

MWI

SECTION

METER, WARNING LAMP & INDICATOR

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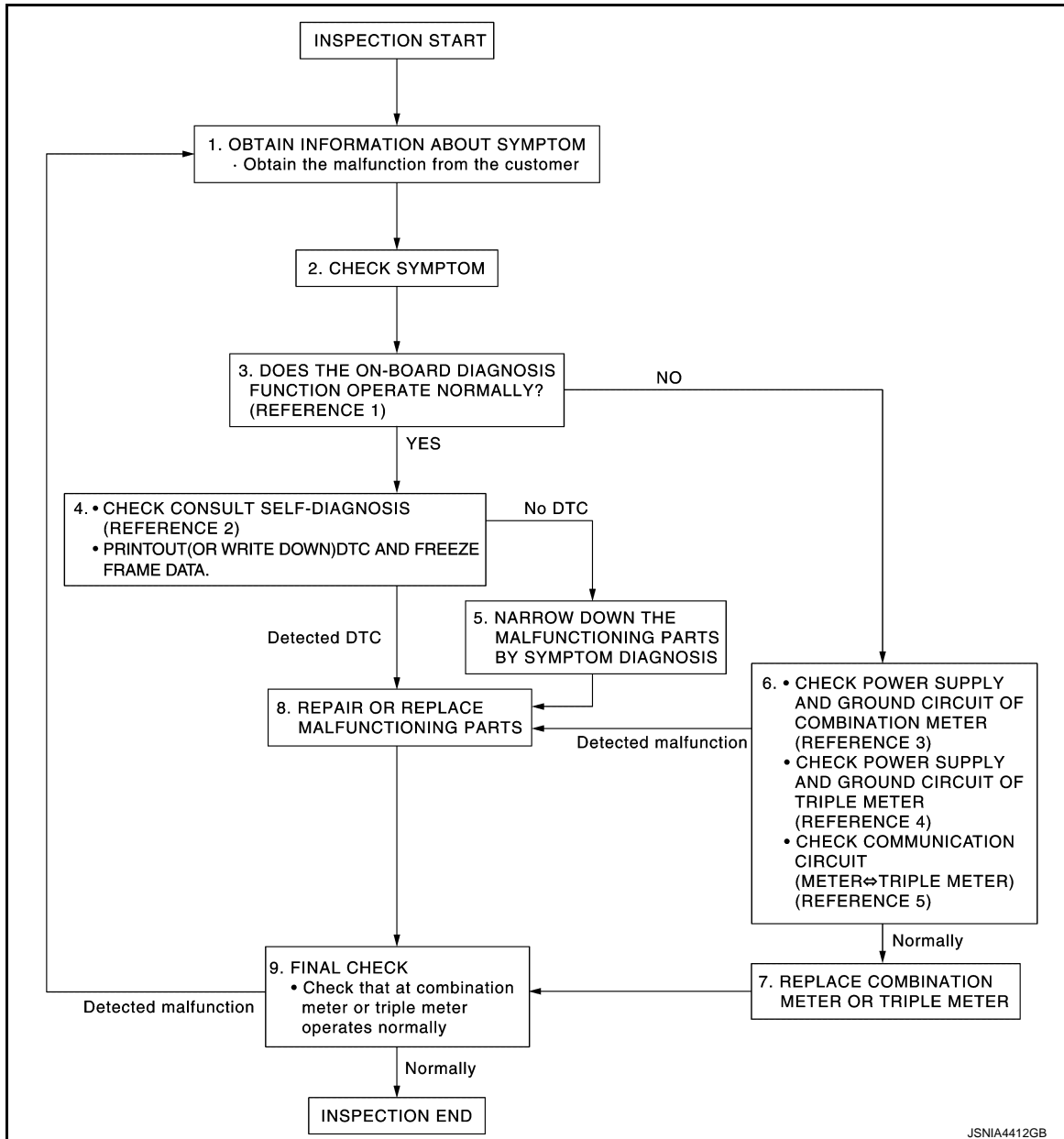
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work flow

INFOID:000000007625139

OVERALL SEQUENCE



- Reference 1...[MWI-33, "Diagnosis Description"](#).
- Reference 2...[MWI-67, "DTC Index"](#).
- Reference 3...[MWI-45, "COMBINATION METER : Diagnosis Procedure"](#).
- Reference 4...[MWI-45, "TRIPLE METER : Diagnosis Procedure"](#).
- Reference 5...[MWI-40, "Diagnosis Procedure"](#).

DETAILED FLOW

1. OBTAIN INFORMATION ABOUT SYMPTOM

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

>> GO TO 2.

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

[REGULAR GRADE]

2. CHECK SYMPTOM

- Check the symptom based on the information obtained from the customer.
- Check that any other malfunctions are present.

>> GO TO 3.

3. CHECK ON BOARD DIAGNOSIS OPERATION

Check that the on board diagnosis function operates. Refer to [MWI-33, "Diagnosis Description"](#).

Does the on board diagnosis function operate normally?

YES >> GO TO 4.

NO >> GO TO 6.

4. CHECK CONSULT SELF-DIAGNOSIS RESULTS

1. Connect CONSULT and perform self-diagnosis. Refer to [MWI-67, "DTC Index"](#).
2. When DTC is detected, follow the instructions below:
 - Record DTC and Freeze Frame Data.

Are self-diagnosis results normal?

YES >> GO TO 5.

NO >> GO TO 8.

5. NARROW DOWN THE MALFUNCTIONING PARTS BY SYMPTOM DIAGNOSIS

Perform symptom diagnosis and narrow down the malfunctioning parts.

>> GO TO 8.

6. CHECK POWER SUPPLY AND GROUND CIRCUITS OR COMMUNICATION CIRCUIT

- Check combination meter power supply and ground circuits. Refer to [MWI-45, "COMBINATION METER : Diagnosis Procedure"](#).
- Check triple meter power supply and ground circuits. Refer to [MWI-45, "TRIPLE METER : Diagnosis Procedure"](#).
- Check communication circuits. Refer to [MWI-40, "Diagnosis Procedure"](#).

Is inspection result OK?

YES >> GO TO 7.

NO >> GO TO 8.

7. REPLACE COMBINATION METER OR TRIPLE METER

Replace combination meter or triple meter.

>> GO TO 9.

8. REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace the malfunctioning parts.

NOTE:

If DTC is displayed, erase DTC after repair or replace malfunctioning parts.

>> GO TO 9.

9. FINAL CHECK

Check that the combination meter and the triple meter operates normally.

Do they operate normally?

YES >> INSPECTION END

NO >> GO TO 1.

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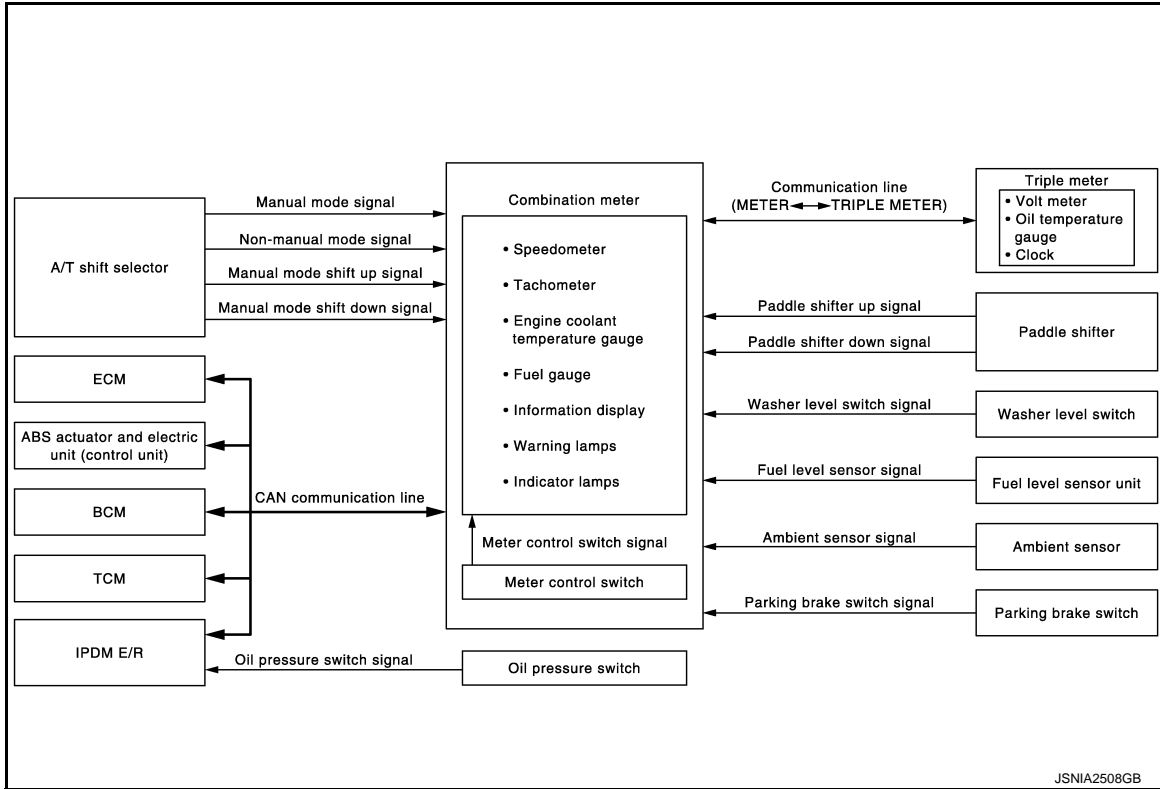
SYSTEM DESCRIPTION

METER SYSTEM

METER SYSTEM

METER SYSTEM : System Diagram

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METER SYSTEM : System Description

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COMBINATION METER

- The combination meter receives the information required to control the operation of each gauge, indicator/warning lamp, triple meter, and information display via CAN communication from each unit, each switch, and sensor.
- The combination meter incorporates a trip computer that displays, warnings and messages on the information display according to the information received from various units.
- The combination meter incorporates a buzzer function that sounds an audible alarm with the integrated buzzer device. Refer to [WCS-5. "WARNING CHIME SYSTEM : System Description"](#) for further details.
- The combination meter integrates the meter circuit check function and the segment check function that checks the information display operation.

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 the CAN communication line.
- IPDM E/R is equipped with the diagnosis function. It can perform the operation check of oil pressure warning lamp with the auto active test and the diagnosis with CONSULT.

METER CONTROL FUNCTION LIST

METER SYSTEM

< SYSTEM DESCRIPTION >

[REGULAR GRADE]

System		Description	Signal source
Meter/gauge	Speedometer	Receives vehicle speed signal and indicates vehicle speed.	ABS actuator and electric unit (control unit) ⇒ Combination meter
	Tachometer	Receives engine speed signal and indicates engine speed.	ECM ⇒ Combination meter
	Fuel gauge	Receives fuel level sensor signal and indicates fuel level.	Fuel level sensor unit ⇒ Combination meter
	Engine coolant temperature gauge	Receives engine coolant temperature signal and indicates coolant temperature.	ECM ⇒ Combination meter
Warning lamp/indicator lamp	Oil pressure warning lamp	Receives oil pressure warning lamp signal and illuminates warning lamp.	IPDM E/R ⇒ BCM ⇒ Combination meter
	Up-shift indicator lamp	Receives engine speed signal and indicates up-shift indicator lamp.	ECM ⇒ Combination meter
	Master warning lamp	Illuminates according to warning output on information display.	—

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METER SYSTEM

< SYSTEM DESCRIPTION >

[REGULAR GRADE]

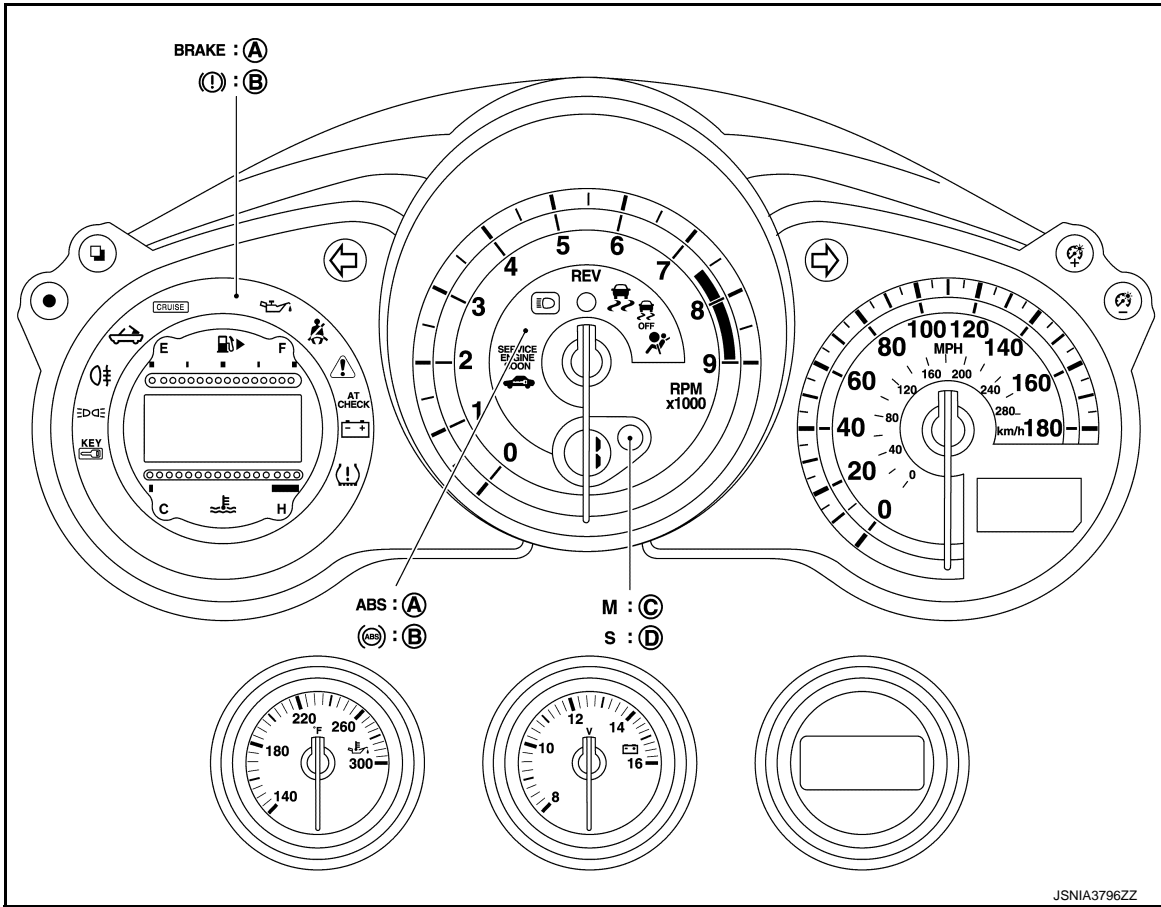
	System	Description	Signal source
Information display	Door open warning	Receives door switch signals and displays warning.	BCM ⇒ Combination meter
	Parking brake release warning	Receives parking brake switch signal and vehicle speed signal and displays warnings.	Parking brake switch ⇒ Combination meter
			ABS actuator and electric unit (control unit) ⇒ Combination meter
	Low fuel warning	Receives fuel gauge signal and displays warning if fuel level decreases to approx. 13 ℓ (3-3/8 US gal, 2-7/8 Imp gal) or less.	Fuel level sensor unit ⇒ Combination meter
	Low washer fluid warning	Receives washer level switch signal and displays warning.	Washer level switch ⇒ Combination meter
	Low outside temperature warning	Monitors ambient sensor signal and displays warning if ambient temperature decreases to 3°C (37°F) or less. (If enabled)	Ambient sensor ⇒ Combination meter
	Fuel filler cap warning	Receives fuel filler cap warning display signal and displays warning.	ECM ⇒ Combination meter
	Instantaneous fuel consumption	Calculates instantaneous fuel consumption based on received vehicle speed signals and fuel consumption monitor signal and displays it.	ECM ⇒ Combination meter
			ABS actuator and electric unit (control unit) ⇒ Combination meter
	Average fuel consumption	Calculates average fuel consumption in a reset-to-reset interval based on received vehicle speed signals and fuel consumption monitor signal and displays it.	ECM ⇒ Combination meter
			ABS actuator and electric unit (control unit) ⇒ Combination meter
	Average vehicle speed	Calculates average vehicle speed in a reset-to-reset interval based on received vehicle speed signals and displays it.	ABS actuator and electric unit (control unit) ⇒ Combination meter
	Travel time	Displays accumulated key switch ON time from reset to reset.	—
Travel distance	Calculates accumulated travel distance in a reset-to-reset interval based on received vehicle speed signals and displays it.	ABS actuator and electric unit (control unit) ⇒ Combination meter	
Possible driving distance	Calculates possible driving distance based on received fuel consumption monitor signal, vehicle speed signals and fuel level sensor signal and displays it.	ABS actuator and electric unit (control unit) ⇒ Combination meter	
		ECM ⇒ Combination meter	
		Fuel level sensor unit ⇒ Combination meter	
Ambient air temperature	Corrects ambient air temperature value based on received ambient sensor signals and displays it.	Ambient sensor ⇒ Combination meter	
Triple meter	Volt meter	Receives ignition signal and indicates battery voltage.	Ignition power supply ⇒ Triple meter
	Oil temperature gauge	Receives oil temperature signal and indicates engine oil temperature.	ECM ⇒ Combination meter ⇒ Triple meter
	Clock	Receives clock signal and displays the time on clock.	Combination meter ⇒ Triple meter

METER SYSTEM

< SYSTEM DESCRIPTION >

[REGULAR GRADE]

ARRANGEMENT OF COMBINATION METER AND TRIPLE METER



- A. For USA
- B. Except for USA
- C. A/T models
- D. With SynchroRev Match mode (S-MODE) models

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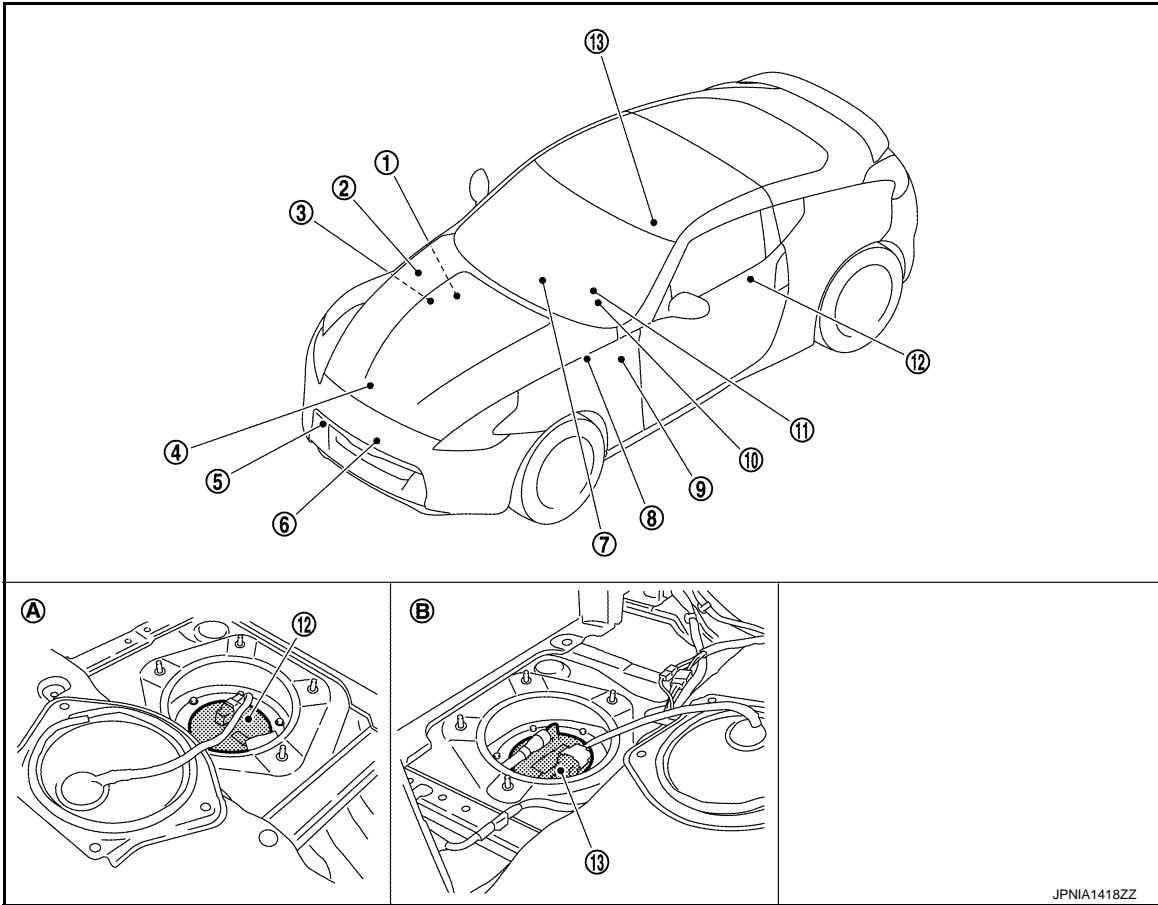
METER SYSTEM

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[REGULAR GRADE]

METER SYSTEM : Component Parts Location

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| 1. Refer to BCS-9, "Component Parts Location" . | 2. Refer to PCS-5, "Component Parts Location" . | 3. Refer to EC-39, "Component Parts Location" . |
| 4. Oil pressure switch
Refer to EM-83, "Exploded View" . | 5. Washer level switch | 6. Ambient sensor |
| 7. Triple meter | 8. ABS actuator and electric unit (control unit)
Refer to BRC-11, "Component Parts Location" . | 9. Refer to TM-153, "Component Parts Location" . |
| 10. Combination meter | 11. Parking brake switch | 12. Fuel level sensor unit (sub) |
| 13. Fuel level sensor unit and fuel pump (main) | | |
| A. Rear parcel shelf cover LH (bottom) | B. Rear parcel shelf cover RH (bottom) | |

METER SYSTEM : Component Description

INFOID:000000007625143

Unit	Description
Combination meter	<p>Controls the following with the signals received from each unit via CAN communication and the signals from switches and sensors.</p> <ul style="list-style-type: none"> • Speedometer • Engine coolant temperature gauge • Warning lamps • Information display • Tachometer • Fuel gauge • Indicator lamps • Triple meter

METER SYSTEM

< SYSTEM DESCRIPTION >

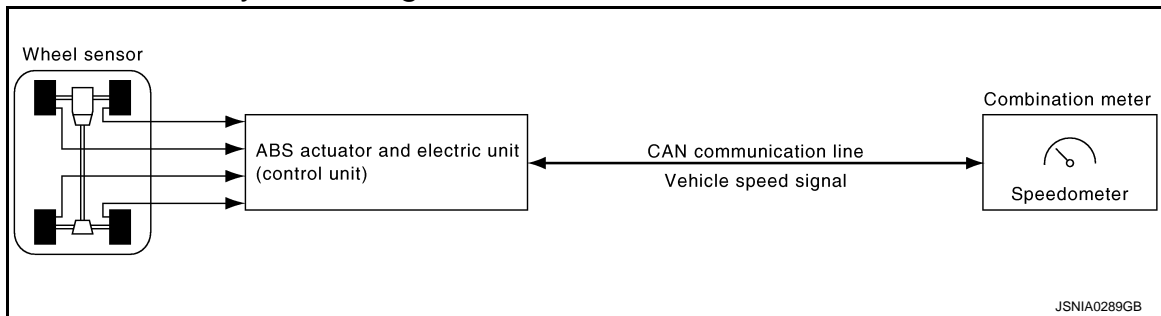
[REGULAR GRADE]

Unit	Description
Triple meter	Indicate the following with the signals received from combination meter via communication line and the signal from ignition power supply. <ul style="list-style-type: none"> • Volt meter • Clock • Oil temperature gauge
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	Refer to MWI-48, "Description" .
Oil pressure switch	Refer to MWI-51, "Description" .
ECM	Transmits the following signals to the combination meter with CAN communication line. <ul style="list-style-type: none"> • Engine speed signal • Fuel consumption monitor signal • Shift position signal [with SyncroRev match mode (S-MODE) models] • Engine coolant temperature signal • Oil temperature signal • Fuel filler cap warning display 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.
A/T shift selector	Transmits the following signal to the combination meter. <ul style="list-style-type: none"> • Manual mode signal • Manual mode shift up signal • Non-manual mode signal • Manual mode shift down signal
Paddle shifter	Transmits paddle shifter up signal and paddle shifter down signal to the combination meter.
TCM	Transmits the shift position signal to the combination meter with CAN communication line.
Washer level switch	Transmits the washer level signal to the combination meter.
Ambient sensor	Transmits the ambient sensor 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-53, "Description" .

