with rear seat and inspection hole cover removed)
   ⇐: Front
8. Oil pressure switch F41 (view with engine removed)
9. Parking brake switch E35 (view with instrument lower cover LH removed)

INFORMATION DISPLAY : Component Description

INFOID:0000000010049562

Unit	Description
Combination meter	Controls the information display according to the signal received from each unit.
Fuel level sensor unit and fuel pump (fuel level sensor)	Refer to MWI-40, "Description".
ECM	Transmits the following signals to the combination meter via CAN communication line. • Engine speed signal • Fuel consumption monitor signal • Loose fuel cap signal
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the combination meter via CAN communication line.
BCM	Transmits signals provided by various units to the combination meter via CAN communication line.
Washer fluid level switch	Transmits the washer fluid level signal to the combination meter.
Parking brake switch	Refer to MWI-44, "Description".
Door switch	Transmits the door switch signals to BCM.
Trunk lamp switch and trunk release solenoid	Transmits the trunk switch signal to BCM.

COMPASS

Description

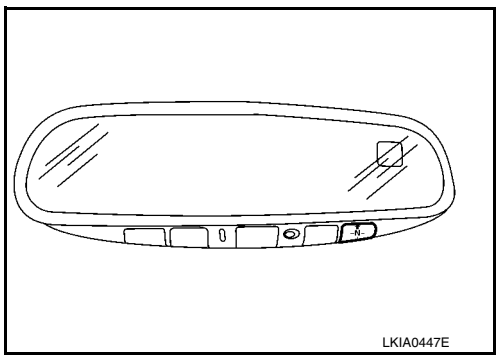
INFOID:0000000010049563

DESCRIPTION

With the ignition switch in the ON position, and the mode (N) switch ON, the compass display will indicate the direction the vehicle is heading.

Vehicle direction is displayed as follows:

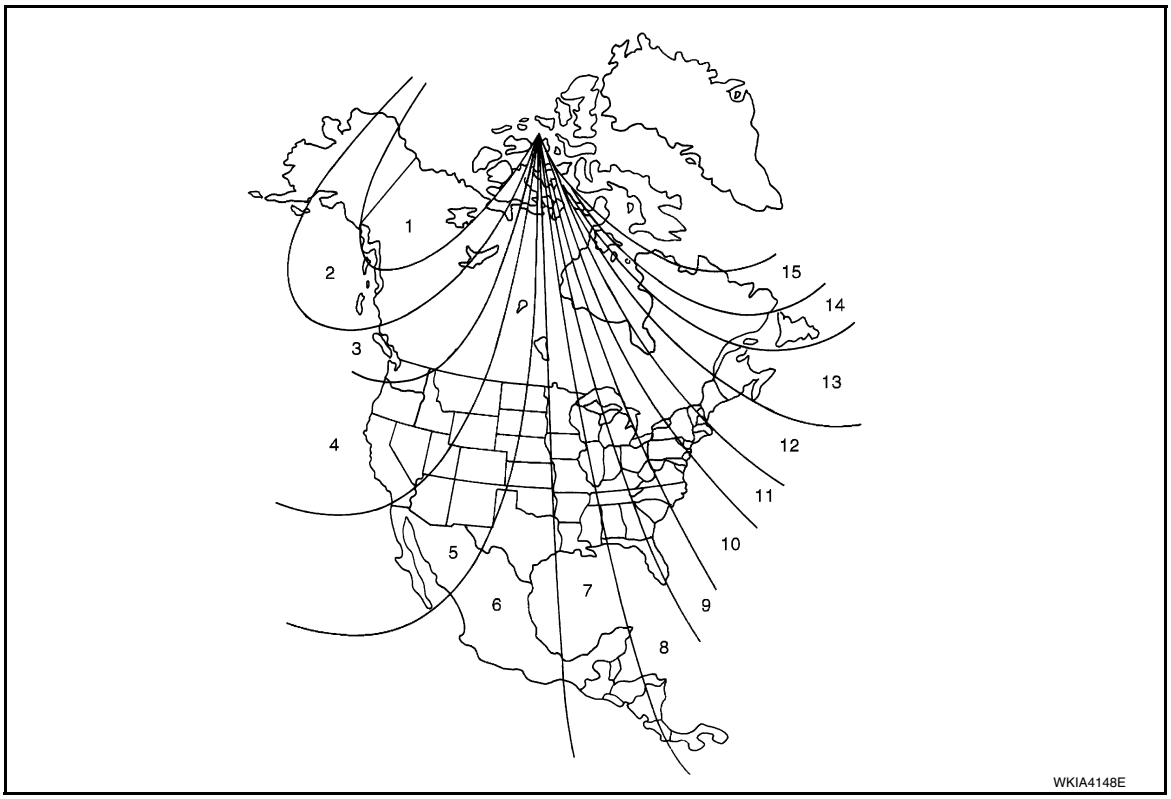
- N: north
- E: east
- S: south
- W: west



ZONE VARIATION SETTING PROCEDURE

The difference between magnetic north and geographical north can sometimes be great enough to cause false compass readings. This difference is known as variance. In order for the compass to operate properly (accurately) in a particular zone, the zone variation must be calibrated using the following procedure.

Zone Variation Chart



1. Determine your location on the zone map.
2. Turn the ignition switch to the ON position.
3. Hold the mode (N) switch down until the current zone number is displayed.
4. Press the mode (N) switch repeatedly until the desired zone number appears in the display.

Compass will exit zone setting mode and display correct heading automatically.

NOTE:

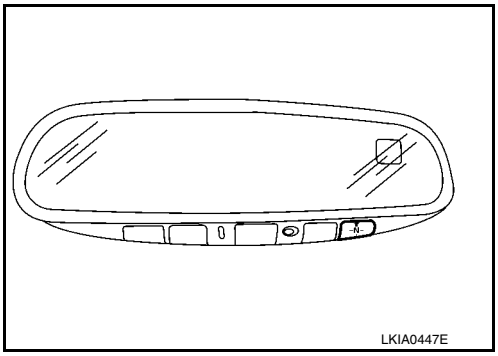
Use zone number 5 for Hawaii.

CALIBRATION PROCEDURE

The compass display is equipped with an automatic correction function. If the compass display reads “C” or the direction is not shown correctly, perform the correction procedure below.

1. Hold the mode (N) switch until the display reads “C”.
2. Drive the vehicle slowly in a circle, in an open, safe place. The initial calibration is completed in about three turns.

NOTE:
In places where the terrestrial magnetism is extremely disturbed, the initial correction may start automatically.



DIAGNOSIS SYSTEM (METER)

Diagnosis Description

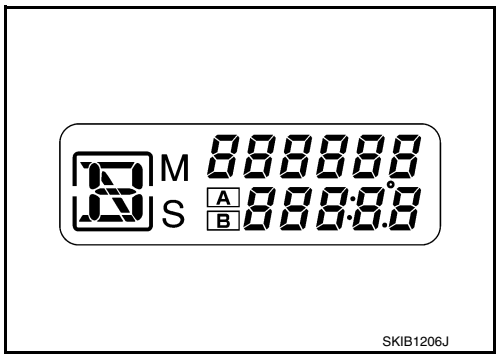
INFOID:0000000010049564

SELF-DIAGNOSIS MODE

- Odo/trip meter and information display segment operation can be checked in self-diagnosis mode.
- Meters/gauges can be checked in self-diagnosis mode.

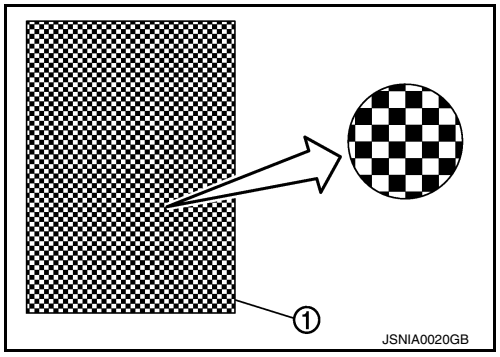
OPERATION PROCEDURE

1. Turn the ignition switch OFF.
2. While pushing the odo/trip meter switch, turn the ignition switch ON again.
3. Push the odo/trip meter switch at least 3 times within 7 seconds after the ignition switch is turned ON.
4. The unified meter control unit is turned to self-diagnosis mode.
   - All the segments on the odo/trip meter illuminate.

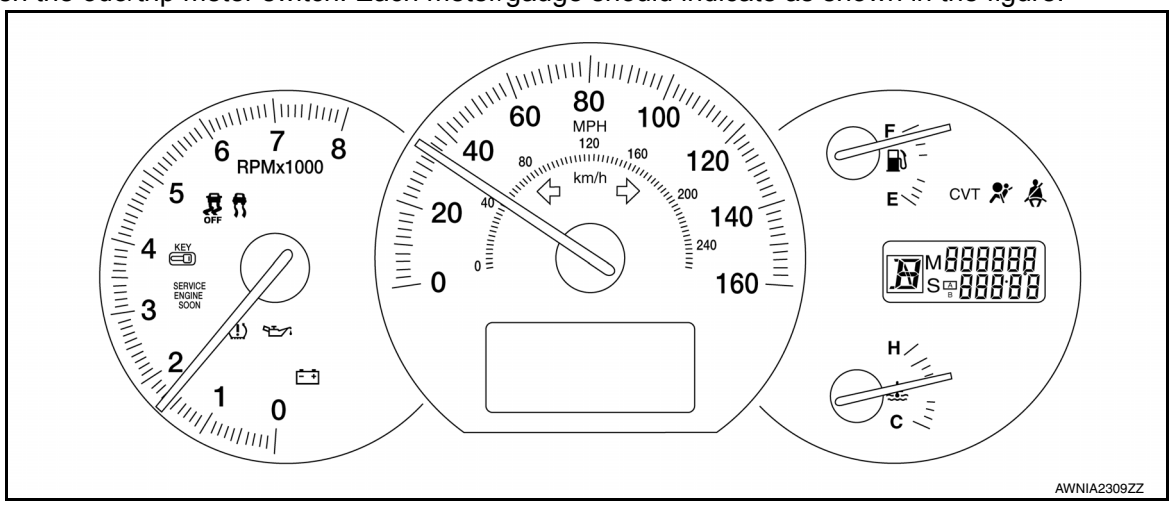


   - Dots in all segments of information display LCD (1) flash alternately.

NOTE:
If any of the segments are not displayed, replace the combination meter. Refer to MWI-122, "Removal and Installation".



5. Push the odo/trip meter switch. Each meter/gauge should indicate as shown in the figure.



CONSULT Function (METER/M&A)

INFOID:0000000010049565

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

METER/M&A diagnosis mode	Description
SELF DIAGNOSTIC RESULT	Displays combination meter self-diagnosis results.
DATA MONITOR	Displays combination meter input/output data in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.

SELF-DIAG RESULTS

Display Item List
Refer to MWI-51, "DTC Index".

DATA MONITOR

Display Item List

X: Applicable

Display item [Unit]	MAIN SIGNALS	SELECTION FROM MENU	Description
SPEED METER [km/h] or [mph]	X	X	Displays the value of vehicle speed signal.
SPEED OUTPUT [km/h] or [mph]	X	X	Displays the value of vehicle speed signal, which is transmitted to each unit with CAN communication.
ODO OUTPUT		X	Displays the value, which is calculated by vehicle speed signal.
TACHO METER [rpm]	X	X	Displays the value of engine speed signal, which is input from ECM.
FUEL METER [lit.]	X	X	Displays the value, which processes a resistance signal from fuel gauge.
W TEMP METER [°C] or [°F]	X	X	Displays the value of engine coolant temperature signal, which is input from ECM.
ABS W/L [ON/OFF]		X	Displays [ON/OFF] condition of ABS warning lamp.
VDC/TCS IND [ON/OFF]		X	Displays [ON/OFF] condition of VDC/TCS OFF indicator lamp.
SLIP IND [ON/OFF]		X	Displays [ON/OFF] condition of SLIP indicator lamp.
BRAKE W/L [ON/OFF]		X	Displays [ON/OFF] condition of brake warning lamp.*
DOOR W/L [ON/OFF]		X	Displays [ON/OFF] condition of door warning lamp.
TRUNK/GLAS-H [ON/OFF]		X	Displays [ON/OFF] condition of trunk warning lamp.
HI-BEAM IND [ON/OFF]		X	Displays [ON/OFF] condition of high beam indicator.
TURN IND [ON/OFF]		X	Displays [ON/OFF] condition of turn indicator.
LIGHT IND [ON/OFF]		X	Displays [ON/OFF] condition of light indicator.
OIL W/L [ON/OFF]		X	Displays [ON/OFF] condition of oil pressure warning lamp.
MIL [ON/OFF]		X	Displays [ON/OFF] condition of malfunction indicator lamp.
CRUISE IND [ON/OFF]		X	Displays [ON/OFF] condition of CRUISE indicator.
CVT IND [ON/OFF]		X	Displays [ON/OFF] condition of CVT warning lamp.
FUEL W/L [ON/OFF]		X	Displays [ON/OFF] condition of low-fuel warning lamp.
WASHER W/L [ON/OFF]		X	Displays [ON/OFF] condition of low washer fluid warning lamp.
AIR PRES W/L [ON/OFF]		X	Displays [ON/OFF] condition of tire pressure warning lamp.
KEY G/Y W/L [ON/OFF]		X	Displays [ON/OFF] condition of key warning lamp.
LCD		X	Displays the value of Intelligent Key system message indication.
SHIFT IND [P, R, N, D]		X	Displays [P, R, N, D] range position of CVT.
FUEL CAP W/L [ON/OFF]		X	Status of fuel filler cap warning display detected from fuel filler cap warning display signal received from ECM via CAN communication.
M RANGE SW [ON/OFF]		X	Displays [ON/OFF] condition of manual mode range switch.
NM RANGE SW [ON/OFF]		X	Displays [ON/OFF] condition of except for manual mode range switch.
ST SFT UP SW [ON/OFF]		X	Displays [ON/OFF] condition of steering shift-up switch.

Display item [Unit]	MAIN SIGNALS	SELECTION FROM MENU	Description
ST SFT DWN SW [ON/OFF]		X	Displays [ON/OFF] condition of steering shift-down switch.
AT SFT UP SW [ON/OFF]		X	Displays [ON/OFF] condition of CVT shift-up switch.
AT SFT DWN SW [ON/OFF]		X	Displays [ON/OFF] condition of CVT shift-down switch.
PKB SW [ON/OFF]		X	Displays [ON/OFF] condition of parking brake switch.
BUCKLE SW [ON/OFF]		X	Status of seat belt buckle switch LH.
BRAKE OIL SW [ON/OFF]		X	Displays [ON/OFF] condition of brake fluid level switch.
MODE A SW [ON/OFF]		X	Displays [ON/OFF] condition of mode switch A.
MODE B SW [ON/OFF]		X	Displays [ON/OFF] condition of mode switch B.
DISTANCE [km] or [mile]		X	Displays the value, which is calculated by vehicle speed signal, fuel gauge and fuel consumption from ECM.
OUTSIDE TEMP [°C]		X	Displays the ambient air temperature, which is input from ambient sensor.
FUEL LOW SIG [ON/FF]		X	Displays [ON/OFF] condition of low-fuel warning signal.
BUZZER [ON/OFF]	X	X	Displays [ON/OFF] condition of buzzer.
TPMS PRESS L [ON/FF]		X	Status of low tire pressure warning judged from low tire pressure warning lamp signal received from BCM with CAN communication line.

NOTE:

Some items are not available due to vehicle specification.

*: The monitor will indicate “OFF” even though the brake warning lamp is on if either of the following conditions exist.

- The parking brake is engaged
- The brake fluid level is low

DTC/CIRCUIT DIAGNOSIS

DTC U1000 CAN COMMUNICATION

DTC Logic

INFOID:0000000010049566

DTC DETECTION LOGIC

DTC	CONSULT display	Detection condition
U1000	CAN COMM CIRC [U1000]	When combination meter is not transmitting or receiving CAN communication signals for 2 seconds or more.

Diagnosis Procedure

INFOID:0000000010049567

Symptom: Displays “CAN COMM CIRC [U1000]” as a self-diagnosis result of combination meter.

1.CHECK CAN COMMUNICATION

Select “SELF-DIAG RESULTS” mode for “METER/M&A” with CONSULT.

>> Go to “LAN system”. Refer to LAN-9, "Condition of Error Detection".

U1010 CONTROL UNIT (CAN)

Description

INFOID:0000000010049568

Initial diagnosis of combination meter.

DTC Logic

INFOID:0000000010049569

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	Diagnostic item is detected when ...	Probable malfunction location
U1010	CONTROL UNIT (CAN)	If any malfunction is detected during initial diagnosis of combination meter CAN controller	Combination meter

Diagnosis Procedure

INFOID:0000000010049570

1.REPLACE COMBINATION METER

When DTC “U1010” is detected, replace combination meter. Refer to MWI-122, "Removal and Installation".

>> Inspection End.

DTC B2205 VEHICLE SPEED CIRCUIT

Description

INFOID:0000000010049571

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

DTC Logic

INFOID:0000000010049572

DTC	CONSULT display	Detection condition
B2205	VEHICLE SPEED CIRC [B2205]	Malfunction is detected when an erroneous speed signal is input for 2 seconds or more.

Diagnosis Procedure

INFOID:0000000010049573

Symptom: Displays “VEHICLE SPEED CIRC [B2205]” as a self-diagnosis result of combination meter.

1.CHECK COMBINATION METER INPUT SIGNAL

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

Is the inspection result normal?

YES >> Perform ABS actuator and electric unit (control unit) self-diagnosis. Refer to BRC-21, "CONSULT Function (ABS)".

NO >> Replace combination meter. Refer to MWI-122, "Removal and Installation".

B2267 ENGINE SPEED

Description

INFOID:0000000010049574

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

DTC Logic

INFOID:0000000010049575

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000010049576

1.PERFORM SELF-DIAGNOSIS OF ECM

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

>> Refer to EC-138, "CONSULT Function".

B2268 WATER TEMP

Description

INFOID:0000000010049577

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

DTC Logic

INFOID:0000000010049578

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:0000000010049579

1.PERFORM SELF-DIAGNOSIS OF ECM

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

>> Refer to EC-138, "CONSULT Function".

POWER SUPPLY AND GROUND CIRCUIT
COMBINATION METER

COMBINATION METER : Diagnosis Procedure

INFOID:0000000010049580

Regarding Wiring Diagram information, refer to MWI-87, "Wiring Diagram".

1.CHECK FUSES

Check for blown combination meter fuses.

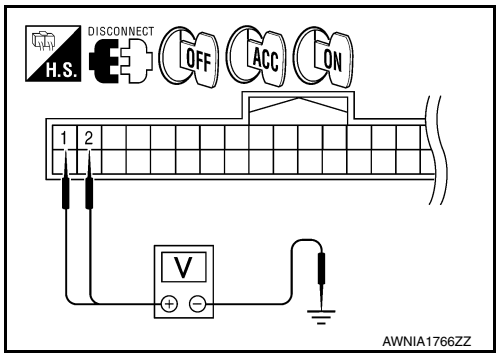
Unit	Power source	Fuse No.
Combination meter	Battery	6
	Ignition switch ON or START	4

Is the inspection result normal?

YES >> GO TO 2
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect combination meter connector.
2. Check voltage between combination meter harness connector M24 terminals 1, 2, and ground.



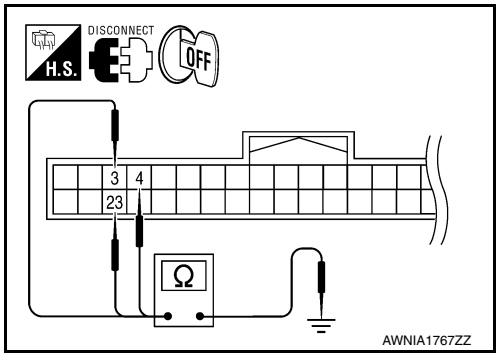
Terminals			Ignition switch position		
(+)		(–)	OFF	ON	START
Connector	Terminal				
M24	1	Ground	Battery voltage	Battery voltage	Battery voltage
	2		0V	Battery voltage	Battery voltage

Is the inspection result normal?

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

3.GROUND CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Check continuity between combination meter harness connector terminals 3, 4, 23 and ground.



Terminals			Continuity
(+)		(–)	
Connector	Terminal		
M24	3	Ground	Yes
	4		
	23		

Is the inspection result normal?

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

BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE) : Diagnosis Procedure

INFOID:0000000010062250

Regarding Wiring Diagram information, refer to BCS-67, "Wiring Diagram".

1. CHECK FUSE AND FUSIBLE LINK

Check if the following BCM fuses or fusible link are blown.

