# SECTION DI
# DRIVER INFORMATION SYSTEM

## CONTENTS

# PRECAUTION

PFP:00011

## Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

EKS008OV

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 and SB section of this Service Manual.

**WARNING:**

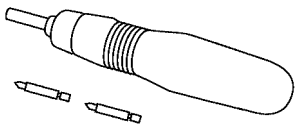
- **To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper maintenance, including incorrect removal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

# PREPARATION

PFP:00002

## Commercial Service Tool

EKS00GAJ

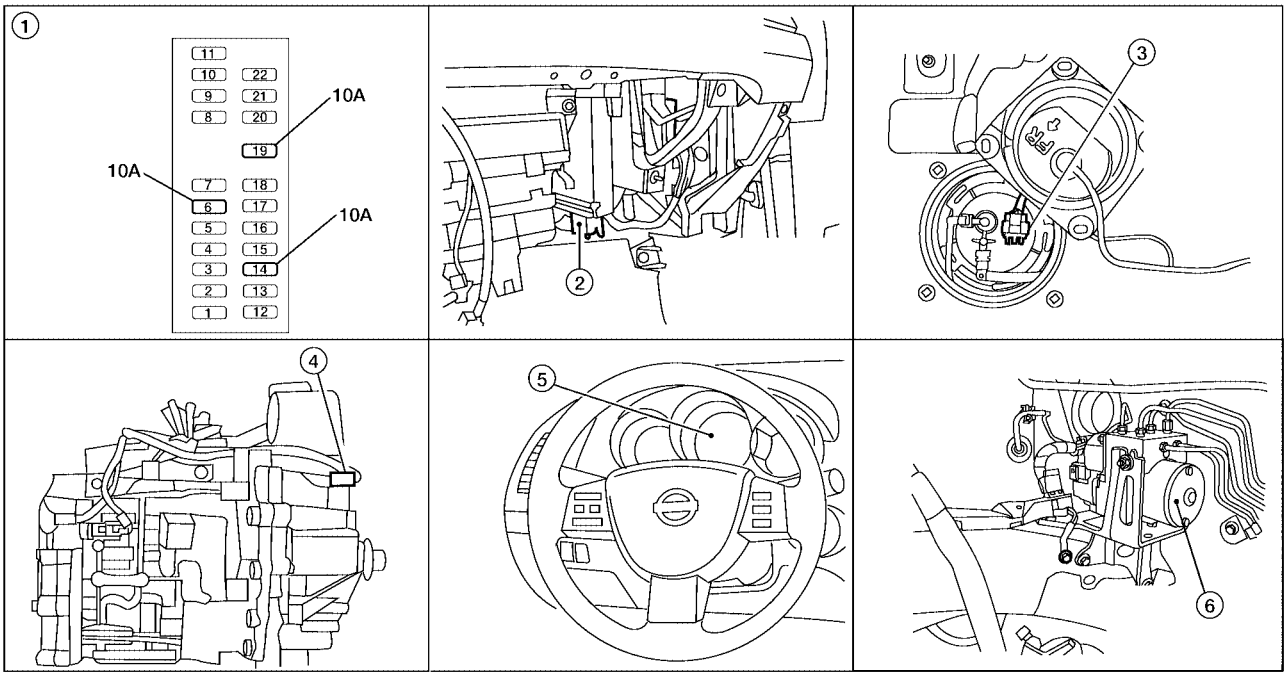
| Tool name | Description |
|---|---|
| Power tool<br>  <br>PBIC0191E | Loosening bolts and nuts. |

# COMBINATION METERS

PFP:24814

## Component Parts and Harness Connector Location

EKS008OX




WKIA4536E

1. Fuse block (J/B)
2. ECM F54 (view with glove box removed)
3. Fuel level sensor unit and fuel pump B16 (view with rear seat cushion and inspection hole cover removed)
4. Vehicle speed sensor F36 (4 A/T shown, M/T similar)
5. Combination meter M24
6. ABS actuator and electric unit (control unit) E125 (engine removed for clarity)

## System Description

EKS008OY

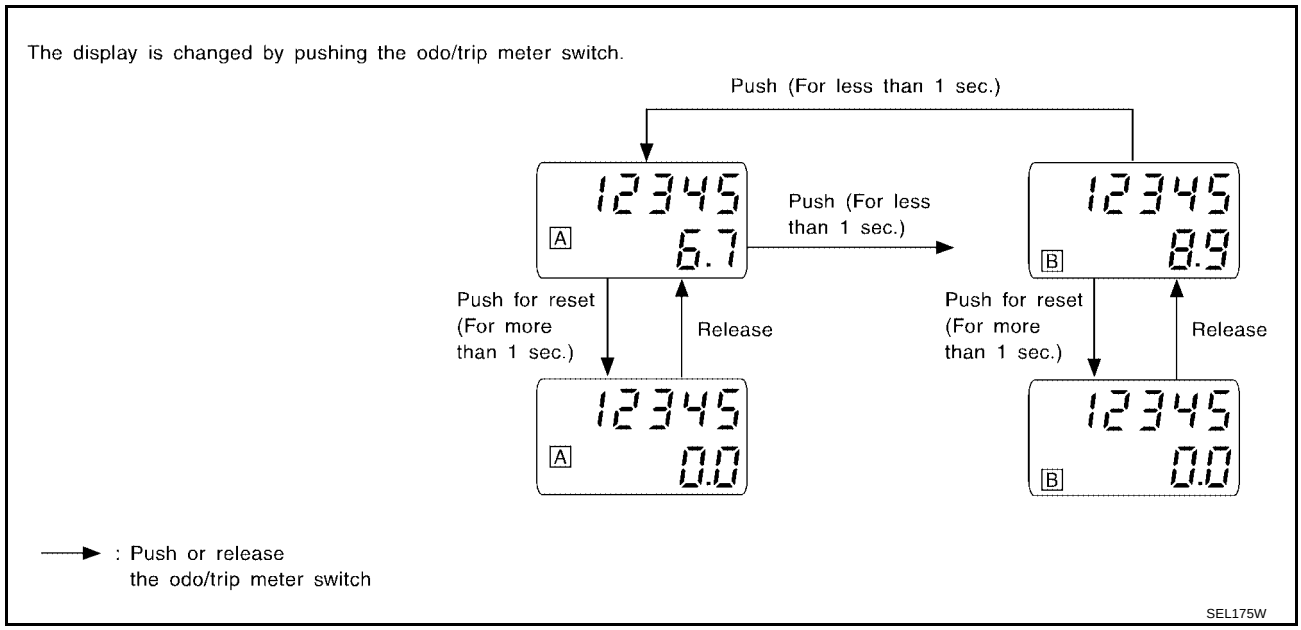
### UNIFIED CONTROL METER

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

### HOW TO CHANGE THE DISPLAY FOR ODO/TRIP METER

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

- Depressing the odometer/trip switch toggles the mode in the following order.




- The odo/trip meter display mode toggling and trip display resetting can be identified by the amount of time that elapses from pressing the odo/trip meter switch to releasing it.
- When resetting with trip A displayed, only trip A display is reset (Trip B operates the same way).

## POWER SUPPLY AND GROUND CIRCUIT

Power is supplied at all times

- through 10A fuse [No. 19, located in the fuse block (J/B)]
- to combination meter terminal 21.

With the ignition switch in the ON or START position, power is supplied

- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to combination meter terminal 22.

With the ignition switch in the ACC or ON position, power is supplied

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to combination meter terminal 37.

Ground is supplied

- to combination meter terminals 23, 25, and 28
- through body grounds M57, M61, and F14.

## WATER TEMPERATURE GAUGE

The water temperature gauge indicates the engine coolant temperature.
ECM provides an engine coolant temperature signal to combination meter for water temperature gauge with CAN communication line.

## TACHOMETER

The tachometer indicates engine speed in revolutions per minute (rpm).
ECM provides an engine speed signal to combination meter for tachometer with CAN communication line.

## FUEL GAUGE

The fuel gauge indicates the approximate fuel level in the fuel tank.
The fuel gauge is regulated by a variable ground signal supplied

- to combination meter terminal 35
- from terminal 2 of the fuel level sensor unit
- through terminal 5 of the fuel level sensor unit and
- through body grounds M57, M61, and F14.

### SPEEDOMETER (WITH TCS OR 5-SPEED A/T)

The ABS actuator and electric unit (control unit) provides a vehicle speed signal to the combination meter for speedometer with CAN communication line.

### SPEEDOMETER (WITHOUT TCS OR 5-SPEED A/T)

The vehicle speed sensor provides a vehicle speed signal to the combination meter for speedometer indication.

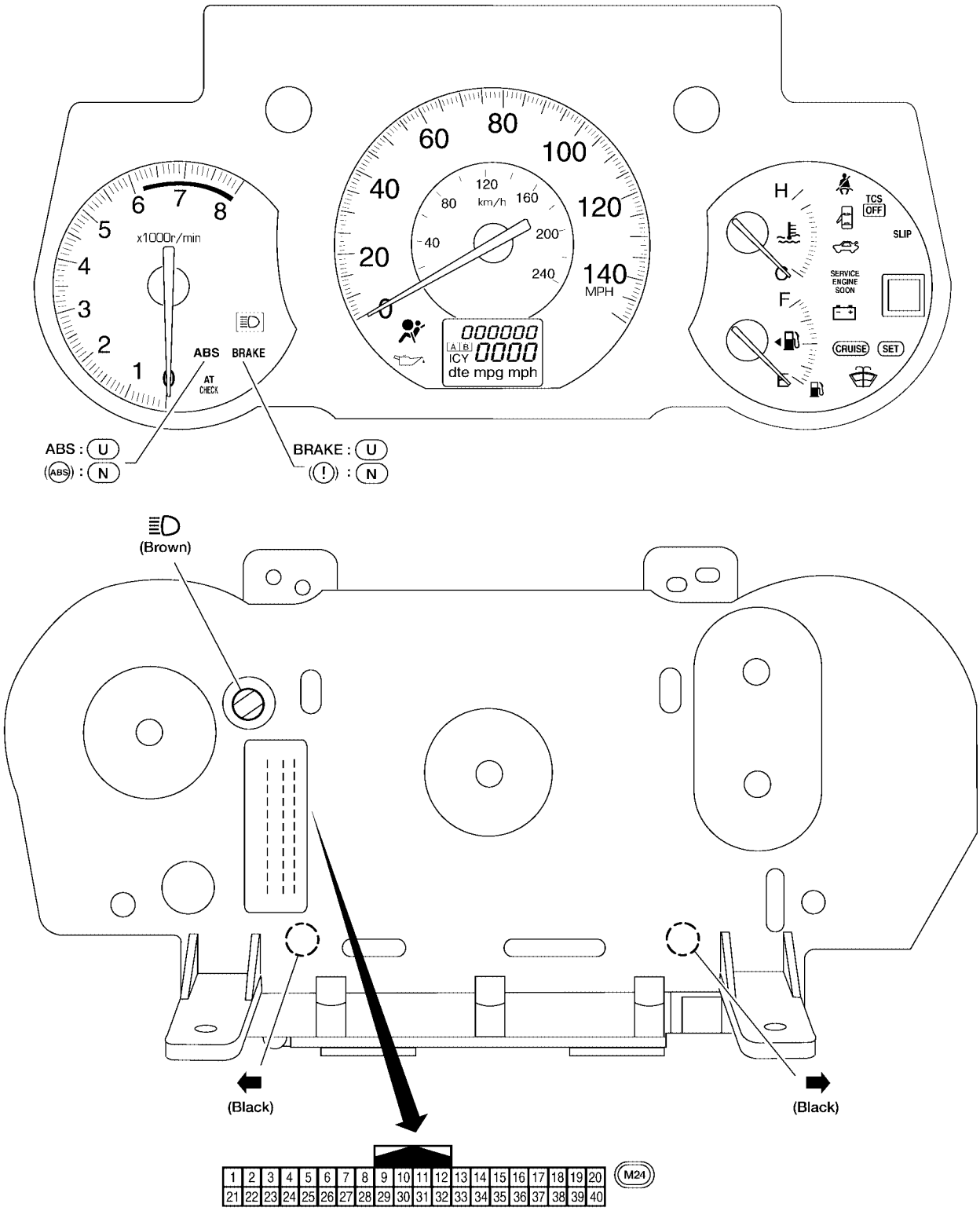
## CAN Communication System Description

EKS008OZ

Refer to LAN-20, "CAN COMMUNICATION" .

## Combination Meter
### CHECK

EKS008P0



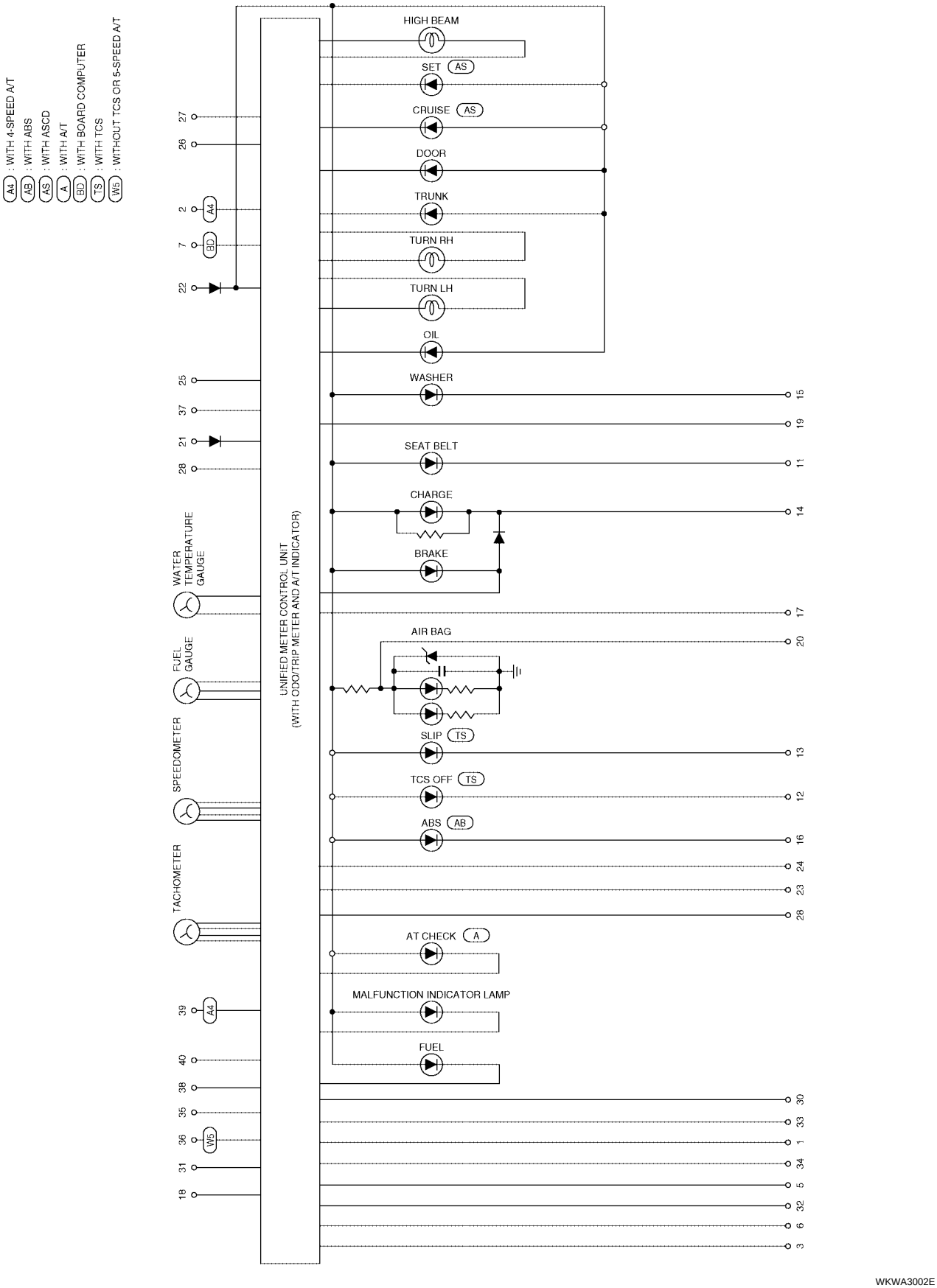

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37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

(U) : For USA
(N) : For Canada
Bulb wattage : 1.4W
( ) : Bulb socket color

WKIA4537E

## Schematic

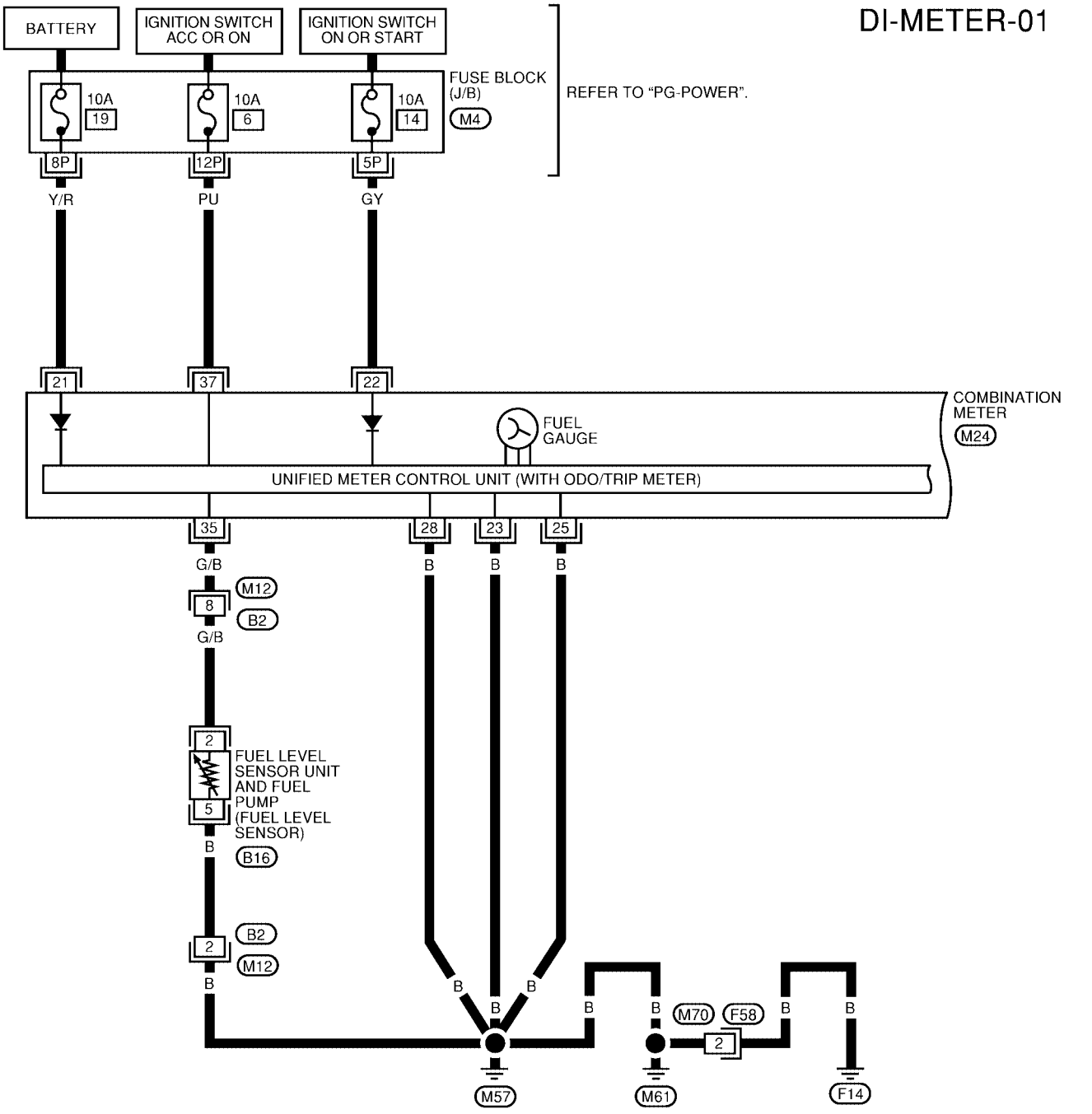
EKS008P1

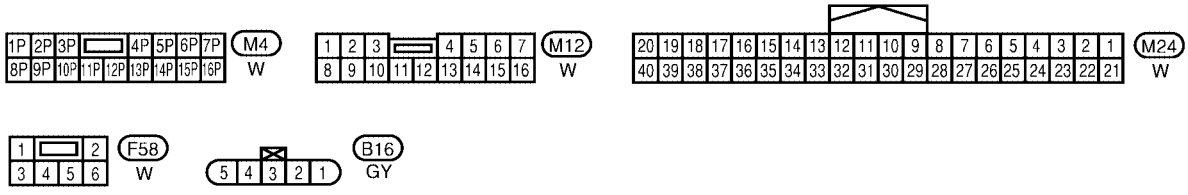



WKWA3002E

## Wiring Diagram — METER —

EKS008P2

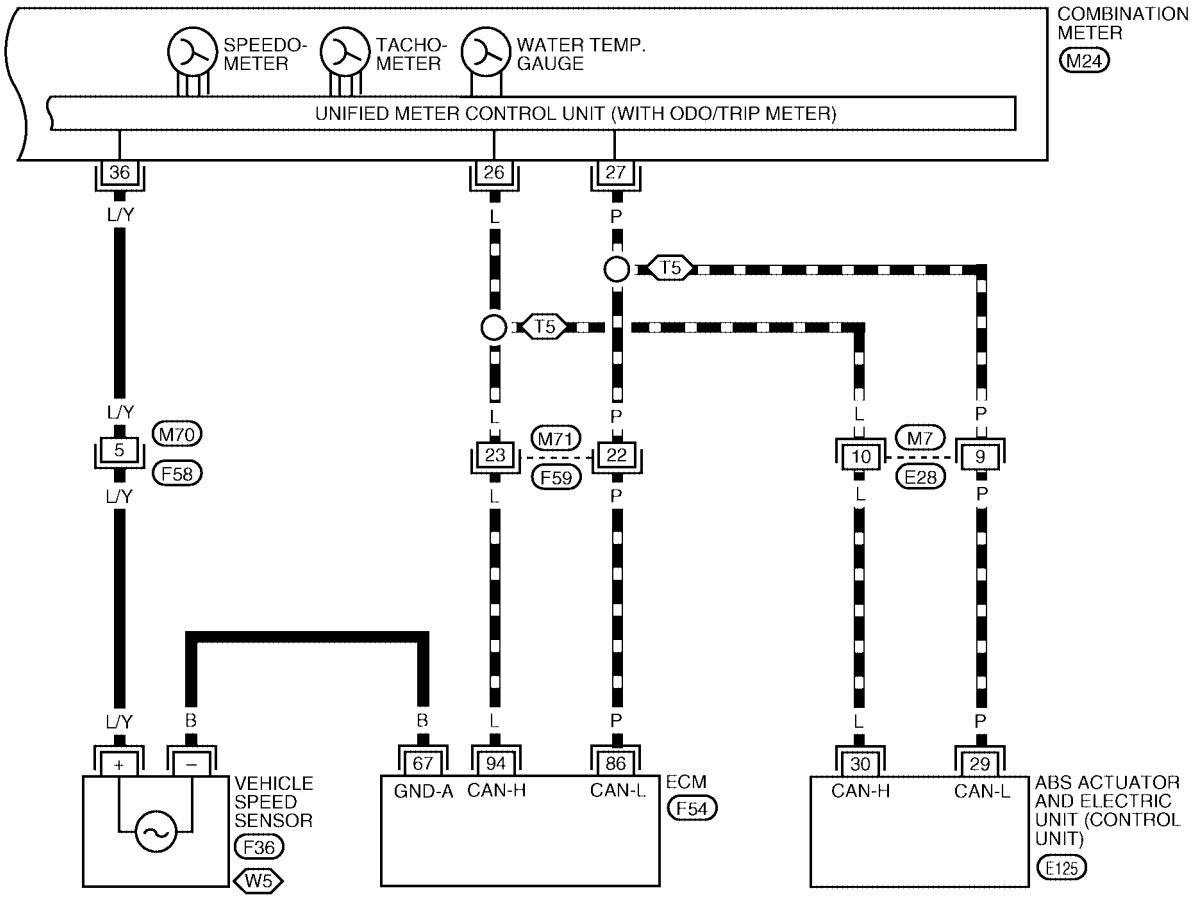


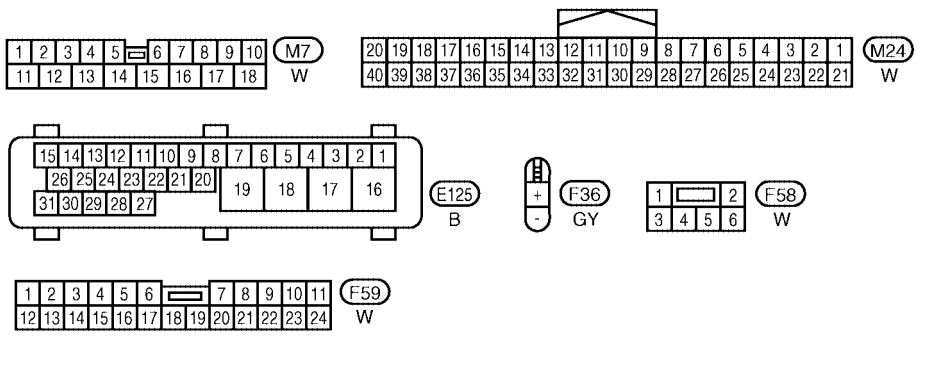




WKWA1252E

DI-METER-02

: DATA LINE
T5 : WITH TCS OR 5-SPEED A/T
W5 : WITHOUT TCS OR 5-SPEED A/T




REFER TO THE FOLLOWING.
F54 - ELECTRICAL UNITS

WKWA3003E

## Terminals and Reference Value for Combination Meter

EKS008P3

| Terminal | Wire color | Item | Condition | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| | | | Ignition switch | Operation or condition | |
| 21 | Y/R | Battery power supply | — | — | Battery voltage |
| 22 | GY | Ignition switch ON or START | ON | — | Battery voltage |
| 23 | B | Ground | — | — | 0 |
| 25 | B | Ground | — | — | 0 |
| 26 | L | CAN-H | — | — | — |
| 27 | P | CAN-L | — | — | — |
| 28 | B | Ground | — | — | 0 |
| 35 | G/B | Fuel level sensor signal | ON | — | Refer to DI-19, "FUEL LEVEL SENSOR UNIT CHECK" . |
| 36 | L/Y | Vehicle speed signal (without TCS or 5-speed A/T) | ON | Speedometer operated [When vehicle speed is approx. 20 km/h (12 MPH)] | 240 Hz |
| 37 | PU | Ignition switch ACC or ON | ON | — | Battery voltage |

## Meter/Gauges Operation and Odo/Trip Meter

EKS008P4

### SELF–DIAGNOSIS FUNCTION

- Odo/trip meter (board computer) segment operation can be checked in self-diagnosis mode.
- Meters/gauges can be checked in self-diagnosis mode.