SPEEDOMETER

SPEEDOMETER : System Diagram

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SPEEDOMETER : System Description

INFOID:000000007625145

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

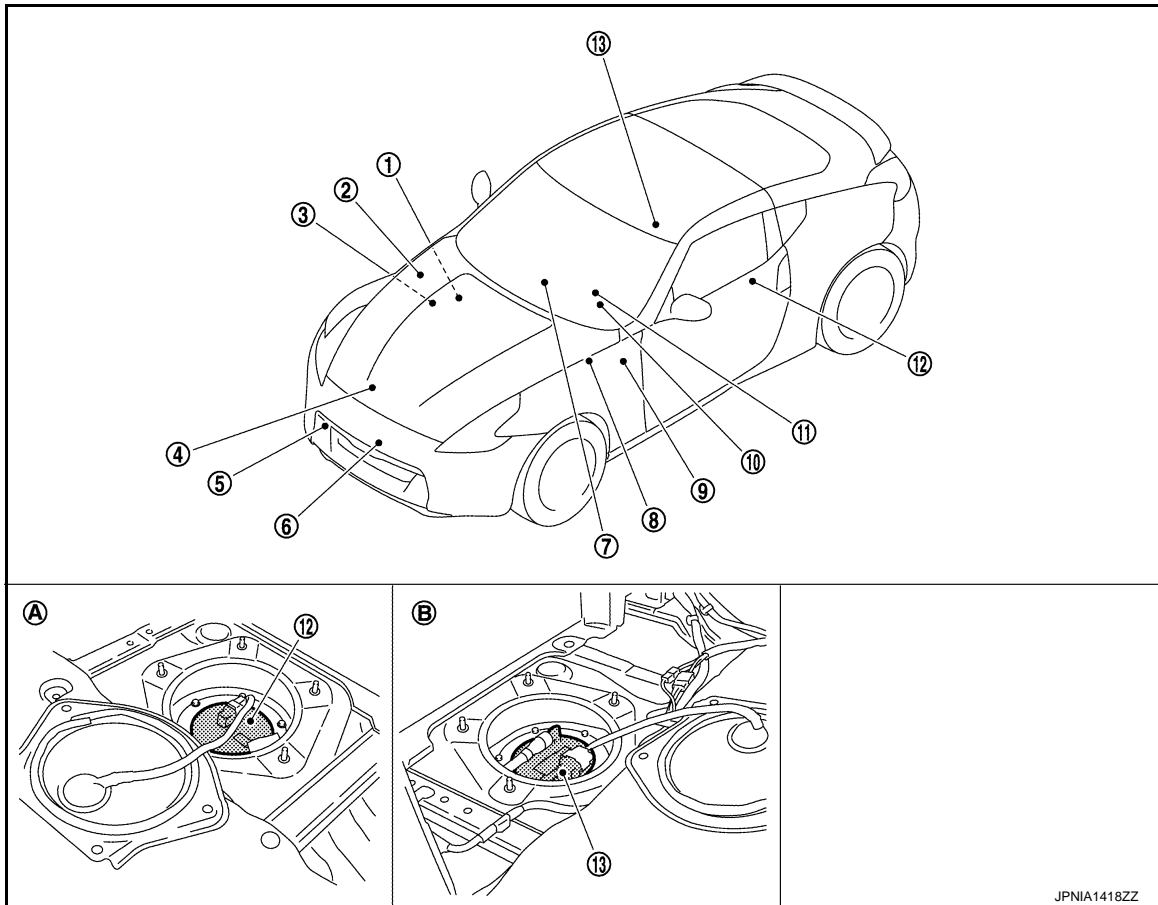
METER SYSTEM

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SPEEDOMETER : Component Parts Location

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|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| 1. Refer to BCS-9, "Component Parts Location" . | 2. Refer to PCS-5, "Component Parts Location" . | 3. Refer to EC-39, "Component Parts Location" . |
| 4. Oil pressure switch
Refer to EM-83, "Exploded View" . | 5. Washer level switch | 6. Ambient sensor |
| 7. Triple meter | 8. ABS actuator and electric unit (control unit)
Refer to BRC-11, "Component Parts Location" . | 9. Refer to TM-153, "Component Parts Location" . |
| 10. Combination meter | 11. Parking brake switch | 12. Fuel level sensor unit (sub) |
| 13. Fuel level sensor unit and fuel pump (main) | | |
| A. Rear parcel shelf cover LH (bottom) | B. Rear parcel shelf cover RH (bottom) | |

SPEEDOMETER : Component Description

INFOID:000000007625147

Unit	Description
Combination meter	Indicates the vehicle speed to the speedometer 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

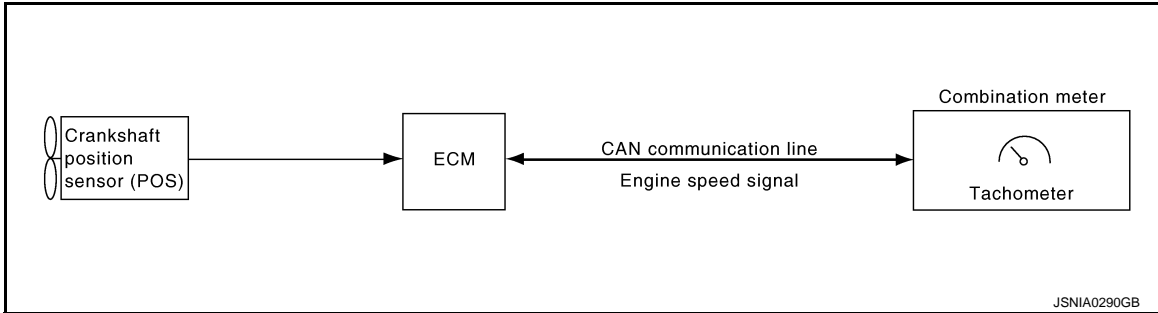
METER SYSTEM

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TACHOMETER : System Diagram

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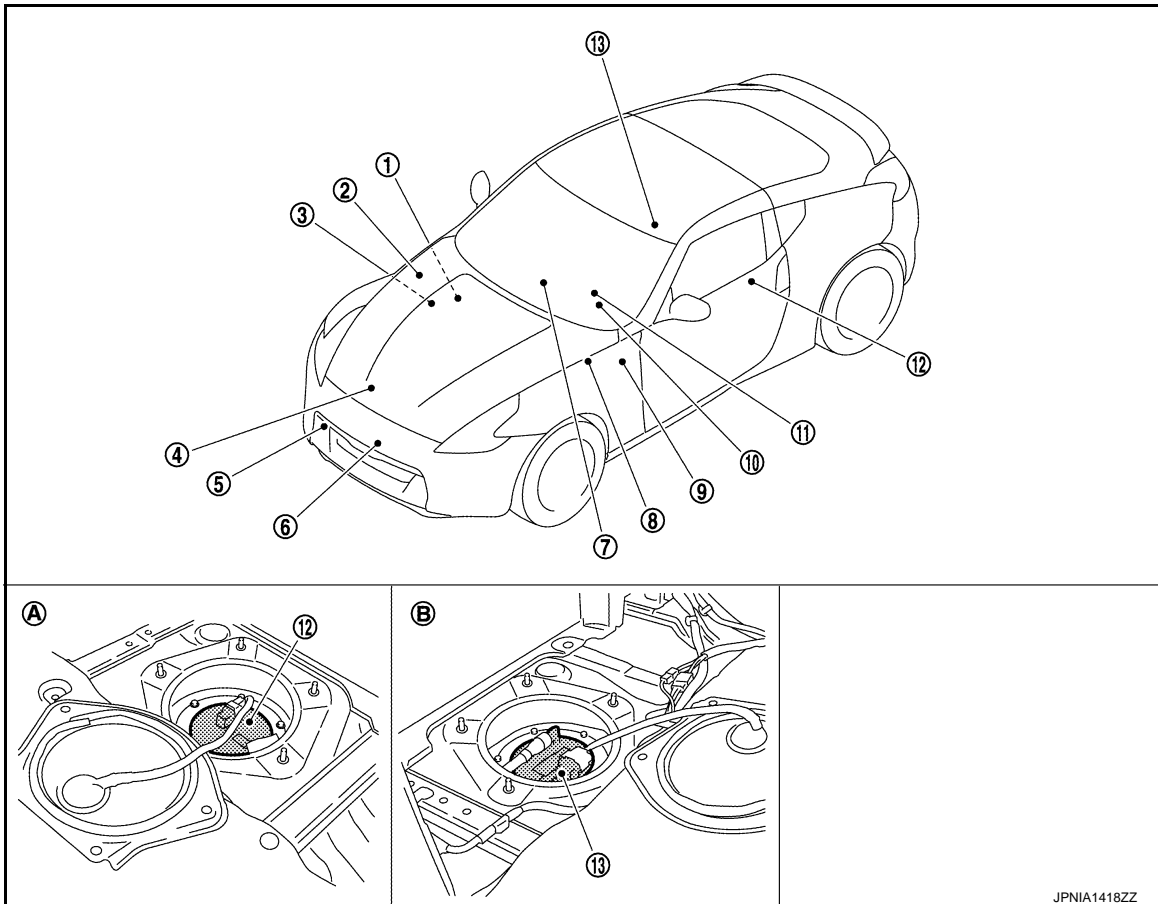
TACHOMETER : System Description

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

TACHOMETER : Component Parts Location

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| 1. Refer to BCS-9, "Component Parts Location" . | 2. Refer to PCS-5, "Component Parts Location" . | 3. Refer to EC-39, "Component Parts Location" . |
| 4. Oil pressure switch
Refer to EM-83, "Exploded View" . | 5. Washer level switch | 6. Ambient sensor |
| 7. Triple meter | 8. ABS actuator and electric unit (control unit)
Refer to BRC-11, "Component Parts Location" . | 9. Refer to TM-153, "Component Parts Location" . |
| 10. Combination meter | 11. Parking brake switch | 12. Fuel level sensor unit (sub) |

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< SYSTEM DESCRIPTION >

- 13. Fuel level sensor unit and fuel pump (main)
- A. Rear parcel shelf cover LH (bottom) B. Rear parcel shelf cover RH (bottom)

TACHOMETER : Component Description

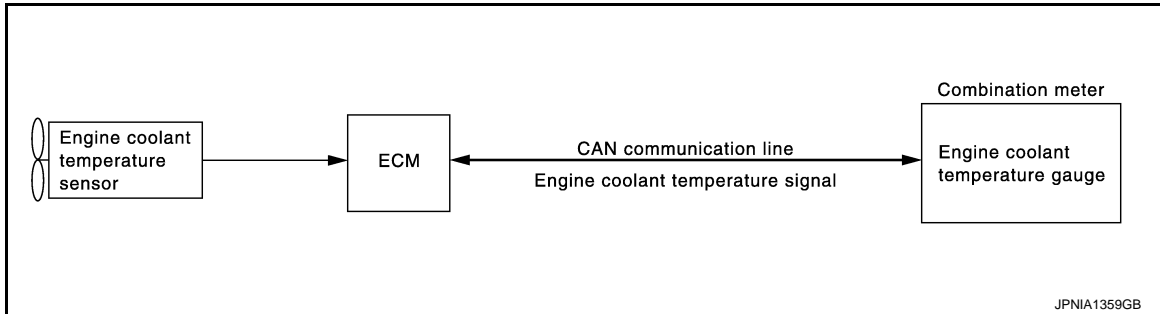
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Unit	Description
Combination meter	Indicates the engine speed to the tachometer according to the engine speed signal received from ECM via CAN communication.
ECM	Transmits the engine speed signal to the combination meter with CAN communication line.

ENGINE COOLANT TEMPERATURE GAUGE

ENGINE COOLANT TEMPERATURE GAUGE : System Diagram

INFOID:000000007625152



ENGINE COOLANT TEMPERATURE GAUGE : System Description

INFOID:000000007625153

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

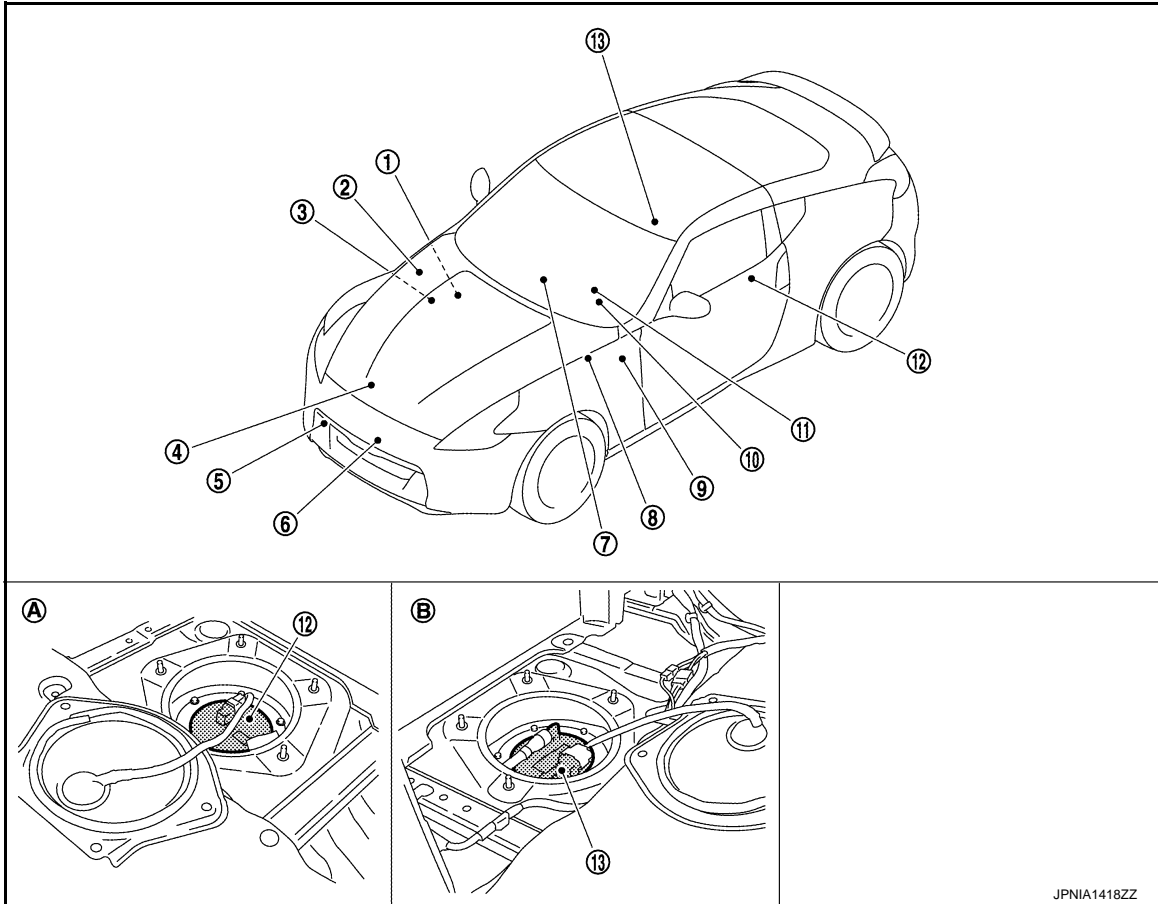
METER SYSTEM

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[REGULAR GRADE]

ENGINE COOLANT TEMPERATURE GAUGE : Component Parts Location

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|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| 1. Refer to BCS-9, "Component Parts Location" . | 2. Refer to PCS-5, "Component Parts Location" . | 3. Refer to EC-39, "Component Parts Location" . |
| 4. Oil pressure switch
Refer to EM-83, "Exploded View" . | 5. Washer level switch | 6. Ambient sensor |
| 7. Triple meter | 8. ABS actuator and electric unit (control unit)
Refer to BRC-11, "Component Parts Location" . | 9. Refer to TM-153, "Component Parts Location" . |
| 10. Combination meter | 11. Parking brake switch | 12. Fuel level sensor unit (sub) |
| 13. Fuel level sensor unit and fuel pump (main) | | |
| A. Rear parcel shelf cover LH (bottom) | B. Rear parcel shelf cover RH (bottom) | |

ENGINE COOLANT TEMPERATURE GAUGE : Component Description

INFOID:000000007625155

Unit	Description
Combination meter	Indicates the engine coolant temperature to the engine coolant temperature gauge 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

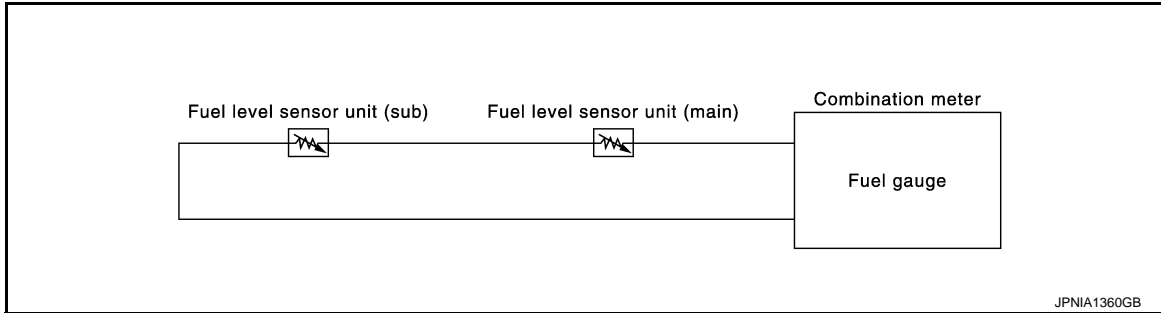
METER SYSTEM

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FUEL GAUGE : System Diagram

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FUEL GAUGE : System Description

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CONTROL OUTLINE

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

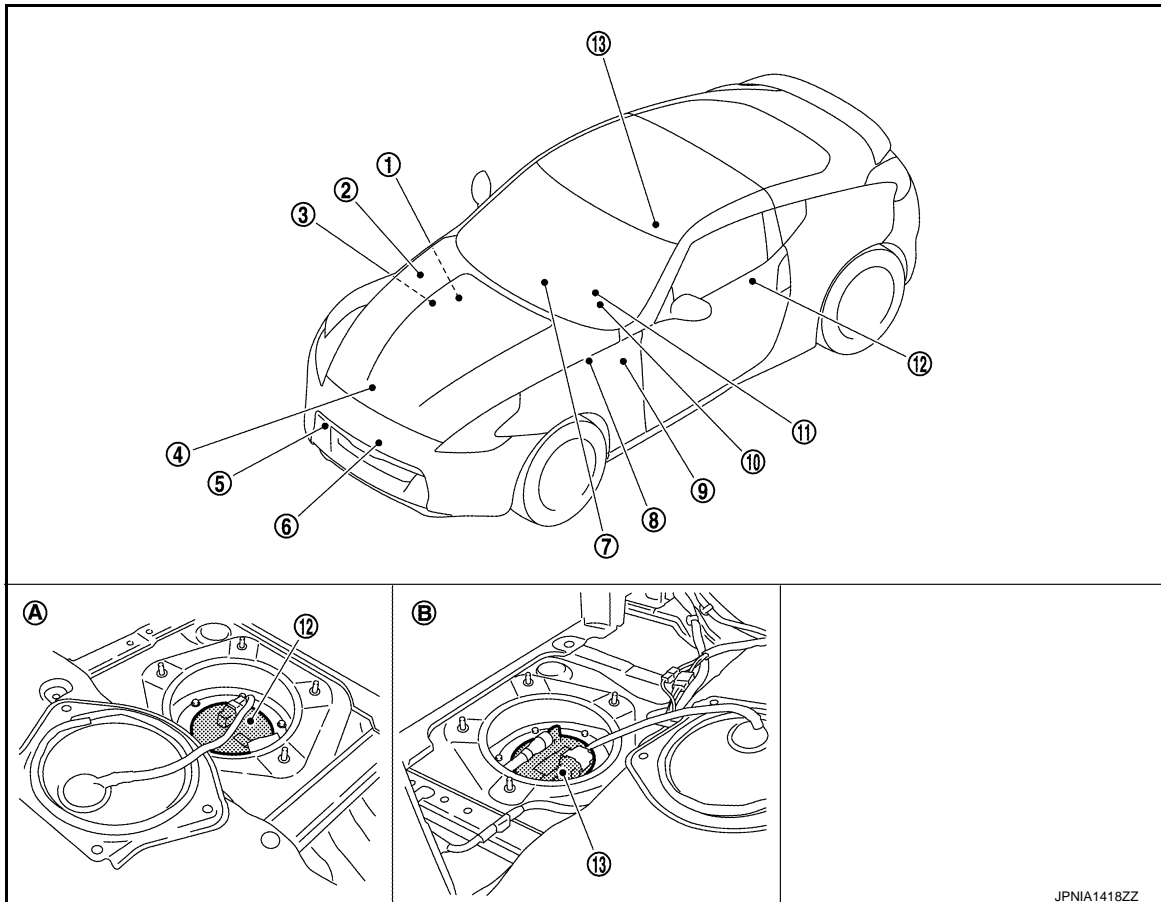
REFUEL CONTROL

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

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

FUEL GAUGE : Component Parts Location

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METER SYSTEM

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|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|---|
| 1. BCM
Refer to BCS-9, "Component Parts Location" . | 2. IPDM E/R
Refer to PCS-5, "Component Parts Location" . | 3. ECM
Refer to EC-39, "Component Parts Location" . | A |
| 4. Oil pressure switch
Refer to EM-83, "Exploded View" . | 5. Washer level switch | 6. Ambient sensor | B |
| 7. Triple meter | 8. ABS actuator and electric unit (control unit)
Refer to BRC-11, "Component Parts Location" . | 9. TCM
Refer to TM-153, "Component Parts Location" . | C |
| 10. Combination meter | 11. Parking brake switch | 12. Fuel level sensor unit (sub) | D |
| 13. Fuel level sensor unit and fuel pump (main) | | | D |
| A. Rear parcel shelf cover LH (bottom) | B. Rear parcel shelf cover RH (bottom) | | |

FUEL GAUGE : Component Description

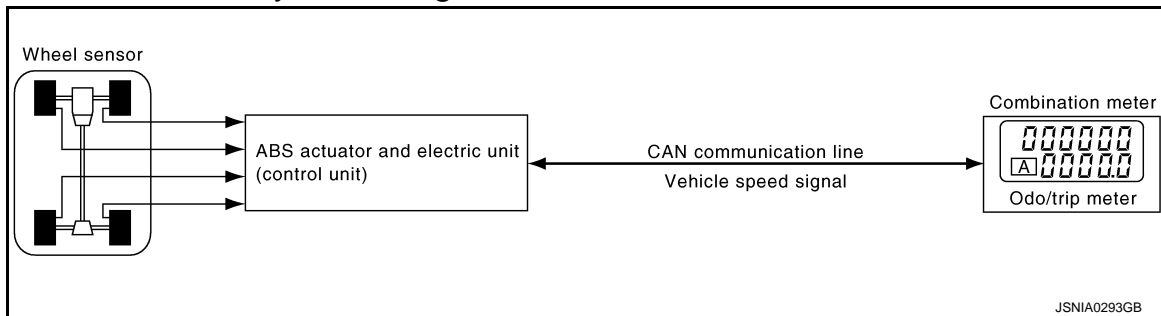
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Unit	Description
Combination meter	Indicates the fuel gauge according to the fuel level sensor signal received from the fuel level sensor unit.
Fuel level sensor unit	Refer to MWI-48, "Description" .

ODO/TRIP METER

ODO/TRIP METER : System Diagram

INFOID:0000000007625160



ODO/TRIP METER : System Description

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- The ABS actuator and electric unit (control unit) reads the rectangular wave signal provided by the wheel sensor and transmits the vehicle speed signal to the combination meter via CAN communication.
- The combination meter converts the vehicle speed signal received via CAN communication to mileage, and it displays the accumulated mileage to the odo/trip meter.

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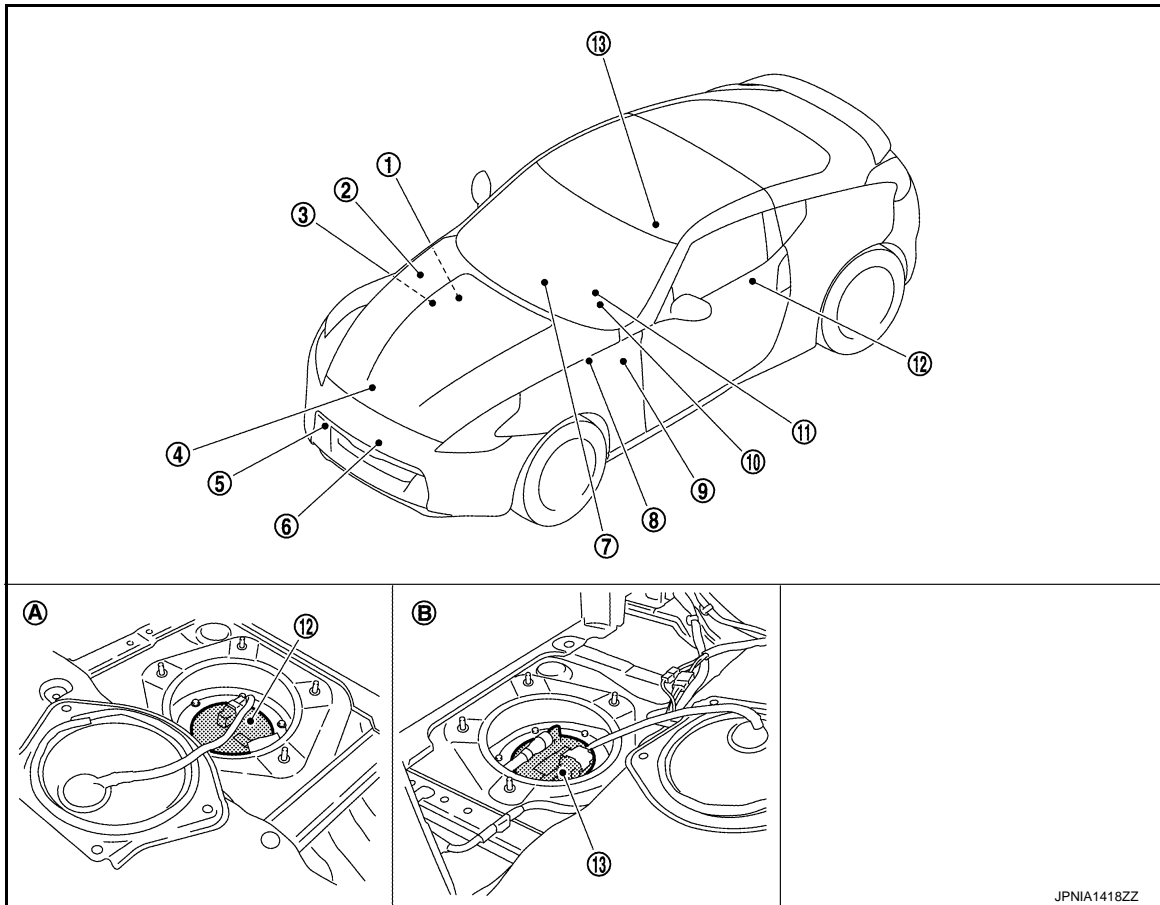
METER SYSTEM

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[REGULAR GRADE]

ODO/TRIP METER : Component Parts Location

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|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| 1. Refer to BCS-9, "Component Parts Location" . | 2. Refer to PCS-5, "Component Parts Location" . | 3. Refer to EC-39, "Component Parts Location" . |
| 4. Oil pressure switch
Refer to EM-83, "Exploded View" . | 5. Washer level switch | 6. Ambient sensor |
| 7. Triple meter | 8. ABS actuator and electric unit (control unit)
Refer to BRC-11, "Component Parts Location" . | 9. Refer to TM-153, "Component Parts Location" . |
| 10. Combination meter | 11. Parking brake switch | 12. Fuel level sensor unit (sub) |
| 13. Fuel level sensor unit and fuel pump (main) | | |
| A. Rear parcel shelf cover LH (bottom) | B. Rear parcel shelf cover RH (bottom) | |

ODO/TRIP METER : Component Description

INFOID:000000007625163

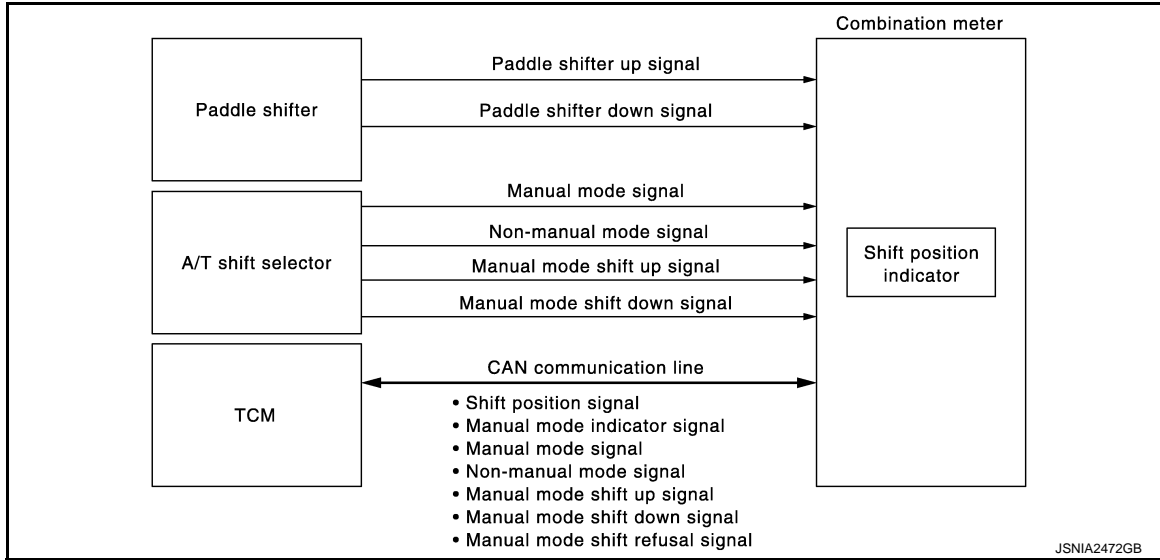
Unit	Description
Combination meter	Converts the vehicle speed signal received from the ABS actuator and electric unit (control unit) via CAN communication to mileage, and it displays the accumulated mileage to the odo/trip meter.
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the combination meter via CAN communication.

