# SECTION MWI
# METER, WARNING LAMP & INDICATOR

## CONTENTS

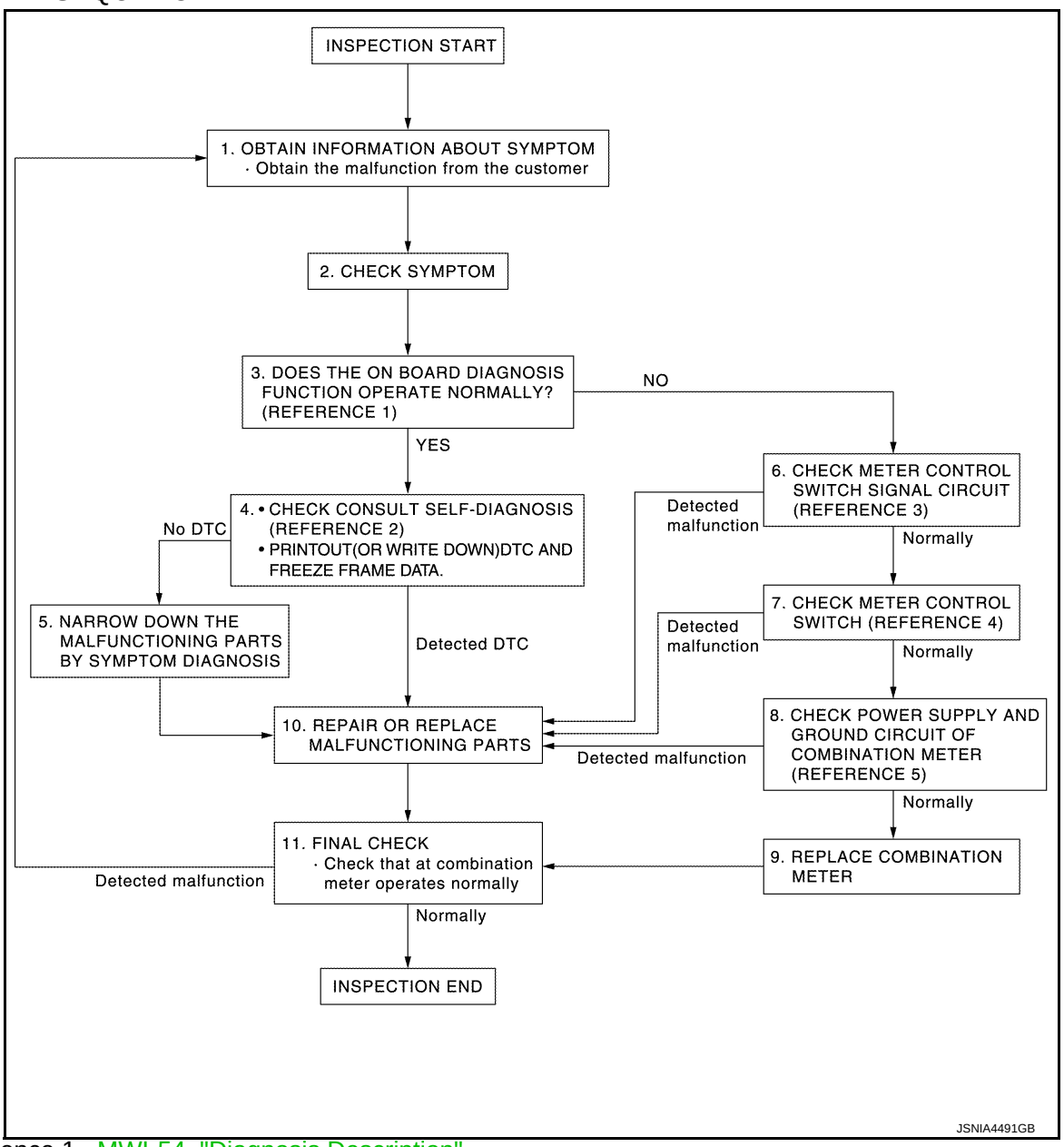
# BASIC INSPECTION

## DIAGNOSIS AND REPAIR WORK FLOW

### Work flow

INFOID:0000000011488233

#### OVERALL SEQUENCE




- Reference 1···MWI-54, "Diagnosis Description".
- Reference 2···MWI-100, "DTC Index".
- Reference 3···MWI-72, "Diagnosis Procedure".
- Reference 4···MWI-73, "Component Inspection".
- Reference 5···MWI-68, "COMBINATION METER : 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.

## 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-54, "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-100, "DTC Index".
2. When DTC is detected, follow the instructions below:

- Record DTC and Freeze Frame Data.

Are self-diagnosis results normal?

YES >> GO TO 5.
NO >> GO TO 10.

## 5.NARROW DOWN THE MALFUNCTIONING PARTS BY SYMPTOM DIAGNOSIS

Perform symptom diagnosis and narrow down the malfunctioning parts.

>> GO TO 10.

## 6.CHECK METER CONTROL SWITCH SIGNAL CIRCUIT

Check meter control switch signal circuit. Refer to MWI-72, "Diagnosis Procedure".

Is inspection result OK?

YES >> GO TO 7.
NO >> GO TO 10.

## 7.CHECK METER CONTROL SWITCH

Check meter control switch. Refer to MWI-73, "Component Inspection".

Is inspection result OK?

YES >> GO TO 8.
NO >> GO TO 10.

## 8.CHECK COMBINATION METER POWER SUPPLY AND GROUND CIRCUITS

Check combination meter power supply and ground circuits. Refer to MWI-68, "COMBINATION METER : Diagnosis Procedure".

Is inspection result OK?

YES >> GO TO 9.
NO >> GO TO 10.

## 9.REPLACE COMBINATION METER

Replace combination meter.

>> GO TO 11.

## 10.REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace the malfunctioning parts.

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

>> GO TO 11.

## 11. FINAL CHECK

Check that the combination meter operates normally.

Do they operate normally?

YES >> INSPECTION END
NO >> GO TO 1.

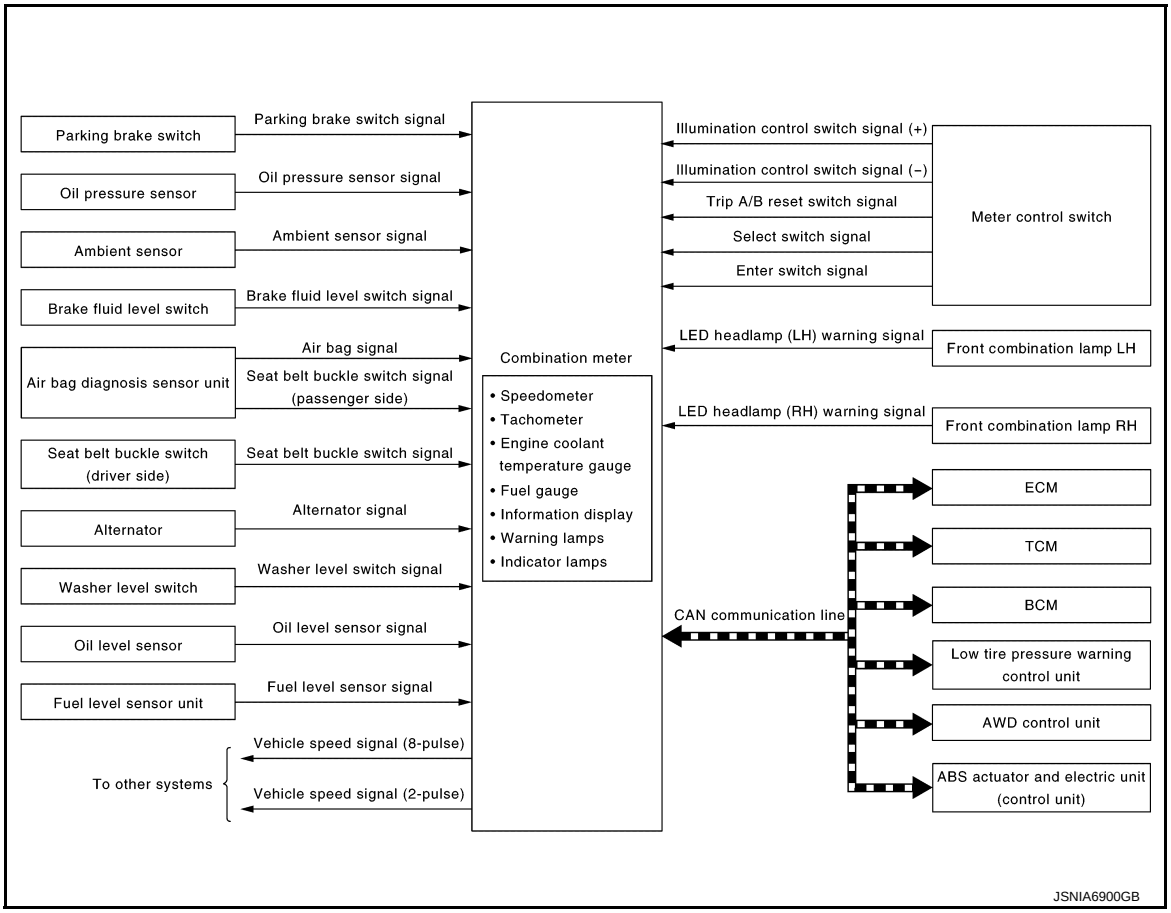
# SYSTEM DESCRIPTION

## METER SYSTEM

## METER SYSTEM

### METER SYSTEM : System Diagram

INFOID:0000000011488234




### METER SYSTEM : System Description

INFOID:0000000011488235

#### COMBINATION METER

- The combination meter receives the signals that are required to control the operation of each meter gauge, indicator lamp/warning lamp, and information display from each unit, switch, and sensor.
- The combination meter is equipped with the drive computer function. Using the signal obtained from each unit, switch, and sensor, the combination meter displays warnings and information to the information display.
- 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 details.
- The combination meter integrates the meter circuit check function, the dot matrix check function that checks the information display operation, and the segment check function that checks the shift position indicator operation.
- The combination meter integrates the diagnosis function, and it can perform a diagnosis using CONSULT.

#### METER CONTROL FUNCTION LIST

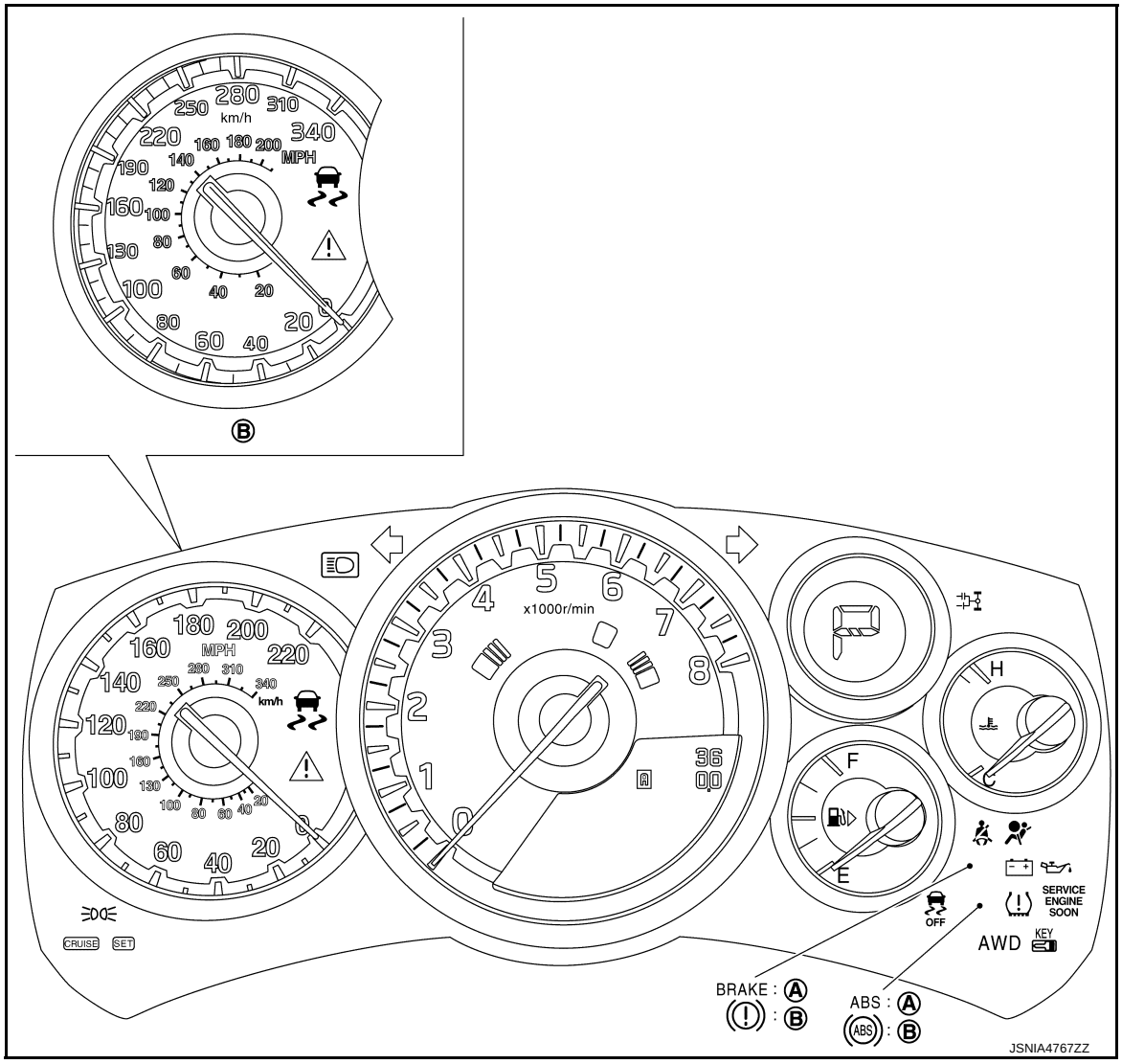
| System | | Description | Signal source |
|---|---|---|---|
| Meter gauges | Speedometer | Receives the vehicle speed signal, and indicates the vehicle speed. | ABS actuator and electric unit (control unit) |
| | Tachometer | Receives the engine speed signal, and indicates the engine speed. | ECM |
| | Fuel gauge | Receives the fuel level sensor signal, and indicates the remaining fuel level. | Fuel level sensor unit |
| | Engine coolant temperature gauge | Receives the engine coolant temperature signal, and indicates the engine coolant temperature. | ECM |
| Shift position indicator | Shift position indicator | Receives the shift position signal, and displays the shift position. | TCM |
| Oil pressure warning lamp | Oil pressure warning lamp | Receives the oil pressure sensor signal, and illuminates the lamp. | Oil pressure sensor |
| Up-shift indicator | Up-shift indicator | Receives the engine speed signal and shift position signal (manual mode status), and illuminates/turns off/blinks the indicator. | ECM |
| | | | TCM |
| Master warning lamp | Master warning lamp | Illuminates the lamp according to warning output on information display. | — |
| Information display | Instantaneous fuel consumption display | Calculates the instantaneous fuel consumption based on received vehicle speed signal and fuel consumption monitor signal, and displays the result. | ECM |
| | | | ABS actuator and electric unit (control unit) |
| | Vehicle speed display | Based on the received vehicle speed signal, displays the vehicle speed. | ABS actuator and electric unit (control unit) |
| | CRUISE control system status display | Based on the received ASCD status signal, displays the CRUISE control system setting status. | ECM |

| System | | Description | Signal source |
|---|---|---|---|
| Information display | Average fuel consumption display | Based on the received vehicle speed signal and fuel consumption monitor signal, calculates the average fuel consumption from the previous reset to the next reset, and displays the result. | ECM<br>ABS actuator and electric unit (control unit) |
| | Average vehicle speed display | Calculates average vehicle speed in a reset-to-reset interval based on received vehicle speed signal and displays it. | ABS actuator and electric unit (control unit) |
| | Travel time display | Displays the accumulated key switch ON time from a previous reset to the next reset. | — |
| | Travel distance display | Calculates accumulated travel distance in a reset-to-reset interval based on received vehicle speed signal and displays it. | ABS actuator and electric unit (control unit) |
| | Possible driving distance display | Based on the received fuel consumption monitor signal, vehicle speed signal, and fuel level sensor signal, calculates the possible driving distance, and displays the result. | ECM<br>ABS actuator and electric unit (control unit)<br>Fuel level sensor unit |
| | Ambient air temperature display | Based on the received ambient sensor signal, corrects the ambient air temperature value, and displays the result. | Ambient sensor |
| | Illumination control display | Based on the received illumination control switch signal, displays the illumination status. | Meter control switch |
| | Travel time interruption display | Displays a warning of duration after IGN ON. (If enabled) | — |
| | Low ambient air temperature display | Based on the ambient sensor signal, displays a warning when the ambient air temperature becomes 3°C (37 °F) or less. (If enabled) | Ambient sensor |
| | Engine oil maintenance display | The distance for engine oil replacement can be set. | — |
| | Engine oil maintenance warning display | Displays a warning when the arbitrarily set engine oil replacement distance is reached. | — |
| | Engine oil level normal display | Based on the received oil level sensor signal, displays that the engine oil level is at a normal value. | Oil level sensor |
| | Engine oil level display | Based on the received oil level sensor signal, displays the engine oil level. | Oil level sensor |
| | Engine oil level warning display | Based on the received oil level sensor signal, displays a warning on engine oil level. | Oil level sensor |
| | Transmission oil maintenance display | The distance for transmission oil replacement can be set. | — |
| | Transmission oil maintenance warning display | Displays a warning when the arbitrarily set transmission oil replacement distance is reached. | — |
| | Oil filter maintenance display | The distance for oil filter replacement can be set. | — |
| | Oil filter maintenance warning display | Displays a warning when the arbitrarily set oil filter replacement distance is reached. | — |
| | Tire maintenance display | The distance for tire replacement can be set. | — |
| | Tire maintenance warning display | Displays a warning when the arbitrarily set tire replacement distance is reached. | — |
| | Other maintenance display | The replacement distance for the arbitrarily set parts can be set. | — |
| | Other maintenance warning display | Displays a warning when the arbitrarily set parts replacement distance is reached. | — |

| System | | Description | Signal source |
|---|---|---|---|
| Information display | Door open warning display | Based on the received door switch signal, displays a warning that a door is ajar. | BCM |
| | Trunk open warning display | Based on the received trunk switch signal, displays a warning that the trunk is ajar. | BCM |
| | Parking brake release warning display | Based on the received parking brake switch signal and vehicle speed signal, displays a warning that the parking brake is not released. | Parking brake switch<br>ABS actuator and electric unit (control unit) |
| | Low fuel warning display | Receives the fuel level sensor signal, and displays a warning if the fuel level decreases to approximately 13.5 ℓ (3-5/8 US gal, 3 Imp gal) or less [1.0 ℓ (1/4 US gal, 1/4 Imp gal) fuel residues included]. | Fuel level sensor unit |
| | Low washer fluid warning display | Based on the received washer level switch signal, displays a warning for washer level. | Washer level switch |
| | Engine oil level sensor abnormality warning display | Based on the received oil level sensor signal, displays the engine oil level sensor malfunction warning. | Oil level sensor |
| | Shift lever position warning display | Based on the received shift lever position warning display signal, displays the shift lever position warning. | TCM |
| | Shift " P " warning display | Based on the received shift lever position check display signal, issues a warning to change the shift position to P range. | TCM |
| | Transmission system check display | Based on the received transmission system check display signal, displays that the transmission system check is in progress. | TCM |
| | Run-flat tire warning display | Based on the received run-flat tire warning display signal, displays a warning that the tire is punctured. | Low tire pressure warning control unit |
| | Transmission clutch high temperature warning display | Based on the received transmission clutch high temperature warning display signal, displays a warning that the transmission clutch temperature is high. | TCM |
| | Transmission oil high temperature warning display | Based on the received transmission oil high temperature warning display signal, displays a warning that the transmission oil temperature is high. | TCM |
| | Low tire pressure warning display | Based on the received low tire pressure warning display signal, displays a warning that the tire internal pressure is low. | Low tire pressure warning control unit |
| | AWD clutch high temperature warning display | Based on the received AWD clutch high temperature warning display signal, displays a warning that the AWD clutch temperature is high. | AWD control unit |
| | Front/rear tire size discrepancy warning display | Based on the received front/rear tire size discrepancy warning display signal, displays a warning that there is a difference between front and rear tire speed. | AWD control unit |
| | Transmission system warning display | Based on the received transmission system warning display signal, displays a warning that a malfunction is present in the transmission system. | TCM |
| | Tire pressure monitoring system warning display | Based on the received tire pressure monitoring system warning display signal, displays a warning that an abnormality is present in the tire pressure warning system. | Low tire pressure warning control unit |
| | AWD system warning display | Based on the received AWD system warning display signal, displays a warning that a malfunction is present in the AWD system. | AWD control unit |

| System | | Description | Signal source |
|---|---|---|---|
| Information display | Anti-lock braking system (ABS) warning display | Based on the received ABS warning display signal, displays a warning that a malfunction has occurred to ABS. | ABS actuator and electric unit (control unit) |
| | Vehicle dynamic control (VDC) system warning display | Based on the received VDC warning display signal, displays a warning that a malfunction is present in VDC. | ABS actuator and electric unit (control unit) |
| | Engine system warning display | Based on the received engine status signal, displays a warning that a malfunction is present in the engine system. | ECM |
| | CRUISE control system warning display | Based on the received ASCD status signal, detects the CRUISE system malfunction, and displays a warning that an inspection is necessary. | ECM |
| | Engine oil low pressure warning display | Based on the received oil pressure sensor signal, displays a warning that the engine oil pressure is low. | Oil pressure sensor |
| | Low brake fluid warning display | Based on the received brake fluid level switch signal, displays a warning that the brake fluid is decreased. | Brake fluid level switch |
| | Reverse warning | Based on the buzzer output signal (reverse warning chime), displays a warning that the shift position is in R. | BCM |
| | Head lamp warning | Based on the low beam request signal, and LED headlamp warning signal (LH/RH), displays a warning that a malfunction has occurred to LED headlamp. | Front combination lamp<br>BCM |

## ARRANGEMENT OF COMBINATION METER




A. For U.S.A.

B. For Canada

# METER SYSTEM : Component Parts Location

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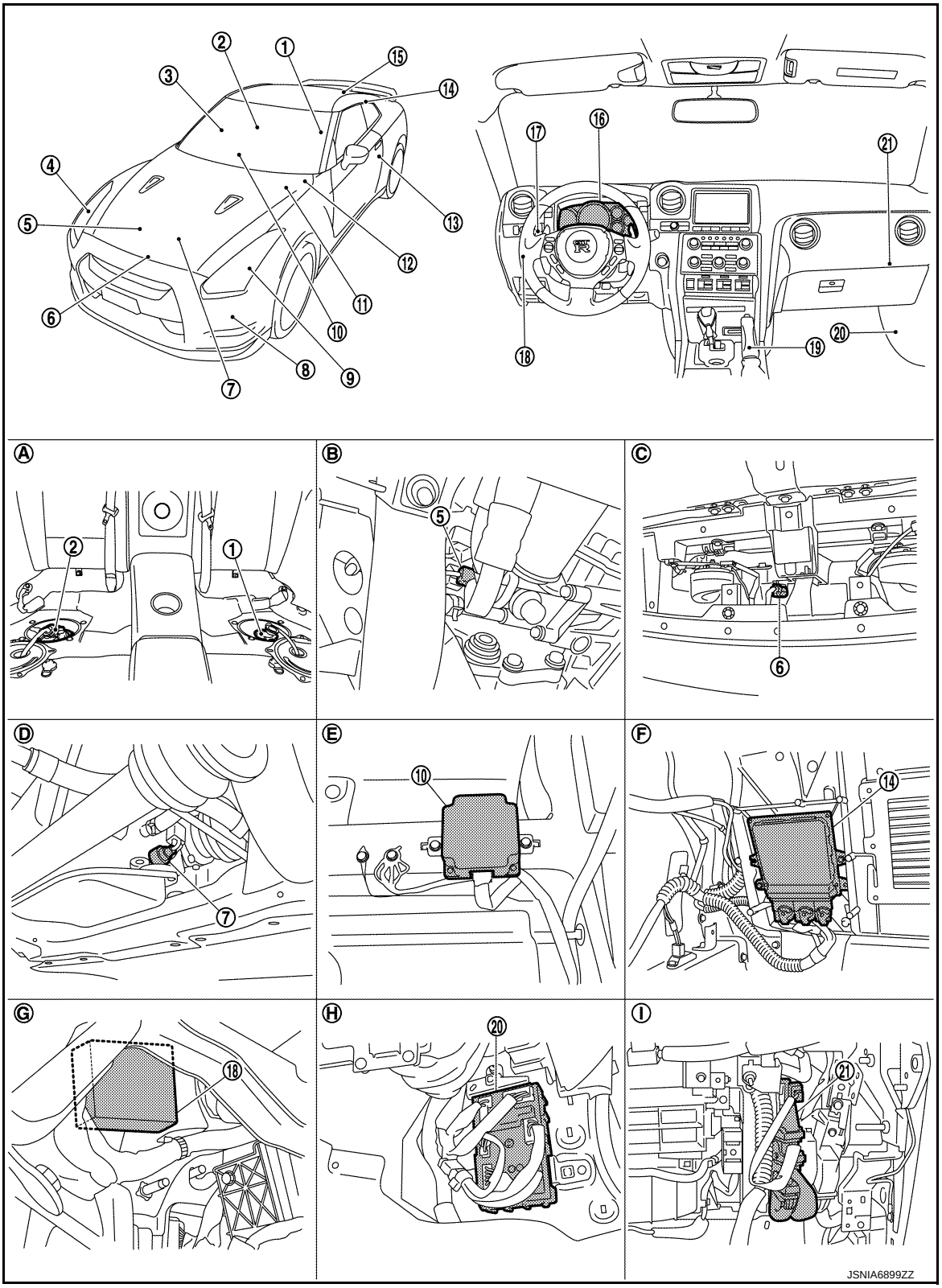



1. Fuel level sensor unit (Sub)
2. Fuel level sensor unit (Main)
3. Door switch (passenger side)
4. Front combination lamp RH
5. Oil pressure sensor
6. Ambient sensor
7. Oil level sensor
8. Washer level switch
9. Front combination lamp LH

10. AWD control unit
11. Brake fluid level switch
12. ABS actuator and electric unit (control unit)
13. Door switch (driver side)
14. TCM
15. Trunk switch
16. Combination meter
17. Combination switch (Lighting switch)
18. Low tire pressure warning control unit
19. Parking brake
20. BCM
21. ECM
A. Under rear seat
B. Right side of engine
C. Radiator core support (center)
D. Oil pan LH upper
E. Front RH seat under
F. Trunk room left back
G. Lower instrument panel LH
H. Dashboard side lower (passenger seat side)
I. Glove box assembly back

## METER SYSTEM : Component Description

INFOID:0000000011488237

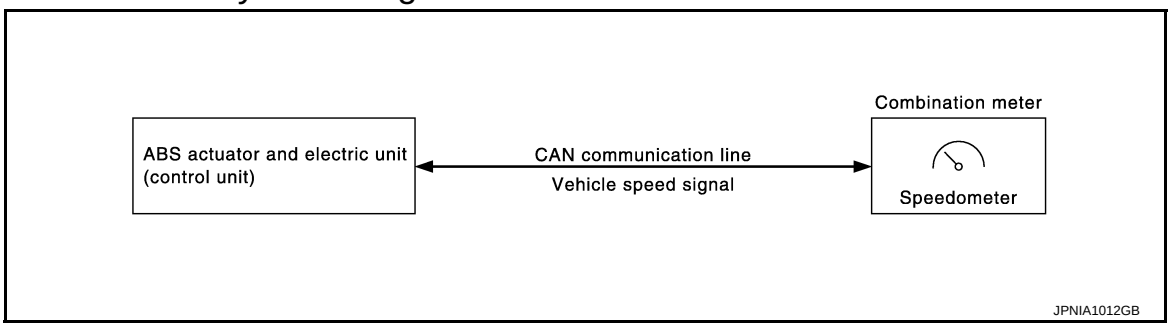
| Unit | Description |
|---|---|
| Combination meter | Based on received signals from each unit, switch, and sensor, controls the following items.<br>• Speedometer<br>• Tachometer<br>• Engine coolant temperature gauge<br>• Fuel gauge<br>• Warning lamp<br>• Indicator lamp<br>• Information display |
| Fuel level sensor unit | Detects the fuel level in fuel tank using the fuel level sensor unit, and transmits the fuel gauge signal to the combination meter. |
| Oil pressure sensor | Detects the oil pressure of engine oil, and transmits the oil pressure sensor signal to the combination meter. |
| ECM | Transmits the following signals to the combination meter via CAN communication.<br>• Engine speed signal<br>• Engine coolant temperature signal<br>• Fuel consumption monitor signal<br>• Malfunction indicator lamp signal<br>• Engine status signal<br>• ASCD status signal |
| ABS actuator and electric unit (control unit) | Transmits the following signals to the combination meter via CAN communication.<br>• Vehicle speed signal<br>• ABS warning display signal<br>• VDC warning display signal |
| BCM | Transmits signals received from each unit and switch to the combination meter via CAN communication. |
| TCM | Transmits the following signals to the combination meter via CAN communication.<br>• Shift position signal<br>• Shift lever position warning display signal<br>• Transmission oil high temperature warning display signal<br>• Transmission clutch high temperature warning display signal<br>• Transmission system warning display signal<br>• Transmission system check display signal<br>• Shift lever position check display signal |
| AWD control unit | Transmits the following signals to the combination meter via CAN communication.<br>• AWD clutch high temperature warning display signal<br>• AWD system warning display signal<br>• Front/rear tire size discrepancy warning display signal |
| Low tire pressure warning control unit | Transmits the following signals to the combination meter via CAN communication.<br>• Run-flat tire warning display signal<br>• Low tire pressure warning display signal<br>• Tire pressure monitoring system warning display signal |

| Unit | Description |
|---|---|
| Meter control switch | Transmits the following signals to the combination meter.<br>• Illumination control switch signal (+)<br>• Illumination control switch signal (-)<br>• Trip A/B reset switch signal<br>• Select switch signal<br>• Enter switch signal |
| Brake fluid level switch | Transmits the brake fluid level switch signal to the combination meter. |
| Parking brake switch | Transmits the parking brake switch signal to the combination meter. |
| Oil level sensor | Transmits the oil level sensor signal to the combination meter. |
| Washer level switch | Transmits the washer level switch signal to the combination meter. |
| Ambient sensor | Transmits the ambient sensor signal to the combination meter. |
| Front combination lamp LH | Transmits the front combination lamp LH signal to the combination meter. |
| Front combination lamp RH | Transmits the front combination lamp RH signal to the combination meter. |

# SPEEDOMETER

## SPEEDOMETER : System Diagram

INFOID:0000000011488238



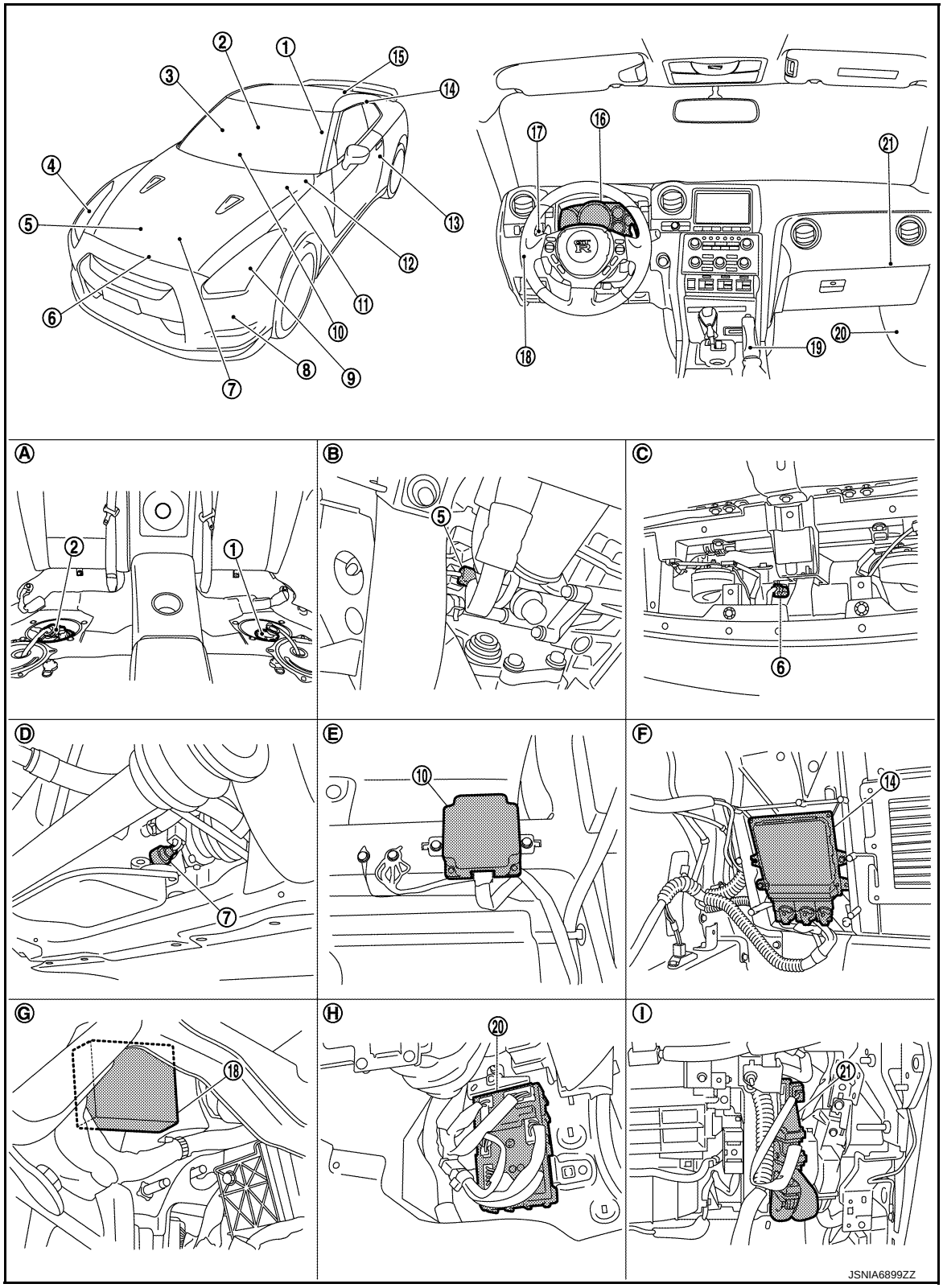

## SPEEDOMETER : System Description

INFOID:0000000011488239

- ABS actuator and electric unit (control unit) converts the rectangular wave signal from wheel sensor to the vehicle speed signal, and transmits the signal to the combination meter via CAN communication.
- The combination meter receives the vehicle speed signal from the ABS actuator and electric unit (control unit) via CAN communication, and indicates the vehicle speed.