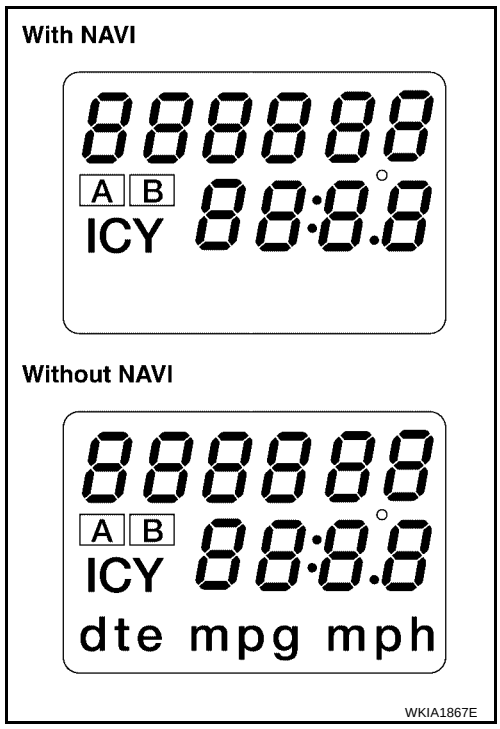
### HOW TO ALTERNATE DIAGNOSIS MODE

1. Turn the ignition switch ON and switch the odometer/trip meter to “trip A” or “trip B”.

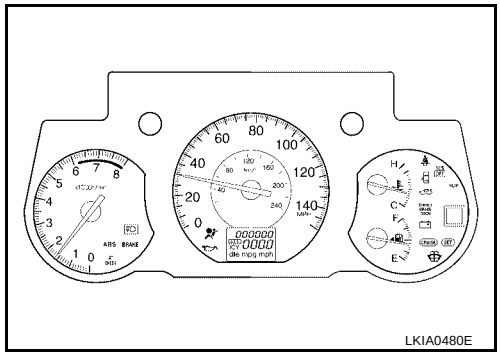
   **NOTE:**
   If the diagnosis function is activated with the trip meter A displayed, the mileage on the trip meter A will indicate 000.0 miles, but the actual trip mileage will be retained. (Trip B operates the same way.)
2. Turn the ignition switch OFF.
3. While pushing the odo/trip meter switch, turn the ignition switch ON again.
4. Check that the trip meter displays "000.0".
5. Push the odo/trip meter switch at least 7 times within 7 seconds after the ignition switch is turned ON.

6. All the segments on the odo/trip meter illuminate, and simultaneously the low-fuel warning lamp indicator illuminates. At this time, the unified meter control unit is turned to diagnosis mode.

   **NOTE:**
   If any of the segments is not displayed, replace the combination meter.




7. Push the odo/trip meter switch. Each meter/gauge should indicate as shown in the figure while pushing odo/trip meter switch. (At this time, the low-fuel warning lamp goes off).




## How to Proceed With Trouble Diagnosis

EKS008P5

1. Confirm the trouble symptom or customer complaint.
2. Perform diagnosis according to diagnosis flow. Refer to DI-13, "Diagnosis Flow" .
3. According to the trouble diagnosis chart, repair or replace the cause of the trouble symptom. Refer to DI-15, "Trouble Diagnosis Chart by Symptom" .
4. Does the meter operate normally? Yes: Go to 5. No: Go to 2.
5. Inspection End.

## Diagnosis Flow

EKS008P6

### 1. WARNING LAMP ILLUMINATION INSPECTION

1. Turn ignition switch ON.
2. Check that warning lamps (such as MIL and oil pressure warning lamp) illuminate.

Do warning lamps illuminate?

YES >> GO TO 2.
NO >> Check ignition power supply system of combination meter. Refer to DI-14, "Power Supply and Ground Circuit Check" .

## 2. SELF-DIAGNOSIS OPERATION CHECK

Perform combination meter self-diagnosis. Refer to DI-12, "SELF–DIAGNOSIS FUNCTION" .

Does self-diagnosis function operate?

YES >> GO TO 3.
NO >> Check battery power supply of combination meter and ground system. Refer to DI-14, "Power Supply and Ground Circuit Check" .

## 3. ODO/TRIP METER OPERATION CHECK

Check segment display status of odo/trip meter. Refer to DI-12, "SELF–DIAGNOSIS FUNCTION" .

Is the display normal?

YES >> GO TO 4.
NO >> Replace the combination meter. Refer to IP-13, "COMBINATION METER" .

## 4. FUEL WARNING LAMP ILLUMINATION CONFIRMATION

During fuel warning lamp check, confirm illumination of fuel warning lamp. Refer to DI-12, "SELF–DIAGNOSIS FUNCTION" .

Does fuel warning lamp illuminate?

YES >> GO TO 5.
NO >> Replace the combination meter. Refer to IP-13, "COMBINATION METER" .

## 5. METER CIRCUIT CHECK

During meter circuit check, confirm meter illumination. Refer to DI-12, "SELF–DIAGNOSIS FUNCTION" .

Is the display normal?

YES >> Go to diagnosis results. Refer to DI-15, "DIAGNOSIS RESULTS" .
NO >> Replace the combination meter. Refer to IP-13, "COMBINATION METER" .

# Power Supply and Ground Circuit Check

EKS008P7

## 1. CHECK FUSES

Check for blown combination meter fuses.

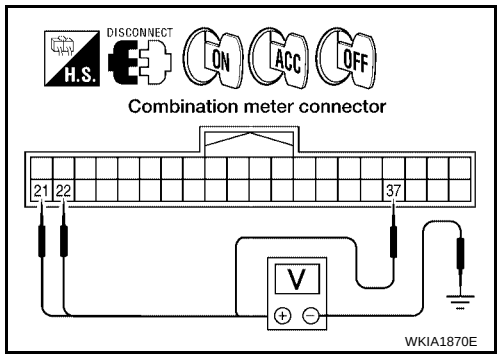
| Unit | Power source | Fuse No. |
|---|---|---|
| Combination meter | Battery | 19 |
| | Ignition switch ON or START | 14 |
| | Ignition switch ACC or ON | 6 |

OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of problem before installing new fuse. Refer to PG-4, "POWER SUPPLY ROUTING CIRCUIT" .

## 2. POWER SUPPLY CIRCUIT CHECK

1. Disconnect combination meter connector.
2. Check voltage between combination meter harness connector M24 terminals 21, 22, 37 and ground.



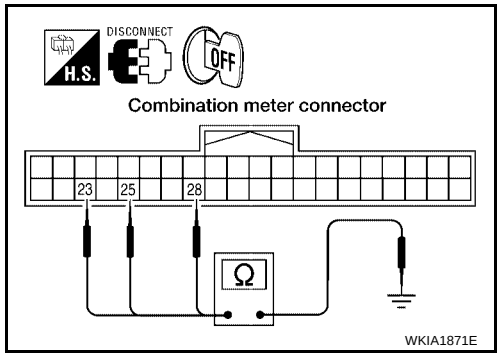

| Terminals | | | Ignition switch position | | | |
|---|---|---|---|---|---|---|
| (+) | | (–) | OFF | ACC | ON | START |
| Connector | Terminal | | | | | |
| M24 | 21 | Ground | Battery voltage | Battery voltage | Battery voltage | Battery voltage |
| | 22 | | 0V | 0V | Battery voltage | Battery voltage |
| | 37 | | 0V | Battery voltage | Battery voltage | Battery voltage |

OK or NG

OK >> GO TO 3.
NG >> Check harness for open between combination meter and fuse.

## 3. GROUND CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Check continuity between combination meter harness connector terminals 23, 25, 28 and ground.




| Terminals | | | Continuity |
|---|---|---|---|
| (+) | | (–) | |
| Connector | Terminal | | |
| M24 | 23 | Ground | Yes |
| | 25 | | |
| | 28 | | |

OK or NG

OK >> Inspection End.
NG >> Check ground harness.

## Trouble Diagnosis Chart by Symptom

EKS008P8

### DIAGNOSIS RESULTS

| Trouble phenomenon | Possible cause |
|---|---|
| Tachometer indication is irregular. | Refer to DI-17, "Tachometer System" . |
| Fuel warning lamp indication is irregular. | Refer to DI-19, "FUEL LEVEL SENSOR UNIT CHECK" . |
| Fuel gauge indication is irregular. | |
| Water temperature gauge indication is irregular. | Refer to DI-17, "Engine Coolant Temperature System" . |
| Indication is irregular for the speedometer and odo/trip meter. | Refer to DI-18, "Vehicle Speed System" . |
| Indications are irregular for more than one gauge. | Replace combination meter. Refer to IP-13, "COMBINATION METER" . |
| A/T position indication is irregular. | Refer to DI-43, "A/T INDICATOR" . |

## Fuel System

EKS008P9

The following symptoms do not indicate a malfunction.

### FUEL GAUGE

- Depending on vehicle position or driving circumstance, the fuel in the tank flows and the pointer may fluctuate.
- If the vehicle is fueled with the ignition switch ON, the pointer will move slowly.

### LOW-FUEL WARNING LAMP

Depending on vehicle position or driving circumstance, the fuel in the tank flows and the warning lamp ON timing may change.

## 1. CONNECTOR INSPECTION

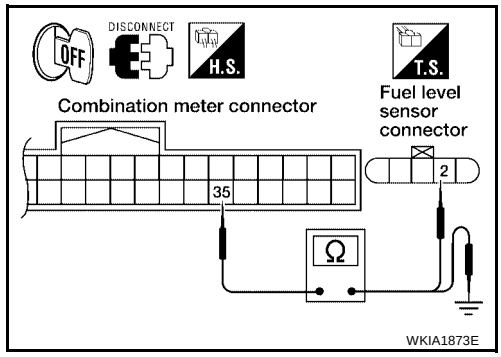
1. Turn ignition switch OFF.
2. Check meter, fuel level sensor unit and terminals (meter-side, unit-side, harness-side) for looseness or damaged terminals.

OK or NG

OK >> GO TO 2.
NG >> Repair terminal or connector.

## 2. CONTINUITY INSPECTION BETWEEN COMBINATION METER AND FUEL LEVEL SENSOR UNIT

1. Disconnect combination meter connector and fuel level sensor unit connector.
2. Check continuity between combination meter harness connector M24 terminal 35 and fuel level sensor unit harness connector B16 terminal 2.
3. Check continuity between combination meter harness connector M24 terminal 35 and ground.



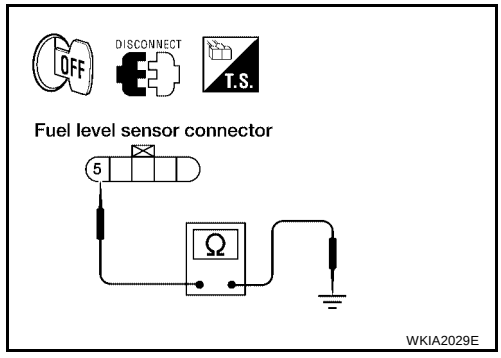

| Terminals | | | | Continuity |
|---|---|---|---|---|
| (+) | | (–) | | |
| Connector | Terminal | Connector | Terminal | |
| M24 | 35 | B16 | 2 | Yes |
| M24 | 35 | — | Ground | No |

OK or NG

OK >> GO TO 3.
NG >> Repair harness or connector.

## 3. GROUND CIRCUIT INSPECTION OF FUEL LEVEL SENSOR

Check continuity between fuel level sensor unit harness connector B16 terminal 5 and ground.




| Terminals | | | Continuity |
|---|---|---|---|
| (+) | | (–) | |
| Connector | Terminal | | |
| B16 | 5 | Ground | Yes |

OK or NG

OK >> GO TO 4.
NG >> Repair harness or connector.

## 4. FUEL LEVEL SENSOR INSPECTION

Check components. Refer to DI-19, "FUEL LEVEL SENSOR UNIT CHECK" .

OK or NG

OK >> GO TO 5.
NG >> Replace fuel level sensor unit. Refer to FL-6, "Removal and Installation For All Models Except PZEV" or FL-9, "Removal and Installation For PZEV Models Only" .

## 5. CHECK INSTALLATION CONDITION

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

OK or NG

OK >> Replace the combination meter. Refer to IP-13, "COMBINATION METER" .
NG >> Install the fuel level sensor unit properly.

# Tachometer System

EKS008PA

## 1. VISUAL INSPECTION

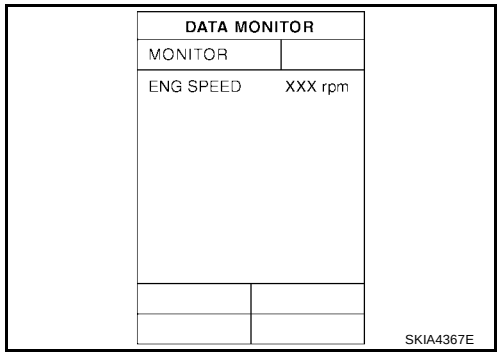
Check if tachometer fluctuates when the engine starts.

Is the fluctuation acceptable?

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

## 2. ENGINE SPEED INSPECTION

1. Select "ENGINE" on CONSULT-II.
2. Using "ENG SPEED" on "DATA MONITOR", compare the value of "DATA MONITOR" with tachometer pointer of combination meter.




OK or NG

OK >> GO TO 3.
NG >> Replace the combination meter. Refer to IP-13, "COMBINATION METER" .

## 3. ECM SYSTEM INSPECTION

Perform ECM self-diagnosis. Refer to EC-117, "CONSULT-II Function (ENGINE)" (QR25DE) or EC-722, "CONSULT-II Function (ENGINE)" (VQ35DE).

OK or NG

OK >> Replace combination meter. Refer to IP-13, "COMBINATION METER" .
NG >> Go to ECM trouble diagnosis. Refer to EC-88, "TROUBLE DIAGNOSIS" (QR25DE) or EC-689, "TROUBLE DIAGNOSIS" (VQ35DE).

# Engine Coolant Temperature System

EKS008PB

## 1. ECM SYSTEM INSPECTION

Perform ECM self-diagnosis. Refer to EC-117, "CONSULT-II Function (ENGINE)" (QR25DE) or EC-722, "CONSULT-II Function (ENGINE)" (VQ35DE).

OK or NG

OK >> Replace combination meter. Refer to IP-13, "COMBINATION METER" .
NG >> Go to ECM trouble diagnosis. Refer to EC-88, "TROUBLE DIAGNOSIS" (QR25DE) or EC-689, "TROUBLE DIAGNOSIS" (VQ35DE).

## Vehicle Speed System

EKS008PC

### WITH TCS OR 5-SPEED A/T

### 1. CHECK ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS

Perform ABS actuator and electric unit (control unit) self-diagnosis. Refer to BRC-62, "SELF-DIAGNOSIS PROCEDURE" .

OK or NG

OK >> Replace the combination meter. Refer to IP-13, "COMBINATION METER" .
NG >> Perform "Diagnostic Procedure" for the displayed DTC.

### WITHOUT TCS OR 5-SPEED A/T

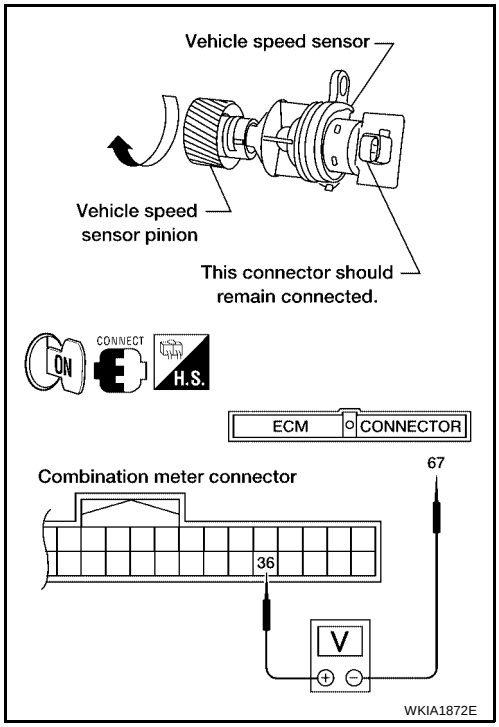
### 1. CHECK VEHICLE SPEED SENSOR CIRCUITS

1. Remove vehicle speed sensor.
2. Turn ignition switch ON.
3. Rotate vehicle speed sensor while checking voltage between combination meter harness connector M24 terminal 36 and ECM harness connector F54 terminal 67.

| Terminals | | | | Voltage (Approx.) |
|---|---|---|---|---|
| (+) | | (–) | | |
| Connector | Terminal | Connector | Terminal | |
| M24 | 36 | F54 | 67 | 0.5V |

OK or NG

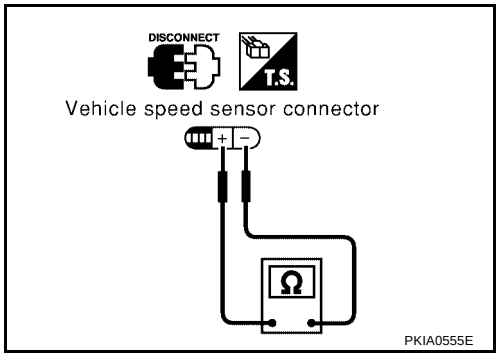
OK >> Replace combination meter. Refer to IP-13, "COMBINATION METER" .
NG >> GO TO 2.




### 2. CHECK VEHICLE SPEED SENSOR

1. Turn ignition switch OFF.
2. Disconnect vehicle speed sensor connector.
3. Check resistance between vehicle speed sensor terminals + and -.

| Terminals | | | | Resistance value (Approx.) |
|---|---|---|---|---|
| (+) | | (–) | | |
| Component | Terminal | Component | Terminal | |
| Vehicle speed sensor | + | Vehicle speed sensor | – | 250Ω |




OK or NG

OK >> Check harness or connector between combination meter, vehicle speed sensor and ECM.
NG >> Replace vehicle speed sensor.

## The Fuel Gauge Pointer Fluctuates, Indicates Wrong Value or Varies

EKS008PD

### 1. CHECK FUEL GAUGE FLUCTUATION

Test drive vehicle to see if gauge fluctuates only during driving or before or after stopping.

Does the indication value vary only during driving or before or after stopping?

Yes >> The pointer fluctuation may be caused by fuel level change in the fuel tank. Condition is normal.
No >> Ask the customer about the situation when the symptom occurs in detail, and perform the trouble diagnosis.

## The Fuel Gauge Does Not Move to FULL Position

EKS008PE

### 1. OBSERVE FUEL GAUGE

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

YES or NO

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

### 2. IDENTIFY FUELING CONDITION

Was the vehicle fueled with the ignition switch ON?

YES or NO

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

### 3. OBSERVE VEHICLE POSITION

Is the vehicle parked on an incline?

YES or NO

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

### 4. OBSERVE FUEL GAUGE POINTER

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

YES or NO

YES >> Check the components. Refer to DI-19, "FUEL LEVEL SENSOR UNIT CHECK" .
NO >> The float arm may interfere or bind with any of the components in the fuel tank.

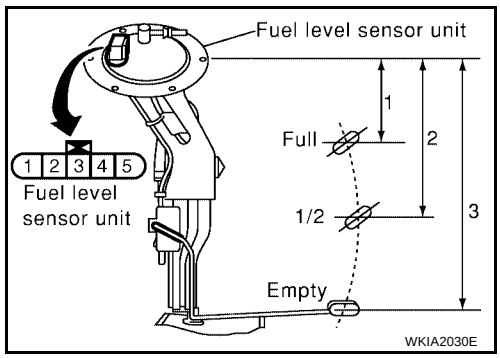
## Electrical Components Inspection

EKS008PF

### FUEL LEVEL SENSOR UNIT CHECK

- For removal, refer to FL-6, "Removal and Installation For All Models Except PZEV" or FL-9, "Removal and Installation For PZEV Models Only" .
- Check the resistance between terminals 2 and 5.

| Terminal | | Float position mm (in) | | Resistance value (Approx.) |
|---|---|---|---|---|
| 2 | 5 | Full (1) | 82.7 (3.3) | 4.5 – 5.5Ω |
| | | 1/2 (2) | 200.3 (7.9) | 31.5 – 5.5Ω |
| | | Empty (3) | 325.0 (12.8) | 80.0 – 83.0Ω |




## Combination Meter

EKS008PG

### REMOVAL AND INSTALLATION

Refer to IP-13, "COMBINATION METER" .

# TRIPLE METERS

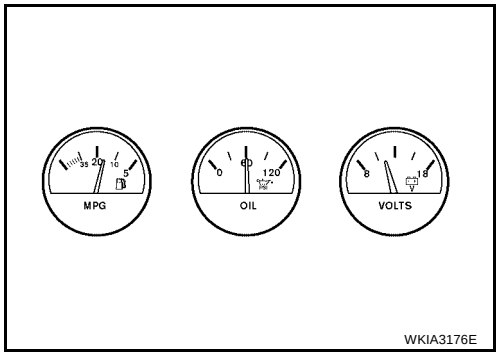
PFP:24845

## System Description

EKS00A7L

### TRIPLE METER

- Fuel consumption gauge, oil pressure gauge and voltmeter are controlled by the triple meter.
- Meters/gauges can be checked in self-diagnosis mode of combination meter.




### POWER SUPPLY AND GROUND CIRCUIT

Power is supplied at all times

- through 10A fuse [No. 19, located in the fuse block (J/B)]
- to triple meter terminal 1 and
- to combination meter terminal 21.

With the ignition switch in the ON or START position, power is supplied

- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to triple meter terminal 2 and
- to combination meter terminal 22.