SHIFT POSITION INDICATOR

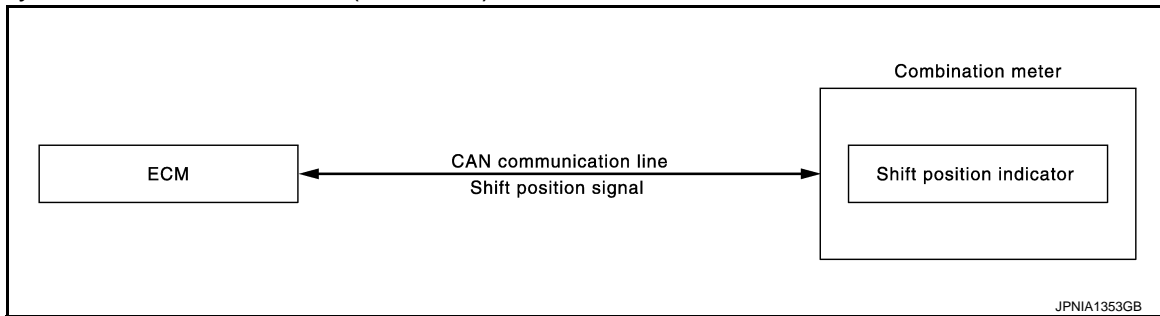
SHIFT POSITION INDICATOR : System Diagram

INFOID:000000007625164

A/T MODELS



WITH SynchroRev Match mode (S-MODE) MODELS



SHIFT POSITION INDICATOR : System Description

INFOID:000000007625165

A/T MODELS

Manual Mode

When operated with A/T shift selector

- The combination meter receives the manual mode signal, manual mode shift up signal, and manual mode shift down signal from A/T shift selector and transmits them to TCM via CAN communication.
- TCM recognizes the manual mode operation status according to the manual mode signal, manual mode shift up signal, and manual mode shift down signal received via CAN communication and transmits the shift position signal to the combination meter via CAN communication.
- The combination meter indicates shift position according to the shift position signal via CAN communication.

When operated with paddle shifter

- The combination meter receives the manual mode signal from A/T shift selector, paddle shifter up signal and paddle shifter down signal from paddle shifter and transmits them to TCM via CAN communication.
- TCM recognizes the manual mode operation status according to the manual mode signal, manual mode shift up signal, and manual mode shift down signal received via CAN communication and transmits the shift position signal to the combination meter via CAN communication.
- The combination meter indicates shift position according to the shift position signal via CAN communication.

Shift refusal warning and alarm

- TCM sends a manual mode shift refusal signal to the combination meter via CAN communication when shift-up and shift-down can not be operated in manual mode.
- The combination meter blinks the shift position indicator and sounds a buzzer according to a manual mode shift refusal signal received via CAN communication.

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METER SYSTEM

< SYSTEM DESCRIPTION >

[REGULAR GRADE]

Non-Manual Mode

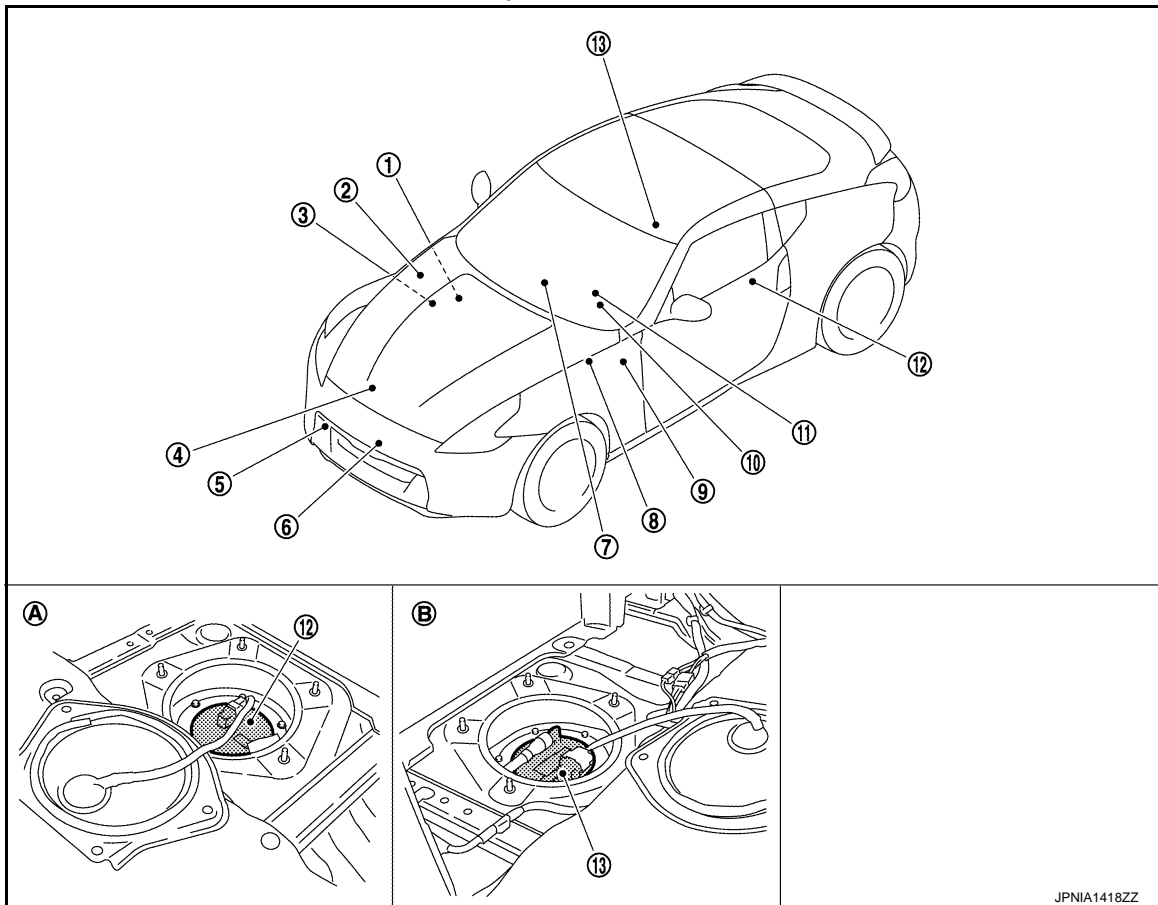
- Combination meter inputs non-manual mode signal from A/T shift selector and transmits the signals to TCM with CAN communication line.
- TCM transmits shift position signal to combination meter with CAN communication.
- Combination meter indicates shift position when receiving shift position signal.

WITH SynchroRev Match mode (S-MODE) MODELS

- ECM transmits the shift position signal to the combination meter via CAN communication.
- The combination meter indicates shift position according to the shift position signal received via CAN communication.

SHIFT POSITION INDICATOR : Component Parts Location

INFOID:000000007793258



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|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| 1. BCM
Refer to BCS-9, "Component Parts Location" . | 2. IPDM E/R
Refer to PCS-5, "Component Parts Location" . | 3. ECM
Refer to EC-39, "Component Parts Location" . |
| 4. Oil pressure switch
Refer to EM-83, "Exploded View" . | 5. Washer level switch | 6. Ambient sensor |
| 7. Triple meter | 8. ABS actuator and electric unit (control unit)
Refer to BRC-11, "Component Parts Location" . | 9. TCM
Refer to TM-153, "Component Parts Location" . |
| 10. Combination meter | 11. Parking brake switch | 12. Fuel level sensor unit (sub) |
| 13. Fuel level sensor unit and fuel pump (main) | | |
| A. Rear parcel shelf cover LH (bottom) | B. Rear parcel shelf cover RH (bottom) | |

METER SYSTEM

< SYSTEM DESCRIPTION >

[REGULAR GRADE]

SHIFT POSITION INDICATOR : Component Description

INFOID:000000007625167

Unit	Description
Combination meter	Displays the shift position on the shift position indicator with shift position signal received from TCM*1 or ECM*2 via CAN communication.
A/T shift selector	Transmits the following signals to the combination meter. <ul style="list-style-type: none"> • Manual mode signal • Non-manual mode signal • Manual mode shift up signal • Manual mode shift down signal
Paddle shifter	Transmits the paddle shifter up signal and paddle shifter down signal to the combination meter.
TCM*1	Transmits shift position signal and manual mode shift refusal signal to the combination meter with CAN communication.
ECM*2	Transmits shift position signal to the combination meter with CAN communication.

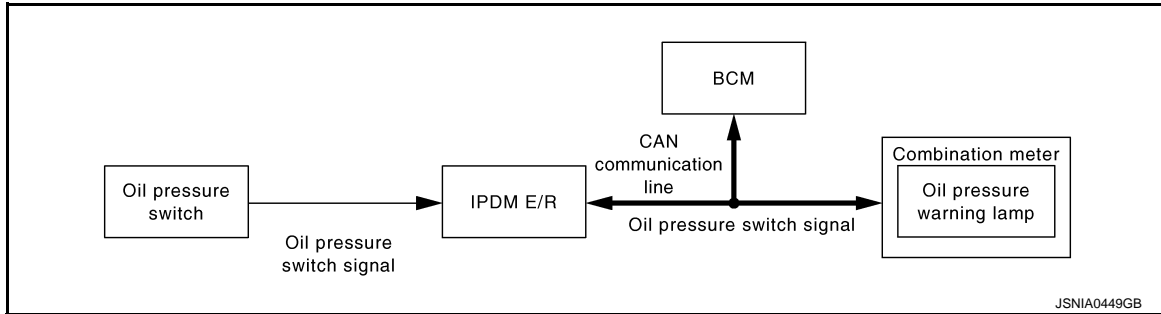
*1: A/T models

*2: With SynchroRev Match mode (S-MODE) models

OIL PRESSURE WARNING LAMP

OIL PRESSURE WARNING LAMP : System Diagram

INFOID:000000007625168



OIL PRESSURE WARNING LAMP : System Description

INFOID:000000007625169

OIL PRESSURE WARNING LAMP

- 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.
- The combination meter turns the oil pressure warning lamp ON/OFF according to the oil pressure switch signal received via CAN communication.

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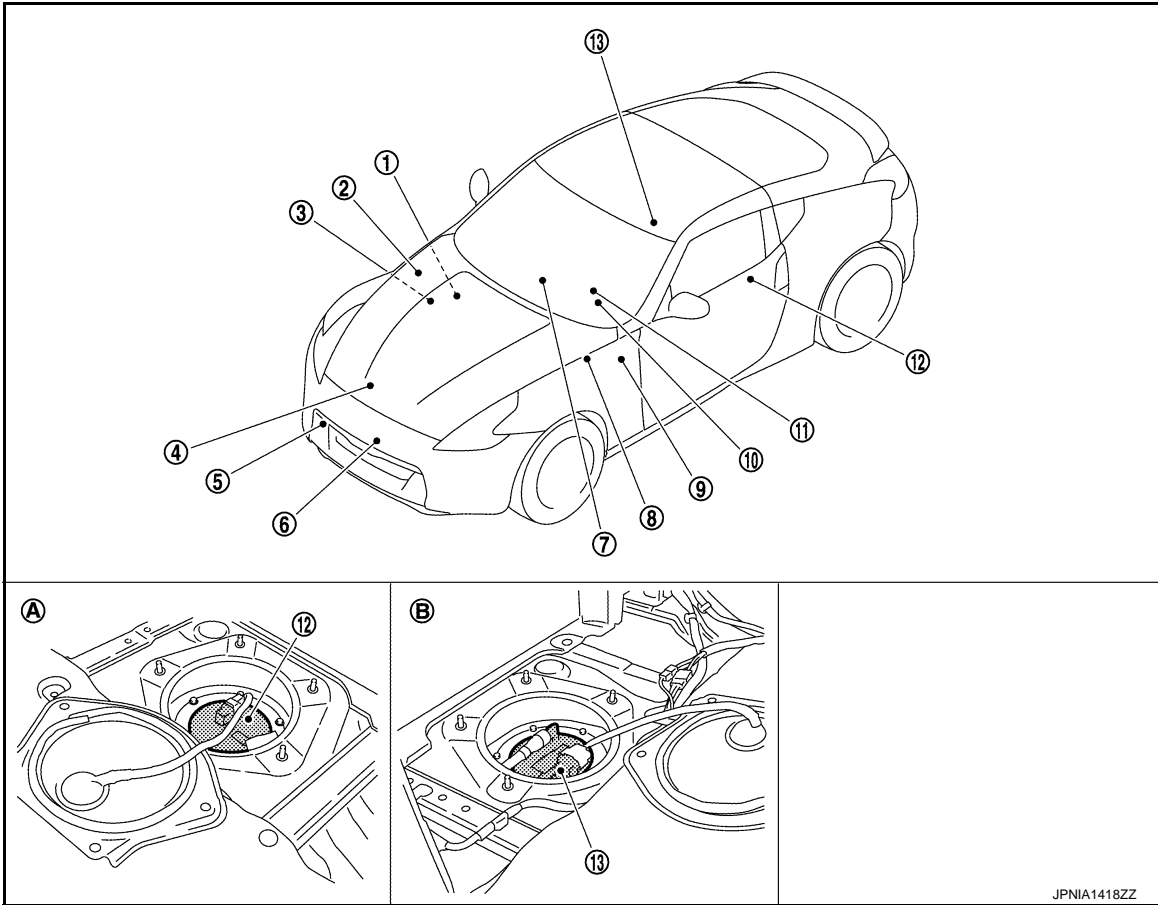
METER SYSTEM

< SYSTEM DESCRIPTION >

[REGULAR GRADE]

OIL PRESSURE WARNING LAMP : Component Parts Location

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|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| 1. Refer to BCS-9, "Component Parts Location" . | 2. Refer to PCS-5, "Component Parts Location" . | 3. Refer to EC-39, "Component Parts Location" . |
| 4. Oil pressure switch
Refer to EM-83, "Exploded View" . | 5. Washer level switch | 6. Ambient sensor |
| 7. Triple meter | 8. ABS actuator and electric unit (control unit)
Refer to BRC-11, "Component Parts Location" . | 9. Refer to TM-153, "Component Parts Location" . |
| 10. Combination meter | 11. Parking brake switch | 12. Fuel level sensor unit (sub) |
| 13. Fuel level sensor unit and fuel pump (main) | | |
| A. Rear parcel shelf cover LH (bottom) | B. Rear parcel shelf cover RH (bottom) | |

OIL PRESSURE WARNING LAMP : Component Description

INFOID:000000007625171

Unit	Description
Combination meter	Turns the oil pressure warning lamp ON/OFF according to the oil pressure switch signal received from BCM via CAN 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 and CAN communication.
Oil pressure switch	Refer to MWI-51, "Description" .
BCM	Transmits the oil pressure switch signal received from IPDM E/R via CAN communication to the combination meter via CAN communication.

UP-SHIFT INDICATOR

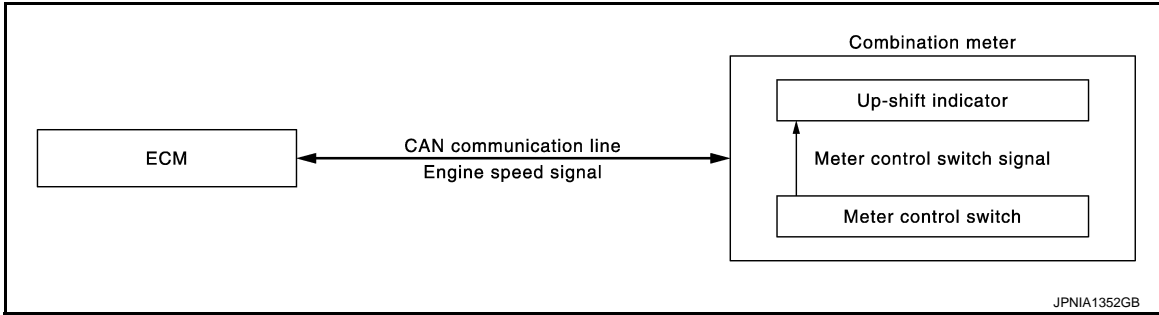
METER SYSTEM

< SYSTEM DESCRIPTION >

[REGULAR GRADE]

UP-SHIFT INDICATOR : System Diagram

INFOID:000000007625172



UP-SHIFT INDICATOR : System Description

INFOID:000000007625173

Combination meter receives the engine speed signal from ECM via CAN communication line, and then turns up-shift indicator ON, OFF or blinking.

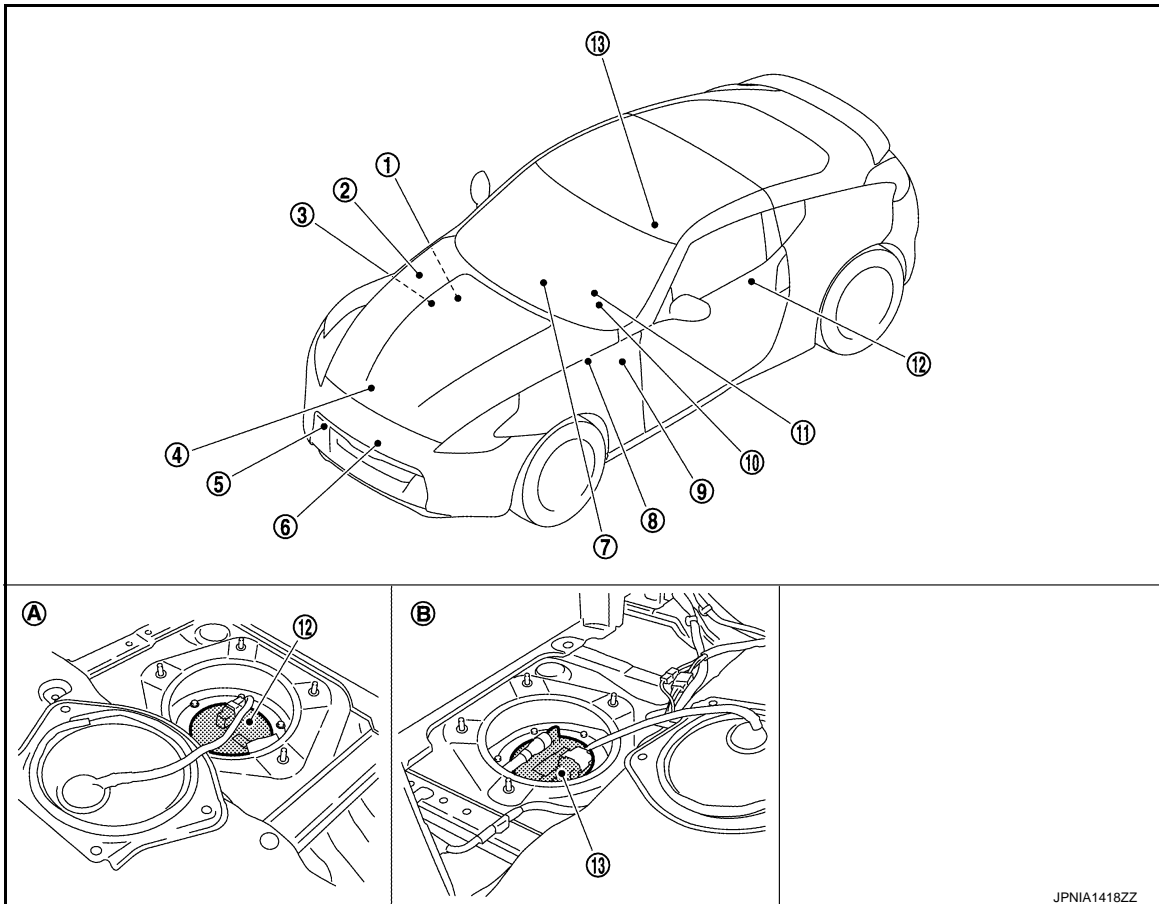
Combination meter turns up-shift indicator ON, OFF or Blinking under the following conditions

Up-shift indicator status	Engine speed	Setting range
ON	Set value* or more	No setting - 9,000 rpm
Blinking	From (Set value* minus 500 rpm)	—
OFF	(Set value* minus 600 rpm) or less	—

*: Value set by the setting function in information display.

UP-SHIFT INDICATOR : Component Parts Location

INFOID:000000007793260



METER SYSTEM

< SYSTEM DESCRIPTION >

[REGULAR GRADE]

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|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| 1. BCM
Refer to BCS-9, "Component Parts Location" . | 2. IPDM E/R
Refer to PCS-5, "Component Parts Location" . | 3. ECM
Refer to EC-39, "Component Parts Location" . |
| 4. Oil pressure switch
Refer to EM-83, "Exploded View" . | 5. Washer level switch | 6. Ambient sensor |
| 7. Triple meter | 8. ABS actuator and electric unit (control unit)
Refer to BRC-11, "Component Parts Location" . | 9. TCM
Refer to TM-153, "Component Parts Location" . |
| 10. Combination meter | 11. Parking brake switch | 12. Fuel level sensor unit (sub) |
| 13. Fuel level sensor unit and fuel pump (main) | | |
| A. Rear parcel shelf cover LH (bottom) | B. Rear parcel shelf cover RH (bottom) | |

UP-SHIFT INDICATOR : Component Description

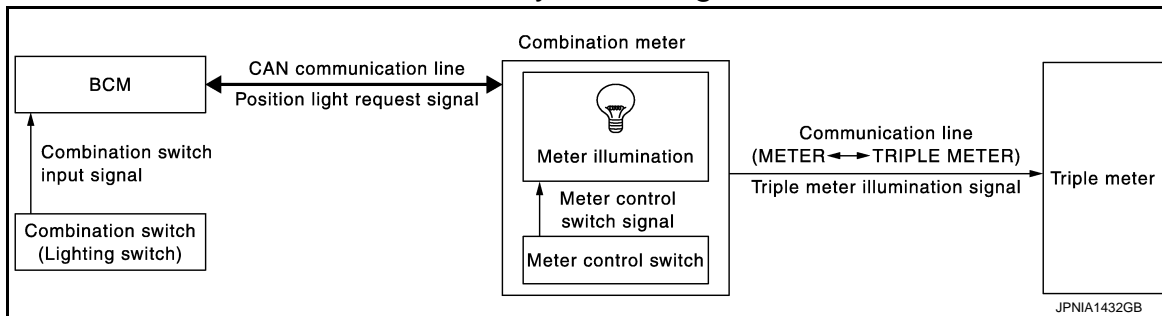
INFOID:000000007625175

Unit	Description
Combination meter	<ul style="list-style-type: none"> Receives the engine speed signal from ECM via CAN communication line. Receives the meter control switch signal from meter control switch.
ECM	Transmits the engine speed signal to the combination meter via CAN communication.

METER ILLUMINATION CONTROL

METER ILLUMINATION CONTROL : System Diagram

INFOID:000000007625176



METER ILLUMINATION CONTROL : System Description

INFOID:000000007625177

SYSTEM DESCRIPTION

Combination Meter

The combination meter controls the meter illumination and triple meter illumination by the meter control switch signal from the meter control switch and the position light request signal transmitted by the BCM via CAN communication.

Triple Meter

The triple meter illuminates the triple meter illumination by the triple meter illumination signal from the combination meter via communication line.

Nighttime Mode

- Combination meter changes the meter illumination to the nighttime mode by the position light request signal from BCM via CAN communication.
- Meter illumination and triple meter illumination can be adjusted in 22 steps using the illumination control switch in nighttime mode.