Terminal No.	Signal name	Fuse and fusible link No.
1	Battery power supply	H
11		10
24		7

Is the fuse or fusible link blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.
NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

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

Terminals			Voltage (Approx.)
(+)		(–)	
BCM		Ground	
Connector	Terminal		
M16	1		Battery voltage
M17	11		
M18	24		

Is the measurement normal?

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

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M17	13		Yes

Does continuity exist?

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

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

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

INFOID:0000000010062251

Regarding Wiring Diagram information, refer to PCS-28, "Wiring Diagram".

1. CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
1	Battery power supply	B
2		A, D
36		A, E, L

Is the fuse blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.
NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

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

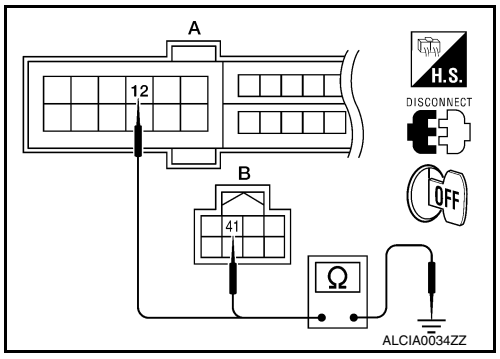
Terminals			Voltage (V) (Approx.)
(+)		(–)	
IPDM E/R			
Connector	Terminal	Ground	
E16	1		Battery voltage
	2		
E18	36		

Is the measurement value normal?

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

3. CHECK GROUND CIRCUIT

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



IPDM E/R		Ground	Continuity
Connector	Terminal		
A: E18	12		Yes
B: E17	41		

Does continuity exist?

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

FUEL LEVEL SENSOR SIGNAL CIRCUIT

Description

INFOID:0000000010049583

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

Component Function Check

INFOID:0000000010049584

1.COMBINATION METER INPUT SIGNAL

1. Select “METER/M&A” on CONSULT.
2. Using “FUEL METER” of “DATA MONITOR”, compare the value of DATA MONITOR with fuel gauge pointer of combination meter.

Fuel gauge pointer	Reference value of data monitor [lit.]
Full	Approx. 68
3/4	Approx. 56
1/2	Approx. 38
1/4	Approx. 22
Empty	Approx. 4

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

YES >> Inspection End.
NO >> Replace combination meter. Refer to MWI-122, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000010049585

Regarding Wiring Diagram information, refer to MWI-87, "Wiring Diagram".

1.CHECK HARNESS CONNECTOR

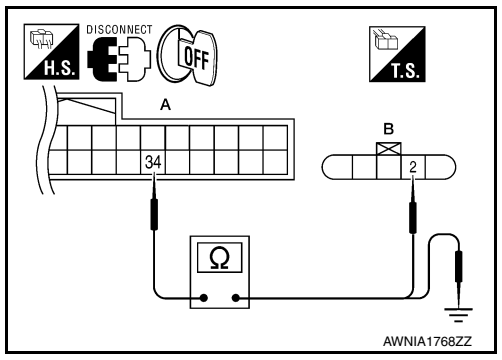
1. Turn ignition switch OFF.
2. Check combination meter and fuel level sensor unit and fuel pump (fuel level sensor) terminals (meter-side and harness-side) for poor connection.

Is the inspection result normal?

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

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

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



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M24	34	B42	2	Yes

3. Check continuity between combination meter harness connector (A) and ground.

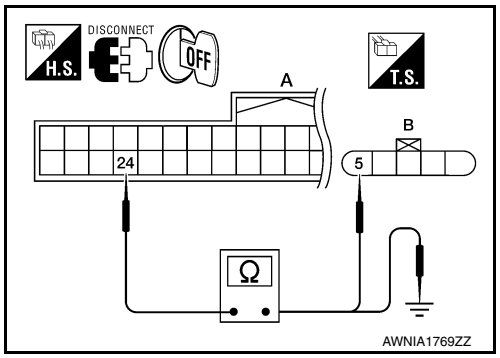
A		Ground	Continuity
Connector	Terminal		
M24	34		No

Is the inspection result normal?

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

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

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



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M24	24	B42	5	Yes

2. Check continuity between combination meter harness connector (A) and ground.

A		Ground	Continuity
Connector	Terminal		
M24	24		No

Is the inspection result normal?

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

4. CHECK INSTALLATION CONDITION

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

Is the inspection result normal?

YES >> Inspection End.
NO >> Install the fuel level sensor unit and fuel pump (fuel level sensor) properly.

Component Inspection

INFOID:0000000010049586

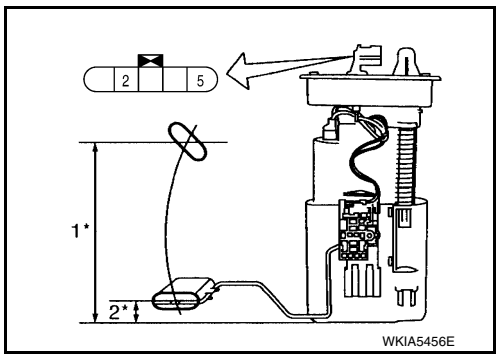
1. REMOVE FUEL LEVEL SENSOR UNIT AND FUEL PUMP (FUEL LEVEL SENSOR)

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

>> GO TO 2

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

Check the resistance between terminals 2 and 5.



Terminal		Float position mm (in)			Resistance value (Approx.)
2	5	1*	Full (1)	154.5 (6.1)	4.5Ω
		2*	Empty (2)	23.4 (0.9)	81.5Ω

1* and 2*: When float arm is in contact with stopper.

Is inspection result normal?

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

OIL PRESSURE SWITCH SIGNAL CIRCUIT

Description

INFOID:0000000010049587

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

Component Function Check

INFOID:0000000010049588

1.COMBINATION METER INPUT SIGNAL

1. Select “METER/M&A” on CONSULT.
2. Monitor “OIL W/L” of “DATA MONITOR” while operating ignition switch.

OIL W/L

When ignition switch is in ON position (Engine stopped) : ON

When engine is running : OFF

>> Inspection End.

Diagnosis Procedure

INFOID:0000000010049589

Regarding Wiring Diagram information, refer to MWI-87, "Wiring Diagram".

1.CHECK OIL PRESSURE SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector F10 and oil pressure switch connector F41.
3. Check continuity between IPDM E/R harness connector F10 terminal 75 and oil pressure switch harness connector F41 terminal 1.

Continuity should exist.

4. Check continuity between IPDM E/R harness connector F10 terminal 75 and ground.

Continuity should not exist.

Are the inspection results normal?

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

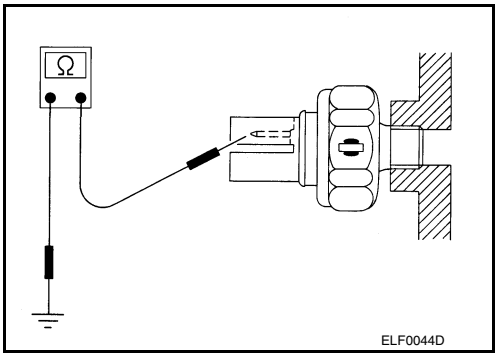
Component Inspection

INFOID:0000000010049590

1.CHECK OIL PRESSURE SWITCH

Check continuity between oil pressure switch and ground.

Condition	Oil pressure [kPa (kg/cm^2, psi)]	Continuity
Engine stopped	Less than 29 (0.3, 4)	Yes
Engine running	More than 29 (0.3, 4)	No



Is the inspection result normal?

YES >> Inspection End.
NO >> Replace the oil pressure switch.

PARKING BRAKE SWITCH SIGNAL CIRCUIT

Description

INFOID:0000000010049591

Transmits the parking brake switch signal to the combination meter.

Component Function Check

INFOID:0000000010049592

1.COMBINATION METER INPUT SIGNAL

1. Select “METER/M&A” on CONSULT.
2. Monitor “PKB SW” of “DATA MONITOR” while applying and releasing the parking brake.

PKB SW
Parking brake depressed : ON
Parking brake released : OFF

>> Inspection End.

Diagnosis Procedure

INFOID:0000000010049593

Regarding Wiring Diagram information, refer to MWI-87, "Wiring Diagram".

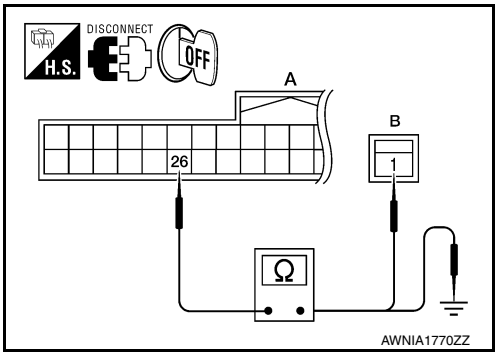
1.CHECK PARKING BRAKE SWITCH CIRCUIT

1. Disconnect combination meter connector and parking brake switch connector.
2. Check continuity between combination meter harness connector M24 (A) terminal 26 and parking brake switch harness connector E35 (B) terminal 1.

26 - 1 : Continuity should exist.

3. Check continuity between combination meter harness connector M24 (A) terminal 26 and ground.

26 - Ground : Continuity should not exist.



Is the inspection result normal?

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

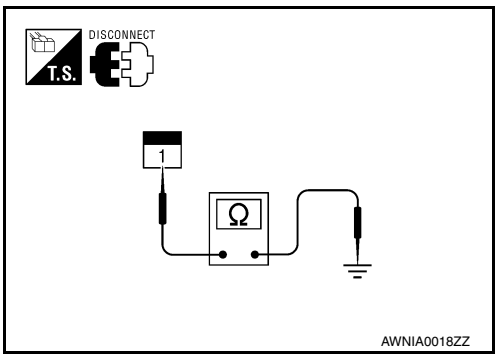
Component Inspection

INFOID:0000000010049594

1.CHECK PARKING BRAKE SWITCH

Check continuity between parking brake switch terminal 1 and switch case ground.

Component	Terminal	Condition	Continuity
Parking brake switch	1	Parking brake depressed	Yes
		Parking brake released	No



Is the inspection result normal?

YES >> Inspection End.
NO >> Replace parking brake switch.

WASHER LEVEL SWITCH SIGNAL CIRCUIT

Description

INFOID:0000000010049595

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

Component Function Check

INFOID:0000000010049596

1.COMBINATION METER INPUT SIGNAL

1. Select “METER/M&A” on CONSULT.
2. Monitor “WASHER W/L” of “DATA MONITOR” under the following conditions.

WASHER W/L
Washer fluid level low : ON
Washer fluid level other : OFF

>> Inspection End.

Diagnosis Procedure

INFOID:0000000010049597

Regarding Wiring Diagram information, refer to MWI-87, "Wiring Diagram".

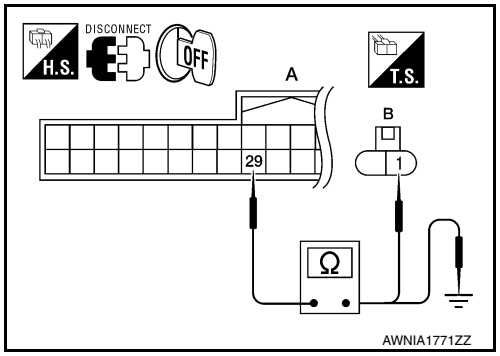
1.CHECK WASHER FLUID LEVEL SWITCH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter connector and washer fluid level switch connector.
3. Check continuity between combination meter harness connector M24 (A) terminal 29 and washer fluid level switch harness connector E208 (B) terminal 1.

29 - 1 : Continuity should exist.

4. Check continuity between combination meter harness connector M24 (A) terminal 29 and ground.

29 - Ground : Continuity should not exist.



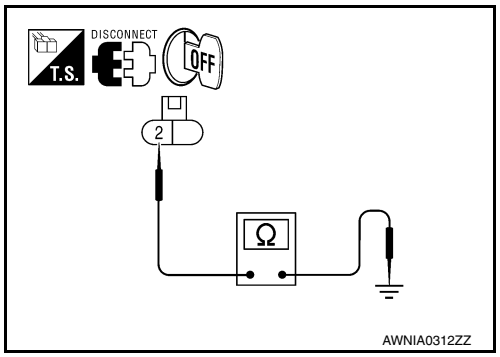
Is the inspection result normal?

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

2.CHECK WASHER FLUID LEVEL SWITCH GROUND CIRCUIT

Check continuity between washer fluid level switch harness connector E208 terminal 2 and ground.

2 - Ground : Continuity should exist.



Is the inspection result normal?

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

Component Inspection

INFOID:0000000010049598

1.CHECK WASHER FLUID LEVEL SWITCH

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

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

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace washer fluid level switch.

ECU DIAGNOSIS INFORMATION

COMBINATION METER

Reference Value

INFOID:0000000010049599

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
SPEED METER [km/h or mph]	While driving	Displays the value of the vehicle speed signal.
SPEED OUTPUT [km/h or mph]	While driving	Displays the value of the vehicle speed signal which is transmitted to each unit with CAN communication.
ODO OUTPUT [kilometers or miles]	—	Equivalent to odometer reading in combination meter
TACHO METER [rpm]	While driving	Displays the value of engine speed signal which is input from the ECM.
FUEL METER [L]	—	Displays the value processed from a resistance signal from the fuel gauge.
W TEMP METER [°C] or [°F]	—	Displays the value of the engine coolant temperature signal which is input from the ECM.
ABS W/L	ABS warning lamp ON	ON
	ABS warning lamp OFF	OFF
VDC/TCS IND	VDC OFF indicator lamp ON	ON
	VDC OFF indicator lamp OFF	OFF
SLIP IND	SLIP Indicator lamp ON	ON
	SLIP indicator lamp OFF	OFF
BRAKE W/L*	Brake warning lamp ON	ON
	Brake warning lamp OFF	OFF
DOOR W/L	Door warning lamp ON	ON
	Door warning lamp OFF	OFF
TRUNK/GLAS-H	Trunk warning lamp ON	ON
	Trunk warning lamp OFF	OFF
HI-BEAM IND	High-beam indicator lamp ON	ON
	High-beam indicator lamp OFF	OFF
TURN IND	Turn signal indicator lamp ON	ON
	Turn signal indicator lamp OFF	OFF
LIGHT IND	Light indicator lamp ON	ON
	Light indicator lamp OFF	OFF
OIL W/L	Oil pressure warning lamp ON	ON
	Oil pressure warning lamp OFF	OFF
MIL	Malfunction indicator lamp ON	ON
	Malfunction indicator lamp OFF	OFF
CRUISE IND	CRUISE indicator ON	ON
	CRUISE indicator OFF	OFF
CVT IND	CVT warning lamp ON	ON
	CVT warning lamp OFF	OFF

Monitor Item	Condition	Value/Status
FUEL W/L	Low-fuel warning lamp ON	ON
	Low-fuel warning lamp OFF	OFF
WASHER W/L	Low washer fluid warning lamp ON	ON
	Low washer fluid warning lamp OFF	OFF
AIR PRES W/L	Low tire pressure warning lamp ON	ON
	Low tire pressure warning lamp OFF	OFF
KEY G/Y W/L	Key warning lamp ON	ON
	Key warning lamp OFF	OFF
LCD	Intelligent Key information received	Displays the value of Intelligent Key system message indication.
SHIFT IND	Range position indicator P display	P
	Range position indicator R display	R
	Range position indicator N display	N
	Range position indicator D display	D
	Range position indicator L display	L
FUEL CAP W/L	—	Status of fuel filler cap warning display detected from fuel filler cap warning display signal received from ECM via CAN communication.
M RANGE SW	Manual mode range switch ON	ON
	Manual mode range switch OFF	OFF
NM RANGE SW	Except for manual mode range switch ON	ON
	Except for manual mode range switch OFF	OFF
ST SFT UP SW	Steering shift-up switch ON	ON
	Steering shift-up switch OFF	OFF
ST SFT DWN SW	Steering shift-down switch ON	ON
	Steering shift-down switch OFF	OFF
AT SFT UP SW	CVT shift-up switch ON	ON
	CVT shift-up switch OFF	OFF
AT SFT DWN SW	CVT shift-down switch ON	ON
	CVT shift-down switch OFF	OFF
PKB SW	Parking brake switch ON	ON
	Parking brake switch OFF	OFF
BUCKLE SW	—	Status of seat belt buckle switch LH.
BRAKE OIL SW	Brake fluid level switch ON	ON
	Brake fluid level switch OFF	OFF
MODE A SW	Mode A switch ON	ON
	Mode A switch OFF	OFF
MODE B SW	Mode B switch ON	ON
	Mode B switch OFF	OFF
DISTANCE [kilometers or miles]	—	Displays the value which is calculated by vehicle speed signal, fuel gauge and fuel consumption from ECM.
OUTSIDE TEMP [°C] or [°F]	—	Displays the ambient air temperature which is input from the ambient sensor.
FUEL LOW SIG	Low fuel warning displayed	ON
	Low fuel warning not displayed	OFF

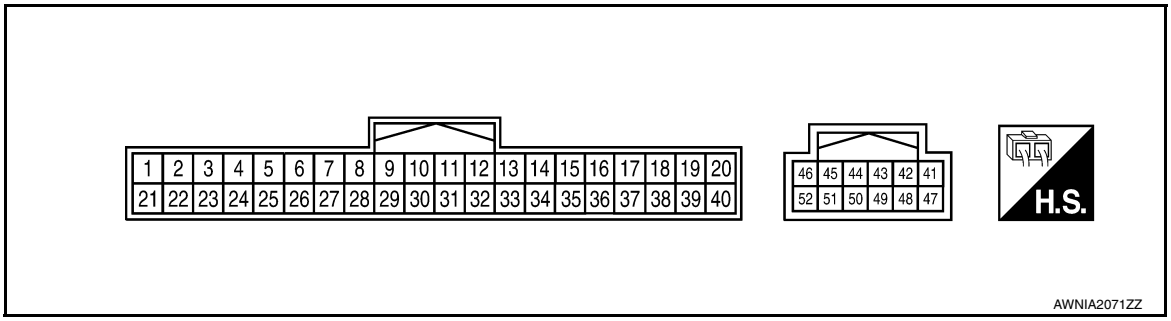
Monitor Item	Condition	Value/Status
BUZZER	Buzzer ON	ON
	Buzzer OFF	OFF
TPMS PRESS L	—	Status of low tire pressure warning judged from low tire pressure warning lamp signal received from BCM with CAN communication line.

NOTE:

* The monitor will indicate “OFF” even though the brake warning lamp is on if either of the following conditions exist:

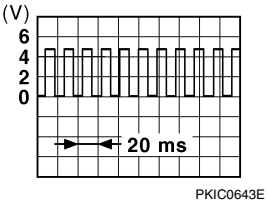
- The parking brake is engaged
- The brake fluid level is low

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal	Wire color	Item	Condition		Reference value (V) (Approx.)
			Ignition switch	Operation or condition	
1	Y/R	Battery power supply	—	—	Battery voltage
2	O	Ignition switch ON or START	ON	—	Battery voltage
3	B	Ground (Power)	—	—	0
4	B	Ground (Illumination)			
5	B	Illumination output	—	—	Refer to INL-9, "System Description".
10	O/L	Mode switch ground	ON	—	0
11	L/R	Mode switch A	ON	Switch pressed	0
				Switch released	5
12	B/R	Mode switch B	ON	Switch pressed	0
				Switch released	5
15	BR/W	Air bag warning lamp input	ON	Air bag warning lamp ON	3
				Air bag warning lamp OFF	0
21	L	CAN-H	—	—	—
22	P	CAN-L	—	—	—
23	B	Ground (Circuit)	—	—	0
24	B/W	Fuel level sensor ground	ON	—	0
25	BR	Generator	ON	Generator voltage low	0
				Generator voltage normal	Battery voltage
26	G/R	Parking brake switch	ON	Parking brake depressed	0
				Parking brake released	Battery voltage
27	V	Brake fluid level switch	ON	Brake fluid level low	0
				Brake fluid level normal	Battery voltage

Terminal	Wire color	Item	Condition		Reference value (V) (Approx.)
			Ignition switch	Operation or condition	
28	L/O	Security indicator input	OFF	Security indicator ON	0
				Security indicator OFF	Battery voltage
29	R	Washer fluid level switch	ON	Washer fluid level low	0
				Washer fluid level normal	Battery voltage
30	L/B	Vehicle speed signal output (2-pulse)	ON	Speedometer operated [When vehicle speed is approx. 20 km/h (12 MPH)]	240 Hz
31	V/W	Vehicle speed signal output (8-pulse)	ON	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	**NOTE:** Maximum voltage may be 12V due to specifications (connected units).  PKIC0643E
34	G/B	Fuel level sensor signal	—	—	Refer to MWI-15, "FUEL GAUGE : System Description".
35	W/B	Seat belt buckle switch LH	ON	Unfastened (ON)	0
				Fastened (OFF)	Battery voltage
36	L/W	Seat belt buckle switch RH	ON	Unfastened (ON)	0
				Fastened (OFF)	Battery voltage
37	G	Not M range	ON	Manual mode switch OFF	0
				Manual mode switch ON	Battery voltage
38	BR	CVT shift down	ON	• Manual mode switch ON • Shift down operation	0
				Other than above	Battery voltage
39	W	CVT shift up	ON	• Manual mode switch ON • Shift up operation	0
				Other than above	Battery voltage
40	LG/R	M range	ON	Manual mode switch OFF	Battery voltage
				Manual mode switch ON	0
49	G	Paddle shifter signal (shift down)	ON	Shift down operation	0
				Switch released	Battery voltage
50	O	Paddle shifter signal (shift up)	ON	Shift up operation	0
				Switch released	Battery voltage

Fail Safe

INFOID:0000000010049600

The combination meter performs a fail-safe operation for the functions listed below when communication is lost.