## SPEEDOMETER : Component Parts Location

INFOID:0000000011488240




1. Fuel level sensor unit (Sub)
2. Fuel level sensor unit (Main)
3. Door switch (passenger side)
4. Front combination lamp RH
5. Oil pressure sensor
6. Ambient sensor
7. Oil level sensor
8. Washer level switch
9. Front combination lamp LH

| | | |
|---|---|---|
| 10. AWD control unit | 11. Brake fluid level switch | 12. ABS actuator and electric unit (control unit) |
| 13. Door switch (driver side) | 14. TCM | 15. Trunk switch |
| 16. Combination meter | 17. Combination switch (Lighting switch) | 18. Low tire pressure warning control unit |
| 19. Parking brake | 20. BCM | 21. ECM |
| A. Under rear seat | B. Right side of engine | C. Radiator core support (center) |
| D. Oil pan LH upper | E. Front RH seat under | F. Trunk room left back |
| G. Lower instrument panel LH | H. Dashboard side lower (passenger seat side) | I. Glove box assembly back |

## SPEEDOMETER : Component Description

INFOID:0000000011488241

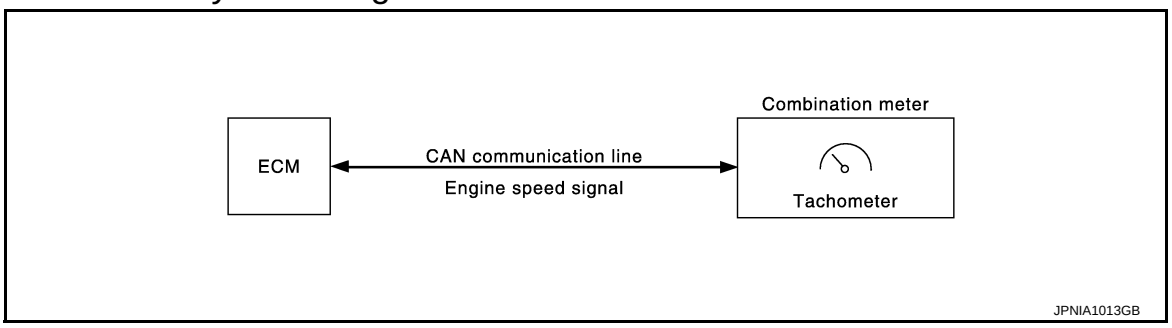
| Unit | Description |
|---|---|
| Combination meter | Based on received signals from each unit, switch, and sensor, controls the following items.<br>• Speedometer<br>• Tachometer<br>• Engine coolant temperature gauge<br>• Fuel gauge<br>• Warning lamp<br>• Indicator lamp<br>• Information display |
| Fuel level sensor unit | Detects the fuel level in fuel tank using the fuel level sensor unit, and transmits the fuel gauge signal to the combination meter. |
| Oil pressure sensor | Detects the oil pressure of engine oil, and transmits the oil pressure sensor signal to the combination meter. |
| ECM | Transmits the following signals to the combination meter via CAN communication.<br>• Engine speed signal<br>• Engine coolant temperature signal<br>• Fuel consumption monitor signal<br>• Malfunction indicator lamp signal<br>• Engine status signal<br>• ASCD status signal |
| ABS actuator and electric unit (control unit) | Transmits the following signals to the combination meter via CAN communication.<br>• Vehicle speed signal<br>• ABS warning display signal<br>• VDC warning display signal |
| BCM | Transmits signals received from each unit and switch to the combination meter via CAN communication. |
| TCM | Transmits the following signals to the combination meter via CAN communication.<br>• Shift position signal<br>• Shift lever position warning display signal<br>• Transmission oil high temperature warning display signal<br>• Transmission clutch high temperature warning display signal<br>• Transmission system warning display signal<br>• Transmission system check display signal<br>• Shift lever position check display signal |
| AWD control unit | Transmits the following signals to the combination meter via CAN communication.<br>• AWD clutch high temperature warning display signal<br>• AWD system warning display signal<br>• Front/rear tire size discrepancy warning display signal |
| Low tire pressure warning control unit | Transmits the following signals to the combination meter via CAN communication.<br>• Run-flat tire warning display signal<br>• Low tire pressure warning display signal<br>• Tire pressure monitoring system warning display signal |

| Unit | Description |
|---|---|
| Meter control switch | Transmits the following signals to the combination meter.<br>• Illumination control switch signal (+)<br>• Illumination control switch signal (-)<br>• Trip A/B reset switch signal<br>• Select switch signal<br>• Enter switch signal |
| Brake fluid level switch | Transmits the brake fluid level switch signal to the combination meter. |
| Parking brake switch | Transmits the parking brake switch signal to the combination meter. |
| Oil level sensor | Transmits the oil level sensor signal to the combination meter. |
| Washer level switch | Transmits the washer level switch signal to the combination meter. |
| Ambient sensor | Transmits the ambient sensor signal to the combination meter. |
| Front combination lamp LH | Transmits the front combination lamp LH signal to the combination meter. |
| Front combination lamp RH | Transmits the front combination lamp RH signal to the combination meter. |

# TACHOMETER

## TACHOMETER : System Diagram

INFOID:0000000011488242



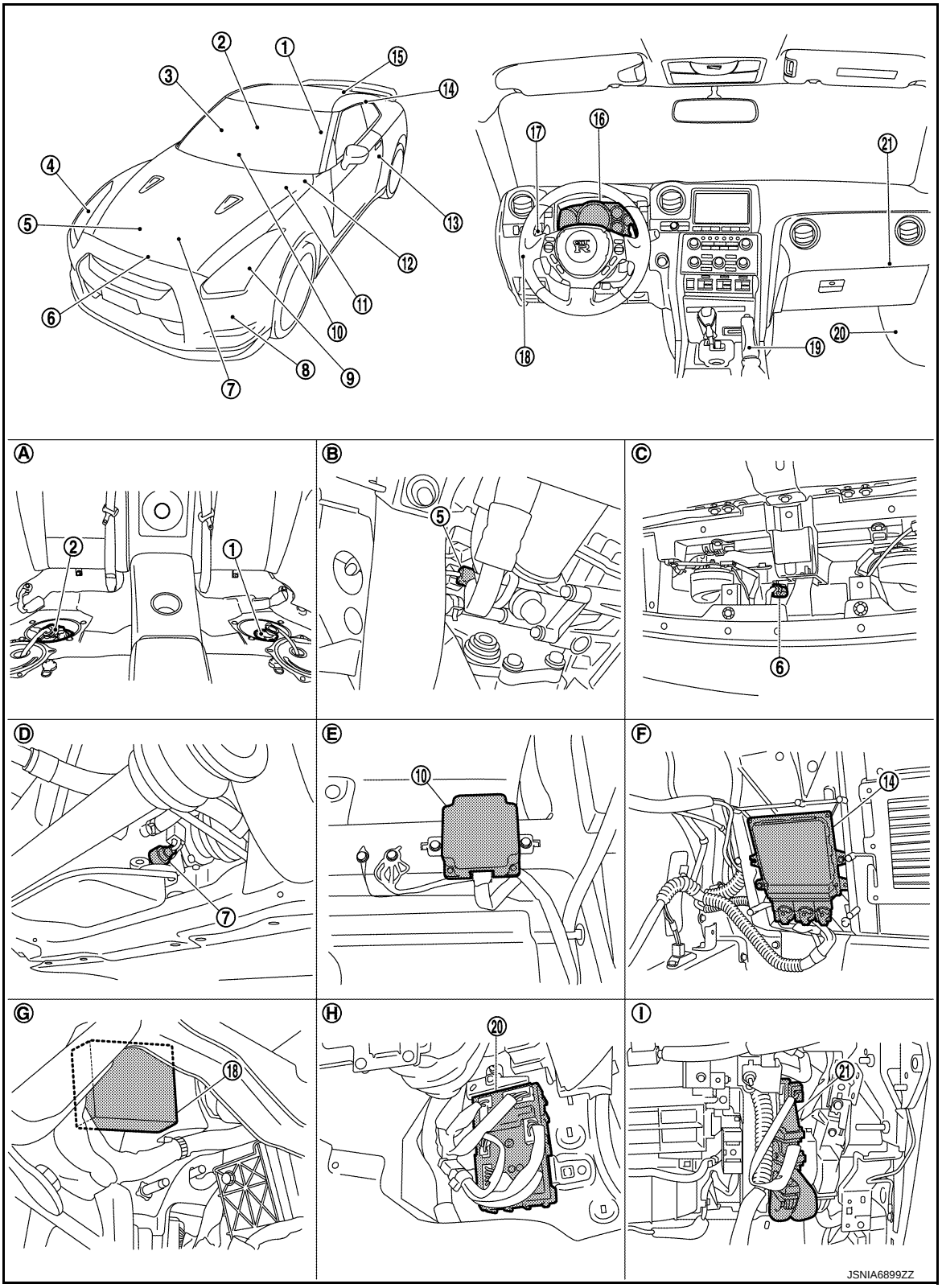

## TACHOMETER : System Description

INFOID:0000000011488243

- ECM reads the crankshaft position signal from the crankshaft position sensor, and transmits the engine speed signal to the combination meter via CAN communication.
- The combination meter receives the engine speed signal from ECM via CAN communication, and indicates the engine speed.

# TACHOMETER : Component Parts Location

INFOID:0000000011488244




1. Fuel level sensor unit (Sub)
2. Fuel level sensor unit (Main)
3. Door switch (passenger side)
4. Front combination lamp RH
5. Oil pressure sensor
6. Ambient sensor
7. Oil level sensor
8. Washer level switch
9. Front combination lamp LH

10. AWD control unit
11. Brake fluid level switch
12. ABS actuator and electric unit (control unit)
13. Door switch (driver side)
14. TCM
15. Trunk switch
16. Combination meter
17. Combination switch (Lighting switch)
18. Low tire pressure warning control unit
19. Parking brake
20. BCM
21. ECM
A. Under rear seat
B. Right side of engine
C. Radiator core support (center)
D. Oil pan LH upper
E. Front RH seat under
F. Trunk room left back
G. Lower instrument panel LH
H. Dashboard side lower (passenger seat side)
I. Glove box assembly back

## TACHOMETER : Component Description

INFOID:0000000011488245

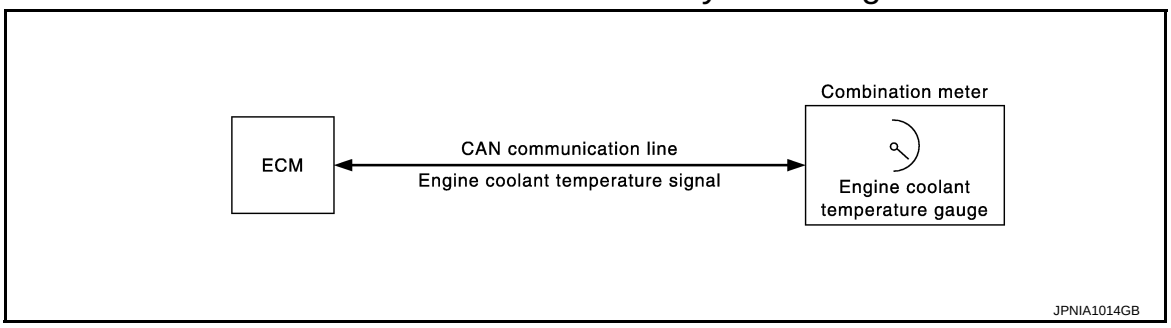
| Unit | Description |
|---|---|
| Combination meter | Based on received signals from each unit, switch, and sensor, controls the following items.<br>• Speedometer<br>• Tachometer<br>• Engine coolant temperature gauge<br>• Fuel gauge<br>• Warning lamp<br>• Indicator lamp<br>• Information display |
| Fuel level sensor unit | Detects the fuel level in fuel tank using the fuel level sensor unit, and transmits the fuel gauge signal to the combination meter. |
| Oil pressure sensor | Detects the oil pressure of engine oil, and transmits the oil pressure sensor signal to the combination meter. |
| ECM | Transmits the following signals to the combination meter via CAN communication.<br>• Engine speed signal<br>• Engine coolant temperature signal<br>• Fuel consumption monitor signal<br>• Malfunction indicator lamp signal<br>• Engine status signal<br>• ASCD status signal |
| ABS actuator and electric unit (control unit) | Transmits the following signals to the combination meter via CAN communication.<br>• Vehicle speed signal<br>• ABS warning display signal<br>• VDC warning display signal |
| BCM | Transmits signals received from each unit and switch to the combination meter via CAN communication. |
| TCM | Transmits the following signals to the combination meter via CAN communication.<br>• Shift position signal<br>• Shift lever position warning display signal<br>• Transmission oil high temperature warning display signal<br>• Transmission clutch high temperature warning display signal<br>• Transmission system warning display signal<br>• Transmission system check display signal<br>• Shift lever position check display signal |
| AWD control unit | Transmits the following signals to the combination meter via CAN communication.<br>• AWD clutch high temperature warning display signal<br>• AWD system warning display signal<br>• Front/rear tire size discrepancy warning display signal |
| Low tire pressure warning control unit | Transmits the following signals to the combination meter via CAN communication.<br>• Run-flat tire warning display signal<br>• Low tire pressure warning display signal<br>• Tire pressure monitoring system warning display signal |

| Unit | Description |
|---|---|
| Meter control switch | Transmits the following signals to the combination meter.<br>• Illumination control switch signal (+)<br>• Illumination control switch signal (-)<br>• Trip A/B reset switch signal<br>• Select switch signal<br>• Enter switch signal |
| Brake fluid level switch | Transmits the brake fluid level switch signal to the combination meter. |
| Parking brake switch | Transmits the parking brake switch signal to the combination meter. |
| Oil level sensor | Transmits the oil level sensor signal to the combination meter. |
| Washer level switch | Transmits the washer level switch signal to the combination meter. |
| Ambient sensor | Transmits the ambient sensor signal to the combination meter. |
| Front combination lamp LH | Transmits the front combination lamp LH signal to the combination meter. |
| Front combination lamp RH | Transmits the front combination lamp RH signal to the combination meter. |

# ENGINE COOLANT TEMPERATURE GAUGE

## ENGINE COOLANT TEMPERATURE GAUGE : System Diagram

INFOID:0000000011488246



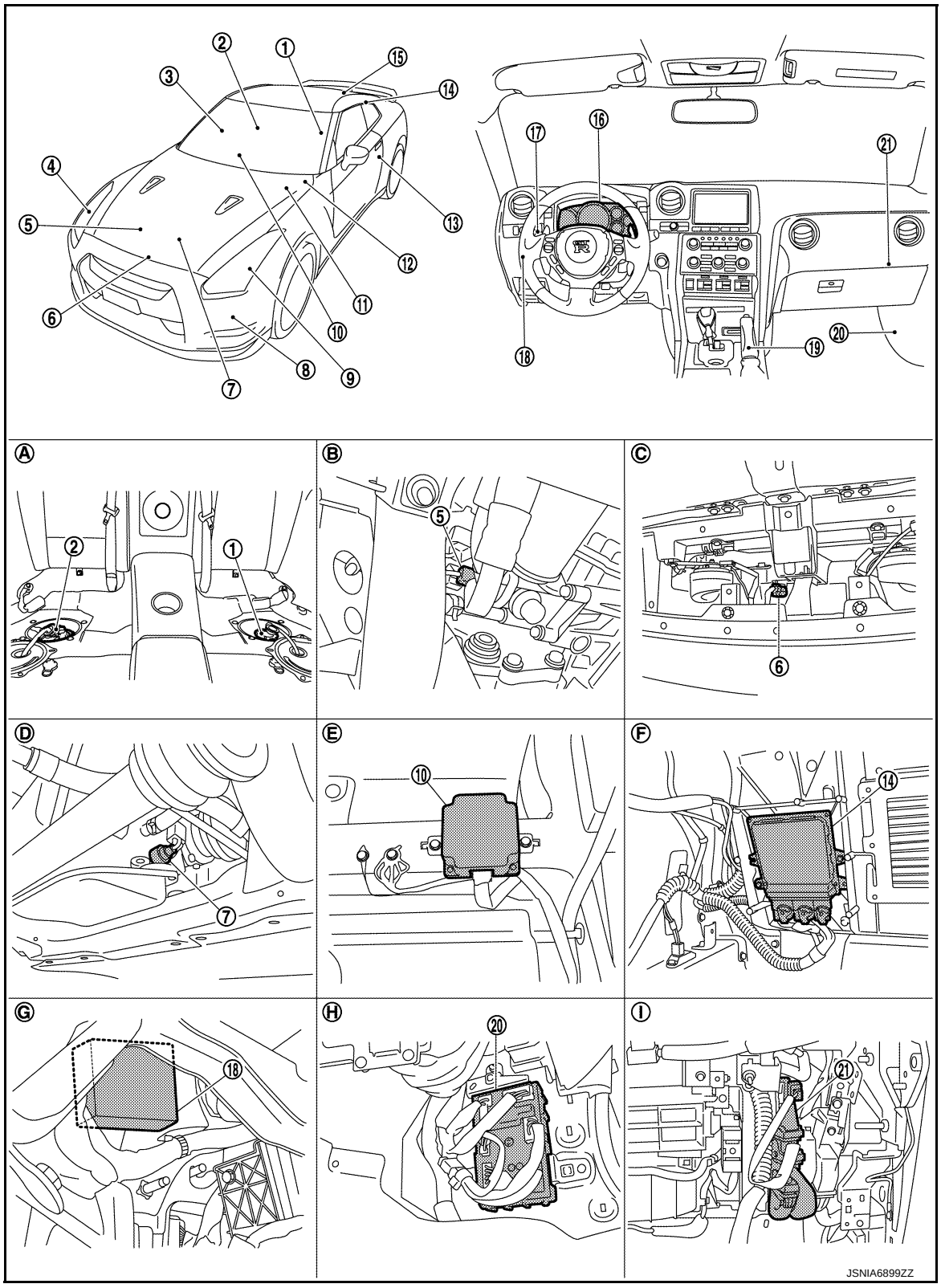

## ENGINE COOLANT TEMPERATURE GAUGE : System Description

INFOID:0000000011488247

- 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 receives the engine coolant temperature signal from ECM via CAN communication, and indicates the engine coolant temperature.

# ENGINE COOLANT TEMPERATURE GAUGE : Component Parts Location

INFOID:0000000011488248




1. Fuel level sensor unit (Sub)
2. Fuel level sensor unit (Main)
3. Door switch (passenger side)
4. Front combination lamp RH
5. Oil pressure sensor
6. Ambient sensor
7. Oil level sensor
8. Washer level switch
9. Front combination lamp LH

| | | |
|---|---|---|
| 10. AWD control unit | 11. Brake fluid level switch | 12. ABS actuator and electric unit (control unit) |
| 13. Door switch (driver side) | 14. TCM | 15. Trunk switch |
| 16. Combination meter | 17. Combination switch (Lighting switch) | 18. Low tire pressure warning control unit |
| 19. Parking brake | 20. BCM | 21. ECM |
| A. Under rear seat | B. Right side of engine | C. Radiator core support (center) |
| D. Oil pan LH upper | E. Front RH seat under | F. Trunk room left back |
| G. Lower instrument panel LH | H. Dashboard side lower (passenger seat side) | I. Glove box assembly back |

## ENGINE COOLANT TEMPERATURE GAUGE : Component Description

INFOID:0000000011488249

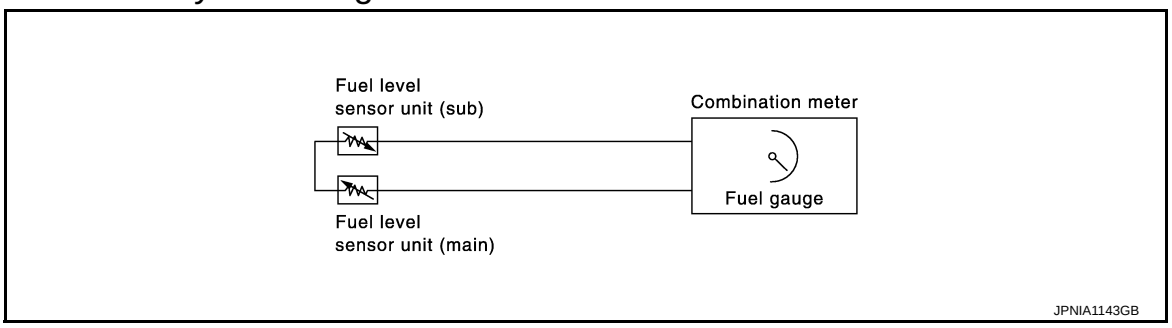
| Unit | Description |
|---|---|
| Combination meter | Based on received signals from each unit, switch, and sensor, controls the following items.<br>• Speedometer<br>• Tachometer<br>• Engine coolant temperature gauge<br>• Fuel gauge<br>• Warning lamp<br>• Indicator lamp<br>• Information display |
| Fuel level sensor unit | Detects the fuel level in fuel tank using the fuel level sensor unit, and transmits the fuel gauge signal to the combination meter. |
| Oil pressure sensor | Detects the oil pressure of engine oil, and transmits the oil pressure sensor signal to the combination meter. |
| ECM | Transmits the following signals to the combination meter via CAN communication.<br>• Engine speed signal<br>• Engine coolant temperature signal<br>• Fuel consumption monitor signal<br>• Malfunction indicator lamp signal<br>• Engine status signal<br>• ASCD status signal |
| ABS actuator and electric unit (control unit) | Transmits the following signals to the combination meter via CAN communication.<br>• Vehicle speed signal<br>• ABS warning display signal<br>• VDC warning display signal |
| BCM | Transmits signals received from each unit and switch to the combination meter via CAN communication. |
| TCM | Transmits the following signals to the combination meter via CAN communication.<br>• Shift position signal<br>• Shift lever position warning display signal<br>• Transmission oil high temperature warning display signal<br>• Transmission clutch high temperature warning display signal<br>• Transmission system warning display signal<br>• Transmission system check display signal<br>• Shift lever position check display signal |
| AWD control unit | Transmits the following signals to the combination meter via CAN communication.<br>• AWD clutch high temperature warning display signal<br>• AWD system warning display signal<br>• Front/rear tire size discrepancy warning display signal |
| Low tire pressure warning control unit | Transmits the following signals to the combination meter via CAN communication.<br>• Run-flat tire warning display signal<br>• Low tire pressure warning display signal<br>• Tire pressure monitoring system warning display signal |

| Unit | Description |
|---|---|
| Meter control switch | Transmits the following signals to the combination meter.<br>• Illumination control switch signal (+)<br>• Illumination control switch signal (-)<br>• Trip A/B reset switch signal<br>• Select switch signal<br>• Enter switch signal |
| Brake fluid level switch | Transmits the brake fluid level switch signal to the combination meter. |
| Parking brake switch | Transmits the parking brake switch signal to the combination meter. |
| Oil level sensor | Transmits the oil level sensor signal to the combination meter. |
| Washer level switch | Transmits the washer level switch signal to the combination meter. |
| Ambient sensor | Transmits the ambient sensor signal to the combination meter. |
| Front combination lamp LH | Transmits the front combination lamp LH signal to the combination meter. |
| Front combination lamp RH | Transmits the front combination lamp RH signal to the combination meter. |

# FUEL GAUGE

## FUEL GAUGE : System Diagram

INFOID:0000000011488250




## FUEL GAUGE : System Description

INFOID:0000000011488251

### CONTROL OUTLINE

The combination meter reads the fuel level sensor signal (resistance value) from the fuel level sensor unit, and indicates the fuel level to the fuel gauge.

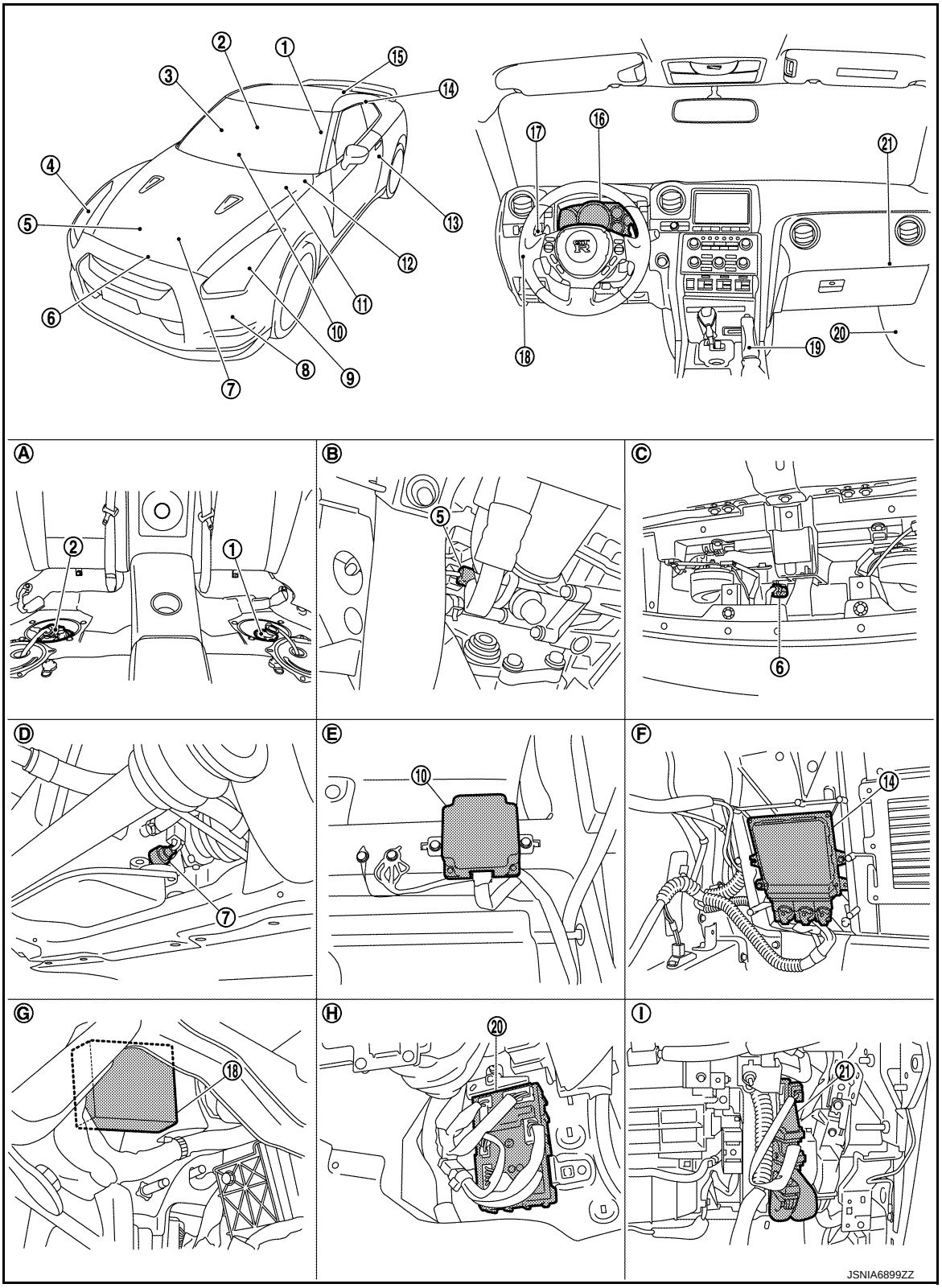
### REFUEL CONTROL

When the ignition switch is turned from OFF to ON, or when all the following conditions are met, it performs a control to move the fuel gauge pointer faster than normal.

- Ignition switch ON
- Vehicle stop status
- Fuel level fluctuation is 15 ℓ (4 US gal, 3-1/4 lmp gal) or more.