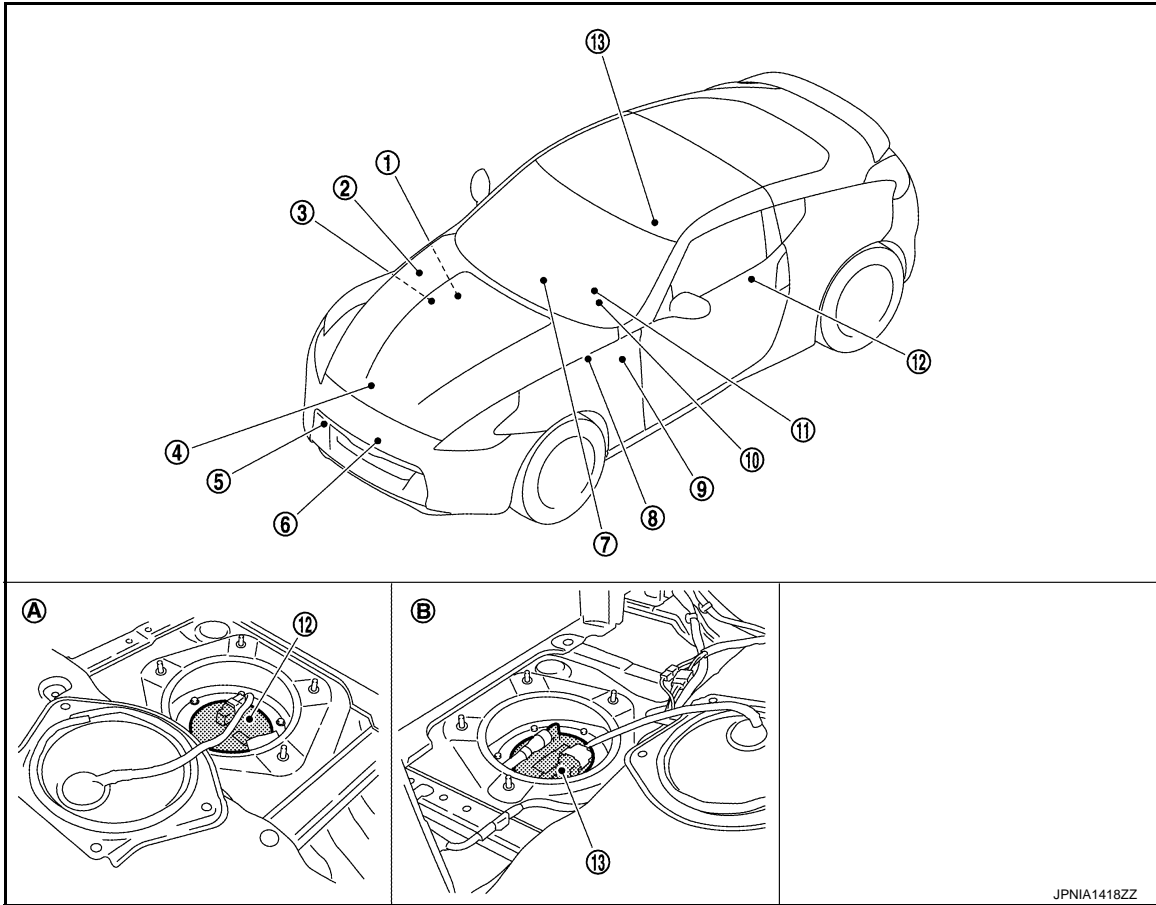
METER SYSTEM

< SYSTEM DESCRIPTION >

[REGULAR GRADE]

METER ILLUMINATION CONTROL : Component Parts Location

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|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| 1. Refer to BCS-9, "Component Parts Location" . | 2. Refer to PCS-5, "Component Parts Location" . | 3. Refer to EC-39, "Component Parts Location" . |
| 4. Oil pressure switch
Refer to EM-83, "Exploded View" . | 5. Washer level switch | 6. Ambient sensor |
| 7. Triple meter | 8. ABS actuator and electric unit (control unit)
Refer to BRC-11, "Component Parts Location" . | 9. Refer to TM-153, "Component Parts Location" . |
| 10. Combination meter | 11. Parking brake switch | 12. Fuel level sensor unit (sub) |
| 13. Fuel level sensor unit and fuel pump (main) | | |
| A. Rear parcel shelf cover LH (bottom) | B. Rear parcel shelf cover RH (bottom) | |

METER ILLUMINATION CONTROL : Component Description

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MWI

Unit	Description
Combination meter	Controls the meter illumination and triple meter illumination with the meter control switch signal from the meter control switch and the position light request signal from BCM via CAN communication.
Triple meter	Receives the triple meter illumination signal from the combination meter via communication line.
BCM	Transmits the position light request signal to the combination meter via CAN communication.

METER EFFECT FUNCTION

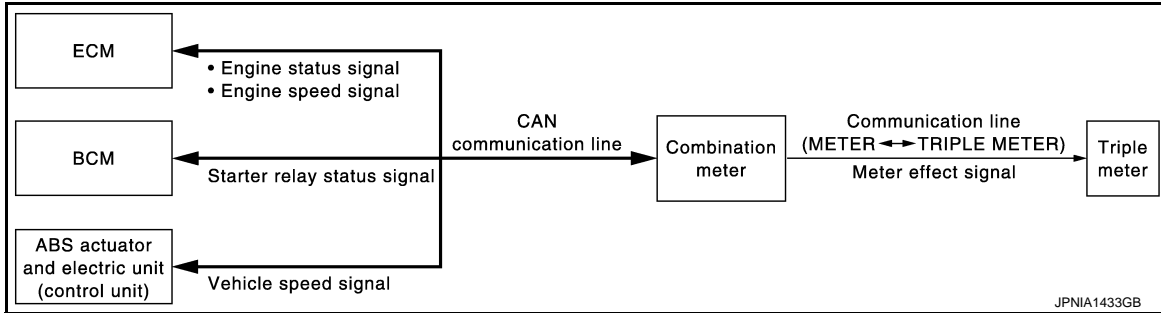
METER SYSTEM

< SYSTEM DESCRIPTION >

[REGULAR GRADE]

METER EFFECT FUNCTION : System Diagram

INFOID:000000007625180



METER EFFECT FUNCTION : System Description

INFOID:000000007625181

SYSTEM DESCRIPTION

Engine-start Effect Function

- The combination meter receives engine speed signal and engine status signal from ECM, starter relay status signal from BCM, vehicle speed signal from ABS actuator and electric unit (control unit) via CAN communication.
- The triple meter receives meter effect signal from combination meter via communication line.
- After the end of cranking and recognition of engine revolution, the combination meter illuminates the meter light in stages and sweeps the needles of the speedometer, tachometer, volt meter and oil temperature gauge.

NOTE:

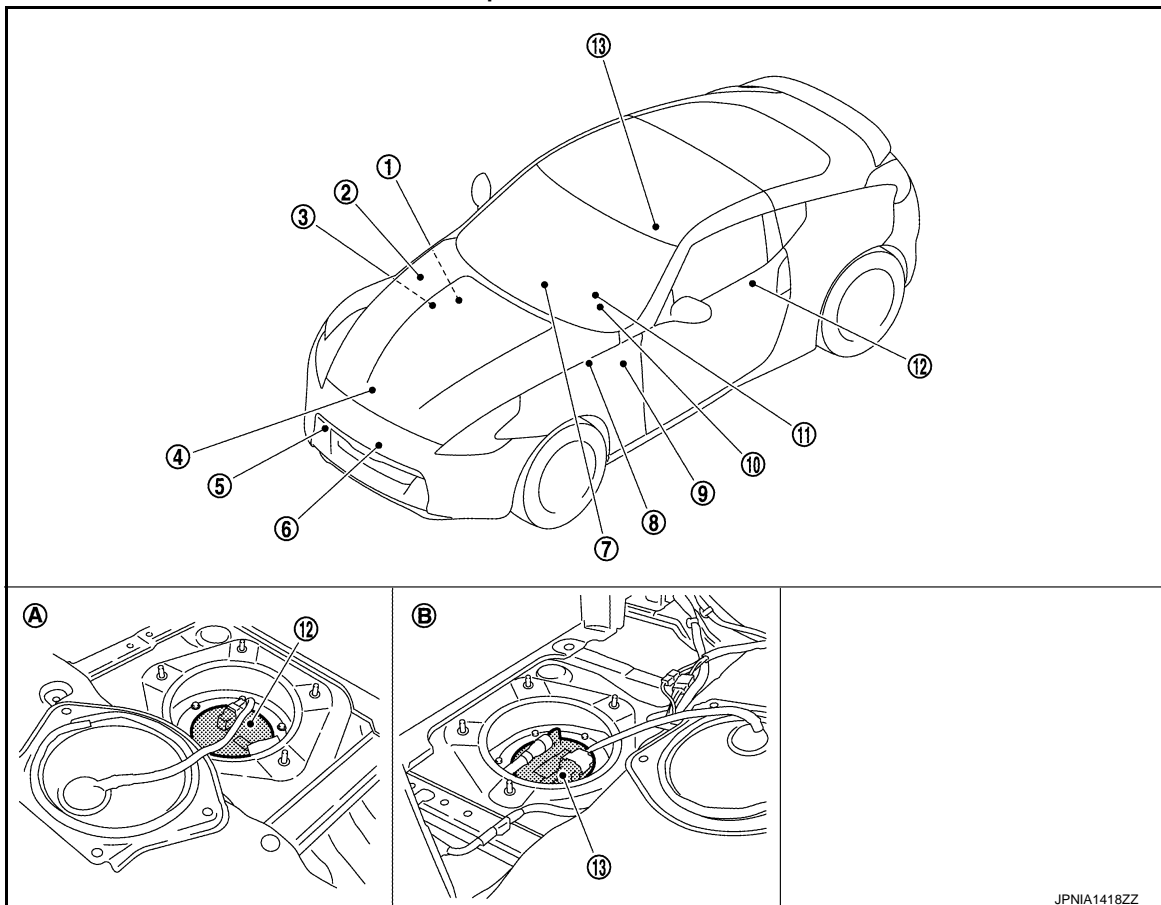
The engine-start effect function enables ON/OFF with an operation of information display.

Cancel Condition

- When vehicle speed is more than 1 km/h (0.6 MPH).

METER EFFECT FUNCTION : Component Parts Location

INFOID:000000007793262



METER SYSTEM

< SYSTEM DESCRIPTION >

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| 1. Refer to BCS-9, "Component Parts Location" . | 2. Refer to PCS-5, "Component Parts Location" . | 3. Refer to EC-39, "Component Parts Location" . |
| 4. Oil pressure switch
Refer to EM-83, "Exploded View" . | 5. Washer level switch | 6. Ambient sensor |
| 7. Triple meter | 8. ABS actuator and electric unit (control unit)
Refer to BRC-11, "Component Parts Location" . | 9. TCM
Refer to TM-153, "Component Parts Location" . |
| 10. Combination meter | 11. Parking brake switch | 12. Fuel level sensor unit (sub) |
| 13. Fuel level sensor unit and fuel pump (main) | | |
| A. Rear parcel shelf cover LH (bottom) | B. Rear parcel shelf cover RH (bottom) | |

METER EFFECT FUNCTION : Component Description

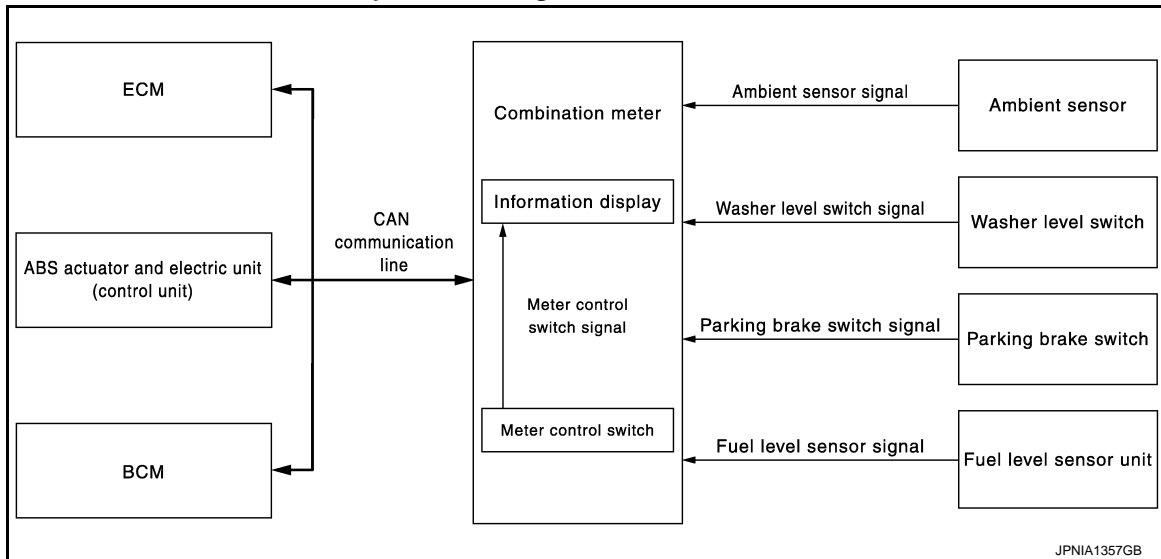
INFOID:000000007625183

Unit	Description
Combination meter	<ul style="list-style-type: none"> Receives signals from each unit with the CAN communication and performs meter effect. Transmits meter effect signal to the triple meter via communication line.
Triple meter	Receives signals from combination meter via communication line and performs meter effect.
ECM	Transmits engine speed signal and engine status signal to the combination meter via CAN communication.
BCM	Transmits starter relay status signal to the combination meter via CAN communication.
ABS actuator and electric unit (control unit)	Transmits vehicle speed signal to the combination meter via CAN communication.

INFORMATION DISPLAY

INFORMATION DISPLAY : System Diagram

INFOID:000000007625184



INFORMATION DISPLAY : System Description

INFOID:000000007625185

DESCRIPTION

- The combination meter receives the information required for controlling the operations of the information display from the various units via CAN communication.
- The combination meter incorporates a trip computer that displays the warning/information according to the information received from various units.

PARKING BRAKE RELEASE WARNING

METER SYSTEM

< SYSTEM DESCRIPTION >

[REGULAR GRADE]

The combination meter indicates the parking brake release warning judged by the vehicle speed signal received from the ABS actuator and electric unit (control unit) via CAN communication and the parking brake switch signal from the parking brake switch.

Warning Operation Condition

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

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

LOW FUEL WARNING

The combination meter indicates the low fuel warning judged by the fuel level sensor signal received from the fuel level sensor unit.

Warning Operation Condition

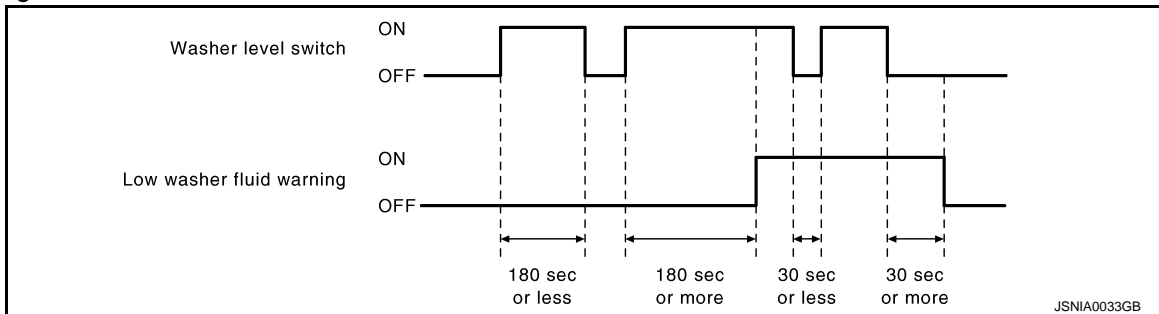
- Fuel level: Approx. 13 ℓ (3-3/8 US gal, 2-7/8 Imp gal) or less

LOW WASHER FLUID WARNING

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

Warning Operation Condition

- Indicates the warning when the washer level switch is ON for 180 seconds or more. Stops indicating the warning when the washer level switch is OFF for 30 seconds or more.



DOOR OPEN WARNING

The combination meter indicates the door open warning judged by each door switch signal received from the BCM via CAN communication line.

FUEL FILLER CAP WARNING

- The combination meter receives remaining fuel filler cap warning display signal from the ECM with CAN communication line.
- The combination meter indicates fuel filler cap warning when receiving remaining fuel filler cap warning display signal.
- The combination meter indicates fuel filler cap warning judged with the fuel filler cap warning display signal received from the ECM.

For details, refer to [EC-134, "System Description"](#).

INSTANTANEOUS FUEL CONSUMPTION (MPG)

- The combination meter receives the fuel consumption monitor signal from the ECM and the vehicle speed signal from the ABS actuator and electric unit (control unit) via CAN communication.
- The combination meter calculates instantaneous fuel consumption according to the fuel consumption monitor signal and the vehicle speed signal received via CAN communication.

AVERAGE FUEL CONSUMPTION (MPG)

- The combination meter receives the fuel consumption monitor signal from the ECM and the vehicle speed signal from the ABS actuator and electric unit (control unit) via CAN communication.
- The combination meter calculates the average fuel consumption according to the fuel consumption monitor signal and the vehicle speed signal received via CAN communication.
- The average fuel consumption displayed on the information display is uploaded in approximately 30-second intervals.

NOTE:

"—" is displayed for approximately 30 seconds just after the reset operation or after the ignition switch is OFF → ON. It is displayed continuously until the vehicle drives approximately 500 m (0.31 mile).

METER SYSTEM

[REGULAR GRADE]

< SYSTEM DESCRIPTION >

AVERAGE VEHICLE SPEED (MPH)

- The combination meter receives the vehicle speed signal from the ABS actuator and electric unit (control unit) via CAN communication.
- Measures the time while the ignition switch is ON through the combination meter.
- The combination meter the average vehicle speed according to the above signals.
- The average vehicle speed displayed on the information display is uploaded in approximately 30-second intervals.

NOTE:

“—” is displayed for 30 seconds just after the reset operation or after the ignition switch is OFF → ON. It is displayed continuously until the vehicle drives approximately 500 m (0.31 mile).

TRAVEL TIME (TIME)

Measures the time while the ignition switch is ON through the combination meter.

TRAVEL DISTANCE (MILES)

- The combination meter receives the vehicle speed signal from the ABS actuator and electric unit (control unit) via CAN communication.
- The combination meter calculates the vehicle distance according to the vehicle speed signal. The vehicle distance is displayed.

POSSIBLE DRIVING DISTANCE (RANGE)

The combination meter calculates possible driving distance according to the vehicle speed signal and fuel consumption monitor signal transmitted via CAN communication and the fuel level sensor signal transmitted from the fuel level sensor.

NOTE:

- “—” is displayed for 30 seconds after the ignition switch is OFF → ON. It is displayed continuously until the vehicle drives approximately 500 m (0.31 mile).
- The indicated values may not match each other when refueling with the ignition switch ON. Refer to [MWI-88, "INFORMATION DISPLAY : Description"](#).

AMBIENT AIR TEMPERATURE

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

NOTE:

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

SETTING

Setting item list

Items		Setting range	Setting unit	Description
ALERT	UP SHIFT	No setting - 9,000 rpm	100 rpm [500 rpm]*	The engine speed signal received from ECM via CAN communication, and the up-shift indicator can be set to ON/OFF depending on the engine speed.
	TIMER	No setting - 6 hours	30 minutes, [60 minutes]*	Time to rest is displayed on the information display if the vehicle reached the set travel distance.
	ICY	ON/OFF	—	Low outside temp is displayed on the information display if the ambient temperature is 3°C (37°F) or less.

METER SYSTEM

< SYSTEM DESCRIPTION >

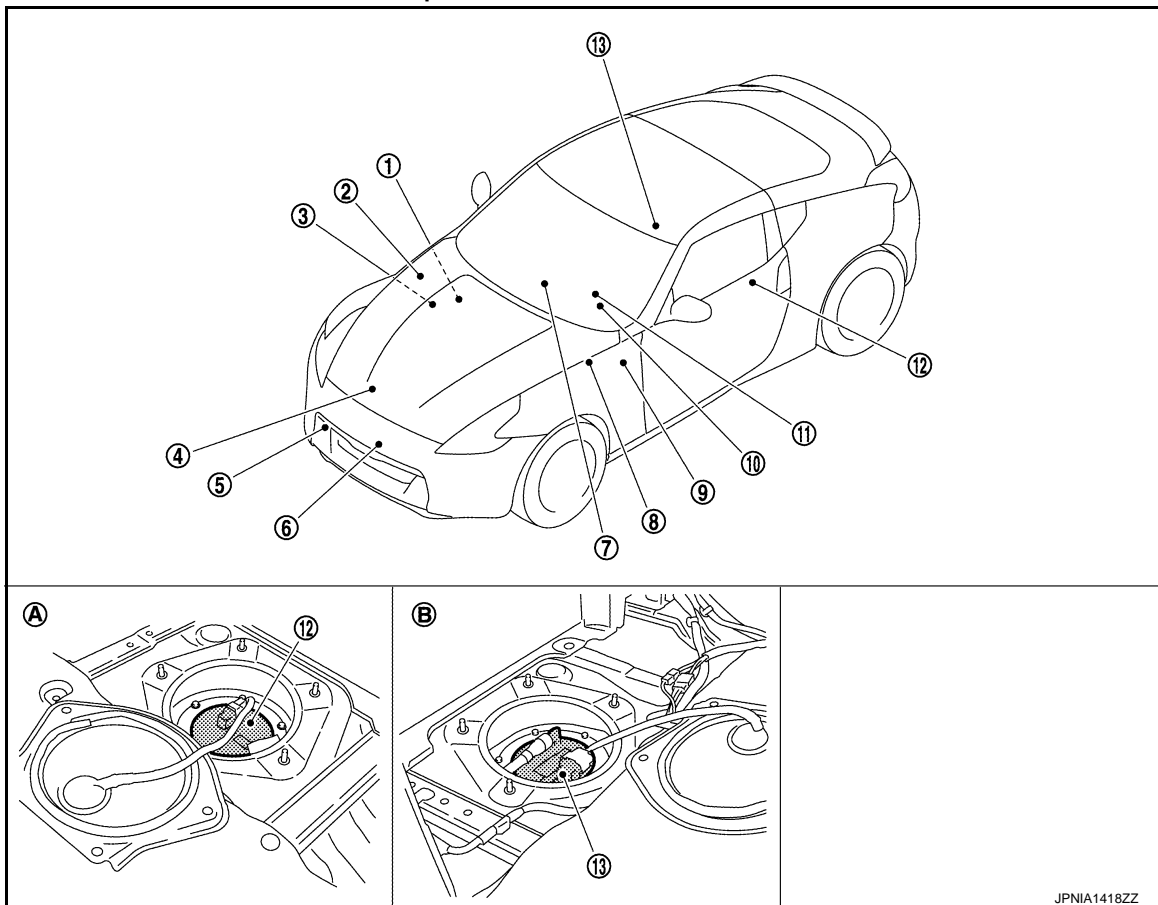
[REGULAR GRADE]

Items	Setting range	Setting unit	Description	
MAINTENANCE	OIL	No setting - 18,500 miles, (No setting - 30,000 km)	250 miles (500 km), [500 miles (1,000 km)]*	The engine oil replacement interval is displayed on the information display if the vehicle reached the set distance.
	FILTER	No setting - 18,500 miles, (No setting - 30,000 km)	250 miles (500 km), [500 miles (1,000 km)]*	The oil filter replacement interval is displayed on the information display if the vehicle reached the set distance.
	TIRE	No setting - 18,500 miles, (No setting - 30,000 km)	250 miles (500 km), [500 miles (1,000 km)]*	The tire replacement interval is displayed on the information display if the vehicle reached the set distance.
	OTHER	No setting - 18,500 miles, (No setting - 30,000 km)	250 miles (500 km), [500 miles (1,000 km)]*	The other replacement interval is displayed on the information display if the vehicle reached the set distance.
OPTIONS	LANGUAGE	ENGLISH/FRANCAIS	—	The language setting can be changed.
	EFFECTS	ON/OFF	—	The engine-start effect function setting can be changed.
	UNIT	US/METRIC	—	The unit setting can be changed.
CLOCK	SETTING	1:00 - 12:59	Hour : Minutes	Can set the time of the clock.
	RESET	—	Reset	Minutes indication be comes zero.

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

INFORMATION DISPLAY : Component Parts Location

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| 1. Refer to BCS-9, "Component Parts Location" . | 2. Refer to PCS-5, "Component Parts Location" . | 3. Refer to EC-39, "Component Parts Location" . |
| 4. Oil pressure switch
Refer to EM-83, "Exploded View" . | 5. Washer level switch | 6. Ambient sensor |

METER SYSTEM

< SYSTEM DESCRIPTION >

[REGULAR GRADE]

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| 7. Triple meter | 8. ABS actuator and electric unit (control unit)
Refer to BRC-11, "Component Parts Location" . | 9. TCM
Refer to TM-153, "Component Parts Location" . |
| 10. Combination meter | 11. Parking brake switch | 12. Fuel level sensor unit (sub) |
| 13. Fuel level sensor unit and fuel pump (main) | | |
| A. Rear parcel shelf cover LH (bottom) | B. Rear parcel shelf cover RH (bottom) | |

INFORMATION DISPLAY : Component Description

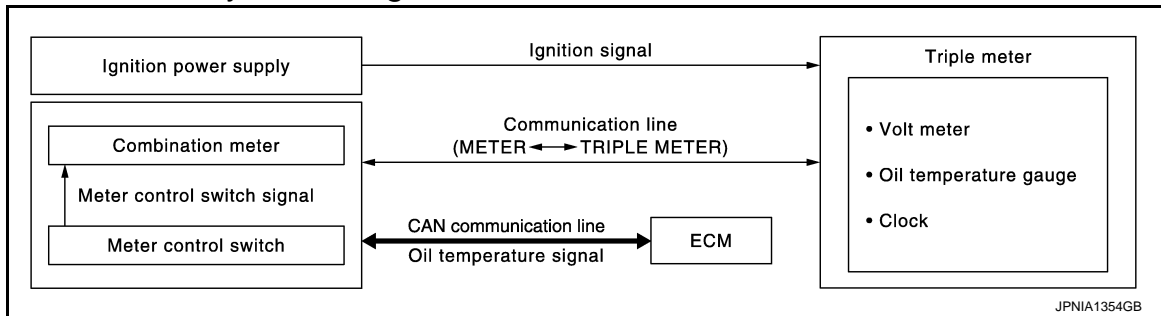
INFOID:000000007625187

Unit	Description
Combination meter	Controls the information display according to the signal received from each unit.
Fuel level sensor unit	Refer to MWI-48, "Description" .
ECM	Transmits the following signals to the combination meter via CAN communication. <ul style="list-style-type: none"> • Engine speed signal • Fuel consumption monitor signal • Fuel filler cap warning display signal
ABS actuator and electric unit (control unit)	Transmits the vehicle speed signal to the combination meter via CAN communication.
BCM	Transmits signals provided by various units to the combination meter via CAN communication.
Washer level switch	Transmits the washer level signal to the combination meter.
Parking brake switch	Refer to MWI-53, "Description" .
Door switch	Transmits the door switch signals to BCM.
Ambient sensor	Detects the ambient air temperature and transmits the ambient sensor signal to the combination meter.

TRIPLE METER

TRIPLE METER : System Diagram

INFOID:000000007625188



TRIPLE METER : System Description

INFOID:000000007625189

MWI

VOLT METER

Triple meter indicates the battery voltage on volt meter, when triple meter receives the ignition signal (from ignition power supply)

OIL TEMPERATURE GAUGE

Triple meter receives the oil temperature signal from combination meter via communication line, and then indicates the engine oil temperature on oil temperature gauge.

CLOCK

Triple meter receives the clock signal from combination meter, and then displays the time on clock.