Function		Specifications
Speedometer		Zero indication.
Tachometer		
Fuel gauge		
Engine coolant temperature gauge		
Illumination control	Meter illumination	Change to nighttime mode when communication is lost.

Function		Specifications
Segment LCD	Odometer	Freeze current indication.
	CVT position	Display turns off.
Buzzer		Buzzer turns off.
Warning lamp/indicator lamp	ABS warning lamp	Lamp turns on when communication is lost.
	Brake warning lamp	
	TCS/VDC OFF indicator lamp	
	SLIP indicator lamp	
	Malfunction indicator lamp	
	CVT warning lamp	Lamp turns off when communication is lost.
	Oil pressure warning lamp	
	Master warning lamp	
	Air bag warning lamp	
	High beam indicator	
	Turn signal indicator lamp	
	CRUISE indicator lamp	
	Intelligent Key system warning lamp	
	Driver and passenger seat belt warning lamp	Lamp turns off when disconnected.
	Charge warning lamp	
	Security indicator lamp	
	Low tire pressure warning lamp	Lamp will flash every second for 1 minute and then stay on continuously thereafter.

DTC Index

INFOID:0000000010049601

CONSULT display	Malfunction	Reference page
CAN COMM CIRCUIT [U1000]	When combination meter is not transmitting or receiving CAN communication signal for 2 seconds or more.	MWI-32
CONTROL UNIT (CAN) [U1010]	When detecting error during the initial diagnosis of the CAN controller of combination meter.	MWI-33
VEHICLE SPEED [B2205]	The abnormal vehicle speed signal is input from the ABS actuator and electric unit (control unit) for 2 seconds or more.	MWI-34
ENGINE SPEED [B2267]	If ECM continuously transmits abnormal engine speed signals for 2 seconds or more.	MWI-35
WATER TEMP [B2268]	If ECM continuously transmits abnormal engine coolant temperature signals for 60 secosnds or more.	MWI-36

NOTE:
"TIME" indicates the following.
- 0: Indicates that a malfunction is detected at present.
- 1-63: Indicates that a malfunction was detected in the past. (Displays number of ignition switch OFF → ON cycles after malfunction is detected. Self-diagnosis result is erased when "63" is exceeded.)

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000010062252

NOTE:
The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- Activate and display TPMS transmitter IDs
- Display tire pressure reported by the TPMS transmitter
- Read TPMS DTCs
- Register TPMS transmitter IDs
- Check Intelligent Key relative signal strength
- Confirm vehicle Intelligent Key antenna signal strength

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	OFF
	Front wiper switch HI	ON
FR WIPER LOW	Other than front wiper switch LO	OFF
	Front wiper switch LO	ON
FR WASHER SW	Front washer switch OFF	OFF
	Front washer switch ON	ON
FR WIPER INT	Other than front wiper switch INT	OFF
	Front wiper switch INT	ON
FR WIPER STOP	Front wiper is not in STOP position	OFF
	Front wiper is in STOP position	ON
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
TURN SIGNAL R	Other than turn signal switch RH	OFF
	Turn signal switch RH	ON
TURN SIGNAL L	Other than turn signal switch LH	OFF
	Turn signal switch LH	ON
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	OFF
	Lighting switch 1ST or 2ND	ON
HI BEAM SW	Other than lighting switch HI	OFF
	Lighting switch HI	ON
HEAD LAMP SW 1	Other than lighting switch 2ND	OFF
	Lighting switch 2ND	ON
HEAD LAMP SW 2	Other than lighting switch 2ND	OFF
	Lighting switch 2ND	ON
PASSING SW	Other than lighting switch PASS	OFF
	Lighting switch PASS	ON
AUTO LIGHT SW	Other than lighting switch AUTO	OFF
	Lighting switch AUTO	ON
FR FOG SW	Front fog lamp switch OFF	OFF
	Front fog lamp switch ON	ON
DOOR SW-DR	Driver door closed	OFF
	Driver door opened	ON
DOOR SW-AS	Passenger door closed	OFF
	Passenger door opened	ON

Monitor Item	Condition	Value/Status
DOOR SW-RR	Rear door RH closed	OFF
	Rear door RH opened	ON
DOOR SW-RL	Rear door LH closed	OFF
	Rear door LH opened	ON
DOOR SW-BK	Trunk door closed	OFF
	Trunk door opened	ON
CDL LOCK SW	Other than power door lock switch LOCK	OFF
	Power door lock switch LOCK	ON
CDL UNLOCK SW	Other than power door lock switch UNLOCK	OFF
	Power door lock switch UNLOCK	ON
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	OFF
	Driver door key cylinder LOCK position	ON
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	OFF
	Driver door key cylinder UNLOCK position	ON
HAZARD SW	When hazard switch is not pressed	OFF
	When hazard switch is pressed	ON
REAR DEF SW	When rear window defogger switch is pressed	ON
TR CANCEL SW	Trunk lid opener cancel switch OFF	OFF
	Trunk lid opener cancel switch ON	ON
TR/BD OPEN SW	Trunk lid opener switch OFF	OFF
	While the trunk lid opener switch is turned ON	ON
TRNK/HAT MNTR	Trunk lid closed	OFF
	Trunk lid opened	ON
RKE-LOCK	When LOCK button of Intelligent Key is not pressed	OFF
	When LOCK button of Intelligent Key is pressed	ON
RKE-UNLOCK	When UNLOCK button of Intelligent Key is not pressed	OFF
	When UNLOCK button of Intelligent Key is pressed	ON
RKE-TR/BD	When TRUNK OPEN button of Intelligent Key is not pressed	OFF
	When TRUNK OPEN button of Intelligent Key is pressed	ON
RKE-PANIC	When PANIC button of Intelligent Key is not pressed	OFF
	When PANIC button of Intelligent Key is pressed	ON
RKE-P/W OPEN	When UNLOCK button of Intelligent Key is not pressed and held	OFF
	When UNLOCK button of Intelligent Key is pressed and held	ON
RKE-MODE CHG	When LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	OFF
	When LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	ON
OPTICAL SENSOR	When outside of the vehicle is bright	Close to 5 V
	When outside of the vehicle is dark	Close to 0 V
REQ SW -DR	When front door request switch is not pressed (driver side)	OFF
	When front door request switch is pressed (driver side)	ON
REQ SW -AS	When front door request switch is not pressed (passenger side)	OFF
	When front door request switch is pressed (passenger side)	ON
REQ SW -RL	When rear door request switch is not pressed (driver side)	OFF
	When rear door request switch is pressed (driver side)	ON

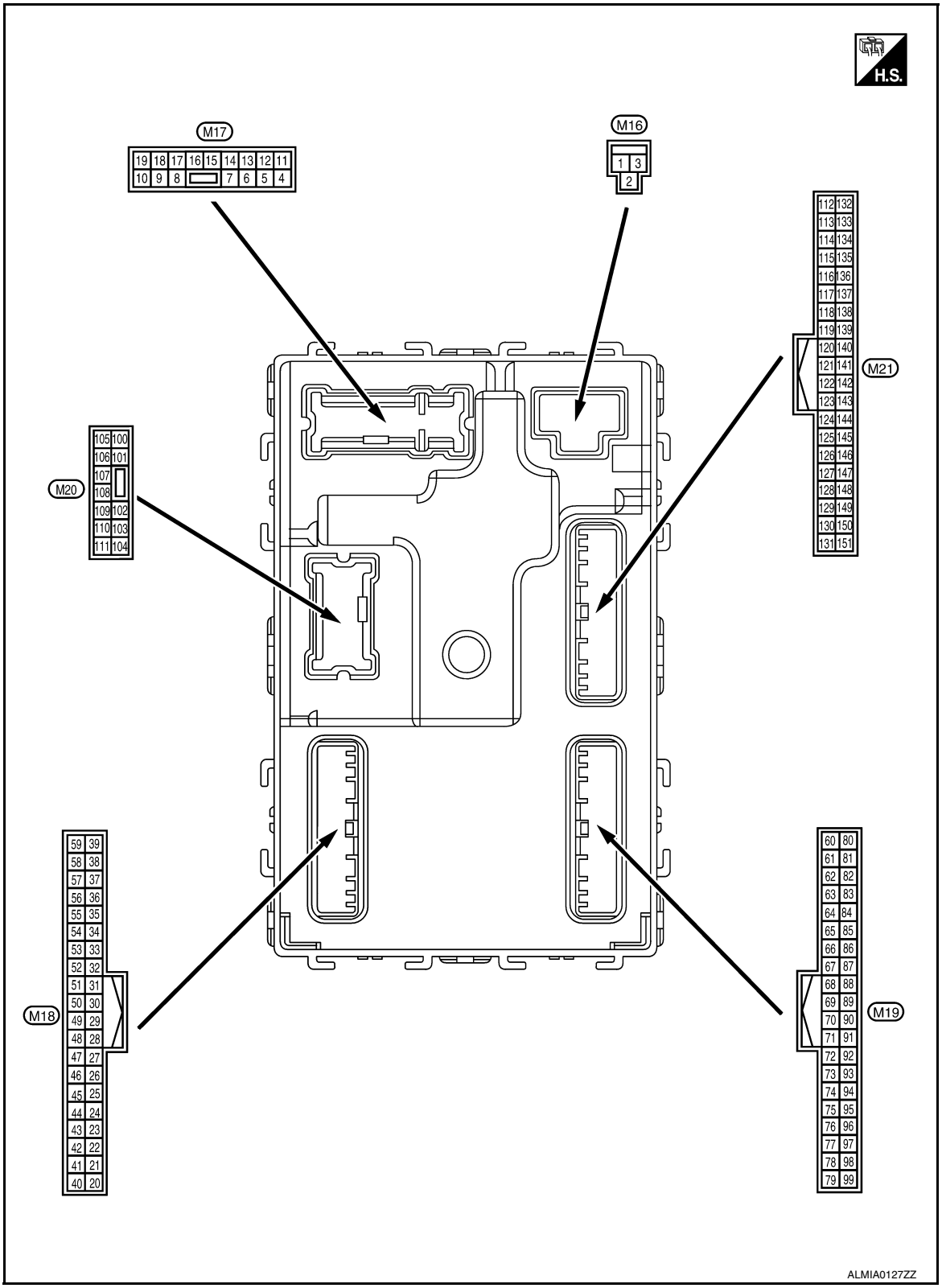
Monitor Item	Condition	Value/Status
REQ SW -RR	When rear door request switch is not pressed (passenger side)	OFF
	When rear door request switch is pressed (passenger side)	ON
REQ SW -BD/TR	When trunk opener request switch is not pressed	OFF
	When trunk opener request switch is pressed	ON
PUSH SW	When engine switch (push switch) is not pressed	OFF
	When engine switch (push switch) is pressed	ON
IGN RLY2 -F/B	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
ACC RLY -F/B	Ignition switch OFF	OFF
	Ignition switch ACC or ON	ON
BRAKE SW 1	When the brake pedal is not depressed	ON
	When the brake pedal is depressed	OFF
DETE/CANCL SW	When selector lever is in P position	OFF
	When selector lever is in any position other than P	ON
SFT PN/N SW	When selector lever is in any position other than P or N	OFF
	When selector lever is in P or N position	ON
UNLK SEN -DR	Driver door UNLOCK status	OFF
	Driver door LOCK status	ON
PUSH SW -IPDM	When engine switch (push switch) is not pressed	OFF
	When engine switch (push switch) is pressed	ON
IGN RLY1 -F/B	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
DETE SW -IPDM	When selector lever is in P position	OFF
	When selector lever is in any position other than P	ON
SFT PN -IPDM	When selector lever is in any position other than P or N	OFF
	When selector lever is in P or N position	ON
SFT P -MET	When selector lever is in any position other than P	OFF
	When selector lever is in P position	ON
SFT N -MET	When selector lever is in any position other than N	OFF
	When selector lever is in N position	ON
ENGINE STATE	Engine stopped	STOP
	While the engine stalls	STALL
	At engine cranking	CRANK
	Engine running	RUN
VEH SPEED 1	While driving	Equivalent to speedometer reading
VEH SPEED 2	While driving	Equivalent to speedometer reading
DOOR STAT-DR	Driver door LOCK status	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door UNLOCK status	UNLK
DOOR STAT-AS	Passenger door LOCK status	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door UNLOCK status	UNLK
ID OK FLAG	Ignition switch ACC or ON	RESET
	Ignition switch OFF	SET

Monitor Item	Condition	Value/Status
PRMT ENG STRT	When the engine start is prohibited	RESET
	When the engine start is permitted	SET
KEY SW -SLOT	When Intelligent Key is not inserted into key slot	OFF
	When Intelligent Key is inserted into key slot	ON
RKE OPE COUN1	During the operation of Intelligent Key	Operation frequency of Intelligent Key
CONFRM ID ALL	The key ID that the key slot receives does not accord with any key ID registered to BCM.	YET
	The key ID that the key slot receives accords with any key ID registered to BCM.	DONE
CONFIRM ID4	The key ID that the key slot receives does not accord with the fourth key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the fourth key ID registered to BCM.	DONE
CONFIRM ID3	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the third key ID registered to BCM.	DONE
CONFIRM ID2	The key ID that the key slot receives does not accord with the second key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the second key ID registered to BCM.	DONE
CONFIRM ID1	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	YET
	The key ID that the key slot receives accords with the first key ID registered to BCM.	DONE
TP 4	The ID of fourth key is not registered to BCM	YET
	The ID of fourth key is registered to BCM	DONE
TP 3	The ID of third key is not registered to BCM	YET
	The ID of third key is registered to BCM	DONE
TP 2	The ID of second key is not registered to BCM	YET
	The ID of second key is registered to BCM	DONE
TP 1	The ID of first key is not registered to BCM	YET
	The ID of first key is registered to BCM	DONE
AIR PRESS FL	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID REGST FL1	When ID of front LH tire transmitter is registered	DONE
	When ID of front LH tire transmitter is not registered	YET
ID REGST FR1	When ID of front RH tire transmitter is registered	DONE
	When ID of front RH tire transmitter is not registered	YET
ID REGST RR1	When ID of rear RH tire transmitter is registered	DONE
	When ID of rear RH tire transmitter is not registered	YET
ID REGST RL1	When ID of rear LH tire transmitter is registered	DONE
	When ID of rear LH tire transmitter is not registered	YET

Monitor Item	Condition	Value/Status
WARNING LAMP	Tire pressure indicator OFF	OFF
	Tire pressure indicator ON	ON
BUZZER	Tire pressure warning alarm is not sounding	OFF
	Tire pressure warning alarm is sounding	ON

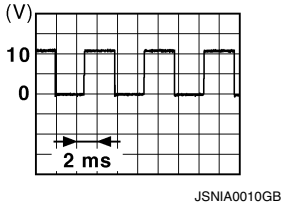
Terminal Layout

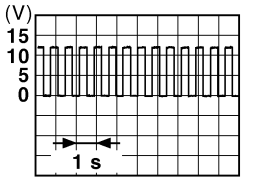
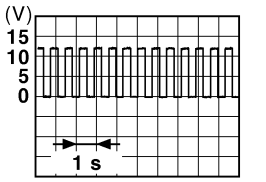
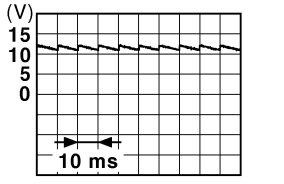
INFOID:0000000010062253

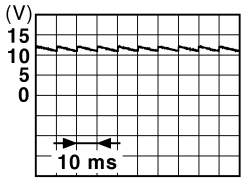
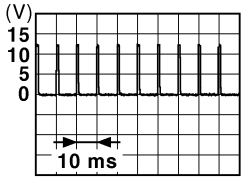
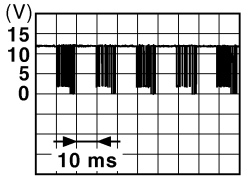


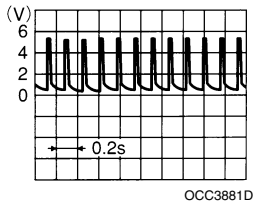
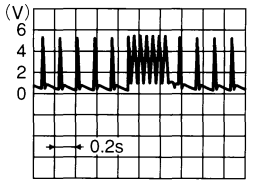
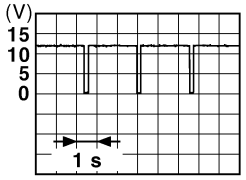
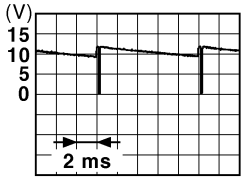
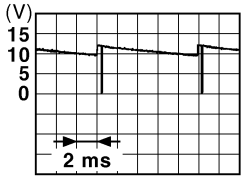
Physical Values

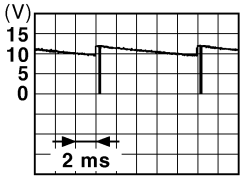
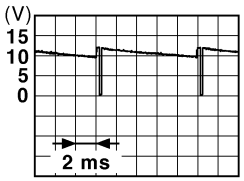
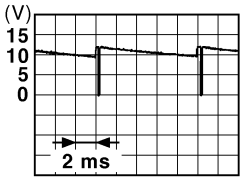
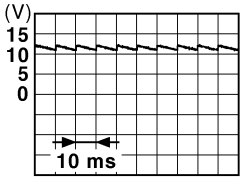
INFOID:0000000010062254

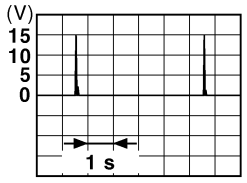
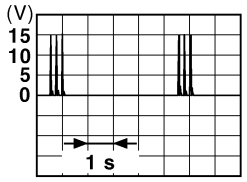
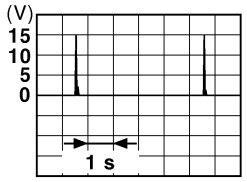
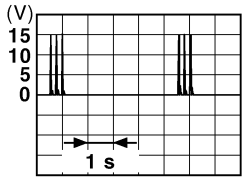
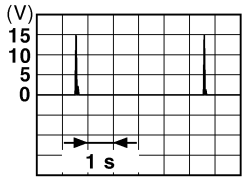
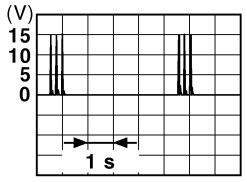
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
1 (W/B)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (R/Y)	Ground	Battery power supply output	Output	Ignition switch OFF		Battery voltage
3 (L/W)	Ground	Ignition power supply output	Output	Ignition switch ON		Battery voltage
4 (P/W)	Ground	Interior room lamp power supply	Output	After passing the interior room lamp battery saver operation time		0V
				Any other time after passing the interior room lamp battery saver operation time		Battery voltage
5 (G)	Ground	Front door RH UNLOCK	Output	Front door RH	UNLOCK (actuator is activated)	Battery voltage
					Other than UNLOCK (actuator is not activated)	0V
7 (R/W)	Ground	Step lamp	Output	Step lamp	ON	0V
					OFF	Battery voltage
8 (V)	Ground	All doors LOCK	Output	All doors	LOCK (actuator is activated)	Battery voltage
					Other than LOCK (actuator is not activated)	0V
9 (L)	Ground	Front door LH UNLOCK	Output	Front door LH	UNLOCK (actuator is activated)	Battery voltage
					Other than UNLOCK (actuator is not activated)	0V
10 (G)	Ground	Rear door RH and rear door LH UNLOCK	Output	Rear door RH and rear door LH	UNLOCK (actuator is activated)	Battery voltage
					Other than UNLOCK (actuator is not activated)	0V
11 (Y/R)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
13 (B)	Ground	Ground	—	Ignition switch ON		0V
14 (GR/W)	Ground	Engine switch (push switch) illumination ground	Input	Tail lamp	OFF	0V
					ON	**NOTE:** When the illumination brightening/dimming level is in the neutral position  JSNIA0010GB
15 (Y/L)	Ground	ACC indicator lamp	Output	Ignition switch	OFF	Battery voltage
					ACC or ON	0V