# FUEL GAUGE : Component Parts Location

INFOID:0000000011488252




1. Fuel level sensor unit (Sub)
2. Fuel level sensor unit (Main)
3. Door switch (passenger side)
4. Front combination lamp RH
5. Oil pressure sensor
6. Ambient sensor
7. Oil level sensor
8. Washer level switch
9. Front combination lamp LH

10. AWD control unit
11. Brake fluid level switch
12. ABS actuator and electric unit (control unit)
13. Door switch (driver side)
14. TCM
15. Trunk switch
16. Combination meter
17. Combination switch (Lighting switch)
18. Low tire pressure warning control unit
19. Parking brake
20. BCM
21. ECM
A. Under rear seat
B. Right side of engine
C. Radiator core support (center)
D. Oil pan LH upper
E. Front RH seat under
F. Trunk room left back
G. Lower instrument panel LH
H. Dashboard side lower (passenger seat side)
I. Glove box assembly back

## FUEL GAUGE : Component Description

INFOID:0000000011488253

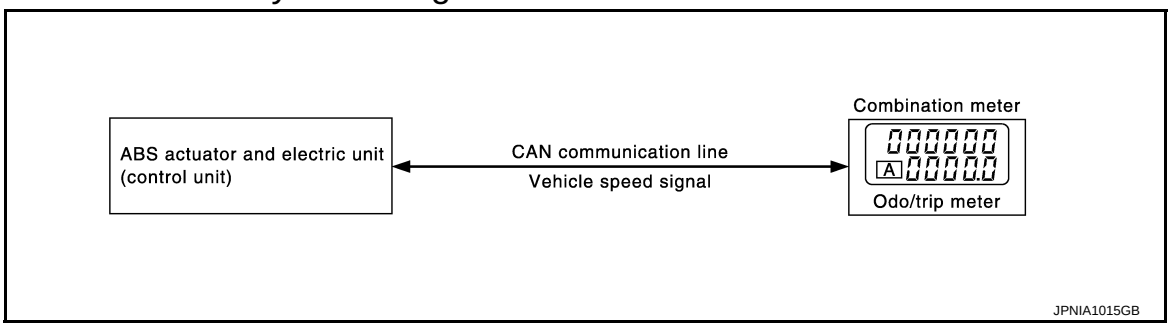
| Unit | Description |
|---|---|
| Combination meter | Based on received signals from each unit, switch, and sensor, controls the following items.<br>• Speedometer<br>• Tachometer<br>• Engine coolant temperature gauge<br>• Fuel gauge<br>• Warning lamp<br>• Indicator lamp<br>• Information display |
| Fuel level sensor unit | Detects the fuel level in fuel tank using the fuel level sensor unit, and transmits the fuel gauge signal to the combination meter. |
| Oil pressure sensor | Detects the oil pressure of engine oil, and transmits the oil pressure sensor signal to the combination meter. |
| ECM | Transmits the following signals to the combination meter via CAN communication.<br>• Engine speed signal<br>• Engine coolant temperature signal<br>• Fuel consumption monitor signal<br>• Malfunction indicator lamp signal<br>• Engine status signal<br>• ASCD status signal |
| ABS actuator and electric unit (control unit) | Transmits the following signals to the combination meter via CAN communication.<br>• Vehicle speed signal<br>• ABS warning display signal<br>• VDC warning display signal |
| BCM | Transmits signals received from each unit and switch to the combination meter via CAN communication. |
| TCM | Transmits the following signals to the combination meter via CAN communication.<br>• Shift position signal<br>• Shift lever position warning display signal<br>• Transmission oil high temperature warning display signal<br>• Transmission clutch high temperature warning display signal<br>• Transmission system warning display signal<br>• Transmission system check display signal<br>• Shift lever position check display signal |
| AWD control unit | Transmits the following signals to the combination meter via CAN communication.<br>• AWD clutch high temperature warning display signal<br>• AWD system warning display signal<br>• Front/rear tire size discrepancy warning display signal |
| Low tire pressure warning control unit | Transmits the following signals to the combination meter via CAN communication.<br>• Run-flat tire warning display signal<br>• Low tire pressure warning display signal<br>• Tire pressure monitoring system warning display signal |

| Unit | Description |
|---|---|
| Meter control switch | Transmits the following signals to the combination meter.<br>• Illumination control switch signal (+)<br>• Illumination control switch signal (-)<br>• Trip A/B reset switch signal<br>• Select switch signal<br>• Enter switch signal |
| Brake fluid level switch | Transmits the brake fluid level switch signal to the combination meter. |
| Parking brake switch | Transmits the parking brake switch signal to the combination meter. |
| Oil level sensor | Transmits the oil level sensor signal to the combination meter. |
| Washer level switch | Transmits the washer level switch signal to the combination meter. |
| Ambient sensor | Transmits the ambient sensor signal to the combination meter. |
| Front combination lamp LH | Transmits the front combination lamp LH signal to the combination meter. |
| Front combination lamp RH | Transmits the front combination lamp RH signal to the combination meter. |

## ODO/TRIP METER

### ODO/TRIP METER : System Diagram

INFOID:0000000011488254



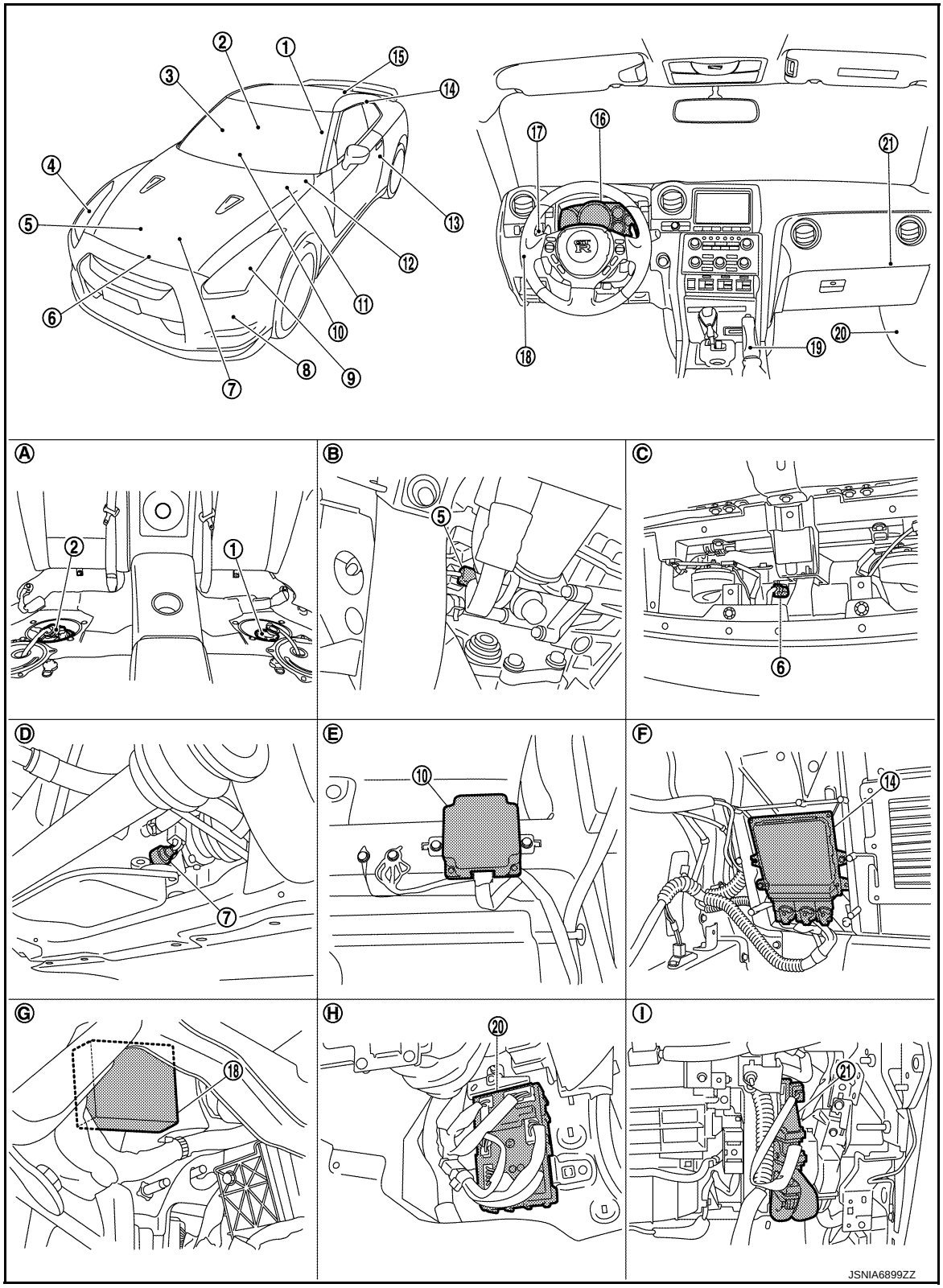

### ODO/TRIP METER : System Description

INFOID:0000000011488255

- ABS actuator control unit reads the rectangular wave signal received from wheel sensor, and transmits the vehicle speed signal to the combination meter via CAN communication.
- The combination meter receives the vehicle speed signal from the ABS actuator and electric unit (control unit) via CAN communication, then calculates and displays the travel distance.

## ODO/TRIP METER : Component Parts Location

INFOID:0000000011488256




1. Fuel level sensor unit (Sub)
2. Fuel level sensor unit (Main)
3. Door switch (passenger side)
4. Front combination lamp RH
5. Oil pressure sensor
6. Ambient sensor
7. Oil level sensor
8. Washer level switch
9. Front combination lamp LH

10. AWD control unit
11. Brake fluid level switch
12. ABS actuator and electric unit (control unit)
13. Door switch (driver side)
14. TCM
15. Trunk switch
16. Combination meter
17. Combination switch (Lighting switch)
18. Low tire pressure warning control unit
19. Parking brake
20. BCM
21. ECM
A. Under rear seat
B. Right side of engine
C. Radiator core support (center)
D. Oil pan LH upper
E. Front RH seat under
F. Trunk room left back
G. Lower instrument panel LH
H. Dashboard side lower (passenger seat side)
I. Glove box assembly back

## ODO/TRIP METER : Component Description

INFOID:0000000011488257

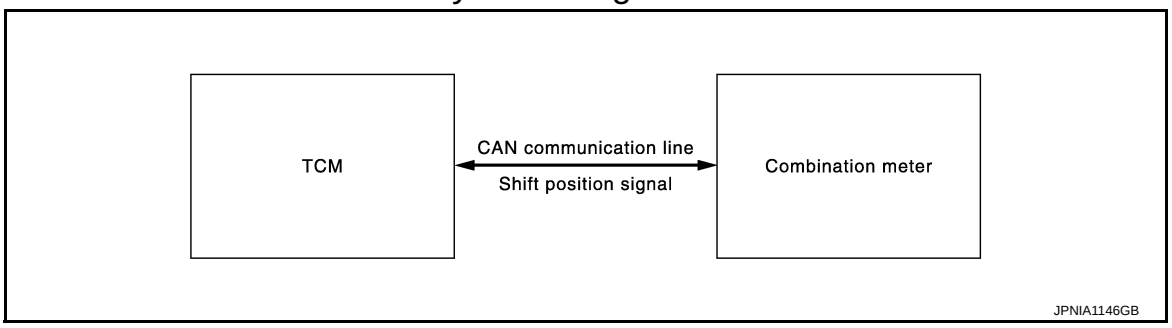
| Unit | Description |
|---|---|
| Combination meter | Based on received signals from each unit, switch, and sensor, controls the following items.<br>• Speedometer<br>• Tachometer<br>• Engine coolant temperature gauge<br>• Fuel gauge<br>• Warning lamp<br>• Indicator lamp<br>• Information display |
| Fuel level sensor unit | Detects the fuel level in fuel tank using the fuel level sensor unit, and transmits the fuel gauge signal to the combination meter. |
| Oil pressure sensor | Detects the oil pressure of engine oil, and transmits the oil pressure sensor signal to the combination meter. |
| ECM | Transmits the following signals to the combination meter via CAN communication.<br>• Engine speed signal<br>• Engine coolant temperature signal<br>• Fuel consumption monitor signal<br>• Malfunction indicator lamp signal<br>• Engine status signal<br>• ASCD status signal |
| ABS actuator and electric unit (control unit) | Transmits the following signals to the combination meter via CAN communication.<br>• Vehicle speed signal<br>• ABS warning display signal<br>• VDC warning display signal |
| BCM | Transmits signals received from each unit and switch to the combination meter via CAN communication. |
| TCM | Transmits the following signals to the combination meter via CAN communication.<br>• Shift position signal<br>• Shift lever position warning display signal<br>• Transmission oil high temperature warning display signal<br>• Transmission clutch high temperature warning display signal<br>• Transmission system warning display signal<br>• Transmission system check display signal<br>• Shift lever position check display signal |
| AWD control unit | Transmits the following signals to the combination meter via CAN communication.<br>• AWD clutch high temperature warning display signal<br>• AWD system warning display signal<br>• Front/rear tire size discrepancy warning display signal |
| Low tire pressure warning control unit | Transmits the following signals to the combination meter via CAN communication.<br>• Run-flat tire warning display signal<br>• Low tire pressure warning display signal<br>• Tire pressure monitoring system warning display signal |

| Unit | Description |
|---|---|
| Meter control switch | Transmits the following signals to the combination meter.<br>• Illumination control switch signal (+)<br>• Illumination control switch signal (-)<br>• Trip A/B reset switch signal<br>• Select switch signal<br>• Enter switch signal |
| Brake fluid level switch | Transmits the brake fluid level switch signal to the combination meter. |
| Parking brake switch | Transmits the parking brake switch signal to the combination meter. |
| Oil level sensor | Transmits the oil level sensor signal to the combination meter. |
| Washer level switch | Transmits the washer level switch signal to the combination meter. |
| Ambient sensor | Transmits the ambient sensor signal to the combination meter. |
| Front combination lamp LH | Transmits the front combination lamp LH signal to the combination meter. |
| Front combination lamp RH | Transmits the front combination lamp RH signal to the combination meter. |

# SHIFT POSITION INDICATOR

## SHIFT POSITION INDICATOR : System Diagram

INFOID:0000000011488258



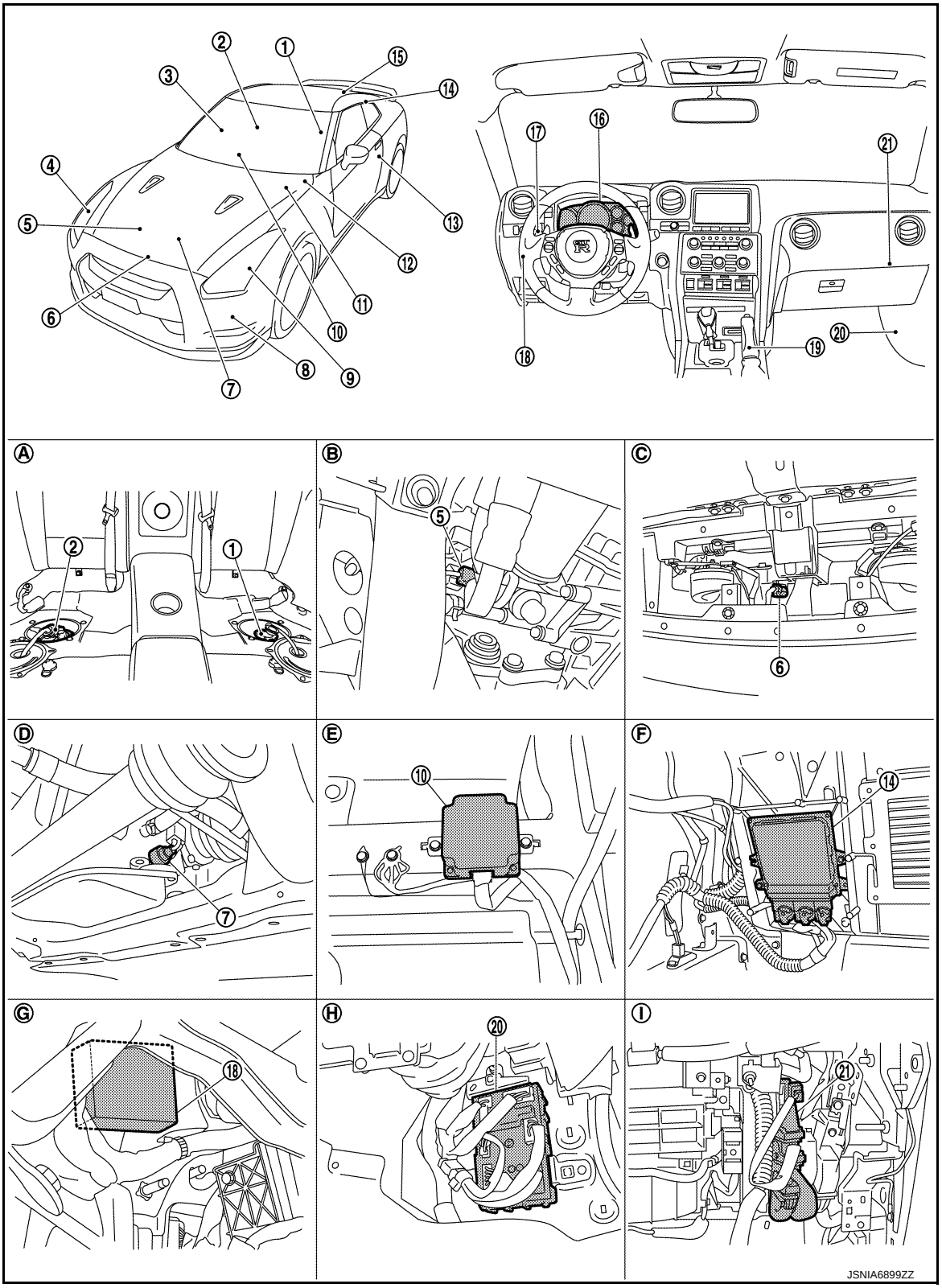

## SHIFT POSITION INDICATOR : System Description

INFOID:0000000011488259

- The combination meter receives the shift position signal from TCM via CAN communication, and displays the shift position to the shift position indicator.
- The combination meter receives the shift position signal from TCM via CAN communication. If the status does not allow a shift change, it blinks the shift position indicator.

# SHIFT POSITION INDICATOR : Component Parts Location

INFOID:0000000011488260




1. Fuel level sensor unit (Sub)
2. Fuel level sensor unit (Main)
3. Door switch (passenger side)
4. Front combination lamp RH
5. Oil pressure sensor
6. Ambient sensor
7. Oil level sensor
8. Washer level switch
9. Front combination lamp LH

10. AWD control unit
11. Brake fluid level switch
12. ABS actuator and electric unit (control unit)
13. Door switch (driver side)
14. TCM
15. Trunk switch
16. Combination meter
17. Combination switch (Lighting switch)
18. Low tire pressure warning control unit
19. Parking brake
20. BCM
21. ECM
A. Under rear seat
B. Right side of engine
C. Radiator core support (center)
D. Oil pan LH upper
E. Front RH seat under
F. Trunk room left back
G. Lower instrument panel LH
H. Dashboard side lower (passenger seat side)
I. Glove box assembly back

## SHIFT POSITION INDICATOR : Component Description

INFOID:0000000011488261

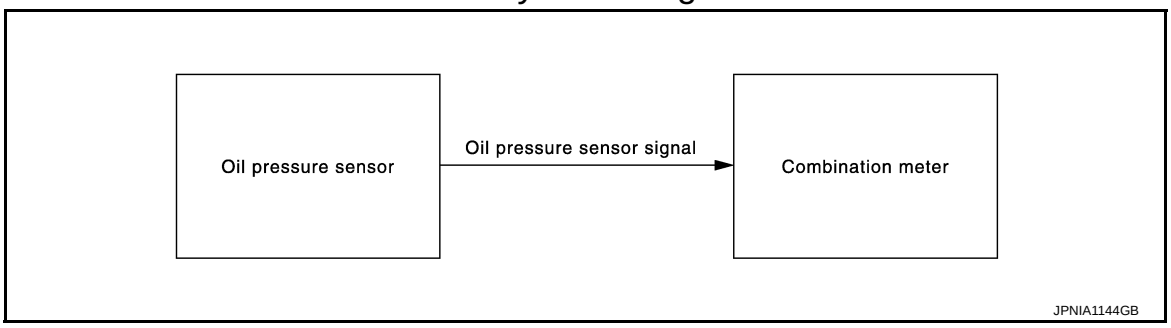
| Unit | Description |
|---|---|
| Combination meter | Based on received signals from each unit, switch, and sensor, controls the following items.<br>• Speedometer<br>• Tachometer<br>• Engine coolant temperature gauge<br>• Fuel gauge<br>• Warning lamp<br>• Indicator lamp<br>• Information display |
| Fuel level sensor unit | Detects the fuel level in fuel tank using the fuel level sensor unit, and transmits the fuel gauge signal to the combination meter. |
| Oil pressure sensor | Detects the oil pressure of engine oil, and transmits the oil pressure sensor signal to the combination meter. |
| ECM | Transmits the following signals to the combination meter via CAN communication.<br>• Engine speed signal<br>• Engine coolant temperature signal<br>• Fuel consumption monitor signal<br>• Malfunction indicator lamp signal<br>• Engine status signal<br>• ASCD status signal |
| ABS actuator and electric unit (control unit) | Transmits the following signals to the combination meter via CAN communication.<br>• Vehicle speed signal<br>• ABS warning display signal<br>• VDC warning display signal |
| BCM | Transmits signals received from each unit and switch to the combination meter via CAN communication. |
| TCM | Transmits the following signals to the combination meter via CAN communication.<br>• Shift position signal<br>• Shift lever position warning display signal<br>• Transmission oil high temperature warning display signal<br>• Transmission clutch high temperature warning display signal<br>• Transmission system warning display signal<br>• Transmission system check display signal<br>• Shift lever position check display signal |
| AWD control unit | Transmits the following signals to the combination meter via CAN communication.<br>• AWD clutch high temperature warning display signal<br>• AWD system warning display signal<br>• Front/rear tire size discrepancy warning display signal |
| Low tire pressure warning control unit | Transmits the following signals to the combination meter via CAN communication.<br>• Run-flat tire warning display signal<br>• Low tire pressure warning display signal<br>• Tire pressure monitoring system warning display signal |

| Unit | Description |
|---|---|
| Meter control switch | Transmits the following signals to the combination meter.<br>• Illumination control switch signal (+)<br>• Illumination control switch signal (-)<br>• Trip A/B reset switch signal<br>• Select switch signal<br>• Enter switch signal |
| Brake fluid level switch | Transmits the brake fluid level switch signal to the combination meter. |
| Parking brake switch | Transmits the parking brake switch signal to the combination meter. |
| Oil level sensor | Transmits the oil level sensor signal to the combination meter. |
| Washer level switch | Transmits the washer level switch signal to the combination meter. |
| Ambient sensor | Transmits the ambient sensor signal to the combination meter. |
| Front combination lamp LH | Transmits the front combination lamp LH signal to the combination meter. |
| Front combination lamp RH | Transmits the front combination lamp RH signal to the combination meter. |

# OIL PRESSURE WARNING LAMP

## OIL PRESSURE WARNING LAMP : System Diagram

INFOID:0000000011488262




## OIL PRESSURE WARNING LAMP : System Description

INFOID:0000000011488263

### OIL PRESSURE WARNING LAMP

Control Outline

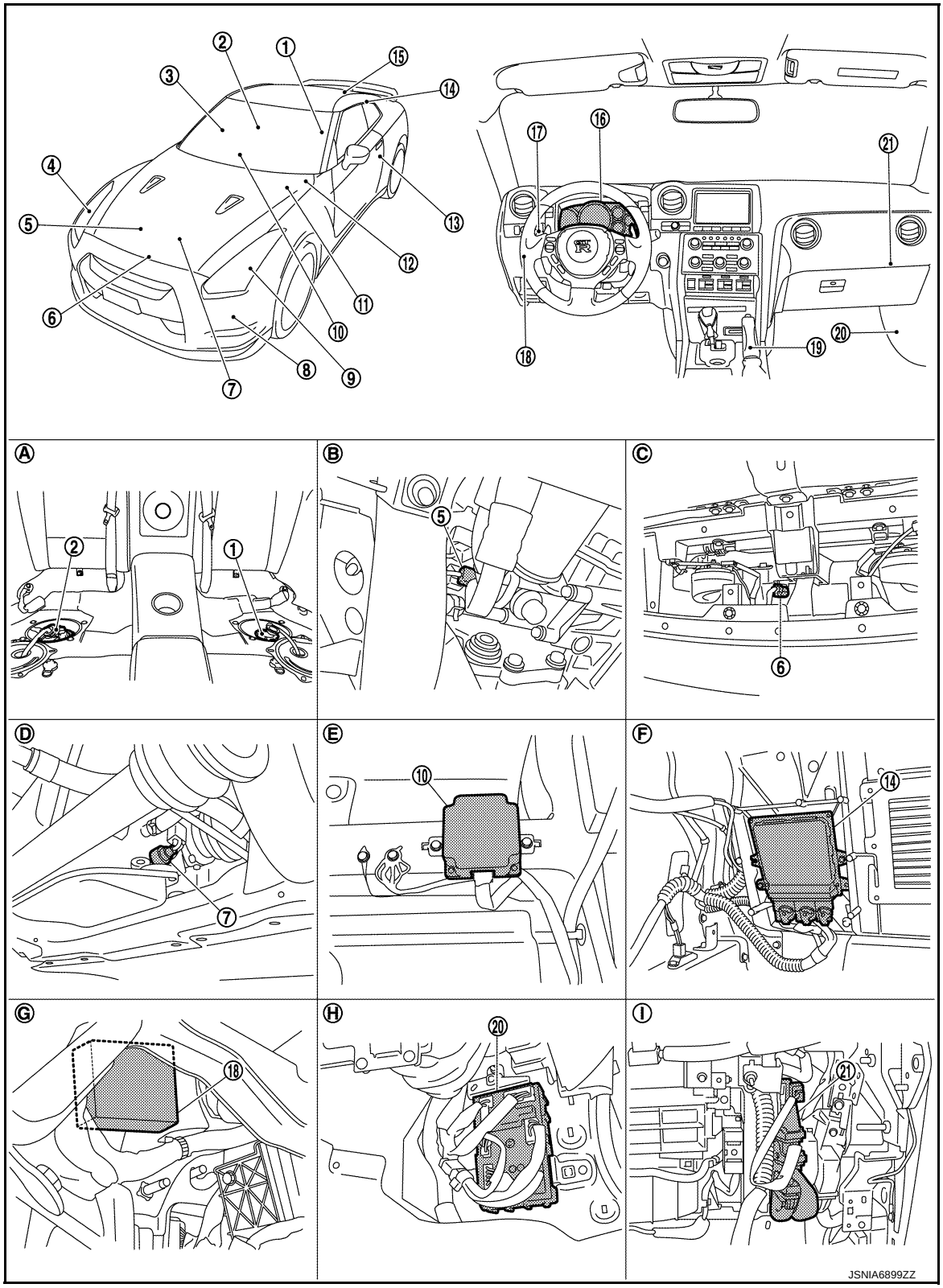
The combination meter reads the oil pressure sensor signal from oil pressure sensor, and illuminates/turns off the oil pressure warning lamp.

**NOTE:**

The display of engine oil pressure warning on the information display is shown/turned off simultaneously with the illumination/turning off of the oil pressure warning lamp.

## OIL PRESSURE WARNING LAMP : Component Parts Location

INFOID:0000000011488264




1. Fuel level sensor unit (Sub)
2. Fuel level sensor unit (Main)
3. Door switch (passenger side)
4. Front combination lamp RH
5. Oil pressure sensor
6. Ambient sensor
7. Oil level sensor
8. Washer level switch
9. Front combination lamp LH

10. AWD control unit
11. Brake fluid level switch
12. ABS actuator and electric unit (control unit)
13. Door switch (driver side)
14. TCM
15. Trunk switch
16. Combination meter
17. Combination switch (Lighting switch)
18. Low tire pressure warning control unit
19. Parking brake
20. BCM
21. ECM
A. Under rear seat
B. Right side of engine
C. Radiator core support (center)
D. Oil pan LH upper
E. Front RH seat under
F. Trunk room left back
G. Lower instrument panel LH
H. Dashboard side lower (passenger seat side)
I. Glove box assembly back

## OIL PRESSURE WARNING LAMP : Component Description

INFOID:0000000011488265

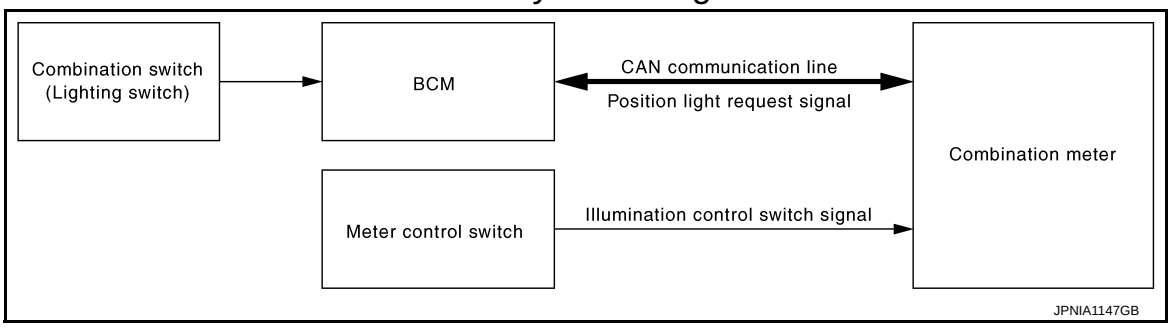
| Unit | Description |
|---|---|
| Combination meter | Based on received signals from each unit, switch, and sensor, controls the following items.<br>• Speedometer<br>• Tachometer<br>• Engine coolant temperature gauge<br>• Fuel gauge<br>• Warning lamp<br>• Indicator lamp<br>• Information display |
| Fuel level sensor unit | Detects the fuel level in fuel tank using the fuel level sensor unit, and transmits the fuel gauge signal to the combination meter. |
| Oil pressure sensor | Detects the oil pressure of engine oil, and transmits the oil pressure sensor signal to the combination meter. |
| ECM | Transmits the following signals to the combination meter via CAN communication.<br>• Engine speed signal<br>• Engine coolant temperature signal<br>• Fuel consumption monitor signal<br>• Malfunction indicator lamp signal<br>• Engine status signal<br>• ASCD status signal |
| ABS actuator and electric unit (control unit) | Transmits the following signals to the combination meter via CAN communication.<br>• Vehicle speed signal<br>• ABS warning display signal<br>• VDC warning display signal |
| BCM | Transmits signals received from each unit and switch to the combination meter via CAN communication. |
| TCM | Transmits the following signals to the combination meter via CAN communication.<br>• Shift position signal<br>• Shift lever position warning display signal<br>• Transmission oil high temperature warning display signal<br>• Transmission clutch high temperature warning display signal<br>• Transmission system warning display signal<br>• Transmission system check display signal<br>• Shift lever position check display signal |
| AWD control unit | Transmits the following signals to the combination meter via CAN communication.<br>• AWD clutch high temperature warning display signal<br>• AWD system warning display signal<br>• Front/rear tire size discrepancy warning display signal |
| Low tire pressure warning control unit | Transmits the following signals to the combination meter via CAN communication.<br>• Run-flat tire warning display signal<br>• Low tire pressure warning display signal<br>• Tire pressure monitoring system warning display signal |

| Unit | Description |
|---|---|
| Meter control switch | Transmits the following signals to the combination meter.<br>• Illumination control switch signal (+)<br>• Illumination control switch signal (-)<br>• Trip A/B reset switch signal<br>• Select switch signal<br>• Enter switch signal |
| Brake fluid level switch | Transmits the brake fluid level switch signal to the combination meter. |
| Parking brake switch | Transmits the parking brake switch signal to the combination meter. |
| Oil level sensor | Transmits the oil level sensor signal to the combination meter. |
| Washer level switch | Transmits the washer level switch signal to the combination meter. |
| Ambient sensor | Transmits the ambient sensor signal to the combination meter. |
| Front combination lamp LH | Transmits the front combination lamp LH signal to the combination meter. |
| Front combination lamp RH | Transmits the front combination lamp RH signal to the combination meter. |

# METER ILLUMINATION CONTROL

## METER ILLUMINATION CONTROL : System Diagram

INFOID:0000000011488266

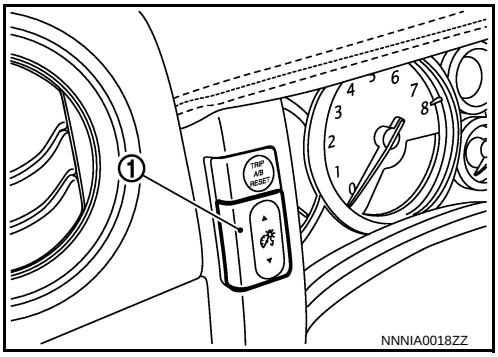



## METER ILLUMINATION CONTROL : System Description

INFOID:0000000011488267

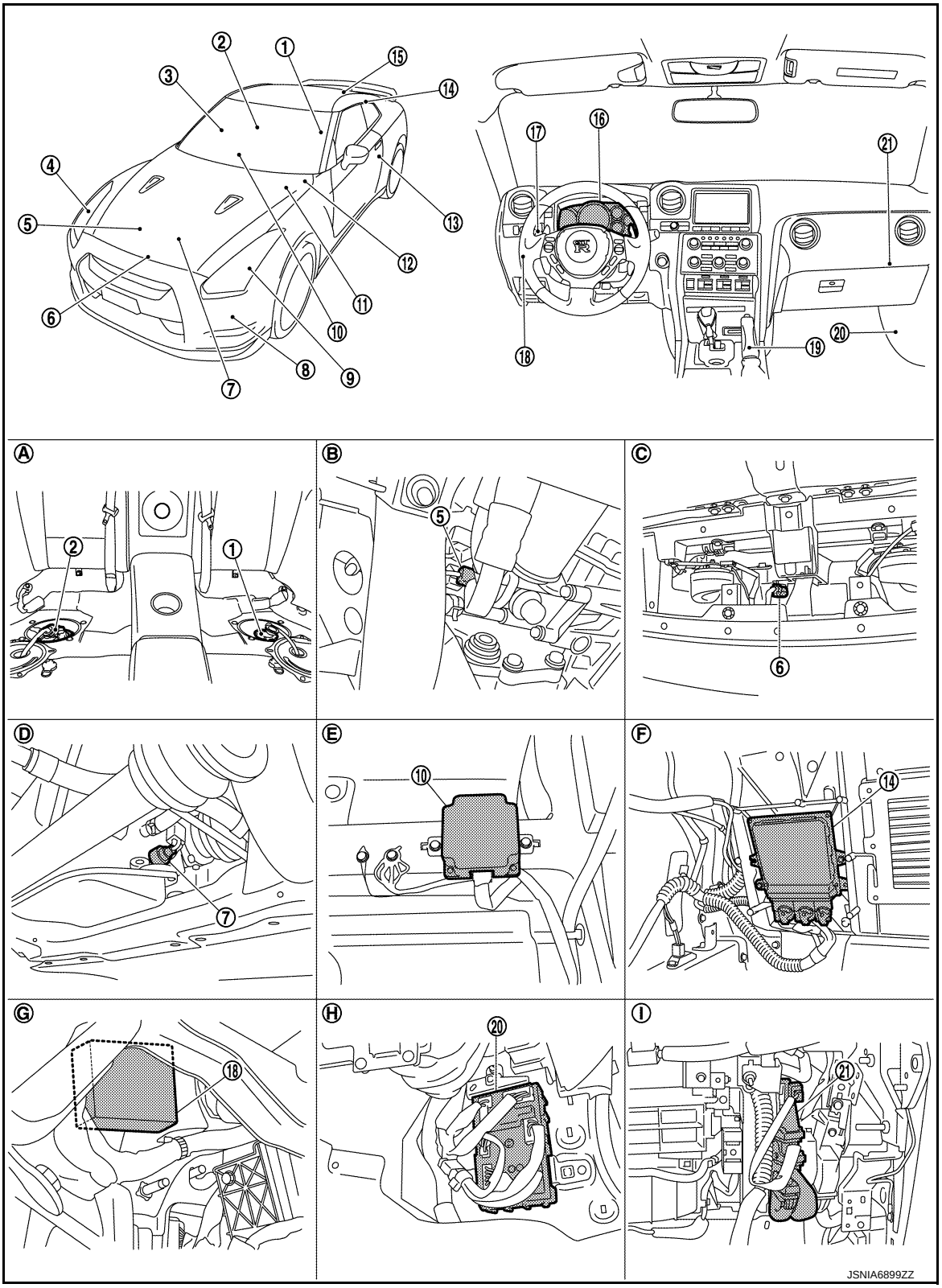
### METER ILLUMINATION CONTROL FUNCTION

Every time when the illumination control switch (1) is pressed, the illuminance of meter illumination can be adjusted in 22 steps. (Illuminance can be adjusted both in daytime and nighttime modes.)