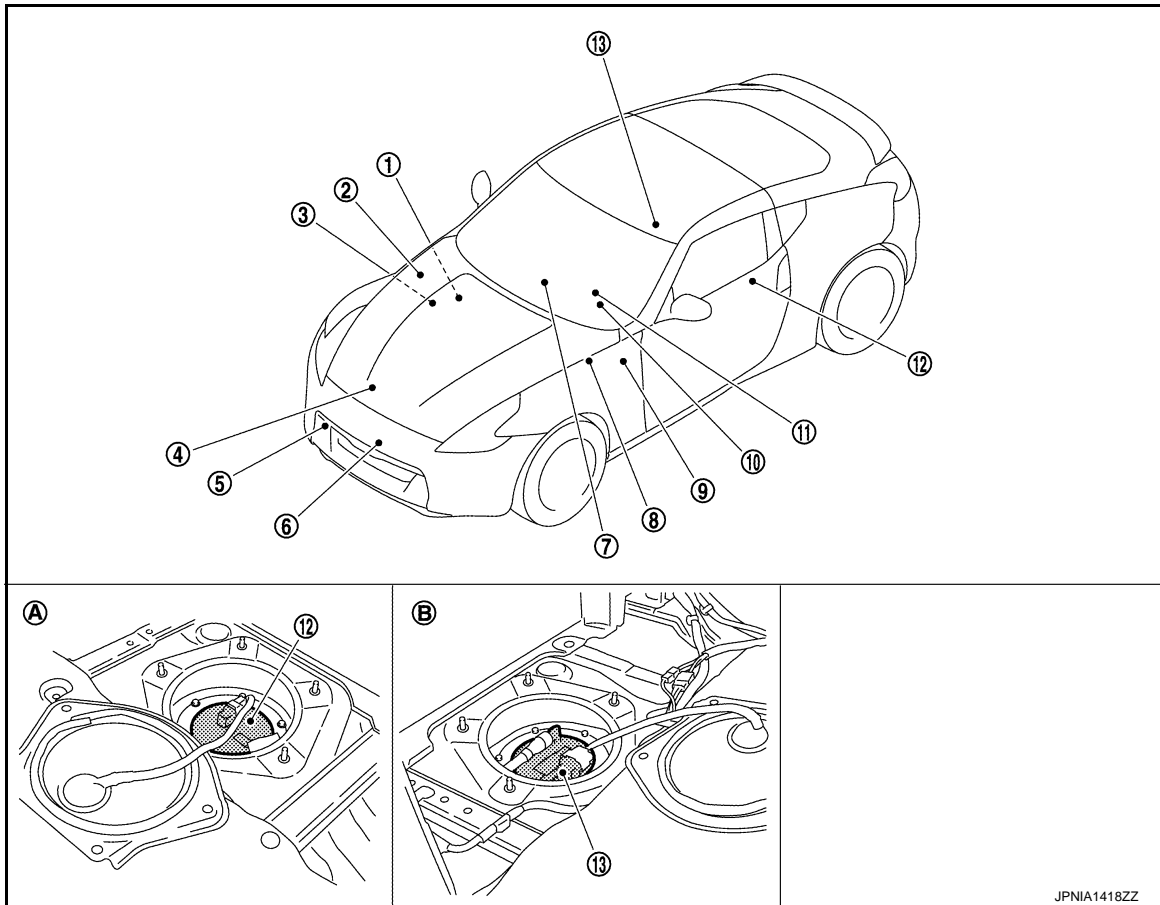
METER SYSTEM

< SYSTEM DESCRIPTION >

[REGULAR GRADE]

TRIPLE METER : Component Parts Location

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JPNIA1418ZZ

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| 1. Refer to BCS-9, "Component Parts Location" . | 2. Refer to PCS-5, "Component Parts Location" . | 3. Refer to EC-39, "Component Parts Location" . |
| 4. Oil pressure switch
Refer to EM-83, "Exploded View" . | 5. Washer level switch | 6. Ambient sensor |
| 7. Triple meter | 8. ABS actuator and electric unit (control unit)
Refer to BRC-11, "Component Parts Location" . | 9. Refer to TM-153, "Component Parts Location" . |
| 10. Combination meter | 11. Parking brake switch | 12. Fuel level sensor unit (sub) |
| 13. Fuel level sensor unit and fuel pump (main) | | |
| A. Rear parcel shelf cover LH (bottom) | B. Rear parcel shelf cover RH (bottom) | |

TRIPLE METER : Component Description

INFOID:0000000007625191

Unit	Description
Triple meter	Controls the triple meter according to the signals received from combination meter.
Combination meter	<ul style="list-style-type: none"> Receives the oil temperature signal from ECM via CAN communication line, and then transmits the signal to triple meter via communication line (METER⇔TRIPLE METER). Receives the meter control switch signal from meter control switch, and then transmits those signals to triple meter via communication line (METER⇔TRIPLE METER).
ECM	Transmits the oil temperature signal to combination meter via CAN communication line.

DIAGNOSIS SYSTEM (METER)

Diagnosis Description

INFOID:000000007625192

SELF-DIAGNOSIS MODE

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

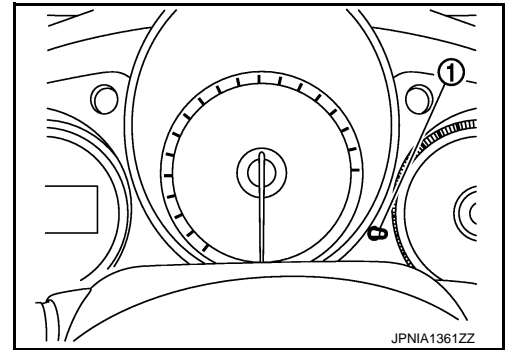
OPERATION PROCEDURE

1. Turn ignition switch OFF.
2. While pressing the trip reset switch (1), turn ignition switch ON.
3. Make sure that the trip meter displays "0000.0".

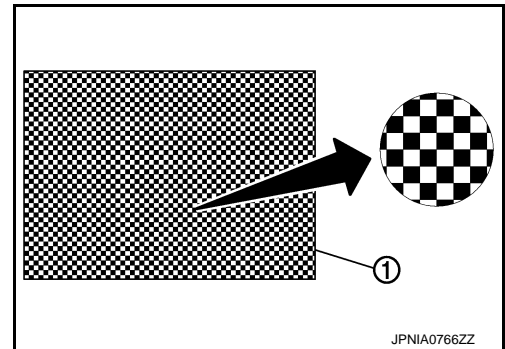
NOTE:

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

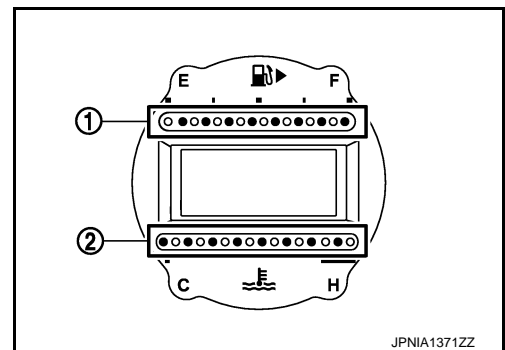
4. Press the trip reset switch at least 3 times. (Within 7 seconds after the ignition switch is turned ON.)



5. The unified meter control unit is turned to self-diagnosis mode.
 - The segment dots of the information display LCD (1) blink alternately.
 - Speedometer, tachometer, volt meter, and oil temperature gauge return to zero respectively.
 - All the segments of clock, manual mode indicator, S-MODE indicator, odo/trip meter, and shift position indicator illuminate.



- The fuel gauge (1) blink alternately.
- The engine coolant temperature gauge (2) blink alternately.



NOTE:

- Check combination meter power supply and ground circuit when the self-diagnosis mode of the combination meter does not start. Replace combination meter if power supply and ground circuit are normal.
- When turning the ignition switch ON, if the triple meter has a malfunction and the self-diagnosis mode for triple meter does not start, check the power supply and ground circuit of the triple meter, and the communication line circuit (METER↔TRIPLE METER). Replace triple meter if power supply and ground circuit and the communication line circuit (METER↔TRIPLE METER) are normal.
- If any of the segments does not illuminate, replace the combination meter or the triple meter (only when the clock of a segment that does not illuminate).

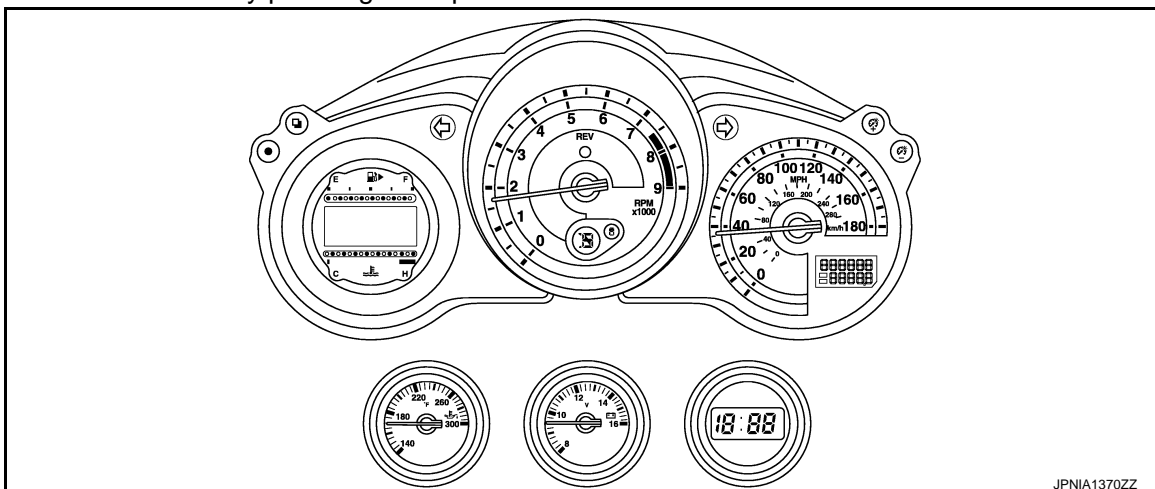
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DIAGNOSIS SYSTEM (METER)

< SYSTEM DESCRIPTION >

[REGULAR GRADE]

6. Each meter activates by pressing the trip reset switch.



NOTE:

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

CONSULT Function (METER/M&A)

INFOID:000000007625193

CONSULT APPLICATION ITEMS

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

System	Diagnosis mode	Description
METER/M&A	Self Diagnostic Result	The combination meter checks the conditions and displays memorized errors.
	Data Monitor	Displays the combination meter input/output data in real time.
	W/L ON History	Lighting history of the warning lamp and indicator lamp can be checked.

SELF DIAG RESULT

Refer to [MWI-67. "DTC Index"](#).

DATA MONITOR

Display Item List

X: Applicable

Display item [Unit]	MAIN SIGNALS	Description
SPEED METER [km/h]	X	Value of vehicle speed signal received from ABS actuator and electric unit (control unit) via CAN communication. NOTE: 655.35 is displayed when the malfunction signal is received.
SPEED OUTPUT [km/h]	X	Vehicle speed signal value transmitted to other units via CAN communication. NOTE: 655.35 is displayed when the malfunction signal is received.
ODO OUTPUT [km/h or mph]		Odometer signal value transmitted to other units via CAN communication.
TACHO METER [rpm]	X	Value of the engine speed signal received from ECM via CAN communication. NOTE: 8191.875 is displayed when the malfunction signal is received.
FUEL METER [L]	X	Fuel level indicated on combination meter.
W TEMP METER [°C]	X	Value of engine coolant temperature signal is received from ECM via CAN communication. NOTE: 215 is displayed when the malfunction signal is input.

DIAGNOSIS SYSTEM (METER)

[REGULAR GRADE]



< SYSTEM DESCRIPTION >

Display item [Unit]	MAIN SIGNALS	Description	
ABS W/L [On/Off]		Status of ABS warning lamp detected from ABS warning lamp signal is received from ABS actuator and electric unit (control unit) via CAN communication.	A
VDC/TCS IND [On/Off]		Status of VDC OFF indicator lamp detected from VDC OFF indicator lamp signal is received from ABS actuator and electric unit (control unit) via CAN communication.	B
SLIP IND [On/Off]		Status of VDC warning lamp detected from VDC warning lamp signal received from ABS actuator and electric unit (control unit) via CAN communication.	C
BRAKE W/L [On/Off]		Status of brake warning lamp detected from brake warning lamp signal is received from ABS actuator and electric unit (control unit) via CAN communication. NOTE: Displays "Off" if the brake warning lamp is illuminated when the valve check starts, the parking brake switch is turned ON or the brake fluid level switch is turned ON.	D
DOOR W/L [On/Off]		Status of door warning detected from door switch signal received from BCM via CAN communication.	E
TRUNK/GLAS-H [Off]		This item is displayed, but cannot be monitored.	F
HI-BEAM IND [On/Off]		Status of high beam indicator lamp detected from high beam request signal is received from BCM via CAN communication.	
TURN IND [On/Off]		Status of turn indicator lamp detected from turn indicator signal is received from BCM via CAN communication.	G
RR FOG IND [On/Off]		Status of rear fog lamp indicator lamp detected from rear fog lamp status signal is received from BCM via CAN communication.	H
LIGHT IND [On/Off]		Status of light indicator lamp detected from position light request signal is received from BCM via CAN communication.	
OIL W/L [On/Off]		Status of oil pressure warning lamp detected from oil pressure switch signal is received from BCM via CAN communication.	I
MIL [On/Off]		Status of malfunction indicator lamp detected from malfunctioning indicator lamp signal is received from ECM via CAN communication.	J
CRUISE IND [On/Off]		Status of CRUISE indicator lamp detected from CRUISE indicator lamp signal is received from ECM via CAN communication.	
SET IND [Off]		This item is displayed, but cannot be monitored.	K
ATC/T-AMT W/L [On/Off]		A/T CHECK indicator lamp status judged by the transmission check warning lamp signal received from TCM via CAN communication.	L
FUEL W/L [On/Off]		Low-fuel warning lamp status detected by the identified fuel level.	
WASHER W/L [On/Off]		Status of washer warning lamp judged from washer level switch input to combination meter.	M
AIR PRES W/L [On/Off]		Status of low tire pressure warning lamp detected from tire pressure signal is received from BCM via CAN communication.	MWI
KEY G/Y W/L [On/Off]		Status of key warning lamp (yellow) detected from key warning signal is received from BCM via CAN communication.	
MT SYNC REV IND [On/Off]		Status of S-MODE indicator judged from S-MODE indicator signal received from ECM with CAN communication line.	O
FUEL CAP W/L [On/Off]		Status of fuel filler cap warning judged from fuel filler cap warning display signal received from ECM with CAN communication line.	P
LCD [C&P N, C&P I, B&P N, B&P I, ID NG, ROTAT, SFT P, INSRT, BATT, NO KY, OUTKY, LK WN]		Displays status of Intelligent Key system warning detected from meter display signal is received from BCM via CAN communication.	

DIAGNOSIS SYSTEM (METER)

[REGULAR GRADE]

< SYSTEM DESCRIPTION >

Display item [Unit]	MAIN SIGNALS	Description
SHIFT IND [P, R, N, D, L, M1, M2, M3, M4, M5, M6, M7]		<ul style="list-style-type: none"> Status of shift position indicator detected from shift position signal and manual mode indicator signal is received from TCM via CAN communication. (A/T models) Status of shift position indicator detected from shift position signal is received from ECM via CAN communication. (with SynchroRev Match mode models)
AT S MODE SW [Off]		This item is displayed, but cannot be monitored.
M RANGE SW [On/Off]		Status of manual mode switch.
NM RANGE SW [On/Off]		Status of non-manual mode switch.
AT SFT UP SW [On/Off]		Status of position select switch (up).
AT SFT DWN SW [On/Off]		Status of position select switch (down).
ST SFT UP SW [On/Off]		Status of paddle shifter up switch.
ST SFT DWN SW [On/Off]		Status of paddle shifter down switch.
SYNC MODE [On/Off]		This item is displayed, but cannot be monitored.
PKB SW [On/Off]		Status of parking brake switch.
BUCKLE SW [On/Off]		Status of seat belt buckle switch (driver side).
BRAKE OIL SW [On/Off]		Status of brake fluid level switch.
A/C AMP CONN [On/Off]		Status of A/C auto amp. connection recognition signal.
ENTER SW [On/Off]		Status of  (ENTER) switch.
SELECT SW [On/Off]		Status of  (SELECT) switch.
MT SYNC REV SW [On/Off]		Status of S-MODE switch.
DISTANCE [km]		Value of possible driving distance calculated by combination meter.
OUTSIDE TEMP [°C or °F]		<p>Ambient air temperature value converted from ambient sensor signal received from ambient sensor.</p> <p>NOTE: This may not match with the temperature value indicated on the information display. (Because the information display value is a corrected value from the ambient sensor input value.)</p>
FUEL LOW SIG [On/Off]		Status of fuel level low warning signal to output to AV control unit via CAN communication.
BUZZER [On/Off]	X	Buzzer status (in the combination meter) is detected from the buzzer output signal received from each unit via CAN communication and the warning output condition of the combination meter.

NOTE:

Some items are not available according to vehicle specification.

W/L ON HISTORY

- Stores histories when warning/indicator lamp is turned on.
- “W/L ON HISTORY” indicates the “TIME” when the warning/ indicator lamp is turned on.

DIAGNOSIS SYSTEM (METER)

< SYSTEM DESCRIPTION >

[REGULAR GRADE]

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

NOTE:

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

Display Item

Display item	Description
ABS W/L	Lighting history of ABS warning lamp.
VDC/TCS IND	Lighting history of VDC OFF indicator lamp.
SLIP IND	Lighting history of VDC warning lamp.
BRAKE W/L	Lighting history of brake warning lamp.
DOOR W/L	Lighting history of door warning.
OIL W/L	Lighting history of oil pressure warning lamp.
C-ENG W/L	Lighting history of malfunction indicator lamp.
CRUISE IND	Lighting history of CRUISE indicator lamp.
ATC/T-AMT W/L	Lighting history of A/T CHECK indicator lamp.
FUEL W/L	Lighting history of low fuel level warning.
WASHER W/L	Lighting history of low washer fluid warning
AIR PRES W/L	Lighting history of low tire pressure warning lamp.
KEY G/Y W/L	Lighting history of key warning lamp (yellow).

NOTE:

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

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DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM CIRCUIT

Description

INFOID:000000007625194

CAN (Controller Area Network) is a serial communication system for real time application. It is an on-vehicle multiplex communication system with high data communication speed and excellent error detectability. Many electronic control units are equipped onto vehicles, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with two communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only. CAN Communication Signal Chart. Refer to [LAN-25, "CAN Communication Signal Chart"](#).

DTC Logic

INFOID:000000007625195

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:000000007625196

1. PERFORM SELF DIAGNOSTIC

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

Is "CAN COMM CIRCUIT" displayed?

- YES >> Refer to [LAN-15, "Trouble Diagnosis Flow Chart"](#).
- NO >> Refer to [GI-44, "Intermittent Incident"](#).

U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

U1010 CONTROL UNIT (CAN)

Description

INFOID:0000000007625197

Initial diagnosis of combination meter.

DTC Logic

INFOID:0000000007625198

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:0000000007625199

1. REPLACE COMBINATION METER

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

>> INSPECTION END

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B2201 COMMUNICATION ERROR 1

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

B2201 COMMUNICATION ERROR 1

Description

INFOID:000000007625200

The communication line (METER <-> TRIPLE METER) is used to communicate signals between the combination meter and the triple meter in order to control the triple meter.

DTC Logic

INFOID:000000007625201

DTC DETECTION LOGIC

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

Diagnosis Procedure

INFOID:000000007625202

1. CHECK CONNECTOR

Check combination meter, triple meter and terminals (combination meter side, triple meter side, and harness side) for looseness or bent.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair terminal or connector.

2. CHECK CONTINUITY COMMUNICATION CIRCUIT

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

Combination meter		Triple meter		Continuity
Connector	Terminal	Connector	Terminal	
M53	9	M242	4	Existed
	10		5	

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

Combination meter		Ground	Continuity
Connector	Terminal		
M53	9		Not existed
	10		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3. CHECK COMBINATION METER OUTPUT VOLTAGE

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

B2201 COMMUNICATION ERROR 1

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

Terminals		Voltage (Approx.)
(+)	(-)	
Combination meter		5 V
Connector	Terminal	
M53	10	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace combination meter.

4. CHECK TRIPLE METER OUTPUT VOLTAGE

1. Turn ignition switch OFF.
2. Disconnect combination meter connector.
3. Connect triple meter connector.
4. Turn ignition switch ON.
5. Check voltage between triple meter harness connector and ground.

Terminals		Voltage (Approx.)
(+)	(-)	
Triple meter		5 V
Connector	Terminal	
M242	4	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace triple meter.

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B2205 VEHICLE SPEED

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

B2205 VEHICLE SPEED

Description

INFOID:000000007625203

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

DTC Logic

INFOID:000000007625204

DTC DETECTION LOGIC

DTC	Display contents of CONSULT	Diagnostic item is detected when ...	Probable malfunction location
B2205	VEHICLE SPEED	An abnormal vehicle speed signal is input from ABS actuator and electric unit (control unit) for 2 seconds or more	<ul style="list-style-type: none">• Wheel sensor• ABS actuator and electric unit (control unit)

Diagnosis Procedure

INFOID:000000007625205

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

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

>> Refer to [BRC-22, "CONSULT Function"](#).

B2267 ENGINE SPEED

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

B2267 ENGINE SPEED

Description

INFOID:000000007625206

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

DTC Logic

INFOID:000000007625207

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	<ul style="list-style-type: none">• Crankshaft position sensor (POS)• ECM

Diagnosis Procedure

INFOID:000000007625208

1. PERFORM SELF-DIAGNOSIS OF ECM

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

>> Refer to [EC-154, "CONSULT Function"](#).

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B2268 WATER TEMP

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

B2268 WATER TEMP

Description

INFOID:000000007625209

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

DTC Logic

INFOID:000000007625210

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	<ul style="list-style-type: none">• Engine coolant temperature sensor• ECM

Diagnosis Procedure

INFOID:000000007625211

1. PERFORM SELF-DIAGNOSIS OF ECM

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

>> Refer to [EC-154. "CONSULT Function"](#).

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

POWER SUPPLY AND GROUND CIRCUIT COMBINATION METER

COMBINATION METER : Diagnosis Procedure

INFOID:000000007625212

1. CHECK FUSE

Check for blown fuses.

Power source	Fuse No.
Battery	11
Ignition switch ACC or ON	19
Ignition switch ON or START	4

Is the inspection result normal?

YES >> GO TO 2.

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

2. CHECK POWER SUPPLY CIRCUIT

Check voltage between combination meter harness connector and ground.

Terminals		Ignition switch position	Voltage (Approx.)
(+)	(-)		
Combination meter		Ground	Battery voltage
Connector	Terminal		
M53	1		
	15		
	2		
		OFF	
		ACC	
		ON	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between combination meter and fuse.

3. CHECK GROUND CIRCUIT

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

Combination meter		Ground	Continuity
Connector	Terminal		
M53	17		Existed
	23		

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

TRIPLE METER

TRIPLE METER : Diagnosis Procedure

INFOID:000000007625213

1. CHECK FUSE

Check for blown fuses.

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POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

Power source	Fuse No.
Battery	11
Ignition switch ON or START	4

Is the inspection result normal?

YES >> GO TO 2.

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

2.CHECK POWER SUPPLY CIRCUIT

Check voltage between combination meter harness connector and ground.

Terminals		Ignition switch position	Voltage (Approx.)
(+)	(-)		
Triple meter		Ground	Battery voltage
Connector	Terminal		
M242	2		
	3		

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness between triple meter and fuse.

3.CHECK GROUND CIRCUIT

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

Triple meter		Ground	Continuity
Connector	Terminal		
M242	1		Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

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

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

INFOID:000000007793313

1.CHECK FUSES AND FUSIBLE LINK

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

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

Is the fuse fusing?

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

NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect IPDM E/R connector.

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

3. Check voltage between IPDM E/R harness connector and the ground.

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

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

3.CHECK GROUND CIRCUIT

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

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

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.

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FUEL LEVEL SENSOR SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

FUEL LEVEL SENSOR SIGNAL CIRCUIT

Description

INFOID:000000007625215

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

Component Function Check

INFOID:000000007625216

1. CHECK COMBINATION METER INPUT SIGNAL

Select the "Data Monitor" for the "METER/M&A" and compare the "FUEL METER" monitor value with the fuel gauge reading on the combination meter.

Fuel gauge indication position	Reference value of data monitor [L]
Full (16/16)	Approx. 68
Three quarters (12/16)	Approx. 57
Half (8/16)	Approx. 40
A quarter (4/16)	Approx. 20
Empty (1/16)	Approx. 9

Does monitor value match fuel gauge reading?

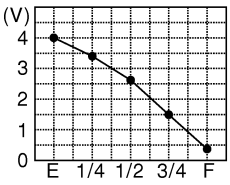
- YES >> INSPECTION END
 NO >> Replace combination meter.

Diagnosis Procedure

INFOID:000000007625217

1. CHECK COMBINATION METER INPUT SIGNAL

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

Terminals		Voltage (Approx.)
(+)	(-)	
Combination meter		 <p>(V)</p> <p>4 3 2 1 0</p> <p>E 1/4 1/2 3/4 F</p> <p>JPNIA0740ZZ</p>
Connector	Terminal	
M54	34	
		Ground

Does it match fuel gauge reading?

- YES >> GO TO 2.
 NO >> Replace the combination meter.

2. CHECK FUEL LEVEL SENSOR CIRCUIT

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

Combination meter		Fuel level sensor unit (sub)		Continuity
Connector	Terminal	Connector	Terminal	
M54	34	B21	1	Existed

FUEL LEVEL SENSOR SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

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

Combination meter		Ground	Continuity
Connector	Terminal		
M54	34		Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3. CHECK FUEL LEVEL SENSOR UNIT (MAIN-SUB) CIRCUIT

1. Disconnect fuel level sensor unit (main) connector.
2. Check for continuity between the fuel level sensor unit (sub) harness connector and the fuel level sensor unit (main) harness connector.

Fuel level sensor unit (sub)		Fuel level sensor unit (main)		Continuity
Connector	Terminal	Connector	Terminal	
B21	2	B22	2	Existed

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

Combination meter		Ground	Continuity
Connector	Terminal		
B21	2		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair harness or connector.

4. CHECK FUEL LEVEL SENSOR GROUND CIRCUIT

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

Fuel level sensor unit (main)		Combination meter		Continuity
Connector	Terminal	Connector	Terminal	
B22	5	M53	24	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

Component Inspection

INFOID:0000000007625218

1. REMOVE FUEL LEVEL SENSOR UNIT

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

>> GO TO 2.

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

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

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FUEL LEVEL SENSOR SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

Terminals		Condition	Resistance (Ω) (Approx.)	Height [mm (in)]
Fuel level sensor unit (main)				
2	5	Full (A)	3	226 (8.90)
		Empty (B)	80	39 (1.54)

Is inspection result OK?

YES >> GO TO 3.

NO >> Replace fuel level sensor unit and fuel pump (main).