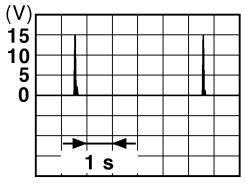
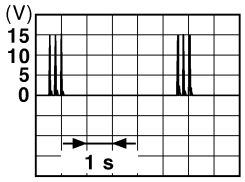
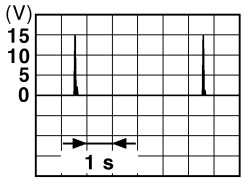
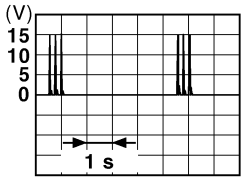
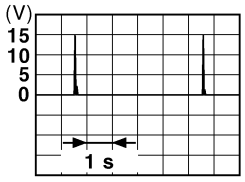
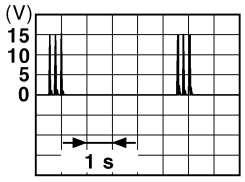
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
17 (G/B)	Ground	Turn signal (RH)	Output	Ignition switch ON	Turn signal switch OFF	0V
					Turn signal switch RH	 PKID0926E 6.5 V
18 (G/Y)	Ground	Turn signal (LH)	Output	Ignition switch ON	Turn signal switch OFF	0V
					Turn signal switch LH	 PKID0926E 6.5 V
19 (Y)	Ground	Room lamp timer control	Output	Interior room lamp	OFF	Battery voltage
					ON	0V
21 (P/B)	Ground	Optical sensor signal	Input	Ignition switch ON	When outside of the vehicle is bright	Close to 5V
					When outside of the vehicle is dark	Close to 0V
24 (R/W)	Ground	Stop lamp switch 1	Input	—		Battery voltage
26 (O/L)	Ground	Stop lamp switch 2	Input	Stop lamp switch	OFF (brake pedal is released)	0V
					ON (brake pedal is depressed)	Battery voltage
27 (O)	Ground	Front door lock assembly LH (unlock sensor)	Input	Front door LH	LOCK status	 JPMIA0011GB 11.8V
					UNLOCK status	0V
29 (Y)	Ground	Key slot switch	Input	When Intelligent Key is inserted into key slot		Battery voltage
				When Intelligent Key is not inserted into key slot		0V
31 (G)	Ground	Rear window defogger feedback signal	Input	Rear window defogger switch	OFF	0V
					ON	Battery voltage

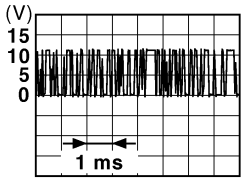
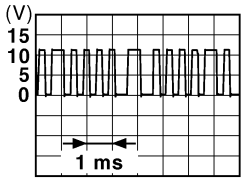
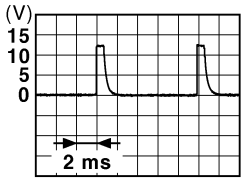
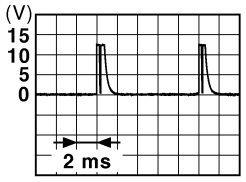
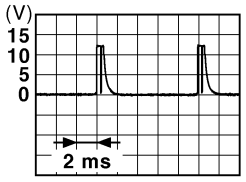
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
32 (R/B)	Ground	Front door RH switch	Input	Front door RH switch	OFF (when front door RH closes)	 JPMIA0011GB 11.8 V
					ON (when front door RH opens)	0V
37 (O)	Ground	Trunk lid opener cancel switch	Input	Trunk lid opener cancel switch	CANCEL	 JPMIA0012GB 1.1V
					ON	0V
38 (GR/ W)	Ground	Rear window defogger ON signal	Input	Rear window defogger switch	OFF	5V
					ON	0V
40 (Y/G)	Ground	Power window serial link	Input/ Output	Ignition switch ON		 JPMIA0013GB 10.2V
				Ignition switch OFF or ACC		0V
41 (W)	Ground	Engine switch (push switch) illumination	Output	Engine switch (push switch) illumination	ON	5.5V
					OFF	0V
42 (R)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	ON	0V
					OFF	Battery voltage
45 (P)	Ground	Receiver & sensor ground	Input	Ignition switch ON		0V
46 (V/W)	Ground	Receiver & sensor power supply output	Output	Ignition switch	OFF	0V
					ACC or ON	5.0V

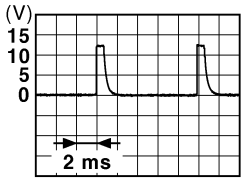
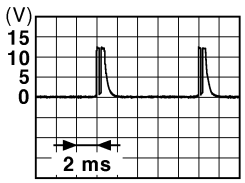
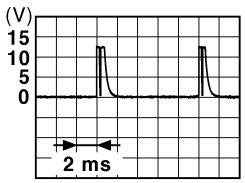
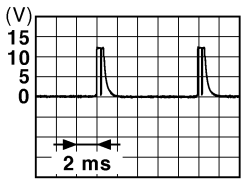
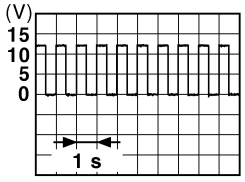
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
47 (G/O)	Ground	Tire pressure receiver signal	Input/ Output	Ignition switch ON	Standby state	 OCC3881D
					When receiving the signal from the transmitter	 OCC3880D
48 (R/G)	Ground	Selector lever transmission range switch signal	Input	Selector lever	P or N position	12.0V
					Except P and N positions	0V
49 (L/O)	Ground	Security indicator signal	Output	Security indicator	ON	0V
					Blinking	 JPMIA0014GB 11.3V
					OFF	Battery voltage
50 (LG/ B)	Ground	Combination switch OUTPUT 5	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	0V
					Lighting switch 1ST	 JPMIA0031GB 10.7V
					Lighting switch high-beam	
					Lighting switch 2ND	
					Turn signal switch RH	
51 (L/W)	Ground	Combination switch OUTPUT 1	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0V
					Front wiper switch HI (Wiper intermittent dial 4)	 JPMIA0032GB 10.7V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • WIper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6 • Wiper intermittent dial 7	

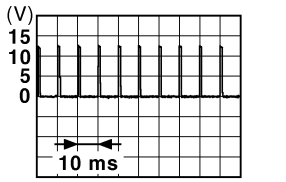
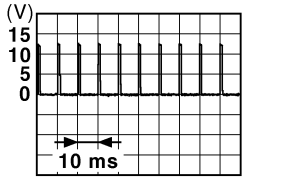
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
52 (G/B)	Ground	Combination switch OUTPUT 2	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0V
					Front washer switch ON (Wiper intermittent dial 4)	 JPMIA0033GB 10.7V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • WIper intermittent dial 5 • Wiper intermittent dial 6	
53 (LG/ R)	Ground	Combination switch OUTPUT 3	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	0V
					Front wiper switch INT	 JPMIA0034GB 10.7V
					Front wiper switch LO	
					Lighting switch AUTO	
54 (G/Y)	Ground	Combination switch OUTPUT 4	Input	Combination switch (Wiper intermittent dial 4)	All switch OFF	0V
					Front fog lamp switch ON	 JPMIA0035GB 10.7V
					Lighting switch 2ND	
					Lighting switch flash-to-pass	
					Turn signal switch LH	
57 (W)	Ground	Tire pressure warning check switch	Input	—		5V
58 (SB)	Ground	Front door LH switch	Input	Front door LH switch	OFF (front door LH CLOSE)	 JPMIA0011GB 11.8V
					ON (front door LH OPEN)	0V
59 (G/R)	Ground	Rear window defogger relay	Output	Rear window defogger	Active	Battery voltage
					Not activated	0V

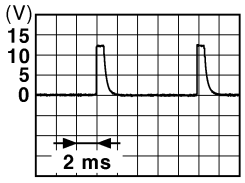
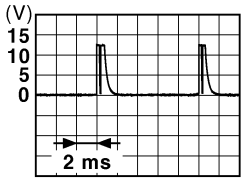
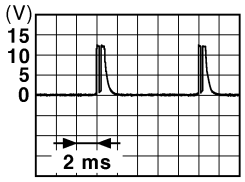
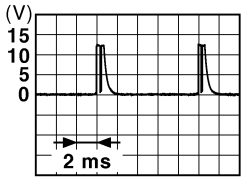
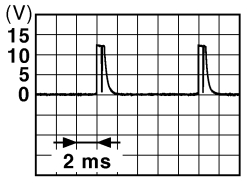
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
60 (B/R)	Ground	Front console antenna 2 (-)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB
61 (W/R)	Ground	Center console antenna 2 (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB
62 (V)	Ground	Front outside handle RH antenna (-)	Output	When the front door RH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB

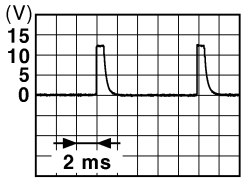
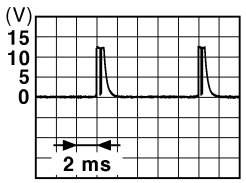
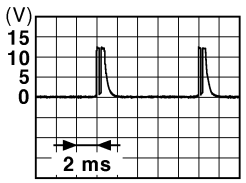
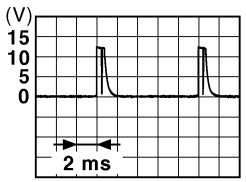
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
63 (P)	Ground	Front outside handle RH antenna (+)	Output	When the front door RH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB
64 (V)	Ground	Front outside handle LH antenna (-)	Output	When the front door LH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB
65 (P)	Ground	Front outside handle LH antenna (+)	Output	When the front door LH request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB

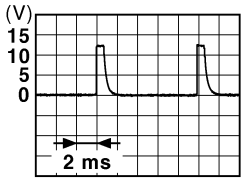
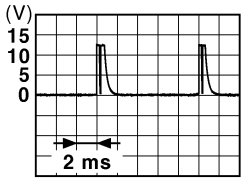
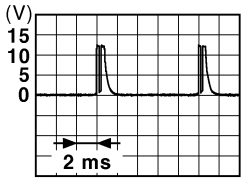
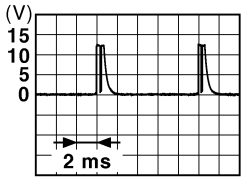
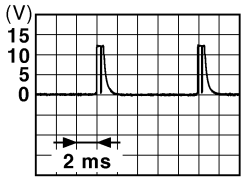
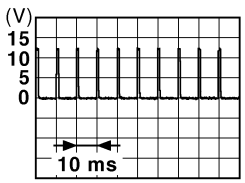
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
68 (G/O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
69 (O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
70 (R/B)	Ground	Ignition relay-2 control	Output	Ignition switch	OFF or ACC	0V
					ON	Battery voltage
71 (L/O)	Ground	Remote keyless entry receiver signal	Input/ Output	During waiting		 JMKIA0064GB
				When operating either button on Intelligent Key		 JMKIA0065GB
75 (R/Y)	Ground	Combination switch INPUT 5	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0041GB 1.4V
					Front fog lamp switch ON (Wiper intermittent dial 4)	 JPMIA0037GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	 JPMIA0040GB 1.3V

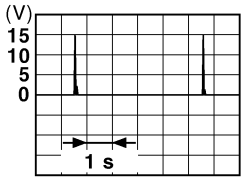
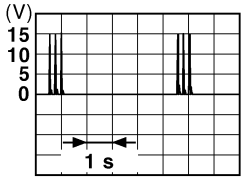
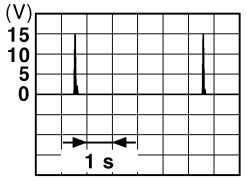
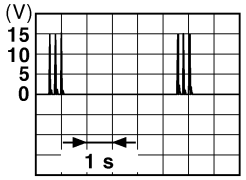
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
76 (R/G)	Ground	Combination switch INPUT 3	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0041GB 1.4V
					Lighting switch high-beam (Wiper intermittent dial 4)	 JPMIA0036GB 1.3V
					Lighting switch 2ND (Wiper intermittent dial 4)	 JPMIA0037GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	 JPMIA0040GB 1.3V
78 (P)	Ground	CAN-L	Input/ Output	—		—
79 (L)	Ground	CAN-H	Input/ Output	—		—
80 (R/L)	Ground	Key slot illumination	Output	Key slot illumination	OFF	Battery voltage
					Blinking	 JPMIA0015GB 6.5V
					ON	0V
81 (LG)	Ground	ON indicator lamp	Output	Ignition switch	OFF or ACC	0V
					ON	Battery voltage

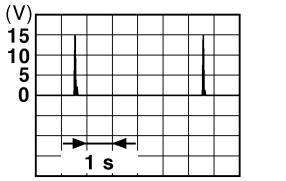
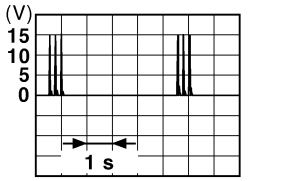
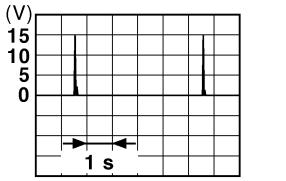
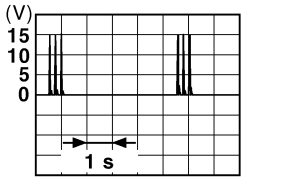
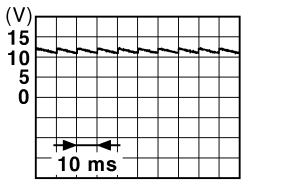
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
83 (L)	Ground	ACC relay control	Output	Ignition switch	OFF	0V
					ACC or ON	Battery voltage
84 (Y/R)	Ground	CVT shift selector	Output	—		Battery voltage
87 (G/B)	Ground	Selector lever P position switch	Input	Selector lever	P position	0V
					Any position other than P	Battery voltage
88 (R)	Ground	Front door RH request switch	Input	Front door RH request switch	ON (pressed)	0V
					OFF (not pressed)	 JPMIA0016GB 1.0V
89 (R)	Ground	Front door LH request switch	Input	Front door LH request switch	ON (pressed)	0V
					OFF (not pressed)	 JPMIA0016GB 1.0V
90 (Y)	Ground	Blower fan motor relay control	Output	Ignition switch	OFF or ACC	0V
					ON	Battery voltage
91 (L/R)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OFF		Battery voltage

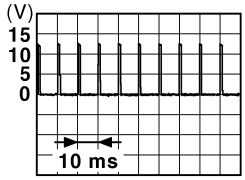
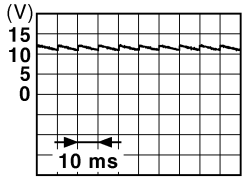
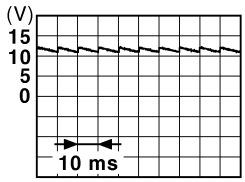
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
95 (R/W)	Ground	Combination switch INPUT 1	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	 JPMIA0041GB 1.4V
					Turn signal switch LH	 JPMIA0037GB 1.3V
					Turn signal switch RH	 JPMIA0036GB 1.3V
					Front wiper switch LO	 JPMIA0038GB 1.3V
					Front washer switch ON	 JPMIA0039GB 1.3V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
96 (P/B)	Ground	Combination switch INPUT 4	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 JPMIA0041GB 1.4V
					Lighting switch AUTO (Wiper intermittent dial 4)	 JPMIA0038GB 1.3V
					Lighting switch 1ST (Wiper intermittent dial 4)	 JPMIA0036GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	 JPMIA0039GB 1.3V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
97 (R/B)	Ground	Combination switch INPUT 2	Output	Combination switch (Wiper intermittent dial 4)	All switch OFF	 JPMIA0041GB 1.4V
					Lighting switch flash-to-pass	 JPMIA0037GB 1.3V
					Lighting switch 2ND	 JPMIA0036GB 1.3V
					Front wiper switch INT	 JPMIA0038GB 1.3V
					Front wiper switch HI	 JPMIA0040GB 1.3V
98 (G/O)	Ground	Hazard switch	Input	Hazard switch	Pressed	0 V
					Not pressed	 JPMIA0012GB 1.1V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
103 (V)	Ground	Trunk lid opening.	Output	Trunk lid	Open (trunk lid opener actuator is activated)	Battery voltage
					Close (trunk lid opener actuator is not activated)	0V
110 (V/W)	Ground	Trunk room lamp	Output	Trunk room lamp	ON	0V
					OFF	Battery voltage
114 (B)	Ground	Trunk room antenna 1 (-)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB
115 (W)	Ground	Trunk room antenna 1 (+)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment	 JMKIA0062GB
					When Intelligent Key is not in the passenger compartment	 JMKIA0063GB

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
118 (L/O)	Ground	Rear bumper antenna (-)	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB
119 (BR/ W)	Ground	Rear bumper antenna (+)	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	 JMKIA0062GB
					When Intelligent Key is not in the antenna detection area	 JMKIA0063GB
127 (BR/ W)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	OFF or ACC	Battery voltage
					ON	0V
130 (W)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (trunk is closed)	 JPMIA0011GB 11.8V
					ON (trunk is open)	0V
132 (R)	Ground	Starter motor relay control	Output	Ignition switch ON	When selector lever is in P or N position and the brake is depressed	Battery voltage
					When selector lever is in P or N position and the brake is not depressed	0V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
(+)	(-)	Signal name	Input/ Output			
140 (BR)	Ground	Engine switch (push switch)	Input	Engine switch (push switch)	Pressed	0V
					Not pressed	Battery voltage
141 (BR)	Ground	Trunk opener request switch	Input	Trunk opener request switch	ON (pressed)	0V
					OFF (not pressed)	 JPMIA0016GB 1.0V
144 (GR)	Ground	Request switch buzzer	Output	Request switch buzzer	Sounding	0V
					Not sounding	Battery voltage
147 (L/R)	Ground	Trunk lid opener switch	Input	Trunk lid opener switch	Pressed	0V
					Not pressed	Battery voltage
148 (R/W)	Ground	Rear door RH switch	Input	Rear door RH switch	OFF (when rear door RH closes)	 JPMIA0011GB 11.8V
					ON (when rear door RH opens)	0V
149 (R/B)	Ground	Rear door LH switch	Input	Rear door LH switch	OFF (when rear door LH closes)	 JPMIA0011GB 11.8V
					ON (when rear door LH opens)	0V

Fail Safe

INFOID:0000000010062255

Display contents of CONSULT	Fail-safe	Cancellation
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI-SCANNING	Inhibit engine cranking	Erase DTC
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistent • Starter control relay signal • Starter relay status signal

Display contents of CONSULT	Fail-safe	Cancellation
B2562: LO VOLTAGE	Inhibit engine cranking	100 ms after the power supply voltage increases to more than 8.8 V
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent • Starter motor relay control signal • Starter relay status signal (CAN)
B260A: IGNITION RELAY	Inhibit engine cranking	500 ms after the following conditions are fulfilled • IGN relay (IPDM E/R) control signal: OFF (Battery voltage) • Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) • Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions is fulfilled • Power position changes to ACC • Receives engine status signal (CAN)
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal
B26E1: ENG STATE NO RECIV	Inhibit engine cranking	When any of the following conditions are fulfilled • Power position changes to ACC • Receives engine status signal (CAN)

DTC Inspection Priority Chart

INFOID:0000000010062256

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC
1	• B2562: LO VOLTAGE
2	• U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
3	• B2190: NATS ANTENNA AMP • B2191: DIFFERENCE OF KEY • B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM
4	• B2553: IGNITION RELAY • B2555: STOP LAMP • B2556: PUSH-BTN IGN SW • B2557: VEHICLE SPEED • B2560: STARTER CONT RELAY • B2601: SHIFT POSITION • B2602: SHIFT POSITION • B2603: SHIFT POSI STATUS • B2604: PNP SWITCH • B2605: PNP SWITCH • B2608: STARTER RELAY • B260A: IGNITION RELAY • B260F: ENG STATE SIG LOST • B2614: ACC RELAY CIRC • B2615: BLOWER RELAY CIRC • B2616: IGN RELAY CIRC • B2617: STARTER RELAY CIRC • B2618: BCM • B261A: PUSH-BTN IGN SW • B26E1: ENG STATE NO RECIV • C1729: VHCL SPEED SIG ERR • U0415: VEHICLE SPEED SIG

Priority	DTC
5	• C1704: LOW PRESSURE FL • C1705: LOW PRESSURE FR • C1706: LOW PRESSURE RR • C1707: LOW PRESSURE RL • C1708: [NO DATA] FL • C1709: [NO DATA] FR • C1710: [NO DATA] RR • C1711: [NO DATA] RL • C1712: [CHECKSUM ERR] FL • C1713: [CHECKSUM ERR] FR • C1714: [CHECKSUM ERR] RR • C1715: [CHECKSUM ERR] RL • C1716: [PRESSDATA ERR] FL • C1717: [PRESSDATA ERR] FR • C1718: [PRESSDATA ERR] RR • C1719: [PRESSDATA ERR] RL • C1720: [CODE ERR] FL • C1721: [CODE ERR] FR • C1722: [CODE ERR] RR • C1723: [CODE ERR] RL • C1724: [BATT VOLT LOW] FL • C1725: [BATT VOLT LOW] FR • C1726: [BATT VOLT LOW] RR • C1727: [BATT VOLT LOW] RL • C1734: CONTROL UNIT
6	• B2622: INSIDE ANTENNA • B2623: INSIDE ANTENNA

DTC Index

INFOID:0000000010062257

NOTE:

Details of time display

- CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.
- 1 - 39: Displayed if any previous malfunction is present when current condition is normal. It increases 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch OFF → ON after returning to the normal condition if the malfunction is detected again.