# METER ILLUMINATION CONTROL : Component Parts Location

INFOID:0000000011488268




1. Fuel level sensor unit (Sub)
2. Fuel level sensor unit (Main)
3. Door switch (passenger side)
4. Front combination lamp RH
5. Oil pressure sensor
6. Ambient sensor
7. Oil level sensor
8. Washer level switch
9. Front combination lamp LH

10. AWD control unit
11. Brake fluid level switch
12. ABS actuator and electric unit (control unit)
13. Door switch (driver side)
14. TCM
15. Trunk switch
16. Combination meter
17. Combination switch (Lighting switch)
18. Low tire pressure warning control unit
19. Parking brake
20. BCM
21. ECM
A. Under rear seat
B. Right side of engine
C. Radiator core support (center)
D. Oil pan LH upper
E. Front RH seat under
F. Trunk room left back
G. Lower instrument panel LH
H. Dashboard side lower (passenger seat side)
I. Glove box assembly back

## METER ILLUMINATION CONTROL : Component Description

INFOID:0000000011488269

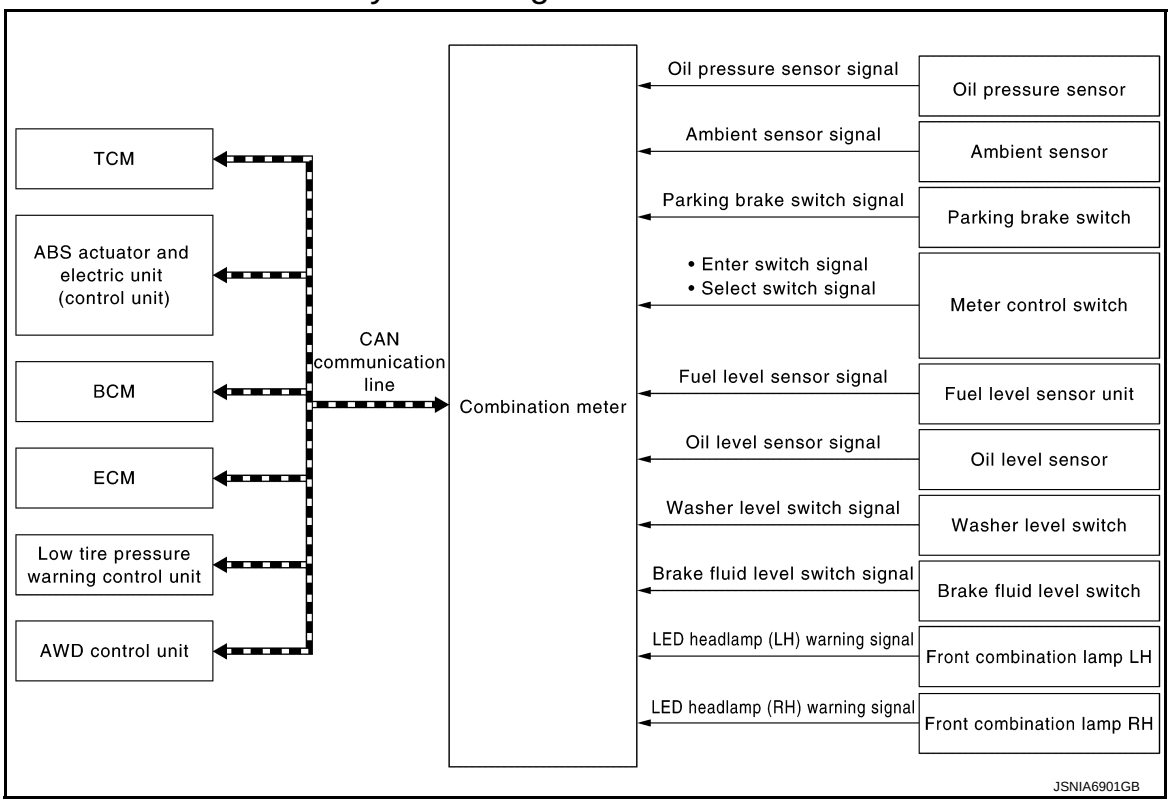
| Unit | Description |
|---|---|
| Combination meter | Based on received signals from each unit, switch, and sensor, controls the following items.<br>• Speedometer<br>• Tachometer<br>• Engine coolant temperature gauge<br>• Fuel gauge<br>• Warning lamp<br>• Indicator lamp<br>• Information display |
| Fuel level sensor unit | Detects the fuel level in fuel tank using the fuel level sensor unit, and transmits the fuel gauge signal to the combination meter. |
| Oil pressure sensor | Detects the oil pressure of engine oil, and transmits the oil pressure sensor signal to the combination meter. |
| ECM | Transmits the following signals to the combination meter via CAN communication.<br>• Engine speed signal<br>• Engine coolant temperature signal<br>• Fuel consumption monitor signal<br>• Malfunction indicator lamp signal<br>• Engine status signal<br>• ASCD status signal |
| ABS actuator and electric unit (control unit) | Transmits the following signals to the combination meter via CAN communication.<br>• Vehicle speed signal<br>• ABS warning display signal<br>• VDC warning display signal |
| BCM | Transmits signals received from each unit and switch to the combination meter via CAN communication. |
| TCM | Transmits the following signals to the combination meter via CAN communication.<br>• Shift position signal<br>• Shift lever position warning display signal<br>• Transmission oil high temperature warning display signal<br>• Transmission clutch high temperature warning display signal<br>• Transmission system warning display signal<br>• Transmission system check display signal<br>• Shift lever position check display signal |
| AWD control unit | Transmits the following signals to the combination meter via CAN communication.<br>• AWD clutch high temperature warning display signal<br>• AWD system warning display signal<br>• Front/rear tire size discrepancy warning display signal |
| Low tire pressure warning control unit | Transmits the following signals to the combination meter via CAN communication.<br>• Run-flat tire warning display signal<br>• Low tire pressure warning display signal<br>• Tire pressure monitoring system warning display signal |

| Unit | Description |
|---|---|
| Meter control switch | Transmits the following signals to the combination meter.<br>• Illumination control switch signal (+)<br>• Illumination control switch signal (-)<br>• Trip A/B reset switch signal<br>• Select switch signal<br>• Enter switch signal |
| Brake fluid level switch | Transmits the brake fluid level switch signal to the combination meter. |
| Parking brake switch | Transmits the parking brake switch signal to the combination meter. |
| Oil level sensor | Transmits the oil level sensor signal to the combination meter. |
| Washer level switch | Transmits the washer level switch signal to the combination meter. |
| Ambient sensor | Transmits the ambient sensor signal to the combination meter. |
| Front combination lamp LH | Transmits the front combination lamp LH signal to the combination meter. |
| Front combination lamp RH | Transmits the front combination lamp RH signal to the combination meter. |

# INFORMATION DISPLAY

## INFORMATION DISPLAY : System Diagram

INFOID:0000000011488270




## INFORMATION DISPLAY : System Description

INFOID:0000000011488271

### DESCRIPTION

- The combination meter inputs the information required to control the operation of information display by using the communication signals and others from each unit.
- The combination meter integrates the drive computer function, and performs the warning display/information display by using the signals received from each unit, sensor, and switch.
- When the enter switch signal or select switch signal is received, the combination meter can check, change screens, perform setting, or reset the warning, indication, information, and setting on the information display.

### INSTANTANEOUS FUEL CONSUMPTION

Control Outline

- The combination meter receives the fuel consumption monitor signal from ECM and the vehicle speed signal from the ABS actuator control unit via CAN communication.
- Based on the fuel consumption monitor signal and vehicle speed signal that are received via CAN communication, the combination meter calculates the instantaneous fuel consumption, and displays the result.

## VEHICLE SPEED

Control Outline
- The combination meter receives the vehicle speed signal from the ABS actuator and electric unit (control unit) via CAN communication.
- Based on the vehicle speed signal received via CAN communication, the combination meter displays the vehicle speed.

## CRUISE CONTROL SYSTEM STATUS

Control Outline
- The combination meter receives the ASCD status signal from ECM via CAN communication.
- Based on the ASCD status signal received via CAN communication, the combination meter displays the CRUISE control system setting status.

  **NOTE:**
  When the CRUISE control system is OFF, the CRUISE control system status is not displayed.

## AVERAGE FUEL CONSUMPTION

Control Outline
- The combination meter receives the fuel consumption monitor signal from ECM and the vehicle speed signal from the ABS actuator control unit via CAN communication.
- Based on the fuel consumption monitor signal and vehicle speed signal that are received via CAN communication, the combination meter calculates the average fuel consumption, and displays the result.
- The average fuel consumption displayed on the information display is updated at approximately 30-second intervals.

**NOTE:**
"----" is displayed for approximately 30 seconds just after the reset operation and after the ignition switch is OFF → ON. It is displayed simultaneously until the vehicle is driven approximately 500 m (0.3 mile).

## AVERAGE VEHICLE SPEED

Control Outline
- The combination meter receives the vehicle speed signal from the ABS actuator and electric unit (control unit) via CAN communication.
- Based on the vehicle speed signal received via CAN communication and on the travel time measured in combination meter, the combination meter calculates the average vehicle speed, and displays the result.
- The average vehicle speed displayed on the information display is updated at approximately 30-second intervals.

**NOTE:**
"----" is displayed for 30 seconds just after the reset operation and after the ignition switch is OFF → ON. It is displayed simultaneously until the vehicle is driven approximately 500 m (0.3 mile).

## TRAVEL TIME

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

## TRAVEL DISTANCE

Control Outline
The combination meter receives the vehicle speed signal from the ABS actuator and electric unit (control unit) via CAN communication, then calculates and displays the travel distance.

## POSSIBLE DRIVING DISTANCE

Control Outline
- The combination meter receives the fuel consumption monitor signal from ECM and the vehicle speed signal from the ABS actuator control unit via CAN communication.
- Based on the signal received via CAN communication and on the fuel level sensor signal received from the fuel level sensor unit, the combination meter calculates the possible driving distance, and displays the result.

**NOTE:**
- "–––" is displayed for 30 seconds after the ignition switch is OFF → ON. It is displayed simultaneously until the vehicle is driven approximately 500 m (0.3 mile).
- The indicated values may not match each other when refueling with the ignition switch ON. Refer to MWI-24, "FUEL GAUGE : System Description".

## AMBIENT AIR TEMPERATURE

- Combination meter calculates outside air temperature based on the signal received from ambient sensor, and displays the result on information display.
- Combination meter corrects the indicated temperature using ignition switch signal, ambient sensor signal and vehicle speed signal.

### Correction Process (Right after ignition switch is turned ON)

The detected temperature by ambient sensor is displayed when the vehicle enters in both of the following condition.
- When the detected temperature is higher than the indicated temperature on information display.
- When the duration of ignition switch OFF to ON is long.

The last indicated temperature is displayed when the vehicle enters in either of the following conditions.
- When the detected temperature by ambient sensor is lower than the indicated temperature on information display.
- When the duration of ignition switch OFF to ON is short.

### Correction Process (When the ignition switch is ON)

The detected temperature by ambient sensor is displayed under the following condition.
- When the detected temperature is lower than the indicated temperature on information display.

The indicated temperature is not updated under the following condition.
- When the detected temperature by ambient sensor is higher than the indicated temperature on information display [at a speed of 20 km/h (12 MPH) or less].

The indicated temperature on information display rises slowly to reach the detected temperature by ambient sensor under the following condition.
- When the detected temperature is higher than the indicated temperature on information display [at a speed of more than 20 km/h (12 MPH)].

The indicated temperature on information display rises to reach the detected temperature by ambient sensor under the following condition.
- When the detected temperature is higher than the indicated temperature on information display [while driving a certain period of time at a speed of more than 20 km/h (12 MPH)].

**NOTE:**
- "–––" is displayed for 2.5 seconds right after ignition switch is turned ON.
- The input value of ambient sensor, displayed on CONSULT data monitor, is the direct reading before correction. (This means that the reading may not match the indicated temperature on information display.)
- If a battery or combination meter is removed and installed, the detected temperature by ambient sensor is displayed, right after ignition switch is turned ON.
- The indicated temperature may be higher than the actual temperature because of heat radiation from engine or reflection of heat on road surface.

## SETTING

Setting item list

| Items | | | | Setting range | Setting unit (Press and hold for 1 second or more) | Description |
|---|---|---|---|---|---|---|
| Alert | Up shift | | | AUTO, OFF, 3000 rpm – 6300 rpm | 100 rpm (500 rpm) | The engine speed signal is received from ECM via CAN communication, and the up-shift indicator can be set to ON/blink/OFF depending on the engine speed. |
| | Timer | | | OFF, 0.5HOUR– 6HOUR | 30 minutes (60 minutes) | An alarm message is displayed on the information display when the set travel time is reached. |
| | ICY | | | ON/OFF | — | When the ambient air temperature becomes 3 °C (37 °F) or lower, the ambient sensor signal is received from the ambient sensor and a freeze caution alarm message is displayed on the information display. |
| Maintenance | Oil | Engine | Replacement distance | No setting – 15000 km<br>No setting – 9500 miles | 500 km (1000 km)<br>250 miles (500 miles) | • An engine oil replacement distance warning is displayed on the information display.<br>• When the set distance is reached, a warning is displayed requesting replacement of the engine oil. |
| | | | Remaining amount | — | — | • The oil level sensor signal is received from oil level sensor, and the engine oil level is displayed in 5 steps.<br>• The oil level sensor signal is received from the oil level sensor, and an indication is displayed that the engine oil level is at a normal value.<br>• The oil level sensor signal is received from the oil level sensor, and an indication is displayed that the engine oil level is abnormal. |
| | | Transmission | Replacement distance | No setting – 90000 km<br>No setting – 55500 miles | 500 km (1000 km)<br>250 miles (500 miles) | When the set distance is reached, a warning is displayed requesting replacement of the transmission oil. |
| | Filter | | Replacement distance | No setting – 15000 km<br>No setting – 9500 miles | 500 km (1000 km)<br>250 miles (500 miles) | When the set distance is reached, a warning is displayed requesting replacement of the oil filter. |
| | Tire | | Replacement distance | No setting – 30000 km<br>No setting – 18500 miles | 500 km (1000 km)<br>250 miles (500 miles) | When the set distance is reached, a warning is displayed requesting replacement of the tires. |
| Options | Language | ENGLISH/FRANCAIS | | — | — | Changing the language setting can be performed. |
| | Unit | METRIC/US | | — | — | Changing the unit setting can be performed. |

**NOTE:**
Engine oil level display

When the following conditions are satisfied, the combination meter reads the resistance value of oil level sensor, and displays the oil level on the information display. The combination meter does not read the oil level sensor resistance value within 5 minutes after the previous reading of oil level sensor resistance value by the combination meter.

1. Turn the ignition switch OFF.
2. Wait for 5 minutes or more, then open the driver door.

## DOOR OPEN WARNING

Control Outline

The combination meter receives the door switch signal from BCM via CAN communication, then judges and displays the door open warning.

## TRUNK OPEN WARNING

Control Outline

The combination meter receives the trunk switch signal from BCM via CAN communication, then judges and displays the trunk open warning.

## PARKING BRAKE RELEASE WARNING

Control Outline

Based on the vehicle speed signal received from ABS actuator and electric unit (control unit) via CAN communication and on the parking brake switch signal received from parking brake switch, the combination meter judges and displays the parking brake release warning.

Warning Operation Condition

The system judges that the parking brake is not released when the following conditions are satisfied.

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

## LOW FUEL WARNING

Control Outline

- Using the fuel gauge signal sent from the fuel level sensor unit, the combination meter judges and displays the fuel level warning.

Warning Operation Condition

- Fuel level: Approximately 13.5 ℓ (3-5/8 US gal, 3 lmp gal) or less [1.0 ℓ (1/4 US gal, 1/4 Imp gal) fuel residues included].

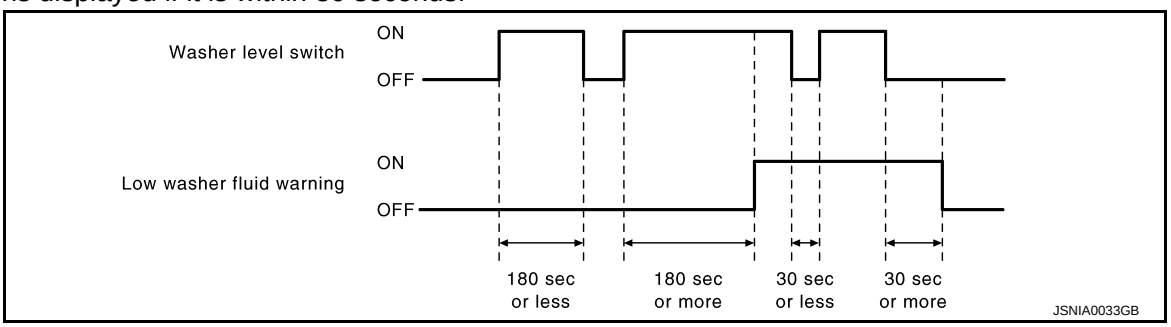
## LOW WASHER FLUID WARNING

Control Outline

- The combination meter receives the washer level switch signal from the washer level switch.
- Based on the received washer level switch signal, the combination meter displays the low washer fluid warning.

Warning Operation Condition

- The low washer fluid warning is displayed if the washer level switch remains ON for 180 seconds or more.
- Even when the washer level switch is turned OFF while displaying the low washer fluid warning, the warning remains displayed if it is within 30 seconds.




## ENGINE OIL LEVEL SENSOR ABNORMALITY WARNING

Control Outline

Under the following conditions, the combination meter displays the oil level sensor warning.
- Oil level sensor is open (resistance value of oil level sensor signal circuit exceeds 20 Ω).
- Oil level sensor is shorted (resistance value of oil level sensor signal circuit is less than 3 Ω).

## SHIFT LEVER POSITION WARNING

Control Outline
- The combination meter receives the shift lever position warning display signal from TCM via CAN communication.
- Based on the shift lever position warning display signal received via CAN communication, the combination meter displays the shift lever position warning.

## SHIFT " P " WARNING

Control Outline
- The combination meter receives the shift lever position check display signal from TCM via CAN communication.
- Based on the shift lever position check display signal received via CAN communication, the combination meter displays the shift " P " warning.

## TRANSMISSION SYSTEM CHECK

Control Outline
- The combination meter receives the transmission system check display signal from TCM via CAN communication.
- Based on the transmission system check display signal received via CAN communication, the combination meter displays the transmission system check.

## RUN-FLAT TIRE WARNING

Control Outline
- The combination meter receives the run-flat tire warning display signal from the low tire pressure warning control unit via CAN communication.
- Based on the run-flat tire warning display signal received via CAN communication, the combination meter displays the run-flat tire warning.

## TRANSMISSION CLUTCH HIGH TEMPERATURE WARNING

Control Outline
- The combination meter receives the transmission clutch high temperature warning display signal from TCM via CAN communication.
- Based on the transmission clutch high temperature warning display signal received via CAN communication, the combination meter displays the transmission clutch high temperature warning.

## TRANSMISSION OIL HIGH TEMPERATURE WARNING
- The combination meter receives the transmission oil high temperature warning display signal from TCM via CAN communication.
- Based on the transmission oil high temperature warning display signal received via CAN communication, the combination meter displays the transmission oil high temperature warning.

## LOW TIRE PRESSURE WARNING

Control Outline
- The combination meter receives the low tire pressure warning display signal from the low tire pressure warning control unit via CAN communication.
- Based on the low tire pressure warning display signal received via CAN communication, the combination meter displays the low tire pressure warning.

## AWD CLUTCH HIGH TEMPERATURE WARNING

Control Outline
- The combination meter receives the AWD clutch high temperature warning display signal from the AWD control unit via CAN communication.
- Based on the AWD clutch high temperature warning display signal received via CAN communication, the combination meter displays the AWD clutch high temperature warning.

## FRONT/REAR TIRE SIZE DISCREPANCY WARNING

Control Outline
- The combination meter receives the front/rear tire discrepancy warning display signal from the AWD control unit via CAN communication.
- Based on the front/rear tire discrepancy warning display signal received via CAN communication, the combination meter displays the front/rear tire discrepancy warning.

## TRANSMISSION SYSTEM WARNING

Control Outline
- The combination meter receives the transmission system warning display signal from TCM via CAN communication.
- Based on the transmission system warning display signal received via CAN communication, the combination meter displays the transmission system warning.

## TIRE PRESSURE MONITORING SYSTEM WARNING

Control Outline
- The combination meter receives the tire pressure monitoring system warning display signal from the low tire pressure warning control unit via CAN communication.
- Based on the tire pressure monitoring system warning display signal received via CAN communication, the combination meter displays the tire pressure monitoring system warning.

## AWD SYSTEM WARNING

Control Outline
- The combination meter receives the AWD system warning display signal from the AWD control unit via CAN communication.
- Based on the AWD system warning display signal received via CAN communication, the combination meter displays the AWD system warning.

## ANTI-LOCK BRAKING SYSTEM (ABS) WARNING

Control Outline
- The combination meter receives the ABS warning display signal from the ABS control unit via CAN communication.
- Based on the ABS warning display signal received via CAN communication, the combination meter displays the anti-lock braking system (ABS) warning.

## VEHICLE DYNAMIC CONTROL (VDC) SYSTEM WARNING

Control Outline
- The combination meter receives the VDC warning display signal from the ABS control unit via CAN communication.
- Based on the VDC warning display signal received via CAN communication, the combination meter displays the vehicle dynamic control (VDC) system warning.

## ENGINE SYSTEM WARNING

Control Outline
- The combination meter receives the engine status signal from ECM via CAN communication.
- Based on the engine status signal received via CAN communication, the combination meter displays the engine system warning.

## CRUISE CONTROL SYSTEM WARNING

Control Outline
- The combination meter receives the ASCD status signal from ECM via CAN communication.
- Based on the ASCD status signal received via CAN communication, the combination meter displays the cruise control system warning.

## ENGINE OIL LOW PRESSURE WARNING

Control Outline
- The combination meter receives the oil pressure sensor signal from the oil pressure sensor.
- Based on the received oil pressure sensor signal, the combination meter displays the insufficient engine oil low pressure warning.

## LOW BRAKE FLUID WARNING

Control Outline
- The combination meter receives the brake fluid level switch signal from the brake fluid level switch.
- Based on the received brake fluid level switch signal, the combination meter displays the low brake fluid warning.

## REVERSE WARNING

Control Outline
- The combination meter receives the buzzer output signal (reverse warning chime) from the BCM via CAN communication.
- Based on the received buzzer output signal (reverse warning chime), the combination meter displays the reverse warning.

## HEADLAMP WARNING

Control Outline
- The combination meter receives the low beam request signal from the BCM via CAN communication.
- The combination meter receives the LED headlamp warning signal (LH/RH) from the front combination lamp (LH/RH).
- Based on the received low beam request signal, and LED headlamp warning signal (LH/RH) the combination meter displays the headlamp warning.

# INFORMATION DISPLAY : Component Parts Location

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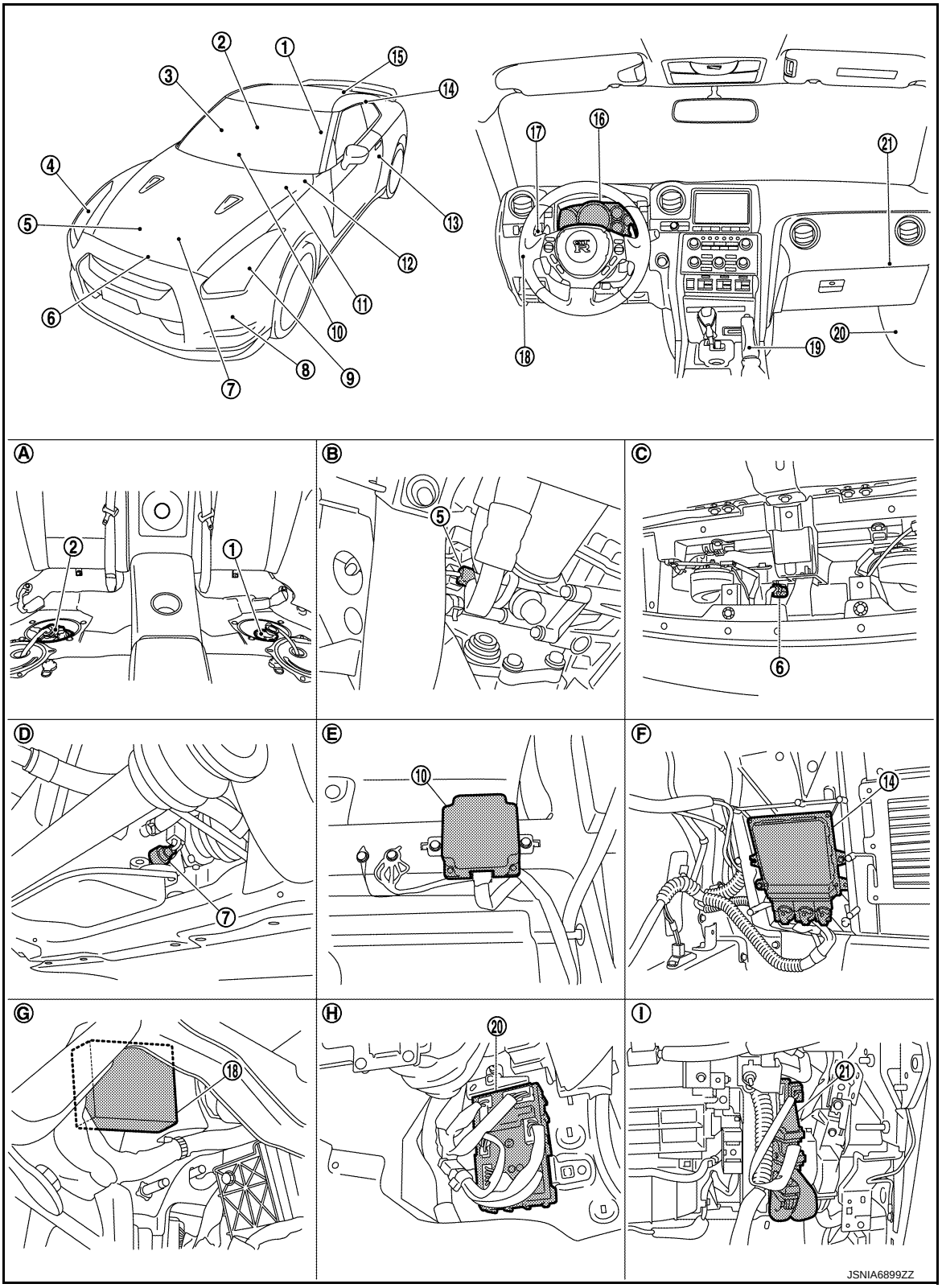


1. Fuel level sensor unit (Sub)
2. Fuel level sensor unit (Main)
3. Door switch (passenger side)
4. Front combination lamp RH
5. Oil pressure sensor
6. Ambient sensor
7. Oil level sensor
8. Washer level switch
9. Front combination lamp LH

10. AWD control unit
11. Brake fluid level switch
12. ABS actuator and electric unit (control unit)
13. Door switch (driver side)
14. TCM
15. Trunk switch
16. Combination meter
17. Combination switch (Lighting switch)
18. Low tire pressure warning control unit
19. Parking brake
20. BCM
21. ECM
A. Under rear seat
B. Right side of engine
C. Radiator core support (center)
D. Oil pan LH upper
E. Front RH seat under
F. Trunk room left back
G. Lower instrument panel LH
H. Dashboard side lower (passenger seat side)
I. Glove box assembly back

## INFORMATION DISPLAY : Component Description

INFOID:0000000011488273

| Unit | Description |
|---|---|
| Combination meter | Based on received signals from each unit, switch, and sensor, controls the following items.<br>• Speedometer<br>• Tachometer<br>• Engine coolant temperature gauge<br>• Fuel gauge<br>• Warning lamp<br>• Indicator lamp<br>• Information display |
| Fuel level sensor unit | Detects the fuel level in fuel tank using the fuel level sensor unit, and transmits the fuel gauge signal to the combination meter. |
| Oil pressure sensor | Detects the oil pressure of engine oil, and transmits the oil pressure sensor signal to the combination meter. |
| ECM | Transmits the following signals to the combination meter via CAN communication.<br>• Engine speed signal<br>• Engine coolant temperature signal<br>• Fuel consumption monitor signal<br>• Malfunction indicator lamp signal<br>• Engine status signal<br>• ASCD status signal |
| ABS actuator and electric unit (control unit) | Transmits the following signals to the combination meter via CAN communication.<br>• Vehicle speed signal<br>• ABS warning display signal<br>• VDC warning display signal |
| BCM | Transmits signals received from each unit and switch to the combination meter via CAN communication. |
| TCM | Transmits the following signals to the combination meter via CAN communication.<br>• Shift position signal<br>• Shift lever position warning display signal<br>• Transmission oil high temperature warning display signal<br>• Transmission clutch high temperature warning display signal<br>• Transmission system warning display signal<br>• Transmission system check display signal<br>• Shift lever position check display signal |
| AWD control unit | Transmits the following signals to the combination meter via CAN communication.<br>• AWD clutch high temperature warning display signal<br>• AWD system warning display signal<br>• Front/rear tire size discrepancy warning display signal |
| Low tire pressure warning control unit | Transmits the following signals to the combination meter via CAN communication.<br>• Run-flat tire warning display signal<br>• Low tire pressure warning display signal<br>• Tire pressure monitoring system warning display signal |

| Unit | Description |
|---|---|
| Meter control switch | Transmits the following signals to the combination meter.<br>• Illumination control switch signal (+)<br>• Illumination control switch signal (-)<br>• Trip A/B reset switch signal<br>• Select switch signal<br>• Enter switch signal |
| Brake fluid level switch | Transmits the brake fluid level switch signal to the combination meter. |
| Parking brake switch | Transmits the parking brake switch signal to the combination meter. |
| Oil level sensor | Transmits the oil level sensor signal to the combination meter. |
| Washer level switch | Transmits the washer level switch signal to the combination meter. |
| Ambient sensor | Transmits the ambient sensor signal to the combination meter. |
| Front combination lamp LH | Transmits the front combination lamp LH signal to the combination meter. |
| Front combination lamp RH | Transmits the front combination lamp RH signal to the combination meter. |

# UP-SHIFT INDICATOR

## UP-SHIFT INDICATOR : System Diagram

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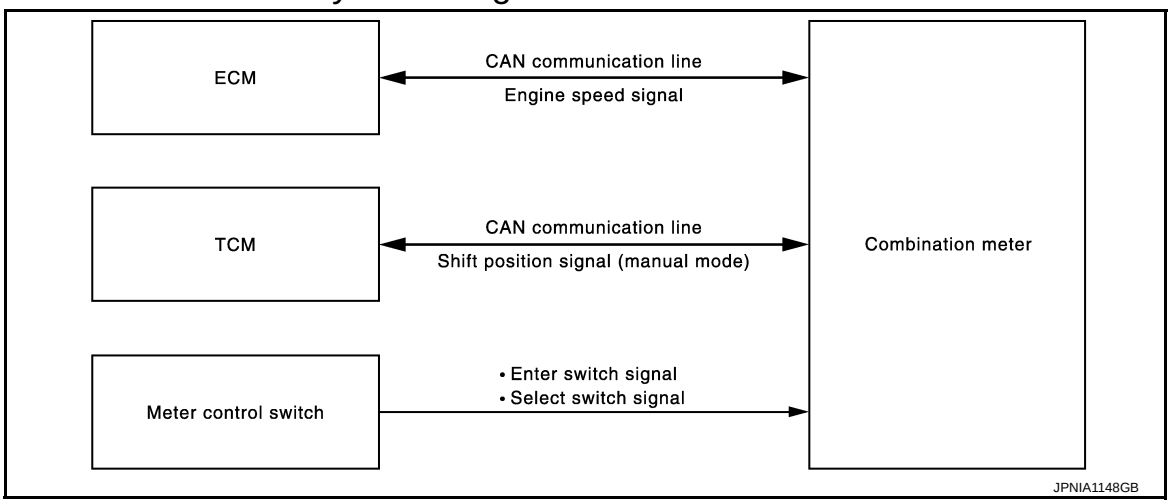


## UP-SHIFT INDICATOR : System Description

INFOID:0000000011488275

- The combination meter receives the engine speed signal from ECM and the shift position signal (manual mode range) from TCM via CAN communication, and illuminates/turns off/blinks the up-shift indicator.
- The engine speed at which the up-shift indicator is illuminated/turned off/blinked can be set with the setting function of information display.
- OFF: All of the up-shift indicators do not illuminate.
- 3,000 to 6,300 rpm: Engine speed can be set at which the up-shift indicator (green) is illuminated.
- AUTO: Up-shift indicator (green) does not illuminate. The up-shift indicator (yellow) and up-shift indicator (red) is turned on/off according to the set value.