3. CHECK FUEL LEVEL SENSOR UNIT (SUB)

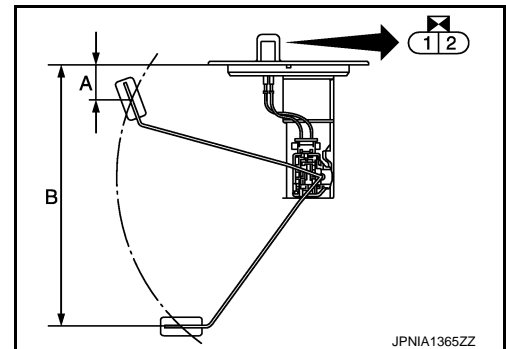
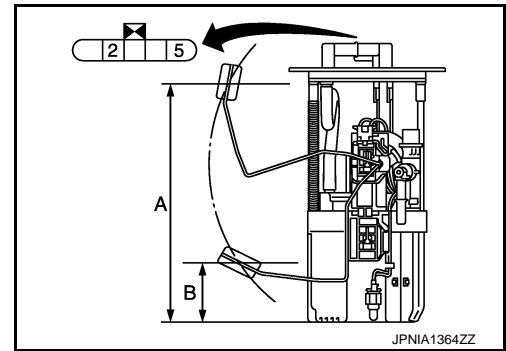
Inspect the resistance of fuel level sensor unit (sub).

Terminals		Condition	Resistance (Ω) (Approx.)	Height [mm (in)]
Fuel level sensor unit (sub)				
1	2	Full (A)	3	30 (1.18)
		Empty (B)	41	238 (9.37)

Is inspection result OK?

YES >> INSPECTION END

NO >> Replace fuel level sensor unit (sub).



OIL PRESSURE SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

OIL PRESSURE SWITCH SIGNAL CIRCUIT

Description

INFOID:000000007625219

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

Component Function Check

INFOID:000000007625220

1.CHECK COMBINATION METER INPUT SIGNAL

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

"OIL W/L"

Ignition switch ON : On

Engine running : Off

>> INSPECTION END

Diagnosis Procedure

INFOID:000000007625221

1.CHECK OIL PRESSURE SWITCH CIRCUIT

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

Terminals				Continuity
(+)		(-)		
IPDM E/R		Oil pressure switch		
Connector	Terminal	Connector	Terminal	Existed
E7	75	F37	1	

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

Terminals				Continuity
(+)		(-)		
IPDM E/R		Ground		
Connector	Terminal	Ground		Not existed
E7	75			

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

Component Inspection

INFOID:000000007625222

1.CHECK OIL PRESSURE SWITCH

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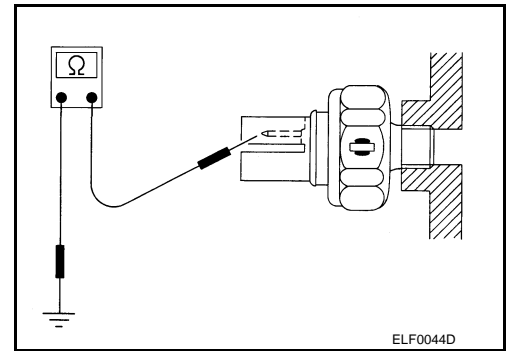
OIL PRESSURE SWITCH SIGNAL CIRCUIT

[REGULAR GRADE]

< DTC/CIRCUIT DIAGNOSIS >

Check continuity between oil pressure switch and ground.

Condition	Continuity
Engine stopped	Existed
Engine running	Not existed



Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace oil pressure switch.

PARKING BRAKE SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

PARKING BRAKE SWITCH SIGNAL CIRCUIT

Description

INFOID:000000007625223

Transmits the parking brake switch signal to the combination meter.

Diagnosis Procedure

INFOID:000000007625224

1. CHECK COMBINATION METER INPUT SIGNAL

1. Start the engine.
2. Check the voltage between combination meter harness connector and ground.

Terminals		Ground	Condition	Voltage (Approx.)
(+)	(-)			
Combination meter				
Connector	Terminal			
M54	26			0 V 12 V

Is the inspection result normal?

- YES >> INSPECTION END
NO >> GO TO 2.

2. CHECK PARKING BRAKE SWITCH SIGNAL CIRCUIT

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

Terminals				Continuity
Combination meter		Parking brake switch		
Connector	Terminal	Connector	Terminal	
M54	26	M68	1	Existed

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

Terminals		Ground	Continuity
Combination meter			
Connector	Terminal		
M54	26		Not existed

Is the inspection result normal?

- YES >> INSPECTION END
NO >> Repair harness or connector.

Component Inspection

INFOID:000000007625225

1. CHECK PARKING BRAKE SWITCH

Check parking brake switch. Refer to [BRC-76, "Component Inspection"](#).

Is the inspection result normal?

- YES >> INSPECTION END.
NO >> Replace parking brake switch.

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WASHER LEVEL SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

WASHER LEVEL SWITCH SIGNAL CIRCUIT

Description

INFOID:000000007625226

Transmits the washer level switch signal to the combination meter.

Diagnosis Procedure

INFOID:000000007625227

1.CHECK WASHER LEVEL SWITCH SIGNAL CIRCUIT

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

Terminals				Continuity
Combination meter		Washer level switch		
Connector	Terminal	Connector	Terminal	
M54	29	E32	1	Existed

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

Terminals			Continuity
Combination meter		Ground	
Connector	Terminal		
M54	29		Not existed

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2.CHECK WASHER LEVEL SWITCH GROUND CIRCUIT

Check continuity between washer level switch connector and ground.

Terminals			Continuity
Washer level switch		Ground	
Connector	Terminal		
E32	2		Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

Component Inspection

INFOID:000000007625228

1.CHECK WASHER LEVEL SWITCH

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

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

Is the inspection result normal?

YES >> INSPECTION END

WASHER LEVEL SWITCH SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

NO >> Replace washer level switch. Refer to [WW-85. "Removal and Installation"](#).

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A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[REGULAR GRADE]

A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL CIRCUIT

Description

INFOID:000000007625229

A/C auto amp. transmits the A/C auto amp. connection recognition signal to the combination meter.

Diagnosis Procedure

INFOID:000000007625230

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

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

Terminals		Voltage (Approx.)
(+)	(-)	
Combination meter		5 V
Connector	Terminal	
M53	19	

Is the inspection result normal?

YES >> INSPECTION END

NO >> GO TO 2.

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

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

Combination meter		A/C auto amp.		Continuity
Connector	Terminal	Connector	terminal	
M53	19	M66	34	Existed

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

Combination meter		Ground	Continuity
Connector	Terminal		
M53	19		Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair harness or connector.

COMBINATION METER

< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

ECU DIAGNOSIS INFORMATION

COMBINATION METER

Reference Value

INFOID:000000007625231

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition		Value/Status
SPEED METER [km/h]	Ignition switch ON	While driving	Equivalent to speedometer reading NOTE: 655.35 is displayed when the malfunction signal is received
SPEED OUTPUT [km/h]	Ignition switch ON	While driving	Equivalent to speedometer reading NOTE: 655.35 is displayed when the malfunction signal is received
ODO OUTPUT [km/h or mph]	Ignition switch ON	—	Equivalent to odometer reading in combination meter
TACHO METER [rpm]	Ignition switch ON	While driving	Equivalent to tachometer reading NOTE: 8191.875 is displayed when the malfunction signal is received
FUEL METER [L]	Ignition switch ON	—	Values according to fuel level
W TEMP METER [°C]	Ignition switch ON	—	Values according to engine coolant temperature NOTE: 215 is displayed when the malfunction signal is input
ABS W/L	Ignition switch ON	ABS warning lamp ON	On
		ABS warning lamp OFF	Off
VDC/TCS IND	Ignition switch ON	VDC OFF indicator lamp ON	On
		VDC OFF indicator lamp OFF	Off
SLIP IND	Ignition switch ON	SLIP Indicator lamp ON	On
		SLIP indicator lamp OFF	Off
BRAKE W/L	Ignition switch ON	Brake warning lamp ON	On
		Brake warning lamp OFF	Off
DOOR W/L	Ignition switch ON	Door warning lamp ON	On
		Door warning lamp OFF	Off
TRUNK/GLAS-H	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
HI-BEAM IND	Ignition switch ON	High-beam indicator lamp ON	On
		High-beam indicator lamp OFF	Off
TURN IND	Ignition switch ON	Turn signal indicator lamp ON	On
		Turn signal indicator lamp OFF	Off
RR FOG IND	Ignition switch ON	Rear fog lamp indicator lamp ON	On
		Rear fog lamp indicator lamp	Off
LIGHT IND	Ignition switch ON	Tail lamp indicator lamp ON	On
		Tail lamp indicator lamp OFF	Off

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COMBINATION METER

< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

Monitor Item	Condition		Value/Status
OIL W/L	Ignition switch ON	Oil pressure warning lamp ON	On
		Oil pressure warning lamp OFF	Off
MIL	Ignition switch ON	Malfunction indicator lamp ON	On
		Malfunction indicator lamp OFF	Off
CRUISE IND	Ignition switch ON	Cruise indicator lamp ON	On
		Cruise indicator lamp OFF	Off
ATC/T-AMT W/L	Ignition switch ON	A/T CHECK indicator lamp ON	On
		A/T CHECK indicator lamp OFF	Off
4WD W/L	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
4WD LOCK IND	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
FUEL W/L	Ignition switch ON	Low-fuel warning displayed	On
		Low-fuel warning not displayed	Off
WASHER W/L	Ignition switch ON	Washer warning displayed	On
		Washer warning not displayed	Off
AIR PRES W/L	Ignition switch ON	Low tire pressure lamp ON	On
		Low tire pressure lamp OFF	Off
KEY G/Y W/L	Ignition switch ON	KEY warning lamp (yellow) ON	On
		KEY warning lamp (yellow) OFF	Off
KEY R W/L	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
KEY KNOB W/L	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
AFS OFF IND	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
MT SYNC REV IND	Ignition switch ON	S-MODE indicator ON	On
		S-MODE indicator OFF	Off
FUEL CAP W/L	Ignition switch ON	Fuel filler cap warning displayed	On
		Fuel filler cap warning not displayed	Off

COMBINATION METER

< ECU DIAGNOSIS INFORMATION >



[REGULAR GRADE]

Monitor Item	Condition		Value/Status	
LCD	Ignition switch ON	Engine start information display (A/T models)	B&P I	A
		Engine start information display (M/T models)	C&P I	B
	Ignition switch LOCK or ACC	Engine start information display (A/T models)	B&P N	C
		Engine start information display (M/T models)	C&P N	C
	Ignition switch LOCK	Key ID warning display	ID NG	D
	Ignition switch LOCK	Steering lock information display	ROTAT	E
	Ignition switch LOCK	P position warning display	SFT P	E
	Ignition switch LOCK	Intelligent Key insert information display	INSRT	F
	Ignition switch LOCK	Intelligent Key low battery warning display	BATT	F
	Ignition switch ON	Take away warning display	NO KY	G
	Ignition switch LOCK	Key warning display	OUTKY	H
	Ignition switch ON	ACC warning display	LK WN	H
SHIFT IND	Ignition switch ON	Shift position indicator P display	P	I
		Shift position indicator R display	R	I
		Shift position indicator N display	N	J
		Shift position indicator D display	D	J
		Shift position indicator L display	L	J
		Shift position indicator M1 display	M1	K
		Shift position indicator M2 display	M2	K
		Shift position indicator M3 display	M3	L
		Shift position indicator M4 display	M4	L
		Shift position indicator M5 display	M5	L
		Shift position indicator M6 display	M6	M
		Shift position indicator M7 display	M7	M
AT S MODE SW	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off	MWI
M RANGE SW	Ignition switch ON	Selector lever manual mode position	On	O
		Other than the above	Off	O
NM RANGE SW	Ignition switch ON	Selector lever manual mode position	Off	P
		Other than the above	On	P
AT SFT UP SW	Ignition switch ON	Selector lever + position	On	P
		Other than the above	Off	P
AT SFT DWN SW	Ignition switch ON	Selector lever – position	On	P
		Other than the above	Off	P
ST SFT UP SW	Ignition switch ON	Paddle shifter switch up operation	On	P
		Other than above	Off	P

COMBINATION METER

< ECU DIAGNOSIS INFORMATION >

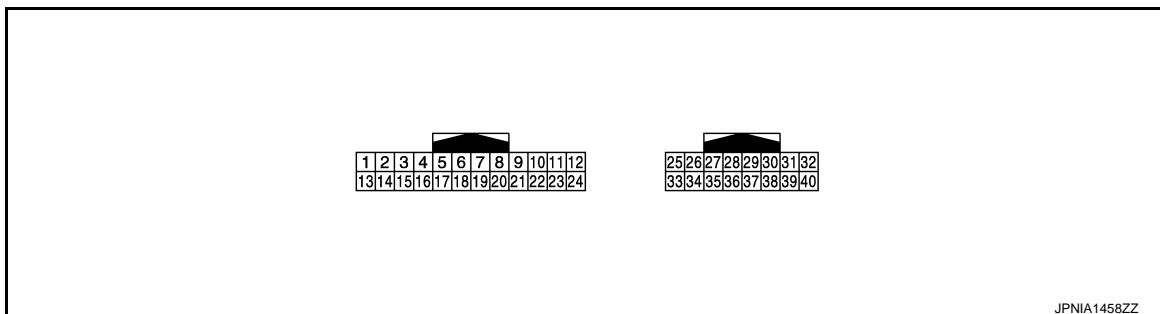
[REGULAR GRADE]

Monitor Item	Condition		Value/Status
ST SFT DWN SW	Ignition switch ON	Paddle shifter switch down operation	On
		Other than above	Off
PKB SW	Ignition switch ON	Parking brake switch ON	On
		Parking brake switch OFF	Off
BUCKLE SW	Ignition switch ON	Seat belt not fastened	On
		Seat belt fastened	Off
BRAKE OIL SW	Ignition switch ON	Brake fluid level switch ON	On
		Brake fluid level switch OFF	Off
A/C AMP CONN	Ignition switch ON	Other than the following	On
		Receives A/C auto amp. connection recognition signal	Off
AMB POWER	Ignition switch ON	NOTE: This item is displayed, but cannot be monitored.	Off
ENTER SW	Ignition switch ON	When  is pressed	On
		Other than the above	Off
SELECT SW	Ignition switch ON	When  is pressed	On
		Other than the above	Off
MT SYNC REV SW	Ignition switch ON	S-MODE switch ON	On
		S-MODE switch OFF	Off
DISTANCE [km]	Ignition switch ON	—	Possible driving distance calculated by combination meter
OUTSIDE TEMP [°C or °F]	Ignition switch ON	—	Equivalent to ambient temperature NOTE: This may not match the indicated value on the information display.
FUEL LOW SIG	Ignition switch ON	Low fuel warning displayed	On
		Low fuel warning not displayed	Off
CRANKING SIG	Ignition switch ON	At engine cranking	On
		At engine cranking	Off
ST CNT SIG	Ignition switch ON	At engine cranking	On
		At engine cranking	Off
BUZZER	Ignition switch ON	Buzzer ON	On
		Buzzer OFF	Off

NOTE:

Some items are not available according to vehicle specification.

TERMINAL LAYOUT

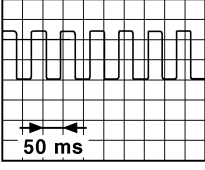
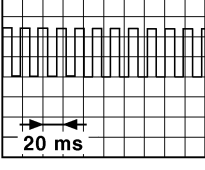
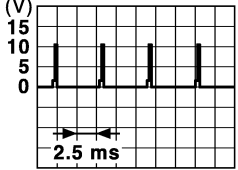
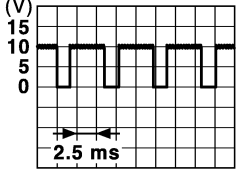


PHYSICAL VALUES

COMBINATION METER

< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
1 (V)	Ground	Battery power supply	Input	Ignition switch OFF	—	Battery voltage
2 (O)	Ground	Ignition signal	Input	Ignition switch ON	—	Battery voltage
3 (L)	Ground	Vehicle speed signal (2-pulse)	Output	Ignition switch ON	Speedometer operated [When vehicle speed is ap- prox. 40 km/h (25 MPH)]	<p>NOTE: The maximum voltage varies de- pending on the specification (destination unit).</p>  <p style="text-align: right; font-size: small;">JSNIA0015GB</p>
4 (Y) ^{*1} (V) ^{*2}	Ground	Vehicle speed signal (8-pulse)	Output	Ignition switch ON	Speedometer operated [When vehicle speed is ap- prox. 40 km/h (25 MPH)]	<p>NOTE: The maximum voltage varies de- pending on the specification (destination unit).</p>  <p style="text-align: right; font-size: small;">JSNIA0012GB</p>
5 (B)	Ground	Illumination control signal	Output	Ignition switch ON	<ul style="list-style-type: none"> • Lighting switch 1ST • When meter illumination is maximum 	 <p style="text-align: right; font-size: small;">JPNIA1363GB</p>
					<ul style="list-style-type: none"> • Lighting switch 1ST • When meter illumination is step 12 	 <p style="text-align: right; font-size: small;">JPNIA1362GB</p>
					<ul style="list-style-type: none"> • Lighting switch 1ST • When meter illumination is minimum 	10 V
6 (R)	Ground	Roof status signal	Input	Ignition switch ON	Roof warning lamp ON	0 V
					Roof warning lamp OFF	12 V

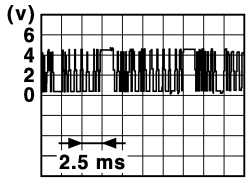
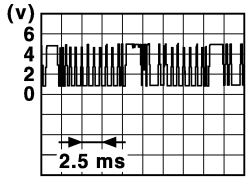
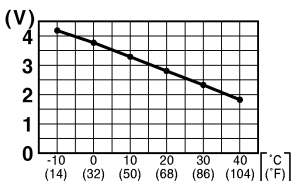
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COMBINATION METER

< ECU DIAGNOSIS INFORMATION >

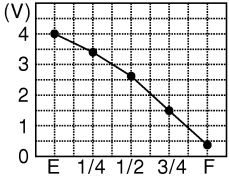
[REGULAR GRADE]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
9 (BR)	Ground	Communication signal (METER⇒TRIPLE METER)	Output	Ignition switch ON	—	 <p style="text-align: right; font-size: small;">JPNIA1425GB</p>
10 (L)	Ground	Communication signal (TRIPLE METER⇒METER)	Input	Ignition switch ON	—	 <p style="text-align: right; font-size: small;">JPNIA1426GB</p>
12 (G)	Ground	S-MODE switch signal	Input	Ignition switch ON	S-MODE switch operation	12 V
				—	Other than the above	0 V
15 (L)	Ground	ACC power supply	Input	Ignition switch ACC	—	Battery voltage
16 (R)	Ground	Air bag signal	Input	Ignition switch ON	Air bag warning lamp ON	4 V
				—	Air bag warning lamp OFF	0 V
17 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
18 (V)	Ground	Ambient sensor signal	Input	Ignition switch ON	Changes depending to amb- ient temperature.	 <p style="text-align: right; font-size: small;">JSNIA0014GB</p>
19 (G)	Ground	A/C auto amp. connection recognition signal	Input	Ignition switch ON	—	5 V
20 (GR)	Ground	Ambient sensor ground	Input	Ignition switch ON	—	0 V
21 (L)	—	CAN-H	—	—	—	—
22 (P)	—	CAN-L	—	—	—	—
23 (B)	Ground	Ground	—	Ignition switch ON	—	0 V
24 (Y)	Ground	Fuel level sensor ground	—	Ignition switch ON	—	0 V

COMBINATION METER

< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
25 (W)	Ground	Alternator signal	Input	Ignition switch ON	Charge warning lamp ON	2 V
					Charge warning lamp OFF	12 V
26 (O)	Ground	Parking brake switch signal	Input	Engine idling	Parking brake is applied	0 V
					Parking brake is released	12 V
27 (LG)	Ground	Brake fluid level switch signal	Input	Ignition switch ON	Brake fluid level is normal	12 V
					Brake fluid level is less than LOW level	0 V
28 (Y)	Ground	Security signal	Input	Ignition switch ON	Security warning lamp ON	0 V
					Security warning lamp OFF	12 V
29 (GR)	Ground	Washer level switch signal	Input	Ignition switch ON	Washer level switch ON	0 V
					Washer level switch OFF	5 V
32 (G)	Ground	Paddle shifter down signal	Input	Ignition switch ON	Paddle shifter down operation	0 V
					Other than the above	5 V
33 (O)	Ground	Paddle shifter up signal	Input	Ignition switch ON	Paddle shifter up operation	0 V
					Other than the above	5 V
34 (BR)	Ground	Fuel level sensor signal	Input	Ignition switch ON	—	 <p style="text-align: right; font-size: small;">JPNIA0740ZZ</p>
35 (L)	Ground	Seat belt buckle switch signal (driver side)	Input	Ignition switch ON	When driver seat belt is fastened.	12 V
					When driver seat belt is unfastened.	0 V
36 (P) ^{*1} (L) ^{*2}	Ground	Passenger seat belt warning signal	Input	Ignition switch ON	<ul style="list-style-type: none"> • When getting in the passenger seat. • When passenger seat belt is fastened. 	12 V
					<ul style="list-style-type: none"> • When getting in the passenger seat. • When passenger seat belt is unfastened. 	0 V
37 (G)	Ground	Non-manual mode signal	Input	Ignition switch ON	Manual mode	12 V
					Other than the above	0 V
38 (V)	Ground	Manual mode shift down signal	Input	Ignition switch ON	Selector lever down operation	0 V
					Other then the above	12 V
39 (L)	Ground	Manual mode shift up signal	Input	Ignition switch ON	Selector lever up operation	0 V
					Other then the above	12 V
40 (W)	Ground	Manual mode signal	Input	Ignition switch ON	Manual mode	0 V
					Other than the above	12 V

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COMBINATION METER

< ECU DIAGNOSIS INFORMATION >


[REGULAR GRADE]

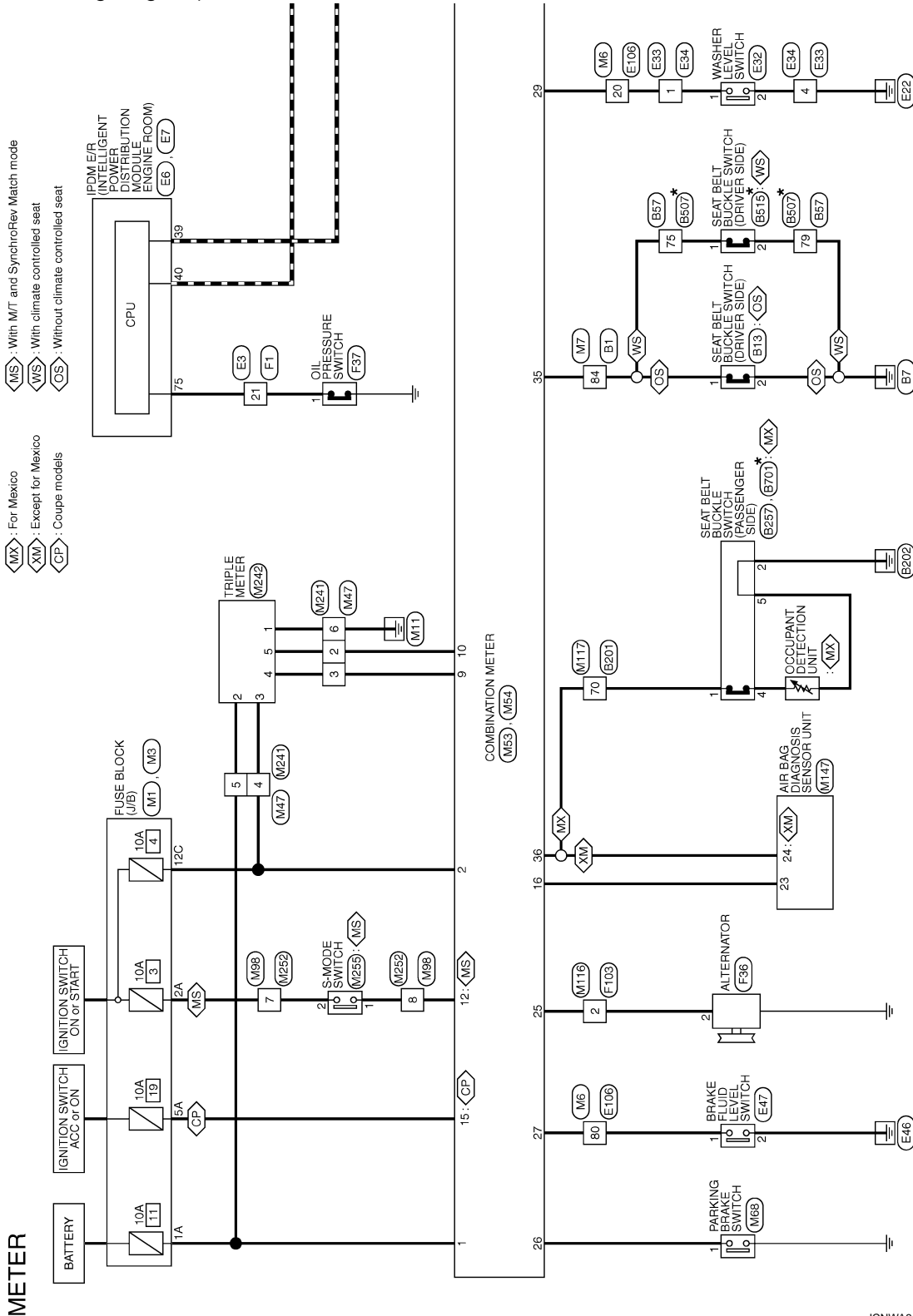
*1 : Except for Mexico

*2 : For Mexico

Wiring Diagram - METER -

INFOID:000000007625232

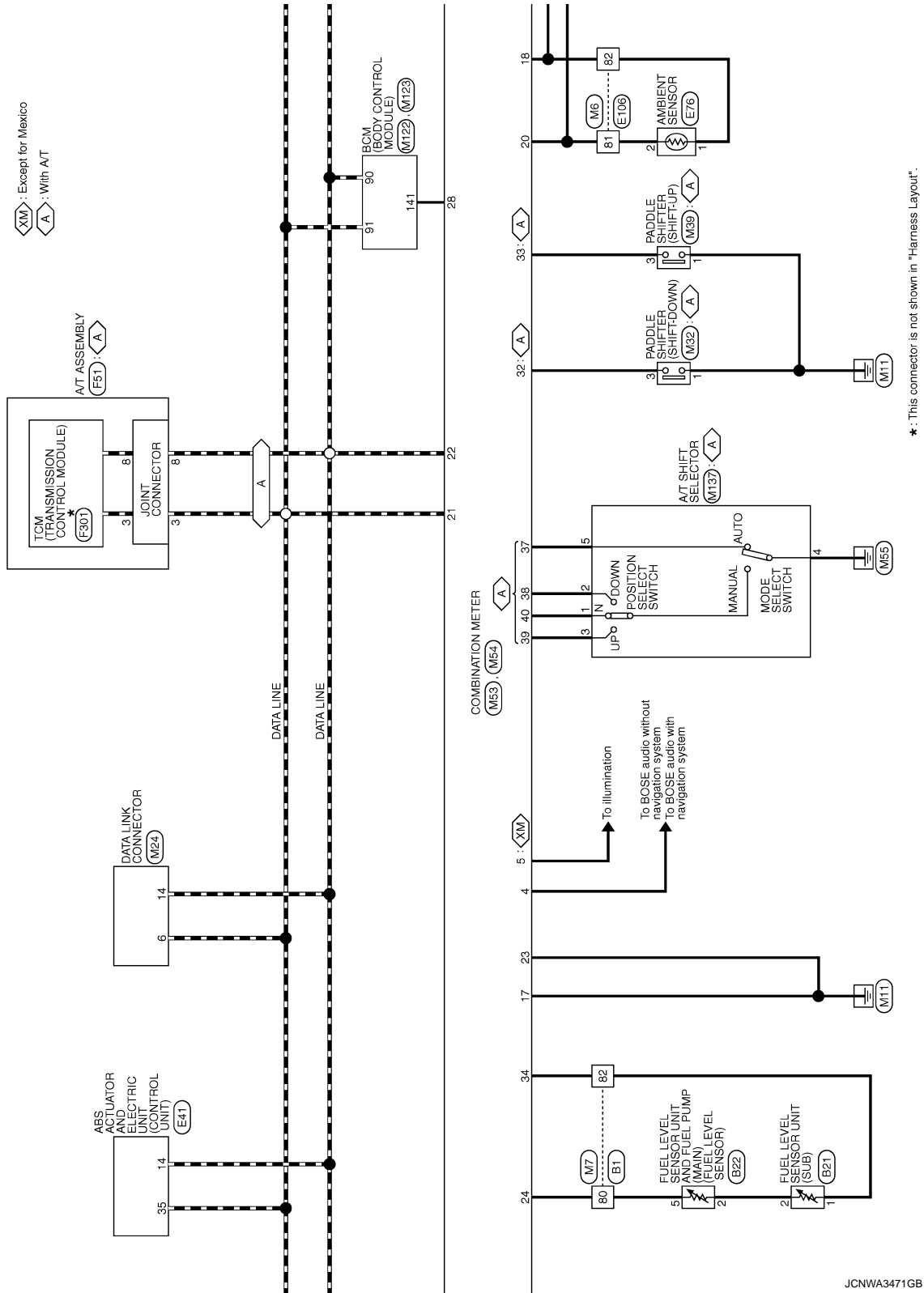
For connector terminal arrangements, harness layouts, and alphabets in a  (option abbreviation; if not described in wiring diagram), refer to [GI-12, "Connector Information"](#).