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	—	—	—	BCS-32
U1010: CONTROL UNIT (CAN)	—	—	—	BCS-33
U0415: VEHICLE SPEED SIG	—	—	—	BCS-34
B2190: NATS ANTENNA AMP	×	—	—	SEC-37
B2191: DIFFERENCE OF KEY	×	—	—	SEC-40
B2192: ID DISCORD BCM-ECM	×	—	—	SEC-41
B2193: CHAIN OF BCM-ECM	×	—	—	SEC-42
B2553: IGNITION RELAY	—	—	—	PCS-46
B2555: STOP LAMP	—	—	—	SEC-43
B2556: PUSH-BTN IGN SW	—	×	—	SEC-46
B2557: VEHICLE SPEED	×	×	—	SEC-48
B2560: STARTER CONT RELAY	×	×	—	SEC-49

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2562: LOW VOLTAGE	—	—	—	BCS-35
B2601: SHIFT POSITION	×	×	—	SEC-50
B2602: SHIFT POSITION	×	×	—	SEC-53
B2603: SHIFT POSI STATUS	×	×	—	SEC-56
B2604: PNP SWITCH	×	×	—	SEC-59
B2605: PNP SWITCH	×	×	—	SEC-61
B2608: STARTER RELAY	×	×	—	SEC-63
B260A: IGNITION RELAY	×	×	—	PCS-48
B260F: ENG STATE SIG LOST	×	×	—	SEC-65
B2614: ACC RELAY CIRC	—	×	—	PCS-50
B2615: BLOWER RELAY CIRC	—	×	—	PCS-53
B2616: IGN RELAY CIRC	—	×	—	PCS-56
B2617: STARTER RELAY CIRC	×	×	—	SEC-67
B2618: BCM	×	×	—	PCS-59
B261A: PUSH-BTN IGN SW	—	×	—	PCS-60
B2622: INSIDE ANTENNA	—	—	—	DLK-60
B2623: INSIDE ANTENNA	—	—	—	DLK-63
B26E1: ENG STATE NO RES	×	×	—	SEC-66
C1704: LOW PRESSURE FL	—	—	×	WT-43
C1705: LOW PRESSURE FR	—	—	×	WT-43
C1706: LOW PRESSURE RR	—	—	×	WT-43
C1707: LOW PRESSURE RL	—	—	×	WT-43
C1708: [NO DATA] FL	—	—	×	WT-13
C1709: [NO DATA] FR	—	—	×	WT-13
C1710: [NO DATA] RR	—	—	×	WT-13
C1711: [NO DATA] RL	—	—	×	WT-13
C1712: [CHECKSUM ERR] FL	—	—	×	WT-15
C1713: [CHECKSUM ERR] FR	—	—	×	WT-15
C1714: [CHECKSUM ERR] RR	—	—	×	WT-15
C1715: [CHECKSUM ERR] RL	—	—	×	WT-15
C1716: [PRESSDATA ERR] FL	—	—	×	WT-17
C1717: [PRESSDATA ERR] FR	—	—	×	WT-17
C1718: [PRESSDATA ERR] RR	—	—	×	WT-17
C1719: [PRESSDATA ERR] RL	—	—	×	WT-17
C1720: [CODE ERR] FL	—	—	×	WT-15
C1721: [CODE ERR] FR	—	—	×	WT-15
C1722: [CODE ERR] RR	—	—	×	WT-15
C1723: [CODE ERR] RL	—	—	×	WT-15
C1724: [BATT VOLT LOW] FL	—	—	×	WT-15
C1725: [BATT VOLT LOW] FR	—	—	×	WT-15
C1726: [BATT VOLT LOW] RR	—	—	×	WT-15
C1727: [BATT VOLT LOW] RL	—	—	×	WT-15

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
C1729: VHCL SPEED SIG ERR	—	—	×	WT-19
C1734: CONTROL UNIT	—	—	×	WT-20

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

Reference Value

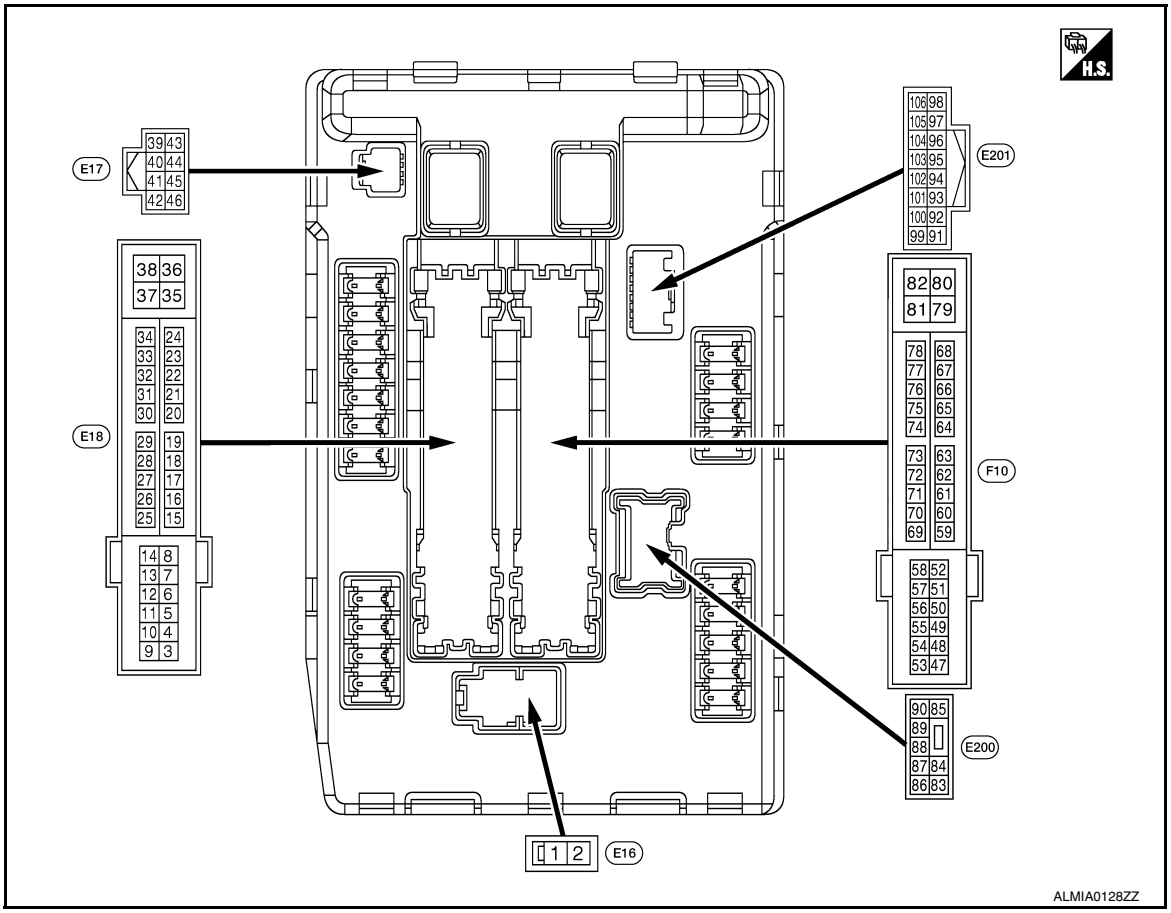
INFOID:0000000010062259

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition		Value/Status
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	1,2,3,4
AC COMP REQ	Engine running	A/C switch OFF	Off
		A/C switch ON (Compressor is operating)	On
TAIL&CLR REQ	Lighting switch OFF		Off
	Lighting switch 1ST, 2ND, HI or AUTO (Light is illuminated)		On
HL LO REQ	Lighting switch OFF		Off
	Lighting switch 2ND HI or AUTO (Light is illuminated)		On
HL HI REQ	Lighting switch OFF		Off
	Lighting switch HI		On
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	Front fog lamp switch OFF	Off
		• Front fog lamp switch ON • Daytime running light activated (Only for Canada models)	On
FR WIP REQ	Ignition switch ON	Front wiper switch OFF	STOP
		Front wiper switch INT	1LOW
		Front wiper switch LO	Low
		Front wiper switch HI	Hi
WIP AUTO STOP	Ignition switch ON	Front wiper stop position	STOP P
		Any position other than front wiper stop position	ACT P
WIP PROT	Ignition switch ON	Front wiper operates normally	Off
		Front wiper stops at fail-safe operation	BLOCK
IGN RLY1 -REQ	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
IGN RLY	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
PUSH SW	Release the push-button ignition switch		Off
	Press the push-button ignition switch		On
INTER/NP SW	Ignition switch ON	CVT selector lever in any position other than P or N	Off
	Ignition switch ON	CVT selector lever in P or N position	On
ST RLY CONT	Ignition switch ON		Off
	At engine cranking		On
IHBT RLY -REQ	Ignition switch ON		Off
	At engine cranking		On

Monitor Item	Condition		Value/Status
ST/INHI RLY	Ignition switch ON		Off
	At engine cranking		ST →INHI
	The status of starter relay or starter control relay cannot be recognized by the battery voltage malfunction, etc. when the starter relay is ON and the starter control relay is OFF		UNKWN
DETENT SW	Ignition switch ON	• Press the selector button with CVT selector lever in P position • CVT selector lever in any position other than P	Off
	Release the CVT selector button with CVT selector lever in P position		On
DTRL -REQ	DTRL ON		On
	DTRL OFF		Off
OIL P SW	Ignition switch OFF, ACC or engine running		Open
	Ignition switch ON		Close
THFT HRN REQ	Not operated		Off
	• Panic alarm is activated • Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM		On
HORN CHIRP	Not operated		Off
	Door locking with Intelligent Key (horn chirp mode)		On

TERMINAL LAYOUT

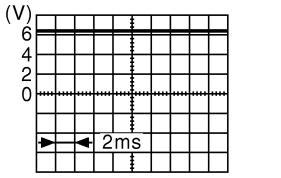
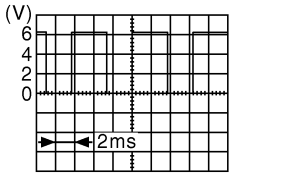
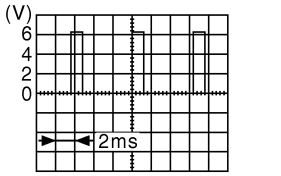


PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	–					
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (L)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
4 (LG)	Ground	Front wiper LO	Output	Ignition switch ON	Front wiper switch OFF	0 V
					Front wiper switch LO	Battery voltage
5 (Y)	Ground	Front wiper HI	Output	Ignition switch ON	Front wiper switch OFF	0 V
					Front wiper switch HI	Battery voltage
6 (L)	Ground	Daytime light relay power supply (Canada models only)	Output	Ignition switch OFF		Battery voltage
7 (GR)	Ground	Tail, license plate lamps & interior lamps	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 1ST	Battery voltage
10 (BR)	Ground	ECM relay power supply	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		0 V
				• Ignition switch ON • Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		Battery voltage
12 (B)	Ground	Ground	—	Ignition switch ON		0 V
13 (SB)	Ground	Fuel pump power supply	Output	Approximately 1 second or more after turning the ignition switch ON		0 V
				• Approximately 1 second after turning the ignition switch ON • Engine running		Battery voltage
15 (W)	Ground	Ignition relay-1 power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
16 (R)	Ground	Front wiper auto stop	Input	Ignition switch ON	Front wiper stop position	0 V
					Any position other than front wiper stop position	Battery voltage
19 (Y)	Ground	Ignition relay-1 power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
20 (L)	Ground	Ambient sensor ground	—	Ignition switch ON		0V
21 (LG)	Ground	Ambient sensor	—	Ignition switch ON		5V
22 (SB)	Ground	Refrigerant pressure sensor ground	—	Ignition switch ON		0V
23 (GR)	Ground	Refrigerant pressure sensor	—	• Ignition switch ON (READY) • Both A/C switch and blower motor switch ON (electric compressor operates)		1.0 - 4.0V
24 (G)	Ground	Refrigerant pressure sensor power supply	—	Ignition switch ON		5V
25 (GR)	Ground	Ignition relay-1 power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
27 (W)	Ground	Ignition relay monitor	Input	Ignition switch OFF or ACC		Battery voltage
				Ignition switch ON		0 V
28 (SB)	Ground	Push-button ignition switch	Input	Press the push-button ignition switch		0 V
				Release the push-button ignition switch		Battery voltage
30 (BR)	Ground	Starter relay control	Input	CVT selector lever in any position other than P or N (ignition switch ON)		0 V
				CVT selector lever P or N (ignition switch ON)		Battery voltage
34 (O)	Ground	Cooling fan relay-3 control	Input	Ignition switch OFF or ACC		0 V
				Ignition switch ON		0.7 V
35 (P)	Ground	Cooling fan motor control	Output	Ignition switch OFF or ACC		0 V
				Ignition switch ON		0.7 V
36 (G)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
38 (GR)	Ground	Cooling fan motor control	Output	Ignition switch OFF or ACC		0 V
				Ignition switch ON		0.7 V
39 (P)	—	CAN - L	Input/ Output	—		—
40 (L)	—	CAN - H	Input/ Output	—		—
41 (B)	Ground	Ground	—	Ignition switch ON		0 V
42 (SB)	Ground	Cooling fan relay-2 control	Input	Ignition switch OFF or ACC		0 V
				Ignition switch ON		0.7 V
43 (Y)	Ground	CVT shift selector (Detention switch)	Input	Ignition switch ON	Press the CVT selector button (CVT selector lever P)	Battery voltage
					• CVT selector lever in any position other than P • Release the CVT selector button (CVT selector lever P)	0 V
44 (W)	Ground	Horn relay control	Input	The horn is deactivated		Battery voltage
				The horn is activated		0 V
45 (GR)	Ground	Anti theft horn relay control	Input	The horn is deactivated		Battery voltage
				The horn is activated		0 V
46 (BR)	Ground	Starter relay control	Input	CVT selector lever in any position other than P or N (ignition switch ON)		0 V
				CVT selector lever P or N (ignition switch ON)		Battery voltage
48 (W)	Ground	A/C relay power supply	Output	Engine running	A/C switch OFF	0 V
					A/C switch ON (A/C compressor is operating)	Battery voltage

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
49 (R/B)	Ground	ECM relay power supply	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		0 V
				• Ignition switch ON • Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		Battery voltage
51 (LG)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
52 (Y/G)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
53 (R/W)	Ground	ECM relay power supply	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		0 V
				• Ignition switch ON • Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		Battery voltage
54 (G/W)	Ground	Throttle control motor relay power supply	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		0 V
				• Ignition switch ON • Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		Battery voltage
55 (W/L)	Ground	ECM power supply	Output	Ignition switch OFF		Battery voltage
56 (R/Y)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
57 (O)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
58 (Y)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
69 (W/B)	Ground	ECM relay control	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		Battery voltage
				• Ignition switch ON • Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 - 1.5 V
70 (O)	Ground	Throttle control motor relay control	Output	Ignition switch ON → OFF		0 -1.0 V ↓ Battery voltage ↓ 0 V
				Ignition switch ON		0 - 1.0 V
72 (R/B)	Ground	Transmission range switch signal	Input	Ignition switch ON	CVT selector lever in P or N position	Battery voltage
					CVT selector lever in any position other than P or N position	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
75 (LG)	Ground	Oil pressure switch	Input	Ignition switch ON	Engine stopped	0 V
					Engine running	Battery voltage
76 (SB)	Ground	Power generation command signal	Output	Ignition switch ON		 JPMIA0001GB 6.3 V
				40% is set on “Active test”, “ALTERNATOR DUTY” of “ENGINE”		 JPMIA0002GB 3.8 V
				80% is set on “Active test”, “ALTERNATOR DUTY” of “ENGINE”		 JPMIA0003GB 1.4 V
77 (GR)	Ground	Fuel pump relay control	Output	• Approximately 1 second after turning the ignition switch ON • Engine running		0 - 1.0 V
				Approximately 1 second or more after turning the ignition switch ON		Battery voltage
80 (B)	Ground	Starter motor	Output	At engine cranking		Battery voltage
83 (R/Y)	Ground	Headlamp LO (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	Battery voltage
84 (L)	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	Battery voltage
86 (W/R)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	• Front fog lamp switch ON • Daytime running light activated (Only for Canada models)	Battery voltage
					Front fog lamp switch OFF	0 V
87 (L/Y)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	• Front fog lamp switch ON • Daytime running light activated (Only for Canada models)	Battery voltage
					Front fog lamp switch OFF	0 V

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
88 (R/W)	Ground	Washer pump power supply	Output	Ignition switch ON		Battery voltage
89 (L/W)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	• Lighting switch HI • Lighting switch PASS	Battery voltage
					Lighting switch OFF	0 V
90 (G)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	• Lighting switch HI • Lighting switch PASS	Battery voltage
					Lighting switch OFF	0 V
91 (LG/ R)	Ground	Parking lamp (RH)	Output	Ignition switch ON	Lighting switch 1ST	Battery voltage
		Side marker lamp (RH)			Lighting switch OFF	0 V
92 (LG/ B)	Ground	Parking lamp (LH)	Output	Ignition switch ON	Lighting switch 1ST	Battery voltage
		Side marker lamp (LH)			Lighting switch OFF	0 V
99 (BR/ W)	Ground	Ambient sensor ground	—	Ignition switch ON		0V
100 (SB)	Ground	Ambient sensor	—	Ignition switch ON		5V
101 (W)	Ground	Refrigerant pressure sensor ground	—	Ignition switch ON		0V
102 (R)	Ground	Refrigerant pressure sensor	—	• Ignition switch ON (READY) • Both A/C switch and blower motor switch ON (electric compressor operates)		1.0 - 4.0V
103 (P)	Ground	Refrigerant pressure sensor power supply	—	Ignition switch ON		5V
105 (V)	Ground	Daytime light relay control (Only for Canada models)	Output	Ignition switch ON	Daytime light system active	Battery voltage
				Ignition switch ON	Daytime light system inactive	0 V

Fail Safe

INFOID:0000000010062260

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

Control part	Fail-safe in operation
Cooling fan	• Signals cooling fans ON when the ignition switch is turned ON • Signals cooling fans OFF when the ignition switch is turned OFF
A/C compressor	A/C relay OFF
Generator	Outputs the power generation command signal (PWM signal) 0%

If No CAN Communication Is Available With BCM

Control part	Fail-safe in 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 lamps • Side marker lamps • License plate lamps • Illumination • Tail 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 (if equipped)	Front fog lamp relay OFF
Horn	Horn 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-1 inside it.
- IPDM E/R judges the ignition relay-1 error if the voltage differs between the contact circuit and the excitation coil circuit.
- If the ignition relay-1 cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay-1 malfunction when the ignition switch is turned OFF.

DTC	Ignition switch	Ignition relay-1	Tail lamp relay
—	ON	ON	—
—	OFF	OFF	—
B2098: IGN RELAY ON	OFF	ON	ON (10 minutes)
B2099: IGN RELAY OFF	ON	OFF	—

NOTE:

The tail lamp turns OFF when the ignition switch is turned ON.

FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper auto stop signal.
When a front wiper auto stop 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	Auto stop signal
ON	OFF	Front wiper stop position signal cannot be input 10 seconds.
	ON	The signal does not change for 10 seconds.