With the ignition switch in the ACC or ON position, power is supplied

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to triple meter terminal 6 and
- to combination meter terminal 37.

Ground is supplied

- to triple meter terminals 3 and 4 and
- to combination meter terminals 23, 25 and 28
- through body grounds M57, M61 and F14.

### FUEL CONSUMPTION GAUGE

The fuel consumption gauge displays the average fuel consumption according to signal from the combination meter. Average fuel consumption is calculated by signals from the ABS actuator and electric unit (control unit) (with TCS or 5-speed A/T) or vehicle speed sensor (without TCS or 5-speed A/T) and the ECM.

### OIL PRESSURE GAUGE

The oil pressure gauge indicates engine oil pressure.
With the ignition switch in the ON or START position, power is supplied

- through triple meter terminal 9
- to oil pressure sensor terminal 1.

Ground is supplied

- through triple meter terminal 11
- to oil pressure sensor terminal 3.

Triple meter receives oil pressure signal from oil pressure sensor

- through oil pressure sensor terminal 2
- to triple meter terminal 10.

### VOLTMETER

When the ignition switch is turned to the ON position, the voltmeter indicates the battery voltage. While the engine is running, it indicates the generator voltage of about 13 to 15 volts.
With the ignition switch in the ON or START position, power is supplied

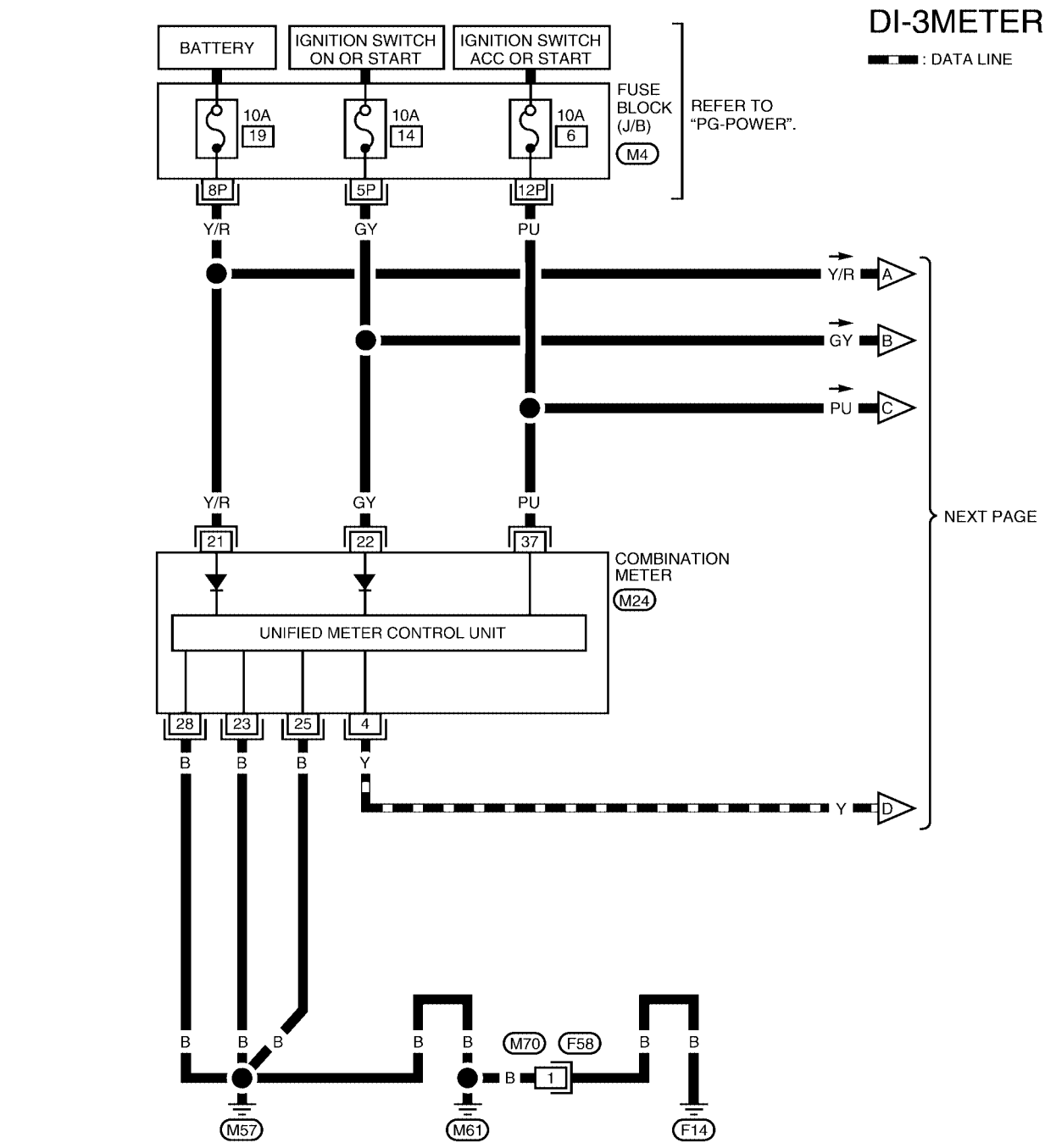
- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to triple meter terminal 2.

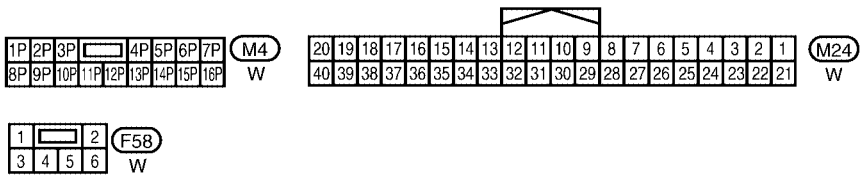
Ground is supplied

- to triple meter terminals 3 and 4
- through body grounds M57, M61 and F14.

## Wiring Diagram — 3METER —

EKS00A7N

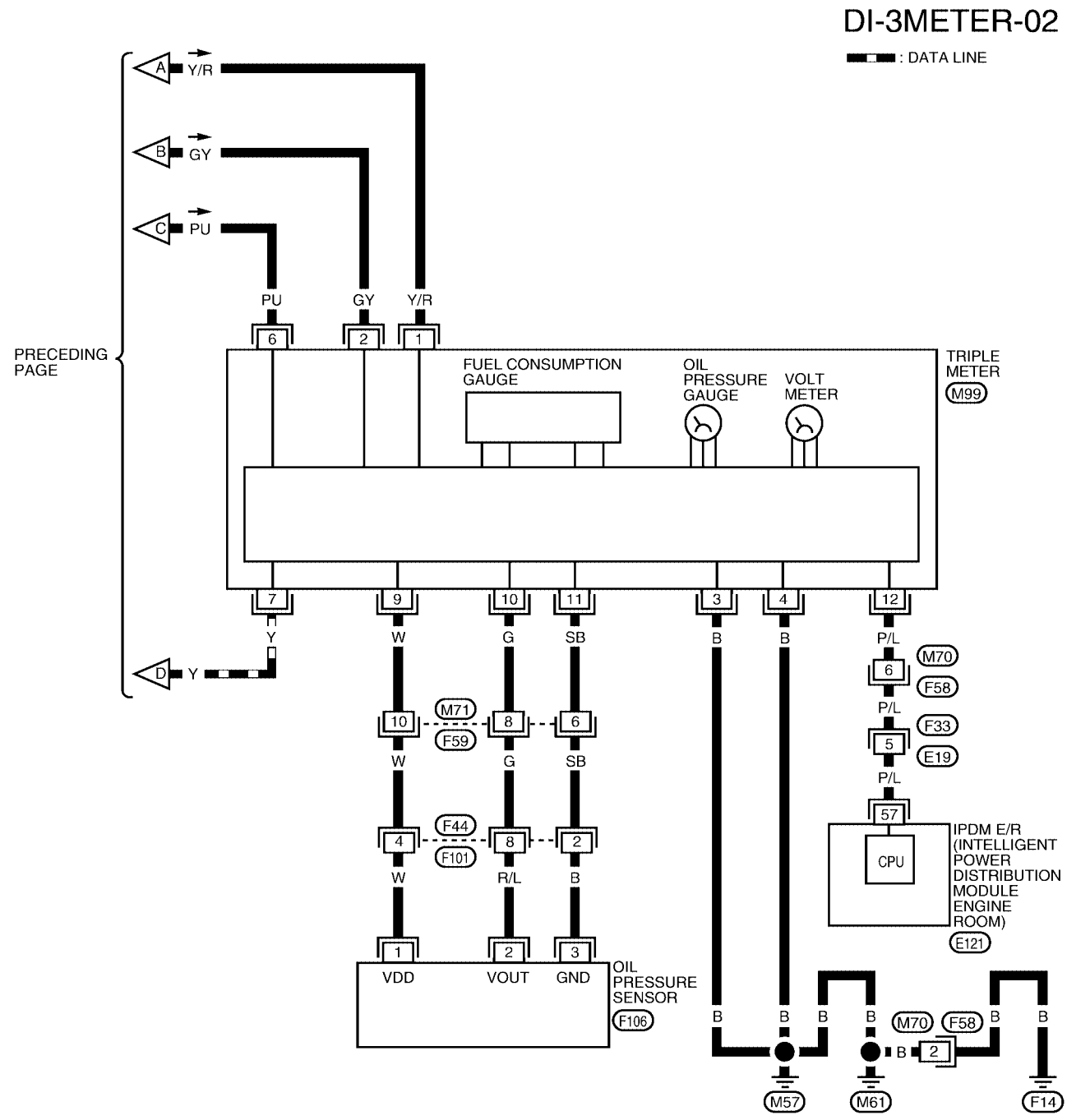


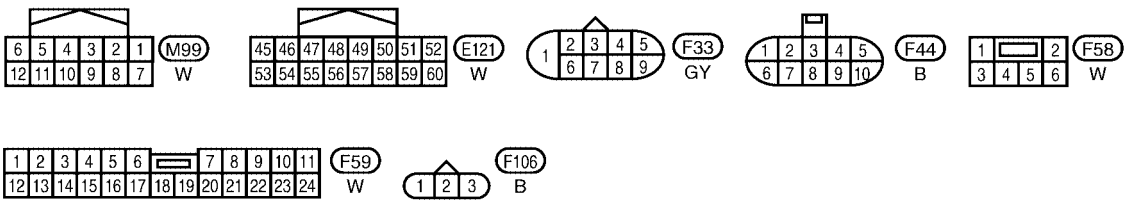







WKWA1837E


DI-3METER-02
: DATA LINE
A Y/R
B GY
C PU
D Y
PRECEDING PAGE
PU
GY
Y/R
FUEL CONSUMPTION GAUGE
OIL PRESSURE GAUGE
VOLT METER
TRIPLE METER
M99
W
G
SB
B
P/L
M70
F58
F33
E19
M71
F59
F44
F101
R/L
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
CPU
E121
VDD
VOUT
GND
OIL PRESSURE SENSOR
F106
M57
M61
F14


M99 W
E121 W
F33 GY
F44 B
F58 W
F59 W
F106 B

WKWA1838E

## Terminals and Reference Value for Triple Meter

EKS00A7O

| Terminal No. | Wire color | Item | Condition | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| | | | Ignition switch | Operation or condition | |
| 1 | Y/R | Battery power supply | OFF | — | Battery voltage |
| 2 | GY | Ignition switch ON or START | ON | — | Battery voltage |
| 3 | B | Ground | ON | — | 0 |
| 4 | | | | | |
| 6 | PU | ACC power supply | ACC | — | Battery voltage |
| 7 | Y | Meter serial communication | ON | — | — |
| 9 | W | Oil pressure sensor power supply | ON | — | 5.5 |
| 10 | G | Oil pressure sensor signal | ON | When ignition switch is in the ON position. (Engine stopped) | 0.5 |
| | | | | Engine running. [When the oil pressure is 60 psi (4.22 kg/$cm^2$ )] | 2.5 |
| 11 | SB | Oil pressure sensor ground | ON | — | 0 |
| 12 | P/L | Oil pressure warn out | ON | Engine oil pressure is below 4.52 psi (0.318 kg/$cm^2$ ) | 0.5 |
| | | | | Engine oil pressure is above 6.5 psi (0.457 kg/$cm^2$ ) | Battery voltage |

## Terminals and Reference Value for Combination Meter

EKS00A7P

| Terminal No. | Wire color | Item | Condition | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| | | | Ignition switch | Operation or condition | |
| 4 | Y | Meter serial communication | ON | — | — |
| 21 | Y/R | Battery power supply | OFF | — | Battery voltage |
| 22 | GY | Ignition switch ON or START | ON | — | Battery voltage |
| 23 | B | Ground | ON | — | 0 |
| 25 | | | | | |
| 28 | | | | | |
| 37 | PU | Ignition switch ACC or ON | ON | — | Battery voltage |

## Meter/Gauges Operation

EKS00A7R

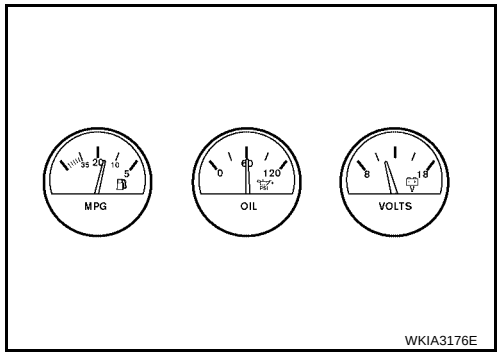
### SELF-DIAGNOSIS FUNCTION

Meters/gauges can be checked in self-diagnosis mode of combination meter.

### HOW TO ALTERNATE DIAGNOSIS MODE

1. Turn the ignition switch ON and switch the odometer/trip meter to “trip A” or “trip B”.

   **NOTE:**
   If the diagnosis function is activated with the trip meter A displayed, the mileage on the trip meter A will indicate 000.0 miles, but the actual trip mileage will be retained. (Trip B operates the same way.)
2. Turn the ignition switch OFF.
3. While pushing the odo/trip meter switch, turn the ignition switch ON again.
4. Check that the trip meter displays "000.0".
5. Push the odo/trip meter switch at least 7 times within 7 seconds after the ignition switch is turned ON.
6. All the segments on the odo/trip meter illuminate, and simultaneously the low-fuel warning lamp indicator illuminates. At this time, the unified meter control unit is turned to diagnosis mode.
7. Push the odo/trip meter switch. Each meter/gauge should indicate as shown in the figure while pushing odo/trip meter switch.



## How to Proceed With Trouble Diagnosis

EKS00A7T

1. Confirm the symptom or customer complaint.
2. Perform diagnosis according to diagnosis flow. Refer to DI-26, "Diagnosis Flow" .
3. According to the symptom chart, repair or replace the cause of the symptom.
4. Does the triple meter operate normally? If so, go to 5. If not, go to 2.
5. Inspection End.

## Diagnosis Flow

EKS00A7U

### 1. CHECK VOLTMETER OPERATION

Turn ignition switch ON.

Does voltmeter display battery voltage?

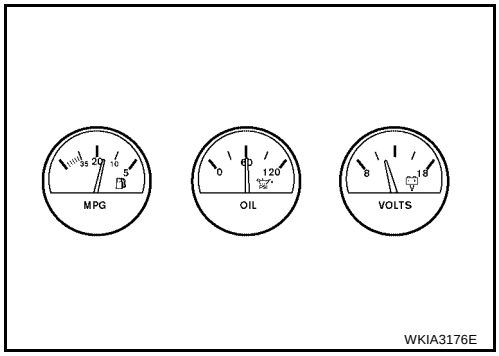
YES >> GO TO 2.
NO >> Check ignition power supply system of triple meter. Refer to DI-27, "Power Supply and Ground Circuit Check" .

### 2. CHECK METER CIRCUIT

Check indication of each meter/gauge in self-diagnosis mode. Refer to DI-25, "SELF-DIAGNOSIS FUNCTION" .

OK or NG

OK >> Go to DI-27, "Symptom Chart" .
NG >> Replace triple meter. Refer to DI-30, "Triple Meter" .



## Power Supply and Ground Circuit Check

EKS00A7V

### 1. CHECK FUSES

Check for blown triple meter fuses.

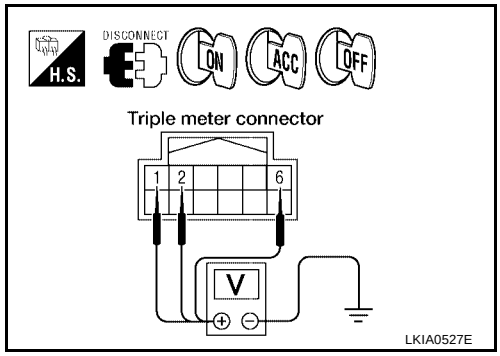
| Unit | Power source | Fuse No. |
|---|---|---|
| Triple meter | Battery | 19 |
| | Ignition switch ACC or ON | 6 |
| | Ignition switch ON or START | 14 |

OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-4, "POWER SUPPLY ROUTING CIRCUIT" .

### 2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect the triple meter connector.
2. Check voltage between triple meter harness connector terminals and ground.




| Terminals | | | Ignition switch position | | | |
|---|---|---|---|---|---|---|
| (+) | | (–) | OFF | ACC | ON | START |
| Connector | Terminal | | | | | |
| M99 | 1 | Ground | Battery voltage | Battery voltage | Battery voltage | Battery voltage |
| | 2 | | 0V | 0V | Battery voltage | Battery voltage |
| | 6 | | 0V | Battery voltage | 0V | Battery voltage |

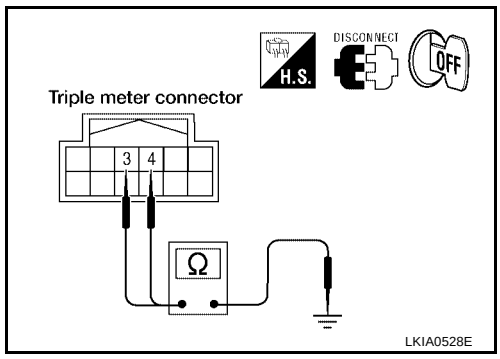
OK or NG

OK >> GO TO 3.
NG >> Check harness for open between triple meter and fuse.

### 3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between triple meter harness connector M99 terminals 3, 4 and ground.

**Continuity should exist.**




OK or NG

OK >> Inspection End.
NG >> Check harness or connector.

## Symptom Chart

EKS00A7W

| Trouble phenomenon | Possible cause |
|---|---|
| Fuel consumption gauge is irregular. | Refer to DI-28, "Fuel Consumption Gauge Inspection" . |
| Oil pressure gauge is irregular. | Refer to DI-28, "Oil Pressure Sensor Inspection" . |
| Voltmeter is irregular. | ● Refer to SC-18, "CHARGING SYSTEM" .<br>● Replace triple meter. Refer to DI-30, "Triple Meter" . |

## Fuel Consumption Gauge Inspection

EKS00A7Z

### 1. CHECK ECM SELF-DIAGNOSIS

Perform the ECM self-diagnosis. Refer to EC-726, "SELF-DIAG RESULTS MODE" .

OK or NG

OK >> GO TO 2.
NG >> Check the applicable parts.

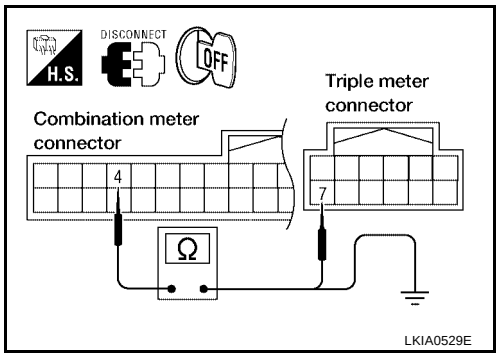
### 2. CHECK METER SERIAL COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter and triple meter connectors.
3. Check continuity between combination meter connector M24 terminal 4 and triple meter connector M99 terminal 7.

**Continuity should exist.**

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

**Continuity should not exist.**




OK or NG

OK >> Replace triple meter. Refer to DI-30, "Triple Meter" .
NG >> Repair harness or connector between combination meter and triple meter.

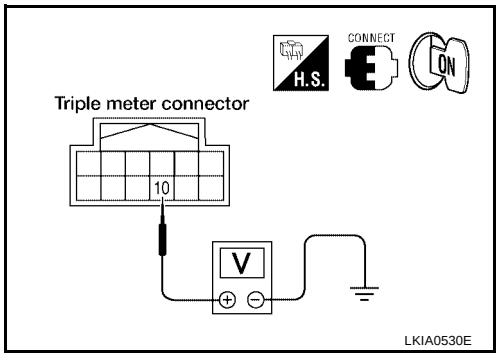
## Oil Pressure Sensor Inspection

EKS00A80

### 1. CHECK OIL PRESSURE SENSOR SIGNAL

1. Turn ignition switch ON.
2. Check voltage between triple meter harness connector M99 terminal 10 and ground.

| Terminals | | | Condition | Voltage (Approx.) |
|---|---|---|---|---|
| (+) | | (–) | | |
| Connector | Terminal | | | |
| M99 | 10 | Ground | When ignition switch is in ON position. (Engine stopped.) | 0.5V |
| | | | Engine running. [When the oil pressure is 60 psi (4.22 kg/cm$^2$ )] | 2.5V |



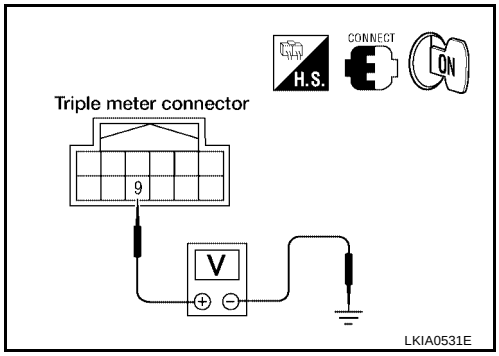

OK or NG

OK >> Replace triple meter. Refer to DI-30, "Triple Meter" .
NG >> GO TO 2.

### 2. CHECK OIL PRESSURE SENSOR POWER SUPPLY

Check voltage between triple meter harness connector M99 terminal 9 and ground.

**Approx. 5.5V**




OK or NG

OK >> GO TO 3.
NG >> Replace triple meter. Refer to DI-30, "Triple Meter" .

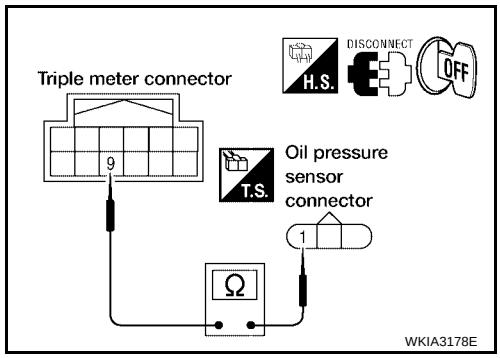
## 3. CHECK OIL PRESSURE SENSOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect triple meter and oil pressure sensor connectors.
3. Check continuity between triple meter harness connector M99 terminal 9 and oil pressure sensor harness connector F106 terminal 1.

**Continuity should exist.**

4. Check continuity between triple meter harness connector M99 terminal 9 and ground.

**Continuity should not exist.**




OK or NG

OK >> GO TO 4.
NG >> Repair harness or connector between triple meter and oil pressure sensor.

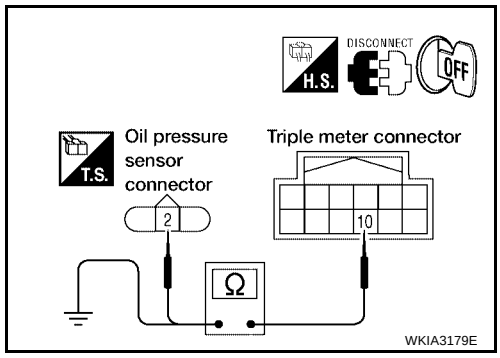
## 4. CHECK OIL PRESSURE SENSOR SIGNAL CIRCUIT

1. Check continuity between triple meter harness connector M99 terminal 10 and oil pressure sensor harness connector F106 terminal 2.

**Continuity should exist.**

2. Check continuity between triple meter harness connector M99 terminal 10 and ground.

**Continuity should not exist.**




OK or NG

OK >> GO TO 5.
NG >> Repair harness or connector between triple meter and oil pressure sensor.