COMBINATION METER

< ECU DIAGNOSIS INFORMATION >

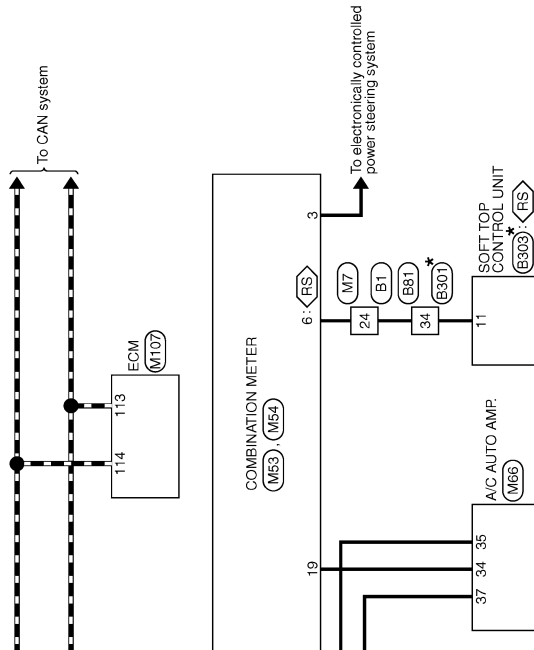
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COMBINATION METER

◊ RS : Roadster models



* : This connector is not shown in "Harness Layout".

JCNWA3472GB

Fail-Safe

INFOID:000000007625233

FAIL-SAFE

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

COMBINATION METER

< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

Function	Specifications	
Speedometer	Reset to zero by suspending communication.	
Tachometer		
Engine coolant temperature gauge	The segment turns OFF by suspending communication.	
Fuel gauge	Indicates fuel level.	
Illumination control	When suspending communication, changes to nighttime mode.	
Shift position indicator	The segment turns OFF by suspending communication.	
S-MODE indicator		
Manual mode indicator		
Information display	Door open warning	
	Parking brake release warning	
	Fuel filler cap warning	
	Instantaneous fuel warning	<ul style="list-style-type: none"> • When reception time of an abnormal signal is 2 seconds or less, the last received datum is used for calculation to indicate the result. • When reception time of an abnormal signal is more than two seconds, the last result calculated during normal condition is indicated.
	Average fuel consumption	
	Average vehicle speed	
	Travel distance	
Buzzer	The buzzer turns OFF by suspending communication.	
Warning lamp/indicator lamp	ABS warning lamp	
	VDC warning lamp	
	Brake warning lamp	
	Malfunction indicator lamp	
	Low tire pressure warning lamp	The lamp turns ON after flashing for 1 minute.
	High beam indicator lamp	
	Turn signal indicator lamp	
	Light indicator lamp	
	Rear fog lamp indicator lamp	
	Oil pressure warning lamp	
	CRUISE indicator lamp	
	Key warning lamp	
VDC OFF indicator lamp	The lamp turns OFF by suspending communication.	

DTC Index

INFOID:000000007625234

Display contents of CONSULT	Diagnostic item is detected when ...	Refer to
CAN COMM CIRCUIT [U1000]	When combination meter is not transmitting or receiving CAN communication signal for 2 seconds or more.	MWI-38. "Diagnosis Procedure"
CONTROL UNIT (CAN) [U1010]	When detecting error during the initial diagnosis of the CAN controller of combination meter.	MWI-39. "Diagnosis Procedure"
COMM ERROR 1 [B2201]	If a communication error is present in the communication line between combination meter and triple meter for 2 seconds or more.	MWI-40. "Diagnosis Procedure"
VEHICLE SPEED [B2205]	The abnormal vehicle speed signal is input from the ABS actuator and electric unit (control unit) for 2 seconds or more.	MWI-42. "Diagnosis Procedure"

COMBINATION METER

< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

Display contents of CONSULT	Diagnostic item is detected when ...	Refer to
ENGINE SPEED [B2267]	If ECM continuously transmits abnormal engine speed signals for 2 seconds or more.	MWI-43. "Diagnosis Procedure"
WATER TEMP [B2268]	If ECM continuously transmits abnormal engine coolant temperature signals for 60 seconds or more.	MWI-44. "Diagnosis Procedure"

NOTE:

The details of TIME display are as follows.

- CRNT: The malfunctions that are detected now.
- PAST: The malfunctions was detected in the past. IGN counter is displayed on FFD (Freeze Frame data).
- 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.

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

< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

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

Reference Value

INFOID:000000007793309

VALUES ON THE DIAGNOSIS TOOL

CONSULT MONITOR ITEM

Monitor Item	Condition		Value/Status
RAD FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 - 100 %
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
	Daytime running light system is operated (With daytime running light system)		
HL HI REQ	Lighting switch OFF		Off
	Lighting switch HI		On
FR FOG REQ	NOTE: The item is indicated, but not monitored.		Off
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	Selector lever in any position other than P or N (A/T models)	Off
		Release clutch pedal (M/T models)	
	Ignition switch ON	Selector lever in P or N position (A/T models)	On
		Depress clutch pedal (M/T models)	
ST RLY CONT	Ignition switch ON		Off
	At engine cranking		On
IHBT RLY -REQ	Ignition switch ON		Off
	At engine cranking		On

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

< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

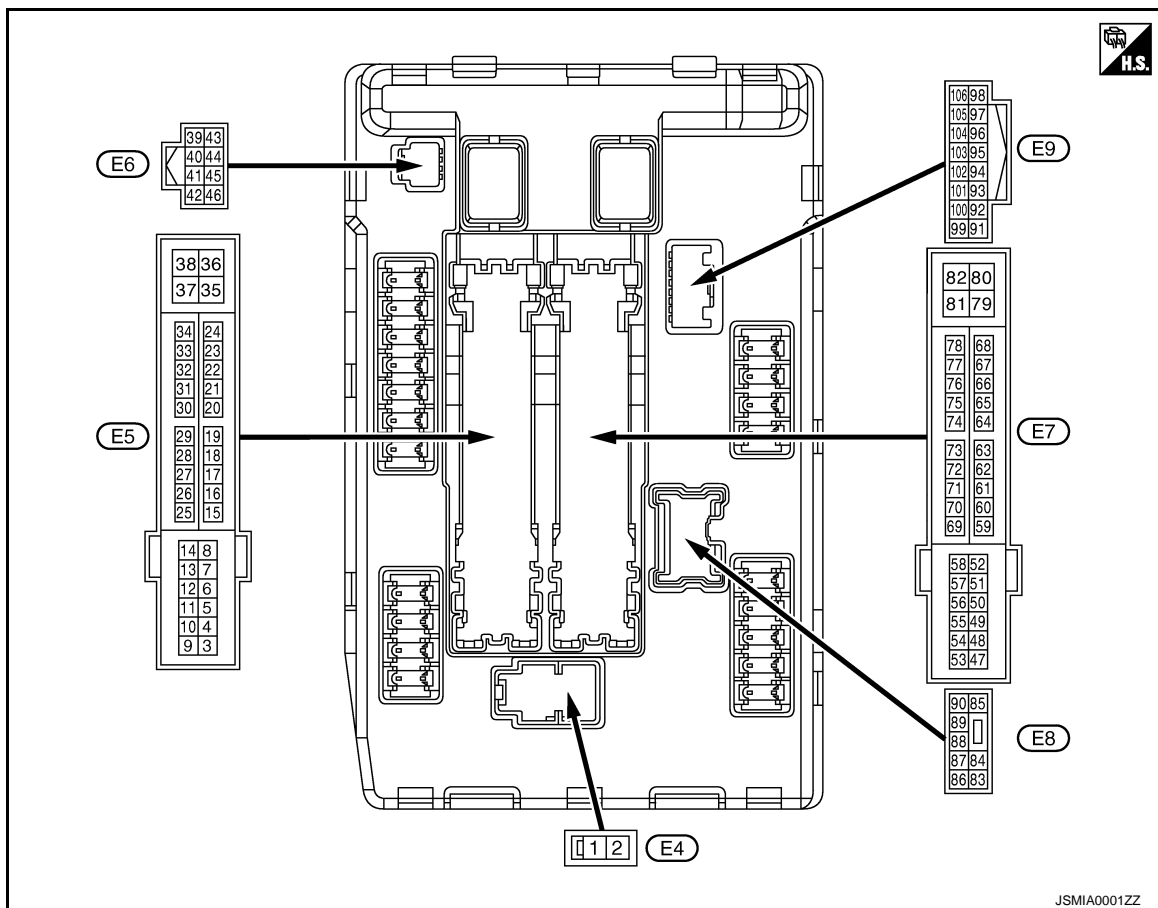
Monitor Item	Condition	Value/Status
ST/INHI RLY	Ignition switch ON	Off
	At engine cranking	INHI ON → ST ON
	The status of starter relay or starter control relay cannot be recognized by the battery voltage malfunction, etc. when the starter relay is ON and the starter control relay is OFF	UNKWN
DETENT SW	Ignition switch ON <ul style="list-style-type: none"> • Press the selector button with selector lever in P position • Selector lever in any position other than P 	Off
	Release the selector button with selector lever in P position NOTE: Fixed On for M/T models	On
S/L RLY -REQ	NOTE: The item is indicated, but not monitored.	Off
S/L STATE	NOTE: The item is indicated, but not monitored.	UNLOCK
DTRL REQ NOTE: This item is monitored only on the vehicle with the daytime running light system.	Daytime running light system is not operated	Off
	Daytime running light system is operated	On
OIL P SW	Ignition switch OFF, ACC or engine running	Open
	Ignition switch ON	Close
HOOD SW	Close the hood	Off
	Open the hood	On
HL WASHER REQ	NOTE: The item is indicated, but not monitored.	Off
THFT HRN REQ	Not operation	Off
	<ul style="list-style-type: none"> • Panic alarm is activated • Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM 	On
HORN CHIRP	Not operating	Off
	Door locking with Intelligent Key (horn chirp mode)	On
CRNRNG LMP REQ	NOTE: The item is indicated, but not monitored.	Off

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

< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
1 (W)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (L)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
4 (V)	Ground	Front wiper LO	Output	Ignition switch OFF	Front wiper switch OFF	0 V
				Ignition switch ON	Front wiper switch LO	Battery voltage
5 (L)	Ground	Front wiper HI	Output	Ignition switch OFF	Front wiper switch OFF	0 V
				Ignition switch ON	Front wiper switch HI	Battery voltage
6*1 (R)	Ground	Daytime running light relay	Input	Ignition switch OFF		Battery voltage
7 (R)*5 (V)*6	Ground	Illuminations*1	Output	Ignition switch ON	Lighting switch OFF	0 V
		Tail, license plate lamps & illuminations*2			Lighting switch 1ST	Battery voltage
12 (B/W)	Ground	Ground	—	Ignition switch ON		0 V
13 (Y)	Ground	Fuel pump power supply	Output	Approximately 1 second or more after turning the ignition switch ON		0 V
				<ul style="list-style-type: none"> Approximately 1 second after turning the ignition switch ON Engine running 		Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
16 (LG)	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 (W)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
25 (G)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
27 (Y)	Ground	Ignition relay monitor	Input	Ignition switch OFF or ACC		Battery voltage
				Ignition switch ON		0 V
28 (L)	Ground	Push-button ignition switch	Input	Press the push-button ignition switch		0 V
				Release the push-button ignition switch		Battery voltage
30 (GR)	Ground	Starter relay control	Input	A/T models	Selector lever in any po- sition other than P or N (Ignition switch ON)	0 V
					Selector lever P or N (Ig- nition switch ON)	Battery voltage
				M/T models	Release the clutch pedal	0 V
					Depress the clutch pedal	Battery voltage
36 (G)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
39 (P)	—	CAN-L	Input/ Output	—		—
40 (L)	—	CAN-H	Input/ Output	—		—
41 (B/W)	Ground	Ground	—	Ignition switch ON		0 V
42 (Y)	Ground	Cooling fan relay con- trol	Input	Ignition switch OFF or ACC		0 V
				Ignition switch ON		0.7 V
43*3 (SB)	Ground	A/T shift selector (Detention switch)	Input	Ignition switch ON	<ul style="list-style-type: none"> • Press the selector but- ton (selector lever P) • Selector lever in any position other than P 	Battery voltage
					Release the selector button (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 (G)	Ground	Anti theft horn relay control	Input	The horn is deactivated		Battery voltage
				The horn is activated		0 V
46 (V)	Ground	Starter relay control	Input	A/T models	Selector lever in any po- sition other than P or N (Ignition switch ON)	0 V
					Selector lever P or N (Ignition switch ON)	Battery voltage
				M/T models	Release the clutch pedal	0 V
					Depress the clutch pedal	Battery voltage

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

< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

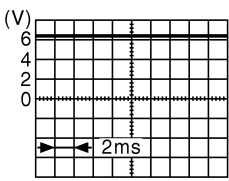
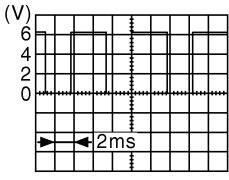
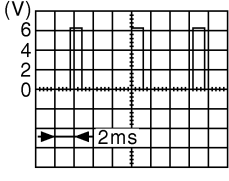
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	-					
48 (L)	Ground	A/C relay power supply	Output	Engine running	A/C switch OFF	0 V
					A/C switch ON (A/C compressor is operating)	Battery voltage
49 (BG)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
					• Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF)	Battery voltage
51 (Y)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
					Ignition switch ON	Battery voltage
53 (W)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
					• Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF)	Battery voltage
54 (V)	Ground	Throttle control motor relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
					• Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF)	Battery voltage
55 (SB)	Ground	ECM power supply	Output	Ignition switch OFF		Battery voltage
56 (LG)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
					Ignition switch ON	Battery voltage
57 (G)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
					Ignition switch ON	Battery voltage
58*3 (P)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
					Ignition switch ON	Battery voltage
69 (BR)	Ground	ECM relay control	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		Battery voltage
					• Ignition switch ON • Ignition switch OFF (For a few seconds after turning ignition switch OFF)	0 - 1.5 V
70 (BG)	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

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

< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	-					
72 (GR)	Ground	Starter relay control	Input	A/T models	Selector lever in any position other than P or N (Ignition switch ON)	0 V
					Selector lever P or N (Ignition switch ON)	Battery voltage
				M/T models	Release the clutch pedal	0 V
					Depress the clutch pedal	Battery voltage
73*4 (GR)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
74 (G)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
75 (SB)	Ground	Oil pressure switch	Input	Ignition switch ON	Engine stopped	0 V
					Engine running	Battery voltage
76 (Y)	Ground	Power generation command signal	Output	Ignition switch ON		 <p style="text-align: right; font-size: small;">JPMIA0001GB</p> <p style="text-align: center;">6.3 V</p>
				40% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		 <p style="text-align: right; font-size: small;">JPMIA0002GB</p> <p style="text-align: center;">3.8 V</p>
				80% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		 <p style="text-align: right; font-size: small;">JPMIA0003GB</p> <p style="text-align: center;">1.4 V</p>
77 (R)	Ground	Fuel pump relay control	Output	<ul style="list-style-type: none"> • 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 (W)	Ground	Starter motor	Output	At engine cranking		Battery voltage
83 (R)	Ground	Headlamp LO (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	Battery voltage
				Daytime running light system activated*1		

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

< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
84 (P)	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	Battery voltage
				Daytime running light system activated*1		
88 (G)	Ground	Washer pump power supply	Output	Ignition switch ON		Battery voltage
89 (BR)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					• Lighting switch HI • Lighting switch PASS	
90 (LG)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					• Lighting switch HI • Lighting switch PASS	
91*2 (P)	Ground	Parking lamp (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 1ST	
92*2 (BG)	Ground	Parking lamp (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 1ST	
97 (V)	Ground	Cooling fan control	Output	Engine idling		0 - 5 V
104 (LG)	Ground	Hood switch	Input	Close the hood		Battery voltage
				Open the hood		0 V
105*1 (SB)	Ground	Daytime running light relay control	Output	• Parking lamp • Side maker lamp • License plate lamp • Tail lamp	Turned OFF	Battery voltage
					Turned ON	

- *1: With daytime running light system
- *2: Without daytime running light system
- *3: A/T models only
- *4: M/T models only
- *5: Coupe models
- *6: Roadster models

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

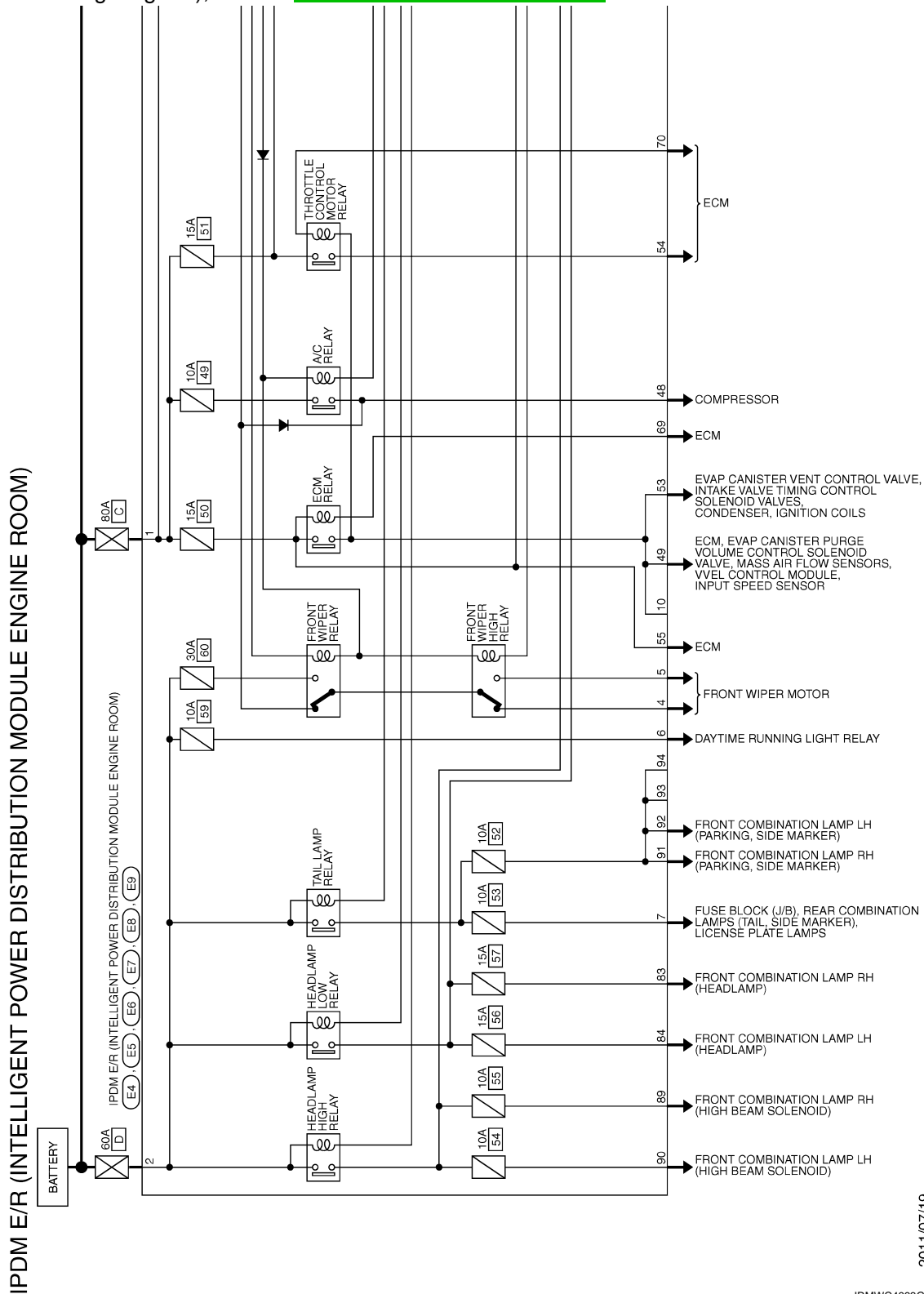
< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

Wiring Diagram - IPDM E/R -

INFOID:000000007793310

For connector terminal arrangements, harness layouts, and alphabets in a  (option abbreviation; if not described in wiring diagram), refer to [GI-12, "Connector Information"](#).