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

INFOID:0000000010062261

CONSULT display	Fail-safe	TIME[NOTE]		Refer to
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	×	CRNT	1 – 39	PCS-15
B2098: IGN RELAY ON	×	CRNT	1 – 39	PCS-16
B2099: IGN RELAY OFF	—	CRNT	1 – 39	PCS-17
B210B: START CONT RLY ON	—	CRNT	1 – 39	SEC-69
B210C: START CONT RLY OFF	—	CRNT	1 – 39	SEC-72
B210D: STARTER RELAY ON	—	CRNT	1 – 39	SEC-72
B210E: STARTER RELAY OFF	—	CRNT	1 – 39	SEC-74
B210F: INTRLCK/PNP SW ON	—	CRNT	1 – 39	SEC-76
B2110: INTRLCK/PNP SW OFF	—	CRNT	1 – 39	SEC-78

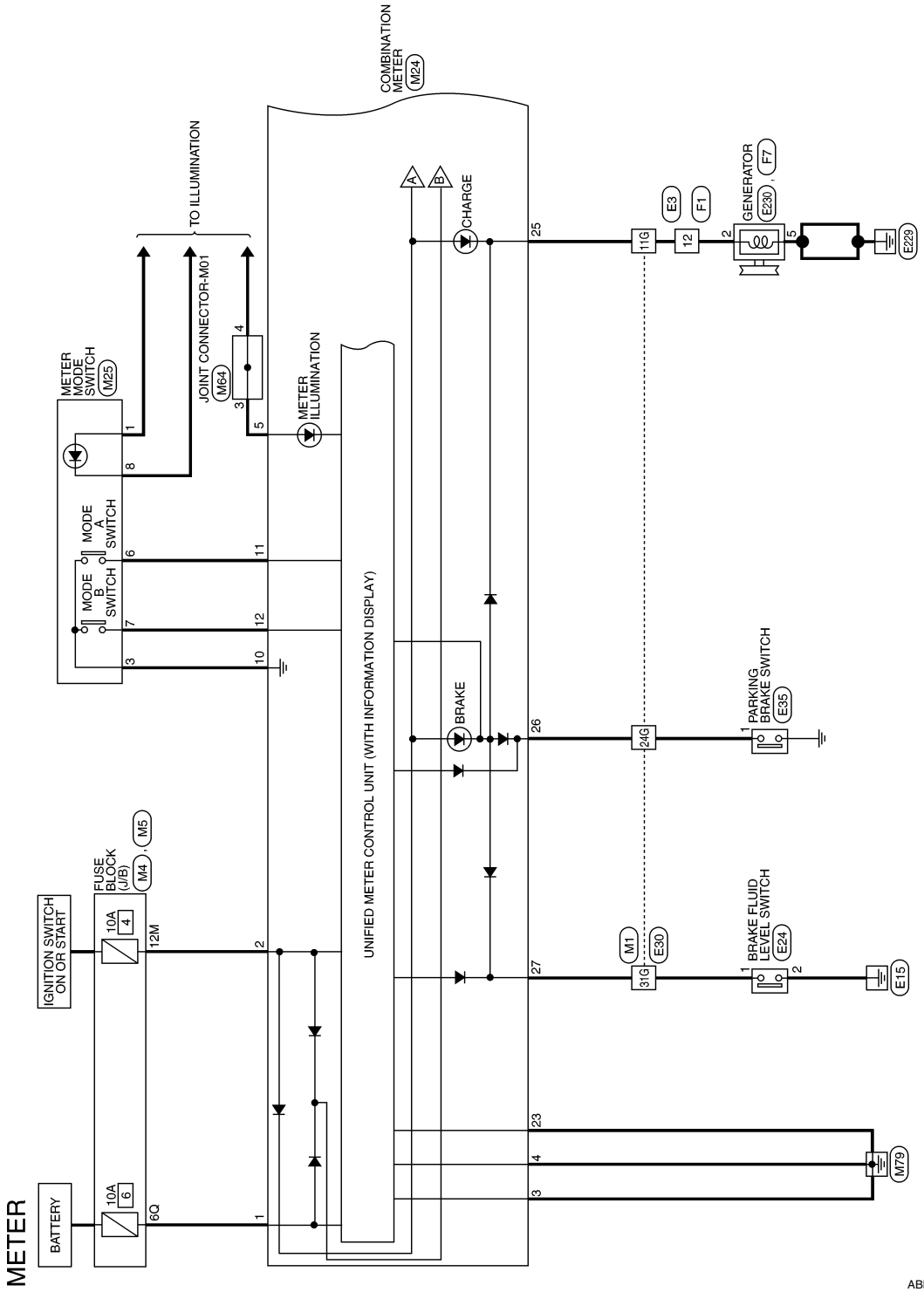
NOTE:
The details of TIME display are as follows.
- CRNT: The malfunctions that are detected now
- 1 - 39: The number is indicated when it is normal at present and a malfunction was detected in the past. It increases like 0 → 1 → 2 ··· 38 → 39 after returning to the normal condition whenever IGN OFF → ON. It is fixed to 39 until the self-diagnosis results are erased if it is over 39. It returns to 0 when a malfunction is detected again in the process.

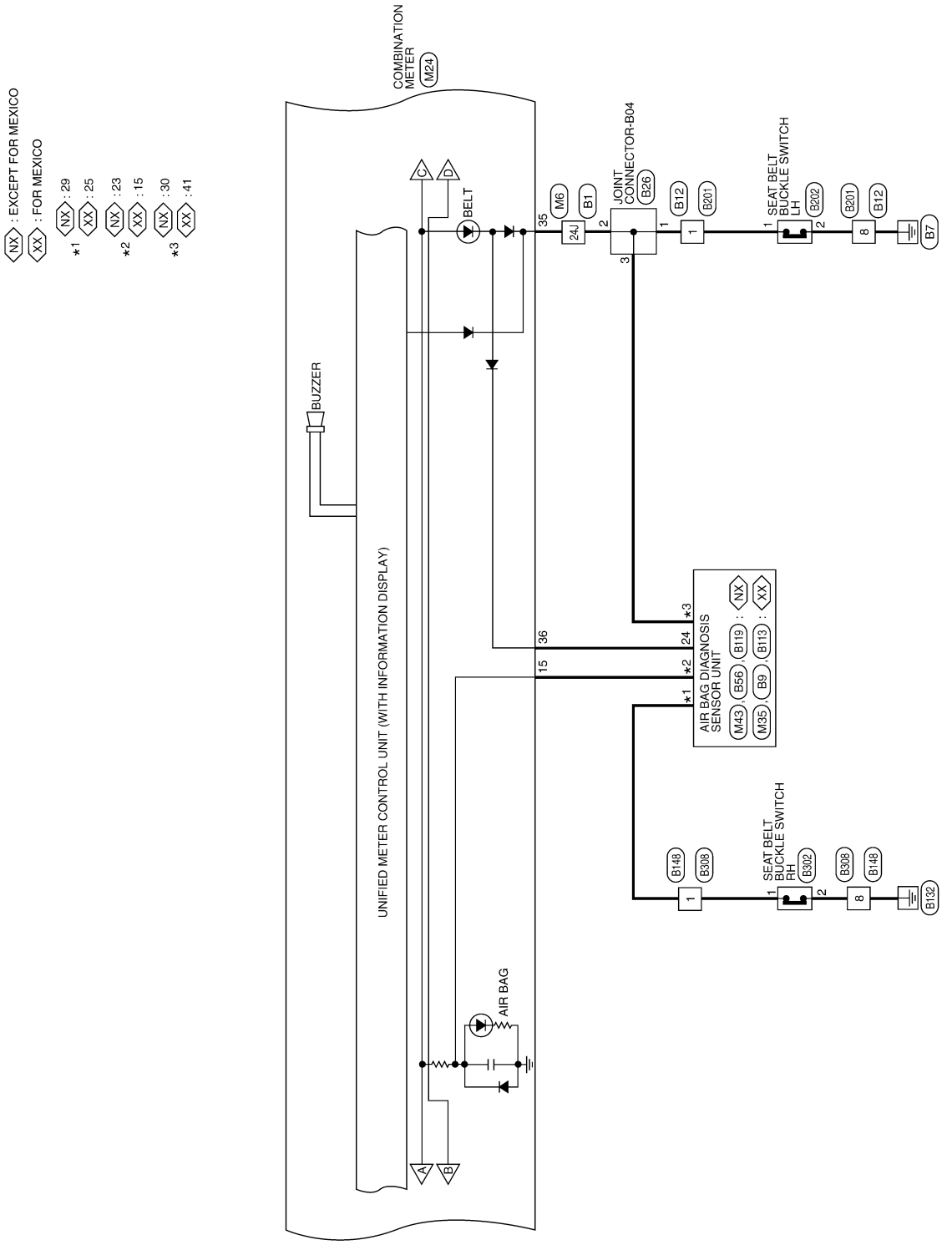
WIRING DIAGRAM

METER

Wiring Diagram

INFOID:0000000010049611





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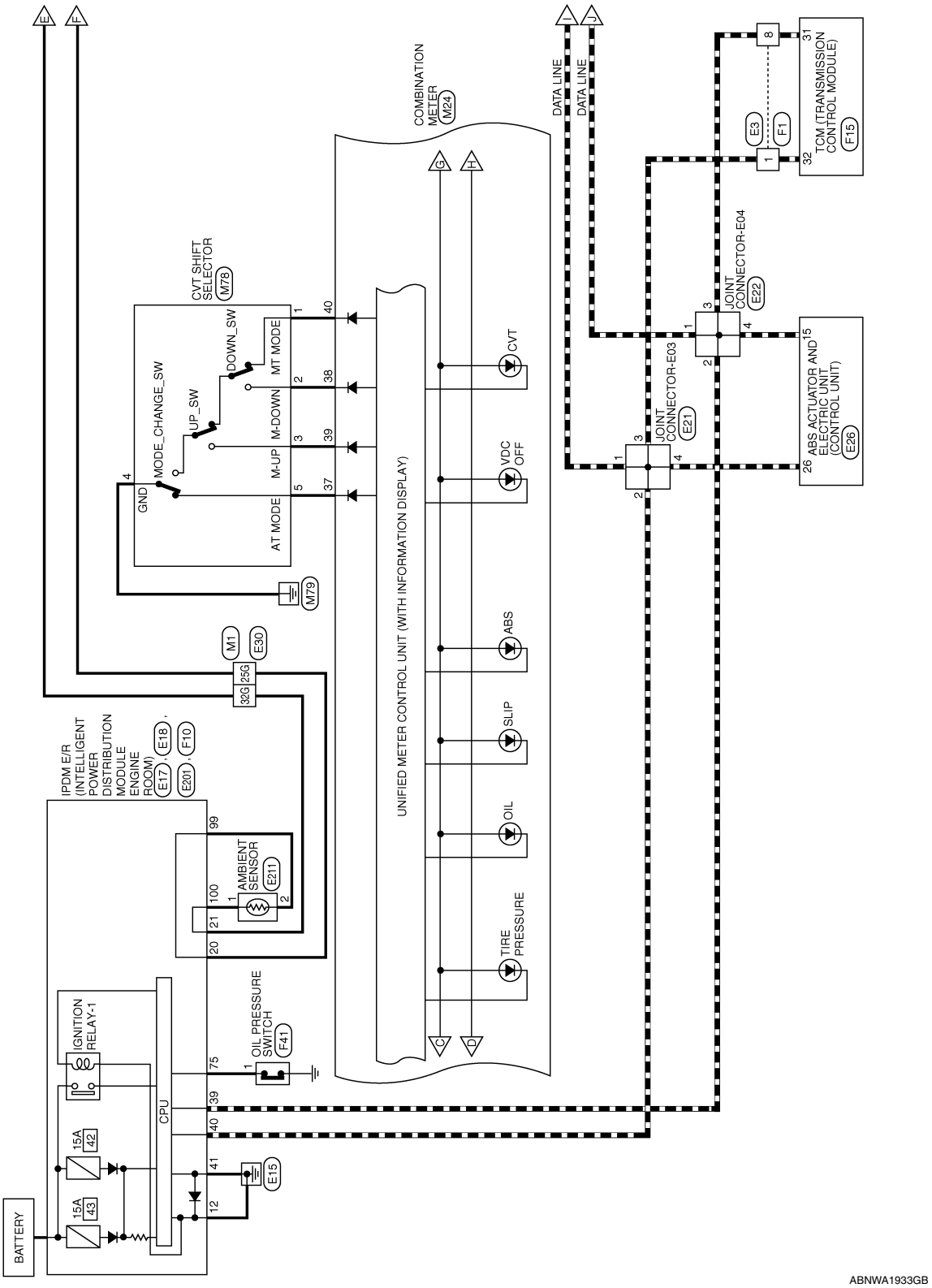
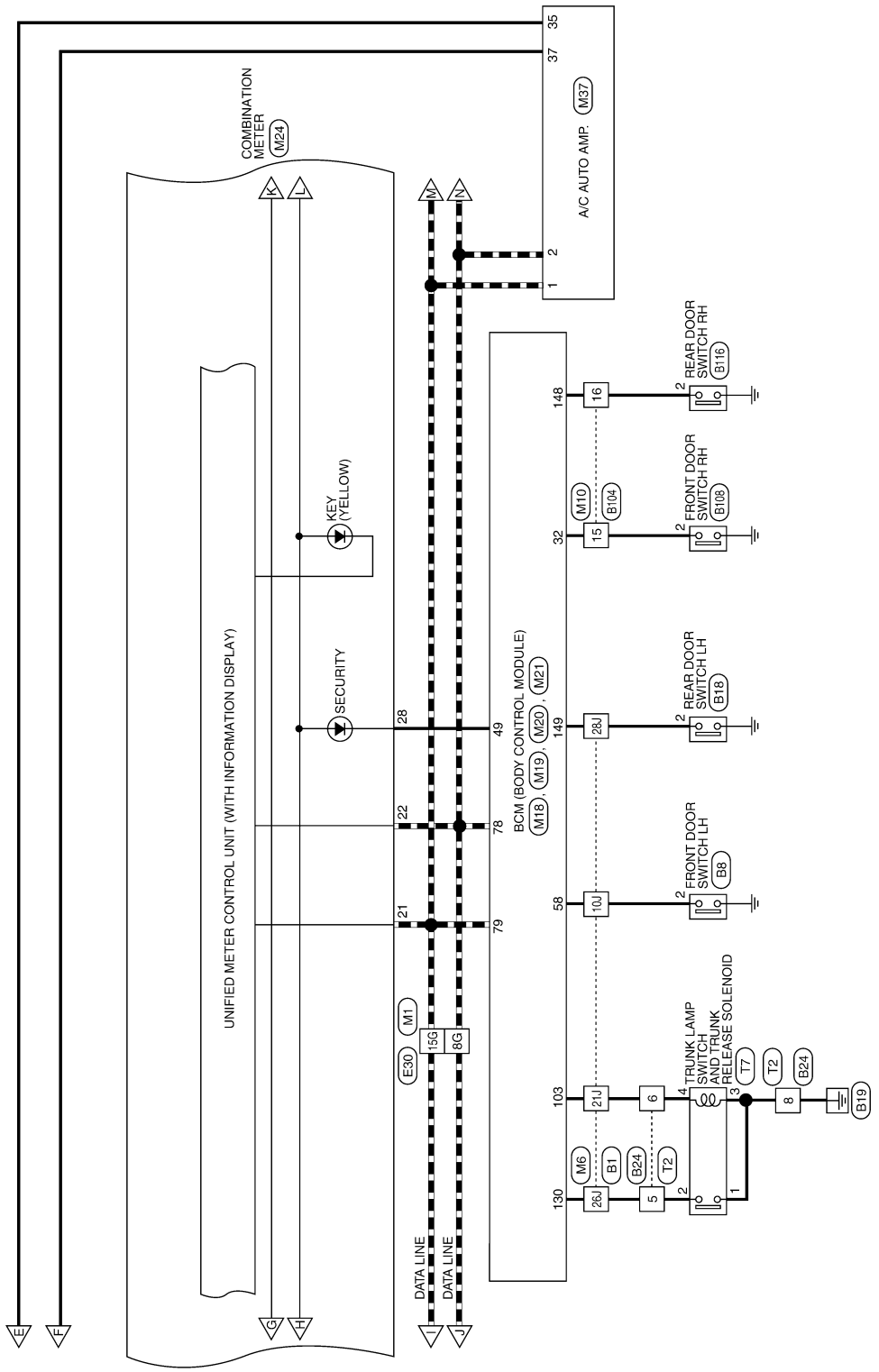
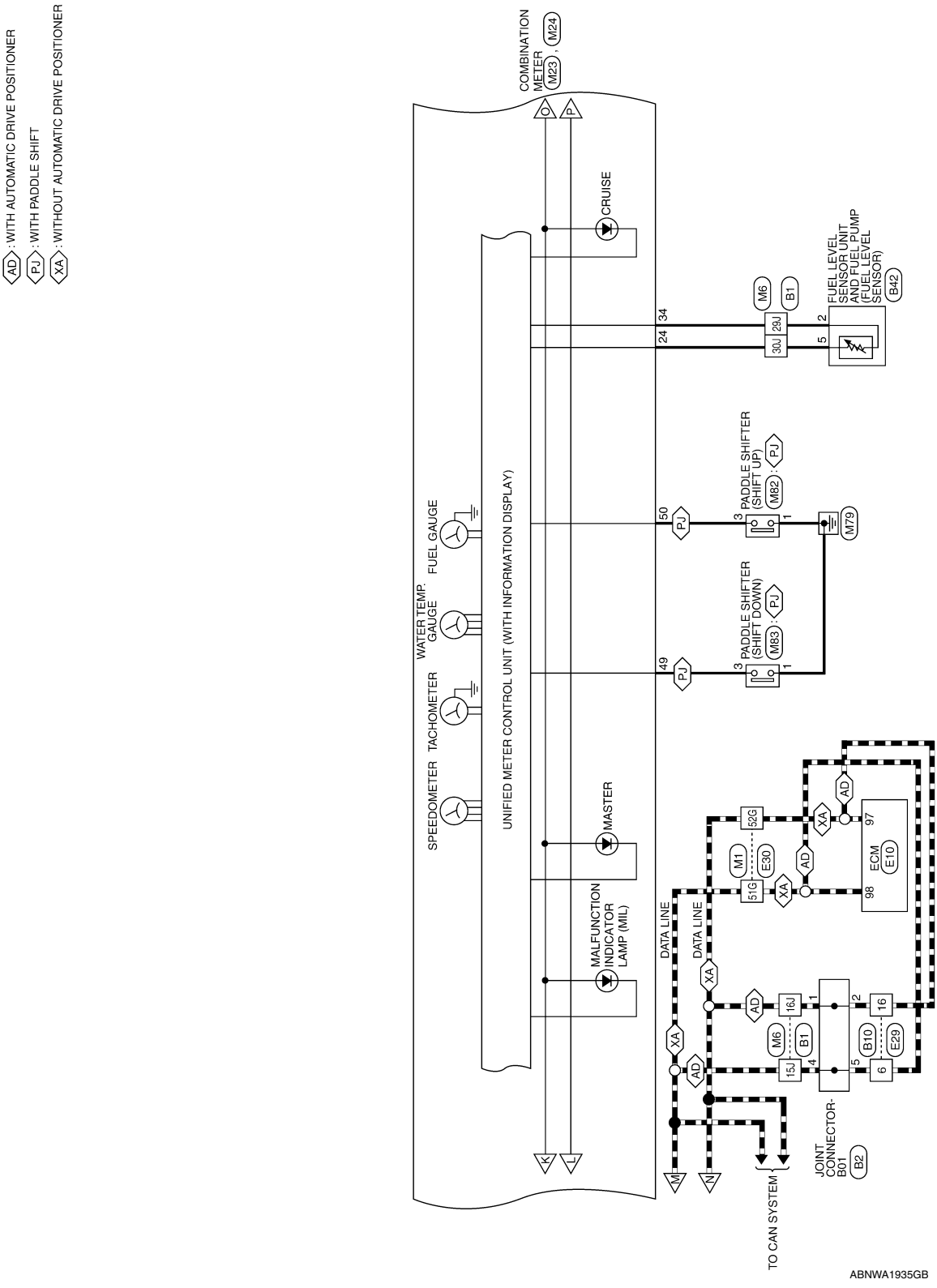
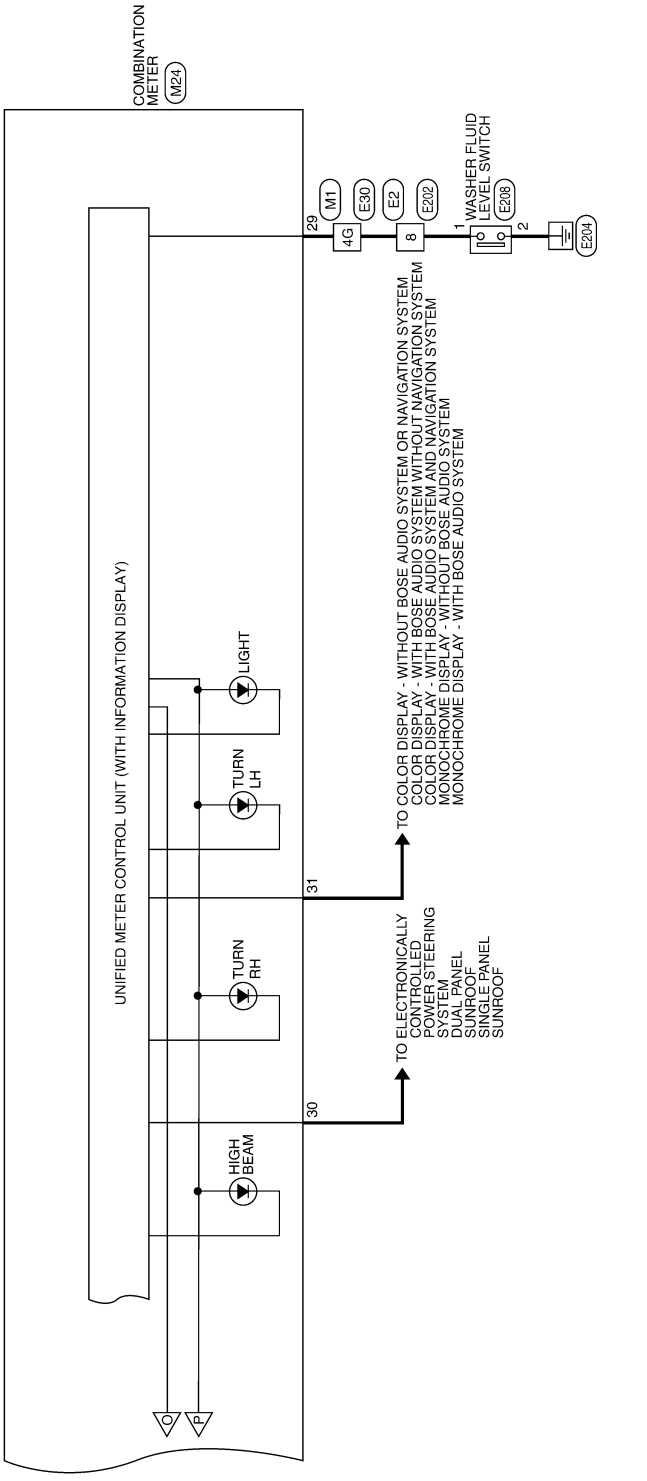