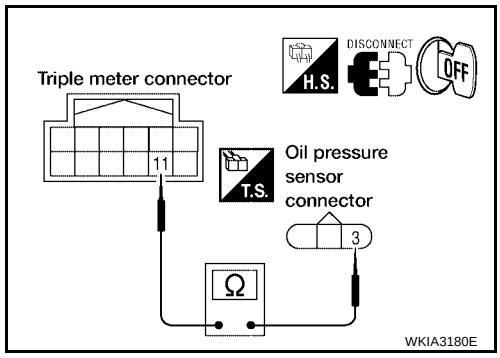
## 5. CHECK OIL PRESSURE SENSOR GROUND CIRCUIT

Check continuity between triple meter harness connector M99 terminal 11 and oil pressure sensor harness connector F106 terminal 3.

**Continuity should exist.**

OK or NG

OK >> Replace oil pressure sensor.
NG >> Repair harness or connector between triple meter and oil pressure sensor.



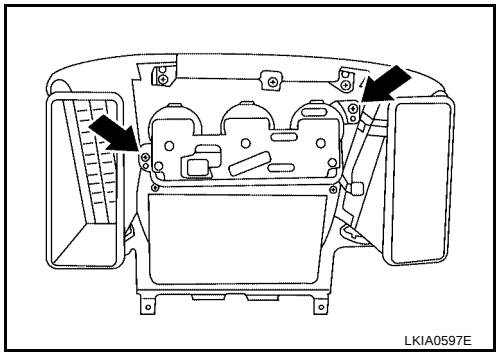
## Triple Meter

EKS00A83

### REMOVAL AND INSTALLATION

#### Removal

1. Remove cluster lid D. Refer to IP-12, "CLUSTER LID D" .
2. Remove triple meter screws, using power tool.




3. Remove triple meter from cluster lid D.

#### Installation

Installation is in the reverse order of removal.

# WARNING LAMPS

PFP:24814

## System Description

EKS008PH

### OUTLINE

With ignition switch in the ON or START position, power is supplied

- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to combination meter terminal 22.

Ground is supplied

- to seat belt buckle switch LH terminal 2 and
- to trunk lamp switch and trunk release solenoid terminal 4
- through body grounds B7 and B19,
- to brake fluid level switch terminal 2 and
- to washer fluid level switch terminal –
- through body grounds E15 and E24,
- to fuel level sensor unit and fuel pump terminal 5
- through body grounds M57, M61 and F14.

### MALFUNCTION INDICATOR LAMP

The malfunction indicator lamp is controlled by the ECM. During prove out or when an engine control malfunction occurs, the ECM signals the combination meter (unified meter control unit) via the CAN lines and ground is provided to the malfunction indicator lamp.
When power and ground are supplied, the malfunction indicator lamp illuminates.

### LOW WASHER FLUID LEVEL WARNING LAMP

When the washer fluid level is low, ground is supplied

- to combination meter terminal 15
- from washer fluid level sensor terminal +.

When power and ground are supplied, the low washer level warning lamp illuminates.

### AIR BAG WARNING LAMP

During prove out or when an air bag malfunction occurs, the ground path is interrupted

- from the air bag diagnosis sensor unit terminal 15
- to combination meter terminal 20.

### SEAT BELT WARNING LAMP

When the driver seat belt is unfastened, ground is supplied

- to combination meter terminal 11
- from seat belt buckle switch LH terminal 1.

When the front passenger seat belt is unfastened and the seat is occupied, ground is supplied

- to combination meter terminal 10
- through air bag diagnosis sensor unit terminal 24
- through air bag diagnosis sensor unit terminal 25
- from seat belt buckle switch RH terminal 1.

When power and ground are supplied, the seat belt warning lamp illuminates.

### LOW FUEL LEVEL WARNING LAMP

The amount of fuel in the fuel tank is determined by the fuel level sensor in the fuel tank. A signal is sent

- to combination meter terminal 35
- from fuel level sensor unit terminal 2.

The fuel level sensor will illuminate the low fuel level warning lamp when the fuel level is low.
When power and ground are supplied, the low fuel level warning lamp illuminates.

### LOW OIL PRESSURE WARNING LAMP

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

Low oil pressure causes oil pressure switch terminal + to provide ground to IPDM E/R terminal 57. The IPDM E/R then signals the combination meter (unified meter control unit) via the CAN lines and ground is provided to the low oil pressure warning lamp.
When power and ground are supplied, the low oil pressure warning lamp illuminates.

### CHARGE WARNING LAMP

During prove out or when a generator malfunction occurs, ground is supplied

- to combination meter terminal 14
- from generator terminal L.

When power and ground are supplied, the charge warning lamp and brake lamp illuminate.

### BRAKE WARNING LAMP

When the parking brake is applied or if the brake fluid level is low, ground is supplied

- to combination meter terminal 17
- from parking brake switch terminal 1 or
- to combination meter terminal 19
- from brake fluid level switch terminal 1.

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

### TRUNK WARNING LAMP

Trunk warning lamp is controlled by the BCM.
When the trunk is opened, ground is supplied

- to BCM terminal 53
- through trunk lamp switch and trunk release solenoid terminal 3
- through trunk lamp switch and trunk release solenoid terminal 4
- to body grounds B7 and B19.

The BCM then signals the combination meter (unified meter control unit) via the CAN lines and ground is provided to the trunk warning lamp.
When power and ground are supplied, the trunk warning lamp illuminates.

### DOOR WARNING LAMP

Door warning lamp is controlled by the BCM.
When one of the doors is opened, ground is supplied to BCM terminals 12, 13, 47 or 48. The BCM then signals the combination meter (unified meter control unit) via the CAN lines and ground is provided to the door warning lamp.
When power and ground are supplied, the door warning lamp illuminates.

### ASCD SET INDICATOR LAMP (WITH ASCD)

The ASCD set indicator lamp is controlled by the ECM.
When the ASCD system is turned on and the speed is set, the ECM signals the combination meter (unified meter control unit) via the CAN lines and ground is provided to the SET indicator lamp.
When power and ground are supplied, the set indicator lamp illuminates.

### CRUISE INDICATOR LAMP (WITH ASCD)

The cruise indicator lamp is controlled by the ECM.
When the ASCD system is turned on, the ECM signals the combination meter (unified meter control unit) via the CAN lines and ground is provided to the cruise indicator lamp.
When power and ground are supplied, the CRUISE indicator lamp illuminates.

### ABS WARNING LAMP (WITH ABS)

When an ABS malfunction occurs, ground is supplied

- to combination meter terminal 16
- from ABS actuator and electric unit (control unit) terminal 21.

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

### TCS OFF WARNING LAMP (WITH TCS)

When TCS OFF switch is in OFF position or a TCS malfunction occurs, ground is supplied

- to combination meter terminal 12

- from ABS actuator and electric unit (control unit) terminal 5.

When power and ground are supplied, the TCS OFF warning lamp illuminates.

### SLIP WARNING LAMP (WITH TCS)

When TCS is in operation or a TCS malfunction occurs, ground is supplied

- to combination meter terminal 13
- from ABS actuator and electric unit (control unit) terminal 2.

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

### AT CHECK WARNING LAMP (5-SPEED A/T MODELS)

The AT CHECK warning lamp is controlled by the TCM (transmission control module). When an A/T system malfunction occurs, the TCM signals the combination meter (unified meter control unit) via the CAN lines and ground is provided to the AT CHECK warning lamp.
When power and ground are supplied, the AT CHECK warning lamp illuminates.

### A/T CHECK (POSITION) INDICATOR LAMP (4-SPEED A/T MODELS)

The A/T check (position) indicator lamp is controlled by the TCM (transmission control module). When an A/T system malfunction occurs, the TCM signals the combination meter (unified meter control unit) via the CAN lines and ground is provided to the A/T check (position) indicator lamp.
When power and ground are supplied, the A/T check (position) indicator lamp illuminates.

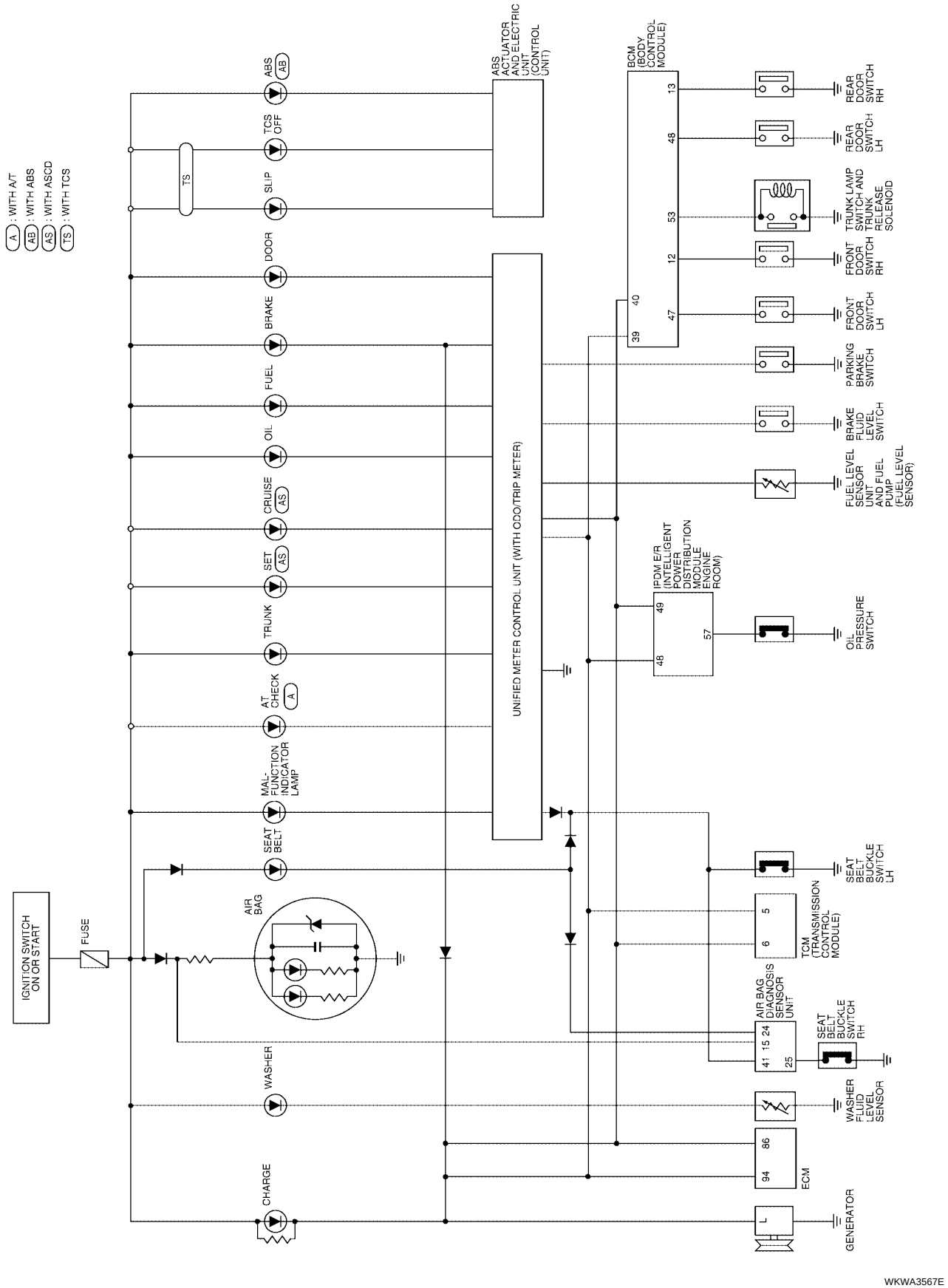
## CAN Communication System Description

EKS008PI

Refer to LAN-20, "CAN COMMUNICATION" .