### UP-SHIFT INDICATOR (GREEN)

- Using the setting function of information display, the up-shift warning speed can be set.
- The up-shift indicator (green) is illuminated/turned off/blinked according to the engine speed.
- OFF: If the actual engine speed is lower than the arbitrarily set engine speed, which is 3,000 to 6,300 rpm set by the setting function of information display, by 500 rpm or more, the up-shift warning lamp is turned OFF.
  Also, while the up-shift indicator (green) is blinking or illuminated, if the actual engine speed becomes lower than the arbitrarily set engine speed by 600 rpm or more, the up-shift warning lamp is turned OFF.
- Blink: If the actual engine speed is lower than the arbitrarily set engine speed by 500 rpm or more, the up-shift indicator (green) is blinked.
- ON: When the actual engine speed exceeds the arbitrarily set engine speed, the up-shift indicator (green) is illuminated.

Also, while the up-shift indicator (green) is blinking or illuminated, if the actual engine speed becomes lower than the arbitrarily set engine speed by 100 rpm or more, the up-shift indicator is blinked.

### UP-SHIFT INDICATOR (YELLOW)

The up-shift indicator (yellow) is turned ON/OFF according to the engine speed.

- OFF: When the engine speed is less than 6,300 rpm, the up-shift indicator (yellow) does not illuminate. Also, while the up-shift indicator (yellow) is illuminated, when the engine speed becomes 6,200 rpm or lower, the up-shift indicator (yellow) is turned OFF.
- ON: When the engine speed becomes 6,300 rpm or more, the up-shift indicator (yellow) is illuminated.

### UP-SHIFT INDICATOR (RED)

The up-shift indicator (red) is turned ON/OFF according to the engine speed.

- OFF: When the engine speed is less than 6,800 rpm, the up-shift indicator (red) does not illuminate. Also, while the up-shift indicator (red) is illuminated, when the engine speed becomes 6,700 rpm or lower, the up-shift indicator (red) is turned OFF.
- ON: When the engine speed becomes 6,800 rpm or more, the up-shift indicator (red) is illuminated.

## UP-SHIFT INDICATOR : Component Parts Location

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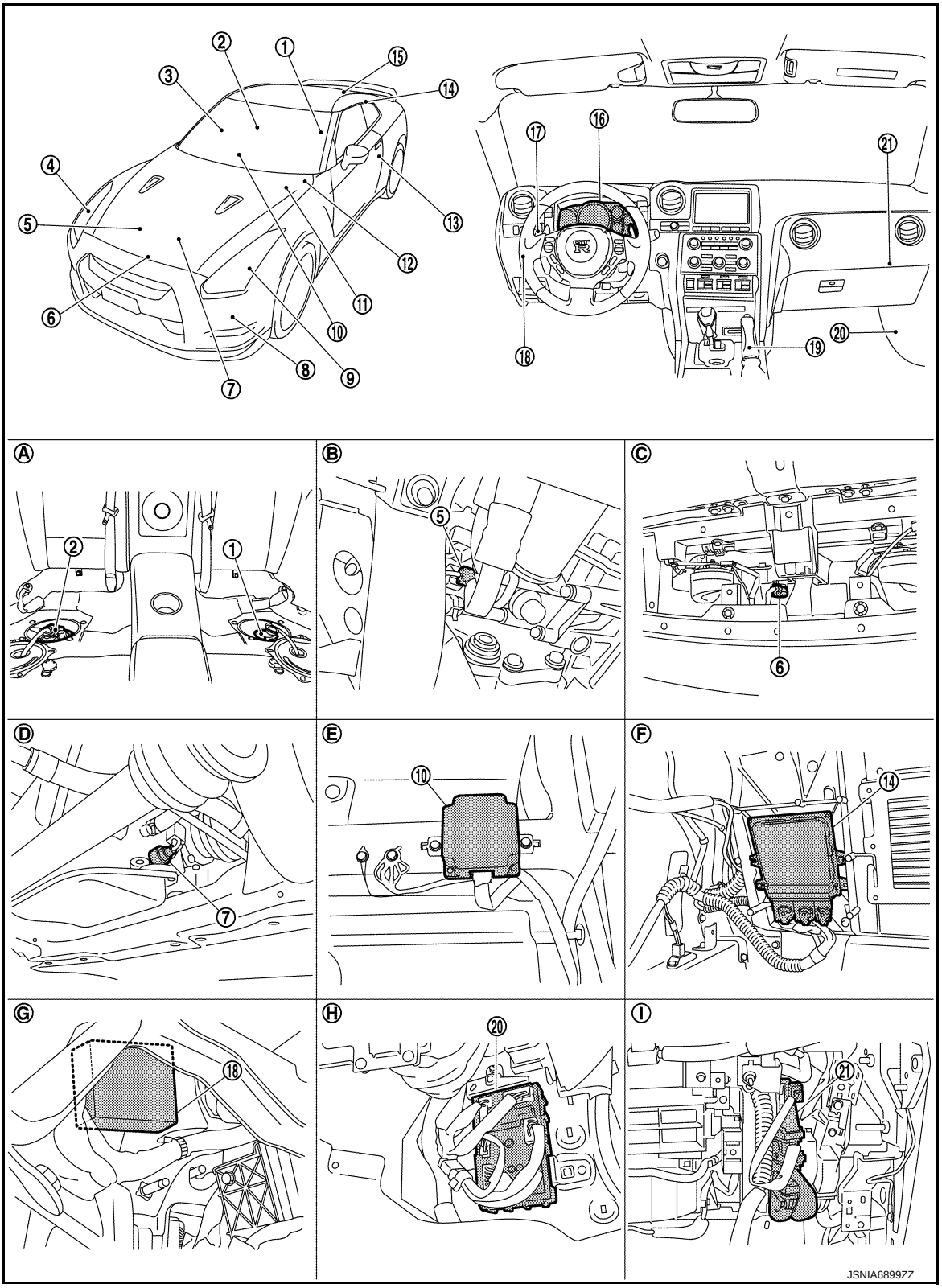



1. Fuel level sensor unit (Sub)
2. Fuel level sensor unit (Main)
3. Door switch (passenger side)
4. Front combination lamp RH
5. Oil pressure sensor
6. Ambient sensor
7. Oil level sensor
8. Washer level switch
9. Front combination lamp LH

10. AWD control unit
11. Brake fluid level switch
12. ABS actuator and electric unit (control unit)
13. Door switch (driver side)
14. TCM
15. Trunk switch
16. Combination meter
17. Combination switch (Lighting switch)
18. Low tire pressure warning control unit
19. Parking brake
20. BCM
21. ECM
A. Under rear seat
B. Right side of engine
C. Radiator core support (center)
D. Oil pan LH upper
E. Front RH seat under
F. Trunk room left back
G. Lower instrument panel LH
H. Dashboard side lower (passenger seat side)
I. Glove box assembly back

## UP-SHIFT INDICATOR : Component Description

INFOID:0000000011488277

| Unit | Description |
|---|---|
| Combination meter | Based on received signals from each unit, switch, and sensor, controls the following items.<br>• Speedometer<br>• Tachometer<br>• Engine coolant temperature gauge<br>• Fuel gauge<br>• Warning lamp<br>• Indicator lamp<br>• Information display |
| Fuel level sensor unit | Detects the fuel level in fuel tank using the fuel level sensor unit, and transmits the fuel gauge signal to the combination meter. |
| Oil pressure sensor | Detects the oil pressure of engine oil, and transmits the oil pressure sensor signal to the combination meter. |
| ECM | Transmits the following signals to the combination meter via CAN communication.<br>• Engine speed signal<br>• Engine coolant temperature signal<br>• Fuel consumption monitor signal<br>• Malfunction indicator lamp signal<br>• Engine status signal<br>• ASCD status signal |
| ABS actuator and electric unit (control unit) | Transmits the following signals to the combination meter via CAN communication.<br>• Vehicle speed signal<br>• ABS warning display signal<br>• VDC warning display signal |
| BCM | Transmits signals received from each unit and switch to the combination meter via CAN communication. |
| TCM | Transmits the following signals to the combination meter via CAN communication.<br>• Shift position signal<br>• Shift lever position warning display signal<br>• Transmission oil high temperature warning display signal<br>• Transmission clutch high temperature warning display signal<br>• Transmission system warning display signal<br>• Transmission system check display signal<br>• Shift lever position check display signal |
| AWD control unit | Transmits the following signals to the combination meter via CAN communication.<br>• AWD clutch high temperature warning display signal<br>• AWD system warning display signal<br>• Front/rear tire size discrepancy warning display signal |
| Low tire pressure warning control unit | Transmits the following signals to the combination meter via CAN communication.<br>• Run-flat tire warning display signal<br>• Low tire pressure warning display signal<br>• Tire pressure monitoring system warning display signal |

| Unit | Description |
|---|---|
| Meter control switch | Transmits the following signals to the combination meter.<br>• Illumination control switch signal (+)<br>• Illumination control switch signal (-)<br>• Trip A/B reset switch signal<br>• Select switch signal<br>• Enter switch signal |
| Brake fluid level switch | Transmits the brake fluid level switch signal to the combination meter. |
| Parking brake switch | Transmits the parking brake switch signal to the combination meter. |
| Oil level sensor | Transmits the oil level sensor signal to the combination meter. |
| Washer level switch | Transmits the washer level switch signal to the combination meter. |
| Ambient sensor | Transmits the ambient sensor signal to the combination meter. |
| Front combination lamp LH | Transmits the front combination lamp LH signal to the combination meter. |
| Front combination lamp RH | Transmits the front combination lamp RH signal to the combination meter. |

# DIAGNOSIS SYSTEM (METER)

## Diagnosis Description

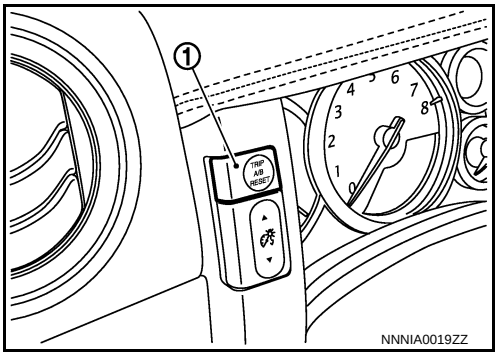
INFOID:0000000011488278

### SELF-DIAGNOSIS MODE

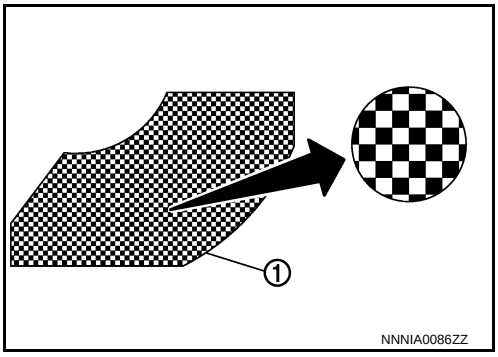
Using the self-diagnosis mode function, the combination meter can check the drive circuit of each meter (speedometer, tachometer, engine coolant temperature gauge, and fuel gauge), dot matrix (odo/trip meter, information display), and the LCD function of segment (shift position indicator).

### OPERATION PROCEDURE

1. Turn the ignition switch ON, and switch the tripmeter to “trip A” or “trip B”.
   **NOTE:**
   If the diagnosis function is activated with “trip A” displayed, the mileage on “trip A” is reset to “0000.0”. (The same way for “trip B”.)
2. Turn the ignition switch OFF.
3. While pressing the trip A/B reset switch (1), turn the ignition switch ON again.
4. Check that the tripmeter displays “0000.0”.
5. Press the trip A/B reset switch at least 3 times (within 7 seconds after the ignition switch is turned ON).

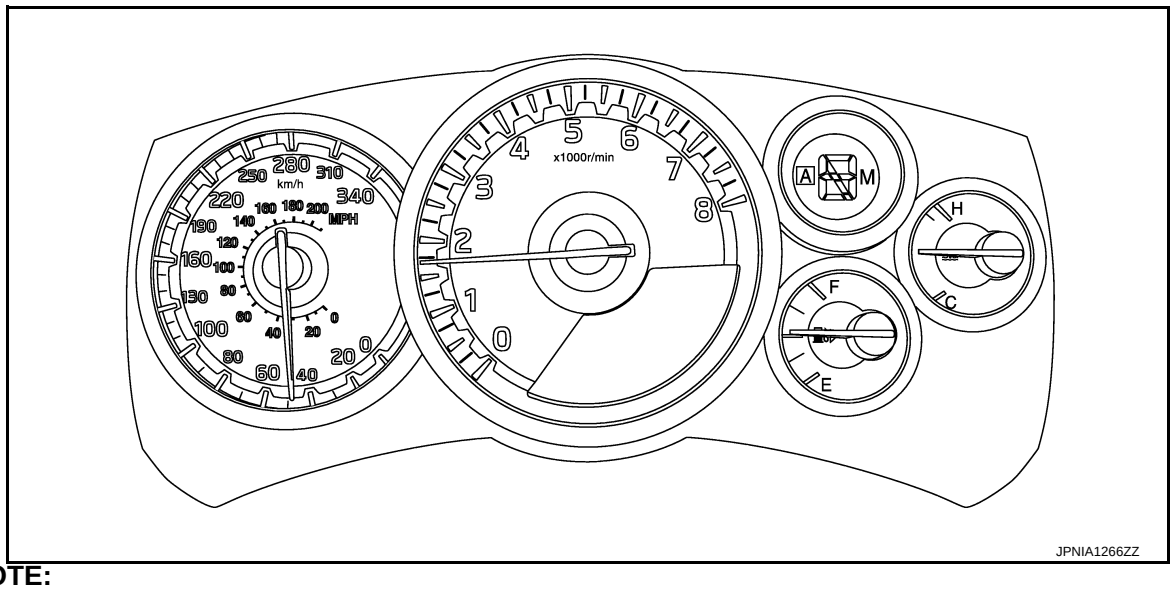



6. The combination meter self-diagnosis mode starts.
   - On the information display (1), the dots of the dot matrix blink alternately.
   - Pointers of speedometer, tachometer, and engine coolant temperature gauge return to zero, and all of the segments of shift position indicator illuminate.




**NOTE:**
- If the self diagnosis mode of combination meter does not start, check the combination meter power supply and ground circuit. When everything is normal, replace the combination meter.
- If any section of the dot matrix on information display or of the segment in shift position indicator does not illuminate, replace the combination meter.

7. When the trip A/B reset switch is pressed, (while the trip A/B reset switch is pressed) each meter operates.




**NOTE:**
If any meter does not operate, replace the combination meter.
The figure is reference.

## CONSULT Function (METER/M&A)

INFOID:0000000011488279

CONSULT can perform the following diagnosis modes by the CAN communication with combination meter.

| Diagnosis mode | Description |
|---|---|
| Self Diagnosis Result | Displays names of malfunctioning systems judged by and stored in combination meter. |
| Data Monitor | Displays combination meter input/output data in real time. |
| Warning History | Displays the illumination record of warning lamp and indicator lamp. |

### SELF DIAGNOSTIC RESULT

**NOTE:**
Details of time display
- CRNT: Displays during the current malfunctioning detection.
- PAST: Displays if any previous malfunction is present when the current status is normal.

IGN counter
- The IGN counter is displayed on the freeze frame data (FFD).
- The IGN counter indicates the number of times ignition switch is turned ON after the DTC detection.
- The number is 0 when a malfunction is detected now.
- The number increases like 1 → 2 → 3 → ... 38 → 39 after returning to the normal condition whenever the ignition switch is turned OFF → ON.
- The number is fixed to 39 unit the self-diagnosis results are erased if it is over 39.

| Display contents of CONSULT | Diagnostic item is detected if ... |
|---|---|
| CAN COMM CIRCUIT [U1000] | Combination meter cannot communicate CAN communication signal for 2 seconds or more. |
| CONTROL UNIT (CAN) [U1010] | Malfunction is detected during initial diagnosis of combination meter CAN controller. |
| VEHICLE SPEED [B2205] | Abnormal vehicle speed signal is received from ABS actuator and electric unit (control unit). |
| ENGINE SPEED [B2267] | ECM continuously transmits abnormal engine speed signal for 2 seconds or more. |
| WATER TEMP [B2268] | ECM continuously transmits abnormal engine coolant temperature signal for 60 seconds or more. |

| | |
|---|---|
| OIL LEV SEN OPEN [B2321] | Signal from oil level sensor is broken (resistance value of oil level sensor exceeds 20 Ω). |
| OIL LEV SEN SHORT [B2322] | Signal from oil level sensor is shorted (resistance value of oil level sensor is less than 3 Ω). |

## DATA MONITOR

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

| Monitor item | MAIN ITEMS | Description |
|---|---|---|
| SPEED METER [km/h] | X | Vehicle speed signal value received from ABS actuator and electric unit (control unit) via CAN communication.<br>**NOTE:**<br>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.<br>**NOTE:**<br>655.35 is displayed when the malfunction signal is received. |
| ODO OUTPUT [km] | | Odometer value transmitted to other units via CAN communication. |
| TACHO METER [rpm] | X | Engine speed signal value received from ECM via CAN communication.<br>**NOTE:**<br>8191.875 is displayed when the malfunction signal is received. |
| FUEL METER [L] | X | Fuel level value indicated on combination meter. |
| W TEMP METER [°C] | X | Engine coolant temperature signal value received from ECM via CAN communication.<br>**NOTE:**<br>215 is displayed when the malfunction signal is received. |
| ABS W/L [On/Off] | | ABS warning lamp status judged by the ABS malfunction signal received from ABS actuator and electric unit (control unit) via CAN communication. |
| VDC/TCS IND [On/Off] | | VDC OFF indicator lamp status judged by the VDC OFF indicator lamp signal received from ABS actuator and electric unit (control unit) via CAN communication. |
| SLIP IND [On/Off] | | VDC warning lamp status judged by the VDC warning lamp signal received from ABS actuator and electric unit (control unit) via CAN communication. |
| BRAKE W/L [On/Off] | | Brake warning lamp status judged by the brake warning lamp signal received from ABS actuator and electric unit (control unit) via CAN communication.<br>**NOTE:**<br>OFF is displayed when the bulb check is operating, when the brake fluid level switch is ON, or when the brake warning lamp is illuminated when the parking brake switch is ON or the brake fluid level switch is ON during the bulb check operation. |
| DOOR W/L [On/Off] | | Door open warning status judged by the door switch signal received from BCM via CAN communication. |
| HI-BEAM IND [On/Off] | | High beam indicator lamp status judged by the high beam request signal received from BCM via CAN communication. |
| TURN IND [On/Off] | | Turn signal indicator lamp status judged by the turn indicator signal received from BCM via CAN communication. |
| RR FOG IND [Off] | | **NOTE:**<br>This Item is displayed, but cannot be monitored. |
| OIL W/L [On/Off] | | Oil pressure warning lamp status judged by the oil pressure sensor signal received from oil pressure sensor. |
| LIGHT IND [On/Off] | | Tail lamp indicator lamp status judged by the tail lamp request signal received from BCM via CAN communication. |
| MIL [On/Off] | | MIL status judged by the malfunction indicator lamp received from ECM via CAN communication. |
| CRUISE IND [On/Off] | | CRUISE indicator lamp status judged by the ASCD status signal received from ECM via CAN communication. |

| Monitor item | MAIN ITEMS | Description |
|---|---|---|
| SET IND [On/Off] | | SET indicator lamp status judged by the ASCD status signal received from ECM via CAN communication. |
| ATC/T-AMT W/L [On/Off] | | Transmission check warning lamp status judged by the transmission warning light signal received from TCM via CAN communication. |
| 4WD W/L [On/Off] | | AWD warning lamp status judged by the AWD warning lamp signal received from AWD control unit via CAN communication. |
| FUEL W/L [On/Off] | | Low fuel warning status judged by the fuel level sensor signal received from fuel level sensor unit. |
| WASHER W/L [On/Off] | | Low washer fluid warning status judged by the washer level switch signal received from washer level switch. |
| AIR PRES W/L [On/Off] | | Tire pressure warning lamp status judged by the tire pressure warning lamp signal received from low tire pressure warning control unit via CAN communication. |
| KEY G/Y W/L [On/Off] | | KEY warning lamp (green/yellow) status judged by the KEY warning lamp signal received from BCM via CAN communication. |
| LCD [B&P N, B&P I, ID NG, ROTAT, SFT P, INSRT, BATT, NO KY, OUTKY, LK WN] | | Displays status of Intelligent Key system warning detected from meter display signal is received from BCM via CAN communication. |
| SHIFT IND [P/R/N/A1/A2/A3/A4/A5/A6/M1/M2/M3/M4/M5/M6] | | Shift position status judged by the shift position signal received from TCM via CAN communication. |
| PKB SW [On/Off] | | Parking brake switch status judged by the parking brake switch signal received from parking brake switch. |
| BUCKLE SW [On/Off] | | Seat belt buckle switch (driver side) status judged by the seat belt buckle switch signal (driver side) received from seat belt buckle switch (driver side). |
| BRAKE OIL SW [On/Off] | | Brake fluid level switch status judged by the brake fluid level switch signal received from brake fluid level switch. |
| A/C AMP CONN [On/Off] | | A/C auto amp. connection recognition status judged by the A/C auto amp. connection recognition signal received from A/C auto amp. |
| ENTER SW [On/Off] | | Enter switch status judged by the enter switch signal received from meter control switch. |
| SELECT SW [On/Off] | | Select switch status judged by the select switch signal received from meter control switch. |
| DISTANCE [km] | | Possible driving distance value judged by combination meter. |
| OUTSIDE TEMP [°C] | | Ambient sensor value converted from ambient sensor signal received from ambient sensor.<br>**NOTE:**<br>This may not match the temperature value indicated on information display. (Because the information display value is a corrected value from the ambient sensor input value.) |
| FUEL LOW SIG [On/Off] | | Low fuel warning signal status that is output to AV control unit via CAN communication. |
| CRANKING SIG [On/Off] | | Cranking status judged by the engine status signal received from ECM via CAN communication. |
| ST CNT SIG [On/Off] | | Starter relay status judged by the starter relay status signal received from BCM via CAN communication. |
| BUZZER [On/Off] | X | Status of buzzer integrated in combination meter judged with buzzer output signal received from each unit via CAN communication and with warning output condition of combination meter. |
| ENG OIL TMP [°C] | | Engine oil temperature status judged by the engine oil temperature signal received from ECM via CAN communication. |

| Monitor item | MAIN ITEMS | Description |
|---|---|---|
| ENG OIL PRESS [MPa] | | Engine oil pressure value judged by the oil pressure sensor signal received from oil pressure sensor. |
| TM OIL TMP [°C] | | Transmission oil temperature value judged by the transmission oil temperature signal received from TCM via CAN communication. |
| TM OIL PRESS [MPa] | | Transmission oil pressure value judged by the transmission oil pressure signal received from TCM via CAN communication. |
| A/F RATIO | | Air-fuel ratio value judged by the air-fuel ratio signal received from ECM via CAN communication. |
| BOOST PRESS [kPa] | | Boost pressure value judged by the boost pressure signal received from ECM via CAN communication. |
| THRTL POSI [%] | | Throttle position value judged by the throttle position signal received from ECM via CAN communication. |
| TRQ DSTRBT [%] | | Front torque distribution rate value judged by the front torque distribution rate signal received from AWD control unit via CAN communication. |
| AMT P SFT [On/Off] | | P engagement warning display status judged by the shift lever position check display signal received from TCM via CAN communication. |
| AMT SYS CHCK | | Transmission system check display status judged by the transmission system check display signal received from TCM via CAN communication. |
| AMT SFT POSI [On/Off] | | Shift lever position warning display status judged by the shift lever position warning display signal received from TCM via CAN communication. |
| AMT OIL TMP H [On/Off] | | Transmission oil high temperature warning display status judged by the transmission oil high temperature warning display signal received from TCM via CAN communication. |
| AMT CL TMP H [On/Off] | | Transmission clutch high temperature warning display status judged by the transmission clutch high temperature warning display signal received from TCM via CAN communication. |
| AMT CHCK [Off] | | **NOTE:** This Item is displayed, but cannot be monitored. |
| AMT MALF [On/Off] | | Transmission system warning display status judged by the transmission system warning display signal received from TCM via CAN communication. |
| TPMS FLT TIRE [On/Off] | | Run-flat tire warning display status judged by the run-flat tire warning display signal received from low tire pressure warning control unit via CAN communication. |
| TPMS PRESS L [On/Off] | | Low tire pressure warning display status judged by the low tire pressure warning display signal received from low tire pressure warning control unit via CAN communication. |
| TPMS MALF [On/Off] | | Tire pressure monitoring system warning display status judged by the tire pressure monitoring system warning display signal received from low tire pressure warning control unit via CAN communication. |
| 4WD CL TMP H [On/Off] | | Display status of AWD clutch high temperature warning display signal judged by the AWD clutch high temperature warning display signal received from AWD control unit via CAN communication. |
| 4WD TIRE CHCK [On/Off] | | Display status of front/rear tire size discrepancy warning display judged by the front/rear tire size discrepancy warning display signal received from AWD control unit via CAN communication. |
| 4WD SYS MALF [On/Off] | | Display status of AWD system warning display signal judged by the AWD system warning display signal received from AWD control unit via CAN communication. |
| ABS MALF [On/Off] | | Display status of anti-lock braking system (ABS) warning display judged by the ABS warning display signal received from ABS actuator and electric unit (control unit) via CAN communication. |
| VDC MALF [On/Off] | | Display status of vehicle dynamic control (VDC) system warning display judged by the VDC system warning display signal received from ABS actuator and electric unit (control unit) via CAN communication. |
| ENG SYS CHCK [On/Off] | | Display status of engine system warning display judged by the engine status signal received from ECM via CAN communication. |

| Monitor item | MAIN ITEMS | Description |
|---|---|---|
| ASCD SYS MALF [On/Off] | | Display status of cruise control system warning display judged by the ASCD status signal received from ECM via CAN communication. |
| ASCD REQ SPD [km] | | ASCD set vehicle speed value that is judged by the ASCD status signal received from ECM via CAN communication. |
| ASCD STATUS [Off, ASCD] | | Display status of ASCD status display judged by the ASCD status signal received from ECM via CAN communication. |
| ASCD SPD BLNK [On/Off] | | Blinking status of ASCD set vehicle speed that is judged by the ASCD status signal received from ECM via CAN communication. |
| LED LMP R OPEN [On/Off] | | Status of front combination lamp RH judged based on LED headlamp (RH) warning signal input from front combination lamp RH. |
| LED LMP L OPEN [On/Off] | | Status of front combination lamp LH judged based on LED headlamp (LH) warning signal input from front combination lamp LH. |

**NOTE:**
Some items are not available according to vehicle specifications.

## WARNING HISTORY

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

**NOTE:**
- Warning History is not stored for approximately 30 seconds after the engine starts.
- Brake warning lamp does not store any history when the parking the 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 OFF W/L | 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 open warning indication. |
| TRUNK/GLASS HATCH | Lighting history of trunk open warning indication. |
| OIL W/L | Lighting history of oil pressure warning lamp. |
| C-ENG W/L | Lighting history of malfunction indicator lamp (MIL). |
| CRUISE IND | Lighting history of CRUISE indicator lamp. |
| SET IND | Lighting history of SET indicator lamp. |
| ATC/T-AMT W/L | Lighting history of transmission warning lamp. |
| AT OIL TEMP W/L | Lighting history of transmission oil high-temperature warning. |
| 4WD W/L | Lighting history of AWD warning lamp. |
| FUEL W/L | Lighting history of low fuel warning. |
| WASHER W/L | Lighting history of low washer fluid warning. |
| TIRE PRESS W/L | Lighting history of tire pressure warning lamp. |
| KEY GREEN/YELLOW IND | Lighting history of KEY warning lamp (green/yellow). |
| KEY RED W/L | Lighting history of KEY warning lamp (red). |
| SFT OPERATION W/L | Lighting history of shift lever position check warning. |

| Display Item | Description |
|---|---|
| CHARGE W/L | Lighting history of charge warning lamp. |
| OIL LEV LOW | Lighting history of oil level warning. |

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

# DTC/CIRCUIT DIAGNOSIS

## U1000 CAN COMM CIRCUIT

### Description

INFOID:0000000011488280

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-board multiplex communication line with high data communication speed and excellent error detection ability. A modern vehicle is equipped with many ECUs, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, 2 control units are connected with 2 communication lines (CAN-L-line and CAN-H-line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.
Refer to LAN-24, "CAN Communication Signal Chart" for details of the communication signal.

### DTC Logic

INFOID:0000000011488281

#### DTC DETECTION LOGIC

| DTC | Display contents of CONSULT | Diagnostic item is detected if ... | Probable malfunction location |
|---|---|---|---|
| U1000 | CAN COMM CIRCUIT | Combination meter cannot communicate CAN communication signal for 2 seconds or more | CAN communication system |

### Diagnosis Procedure

INFOID:0000000011488282

#### 1.PERFORM THE SELF-DIAGNOSIS

1. Turn the ignition switch ON and wait for 2 seconds or more.
2. Check the self diagnosis result of the “METER/M&A”.

Is CAN communication system displayed?

YES >> Refer to LAN-15, "Trouble Diagnosis Flow Chart".
NO >> Refer to GI-39, "Intermittent Incident".

# U1010 CONTROL UNIT (CAN)

## Description

INFOID:0000000011488283

Initial diagnosis of combination meter

## DTC Logic

INFOID:0000000011488284

### DTC DETECTION LOGIC

| DTC | Display contents of CONSULT | Diagnostic item is detected if ... | Probable malfunction location |
|---|---|---|---|
| U1010 | CONTROL UNIT (CAN) | Malfunction is detected during initial diagnosis of combination meter CAN controller | Combination meter |

## Diagnosis Procedure

INFOID:0000000011488285

### 1.REPLACE THE COMBINATION METER.

If DTC U1010 is detected, replace the combination meter.