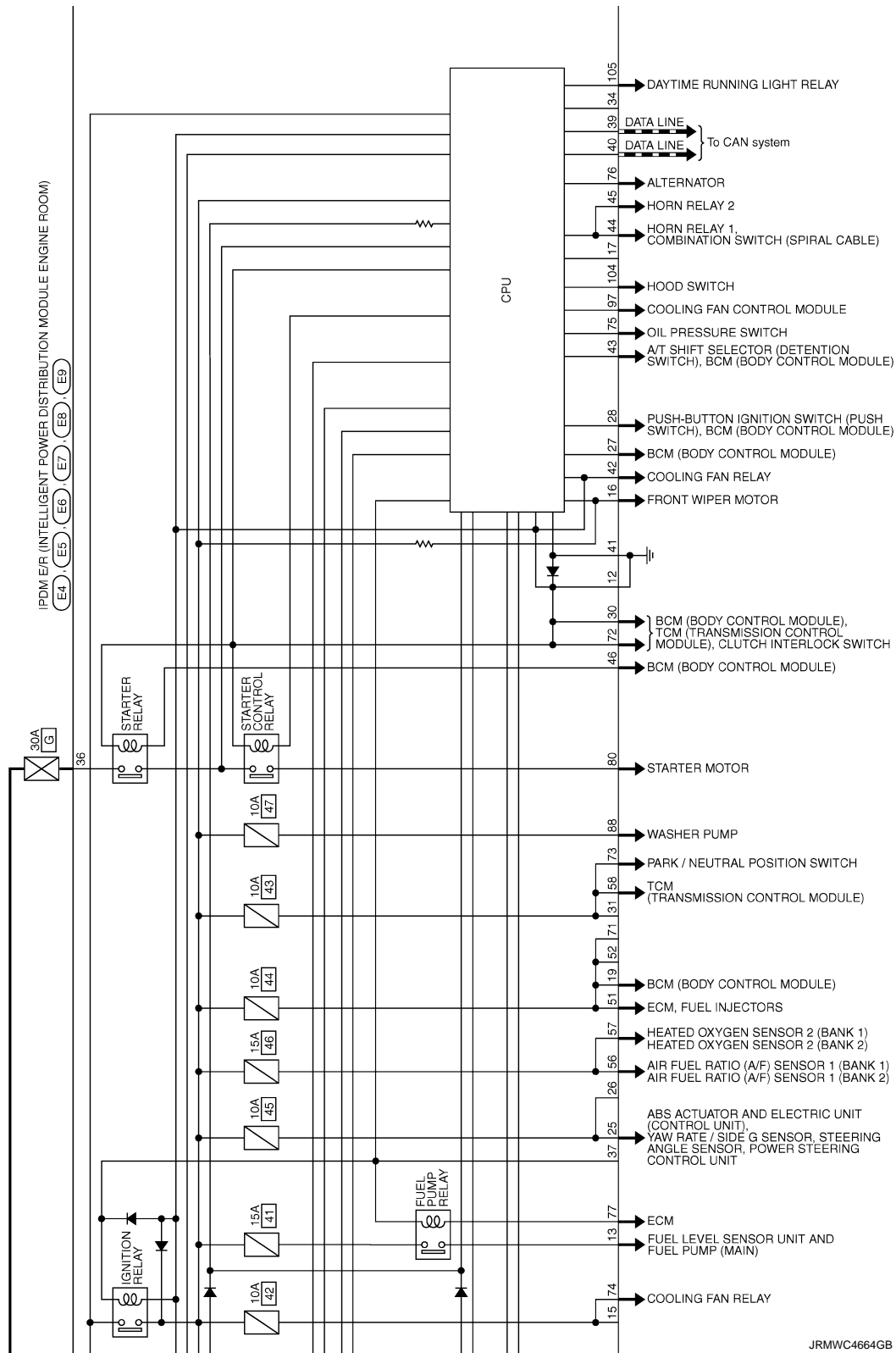
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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

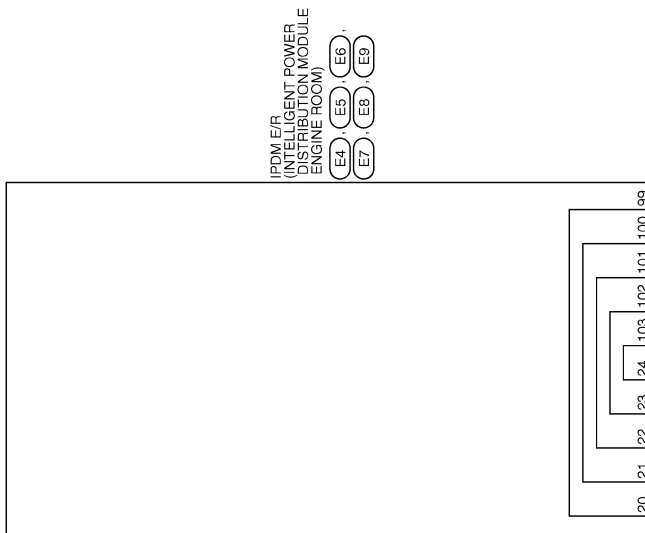
[REGULAR GRADE]



JRMWC4664GB

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JRMWC4665GB

Fail-safe

INFOID:000000007793311

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

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

< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

Control part	Fail-safe operation
Cooling fan	<ul style="list-style-type: none"> • Outputs the pulse duty signal (PWM signal) 100% when the ignition switch is turned ON • Outputs the pulse duty signal (PWM signal) 0% when the ignition switch is turned OFF
A/C compressor	A/C relay OFF
Alternator	Outputs the power generation command signal (PWM signal) 0%

If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • Parking lamps • Side maker lamp • License plate lamps • Illuminations • Tail lamps 	<ul style="list-style-type: none"> • Turns ON the tail lamp relay and the daytime running light relay*¹ when the ignition switch is turned ON • Turns OFF the tail lamp relay and the daytime running light relay*¹ when the ignition switch is turned OFF
Front wiper	<ul style="list-style-type: none"> • 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 AUTO mode and the front wiper motor is operating.
Horn	Horn relay OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay OFF

*: With daytime running light system

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

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

Voltage judgment		IPDM E/R judgment	Operation
Ignition relay contact side	Ignition relay excitation coil side		
ON	ON	Ignition relay ON normal	—
OFF	OFF	Ignition relay OFF normal	—
ON	OFF	Ignition relay ON stuck	<ul style="list-style-type: none"> • Detects DTC "B2098: IGN RELAY ON" • Turns ON the tail lamp relay and the daytime running light relay* for 10 minutes
OFF	ON	Ignition relay OFF stuck	Detects DTC "B2099: IGN RELAY OFF"

*: With daytime running light system

FRONT WIPER CONTROL

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

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

< ECU DIAGNOSIS INFORMATION >

[REGULAR GRADE]

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

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:000000007793312

NOTE:

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

×: Applicable

CONSULT display	Fail-safe	Refer to
No DTC is detected. further testing may be required.	—	—
U1000: CAN COMM CIRCUIT	×	PCS-16
B2098: IGN RELAY ON	×	PCS-17
B2099: IGN RELAY OFF	—	PCS-18
B210B: START CONT RLY ON	—	SEC-81
B210C: START CONT RLY OFF	—	SEC-82
B210D: STARTER RELAY ON	—	SEC-83
B210E: STARTER RELAY OFF	—	SEC-84
B210F: INTRLCK/PNP SW ON	—	SEC-86
B2110: INTRLCK/PNP SW OFF	—	SEC-88

THE FUEL GAUGE INDICATOR DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

[REGULAR GRADE]

SYMPTOM DIAGNOSIS

THE FUEL GAUGE INDICATOR DOES NOT OPERATE

Description

INFOID:000000007625239

Fuel gauge will not indicate from a certain position.

Diagnosis Procedure

INFOID:000000007625240

1. CHECK COMBINATION METER INPUT SIGNAL

1. Connect CONSULT.
2. Select the "Data Monitor" for the "METER/M&A" and compare the "FUEL METER" monitor value with the fuel gauge reading on the combination meter. Refer to [MWI-48, "Component Function Check"](#).

Does monitor value match fuel gauge reading?

- YES >> GO TO 2.
NO >> Replace combination meter.

2. CHECK FUEL LEVEL SENSOR SIGNAL CIRCUIT

Check the fuel level sensor signal circuit. Refer to [MWI-48, "Diagnosis Procedure"](#).

Is the inspection result normal?

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

3. CHECK FUEL LEVEL SENSOR UNIT

Perform a unit check for the fuel level sensor unit. Refer to [MWI-49, "Component Inspection"](#).

Is the inspection result normal?

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

4. CHECK FLOAT INTERFERENCE

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

Is the inspection result normal?

- YES >> Replace combination meter.
NO >> Repair or replace malfunctioning parts.

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MWI

THE OIL PRESSURE WARNING LAMP DOES NOT TURN ON

< SYMPTOM DIAGNOSIS >

[REGULAR GRADE]

THE OIL PRESSURE WARNING LAMP DOES NOT TURN ON

Description

INFOID:000000007625241

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

Diagnosis Procedure

INFOID:000000007625242

1.CHECK OIL PRESSURE WARNING LAMP

Perform auto active test. Refer to [PCS-11, "Diagnosis Description"](#).

Is oil pressure warning lamp blinking?

- YES >> GO TO 2.
- NO >> GO TO 4.

2.CHECK OIL PRESSURE SWITCH SIGNAL CIRCUIT

Check the oil pressure switch signal circuit. Refer to [MWI-51, "Diagnosis Procedure"](#).

Is the inspection result normal?

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

3.CHECK OIL PRESSURE SWITCH

Perform a unit check for the oil pressure switch. Refer to [MWI-51, "Component Inspection"](#).

Is the inspection result normal?

- YES >> Replace IPDM E/R.
- NO >> Replace oil pressure switch.

4.CHECK COMBINATION METER INPUT SIGNAL

Connect CONSULT and perform an input signal check for the combination meter. Refer to [MWI-51, "Component Function Check"](#).

Is the inspection result normal?

- YES >> Replace combination meter.
- NO >> Replace IPDM E/R. Refer to [PCS-34, "Removal and Installation"](#).

THE OIL PRESSURE WARNING LAMP DOES NOT TURN OFF

< SYMPTOM DIAGNOSIS >

[REGULAR GRADE]

THE OIL PRESSURE WARNING LAMP DOES NOT TURN OFF

Description

INFOID:000000007625243

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

Diagnosis Procedure

INFOID:000000007625244

1. CHECK OIL PRESSURE WARNING LAMP

Perform auto active test. Refer to [PCS-11, "Diagnosis Description"](#).

Is oil pressure warning lamp blinking?

- YES >> GO TO 2.
- NO >> GO TO 5.

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 terminal and ground.

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

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-51, "Component Inspection"](#).

Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to [PCS-34, "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-51, "Diagnosis Procedure"](#).

Is the inspection result normal?

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

5. CHECK COMBINATION METER INPUT SIGNAL

Connect CONSULT and perform an input signal check for the combination meter. Refer to [MWI-51, "Component Function Check"](#).

Is the inspection result normal?

- YES >> Replace combination meter.
- NO >> Replace IPDM E/R. Refer to [PCS-34, "Removal and Installation"](#).

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

< SYMPTOM DIAGNOSIS >

[REGULAR GRADE]

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

Description

INFOID:000000007625245

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

Diagnosis Procedure

INFOID:000000007625246

1. CHECK PARKING BRAKE WARNING LAMP OPERATION

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

Condition	Warning lamp status
When parking brake is applied	ON
When parking brake is released	OFF

Is the inspection result normal?

- YES >> Replace combination meter.
NO >> GO TO 2.

2. CHECK PARKING BRAKE SWITCH SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Check the parking brake switch signal circuit. Refer to [MWI-53, "Diagnosis Procedure"](#).

Is the inspection result normal?

- YES >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK PARKING BRAKE SWITCH

Perform a unit check for the parking brake switch. Refer to [BRC-76, "Component Inspection"](#).

Is the inspection result normal?

- YES >> Replace combination meter.
NO >> Replace parking brake switch.

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

< SYMPTOM DIAGNOSIS >

[REGULAR GRADE]

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

Description

INFOID:000000007625247

- 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:000000007625248

1. CHECK WASHER LEVEL SWITCH SIGNAL CIRCUIT

Check the washer level switch signal circuit. Refer to [MWI-54. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

2. CHECK WASHER LEVEL SWITCH

Perform a unit check for the washer level switch. Refer to [MWI-54. "Component Inspection"](#).

Is the inspection result normal?

YES >> Replace combination meter.

NO >> Replace washer level switch. Refer to [WW-85. "Removal and Installation"](#).

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THE DOOR OPEN WARNING CONTINUES DISPLAYING, OR DOES NOT DISPLAY

< SYMPTOM DIAGNOSIS >

[REGULAR GRADE]

THE DOOR OPEN WARNING CONTINUES DISPLAYING, OR DOES NOT DISPLAY

Description

INFOID:000000007625249

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

Diagnosis Procedure

INFOID:000000007625250

1. CHECK BCM INPUT/OUTPUT SIGNAL

Connect CONSULT and check the BCM input signals. Refer to [DLK-234. "Component Function Check"](#) (coupe) or [DLK-234. "Component Function Check"](#) (roadster).

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> GO TO 3.

2. CHECK COMBINATION METER INPUT SIGNAL

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

"DOOR W/L"

Door open : On

Door closed : Off

Is the inspection result normal?

- YES >> Replace combination meter.
- NO >> Replace BCM. Refer to [BCS-92. "Removal and Installation"](#).

3. CHECK DOOR SWITCH SIGNAL CIRCUIT

Check the door switch signal circuit. Refer to [DLK-234. "Diagnosis Procedure"](#) (coupe) or [DLK-234. "Diagnosis Procedure"](#) (roadster).

Is the inspection result normal?

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

4. CHECK DOOR SWITCH

Perform a unit check for the door switch. Refer to [DLK-235. "Component Inspection"](#) (coupe) or [DLK-235. "Component Inspection"](#) (roadster).

Is the inspection result normal?

- YES >> Replace combination meter.
- NO >> Replace applicable door switch. Refer to [DLK-346. "Removal and Installation"](#) (coupe) or [DLK-346. "Removal and Installation"](#) (roadster).

THE AMBIENT TEMPERATURE DISPLAY IS INCORRECT

< SYMPTOM DIAGNOSIS >

[REGULAR GRADE]

THE AMBIENT TEMPERATURE DISPLAY IS INCORRECT

Description

INFOID:000000007625251

- 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:000000007625252

NOTE:

Check that the symptom is not applicable to the normal operating condition before starting diagnosis. Refer to [MWI-88. "INFORMATION DISPLAY : Description"](#).

1.CHECK AMBIENT SENSOR SIGNAL CIRCUIT

Check the ambient sensor signal circuit. Refer to [HAC-30. "Diagnosis Procedure"](#) (without 7 inch display) or [HAC-116. "Diagnosis Procedure"](#) (with 7 inch display).

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair harness or connector.

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

Check the A/C auto amp. connection recognition signal circuit. Refer to [MWI-56. "Diagnosis Procedure"](#).

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK AMBIENT SENSOR

Perform the part check for the ambient sensor. Refer to [HAC-31. "Component Inspection"](#) (without 7 inch display) or [HAC-117. "Component Inspection"](#) (with 7 inch display).

Is the inspection result normal?

YES >> Replace combination meter.

NO >> Replace ambient sensor. Refer to [HAC-82. "Removal and Installation"](#) (without 7 inch display) or [HAC-166. "Removal and Installation"](#) (with 7 inch display).

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NORMAL OPERATING CONDITION INFORMATION DISPLAY

INFORMATION DISPLAY : Description

INFOID:000000007625253

AMBIENT AIR TEMPERATURE

The displayed ambient air temperature on the information display may differ from the actual temperature because it is a corrected value calculated from the ambient sensor signal by the combination meter. Refer to [MWI-27, "INFORMATION DISPLAY : System Description"](#) for details on the correction process.

POSSIBLE DRIVING DISTANCE

The calculated possible driving distance may differ from the actual distance to empty if the refueling amount is approximately 15 ℓ (4 US gal, 3-1/4 Imp gal) or less. This is because the refuel control (moves the fuel gauge needle quicker than normal judging that the driver is refueling the vehicle) is not performing.

PRECAUTION

PRECAUTIONS
EXCEPT FOR MEXICO

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

INFOID:000000007625254

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

WARNING:

Always observe the following items for preventing accidental activation.

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

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

WARNING:

Always observe the following items for preventing accidental activation.

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

EXCEPT FOR MEXICO : Precaution for Battery Service

INFOID:000000007625255

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

FOR MEXICO

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

INFOID:000000007625256

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

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.

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PRECAUTIONS

< PRECAUTION >

[REGULAR GRADE]

- **Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see “SRS AIR BAG”.**
- **Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.**

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

WARNING:

Always observe the following items for preventing accidental activation.

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

FOR MEXICO : Precaution for Battery Service

INFOID:000000007625257

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

PREPARATION

< PREPARATION >

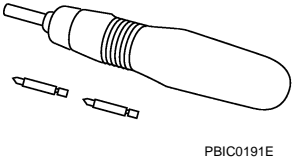
[REGULAR GRADE]

PREPARATION

PREPARATION

Commercial Service Tools

INFOID:000000007625258

Tool name	Description
Power tool  PBIC0191E	Loosening screws

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COMBINATION METER

< REMOVAL AND INSTALLATION >

[REGULAR GRADE]

REMOVAL AND INSTALLATION

COMBINATION METER

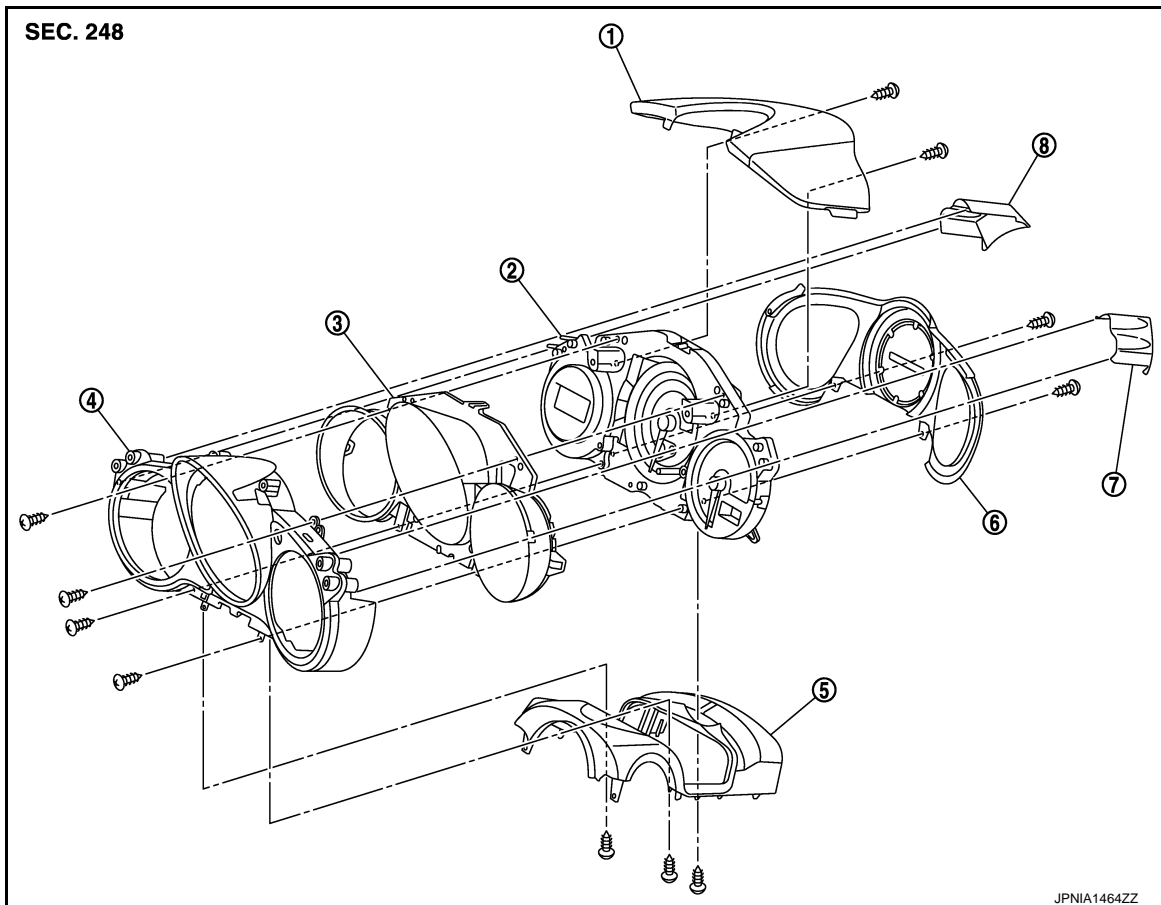
Exploded View

INFOID:000000007625259

REMOVAL

Refer to [IP-14, "Exploded View"](#).

DISASSEMBLY



- | | | |
|------------------------------------|------------------------------------|------------------|
| 1. Upper cover | 2. Combination meter | 3. Meter housing |
| 4. Front cover | 5. Steering column upper cover | 6. Rear cover |
| 7. Meter control switch cover (RH) | 8. Meter control switch cover (LH) | |

Removal and Installation

INFOID:000000007625260

REMOVAL

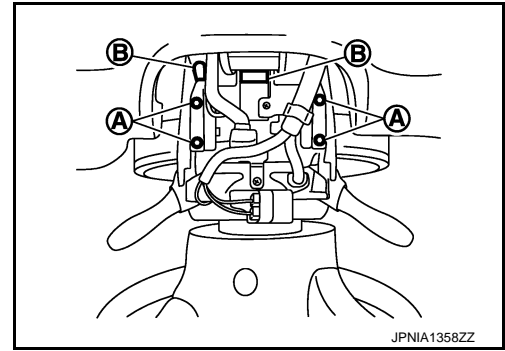
1. Remove the steering column lower cover. Refer to [IP-15, "Removal and Installation"](#).

COMBINATION METER

< REMOVAL AND INSTALLATION >

[REGULAR GRADE]

- Remove bolts (A) and clip (B), and remove combination meter.



INSTALLATION

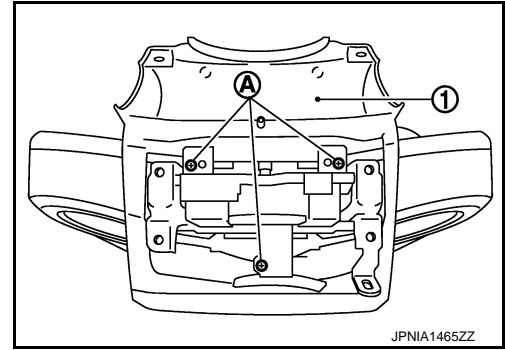
Install in the reverse order of removal.

Disassembly and Assembly

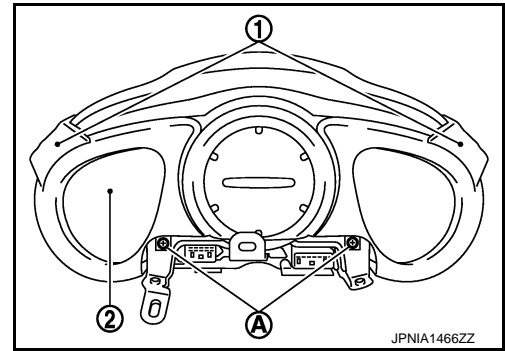
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DISASSEMBLY

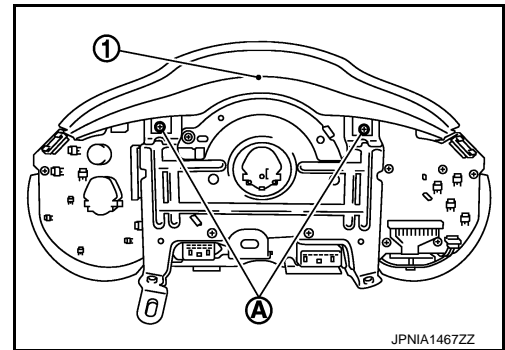
- Remove screws (A) and remove steering column upper cover (1).



- Disengage pawl and remove meter control switch cover (1).
- Remove screws (A) and remove rear cover (2).



- Remove screws (A) and remove upper cover (1).



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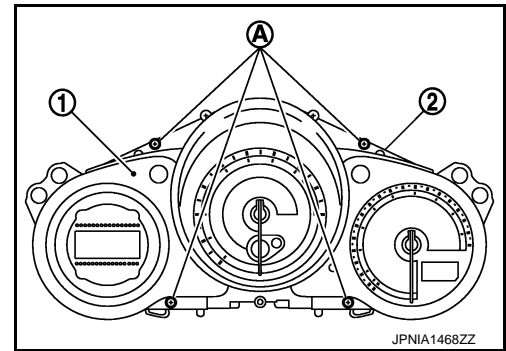
MWI

COMBINATION METER

< REMOVAL AND INSTALLATION >

[REGULAR GRADE]

5. Remove screws (A) and remove front cover (1).
6. Disengage the tabs and then remove meter housing (2).



ASSEMBLY

Assemble in the reverse order of disassembly.

TRIPLE METER

< REMOVAL AND INSTALLATION >

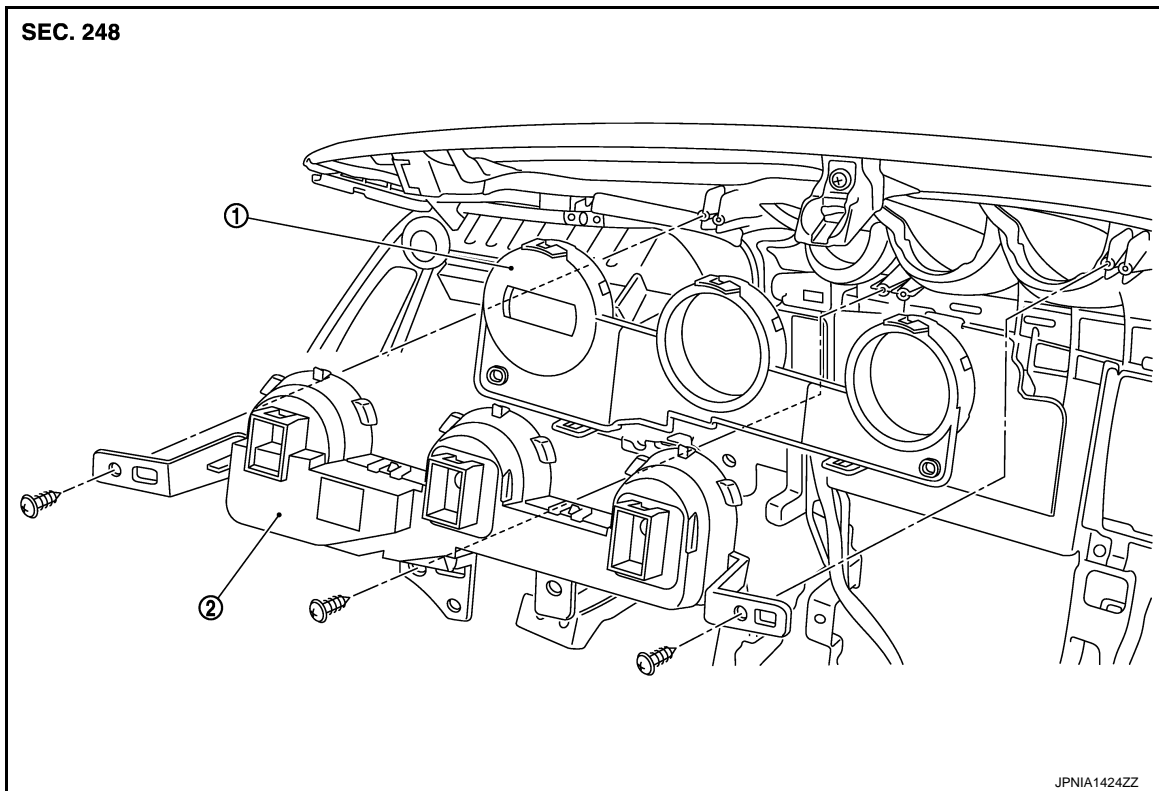
[REGULAR GRADE]

TRIPLE METER

Exploded View

INFOID:000000007625262

REMOVAL



1. Front cover

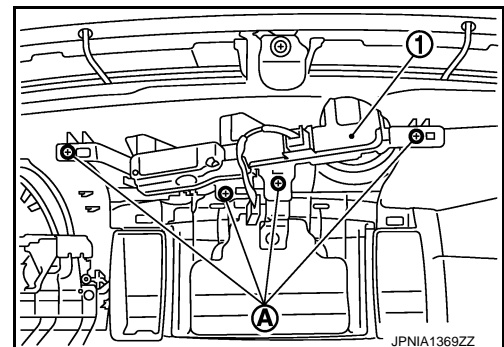
2. Triple meter

Removal and Installation

INFOID:000000007625263

REMOVAL

1. Remove instrument panel assembly and remove triple meter cover. Refer to [IP-15, "Removal and Installation"](#).
2. Remove screws (A) and remove triple meter (1).



INSTALLATION

Install in the reverse order of removal.

Disassembly and Assembly

INFOID:000000007625264

DISASSEMBLY

Disengage the tabs to separate front cover.

ASSEMBLY

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TRIPLE METER

< REMOVAL AND INSTALLATION >

[REGULAR GRADE]

Assemble in the reverse order of disassembly.

COMBINATION METER

< SPEC CHANGE INFORMATION >

[Nismo 370Z]

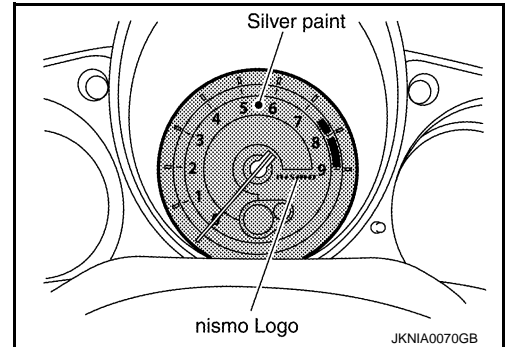
SPEC CHANGE INFORMATION

COMBINATION METER

Combination Meters

Dedicated vehicular combination meter color changed, equipped with nismo logo.

INFOID:000000007625265



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