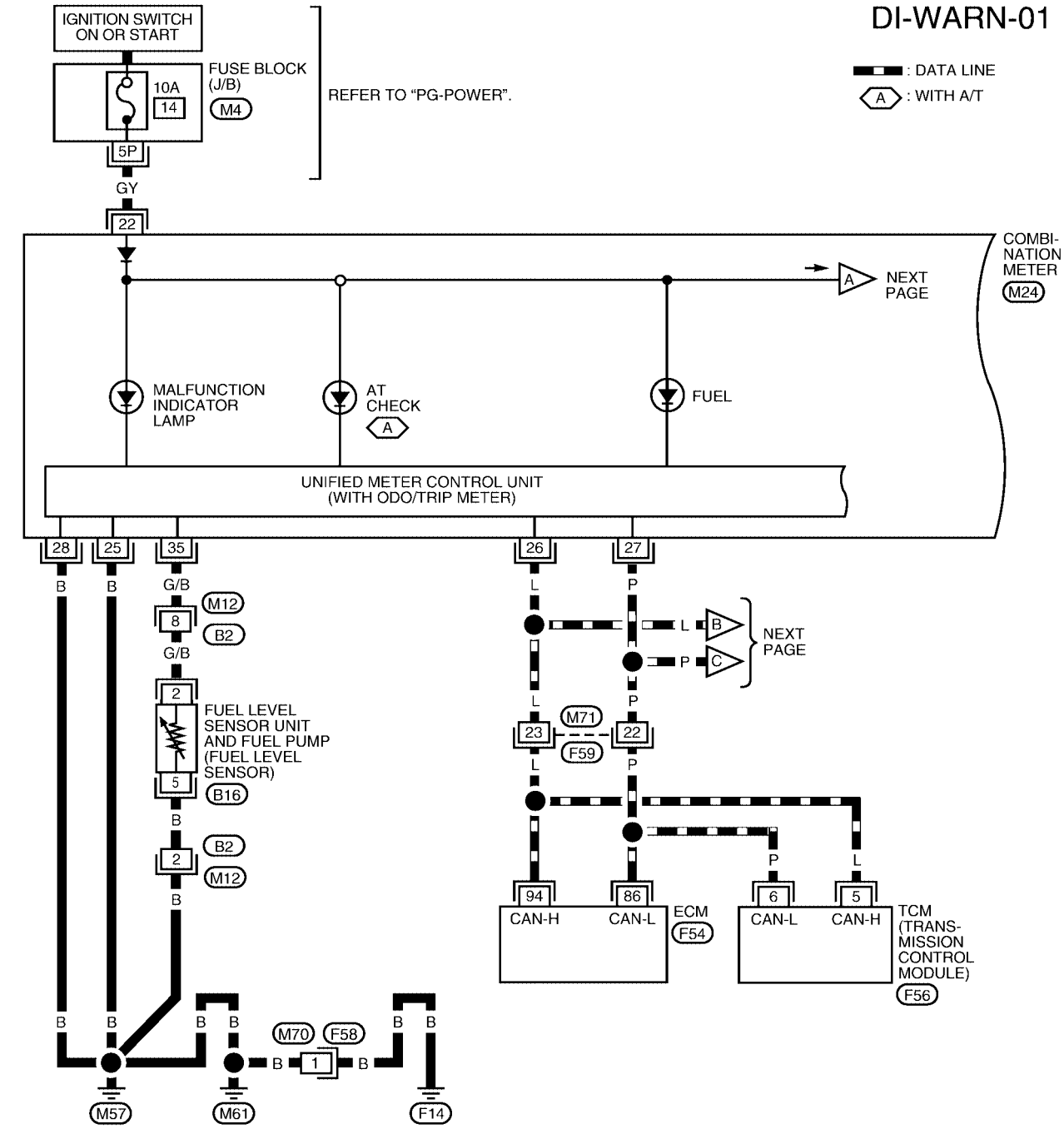
## Schematic

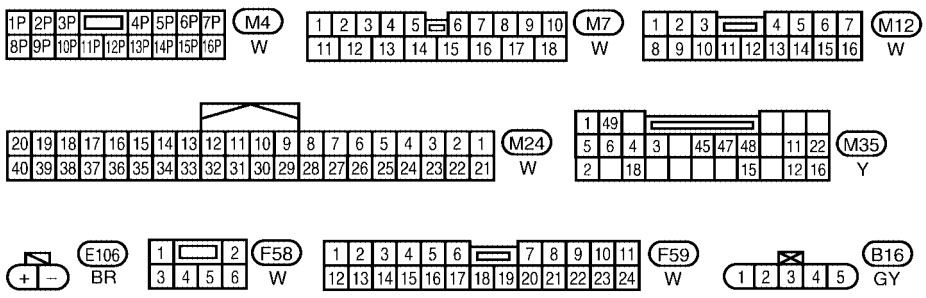
EKS008PJ



## Wiring Diagram — WARN —

EKS008PK

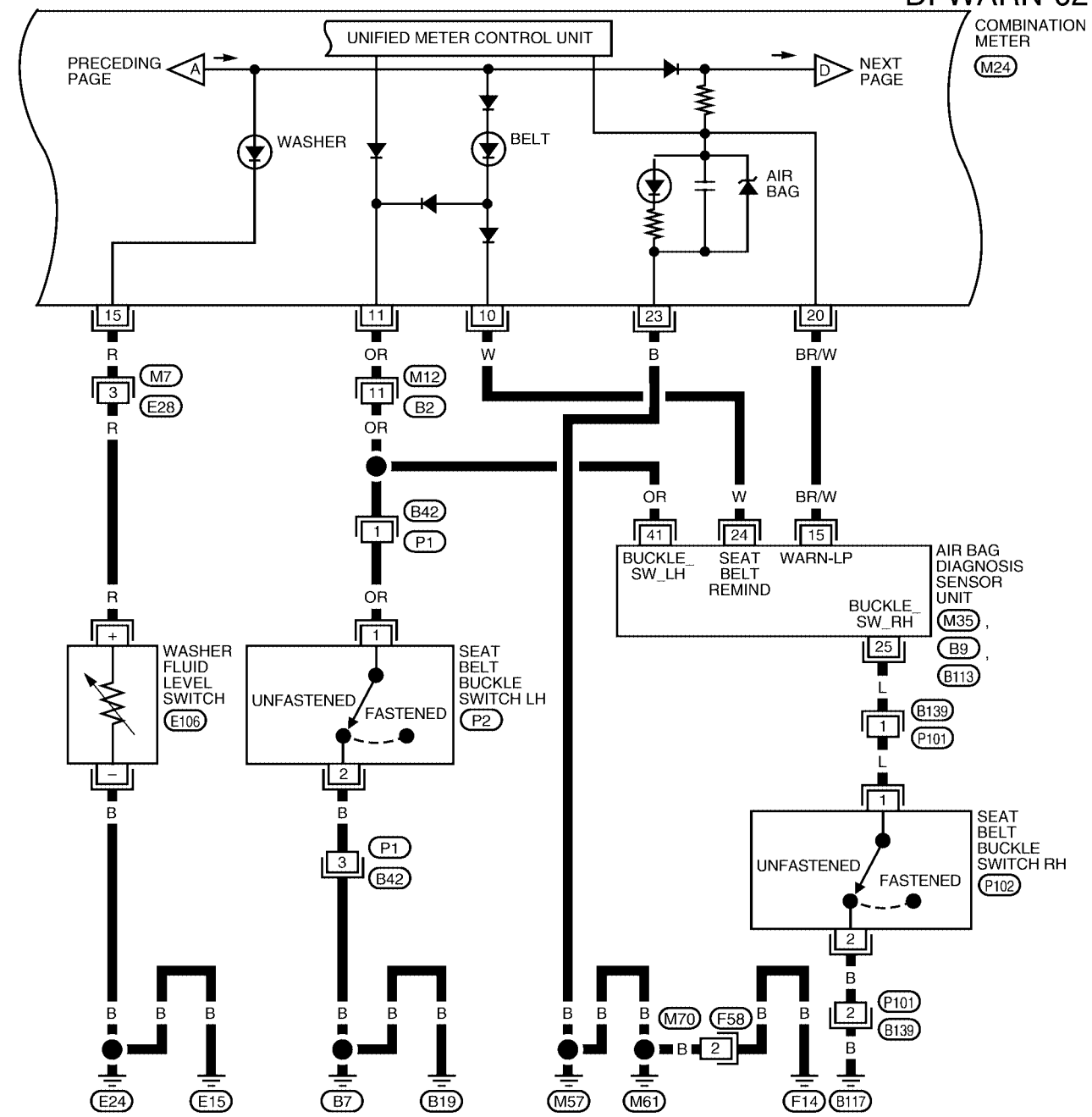


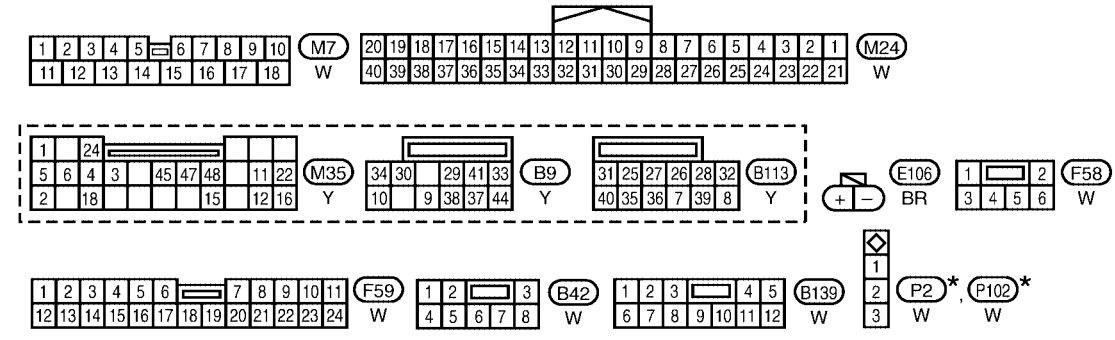




REFER TO THE FOLLOWING.
F54 , F56 - ELECTRICAL UNITS

WKWA3568E

DI-WARN-02

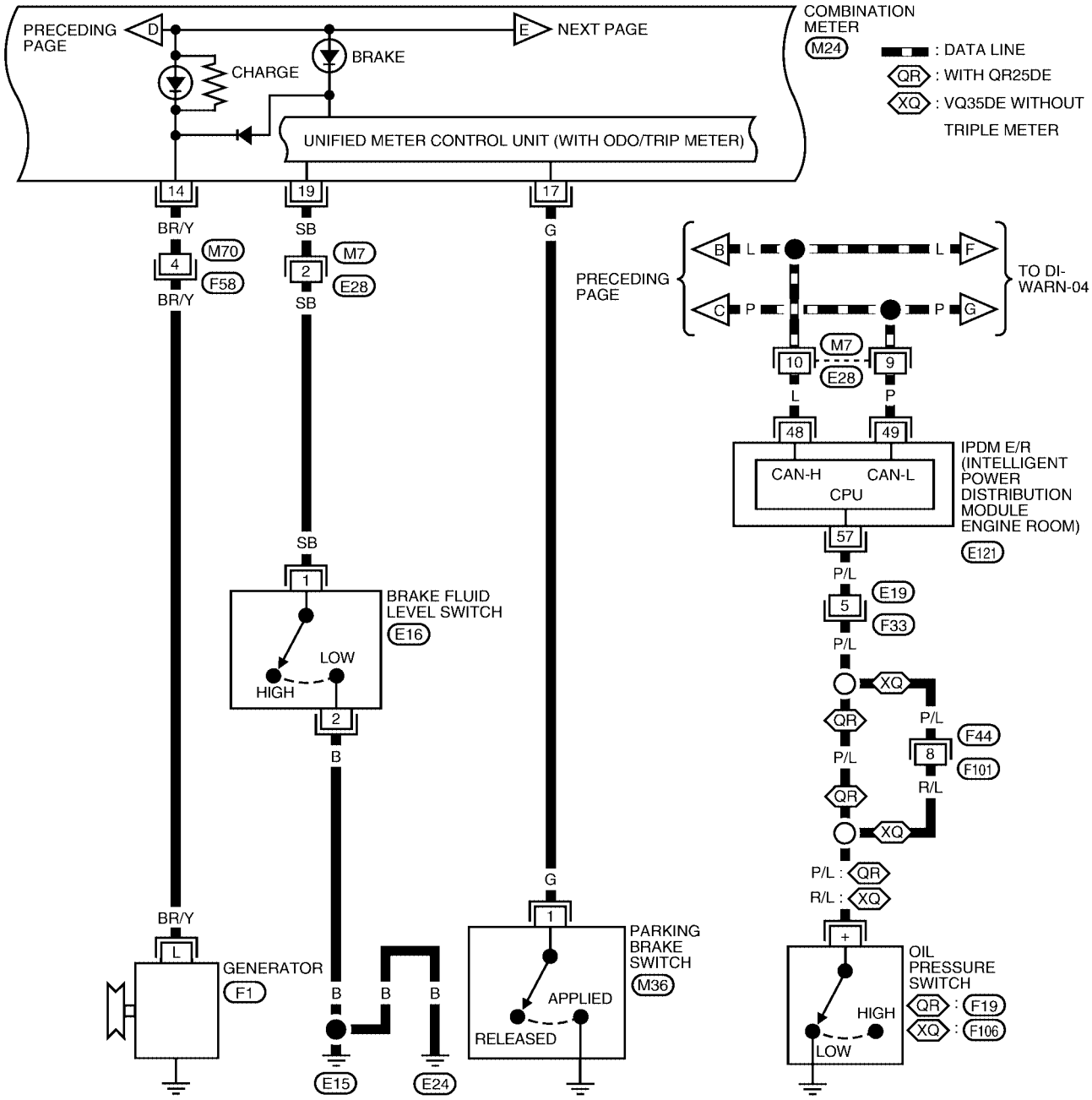


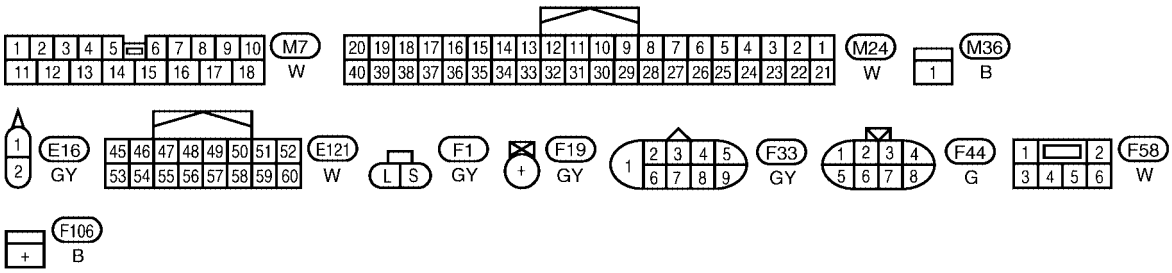




* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

WKWA3569E

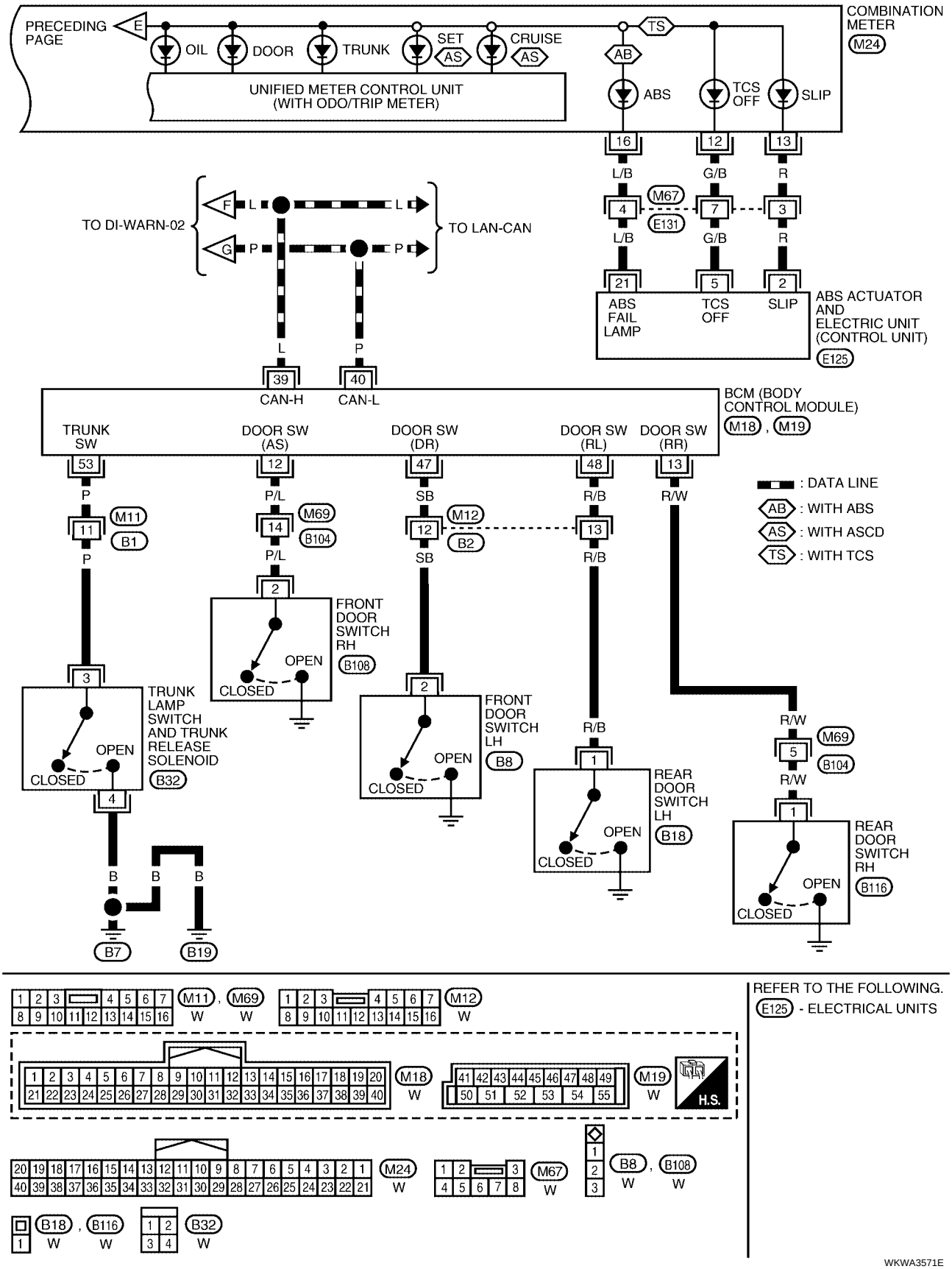
DI-WARN-03




WKWA3570E

DI-WARN-04




WKWA3571E

## Terminals And Reference Value For BCM

EKS008PL

| Terminal | Wire color | Item | Condition | | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|---|
| | | | Ignition switch | Operation | | |
| 12 | P/L | Front door switch RH | OFF | Front door switch RH | ON (open) | 0 |
| | | | | | OFF (closed) | Battery voltage |
| 13 | R/W | Rear door switch RH | OFF | Rear door switch RH | ON (open) | 0 |
| | | | | | OFF (closed) | Battery voltage |
| 39 | L | CAN-H | — | — | | — |
| 40 | P | CAN-L | — | — | | — |
| 47 | SB | Front door switch LH | OFF | Front door switch LH | ON (open) | 0 |
| | | | | | OFF (closed) | Battery voltage |
| 48 | R/B | Rear door switch LH | OFF | Rear door switch LH | ON (open) | 0 |
| | | | | | OFF (closed) | Battery voltage |
| 53 | P | Trunk lamp switch and trunk release solenoid | OFF | Trunk lamp switch | ON (open) | 0 |
| | | | | | OFF (closed) | Battery voltage |

## Work Flow

EKS008PM

1. Check the trouble symptom and customer's requests.
2. Understand the outline of system. Refer to DI-31, "System Description" .
3. Perform the preliminary check. Refer to DI-39, "Preliminary Check" .
4. Referring to Trouble diagnosis chart, repair or replace the cause of the incident. Refer to DI-40, "Trouble Diagnosis For Door Warning Lamp" .
5. Does warning lamp system operate normally? If it operates normally, go to step 6. If not, go to step 4.
6. Inspection End.

## Preliminary Check

EKS008PN

### INSPECTION FOR POWER SUPPLY AND GROUND CIRCUIT

### 1. CHECK FUSIBLE LINK

Check for blown BCM fusible link.

| Unit | Power source | Fusible link |
|---|---|---|
| BCM | Battery | f |

Refer to DI-48, "Wiring Diagram — CHIME —" .

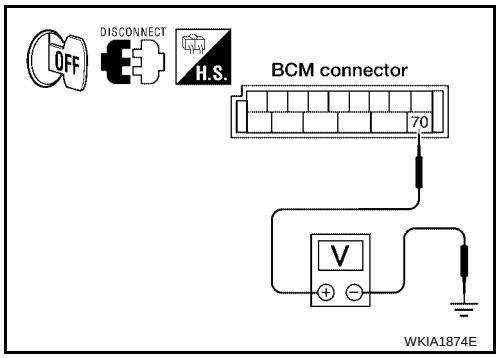
OK or NG

OK >> GO TO 2.

NG >> If fusible link is blown, be sure to eliminate cause of problem before installing new fusible link. Refer to PG-4, "POWER SUPPLY ROUTING CIRCUIT" .

## 2. POWER SUPPLY CIRCUIT CHECK

1. Disconnect BCM connector.
2. Check voltage between BCM connector M20 terminal 70 and ground. Refer to PG-4, "POWER SUPPLY ROUTING CIRCUIT" .



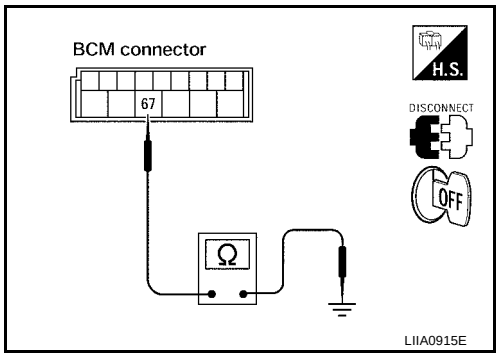

| Terminals | | | Ignition switch position |
|---|---|---|---|
| (+) | | (–) | OFF |
| Connector | Terminal | | |
| M20 | 70 | Ground | Battery voltage |

OK or NG

OK >> GO TO 3.
NG >> Check harness for open between BCM and fuse.

## 3. GROUND CIRCUIT CHECK

Check continuity between BCM harness connector M20 terminal 67 (B) and body ground. Refer to PG-29, "GROUND CIRCUIT" .




| Terminals | | | Continuity |
|---|---|---|---|
| (+) | | (–) | |
| Connector | Terminal | | |
| M20 | 67 | Ground | Yes |

OK or NG

OK >> Inspection End.
NG >> Check harness ground circuit.

# Trouble Diagnosis For Door Warning Lamp

EKS008PP

| Symptom | Diagnostic procedure and repair order |
|---|---|
| Door warning lamp does not illuminate with any of doors open. | ● Check front door switches. Refer to BL-31, "Door Switch Check" .<br>● Check rear door switches. Refer to BL-31, "Door Switch Check" . |
| Door warning lamp illuminates constantly. | If the above systems work properly, replace the BCM. Refer to BCS-20, "Removal and Installation of BCM" . |

# Oil Pressure Warning Lamp Stays Off (Ignition Switch ON)

EKS008PQ

## 1. CHECK IPDM E/R OUTPUT SIGNAL

Activate IPDM E/R auto active test. Refer to PG-22, "Auto Active Test" .

Is oil pressure warning lamp blinking?

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

## 2. CHECK SELF-DIAGNOSTIC RESULTS OF IPDM E/R

Select "IPDM E/R" on CONSULT-II, and perform self-diagnosis of IPDM E/R. Refer to PG-18, "CONSULT-II Function (IPDM E/R)" .

Self-diagnostic results content

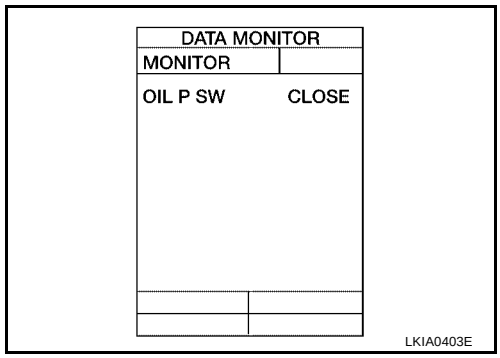
No malfunction detected>>GO TO 3.
Malfunction detected>>Go to PG-19, "SELF-DIAGNOSTIC RESULTS" in "IPDM E/R".

## 3. CHECK IPDM E/R INPUT SIGNAL

Select "IPDM E/R" on CONSULT-II. Operate ignition switch with "OIL P SW" of "DATA MONITOR" and check operation status.

**When ignition switch is in ON position (Engine stopped) : OIL P SW CLOSE**

**When engine running : OIL P SW OPEN**




OK or NG

OK >> Replace combination meter. Refer to IP-13, "COMBINATION METER" .

NG >> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R" .

## 4. CHECK OIL PRESSURE SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and oil pressure switch connector.
3. Check the following.

**QR25DE models**

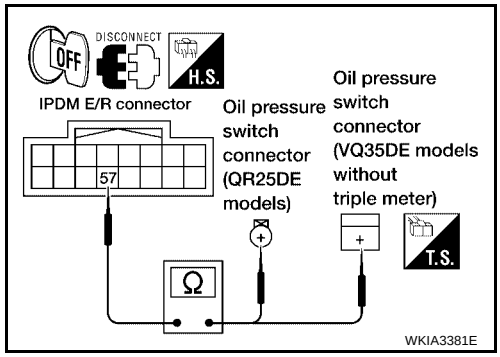
Continuity between IPDM E/R harness connector E121 terminal 57 and oil pressure switch harness connector F19 terminal +.

**Continuity should exist.**

**VQ35DE models without triple meter**

Continuity between IPDM E/R harness connector E121 terminal 57 and oil pressure switch harness connector F106 terminal +.

**Continuity should exist.**




OK or NG

OK >> GO TO 5.

NG >> Repair harness or connector.

## 5. CHECK OIL PRESSURE SWITCH

Check oil pressure switch. Refer to DI-42, "OIL PRESSURE SWITCH" .

OK or NG

OK >> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R" .

NG >> Replace oil pressure switch.

# Oil Pressure Warning Lamp Does Not Turn Off (Oil Pressure Is Normal)

EKS008PR

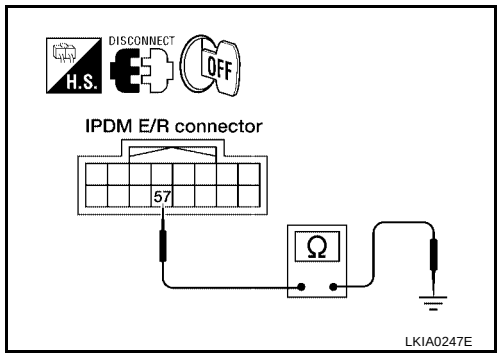
**NOTE:**

For oil pressure inspection, refer to LU-8, "OIL PRESSURE CHECK" (QR25DE) or LU-21, "OIL PRESSURE CHECK" (VQ35DE).

## 1. CHECK OIL PRESSURE SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and oil pressure switch connector.
3. Check continuity between IPDM E/R harness connector E121 terminal 57 and ground.

**Continuity should not exist.**




OK or NG

OK >> GO TO 2.

NG >> Repair harness or connector.

## 2. CHECK OIL PRESSURE SWITCH

Check oil pressure switch. Refer to DI-42, "OIL PRESSURE SWITCH" .

OK or NG

OK >> Replace IPDM E/R. Refer to PG-28, "Removal and Installation of IPDM E/R" .
NG >> Replace oil pressure switch.

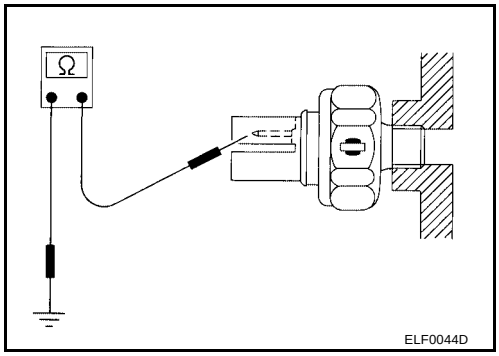
# Component Inspection

EKS008PS

## OIL PRESSURE SWITCH

Check continuity between the oil pressure switch and body ground.

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



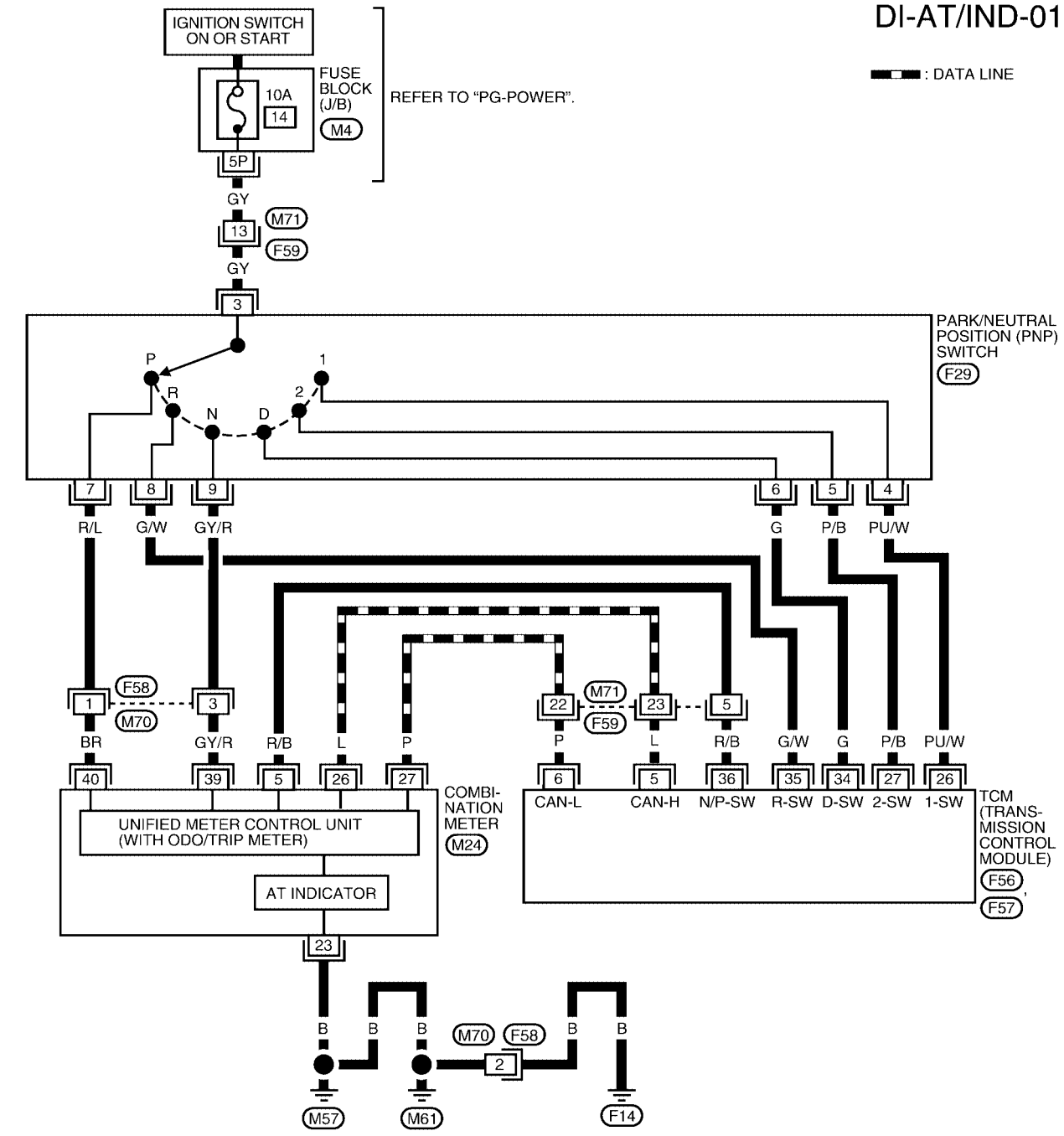
# A/T INDICATOR

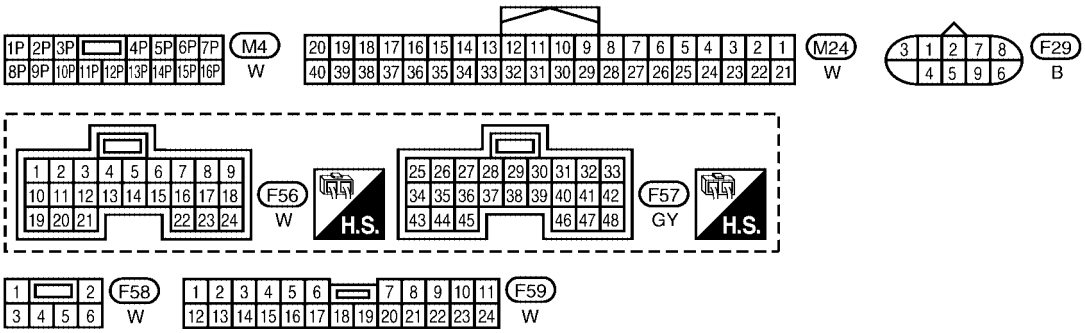
PFP:24814

## Wiring Diagram — AT/IND —

EKS008PT

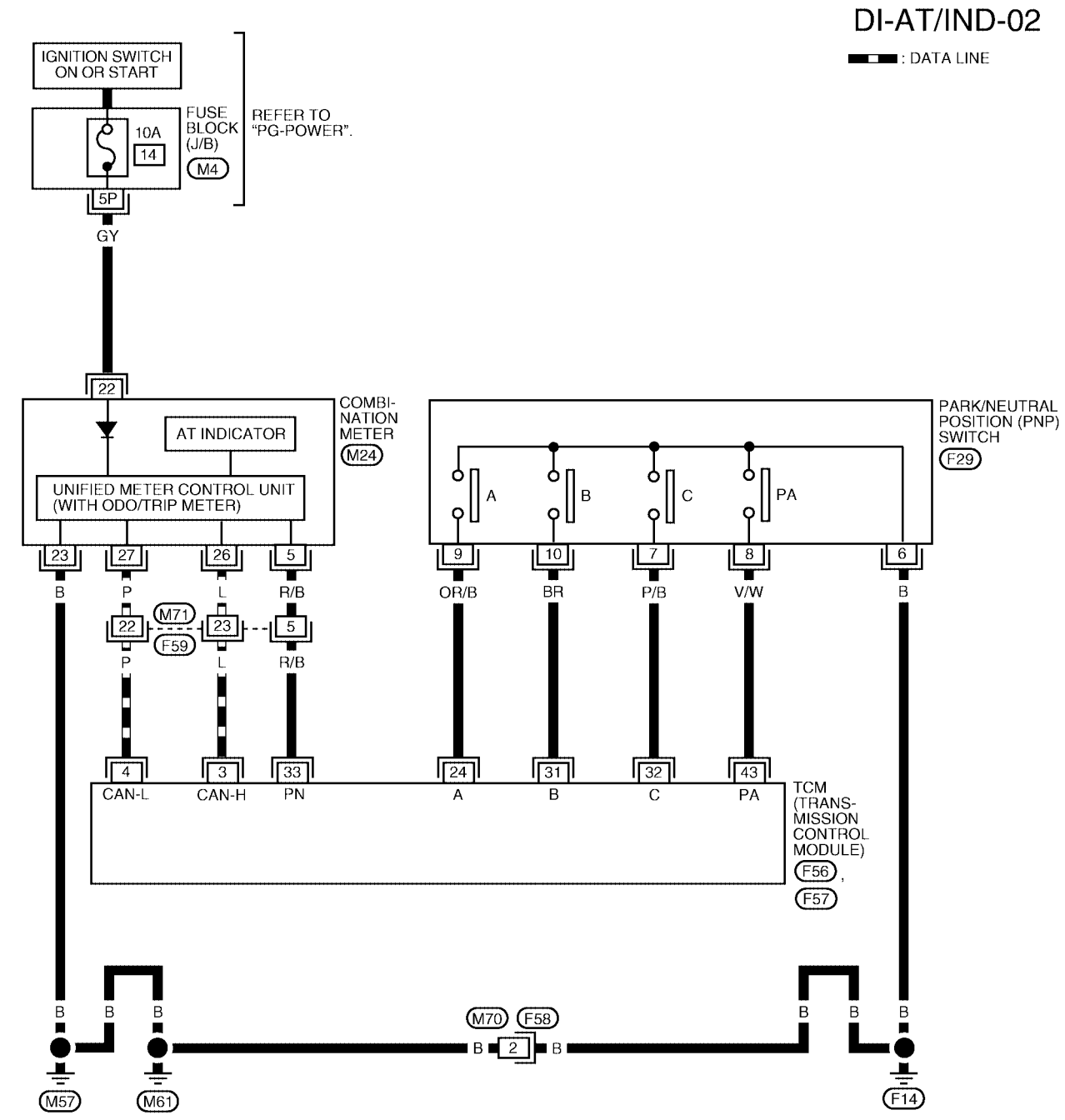
### 4-SPEED A/T

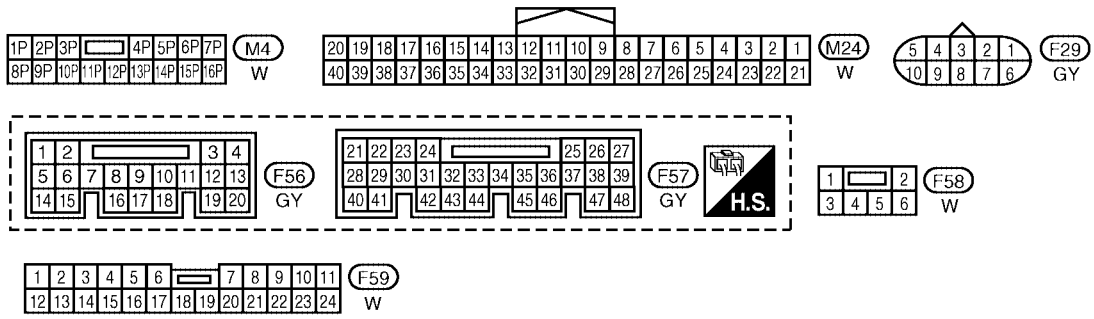



WKWA1258E

## 5-SPEED A/T




WKWA3006E

## A/T Indicator Does Not Illuminate

EKS008PU

### 1. TCM CONTROL UNIT SYSTEM INSPECTION

Perform TCM self-diagnosis. Refer to AT-49, "SELF-DIAGNOSTIC PROCEDURE (WITH CONSULT-II)" (4-speed A/T) or AT-463, "SELF-DIAG RESULT MODE" (5-speed A/T).