>> INSPECTION END

# B2205 VEHICLE SPEED

## Description

INFOID:0000000011488286

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

## DTC Logic

INFOID:0000000011488287

### DTC DETECTION LOGIC

| DTC | Display contents of CONSULT | Diagnostic item is detected if ... | Probable malfunction location |
|---|---|---|---|
| B2205 | VEHICLE SPEED | Abnormal vehicle speed signal is received from ABS actuator and electric unit (control unit) for 2 seconds or more | ABS actuator and electric unit (control unit) |

## Diagnosis Procedure

INFOID:0000000011488288

### 1.PERFORM SELF-DIAGNOSIS OF ABS ACTUATOR AND CONTROL UNIT

Perform Self Diagnostic Result of ABS actuator and electric unit (control unit). Repair or replace the malfunctioning parts.

>> Refer to BRC-133, "DTC No. Index (GT-R certified NISSAN dealer)".

# B2267 ENGINE SPEED

## Description

INFOID:0000000011488289

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

## DTC Logic

INFOID:0000000011488290

### DTC DETECTION LOGIC

| DTC | Display contents of CONSULT | Diagnostic item is detected if ... | Probable malfunction location |
|---|---|---|---|
| B2267 | ENGINE SPEED | ECM continuously transmits abnormal engine speed signal for 2 seconds or more | ECM |

## Diagnosis Procedure

INFOID:0000000011488291

### 1.PERFORM ECM SELF DIAGNOSIS

Perform Self Diagnostic Result of ECM. Repair or replace the malfunctioning parts.

>> Refer to EC-592, "DTC Index".

# B2268 WATER TEMP

## Description

INFOID:0000000011488292

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

## DTC Logic

INFOID:0000000011488293

### DTC DETECTION LOGIC

| DTC | Display contents of CONSULT | Diagnostic item is detected if ... | Probable malfunction location |
|---|---|---|---|
| B2268 | WATER TEMP | ECM continuously transmits abnormal coolant temperature signal for 60 seconds or more | ECM |

## Diagnosis Procedure

INFOID:0000000011488294

### 1.PERFORM ECM SELF DIAGNOSIS

Perform Self Diagnostic Result of ECM. Repair or replace the malfunctioning parts.

>> Refer to EC-592, "DTC Index".

# B2321, B2322 OIL LEVEL SENSOR

## Description

INFOID:0000000011488295

The oil level sensor detects the level of engine oil, and then transmits the oil level signal to the combination meter.

## DTC Logic

INFOID:0000000011488296

### DTC DETECTION LOGIC

| DTC | Display contents of CONSULT | Diagnostic item is detected if ... | Probable malfunction location |
|---|---|---|---|
| B2321 | OIL LEV SEN OPEN | Oil level sensor signal circuit is open. (Resistance value of oil level sensor exceeds 20 Ω) | • Oil level sensor signal circuit<br>• Oil level sensor |
| B2322 | OIL LEV SEN SHORT | Oil level sensor signal circuit is shorted. (Resistance value of oil level sensor is less than 3 Ω) | |

**NOTE:**
When the following conditions are satisfied, the combination meter reads the resistance value of oil level sensor. The combination meter does not read the oil level sensor resistance value within 5 minutes after the previous reading of oil level sensor resistance value by the combination meter.
1. Turn the ignition switch OFF.
2. Wait for 5 minutes or more, then open the driver door.

DTC (B2321: OIL LEV SEN OPEN, B2322: OIL LEV SEN SHORT) is also detected at the timing described above.

## Diagnosis Procedure

INFOID:0000000011488297

### 1.CHECK OIL LEVEL SENSOR SIGNAL CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the connectors of combination meter and oil level sensor.
3. Check for continuity between the combination meter harness connector and the oil level sensor harness connector.

| Combination meter | | Oil level sensor | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M53 | 20 | F38 | 3 | Existed |

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

| Combination meter | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M53 | 20 | | Not existed |

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the harnesses or connectors.

### 2.CHECK OIL LEVEL SENSOR GROUND CIRCUIT

Check for continuity between the combination meter harness connector and the oil level sensor harness connector.

| Combination meter | | Oil level sensor | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M53 | 19 | F38 | 1 | Existed |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair the harnesses or connectors.

## Component Inspection

INFOID:0000000011488298

### 1. CHECK OIL LEVEL SENSOR

1. Turn the ignition switch OFF.
2. Disconnect the oil level sensor connector.
3. Check the resistance between oil level sensor terminals 1 and 3.

| Terminal | | Resistance value (Ω) |
|---|---|---|
| 1 | 3 | 5 - 11 |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace the oil level sensor.

# POWER SUPPLY AND GROUND CIRCUIT
# COMBINATION METER

## COMBINATION METER : Diagnosis Procedure

INFOID:0000000011488299

### 1.CHECK FUSES

Check that the following fuses are not blown:

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

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace the fuse with a new one after repairing the applicable circuit.

### 2.CHECK POWER SUPPLY CIRCUIT

Check the voltage between the combination meter harness connector terminals and the ground.

| Terminal No. | Signal name | Ignition switch | Voltage |
|---|---|---|---|
| 1 | Battery power supply | OFF | Battery voltage |
| 2 | Ignition signal | ON | Battery voltage |

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair the harness between the fuse and the combination meter.

### 3.CHECK GROUND CIRCUIT

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

| Combination meter | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M53 | 3 | | Existed |
| | 5 | | |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair the harnesses or connectors.

# FUEL LEVEL SENSOR SIGNAL CIRCUIT

## Description

INFOID:0000000011488300

Detects the fuel level in fuel tank using the fuel level sensor unit, and transmits the fuel level sensor signal to the combination meter.

## Component Function Check

INFOID:0000000011488301

### 1.PERFORM COMPONENT FUNCTION CHECK (1)

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

| Fuel level sensor unit (sub) | | Fuel level sensor unit and fuel pump (main) | |
|---|---|---|---|
| Connector | Terminals | Connector | Terminals |
| B27 | 1 | B225 | 3 |

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

| Resistance (Ω)* (Approx.) | Fuel gauge indication position (Approx.) |
|---|---|
| Less than 12 | F |
| 27 | 3/4 |
| 46 | 1/2 |
| 61 | 1/4 |
| More than 82 | E |

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

Is the inspection result normal?

YES >> GO TO 2.
NO >> Refer to MWI-69, "Diagnosis Procedure".

### 2.PERFORM COMPONENT FUNCTION CHECK (2)

Check the fuel level sensor unit (sub) and the fuel level sensor unit and fuel pump (main). Refer to MWI-71, "Component Inspection (GT-R certified NISSAN dealer)".

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace the fuel level sensor unit (sub) or the fuel level sensor unit and fuel pump (main). Refer to FL-6, "Removal and Installation (GT-R certified NISSAN dealer)".

## Diagnosis Procedure

INFOID:0000000011488302

### 1.CHECK FUEL LEVEL SENSOR UNIT (SUB) CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the connectors of combination meter and fuel level sensor unit (sub).
3. Check for continuity between the combination meter harness connector and the fuel level sensor unit (sub) harness connector.

| Combination meter | | Fuel level sensor unit (sub) | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M53 | 38 | B27 | 1 | Existed |

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

| Combination meter | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M53 | 38 | | Not existed |

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the harnesses or connectors.

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

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

| Fuel level sensor unit (sub) | | Fuel level sensor unit and fuel pump (main) | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| B27 | 2 | B225 | 2 | Existed |

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

| Fuel level sensor unit (sub) | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| B27 | 2 | | Not existed |

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair the harnesses or connectors.

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

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

| Fuel level sensor unit and fuel pump (main) | | Combination meter | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| B225 | 3 | M53 | 18 | Existed |

2. Check for continuity between the fuel level sensor unit and fuel pump (main) harness connector and the ground.

| Fuel level sensor unit and fuel pump (main) | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| B225 | 3 | | Not existed |

Is the inspection result normal?

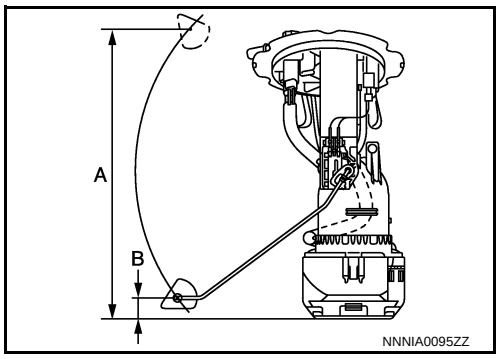
YES >> Replace combination meter. Refer to MWI-114, "Removal and Installation".
NO >> Repair the harnesses or connectors.

## Component Inspection (GT-R certified NISSAN dealer)

INFOID:0000000011488303

### 1. CHECK FUEL LEVEL SENSOR UNIT (MAIN)

Check the resistance value of fuel level sensor unit (main).




| 2 – 3 | |
|---|---|
| Full | :Approx. 3.0 Ω |
| Empty | :Approx. 90.0 Ω |

Standard float position

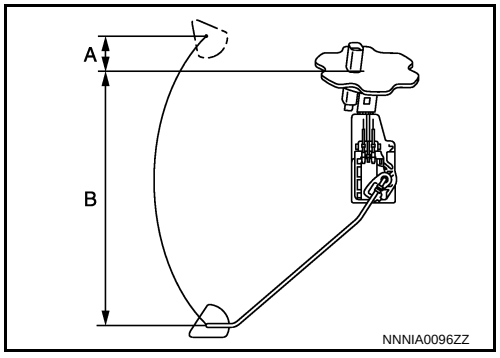
| | |
|---|---|
| Full (A) [mm (in)] | :Approx. 282.2 (11.11) |
| Empty (B) [mm (in)] | :Approx. 19.2 (0.756) |

Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace the fuel level sensor unit (main).

### 2. CHECK FUEL LEVEL SENSOR UNIT (SUB)

Check the resistance value of fuel level sensor unit (sub).




| 1 – 2 | |
|---|---|
| Full | :Approx. 3.0 Ω |
| Empty | :Approx. 45.9 Ω |

Standard float position

| | |
|---|---|
| Full (A) [mm (in)] | :Approx. 29.9 (1.177) |
| Empty (B) [mm (in)] | :Approx. 218.3 (8.59) |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace the fuel level sensor unit (sub).

# METER CONTROL SWITCH SIGNAL CIRCUIT

## Description

INFOID:0000000011488304

Transmits the following signals to the combination meter.

- Illumination control switch signal (+)
- Illumination control switch signal (–)
- Trip A/B reset switch signal
- Select switch signal
- Enter switch signal

## Diagnosis Procedure

INFOID:0000000011488305

### 1.CHECK METER CONTROL SWITCH INPUT SIGNAL

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

| Terminal No. | Condition | Voltage (Approx.) |
|---|---|---|
| 23 – 6 | When switch is pressed | 0 V |
| | Other than the above | 5 V |
| 24 – 6 | When switch is pressed | 0 V |
| | Other than the above | 5 V |
| 25 – 6 | When trip A/B reset switch is pressed | 0 V |
| | Other than the above | 5 V |
| 26 – 6 | When enter switch is pressed | 0 V |
| | Other than the above | 5 V |
| 27 – 6 | When select switch is pressed | 0 V |
| | Other than the above | 5 V |

Is the inspection result normal?

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

### 2.CHECK METER CONTROL SWITCH SIGNAL CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the connectors of combination meter and meter control switch.
3. Check for continuity between the combination meter harness connector terminal and the meter control switch harness connector.

| Combination meter | | Meter control switch | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M53 | 6 | M54 | 2 | Existed |
| | 23 | | 3 | |
| | 24 | | 1 | |
| | 25 | | 8 | |
| | 26 | | 6 | |
| | 27 | | 7 | |

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

| Combination meter | | | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M53 | 6 | Ground | Not existed |
| | 23 | | |
| | 24 | | |
| | 25 | | |
| | 26 | | |
| | 27 | | |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair the harnesses or connectors.

## Component Inspection

INFOID:0000000011488306

### 1. UNIT INSPECTION OF METER CONTROL SWITCH

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

| Terminal No. | | Operation and status | Continuity |
|---|---|---|---|
| 6 | 2 | Press the enter switch | Existed |
| | | Other than the above | Not existed |
| 7 | 2 | Press the select switch | Existed |
| | | Other than the above | Not existed |
| 8 | 2 | Press the trip A/B reset switch. | Existed |
| | | Other than the above | Not existed |
| 3 | 2 | Press the switch | Existed |
| | | Other than the above | Not existed |
| 1 | 2 | Press the switch | Existed |
| | | Other than the above | Not existed |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace the meter control switch.

# OIL PRESSURE SENSOR SIGNAL CIRCUIT

## Description

INFOID:0000000011488307

Detects the engine oil pressure and transmits the oil pressure sensor signal to the combination meter.

## Component Function Check

INFOID:0000000011488308

### 1.CHECK COMBINATION METER INPUT SIGNAL

1. Connect CONSULT.
2. Select the “DATA MONITOR” for the “METER/M&A”, and then check the “OIL W/L” monitor value.

| | |
|---|---|
| OIL W/L | |
| Ignition switch ON | :On |
| Engine running | :Off |

>> INSPECTION END

## Diagnosis Procedure

INFOID:0000000011488309

### 1.CHECK OIL PRESSURE SENSOR CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect the connectors of combination meter and oil pressure sensor.
3. Check for continuity between the combination meter harness connector and the oil pressure sensor harness connector.

| Combination meter | | Oil pressure sensor | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M53 | 34 | E255 | 1 | Existed |
| M53 | 35 | E255 | 2 | Existed |
| M53 | 14 | E255 | 3 | Existed |

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

| Combination meter | | | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M53 | 34 | Ground | Not existed |
| M53 | 35 | | Not existed |
| M53 | 14 | | Not existed |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair the harnesses or connectors.

## Component Inspection

INFOID:0000000011488310

### 1.CHECK OIL PRESSURE SENSOR

Check the voltage between the combination meter terminal 35 and the ground.

| Condition | Measuring condition | Voltage (V) |
|---|---|---|
| Engine stop | Ignition switch ON | Approx. 1 |
| Engine running | Oil pressure is at 500 kPa | Approx. 3 |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Replace the oil pressure switch.

# PARKING BRAKE SWITCH SIGNAL CIRCUIT

## Description

INFOID:0000000011488311

Transmits the parking brake switch signal to the combination meter.

## Diagnosis Procedure

INFOID:0000000011488312

### 1.CHECK COMBINATION METER INPUT SIGNAL

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

| Probe | | | Measuring condition | Voltage (Approx.) |
|---|---|---|---|---|
| (+) | | (-) | | |
| Combination meter | | | | |
| Connector | Terminal | Ground | Parking brake operated | 0 V |
| M53 | 31 | | Parking brake released | 5 V |

Is the inspection result normal?

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

### 2.CHECK PARKING BRAKE SWITCH SIGNAL CIRCUIT

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

| Combination meter | | Parking brake switch | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M53 | 31 | M132 | 1 | Existed |

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

| Combination meter | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M53 | 31 | | Not existed |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair the harnesses or connectors.

## Component Inspection

INFOID:0000000011488313

### 1.CHECK PARKING BRAKE SWITCH

1. Turn the ignition switch OFF.
2. Disconnect the parking brake switch connector.
3. Check for continuity between the parking brake switch connector and the ground.

| Parking brake switch | | Measuring condition | Continuity |
|---|---|---|---|
| (+) | (-) | | |
| 1 | Ground | Parking brake applied | Existed |
| | | Parking brake released | Not exist |

YES >> INSPECTION END

NO >> Replace the parking brake switch.

# WASHER LEVEL SWITCH SIGNAL CIRCUIT

## Description

INFOID:0000000011488314

When the washer fluid in washer tank is less than the specified level, and washer level switch is turned ON, the washer level switch transmits the washer level switch signal to the combination meter.

## Diagnosis Procedure

INFOID:0000000011488315

### 1.CHECK COMBINATION METER INPUT SIGNAL

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

| Probe | | | Measuring condition | Voltage (Approx.) |
|---|---|---|---|---|
| (+) | | (-) | | |
| Combination meter | | | | |
| Connector | Terminal | Ground | Washer level switch ON | 0 V |
| M53 | 33 | | Washer level switch OFF | 5 V |

Is the inspection result normal?

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

### 2.CHECK WASHER LEVEL SWITCH CIRCUIT

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

| Combination meter | | Washer level switch | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | Terminal | |
| M53 | 33 | E30 | 1 | Existed |

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

| Combination meter | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M53 | 33 | | Not existed |

Is the inspection result normal?

YES >> INSPECTION END
NO >> Repair the harnesses or connectors.

## Component Inspection

INFOID:0000000011488316

### 1.CHECK WASHER LEVEL SWITCH

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

| Terminal | Washer level switch | Continuity |
|---|---|---|
| 1 - 2 | ON | Existed |
| | OFF | Not existed |

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace the washer level switch.

# A/C AUTO AMP. CONNECTION RECOGNITION SIGNAL CIRCUIT

## Description

INFOID:0000000011488317

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

## Diagnosis Procedure

INFOID:0000000011488318

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

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

| Terminals | | | Voltage (Approx.) |
|---|---|---|---|
| (+) | | (-) | |
| Combination meter | | Ground | |
| Connector | Terminal | | |
| M53 | 7 | | 5 V |

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 terminal and A/C auto amp. harness connector terminal.

| Combination meter | | A/C auto amp. | | Continuity |
|---|---|---|---|---|
| Connector | Terminal | Connector | terminal | |
| M53 | 7 | M66 | 34 | Existed |

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

| Combination meter | | Ground | Continuity |
|---|---|---|---|
| Connector | Terminal | | |
| M53 | 7 | | Not existed |

Is the inspection result normal?

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

# ECU DIAGNOSIS INFORMATION

## COMBINATION METER

### Reference Value

INFOID:0000000011488319

CONSULT DATA MONITOR REFERENCE VALUES

**NOTE:**

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

| Monitor item | Measuring condition | | Standard/Status |
|---|---|---|---|
| SPEED METER [km/h] | Ignition switch ON | While driving | Equivalent to speedometer reading<br>**NOTE:**<br>655.35 is displayed when the malfunction signal is received |
| SPEED OUTPUT [km/h] | Ignition switch ON | While driving | Equivalent to speedometer reading<br>**NOTE:**<br>655.35 is displayed when the malfunction signal is received |
| ODO OUTPUT [km] | Ignition switch ON | — | Equivalent to odometer reading in combination meter |
| TACHO METER [rpm] | Ignition switch ON | While driving | Approximately the same as tachometer reading<br>**NOTE:**<br>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<br>**NOTE:**<br>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 | VDC warning lamp ON | On |
| | | VDC warning 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 open warning display<br>• Trunk open warning display | On |
| | | • Door open warning is not displayed<br>• Trunk open warning is not displayed | 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 | This item is displayed, but cannot be monitored. | Off |
| OIL W/L | Ignition switch ON | Oil pressure warning lamp ON | On |
| | | Oil pressure warning lamp OFF | Off |

| Monitor item | Measuring condition | | Standard/Status |
|---|---|---|---|
| LIGHT IND | Ignition switch ON | Tail lamp indicator lamp ON | On |
| | | Tail lamp indicator lamp OFF | Off |
| MIL | Ignition switch ON | Malfunction indicator lamp (MIL) ON | On |
| | | Malfunction indicator lamp (MIL) OFF | Off |
| CRUISE IND | Ignition switch ON | CRUISE indicator lamp ON | On |
| | | CRUISE indicator lamp OFF | Off |
| SET IND | Ignition switch ON | SET indicator lamp ON | On |
| | | SET indicator lamp OFF | Off |
| ATC/T-AMT W/L | Ignition switch ON | Transmission warning lamp ON | On |
| | | Transmission warning lamp OFF | Off |
| 4WD W/L | Ignition switch ON | AWD warning lamp ON | On |
| | | AWD warning lamp OFF | Off |
| FUEL W/L | Ignition switch ON | Low fuel warning display | On |
| | | Low fuel warning is not displayed | Off |
| WASHER W/L | Ignition switch ON | Low washer fluid warning display | On |
| | | Low washer fluid warning is not displayed | Off |
| AIR PRES W/L | Ignition switch ON | Tire pressure warning lamp ON | On |
| | | Tire pressure warning lamp OFF | Off |
| KEY G/Y W/L | Ignition switch ON | KEY warning lamp (green/yellow) ON | On |
| | | KEY warning lamp (green/yellow) OFF | Off |
| LCD | Ignition switch ON | Engine start indication is displayed | B&P I |
| | Ignition switch ACC | Engine start indication is displayed | B&P N |
| | Ignition switch LOCK | Key ID NG warning is displayed | ID NG |
| | Ignition switch LOCK | Steering lock rotation operation signal illuminated | ROTAT |
| | Ignition switch LOCK | P engagement warning is displayed | SFT P |
| | Ignition switch LOCK | Key insertion indication is displayed | INSRT |
| | Ignition switch LOCK | Intelligent Key low battery notice warning is displayed | BATT |
| | Ignition switch ON | Key removal warning is displayed | NO KY |
| | Ignition switch LOCK | Key reminder warning is displayed | OUT KY |
| | Ignition switch ON | ACC warning is displayed | LK WN |

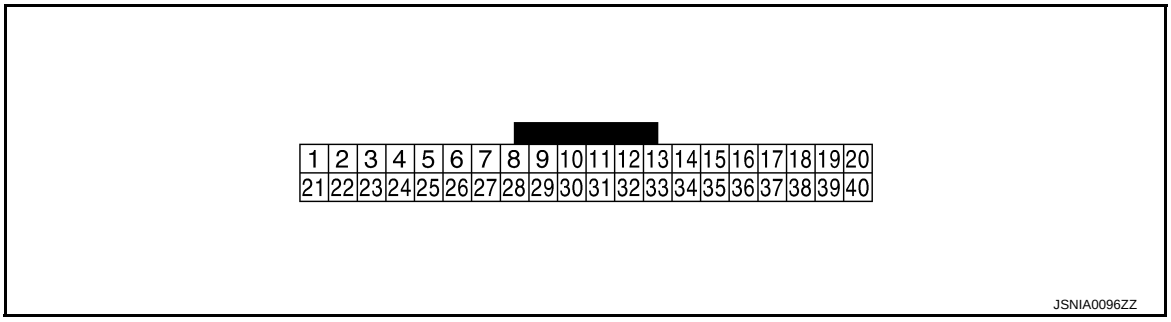
| Monitor item | Measuring condition | | Standard/Status |
|---|---|---|---|
| SHIFT IND | Ignition switch ON | Shift position P is displayed | P |
| | | Shift position R is displayed | R |
| | | Shift position N is displayed | N |
| | | Shift position A1 is displayed | A1 |
| | | Shift position A2 is displayed | A2 |
| | | Shift position A3 is displayed | A3 |
| | | Shift position A4 is displayed | A4 |
| | | Shift position A5 is displayed | A5 |
| | | Shift position A6 is displayed | A6 |
| | | Shift position M1 is displayed | M1 |
| | | Shift position M2 is displayed | M2 |
| | | Shift position M3 is displayed | M3 |
| | | Shift position M4 is displayed | M4 |
| | | Shift position M5 is displayed | M5 |
| | | Shift position M6 is displayed | M6 |
| 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 | A/C auto amp. is not connected | On |
| | | A/C auto amp. is connected | Off |
| ENTER SW | Ignition switch ON | Enter switch is being pressed | On |
| | | Enter switch is not pressed | Off |
| SELECT SW | Ignition switch ON | Select switch is being pressed | On |
| | | Select switch is not pressed | Off |
| DISTANCE [km] | Ignition switch ON | — | Possible driving distance calculated by combination meter |
| OUTSIDE TEMP [°C] | Ignition switch ON | — | Equivalent to ambient air temperature<br>**NOTE:**<br>This may not match the indicated value on information display. |
| FUEL LOW SIG | Ignition switch ON | Low fuel warning is displayed | On |
| | | Low fuel warning is not displayed | Off |
| CRANKING SIG | At engine cranking | | On |
| | Ignition switch ON | | Off |
| ST CNT SIG | At engine cranking | | On |
| | Ignition switch ON | | Off |
| BUZZER | Ignition switch ON | Buzzer ON | On |
| | | Buzzer OFF | Off |
| ENG OIL TMP | Ignition switch ON | — | Values according to engine oil temperature |
| ENG OIL PRESS | Ignition switch ON | — | Values according to engine oil pressure |

| Monitor item | Measuring condition | | Standard/Status |
|---|---|---|---|
| TM OIL TMP | Ignition switch ON | — | Values according to transmission oil temperature |
| TM OIL PRESS | Ignition switch ON | — | Values according to transmission oil pressure |
| A/F RATIO | Ignition switch ON | — | Values according to engine air-fuel ratio |
| BOOST PRESS | Ignition switch ON | — | Values according to boost pressure |
| THRTL POSI | Ignition switch ON | — | Values according to throttle position |
| TRQ DSTRBT | Ignition switch ON | — | Values according to front torque distribution rate |
| AMT P SFT | Ignition switch ON | Shift “ P ” warning display ON | On |
| | | Shift “ P ” warning display OFF | Off |
| AMT SYS CHCK | Ignition switch ON | Transmission system check display ON | On |
| | | Transmission system check display ON | Off |
| AMT SFT POSI | Ignition switch ON | Shift lever position warning display ON | On |
| | | Shift lever position warning display OFF | Off |
| AMT OIL TMP H | Ignition switch ON | Transmission oil high temperature warning display ON | On |
| | | Transmission oil high temperature warning display OFF | Off |
| AMT CL TMP H | Ignition switch ON | Transmission clutch high temperature warning display ON | On |
| | | Transmission clutch high temperature warning display OFF | Off |
| AMT CHCK | Ignition switch ON | It is displayed, but not used. | Off |
| AMT MALF | Ignition switch ON | Transmission system warning display ON | On |
| | | Transmission system warning display OFF | Off |
| TPMS FLT TIRE | Ignition switch ON | Run-flat tire warning display ON | On |
| | | Run-flat tire warning display OFF | Off |
| TPMS PRESS L | Ignition switch ON | Low tire pressure warning display ON | On |
| | | Low tire pressure warning display OFF | Off |
| TPMS MALF | Ignition switch ON | Tire pressure monitoring system warning display ON | On |
| | | Tire pressure monitoring system warning display OFF | Off |
| 4WD CL TMP H | Ignition switch ON | AWD clutch high temperature warning display ON | On |
| | | AWD clutch high temperature warning display OFF | Off |
| 4WD TIRE CHCK | Ignition switch ON | Front/rear tire size discrepancy warning display ON | On |
| | | Front/rear tire size discrepancy warning display OFF | Off |
| 4WD SYS MALF | Ignition switch ON | AWD system warning display ON | On |
| | | AWD system warning display OFF | Off |

| Monitor item | Measuring condition | | Standard/Status |
|---|---|---|---|
| ABS MALF | Ignition switch ON | Anti-lock braking system (ABS) warning display ON | On |
| | | Anti-lock braking system (ABS) warning display OFF | Off |
| VDC MALF | Ignition switch ON | Vehicle dynamic control (VDC) system warning display ON | On |
| | | Vehicle dynamic control (VDC) system warning display OFF | Off |
| ENG SYS CHCK | Ignition switch ON | Engine system warning display ON | On |
| | | Engine system warning display OFF | Off |
| ASCD SYS MALF | Ignition switch ON | CRUISE control system warning display ON | On |
| | | CRUISE control system warning display OFF | Off |
| ASCD REQ SPD | Ignition switch ON | While driving | Same value as ASCD set vehicle speed |
| ASCD STATUS | Ignition switch ON | ASCD system OFF | Off |
| | | ASCD system ON | ASCD |
| ASCD SPD BLNK | Ignition switch ON | Blinking status of ASCD set vehicle speed (displayed) | On |
| | | Blinking status of ASCD set vehicle speed (not displayed) | Off |
| LED LMP R OPEN | Ignition switch ON | Front combination lamp RH malfunction | On |
| | | Front combination lamp RH normal | Off |
| LED LMP L OPEN | Ignition switch ON | Front combination lamp LH malfunction | On |
| | | Front combination lamp LH normal | Off |

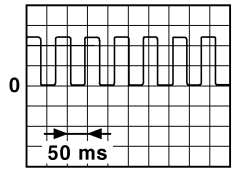
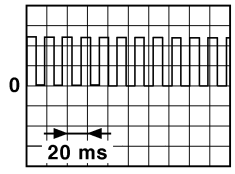
**NOTE:**
Some items are not available according to vehicle specifications.