COMBINATION METER (M24)
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
CVT SHIFT SELECTOR (M78)
MODE_CHANGE_SW
UP_SW
DOWN_SW
GND
MT MODE
M-DOWN
M-UP
AT MODE
M79
CVT
VDC OFF
ABS
SLIP
OIL
TIRE PRESSURE
DATA LINE
DATA LINE
TCM (TRANSMISSION CONTROL MODULE) (F15)
JOINT CONNECTOR-E04 (E22)
JOINT CONNECTOR-E03 (E21)
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) (E26)
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (E17), (E18), (F10), (E201)
AMBIENT SENSOR (E211)
IGNITION RELAY-1
CPU
OIL PRESSURE SWITCH (F41)
15A 42
15A 43
BATTERY
E15
M1
E30
E3
F1
ABNWA1933GB


COMBINATION METER
M24
A/C AUTO AMP
M37
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
BCM (BODY CONTROL MODULE)
M18, M19, M20, M21
KEY (YELLOW)
SECURITY
DATA LINE
DATA LINE
REAR DOOR SWITCH RH
B116
FRONT DOOR SWITCH RH
B108
REAR DOOR SWITCH LH
B18
FRONT DOOR SWITCH LH
B8
TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID
B19
E30
M1
15G
8G
M10
B104
M6
B1
B24
T2
T7
T2
B24
ABNWA1505GB


AD : WITH AUTOMATIC DRIVE POSITIONER
PJ : WITH PADDLE SHIFT
XA : WITHOUT AUTOMATIC DRIVE POSITIONER
COMBINATION METER (M23), (M24)
CRUISE
MASTER
MALFUNCTION INDICATOR LAMP (MIL)
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
SPEEDOMETER
TACHOMETER
WATER TEMP. GAUGE
FUEL GAUGE
FUEL LEVEL SENSOR UNIT AND FUEL PUMP (FUEL LEVEL SENSOR) B42
PADDLE SHIFTER (SHIFT UP) M82 : PJ
PADDLE SHIFTER (SHIFT DOWN) M83 : PJ
M79
ECM E10
DATA LINE
JOINT CONNECTOR-B01 B2
TO CAN SYSTEM
ABNWA1935GB



ABNWA1936GB

METER CONNECTORS

Connector No.	M1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

9G	8G	7G	6G	5G	4G	3G		2G	1G
17G	16G	15G	14G	13G	12G	11G	10G		
26G	25G	24G	23G	22G	21G	20G			
34G	33G	32G	31G	30G	29G	28G	27G	19G	18G
41G	40G	39G	38G	37G	36G	35G			
50G	49G	48G	47G	46G	45G	44G	43G	42G	
58G	57G	56G	55G						
63G	62G	61G	60G	59G	54G	53G	52G	51G	
72G	71G	70G	69G	68G	67G	66G			
80G	79G	78G	77G	76G	75G	74G	73G	65G	64G
			83G		82G		81G		

Terminal No.	Color of Wire	Signal Name
4G	R	–
8G	P	–
11G	BR	–
15G	L	–
24G	G/R	–
25G	B/Y	–
31G	V	–
32G	O/B	–
51G	L	–
52G	P	–

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

4Q	3Q		2Q	1Q
10Q	9Q	8Q	7Q	6Q	5Q

Terminal No.	Color of Wire	Signal Name
6Q	Y/R	–

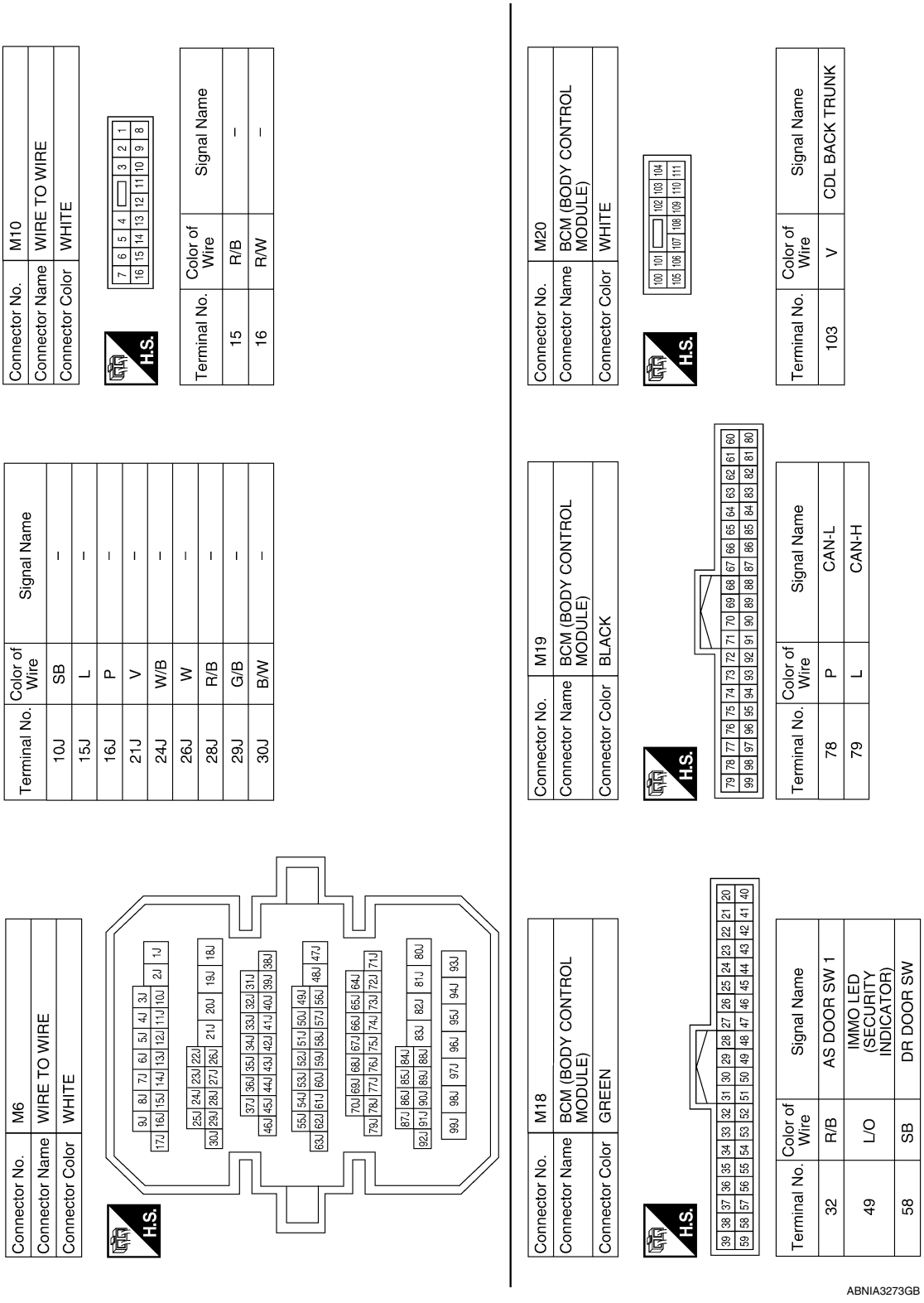
Connector No.	M5
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

5M	4M		3M	2M	1M
12M	11M	10M	9M	8M	7M	6M

Terminal No.	Color of Wire	Signal Name
12M	O	–

ABNIA3735GB



ABNIA3273GB

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GRAY

H.S.

131	130	129	128	127	126	125	124	123	122	121	120	119	118	117	116	115	114	113	112
151	150	149	148	147	146	145	144	143	142	141	140	139	138	137	136	135	134	133	132

Terminal No.	Color of Wire	Signal Name
130	W	TRUNK SW
148	R/W	RR DOOR SW
149	R/B	RL DOOR SW

Connector No.	M23
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

46	45	44	43	42	41
52	51	50	49	48	47

Terminal No.	Color of Wire	Signal Name
41	–	–
42	–	–
43	–	–
44	–	–
45	–	–
46	–	–
47	–	–
48	–	–
49	G	PADDLE SHIFT (SHIFT DOWN)
50	O	PADDLE SHIFT (SHIFT UP)
51	–	–
52	–	–

Terminal No.	Color of Wire	Signal Name
25	BR	CHG
26	G/R	PKB
27	V	BRAKE OIL IN
28	L/O	SECURITY
29	R	LOW WASH FLUID SW
30	L/B	2P/R OUT
31	V/W	8P/R OUT
32	–	–
33	–	–
34	G/B	FUEL SENSOR
35	W/B	DR BELT
36	L/W	AS BELT
37	G	NOT M RANGE
38	BR	AT SHIFT DOWN
39	W	AT SHIFT UP
40	LG/R	M RANGE

Terminal No.	Color of Wire	Signal Name
9	–	–
10	O/L	GND (SATELLITE SW)
11	L/R	MODE A SW
12	B/R	MODE B SW
13	–	–
14	–	–
15	BR/W	AIR BAG
16	–	–
17	–	–
18	–	–
19	–	–
20	–	–
21	L	CAN-H
22	P	CAN-L
23	B	GND (CIRCUIT)
24	B/W	GND (FUEL SENSOR)

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

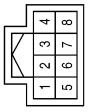
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
1	Y/R	BAT
2	O	IGN
3	B	GND (POWER)
4	B	GND (ILL)
5	B	ILL OUTPUT
6	–	–
7	–	–
8	–	–

ABNIA3750GB

Connector No.	M25
Connector Name	METER MODE SWITCH
Connector Color	WHITE

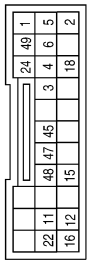
H.S.



Terminal No.	Color of Wire	Signal Name
1	R/L	–
3	O/L	–
6	L/R	–
7	B/R	–
8	R/Y	–

Connector No.	M35
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT (FOR MEXICO)
Connector Color	YELLOW

H.S.



Terminal No.	Color of Wire	Signal Name
15	BR/W	AIRBAG W/L
24	L/W	SEAT BELT REMINDER

Connector No.	M37
Connector Name	A/C AUTO AMP.
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	CAN-H
2	P	CAN-L
35	O/B	AMB SENS
37	B/Y	SENS GND

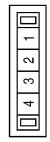
Connector No.	M43
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT (EXCEPT FOR MEXICO)
Connector Color	YELLOW

H.S.

Terminal No.	Color of Wire	Signal Name
23	BR/W	AIRBAG W/L
24	L/W	SEAT BELT REMINDER

Connector No.	M64
Connector Name	JOINT CONNECTOR-M01
Connector Color	WHITE

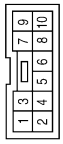
H.S.



Terminal No.	Color of Wire	Signal Name
3	B	–
4	R/Y	–

Connector No.	M78
Connector Name	CVT SHIFT SELECTOR
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	LG/R	–
2	BR	–
3	W	–
4	B	–
5	G	–

ABNIA3736GB

Connector No.	M82
Connector Name	PADDLE SHIFTER (SHIFT UP)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
3	O	–

Connector No.	M83
Connector Name	PADDLE SHIFTER (SHIFT DOWN)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	–
3	G	–

Connector No.	E2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
8	V	–

Connector No.	E3
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
8	P	–
12	LG	–

Connector No.	E10
Connector Name	ECM
Connector Color	BLACK

H.S.

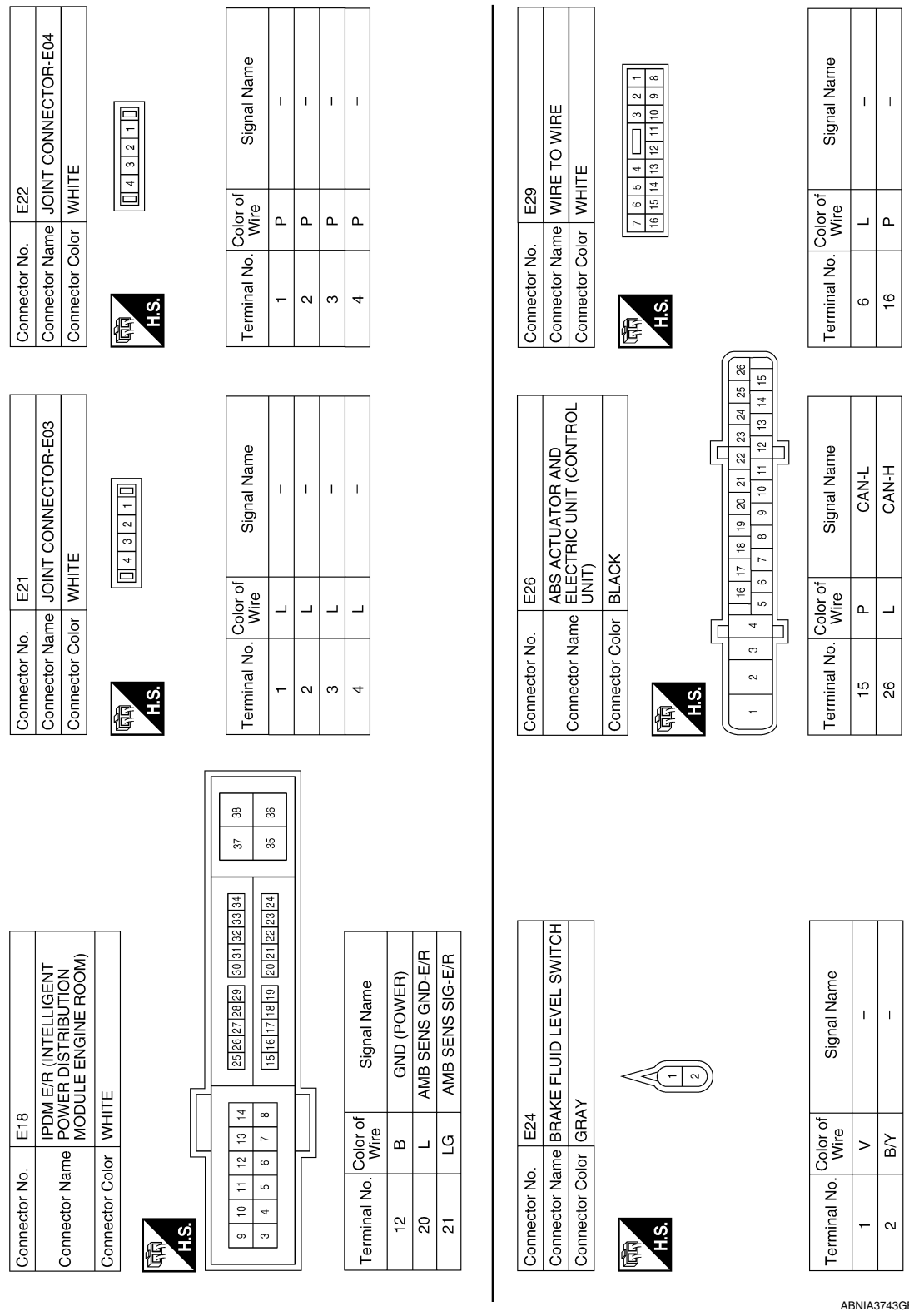
Terminal No.	Color of Wire	Signal Name
97	P	CAN-L
98	L	CAN-H

Connector No.	E17
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
39	P	CAN-L
40	L	CAN-H
41	B	GND (SIGNAL)

ABNIA3742GB



ABNIA3743GB

Connector No.	E35
Connector Name	PARKING BRAKE SWITCH
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	P	–

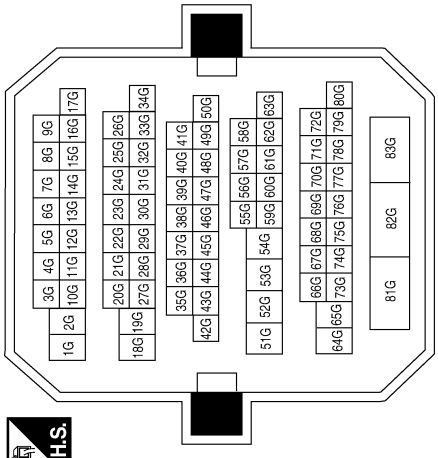
Connector No.	E208
Connector Name	WASHER FLUID LEVEL SWITCH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	R	–
2	B	–

Connector No.	E30
Connector Name	WIRE TO WIRE
Connector Color	WHITE

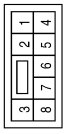
H.S.



Terminal No.	Color of Wire	Signal Name
4G	V	–
8G	P	–
11G	LG	–
15G	L	–
24G	P	–
25G	L	–
31G	V	–
32G	LG	–
51G	L	–
52G	P	–

Connector No.	E202
Connector Name	WIRE TO WIRE
Connector Color	WHITE

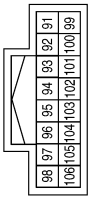
H.S.



Terminal No.	Color of Wire	Signal Name
8	R	–

Connector No.	E201
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

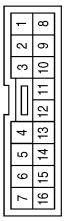


Terminal No.	Color of Wire	Signal Name
99	BR/W	AMB SENS GND-FEM
100	SB	AMB SENS SIG-FEM

ABNIA3744GB

Connector No.	F1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	L	–
8	P	–
12	BR	–

Connector No.	E230
Connector Name	GENERATOR
Connector Color	–

H.S.

Terminal No.	Color of Wire	Signal Name
5	B	–

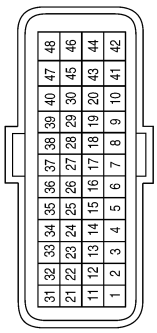
Connector No.	E211
Connector Name	AMBIENT SENSOR
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	SB	–
2	BR/W	–

Connector No.	F15
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK

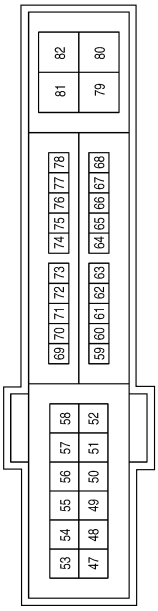
H.S.