OK or NG

OK >> GO TO 2.
NG >> Go to TCM trouble diagnosis.

### 2. SELF-DIAGNOSIS INSPECTION

Perform combination meter self-diagnosis. Refer to DI-12, "Meter/Gauges Operation and Odo/Trip Meter" .

OK or NG

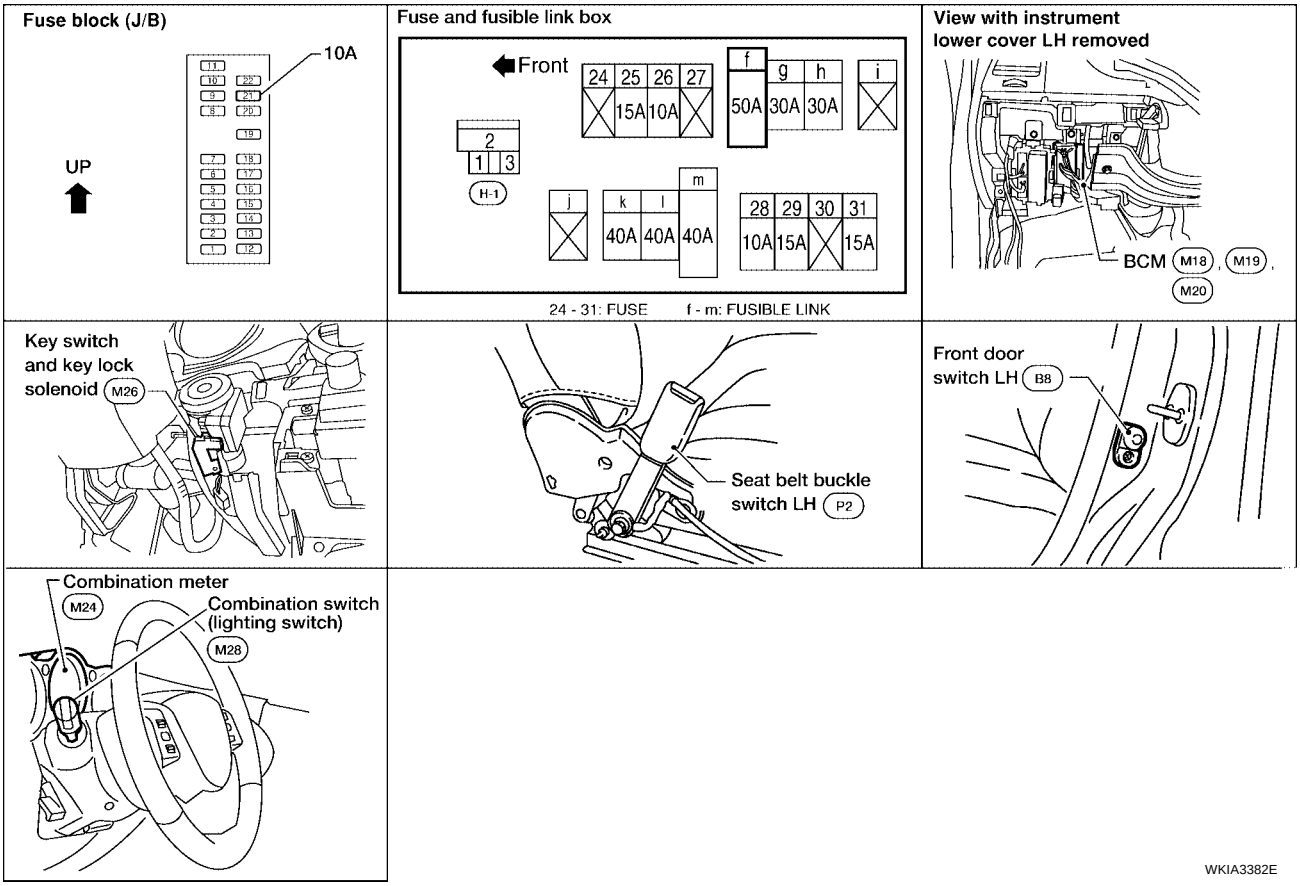
OK >> A/T indicator is OK.
NG >> Replace combination meter. Refer to IP-13, "COMBINATION METER" .

# WARNING CHIME

PFP:24814

## Component Parts and Harness Connector Location

EKS008PV




## System Description

EKS008PW

### FUNCTION

| Item | Description |
|---|---|
| Ignition key warning chime | Sounds warning chime when driver's door is opened with key in ignition key cylinder and ignition switch "OFF" or "ACC" position. |
| Light warning chime | Sounds warning chime when driver's door is opened with lighting switch in the 1st or 2nd position and the key removed from the ignition switch. |
| Seat belt warning chime | Sounds warning chime for approximately 6 seconds after ignition switch is turned "ON" when driver seat belt is unfastened. |

**NOTE:**
When ignition key warning chime, light warning chime, and seat belt warning chime should be performed at the same time, the priorities for each chime are the following.

1. Seat belt warning chime
2. Ignition key warning chime
3. Light warning chime

Power is supplied at all times

- through 50A fusible link (letter f, located in the fuse and fusible link box)
- to BCM terminal 70, and
- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to key switch and key lock solenoid terminal 3.

Ground is supplied

- to BCM terminal 67
- through body grounds M57, M61, and F14.

When the proper signal, or combination of signals, is received by the combination meter, the warning chime will sound.

### IGNITION KEY WARNING CHIME

Power is supplied

- through key switch and key lock solenoid terminal 4
- to BCM terminal 37.

Ground is supplied

- to BCM terminal 47
- through front door switch LH terminal 2
- through front door switch LH case ground.

With the key inserted in the ignition switch, and the driver door open, the ignition key warning chime will sound.

### LIGHT WARNING CHIME

With the key removed from the ignition switch, the driver door open, and the lighting switch in 1ST or 2ND position, the warning chime will sound. [Except when headlamp battery saver control operates (for 5 minutes after ignition switch is turned to OFF or ACC position) and headlamps do not illuminate.]
Signal is supplied

- from combination switch (lighting switch) terminals 5, 6, 7, 10, 11, 12, 13, 14, 15 and 16
- to BCM terminals 2, 3, 4, 5, 6, 32, 33, 34, 35 and 36.

Ground is supplied

- to BCM terminal 47
- through front door switch LH terminal 2
- through front door switch LH case ground.

With these conditions, when power and ground are supplied, the light warning chime sounds.

### SEAT BELT WARNING CHIME

With the driver seat belt unfastened (seat belt buckle switch LH ON), warning chime will sound for approximately 6 seconds after the ignition switch is turned ON.
Ground is supplied

- to combination meter terminal 11
- through seat belt buckle switch LH terminal 1
- through seat belt buckle switch LH terminal 2
- through body grounds B7 and B19.

With these conditions, when power and ground are supplied, the seat belt warning chime sounds.

## CAN Communication System Description

EKS008PX

Refer to LAN-20, "CAN COMMUNICATION" .

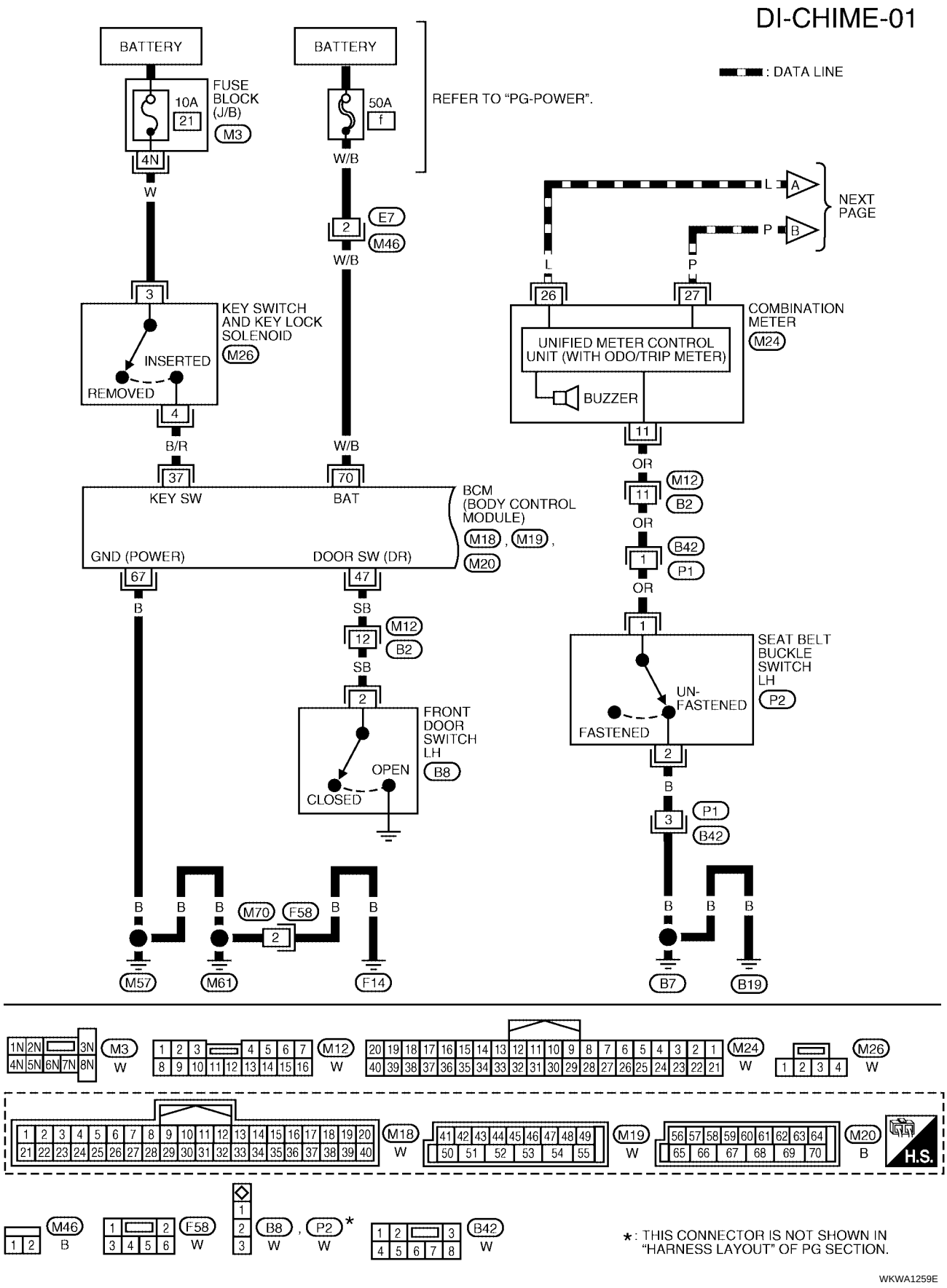
## Major Component Parts and Function

EKS008PY

| Components | Functions |
|---|---|
| BCM | Intermittently operates the warning chime by signals from the ignition switch, key switch and key lock solenoid, lighting switch, front door switch LH and seat belt buckle switch LH. |
| Warning chime | Generates intermittent sounds by signals from the BCM. |

## Wiring Diagram — CHIME —

EKS008PZ



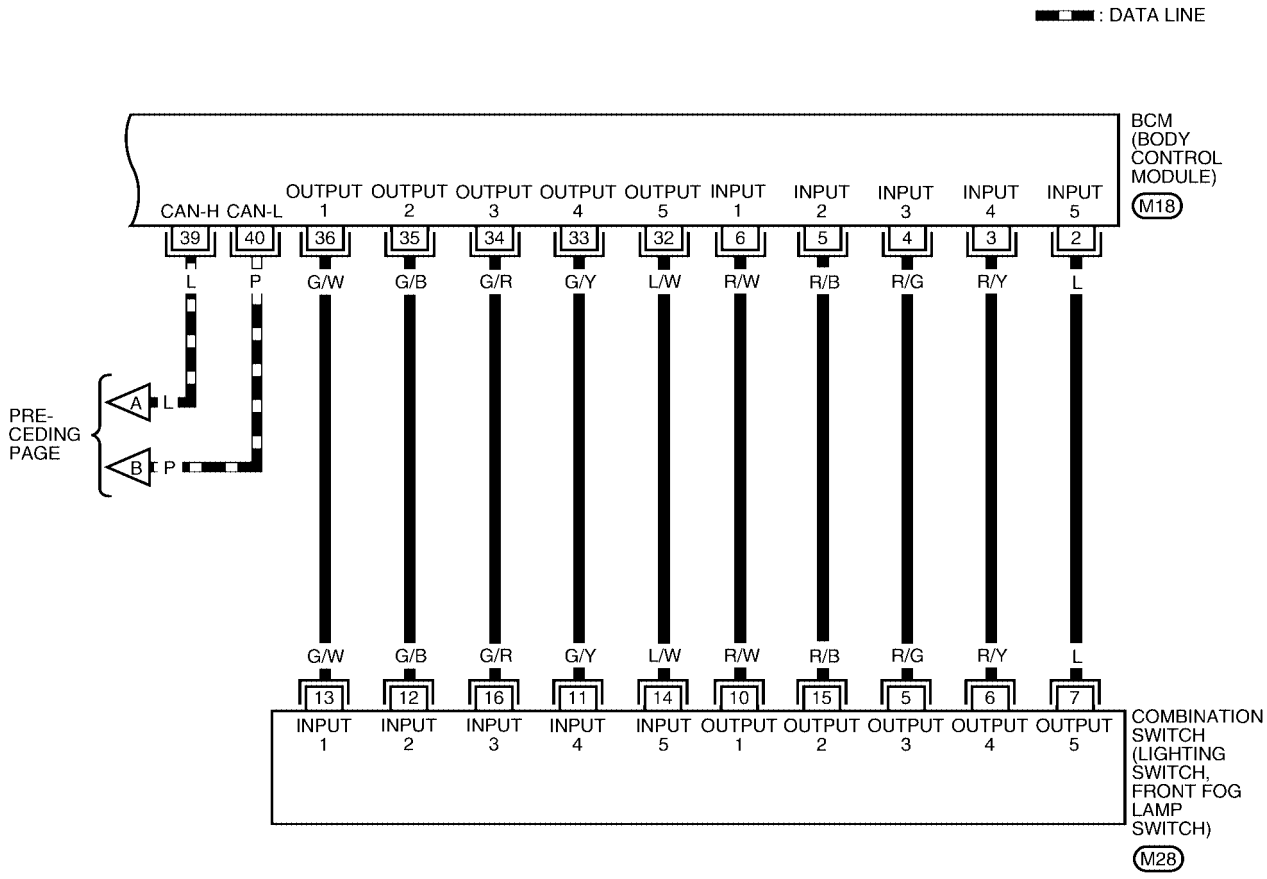


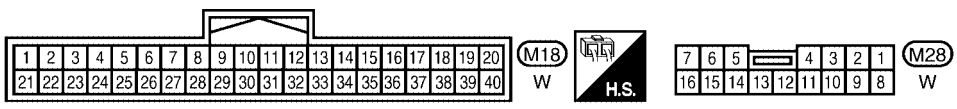


*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

WKWA1259E

DI-CHIME-02

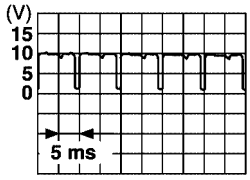
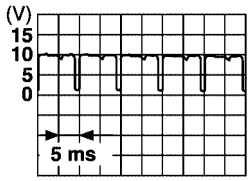
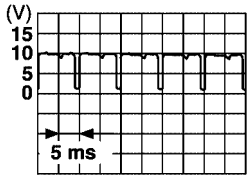
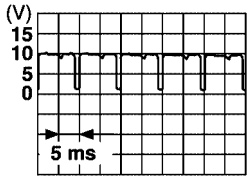
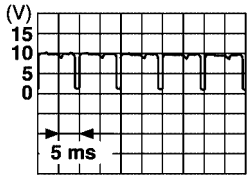



WKWA1260E

## Terminals and Reference Value for BCM

EKS008Q0

| Terminal No. | Wire color | Item | Condition | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| | | | Ignition switch | Measurement method | |
| 2 | L | Combination switch input 5 | ON | — |  SKIA1119J |
| 3 | R/Y | Combination switch input 4 | ON | — |  SKIA1119J |
| 4 | R/G | Combination switch input 3 | ON | — |  SKIA1119J |
| 5 | R/B | Combination switch input 2 | ON | — |  SKIA1119J |
| 6 | R/W | Combination switch input 1 | ON | — |  SKIA1119J |
| 32 | L/W | Combination switch output 5 | ON | Lighting switch and wiper switch are OFF. | 5V or more |
| 33 | G/Y | Combination switch output 4 | ON | Lighting switch and wiper switch are OFF. | 5V or more |
| 34 | G/R | Combination switch output 3 | ON | — | 5V or more |
| 35 | G/B | Combination switch output 2 | ON | — | 5V or more |
| 36 | G/W | Combination switch output 1 | ON | — | 5V or more |
| 37 | B/R | Key switch signal | OFF | Key is removed. | 0 |
| | | | | Key is inserted. | Battery voltage |
| 39 | L | CAN-H | — | — | — |
| 40 | P | CAN-L | — | — | — |
| 47 | SB | Front door switch LH signal | OFF | Driver door: ON (open) | 0 |
| | | | | Driver door: OFF (closed) | 5V |

| Terminal No. | Wire color | Item | Condition | | Voltage (V) (Approx.) |
|---|---|---|---|---|---|
| | | | Ignition switch | Measurement method | |
| 67 | B | Ground | OFF | — | 0 |
| 70 | W/B | Battery power supply | OFF | — | Battery voltage |

## How to Proceed With Trouble Diagnosis

EKS008Q1

1. Confirm the trouble symptom or customer complaint.
2. Understand operation description and function description. Refer to DI-46, "System Description" .
3. Carry out the Preliminary Check. Refer to DI-51, "Preliminary Check" .
4. Check symptom and repair or replace the cause of malfunction.
5. Does the warning chime operate normally? Yes: Go to 6. No: Go to 4.
6. Inspection End.

## Preliminary Check

EKS008Q2

### INSPECTION FOR POWER SUPPLY AND GROUND CIRCUIT

### 1. CHECK FUSIBLE LINK

Check for blown BCM fusible link.

| Unit | Power source | Fusible link |
|---|---|---|
| BCM | Battery | f |

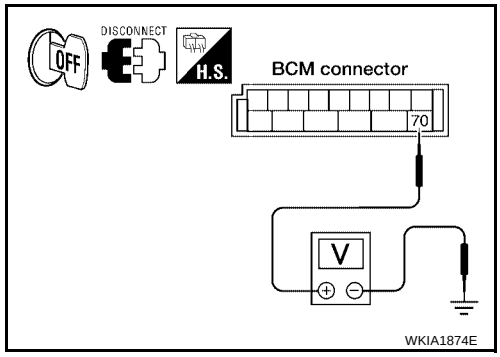
Refer to DI-48, "Wiring Diagram — CHIME —" .

OK or NG

OK >> GO TO 2.
NG >> If fusible link is blown, be sure to eliminate cause of problem before installing new fusible link. Refer to PG-4, "POWER SUPPLY ROUTING CIRCUIT" .

### 2. POWER SUPPLY CIRCUIT CHECK

1. Disconnect BCM connector.
2. Check voltage between BCM connector M20 terminal 70 and ground.



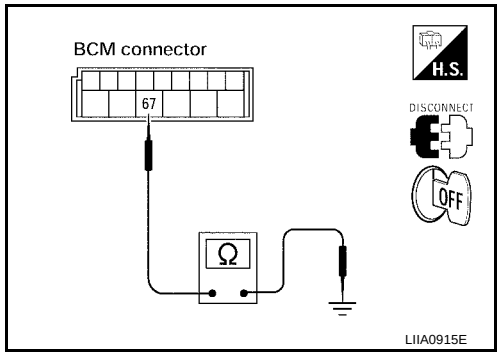

| Terminals | | | Voltage (Approx.) |
|---|---|---|---|
| (+) | | (–) | |
| Connector | Terminal | | |
| M20 | 70 | Ground | Battery voltage |

OK or NG

OK >> GO TO 3.
NG >> Check harness for open between BCM and fusible link.

### 3. GROUND CIRCUIT CHECK

Check continuity between BCM harness connector M20 terminal 67 and ground.




| Terminals | | | Continuity |
|---|---|---|---|
| (+) | | (–) | |
| Connector | Terminal | | |
| M20 | 67 | Ground | Yes |

OK or NG

OK >> Inspection End.
NG >> Check harness ground circuit.

## CONSULT–II Function (BCM)

EKS008Q3

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

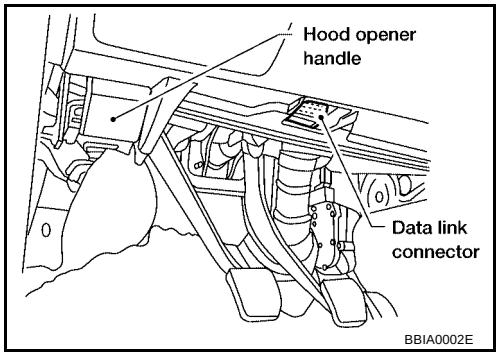
| BCM diagnostic test item | Diagnostic mode | Description |
|---|---|---|
| Inspection by part | WORK SUPPORT | Supports inspections and adjustments. Commands are transmitted to the BCM for setting the status suitable for required operation, input/output signals are received from the BCM and received data is displayed. |
| | DATA MONITOR | Displays BCM input/output data in real time. |
| | ACTIVE TEST | Operation of electrical loads can be checked by sending drive signal to them. |
| | SELF-DIAG RESULTS | Displays BCM self-diagnosis results. |
| | CAN DIAG SUPPORT MNTR | The result of transmit/receive diagnosis of CAN communication can be read. |
| | ECU PART NUMBER | BCM part number can be read. |
| | CONFIGURATION | Performs BCM configuration read/write functions. |

### CONSULT-II BASIC OPERATION PROCEDURE

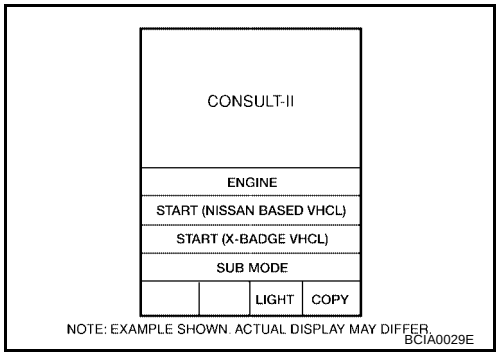
**CAUTION:**

**If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carries out CAN communication.**

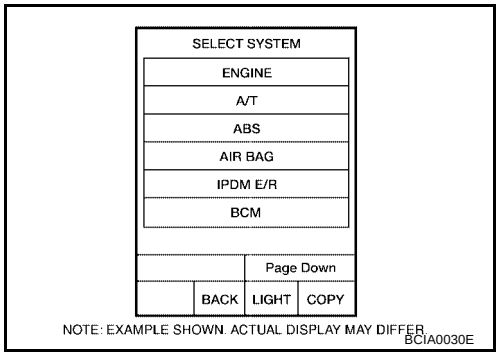
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, and turn the ignition switch ON.