## TERMINAL LAYOUT

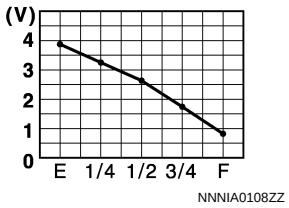



## INPUT/OUTPUT SIGNAL STANDARD

| 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 (W) | Ground | Ignition power supply | Input | Ignition switch ON | — | Battery voltage |

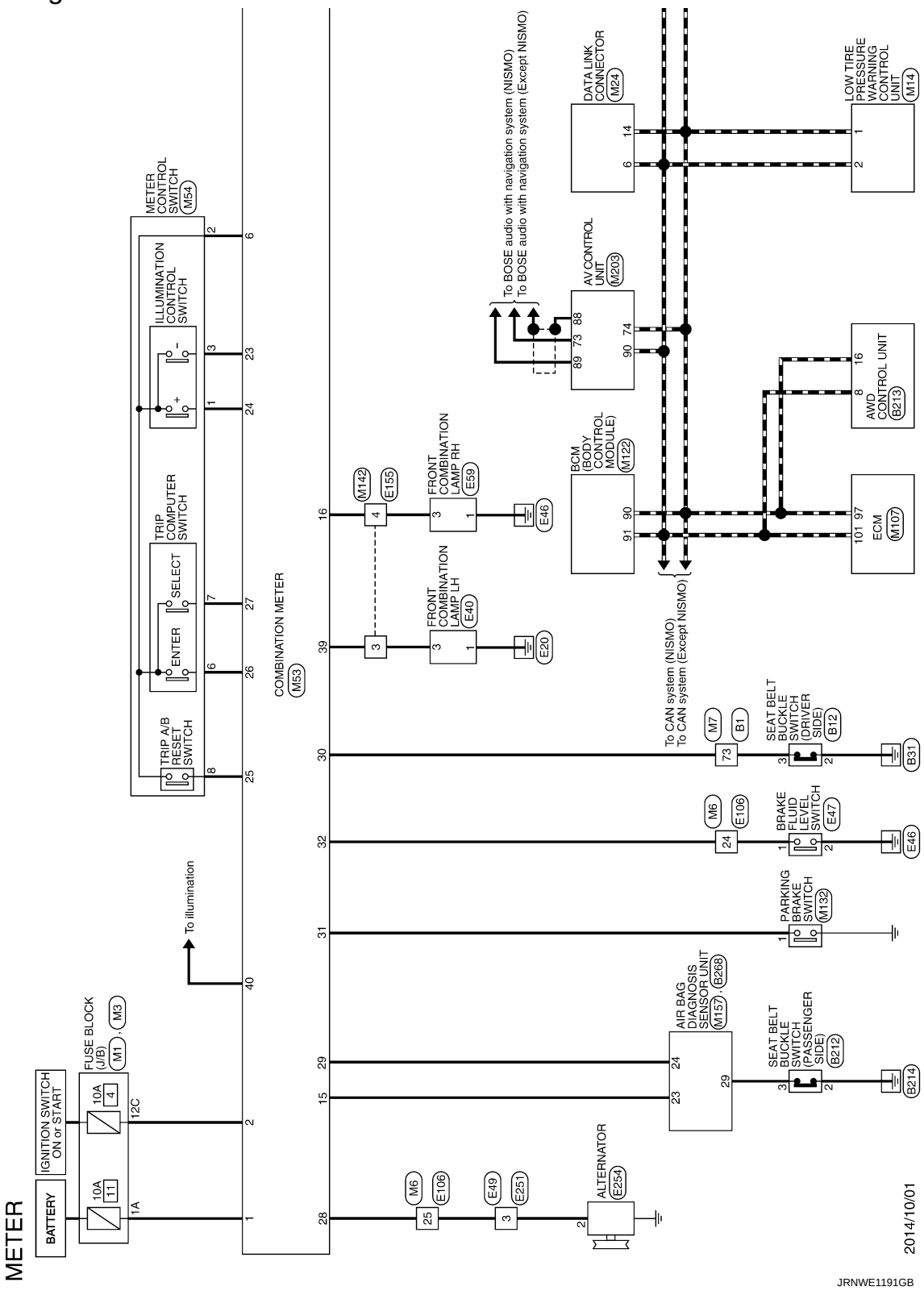
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 3 (B) | Ground | Ground | — | Ignition switch ON | — | 0 V |
| 5 (B) | Ground | Ground | — | Ignition switch ON | — | 0 V |
| 6 (W) | Ground | Meter control switch ground | — | Ignition switch ON | — | 0 V |
| 7 (Y) | Ground | A/C auto amp. connection recognition signal | Input | Ignition switch ON | — | 5 V |
| 8 (SB) | Ground | Ambient sensor ground | — | Ignition switch ON | — | 0 V |
| 9 (P) | Ground | Ambient sensor | Input | Ignition switch ON | — | Refer to HAC-44, "Component Inspection". |
| 12 (L) | Ground | Vehicle speed signal (2-pulse) | Output | Ignition switch ON | Vehicle speed is approximately 40 km/h (25 MPH) | **NOTE:** The maximum voltage varies depending on the specification (destination unit).   JSNIA0015GB |
| 13 (V) | Ground | Vehicle speed signal (8-pulse) | Output | Ignition switch ON | Vehicle speed is approximately 40 km/h (25 MPH) | **NOTE:** The maximum voltage varies depending on the specification (destination unit).   JSNIA0012GB |
| 14 (B) | Ground | Oil pressure sensor ground | — | Ignition switch ON | — | 0 V |
| 15 (R) | Ground | Air bag signal | Input | Ignition switch ON | Air bag warning lamp ON | 5 V |
| | | | | | Air bag warning lamp OFF | 0 V |

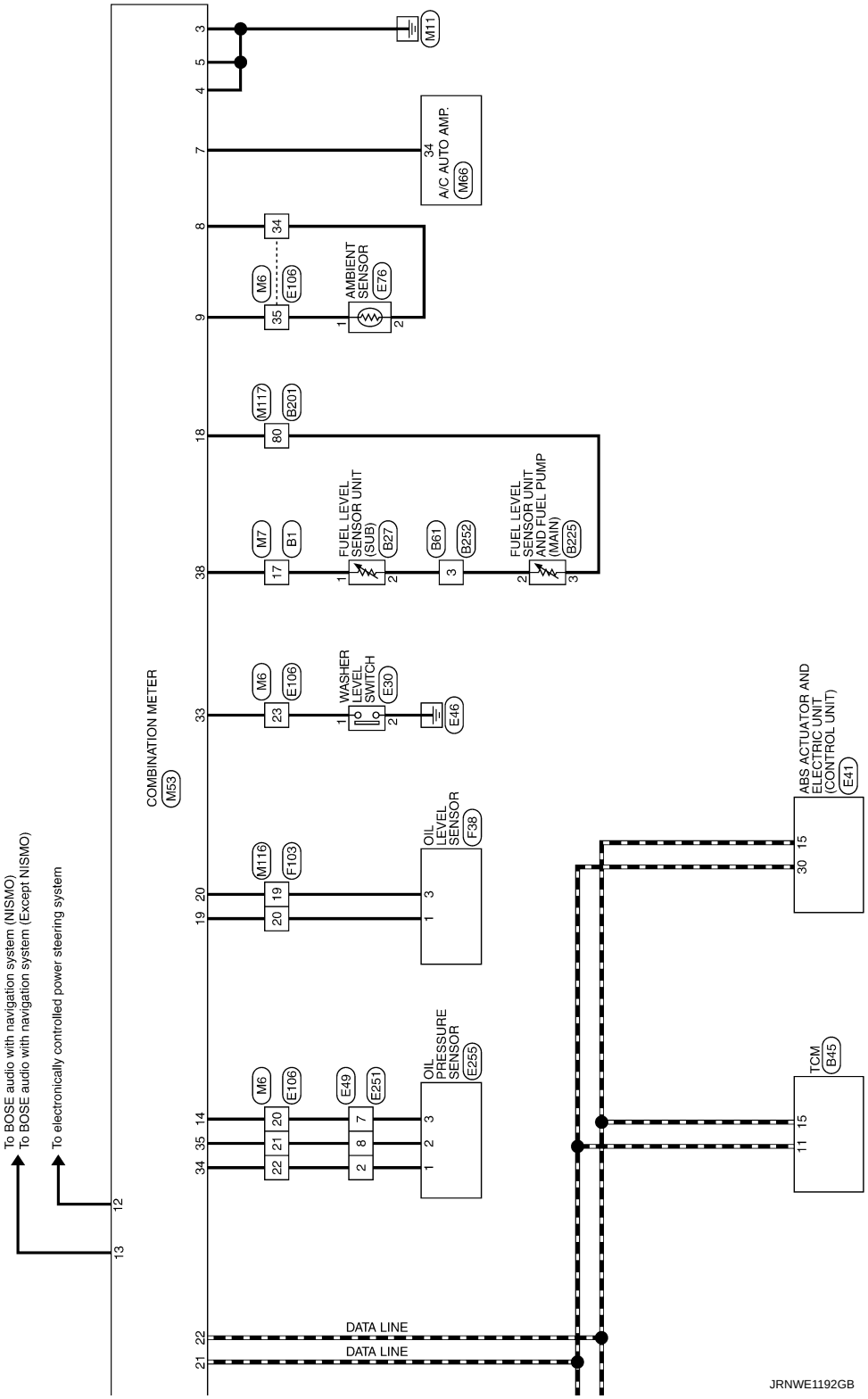
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 16 (R) | Ground | LED headlamp (RH) warning signal | Input | Ignition switch ON | Headlamp ON | 1 V |
| | | | | | Headlamp OFF | 12 V |
| 18 (L) | Ground | Fuel level sensor signal ground | — | Ignition switch ON | — | 0 V |
| 19 (R) | Ground | Oil level sensor ground | — | Ignition switch ON | — | 0 V |
| 20 (W) | Ground | Oil level sensor signal | Input | Ignition switch ON | — | Refer to MWI-67, "Component Inspection". |
| 21 (L) | Ground | CAN-H | — | Ignition switch ON | — | — |
| 22 (P) | Ground | CAN-L | — | Ignition switch ON | — | — |
| 23 (LG) | 6 (W) | Illumination control switch signal (–) | Input | Ignition switch ON | When switch is pressed | 0 V |
| | | | | | Other than the above | 5 V |
| 24 (BR) | 6 (W) | Illumination control switch signal (+) | Input | Ignition switch ON | When switch is pressed | 0 V |
| | | | | | Other than the above | 5 V |
| 25 (G) | 6 (W) | Trip A/B reset switch signal | Input | Ignition switch ON | When trip A/B reset switch is pressed | 0 V |
| | | | | | Other than the above | 5 V |
| 26 (BG) | 6 (W) | Enter switch signal | Input | Ignition switch ON | When enter switch is pressed | 0 V |
| | | | | | Other than the above | 5 V |
| 27 (SB) | 6 (W) | Select switch signal | Input | Ignition switch ON | When select switch is pressed | 0 V |
| | | | | | Other than the above | 5 V |
| 28 (BR) | Ground | Alternator signal | Input | Ignition switch ON | Charging warning lamp ON | 0 V |
| | | | | | Charging warning lamp OFF | 12 V |

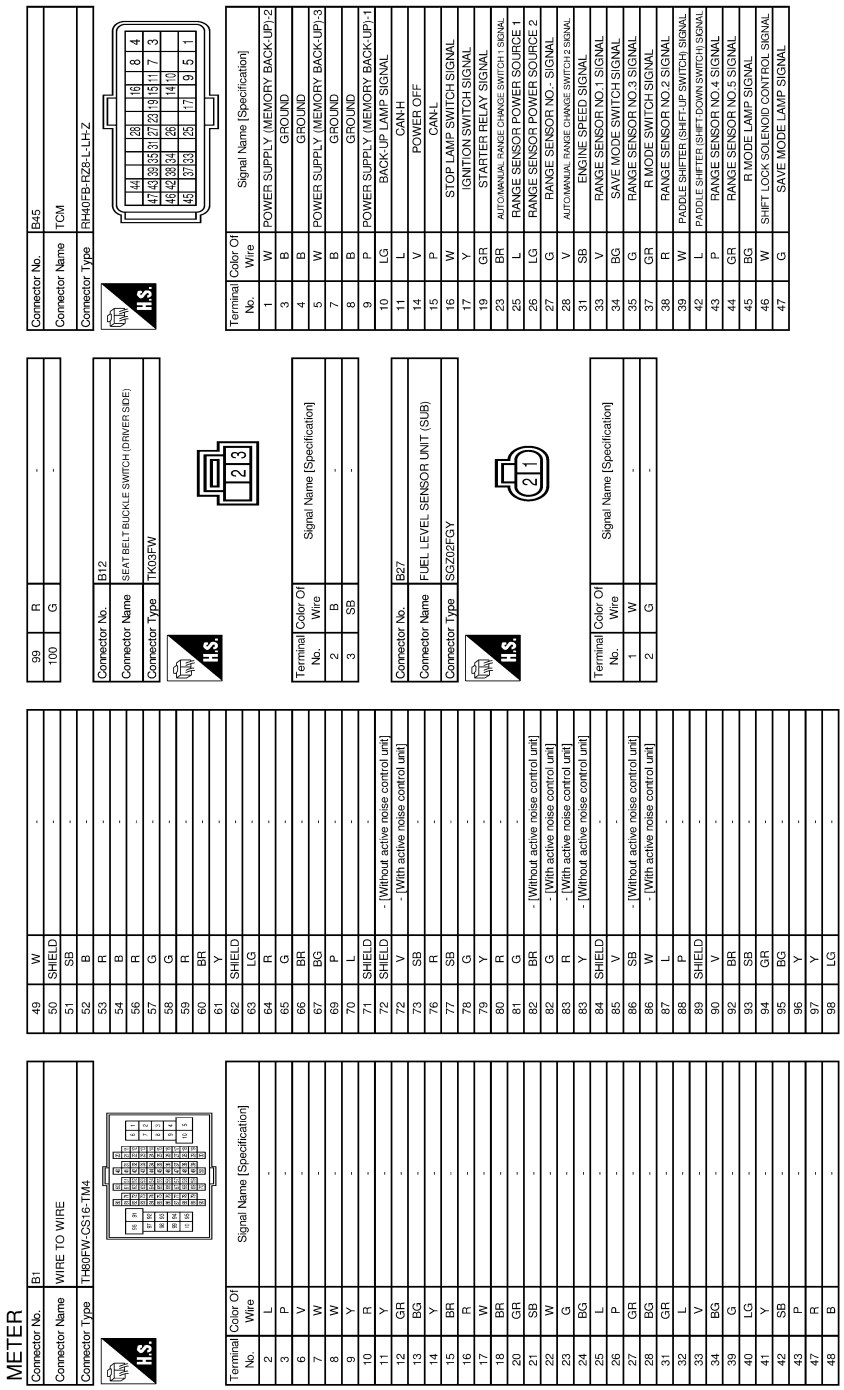
| Terminal No. (Wire color) | | Description | | Condition | | Value (Approx.) |
|---|---|---|---|---|---|---|
| + | – | Signal name | Input/ Output | | | |
| 29 (G) | Ground | Seat belt buckle switch signal (passenger side) | Input | Ignition switch ON | • When getting in the passenger seat<br>• When passenger seat belt is fastened. | 12 V |
| | | | | | • When getting in the passenger seat<br>• When passenger seat belt is unfastened | 0 V |
| 30 (LG) | 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 |
| 31 (V) | Ground | Parking brake switch signal | Input | Ignition switch ON | Parking brake applied | 0 V |
| | | | | | Parking brake released | 5 V |
| 32 (V) | Ground | Brake fluid level switch signal | Input | Ignition switch ON | Brake fluid level is normal | 0 V |
| | | | | | Brake fluid level is MIN level or less | 5 V |
| 33 (L) | Ground | Washer level switch signal | Input | Ignition switch ON | Low washer fluid warning display ON | 0 V |
| | | | | | Low washer fluid warning display OFF | 5 V |
| 34 (GR) | Ground | Oil pressure sensor power | Output | Ignition switch ON | — | 5 V |
| 35 (W) | Ground | Oil pressure sensor signal | Input | Ignition switch ON | — | Refer to MWI-74, "Component Inspection". |
| 38 (BG) | Ground | Fuel level sensor signal | Input | Ignition switch ON | — |  NNNIA0108ZZ |
| 39 (Y) | Ground | LED headlamp (LH) warning signal | Input | Ignition switch ON | Headlamp ON | 1 V |
| | | | | | Headlamp OFF | 12 V |

## Wiring Diagram - METER -

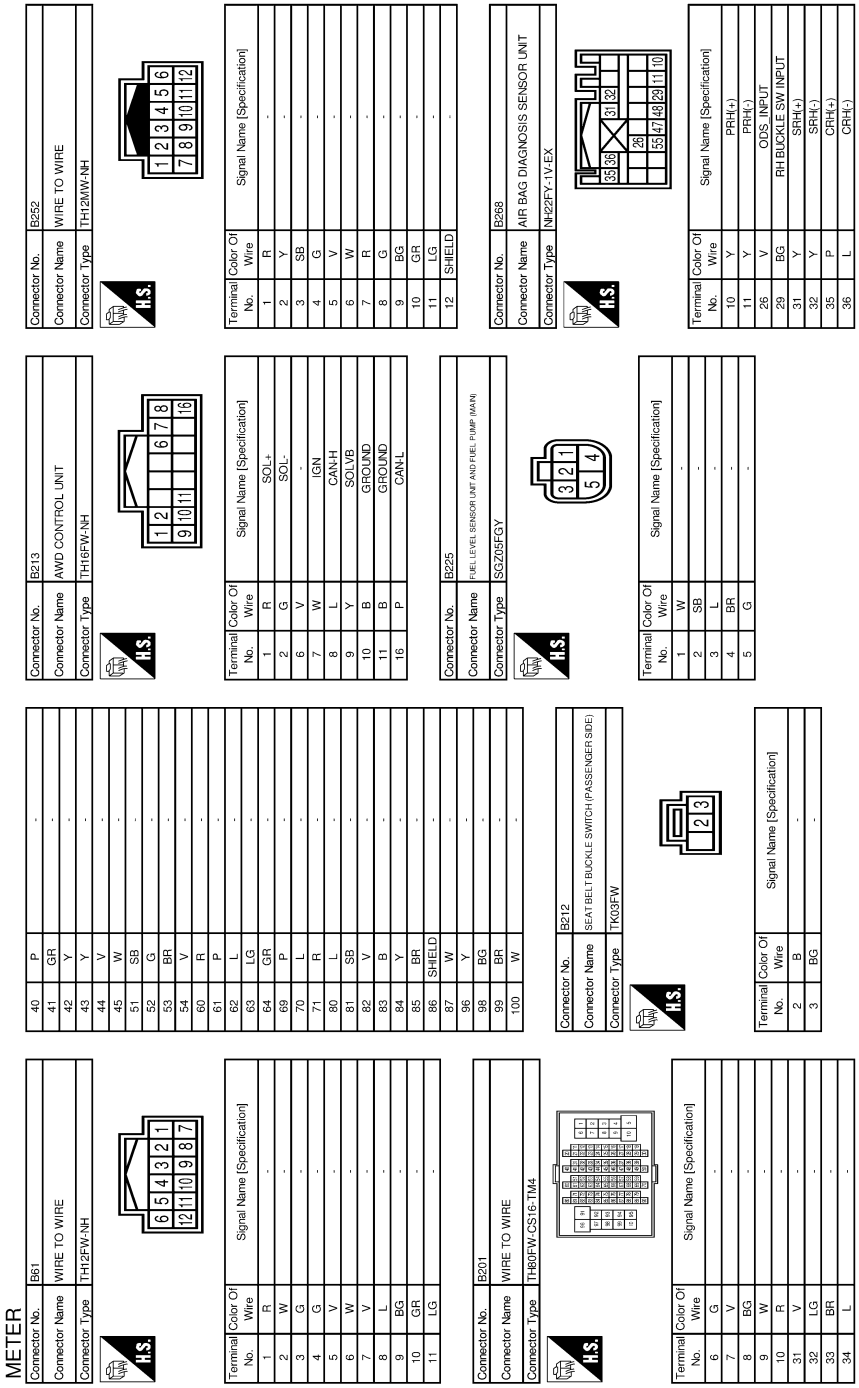
INFOID:0000000011488320



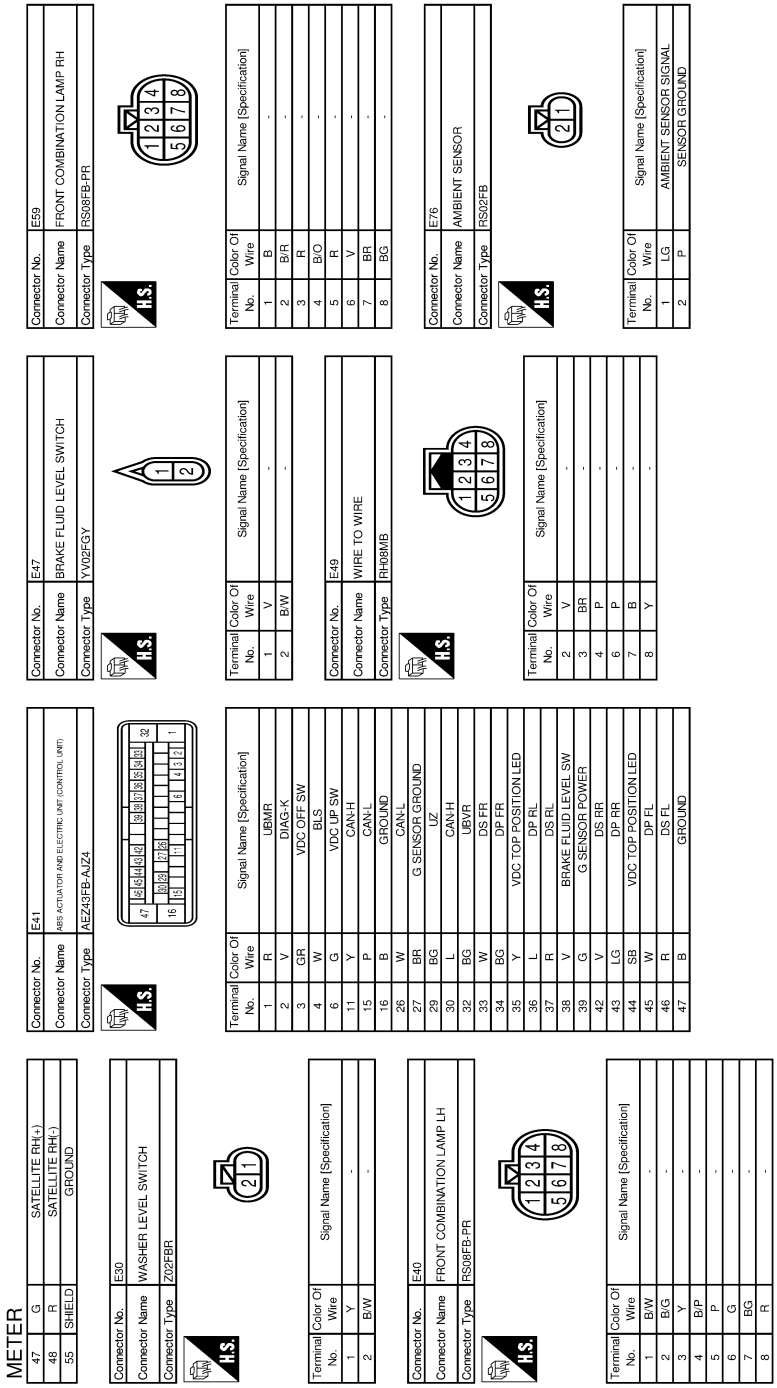

COMBINATION METER
M53
To BOSE audio with navigation system (NISMO)
To BOSE audio with navigation system (Except NISMO)
To electronically controlled power steering system
DATA LINE
DATA LINE
M11
34
A/C AUTO AMP.
M66
AMBIENT SENSOR
E76
M6
E106
M117
B201
FUEL LEVEL SENSOR UNIT (SUB)
B27
M7
B1
FUEL LEVEL SENSOR UNIT AND FUEL PUMP (MAIN)
B225
B61
B252
WASHER LEVEL SWITCH
E30
E46
OIL LEVEL SENSOR
F38
M116
F103
OIL PRESSURE SENSOR
E255
E49
E251
ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)
E41
TCM
B45
JRNWE1192GB




JRNWE1193GB




JRNWE1194GB




JRNWE1195GB

METER

| Connector No. | E106 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80FW-CS16-TM4 |

H.S.



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | V | - |
| 3 | BG | - |
| 4 | BG | - |
| 5 | R | - |
| 6 | P | - |
| 7 | BG | - |
| 8 | P | - |
| 9 | W | - |
| 10 | Y | - |
| 11 | SB | - |
| 12 | BG | - |
| 13 | P | - |
| 14 | L | - |
| 15 | SB | - |
| 16 | BG | - |
| 17 | SHIELD | - |
| 18 | L | - |
| 19 | P | - |
| 20 | B | - |
| 21 | Y | - |
| 22 | V | - |
| 23 | Y | - |
| 24 | V | - |
| 25 | BR | - |
| 26 | L | - |
| 27 | SHIELD | - |
| 28 | G | - |
| 29 | R | - |
| 30 | W | - |
| 31 | V | - |
| 32 | G | - |
| 33 | GR | - |
| 34 | P | - |
| 35 | LG | - |
| 36 | G | - |
| 37 | Y | - |
| 38 | SB | - |
| 39 | GR | - |
| 40 | G | - |
| 41 | V | - |
| 42 | V | - |
| 43 | L | - |
| 44 | BR | - |
| 45 | G | - |
| 46 | SB | - |
| 48 | BG | - |
| 49 | L | - |
| 50 | R | - |
| 51 | SHIELD | - |
| 60 | P | - |
| 61 | L | - |
| 71 | LG | - |
| 72 | SB | - |
| 74 | P | - |
| 75 | BR | - |
| 76 | LG | - |
| 77 | V | - |
| 78 | BR | - |
| 79 | W | - |
| 80 | Y | - |
| 81 | GR | - |
| 82 | BG | - |
| 84 | P | - |
| 85 | P | - |
| 86 | GR | - |
| 87 | R | - |
| 88 | L | - |
| 89 | BG | - |
| 90 | G | - |
| 91 | GR | - |
| 92 | R | - |
| 93 | R | - |
| 94 | LG | - |
| 95 | G | - |
| 96 | GR | - |
| 97 | L | - |
| 98 | LG | - |
| 99 | BG | - |
| 100 | L | - |

| Connector No. | E155 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH04FW-NH |

H.S.



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | - |
| 3 | Y | - |
| 4 | R | - |

| Connector No. | E251 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | RH08FB |

H.S.



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | GR | - |
| 3 | BR | - |
| 4 | V | - |
| 6 | P | - |
| 7 | B | - |
| 8 | W | - |

| Connector No. | E254 |
|---|---|
| Connector Name | ALTERNATOR |
| Connector Type | HS03FB |

H.S.



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|---|---|---|
| 2 | BR | L |
| 3 | V | S |
| 4 | P | C |

| Connector No. | E255 |
|---|---|
| Connector Name | OIL PRESSURE SENSOR |
| Connector Type | RK03FB |

H.S.



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | GR | - |
| 2 | W | - |
| 3 | B | - |

JRNWE1196GB

METER

| Connector No. | F38 |
|---|---|
| Connector Name | OIL LEVEL SENSOR |
| Connector Type | RS03FSB-GY |

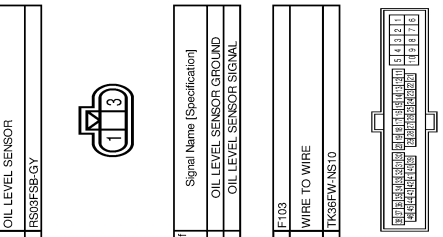
H.S.



| Terminal No. | Color Of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | R | OIL LEVEL SENSOR GROUND |
| 3 | GR | OIL LEVEL SENSOR SIGNAL |

| Connector No. | F103 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TK36FW-NS10 |

H.S.

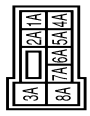


| Terminal No. | Color Of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | GR | - |
| 2 | R | - |
| 3 | W | - |
| 6 | O | - |
| 7 | B | - |
| 8 | B | - |
| 9 | W | - |
| 11 | B | - |
| 12 | LG | - |
| 13 | SB | - |
| 14 | LG | - |
| 15 | G | - |
| 16 | W | - |
| 19 | GR | - |
| 20 | R | - |
| 21 | O | - |
| 26 | L | - |
| 27 | P | - |

| 28 | LG | - |
|---|---|---|
| 29 | R | - |
| 30 | L | - |
| 31 | R | - |
| 32 | W | - |
| 33 | W | - |
| 34 | Y | - |
| 39 | Y | - |

| Connector No. | M1 |
|---|---|
| Connector Name | FUSE BLOCK (J/B) |
| Connector Type | NS06FW-M2 |

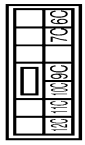
H.S.




| Terminal No. | Color Of Wire | Signal Name [Specification] |
|---|---|---|
| 1A | V | - |
| 2A | G | - |
| 3A | L | - |
| 4A | LG | - |
| 5A | SB | - |
| 6A | Y | - |
| 7A | R | - |
| 8A | L | - |

| Connector No. | M3 |
|---|---|
| Connector Name | FUSE BLOCK (J/B) |
| Connector Type | NS12FW-CS |

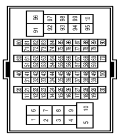
H.S.




| Terminal No. | Color Of Wire | Signal Name [Specification] |
|---|---|---|
| 10C | L | - |
| 11C | R | - |
| 12C | W | - |
| 6C | R | - |
| 7C | B | - |
| 9C | BR | - |

| Connector No. | M6 |
|---|---|
| Connector Name | WIRE TO WIRE |
| Connector Type | TH80MW-CS16-TM4 |

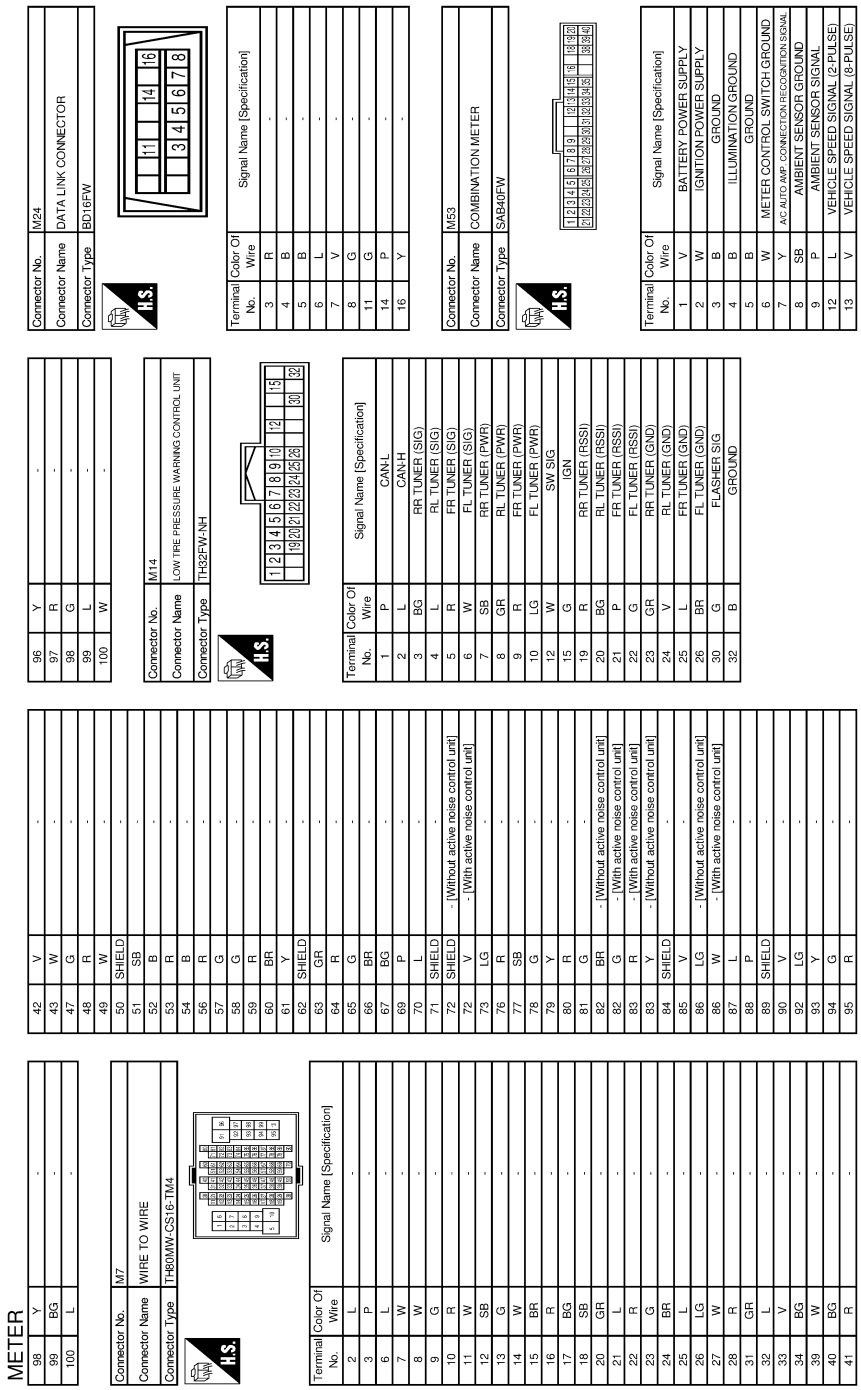
H.S.