Terminal No.	Color of Wire	Signal Name
31	P	CAN-L
32	L	CAN-H

Connector No.	F10
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
75	LG	OIL PRESSURE SW

Connector No.	F7
Connector Name	GENERATOR
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
2	BR	–

ABNIA3745GB

Connector No.	F41
Connector Name	OIL PRESSURE SWITCH
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	LG	–

Connector No.	B1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
10J	SB	–
15J	L	–
16J	P	–
21J	V	–
24J	GR	–
26J	W	–
28J	BR	–
29J	V	–
30J	B	–

Connector No.	B2
Connector Name	JOINT CONNECTOR-B01
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	P	–
2	P	–
4	L	–
5	L	–

Connector No.	B8
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	SB	–

Connector No.	B9
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT (FOR MEXICO)
Connector Color	YELLOW

H.S.

Terminal No.	Color of Wire	Signal Name
41	GR	LH BUCKLE SW INPUT

ABNIA3746GB

Connector No.	B10
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
6	L	–
16	P	–

Connector No.	B12
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

3		2	1
8	7	6	5	4

Terminal No.	Color of Wire	Signal Name
1	GR	–
8	B/W	–

Connector No.	B18
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE

H.S.

	1
	2
3	

Terminal No.	Color of Wire	Signal Name
2	BR	–

Connector No.	B24
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

1	2		3
4	5	6	7	8

Terminal No.	Color of Wire	Signal Name
5	W	–
6	V	–
8	B	–

Connector No.	B26
Connector Name	JOINT CONNECTOR-B04
Connector Color	WHITE

H.S.

4	3	2	1

Terminal No.	Color of Wire	Signal Name
1	GR	–
2	GR	–
3	GR	–

Connector No.	B42
Connector Name	FUEL LEVEL SENSOR UNIT AND FUEL PUMP
Connector Color	GRAY

H.S.

1	2	3	4	5

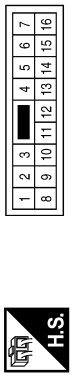
Terminal No.	Color of Wire	Signal Name
2	V	–
5	B	–

ABNIA3737GB

Connector No.	B108
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE

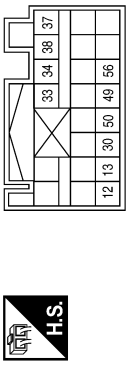
Terminal No.	Color of Wire	Signal Name
2	GR	–

Connector No.	B104
Connector Name	WIRE TO WIRE
Connector Color	WHITE



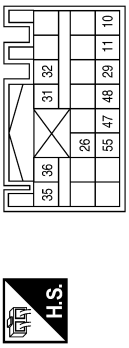
Terminal No.	Color of Wire	Signal Name
15	GR	–
16	B	–

Connector No.	B56
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT (EXCEPT FOR MEXICO)
Connector Color	YELLOW



Terminal No.	Color of Wire	Signal Name
30	GR	LH BUCKLE SW INPUT

Connector No.	B119
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT (EXCEPT FOR MEXICO)
Connector Color	YELLOW

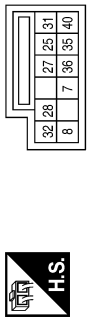


Terminal No.	Color of Wire	Signal Name
29	L	RH BUCKLE SW INPUT

Connector No.	B116
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
2	B	–

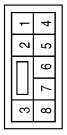
Connector No.	B113
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT (FOR MEXICO)
Connector Color	YELLOW



Terminal No.	Color of Wire	Signal Name
25	L	RH BUCKLE SW INPUT

ABNIA5109GB

Connector No.	B148
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	–
8	B	–

Connector No.	B201
Connector Name	WIRE TO WIRE
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1	L	–
8	B	–

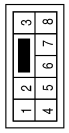
Connector No.	B202
Connector Name	SEAT BELT BUCKLE SWITCH LH
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1	L	–
2	B	–

Connector No.	B302
Connector Name	SEAT BELT BUCKLE SWITCH RH
Connector Color	WHITE

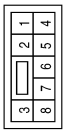
Terminal No.	Color of Wire	Signal Name
1	L	–
2	B	–

Connector No.	B308
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	L	–
8	B	–

Connector No.	T2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5	W	–
6	V	–
8	B	–

ABNIA5110GB

Connector No.	T7
Connector Name	TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1	B	–
2	W	–
3	B	–
4	V	–

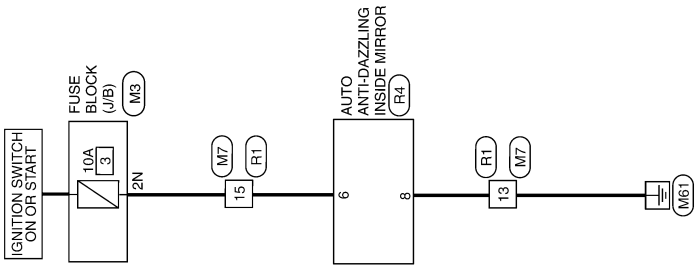
ABNIA3770GB

COMPASS

Wiring Diagram - WITH HOMELINK UNIVERSAL TRANSCEIVER

INFOID:0000000010049612

COMPASS - WITH HOMELINK UNIVERSAL TRANSCEIVER

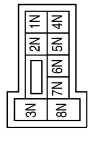


ABNWA1305GB

COMPASS CONNECTORS - WITH HOMELINK UNIVERSAL TRANSCEIVER

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

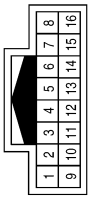
H.S.



Terminal No.	Color of Wire	Signal Name
2N	G	–

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Color	WHITE

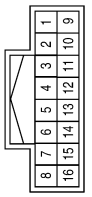
H.S.



Terminal No.	Color of Wire	Signal Name
13	B	–
15	G	–

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
13	B	–
15	B/R	–

Connector No.	R4
Connector Name	AUTO ANTI-DAZZLING INSIDE MIRROR (WITH HOMELINK UNIVERSAL TRANSCEIVER)
Connector Color	BLACK

H.S.

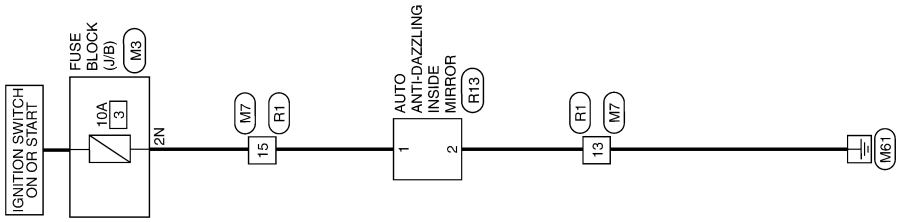
Terminal No.	Color of Wire	Signal Name
6	B/R	–
8	B	–

ABNIA3738GB

Wiring Diagram - WITHOUT HOMELINK UNIVERSAL TRANSCEIVER

INFOID:0000000010049613

COMPASS - WITHOUT HOMELINK UNIVERSAL TRANSCEIVER

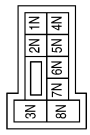


ABNWA1306GB

COMPASS CONNECTORS - WITHOUT HOMELINK UNIVERSAL TRANSCEIVER

Connector No.	M3
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

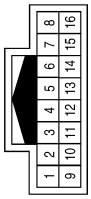
H.S.



Terminal No.	Color of Wire	Signal Name
2N	G	–

Connector No.	M7
Connector Name	WIRE TO WIRE
Connector Color	WHITE

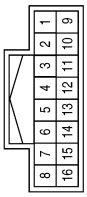
H.S.



Terminal No.	Color of Wire	Signal Name
13	B	–
15	G	–

Connector No.	R1
Connector Name	WIRE TO WIRE
Connector Color	WHITE

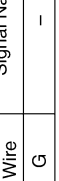
H.S.



Terminal No.	Color of Wire	Signal Name
13	B	–
15	B/R	–

Connector No.	R13
Connector Name	AUTO ANTI-DAZZING INSIDE MIRROR (WITHOUT HOMELINK UNIVERSAL TRANSCEIVER)
Connector Color	BLACK

H.S.



Terminal No.	Color of Wire	Signal Name
1	B/R	–
2	B	–

ABNIA5149GB

SYMPTOM DIAGNOSIS

THE FUEL GAUGE POINTER DOES NOT MOVE

Description

INFOID:0000000010049614

Fuel gauge needle will not move from a certain position.

Diagnosis Procedure

INFOID:0000000010049615

1.CHECK COMBINATION METER INPUT SIGNAL

1. Select “METER/M&A” on CONSULT.
2. Using “FUEL METER” of “DATA MONITOR”, compare the monitor value with the fuel gauge reading on the combination meter. Refer to MWI-40, "Component Function Check".

Does monitor value match fuel gauge reading?

YES >> GO TO 2
NO >> Replace combination meter. Refer to MWI-122, "Removal and Installation".

2.CHECK FUEL LEVEL SENSOR SIGNAL CIRCUIT

Check the fuel level sensor signal circuit. Refer to MWI-40, "Diagnosis Procedure".

Is the inspection result normal?

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

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

Perform a unit check for the fuel level sensor unit and fuel pump (fuel level sensor). Refer to MWI-41, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 4
NO >> Replace fuel level sensor unit and fuel pump (fuel level sensor). Refer to FL-6, "Removal and Installation".

4.CHECK FLOAT INTERFERENCE

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

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-122, "Removal and Installation".
NO >> Repair or replace malfunctioning parts.

THE FUEL GAUGE POINTER DOES NOT MOVE TO "F" WHEN REFUELING

Description

INFOID:0000000010049616

The fuel gauge needle will not move to “F” position when refueling.

Diagnosis Procedure

INFOID:0000000010049617

1.OBSERVE FUEL GAUGE

Does it take a long time for the pointer to move to FULL position?

YES or NO

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

2.IDENTIFY FUELING CONDITION

Was the vehicle fueled with the ignition switch ON?

YES or NO

YES >> Be sure to fuel the vehicle with the ignition switch OFF. Otherwise, it will take a long time to move to FULL position because of the characteristic of the fuel gauge.
NO >> GO TO 3

3.OBSERVE VEHICLE POSITION

Is the vehicle parked on an incline?

YES or NO

YES >> Check the fuel level indication with vehicle on a level surface.
NO >> GO TO 4

4.OBSERVE FUEL GAUGE POINTER

During driving, does the fuel gauge pointer move gradually toward EMPTY position?

YES or NO

YES >> Check the components. Refer to MWI-41, "Component Inspection".
NO >> The float arm may interfere or bind with the components in the fuel tank.

THE OIL PRESSURE WARNING LAMP DOES NOT TURN ON

Description

INFOID:0000000010049618

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

Diagnosis Procedure

INFOID:0000000010049619

1.CHECK OIL PRESSURE WARNING LAMP

Perform IPDM E/R auto active test. Refer to PCS-11, "Diagnosis Description".

Is oil pressure warning lamp illuminated?

YES >> GO TO 2
NO >> Replace combination meter. Refer to MWI-122, "Removal and Installation".

2.CHECK OIL PRESSURE SWITCH SIGNAL CIRCUIT

Check the oil pressure switch signal circuit. Refer to MWI-42, "Diagnosis Procedure".

Is the inspection result normal?

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

3.CHECK OIL PRESSURE SWITCH UNIT

Perform a unit check for the oil pressure switch. Refer to MWI-42, "Component Inspection".

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-35, "Removal and Installation".
NO >> Replace oil pressure switch.

THE OIL PRESSURE WARNING LAMP DOES NOT TURN OFF

Description

INFOID:0000000010049620

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

Diagnosis Procedure

INFOID:0000000010049621

Regarding Wiring Diagram information, refer to MWI-87, "Wiring Diagram".

1.CHECK OIL PRESSURE WARNING LAMP

Perform IPDM E/R auto active test. Refer to PCS-11, "Diagnosis Description".

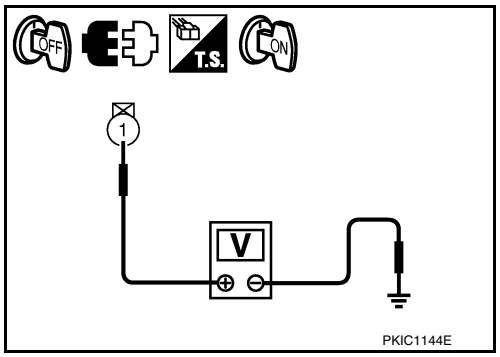
Is oil pressure warning lamp illuminated?

YES >> GO TO 2
NO >> Replace combination meter. Refer to MWI-122, "Removal and Installation".

2.CHECK IPDM E/R OUTPUT VOLTAGE

1. Turn ignition switch OFF.
2. Disconnect the oil pressure switch connector.
3. Turn ignition switch ON.
4. Check voltage between the oil pressure switch harness connector F41 terminal 1 and ground.

1 – Ground : Approx. 12V



Is the inspection result normal?

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

3.CHECK OIL PRESSURE SWITCH

Perform a unit check for the oil pressure switch. Refer to MWI-42, "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-42, "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

Description

INFOID:0000000010049622

- The parking brake warning is displayed while driving the vehicle even though the parking brake is released.
- The parking brake warning is not displayed even though driving the vehicle with the parking brake depressed.

Diagnosis Procedure

INFOID:0000000010049623

1.CHECK PARKING BRAKE WARNING LAMP OPERATION

1. Start engine.
2. Monitor “BRAKE” warning lamp while applying and releasing the parking brake.

BRAKE warning lamp
Parking brake depressed : ON
Parking brake released : OFF

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-122, "Removal and Installation".
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-44, "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 MWI-44, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-122, "Removal and Installation".
NO >> Replace parking brake switch.

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

Description

INFOID:0000000010049624

- 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:0000000010049625

1.CHECK WASHER FLUID LEVEL SWITCH SIGNAL CIRCUIT

Check the washer fluid level switch signal circuit. Refer to MWI-45, "Diagnosis Procedure".

Is the inspection result normal?

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

2.CHECK WASHER FLUID LEVEL SWITCH UNIT

Perform a unit check for the washer fluid level switch. Refer to MWI-46, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-122, "Removal and Installation".
NO >> Replace washer fluid level switch.

THE DOOR OPEN WARNING CONTINUES DISPLAYING, OR DOES NOT DISPLAY

Description

INFOID:0000000010049626

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

Diagnosis Procedure

INFOID:0000000010049627

1.CHECK BCM INPUT SIGNAL

Connect CONSULT and check the BCM input signals. Refer to DLK-67, "Component Function Check" (Door switch) and DLK-88, "Component Function Check" (Trunk lamp switch and truck release solenoid).

Are the inspection results normal?

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

2.CHECK COMBINATION METER INPUT SIGNAL

1. Select “METER/M&A” on CONSULT.
2. Monitor “DOOR W/L” and “TRUNK/GLAS-H” of “DATA MONITOR” while opening and closing doors and trunk.

“DOOR W/L”	
Door open	**: ON**
Door closed	**: OFF**
“TRUNK/GLAS-H”	
Trunk open	**: ON**
Trunk closed	**: OFF**

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-122, "Removal and Installation".
NO >> Replace BCM. Refer to BCS-79, "Removal and Installation".

3.CHECK DOOR SWITCH SIGNAL CIRCUIT

Check the door switch signal circuit. Refer to DLK-67, "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 DLK-69, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 5
NO >> Replace door switch.

5.CHECK TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID SIGNAL CIRCUIT

Check the trunk lamp switch and trunk release solenoid signal circuit. Refer to DLK-88, "Diagnosis Procedure".

Is the inspection result normal?

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

6.CHECK TRUNK LAMP SWITCH AND TRUNK RELEASE SOLENOID UNIT

Perform a unit check for the trunk lamp switch and trunk release solenoid. Refer to DLK-90, "Component Inspection".

Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-122, "Removal and Installation".

NO >> Replace trunk lamp switch and trunk release solenoid.

THE AMBIENT TEMPERATURE DISPLAY IS INCORRECT

Description

INFOID:0000000010049628

- 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:0000000010049629

1. COMBINATION METER INPUT SIGNAL

1. Select “METER/M&A” on CONSULT.
2. Using “OUTSIDE TEMP” on DATA MONITOR, compare the value of DATA MONITOR with the actual ambient temperature. DATA MONITOR value and actual ambient temperature should be close.

Does the data monitor value approximately match the actual ambient temperature?

YES >> Replace combination meter. Refer to MWI-122, "Removal and Installation".
NO >> Refer to HAC-33, "Diagnosis Procedure" (with color display) or HAC-136, "Diagnosis Procedure" (with monochrome display).

NORMAL OPERATING CONDITION
COMPASS

COMPASS : Description

INFOID:0000000010049630

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.
- 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 is not calibrated. • Incorrect zone variance setting. • Large change in magnetic field (Steel bridges, subways, concentrations of metal, car washes, etc.) • Compass was calibrated incorrectly or in the presence of a strong magnetic field.	Perform Calibration. Refer to MWI-27, "Description".
Compass shows the wrong direction.		
Compass does not change direction appears "Locked".		
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-27, "Description".

PRECAUTION

PRECAUTIONS

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

INFOID:0000000009465119

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

WARNING:

- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.**
- **Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

WARNING:

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

Precaution for Work

INFOID:0000000009761070

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

- Water soluble dirt:

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

- Oily dirt:

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

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

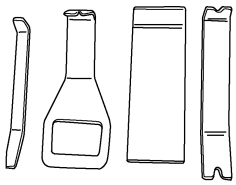
PREPARATION

PREPARATION

Special Service Tools

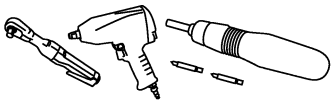
INFOID:0000000009761071

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

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

Commercial Service Tools

INFOID:0000000009465120

Tool name	Description
Power tool  PIIB1407E	Loosening nuts, screws and bolts

REMOVAL AND INSTALLATION

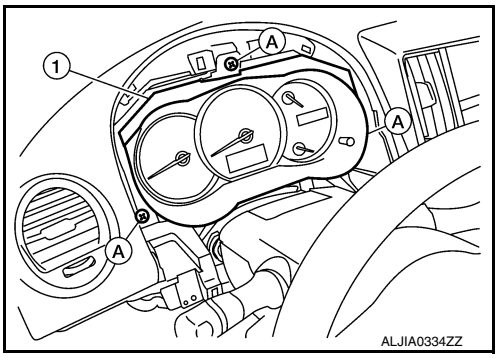
COMBINATION METER

Removal and Installation

INFOID:0000000009465121

REMOVAL

1. Disconnect the negative battery terminal. Refer to PG-67, "Removal and Installation (Battery)".
2. Remove the cluster lid A. Refer to IP-16, "Removal and Installation".
3. Remove the combination meter screws (A) using power tools.
4. Pull out the combination meter (1).
5. Disconnect the harness connectors from the combination meter (1) and remove.



INSTALLATION

Installation is in the reverse order of removal.

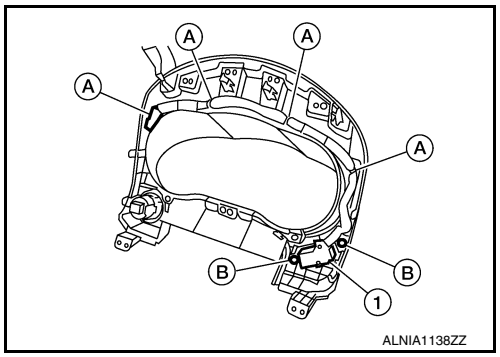
METER CONTROL SWITCH

Removal and Installation

INFOID:0000000009465122

REMOVAL

1. Disconnect the negative battery terminal. Refer to PG-67, "Removal and Installation (Battery)".
2. Remove the cluster lid A. Refer to IP-16, "Removal and Installation".
3. Detach the combination meter control switch harness clips (A).
4. Remove the combination meter control switch screws (B) and remove the combination meter control switch (1).



INSTALLATION

Installation is in the reverse order of removal.

UNIT DISASSEMBLY AND ASSEMBLY

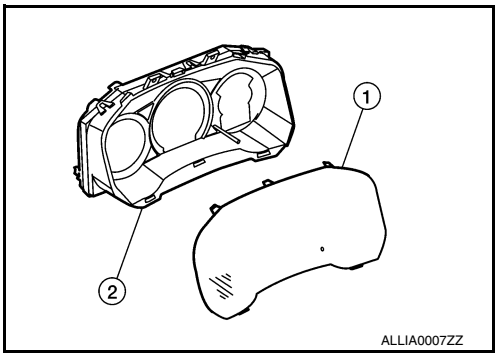
COMBINATION METER

Disassembly and Assembly

INFOID:0000000009465123

DISASSEMBLY

1. Remove the combination meter. Refer to MWI-122, "Removal and Installation".
2. Remove the combination meter lens (1) from the combination meter (2).



ASSEMBLY

Assembly is in the reverse order of disassembly.