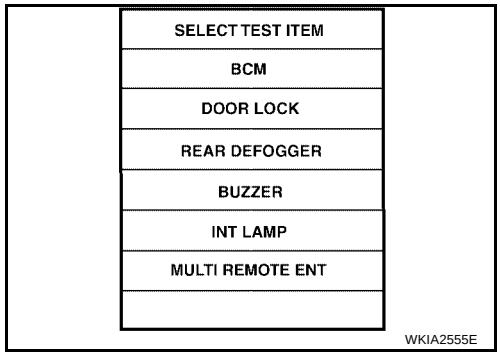

2. Touch “START (NISSAN BASED VHCL)”.



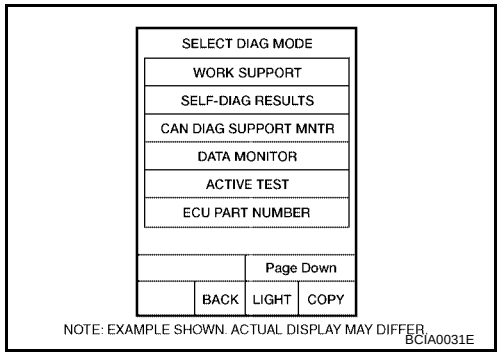

3. Touch “BCM” on “SELECT SYSTEM” screen. If “BCM” is not indicated, go to GI-39, "Consult-II Data Link Connector (DLC) Circuit" .



4. Touch “BUZZER” or “BCM”.




5. Select “DATA MONITOR” “ACTIVE TEST” or “SELF-DIAG RESULTS”.




## DATA MONITOR

### Operation Procedure

1. Touch “BUZZER” on “SELECT TEST ITEM” screen.
2. Touch “DATA MONITOR” on “SELECT DIAG MODE” screen.
3. Touch “ALL SIGNALS” or “SELECTION FROM MENU” on “DATA MONITOR" screen.

| | |
|---|---|
| ALL SIGNALS | Monitors all selected test item related signals. |
| SELECTION FROM MENU | Selects and monitors the specified item. |

4. If “SELECTION FROM MENU” is selected, touch the item desired to monitor. If “ALL SIGNALS” is selected, all selected test item related signals are monitored.
5. Touch “START”.
6. During monitoring, touching “COPY” will print the monitored item status.

### Data Monitor Item

| Monitored item | Description |
|---|---|
| IGN ON SW | Indicates [ON/OFF] condition of ignition switch. |
| KEY ON SW | Indicates [ON/OFF] condition of key switch. |
| DOOR SW-DR | Indicates [ON/OFF] condition of front door switch LH. |
| LIGHT SW 1ST | Indicates [ON/OFF] condition of combination switch (lighting switch). |
| BUCKLE SW | Indicates [ON/OFF] condition of seat belt buckle switch LH. |

## ACTIVE TEST

### Operation Procedure

1. Touch “BUZZER” on “SELECT TEST ITEM” screen.
2. Touch “ACTIVE TEST” on “SELECT DIAG MODE” screen.
3. Touch the item to be tested, and check the operation.
4. During the operation check, touching “OFF” deactivates the operation.

### Active Test Item (IGN KEY WARN ALM)

| Test item | Malfunction detecting condition |
|---|---|
| CHIME | This test is able to check key warning chime operation. Key warning chime sounds after touching “ON” on CONSULT-II screen. |

### Active Test Item (LIGHT WARN ALM)

| Test item | Malfunction detecting condition |
|---|---|
| CHIME | This test is able to check light warning chime operation. Light warning chime sounds after touching “ON” on CONSULT-II screen. |

### Active Test Item (SEAT BELT WARN TEST)

| Test item | Malfunction detecting condition |
|---|---|
| CHIME | This test is able to check seat belt warning chime operation. Seat belt warning chime sounds after touching “ON” on CONSULT-II screen. |

### SELF-DIAGNOSTIC RESULTS

### Operation Procedure

1. Touch “BCM” on “DIAGNOSIS ITEM SELECTION” screen.
2. Touch “SELF-DIAG RESULTS” on “SELECT DIAG MODE” screen.
3. Self-diagnostic results are displayed.

### Display Item List

| Items to be displayed | CONSULT-II display | Description |
|---|---|---|
| CAN communication | CAN communication [U1000] | Malfunction is detected in CAN communication. |
| CAN communication system | CAN communication system 1 to 6 [U1000] | Malfunction is detected in CAN system. |
| Combination switch | Diagnosis 1 - 5 systems open circuit | Malfunction is detected in combination switch system. |

## All Warnings Are Not Operated

EKS008Q4

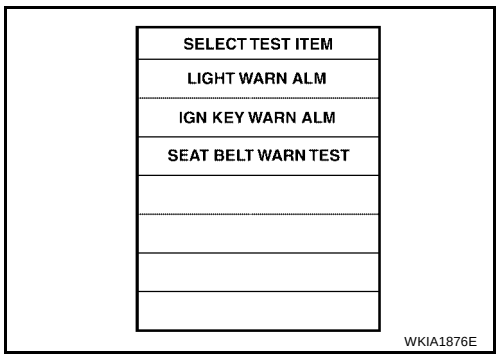
### 1. CHIME OPERATION INSPECTION

Select “BUZZER” on CONSULT-II, and perform “LIGHT WARN ALM”, "IGN KEY WARN ALM", or "SEAT BELT WARN TEST" active test.

Does chime sound?

YES >> Replace BCM. Refer to BCS-20, "Removal and Installation of BCM" .

NO >> GO TO 2.




### 2. BCM SELF-DIAGNOSIS

Select "BCM" on CONSULT-II, and perform BCM self-diagnosis.

Self-diagnostic results content

No malfunction detected>> Replace combination meter. Refer to IP-13, "COMBINATION METER" .

CAN communication or CAN communication system>> Check BCM CAN communication system. Go to LAN-20, "CAN COMMUNICATION" .

Diagnosis 1 - 5 systems open circuit>> Malfunction in combination switch system. Go to LT-89, "Combination Switch Reading Function" according to self-diagnostic results.

## Key Warning Chime and Light Warning Chime Does Not Operate (Seat Belt Warning Chime Does Operate)

EKS008Q5

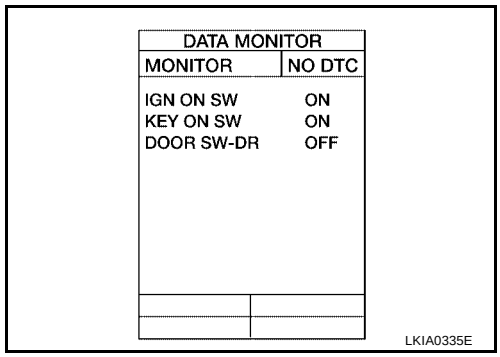
### 1. CHECK BCM INPUT SIGNAL

**With CONSULT-II**

With "DATA MONITOR" of "BUZZER", confirm "DOOR SW-DR" when the front door switch LH is operated.

**When front door LH is opened : DOOR SW-DR ON**

**When front door LH is closed : DOOR SW-DR OFF**

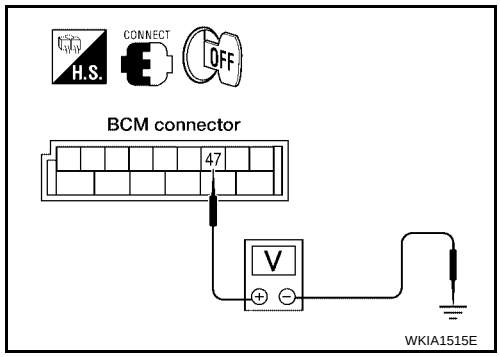



**Without CONSULT-II**

Check voltage between BCM harness connector M19 terminal 47 and ground.

**When front door LH is opened : Approx. 0V**

**When front door LH is closed : Approx. 5V**



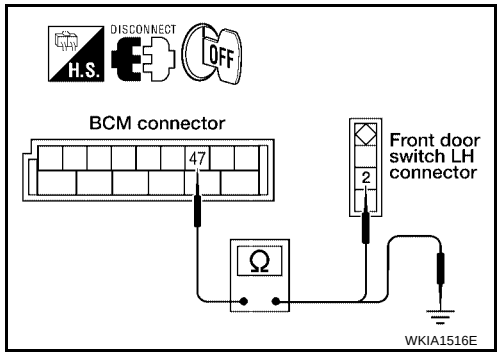

OK or NG

OK >> Replace BCM. Refer to BCS-20, "Removal and Installation of BCM" .

NG >> GO TO 2.

### 2. CONTINUITY INSPECTION OF DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector M19 and front door switch LH connector B8.
3. Check continuity between BCM harness connector M19 terminal 47 and front door switch LH harness connector B8 terminal 2.




| Terminals | | | | Continuity |
|---|---|---|---|---|
| (+) | | (–) | | |
| Connector | Terminal | Connector | Terminal | |
| M19 | 47 | B8 | 2 | Yes |

4. Check continuity between BCM harness connector M19 terminal 47 and ground.

| Terminals | | | Continuity |
|---|---|---|---|
| (+) | | (–) | |
| Connector | Terminal | | |
| M19 | 47 | Ground | No |

OK or NG

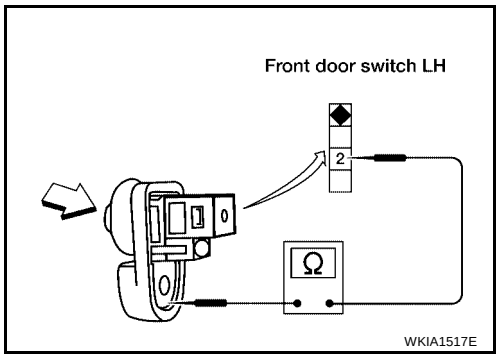
OK >> GO TO 3.

NG >> Repair harness or connector.

## 3. CHECK DOOR SWITCH

Check front door switch LH.

| | |
|---|---|
| **When front door switch LH is released** | **: Continuity should exist** |
| **When front door switch LH is pushed** | **: Continuity should not exist** |




OK or NG

OK >> Replace BCM. Refer to BCS-20, "Removal and Installation of BCM" .

NG >> Replace front door switch LH.

# Key Warning Chime Does Not Operate

EKS008Q6

## 1. CHECK FUSE

Check if the key switch and key lock solenoid (key detection) switch fuse is blown. Refer to DI-48, "Wiring Diagram — CHIME —" .

Is the fuse blown?

YES >> If fuse is blown, be sure to eliminate cause of problem before installing new fuse. Refer to PG-4, "POWER SUPPLY ROUTING CIRCUIT" .

NO >> GO TO 2.

## 2. CHECK WARNING CHIME OPERATION

With key removed from the ignition and the front door LH open, turn the lighting switch to 1st or 2nd position.

Does warning chime sound?

YES >> GO TO 3.

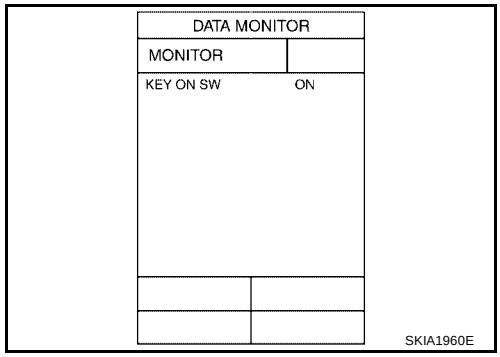
NO >> Go to DI-54, "All Warnings Are Not Operated" or DI-55, "Key Warning Chime and Light Warning Chime Does Not Operate (Seat Belt Warning Chime Does Operate)" .

## 3. KEY SWITCH INSPECTION

**With CONSULT-II**

With “BUZZER” on the data monitor, insert the key into the ignition cylinder to check ON/OFF operation.

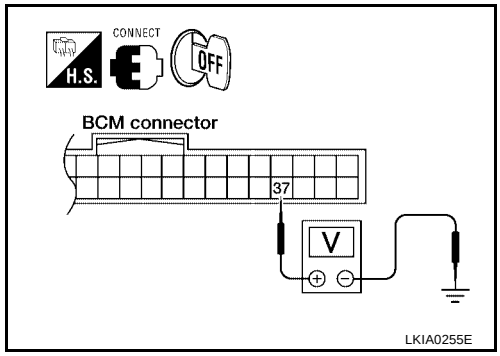
| Switch operation | CONSULT-II display | Operation status |
|---|---|---|
| Ignition switch (key in switch) | KEY ON SW | ON |
| Ignition switch (key out of switch) | | OFF |




**Without CONSULT-II**

Check voltage between BCM harness connector M18 terminal 37 and ground.

| Terminals | | | Condition | Voltage (V) (Approx.) |
|---|---|---|---|---|
| (+) | | (–) | | |
| Connector | Terminal | | | |
| M18 | 37 | Ground | Key is inserted | Battery voltage |
| | | | Key is removed | 0V |




OK or NG

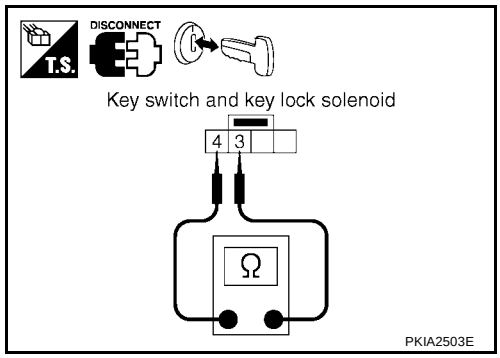
OK >> Replace BCM. Refer to BCS-20, "Removal and Installation of BCM" .

NG >> GO TO 4.

## 4. CHECK KEY SWITCH (INSERT)

1. Disconnect key switch and key lock solenoid connector.
2. Check continuity between key switch and key lock solenoid terminals 3 and 4.

| Terminals | | Condition | Continuity |
|---|---|---|---|
| 3 | 4 | Key is inserted | Yes |
| | | Key is removed | No |




OK or NG

OK >> GO TO 5.

NG >> Replace key switch and key lock solenoid.

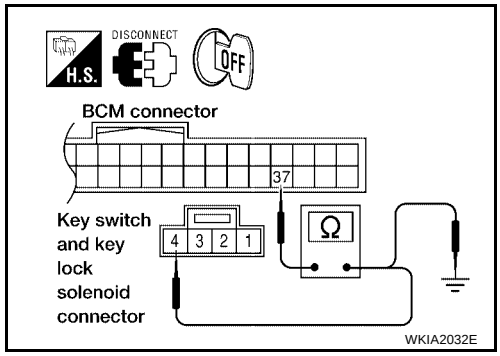
## 5. BCM AND KEY SWITCH CONTINUITY INSPECTION

1. Disconnect BCM connector M18.
2. Check continuity between BCM harness connector M18 terminal 37 and key switch and key lock solenoid harness connector M26 terminal 4.

**Continuity should exist.**

3. Check continuity between BCM harness connector M18 terminal 37 and ground.

**Continuity should not exist.**




OK or NG

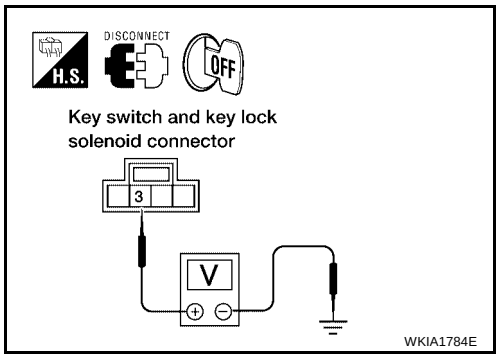
OK >> GO TO 6.

NG >> Repair harness or connector.

## 6. KEY SWITCH INPUT SIGNAL INSPECTION

Check voltage between key switch and key lock solenoid harness connector M26 terminal 3 and ground.

**Battery voltage should exist.**




OK or NG

OK >> Replace BCM. Refer to BCS-20, "Removal and Installation of BCM" .

NG >> Check harness for open between key switch and key lock solenoid and fuse.

# Light Warning Chime Does Not Operate

EKS008Q7

## 1. CHECK WARNING CHIME OPERATION

Check key warning chime and seat belt warning chime functions.

Do key warning chime and seat belt warning chime sound?

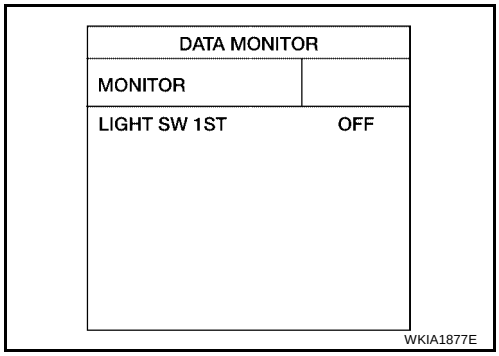
YES >> GO TO 2.

NO >> Go to DI-54, "All Warnings Are Not Operated" or DI-55, "Key Warning Chime and Light Warning Chime Does Not Operate (Seat Belt Warning Chime Does Operate)" .

## 2. DATA MONITOR INSPECTION

With "BUZZER" on the data monitor, confirm “LIGHT SW 1ST” turns ON/OFF when lighting switch and front fog switch are operated.

| Switch operation | CONSULT-II display | Operation status |
|---|---|---|
| Headlamp switch (1st position) | LIGHT SW 1ST | ON |
| Headlamp switch (OFF) | | OFF |




OK or NG

OK >> Replace BCM. Refer to BCS-20, "Removal and Installation of BCM" .

NG >> GO TO 3.

## 3. INSPECTION BETWEEN COMBINATION SWITCH AND BCM

Select "BCM" on CONSULT-II, and perform BCM self-diagnosis.

Self-diagnostic results content

No malfunction detected>> Replace BCM. Refer to BCS-20, "Removal and Installation of BCM" .

CAN communication or CAN communication system>> Check BCM CAN communication system. Go to LAN-20, "CAN COMMUNICATION" .

Diagnosis 1 - 5 systems open circuit>> Malfunction in combination switch system. Go to LT-89, "Combination Switch Reading Function" according to self-diagnostic results.

# Seat Warning Chime Does Not Operate

EKS008Q8

## 1. CHECK WARNING CHIME OPERATION

1. With key removed from the ignition switch and the front door LH open, turn the lighting switch to 1st or 2nd position.
2. Return lighting switch to OFF position, and insert key into ignition switch.

Does warning chime sound for both steps?

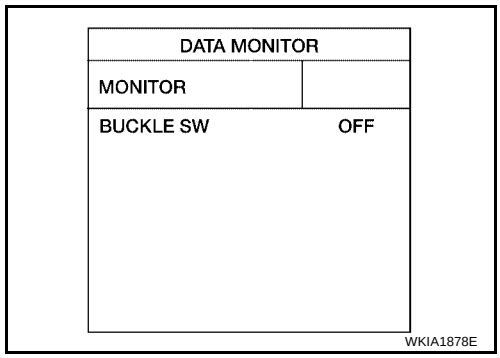
YES >> GO TO 2.

NO >> Go to DI-54, "All Warnings Are Not Operated" .

## 2. DATA MONITOR INSPECTION

With "BUZZER" on the data monitor, confirm “BUCKLE SW” when the seat belt buckle switch LH is operated.

| Switch operation | CONSULT-II display | Operation status |
|---|---|---|
| Seat belt buckle switch LH (unfastened) | BUCKLE SW | ON |
| Seat belt buckle switch LH (fastened) | | OFF |




OK or NG

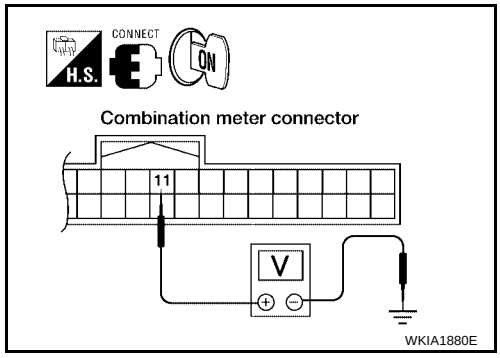
OK >> Replace BCM. Refer to BCS-20, "Removal and Installation of BCM" .

NG >> GO TO 3.

## 3. COMBINATION METER INPUT SIGNAL INSPECTION

1. Turn ignition switch ON.
2. Check voltage between combination meter harness connector M24 terminal 11 and ground.

| Terminals | | | Condition | Voltage (V) (Approx.) |
|---|---|---|---|---|
| (+) | | (–) | | |
| Connector | Terminal | | | |
| M24 | 11 | Ground | Seat belt is fastened | Battery voltage |
| | | | Seat belt is unfastened | 0V |




OK or NG

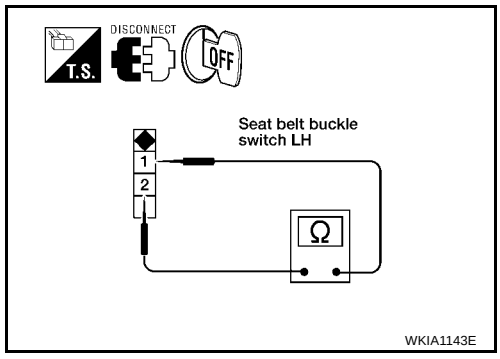
OK >> Replace combination meter. Refer to IP-13, "COMBINATION METER" .

NG >> GO TO 4.

## 4. SEAT BELT BUCKLE SWITCH INSPECTION

1. Turn ignition switch OFF.
2. Disconnect seat belt buckle switch LH connector.
3. Check continuity between seat belt buckle switch LH terminals 1 and 2.

| Terminals | | Condition | Continuity |
|---|---|---|---|
| 1 | 2 | Seat belt is fastened | No |
| | | Seat belt is unfastened | Yes |




OK or NG

OK >> GO TO 5.

NG >> Replace seat belt buckle switch LH.

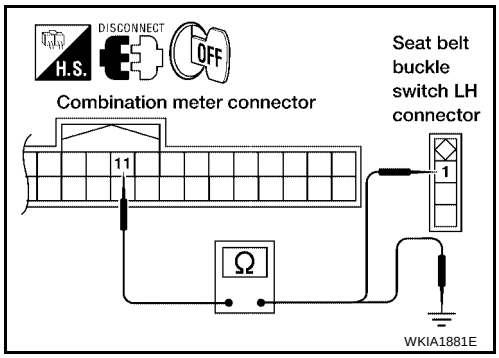
## 5. SEAT BELT BUCKLE SWITCH CIRCUIT INSPECTION

1. Disconnect combination meter connector.
2. Check continuity between combination meter harness connector M24 terminal 11 and seat belt buckle switch LH harness connector P2 terminal 1.

**Continuity should exist.**

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

**Continuity should not exist.**



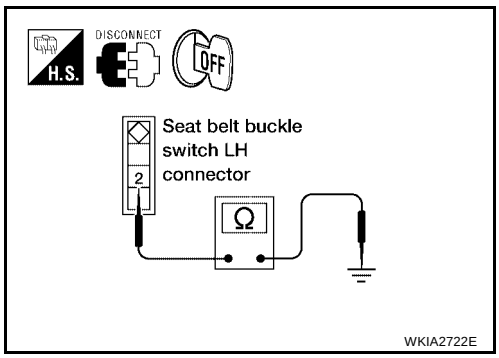

OK or NG

OK >> GO TO 6.
NG >> Repair harness or connector.