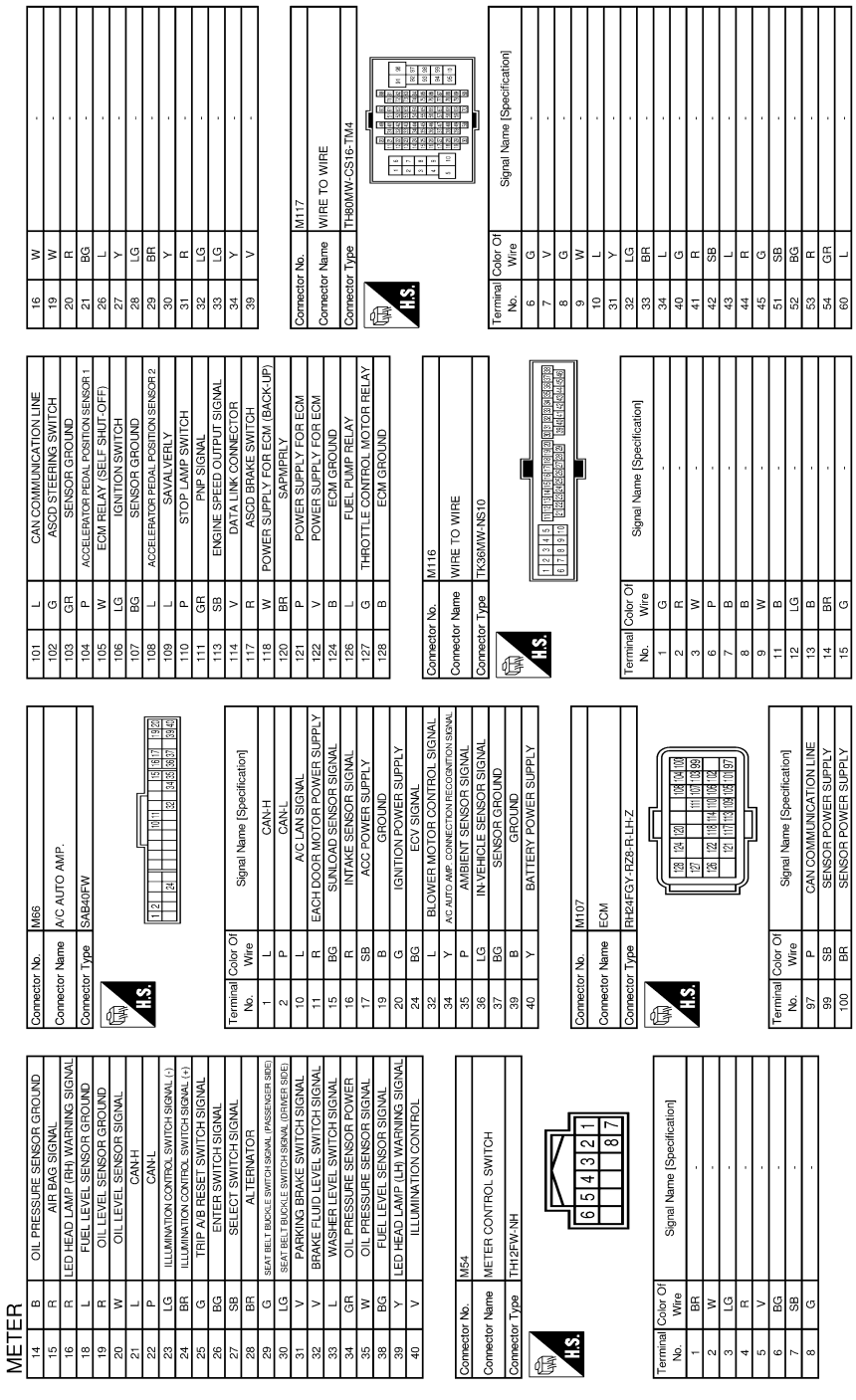
| Terminal No. | Color Of Wire | Signal Name [Specification] |
|---|---|---|
| 1 | L | - |
| 3 | R | - |
| 4 | G | - |
| 5 | Y | - |
| 6 | P | - |
| 7 | W | - |
| 8 | V | - |
| 9 | L | - |
| 10 | Y | - |
| 11 | G | - |
| 12 | BG | - |
| 13 | R | - |
| 14 | L | - |
| 15 | BR | - |
| 16 | R | - |
| 17 | SHIELD | - |
| 18 | L | - |
| 19 | P | - |
| 20 | B | - |
| 21 | W | - |
| 22 | GR | - |
| 23 | L | - |
| 24 | V | - |
| 25 | BR | - |
| 26 | G | - |
| 27 | SHIELD | - |

| 28 | G | - |
|---|---|---|
| 29 | R | - |
| 30 | W | - |
| 31 | V | - |
| 32 | G | - |
| 33 | GR | - |
| 34 | LG | - |
| 35 | P | - |
| 36 | L | - |
| 37 | W | - |
| 38 | Y | - |
| 39 | GR | - |
| 40 | BG | - |
| 41 | W | - |
| 42 | R | - |
| 43 | Y | - |
| 44 | BR | - |
| 45 | G | - |
| 46 | LG | - |
| 48 | W | - |
| 49 | L | - |
| 50 | R | - |
| 51 | SHIELD | - |
| 60 | SB | - |
| 61 | V | - |
| 71 | W | - |
| 72 | LG | - |
| 74 | R | - |
| 75 | BR | - |
| 76 | LG | - |
| 77 | R | - |
| 78 | BR | - |
| 79 | W | - |
| 80 | Y | - |
| 81 | BG | - |
| 82 | SB | - |
| 84 | Y | - |
| 85 | P | - |
| 86 | GR | - |
| 87 | R | - |
| 88 | L | - |
| 89 | G | - |
| 90 | P | - |
| 91 | W | - |
| 92 | R | - |
| 93 | LG | - |
| 94 | W | - |
| 95 | SB | - |
| 96 | L | - |
| 97 | L | - |

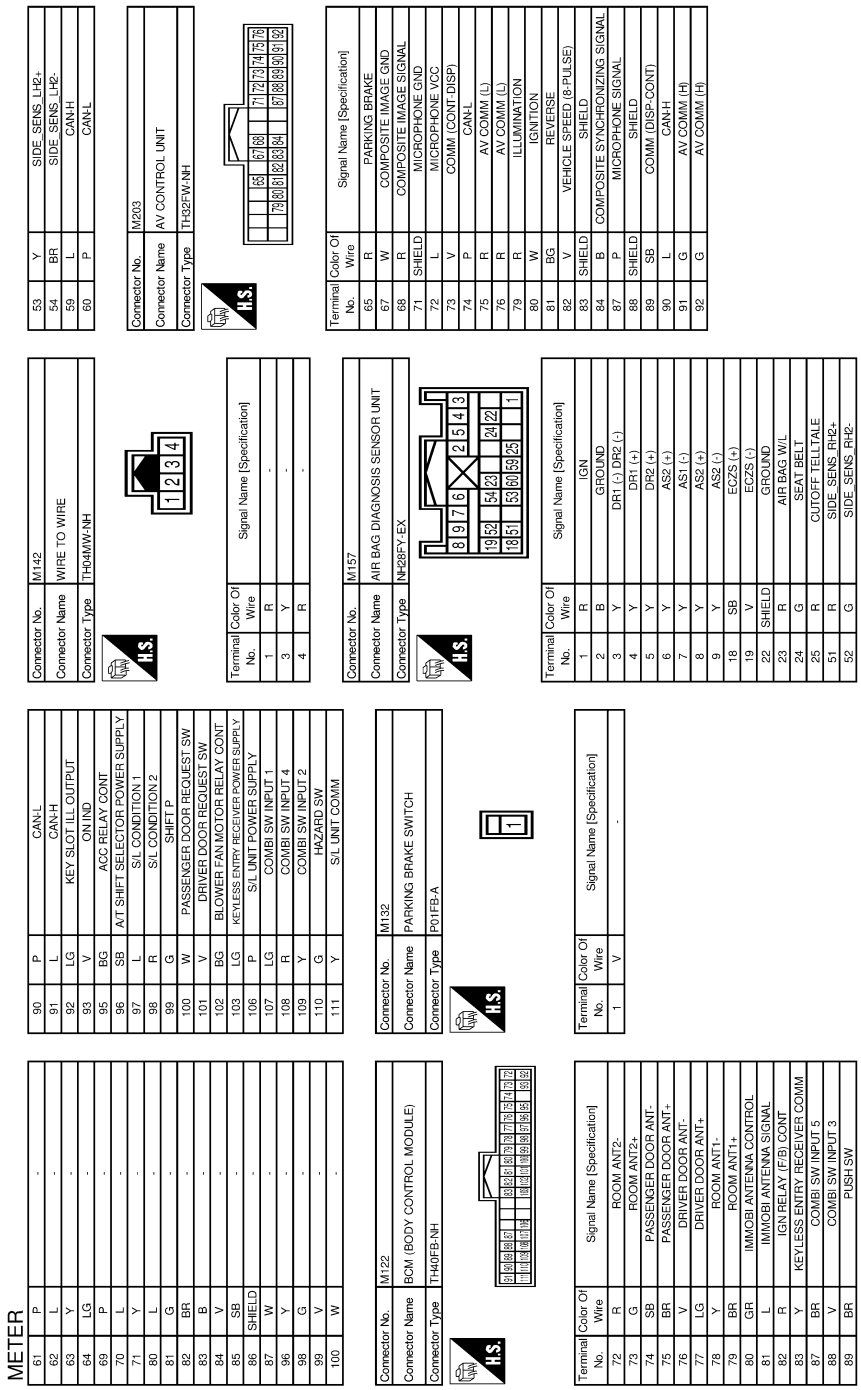
JRNWE1197GB




JRNWE1198GB




JRNWE1199GB




JRNWE1200GB

## Fail-safe

*INFOID:0000000011488321*

FAIL-SAFE

If the CAN communication with each unit is activates, the combination meter broken the fail-safe control.

| System | | Processing |
|---|---|---|
| Speedometer | | Returns to zero when communication is blocked. |
| Tachometer | | |
| Engine coolant temperature gauge | | |
| Meter illumination control | | Shifts to night mode when communication is blocked. |
| Shift position indicator | | Turned OFF when communication is blocked. |
| Information display | Door open warning | Indication is turned OFF when communication is blocked. |
| | Trunk open warning | |
| | Parking brake release warning | |
| | Shift “ P ” warning | |
| | Transmission system check | |
| | Shift lever position warning | |
| | Transmission clutch high temperature warning | |
| | Transmission oil high temperature warning | |
| | Transmission system warning | |
| | Run-flat tire warning | |
| | Low tire pressure warning | |
| | Tire pressure monitoring system warning | |
| | AWD clutch high temperature warning | |
| | Front/rear tire size discrepancy warning | |
| | AWD system warning | |
| | Anti-lock braking system (ABS) warning | |
| | Vehicle dynamic control (VDC) system warning | |
| | Engine system warning | |
| | CRUISE control system warning | |
| | CRUISE control system status | |
| | Reverse warning | |
| | Vehicle speed display | 0 km/h (0 MPH) is indicated when communication is blocked. |
| | Possible driving distance | Displays the last calculation result calculated under a normal status when communication is blocked. |
| | Average fuel consumption | |
| | Instantaneous fuel consumption | |
| | Average vehicle speed | |
| Warning buzzer | | Warning is turned OFF when communication is blocked. |

| System | | Processing |
|---|---|---|
| Warning lamp/indicator lamp | ABS warning lamp | Turned ON when communication is broken. |
| | VDC warning lamp | |
| | Brake warning lamp | |
| | AWD warning lamp | |
| | Malfunction indicator lamp (MIL) | |
| | Tire pressure warning lamp | Blinks first, then illuminates after approximately 1 minute. |
| | High beam indicator lamp | Turned OFF when communication is broken. |
| | Turn signal indicator lamp | |
| | Tail lamp indicator lamp | |
| | CRUISE indicator lamp | |
| | SET indicator lamp | |
| | KEY warning lamp | |
| | Up-shift indicator (green) | |
| | Up-shift indicator (yellow) | |
| | Up-shift indicator (red) | |
| | Transmission check warning lamp | |
| | VDC OFF indicator lamp | |

## DTC Index

INFOID:0000000011488322

**NOTE:**
Details of time display
- CRNT: Displays during the current malfunctioning detection.
- PAST: Displays if any previous malfunction is present when the current status is normal.

IGN counter
- The IGN counter is displayed in the freeze frame data (FFD).
- The IGN counter indicates the number of times ignition switch is turned ON after the DTC detection.

- When a trouble is currently being detected, it displays “0”.
- After the status returns to normal, the indication value is incriminated as “1 → 2 → 3 → ... 38 → 39" every time the ignition switch is turned OFF → ON.
- When the operation count of ignition switch OFF → ON exceeds 39, the indication will be fixed at "39" until the self-diagnosis is deleted.

| Display contents of CONSULT | Diagnostic item is detected if ... | Refer to |
|---|---|---|
| CAN COMM CIRCUIT [U1000] | Combination meter cannot communicate CAN communication signal for 2 seconds or more | MWI-61, "Diagnosis Procedure" |
| CONTROL UNIT (CAN) [U1010] | Malfunction is detected during initial diagnosis of combination meter CAN controller | MWI-62, "Diagnosis Procedure" |
| VEHICLE SPEED [B2205] | Abnormal vehicle speed signal is received from ABS actuator and electric unit (control unit) for 2 seconds or more | MWI-63, "Diagnosis Procedure" |
| ENGINE SPEED [B2267] | ECM continuously transmits abnormal engine speed signal for 2 seconds or more | MWI-64, "Diagnosis Procedure" |

| Display contents of CONSULT | Diagnostic item is detected if ... | Refer to |
|---|---|---|
| WATER TEMP<br>[B2268] | ECM continuously transmits abnormal coolant temperature signal for 60 seconds or more | MWI-65, "Diagnosis Procedure" |
| OIL LEV SEN OPEN<br>[B2321] | Signal from oil level sensor is open (resistance value of oil level sensor is larger than 20 Ω). | MWI-66, "Diagnosis Procedure" |
| OIL LEV SEN SHORT<br>[B2322] | Signal from oil level sensor is shorted (resistance value of oil level sensor is smaller than 3 Ω). | MWI-66, "Diagnosis Procedure" |

# SYMPTOM DIAGNOSIS

## THE FUEL GAUGE POINTER DOES NOT MOVE

### Description

INFOID:0000000011488323

Fuel gauge pointer does not move from a certain position

### Diagnosis Procedure

INFOID:0000000011488324

#### 1.CONDUCTING THE COMBINATION METER SELF-DIAGNOSIS MODE

Perform the self-diagnosis mode of combination meter, and then check that the fuel gauge operates normally. Refer to MWI-54, "Diagnosis Description".

Is the inspection result normal?

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

#### 2.CHECK FLOAT INTERFERENCE

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

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace malfunctioning part.

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

Check the fuel level sensor signal circuit. Refer to MWI-69, "Component Function Check".

Is the inspection result normal?

YES >> Refer to GI-39, "Intermittent Incident".
NO >> Repair or replace malfunctioning parts.

# THE METER CONTROL SWITCH IS INOPERATIVE

## Description

INFOID:0000000011488325

If any of the following malfunctions are found for the meter control switch operation
- All switches are inoperative
- The specified switch cannot be operated

## Diagnosis Procedure

INFOID:0000000011488326

### 1.CHECK METER CONTROL SWITCH SIGNAL CIRCUIT

Perform the meter control switch signal circuit inspection. Refer to MWI-72, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the harnesses or connectors.

### 2.CHECK METER CONTROL SWITCH

Perform the unit inspection of meter control switch. Refer to MWI-73, "Component Inspection".

Is the inspection result normal?

YES >> Replace the combination meter.
NO >> Replace the meter control switch.

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

## Description

INFOID:0000000011488327

Oil pressure warning lamp does not illuminate when ignition switch turns ON, or oil pressure warning lamp stays illuminated while engine is running (when oil pressure is normal).

## Diagnosis Procedure

INFOID:0000000011488328

### 1.CHECK COMBINATION METER INPUT SIGNAL

Connect CONSULT, and perform the combination meter input signal inspection. Refer to MWI-74, "Component Function Check".

Is the inspection result normal?

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

### 2.CHECK OIL PRESSURE SENSOR SIGNAL CIRCUIT

Perform the oil pressure sensor signal circuit inspection. Refer to MWI-74, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair the harnesses or connectors.

### 3.CHECK OIL PRESSURE SENSOR

Perform the unit inspection of oil pressure sensor. Refer to MWI-74, "Component Inspection".

Is the inspection result normal?

YES >> Replace the combination meter.
NO >> Replace the oil pressure sensor.

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

## Description

INFOID:0000000011488329

- 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 the vehicle is being driven with the parking brake applied

## Diagnosis Procedure

INFOID:0000000011488330

### 1.BRAKE WARNING LAMP OPERATION CHECK

1. Start the engine.
2. Operate the parking brake, then check the illumination status of brake warning lamp.

| | |
|---|---|
| Parking brake applied | :ON |
| Parking brake released | :OFF |

Is the inspection result normal?

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

### 2.CHECK PARKING BRAKE SWITCH SIGNAL CIRCUIT

Perform the parking brake switch signal circuit inspection. Refer to MWI-76, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair the harnesses or connectors.

### 3.CHECK PARKING BRAKE SWITCH

Perform the unit inspection of parking brake switch. Refer to MWI-76, "Component Inspection".

Is the inspection result normal?

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

# THE DOOR OPEN WARNING CONTINUES DISPLAYING, OR DOES NOT DISPLAY

## Description

INFOID:0000000011488331

- The door open warning is displayed while all doors are fully closed.
- The door open warning is not displayed while a door is not fully closed.

## Diagnosis Procedure

INFOID:0000000011488332

### 1.CHECK BCM INPUT SIGNAL

Connect CONSULT and inspect the BCM input signals. Refer to DLK-63, "Component Function Check".

Is the inspection result normal?

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

### 2.CHECK COMBINATION METER INPUT SIGNAL

1. Connect CONSULT.
2. Select “DATA MONITOR” for the “METER/M&A”, and then check the “DOOR W/L” monitor value.

| DOOR W/L | |
|---|---|
| Door open | : On |
| Door closed | : Off |

Is the inspection result normal?

YES >> Replace the combination meter.
NO >> Replace BCM. Refer to BCS-89, "Removal and Installation".

### 3.CHECK DOOR SWITCH SIGNAL CIRCUIT

Perform the door switch signal circuit inspection. Refer to DLK-63, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair the harnesses or connectors.

### 4.CHECK DOOR SWITCH

Perform the unit inspection of door switch. Refer to DLK-64, "Component Inspection".

Is the inspection result normal?

YES >> Replace the combination meter.
NO >> Replace the malfunctioning door switch. Refer to DLK-258, "Removal and Installation".

# THE TRUNK OPEN WARNING CONTINUES DISPLAYING, OR DOES NOT DISPLAY

## Description

INFOID:0000000011488333

- The trunk warning while the trunk lid is fully closed.
- Trunk warning is not displayed while the trunk lid is not fully closed.

## Diagnosis Procedure

INFOID:0000000011488334

### 1.CHECK BCM INPUT SIGNAL

Connect CONSULT and inspect the BCM input signals. Refer to DLK-63, "Component Function Check".

Is the inspection result normal?

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

### 2.CHECK COMBINATION METER INPUT SIGNAL

1. Connect CONSULT.
2. Select “DATA MONITOR” for the “METER/M&A”, and then check the “DOOR W/L” monitor value.

| DOOR W/L | |
|---|---|
| Trunk lid open | : On |
| Trunk lid closed | : Off |

Is the inspection result normal?

YES >> Replace the combination meter.
NO >> Replace BCM. Refer to BCS-89, "Removal and Installation".

### 3.CHECK TRUNK LID OPENER SWITCH SIGNAL CIRCUIT

Perform the trunk lid opener switch signal circuit inspection. Refer to DLK-77, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair the harnesses or connectors.

### 4.CHECK TRUNK LID OPENER SWITCH

Perform the unit inspection of trunk lid opener switch. Refer to DLK-78, "Component Inspection".

Is the inspection result normal?

YES >> Replace the combination meter.
NO >> Replace the trunk lid opener switch. Refer to DLK-266, "Removal and Installation".

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

## Description

INFOID:0000000011488335

- Low washer fluid warning is still displayed even after washer fluid is added.
- Low washer fluid warning is not displayed even when washer fluid is not filled.

## Diagnosis Procedure

INFOID:0000000011488336

### 1.CHECK WASHER LEVEL SWITCH SIGNAL CIRCUIT

Check the washer level switch signal circuit. Refer to MWI-78, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the harnesses or connectors.

### 2.CHECK WASHER LEVEL SWITCH COMPONENT PARTS

Perform the inspection of washer level switch component parts. Refer to MWI-78, "Component Inspection".

Is the inspection result normal?

YES >> Replace the combination meter.
NO >> Replace the washer level switch. Refer to WW-94, "Removal and Installation".

# THE AMBIENT TEMPERATURE DISPLAY IS INCORRECT

## Description

INFOID:0000000011488337

- 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:0000000011488338

**NOTE:**
Before starting diagnosis, check if the symptom is applicable to the “Symptom by normal operation”. Refer to MWI-110, "INFORMATION DISPLAY : Description".

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

Perform the A/C auto amp. connection recognition signal circuit inspection. Refer to MWI-80, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair the harnesses or connectors.

### 2.CHECK AMBIENT SENSOR SIGNAL CIRCUIT

Perform the ambient sensor signal circuit inspection. Refer to HAC-43, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair the harnesses or connectors.

### 3.CHECK AMBIENT SENSOR

Perform the unit inspection of ambient sensor. Refer to HAC-44, "Component Inspection".

Is the inspection result normal?

YES >> Replace the combination meter.
NO >> Replace the ambient sensor.

# NORMAL OPERATING CONDITION
## INFORMATION DISPLAY
### INFORMATION DISPLAY : Description

INFOID:0000000011488339

#### OIL LEVEL DISPLAY
After mounting/removing of battery or combination meter, the combination meter power supply is cut off temporarily. Therefore, the engine oil amount data may be erased from the combination meter, causing the oil level to be not displayed. Refer to MWI-39, "INFORMATION DISPLAY : System Description" for the condition that the combination meter reads the resistance of oil level sensor.

#### AMBIENT AIR TEMPERATURE
For the ambient air temperature display, the value is displayed on the information display after the signal from ambient sensor is corrected by the combination meter. Therefore, the indication value may not match the actual ambient air temperature. Refer to MWI-39, "INFORMATION DISPLAY : System Description" for details on the correction process.

#### POSSIBLE DRIVING DISTANCE
The calculated distance to empty may differ from the actual distance to empty if the refueling amount is approximately 15 ℓ (4 US gal, 3-1/4 lmp gal) or less. This is because the refuel control (moves the fuel gauge needle quicker than normal judging that the driver is refueling the vehicle) is not performed in such a case.

# PRECAUTION

## PRECAUTIONS

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

INFOID:0000000011488340

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.**

### Precaution for Battery Service

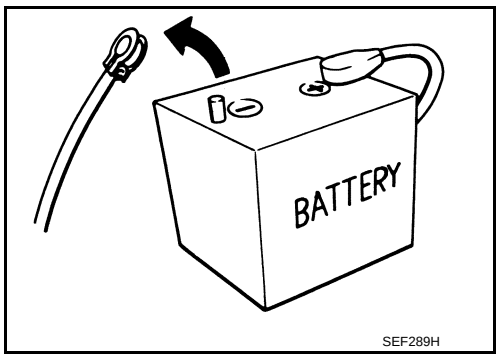
INFOID:0000000011488341

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.

### Precautions for Removing Battery Terminal

INFOID:0000000011488342

- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
  **NOTE:**
  ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.
- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.
  **NOTE:**
  If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.



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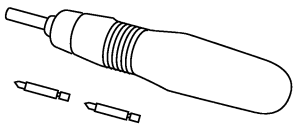
- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.
  **NOTE:**
  The removal of 12V battery may cause a DTC detection error.

# PREPARATION

## PREPARATION

### Commercial Service Tools

INFOID:0000000011488343

| Tool name | Description |
|---|---|
| Power tool  PBIC0191E | Loosening screws |

# REMOVAL AND INSTALLATION

## COMBINATION METER

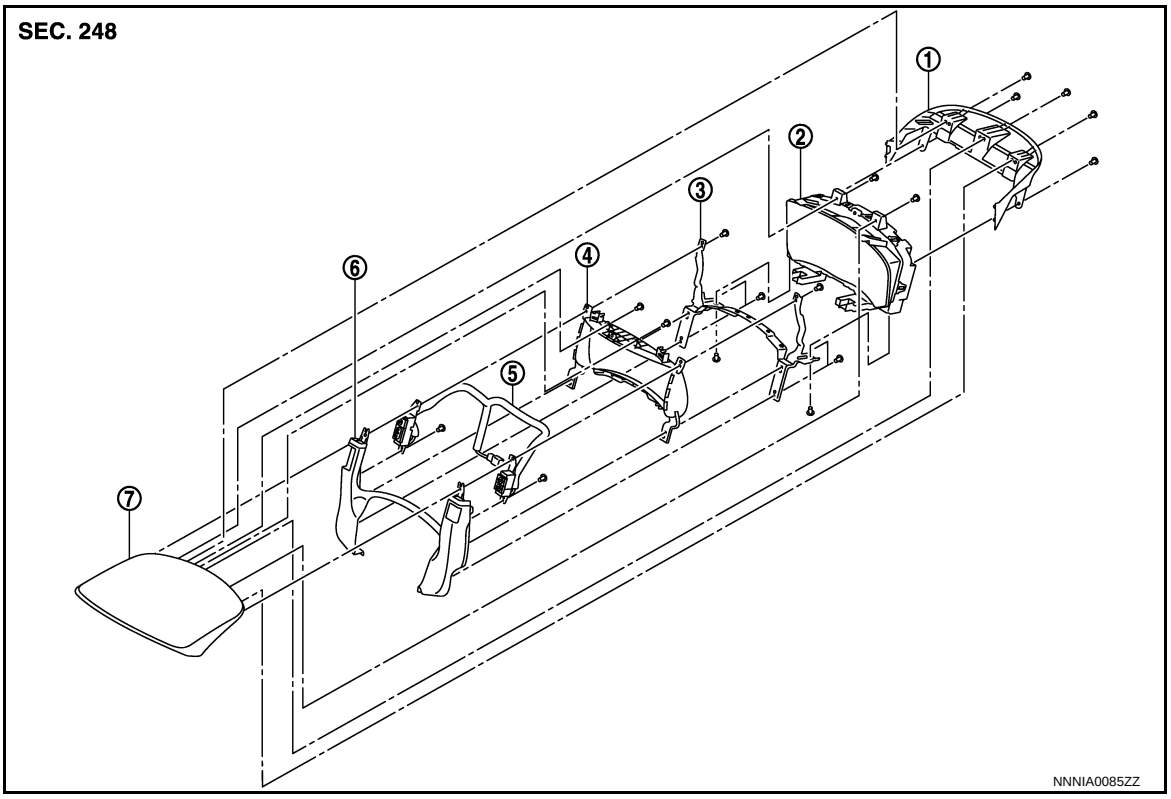
### Exploded View

INFOID:0000000011488344

#### REMOVAL

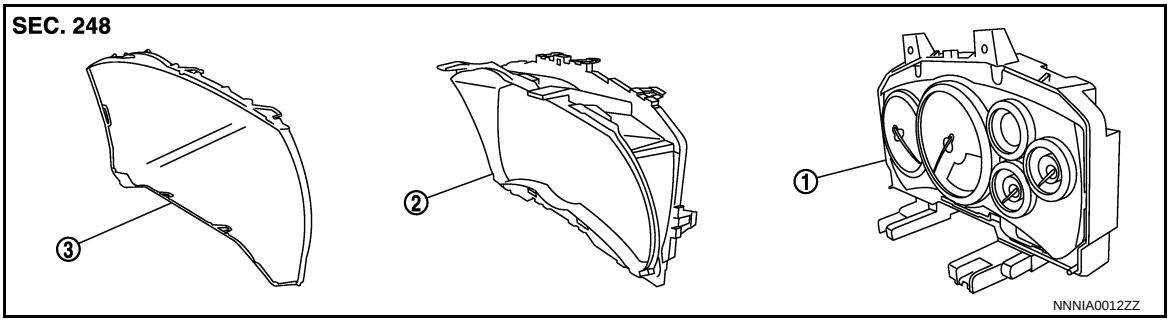
Cluster Lid A
Refer to IP-12, "Exploded View".

Combination Meter




1. Cluster lid A rear cover
2. Combination meter
3. Bracket
4. Meter housing
5. Meter control switch
6. Cluster lid A under cover
7. Cluster lid A front cover

#### DISASSEMBLY




1. Meter control unit assembly
2. Upper housing
3. Front cover

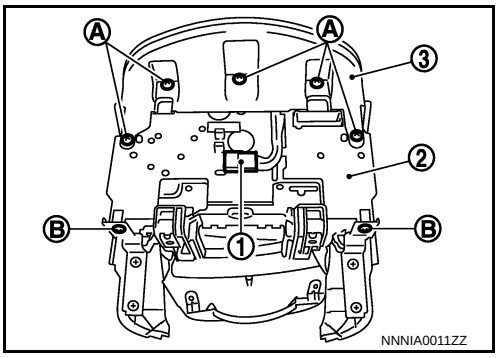
## Removal and Installation

INFOID:0000000011488345

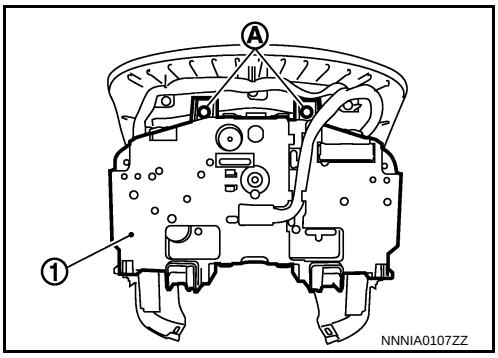
### REMOVAL

1. Remove the cluster lid A from the vehicle. Refer to IP-13, "Removal and Installation".

2. Remove the meter control switch connector (1) from the combination meter (2).
3. Remove the screws (A), and then remove the cluster lid A rear cover (3).
4. Remove screws (B).




5. Remove the screws (A), and then remove the combination meter (1).




### INSTALLATION

Install in the reverse order of removal.

## Disassembly and Assembly

INFOID:0000000011488346

### DISASSEMBLY

1. Remove the tabs, and then remove the upper housing.
2. Remove the tabs, and then remove the front cover.

### ASSEMBLY

Assemble the reverse order of disassembly.

# METER CONTROL SWITCH

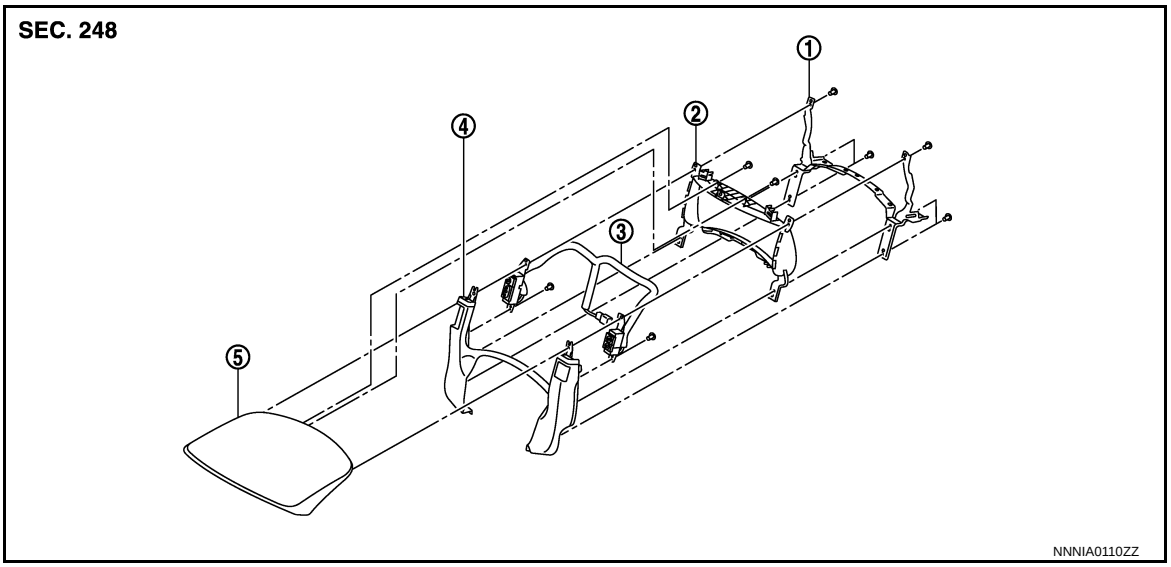
## Exploded View

INFOID:0000000011488347

REMOVAL

Refer to IP-12, "Exploded View".

DISASSEMBLY



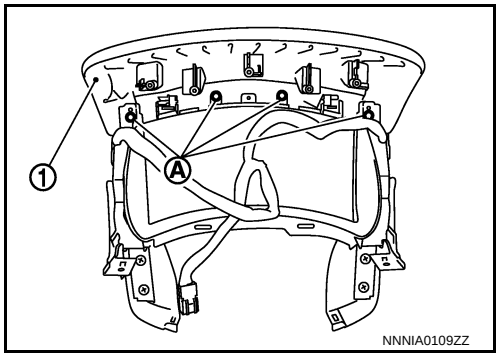

1. Bracket
2. Meter housing
3. Meter control switch
4. Cluster lid A under cover
5. Cluster lid A front cover

## Removal and Installation

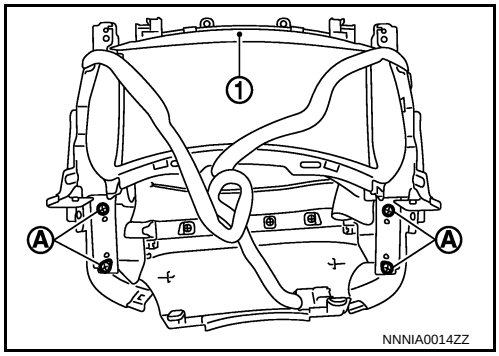
INFOID:0000000011488348

REMOVAL

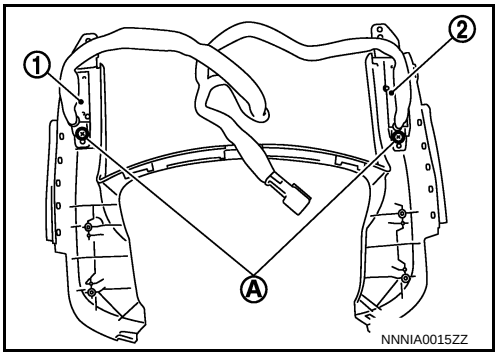
1. Remove the combination meter.
2. Remove the screws (A), and then remove the cluster lid A front cover (1).




3. Remove the screws (A), and then remove the bracket and meter housing (1).



4. Remove the screws (A), and then remove the drive computer switch (1), illumination control switch, and trip A/B reset switch (2).




INSTALLATION

Install in the reverse order of removal.