## 6. SEAT BELT BUCKLE SWITCH GROUND CIRCUIT INSPECTION

1. Disconnect seat belt buckle switch LH connector.
2. Check continuity between seat belt buckle switch LH harness connector P2 terminal 2 and ground.

**Continuity should exist.**




OK or NG

OK >> Replace combination meter. Refer to IP-13, "COMBINATION METER" .
NG >> Repair harness or connector.

# BOARD COMPUTER

PFP:24810

## System Description

EKS008Q9

### FUNCTION

The board computer can indicate the following items.

- Outside air temperature
- DTE (distance to empty) (without NAVI)
- Trip distance
- Trip time (without NAVI)
- Average fuel consumption (without NAVI)
- Average vehicle speed (without NAVI)

### OUTSIDE AIR TEMPERATURE INDICATION

The outside air temperature indication is displayed while the ignition switch is in the ON position.
Signal is supplied

- through ambient sensor terminal 1
- to combination meter (board computer) terminal 33.

Indication range is between -30 and 55°C (-22 and 131°F). When outside temperature is less than 3°C (37°F), display shows ICY. In this case, the display will change to the outside air temperature mode even though the display is showing a different mode. When outside temperature is more than 55°C (131°F), indication will be blank. The indicated temperature is not affected by engine heat. It changes only when one of the following conditions exists.

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

### DTE (DISTANCE TO EMPTY) INDICATION

The range indication provides the driver with an estimation of the distance that can be driven before refueling. The range is calculated by signals from the fuel level sensor unit (fuel remaining), ECM (fuel consumption) and vehicle speed sensor (without TCS or 5-speed A/T) or the ABS actuator and electric unit (with TCS or 5-speed A/T). The indication will be refreshed every 30 seconds. When fuel remaining is less than approximately 10 ℓ (2 5/8 US gal, 2 1/4 Imp gal), the indication will blink as a warning. If the fuel remaining is less than approximately 8 ℓ (2 1/8 US gal, 1 3/4 Imp gal), the indication will show "---". In this case, the display will change to the DTE mode even though the display is showing a different mode. When the battery is disconnected and reconnected, DTE mode will display "---" until the vehicle is driven 500 miles (804.5 km).

### TRIP DISTANCE

Trip distance is calculated by signal from the vehicle speed sensor (without TCS or 5-speed A/T) or the ABS actuator and electric unit (with TCS or 5-speed A/T). If trip distance is reset, trip time will be reset at the same time.

### TRIP TIME

Trip time displays cumulative ignition switch ON time. If trip time is reset, trip distance will be reset at the same time.

### AVERAGE FUEL CONSUMPTION

Average fuel consumption indication is calculated by signals from the vehicle speed sensor (without TCS or 5-speed A/T) or the ABS actuator and electric unit (with TCS or 5-speed A/T) and the ECM (fuel consumption). The indication will be refreshed every 30 seconds.

### AVERAGE VEHICLE SPEED

Average vehicle speed indication is calculated by running distance and running time. The indication will be refreshed every 30 seconds. If average vehicle speed is reset, average fuel consumption will be reset at the same time. After resetting, the display will show "---" for 30 seconds.

### HOW TO CHANGE/RESET INDICATION

Indication can be changed in the following order by momentarily depressing the board computer switch or the board computer steering switch.

Outside air temperature → dte (without NAVI) → Average fuel consumption (without NAVI) → Average vehicle speed (without NAVI) → Trip time (without NAVI) → Trip distance.
Holding the switch for more than 0.8 second will reset the indication of the currently displayed mode (trip distance, trip time, average vehicle speed or average fuel consumption).

**NOTE:**
After the display changes automatically, the indication can be changed to the last mode by pushing the board computer switch or the board computer steering switch.

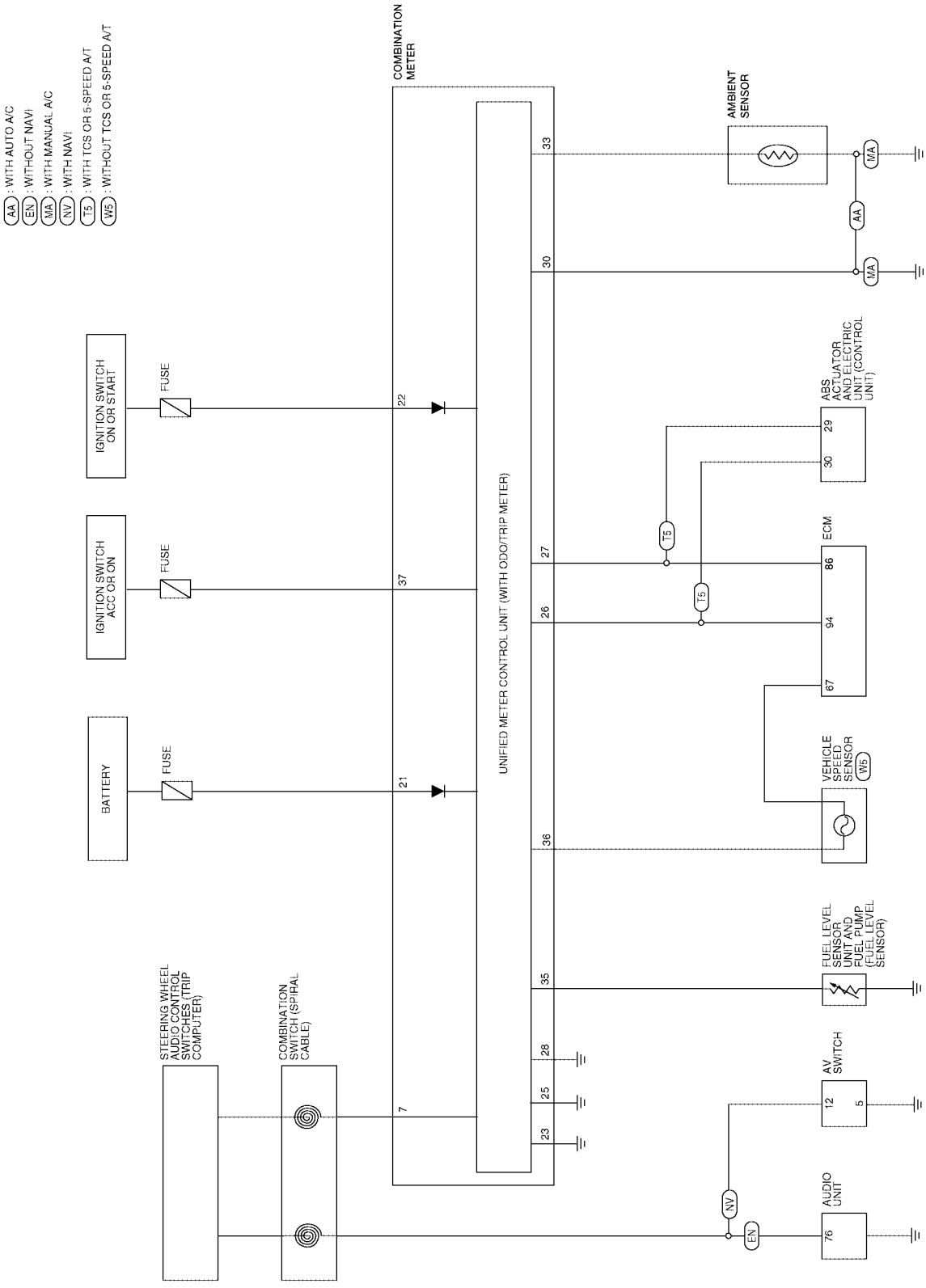
## CAN Communication System Description

EKS008QA

Refer to LAN-20, "CAN COMMUNICATION" .

## Schematic

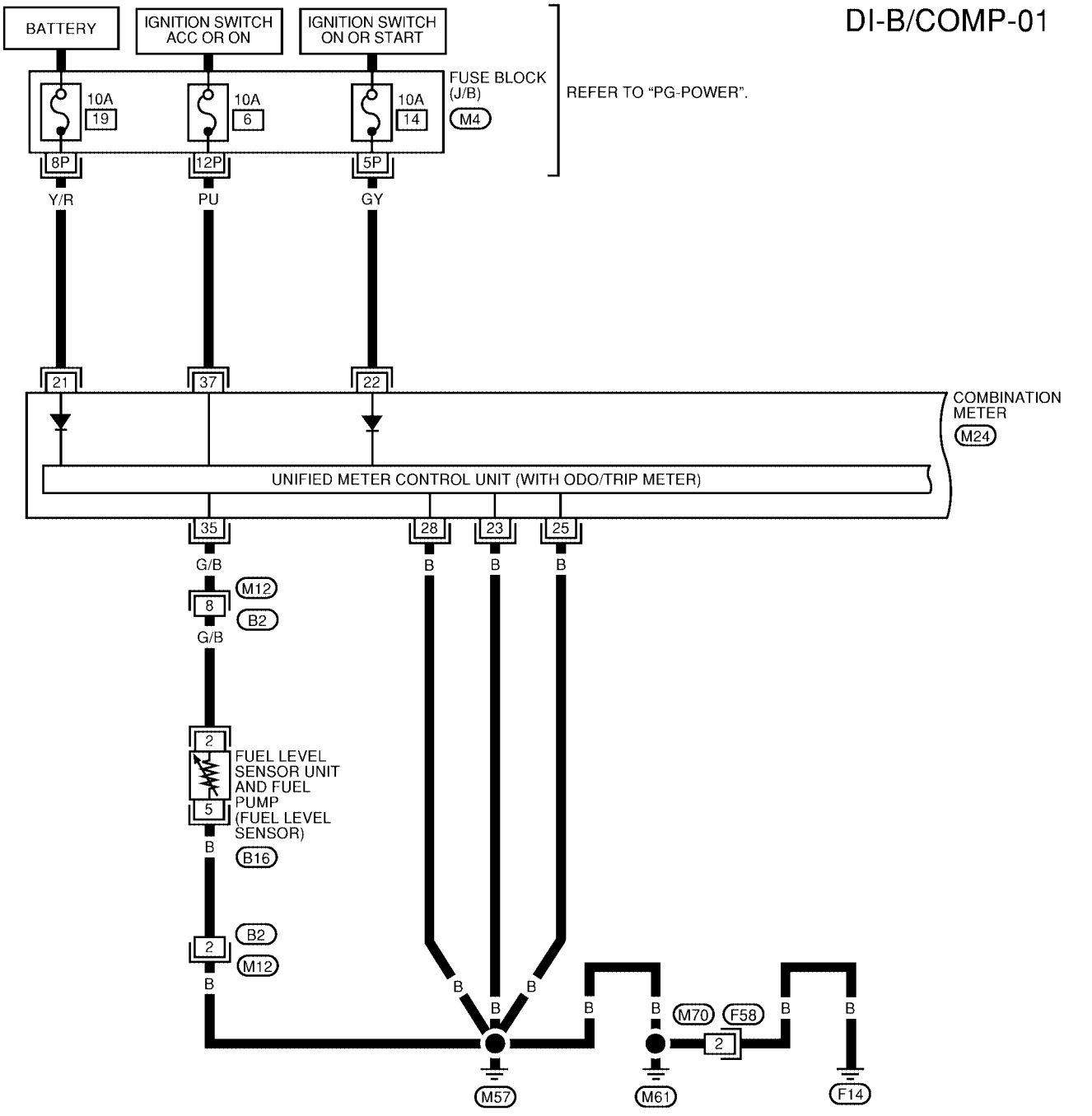
EKS008QB




WKWA3007E

## Wiring Diagram — B/COMP —

EKS008QC



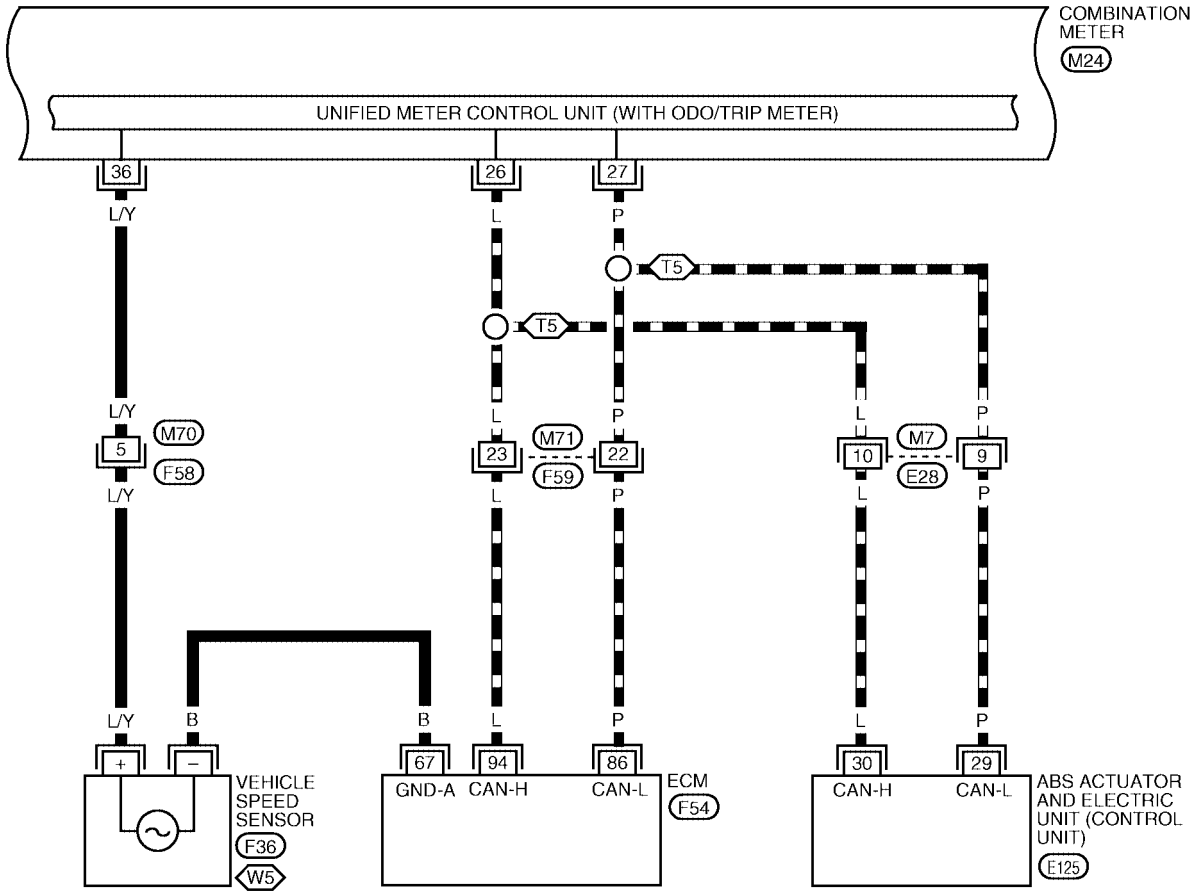

WKWA1350E

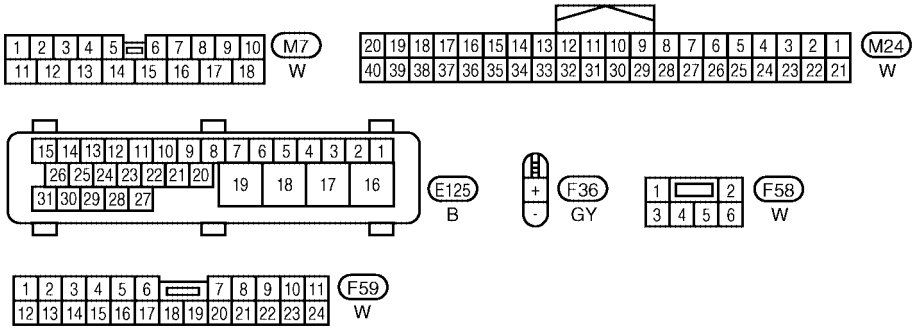
DI-B/COMP-02

: DATA LINE

T5 : WITH TCS OR 5-SPEED A/T

W5 : WITHOUT TCS OR 5-SPEED A/T



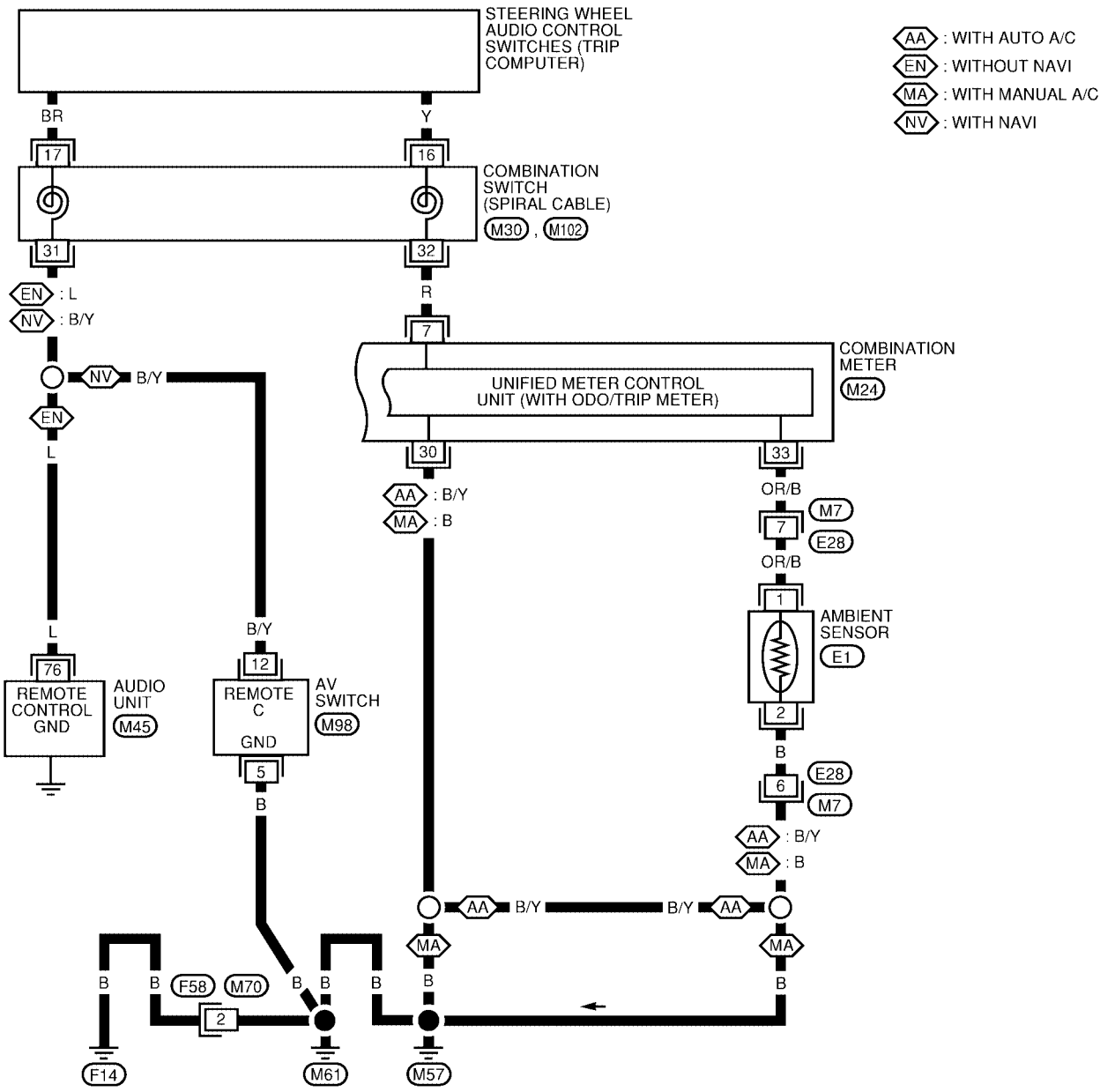



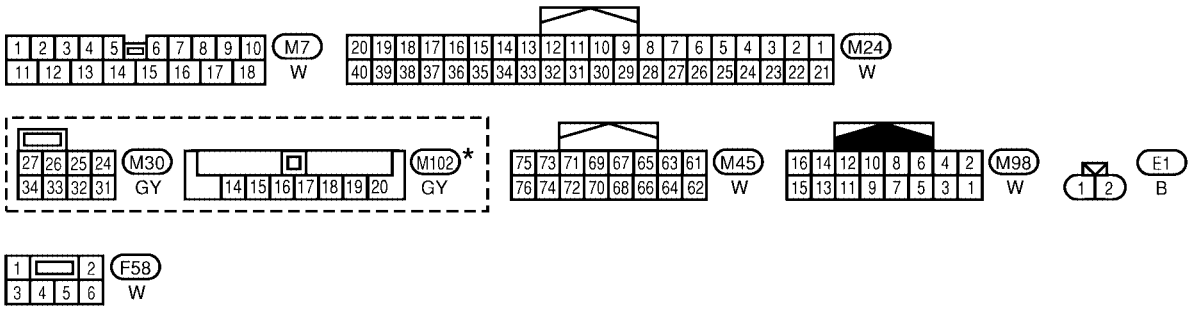

REFER TO THE FOLLOWING.

F54 - ELECTRICAL UNITS

WKWA3008E

DI-B/COMP-03




* : THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.

WKWA1262E

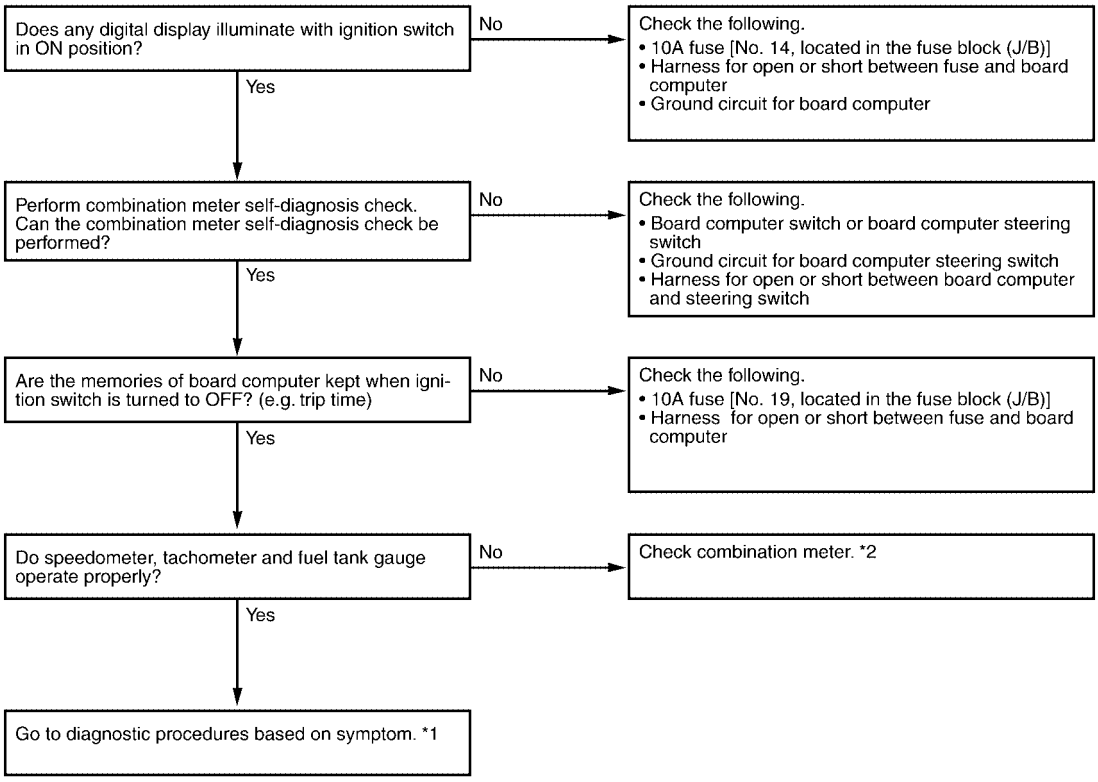
# Trouble Diagnoses

EKS008QD

## SEGMENT CHECK

The board computer segment display can be checked by entering combination meter self-diagnostic mode. Refer to DI-12, "SELF–DIAGNOSIS FUNCTION" .

## PRELIMINARY CHECK




LKIA0061E

*1 DI-67, "DIAGNOSIS PROCEDURE" *2 DI-8, "CHECK"

## DIAGNOSIS PROCEDURE

| Symptom | Possible cause | Repair order |
|---|---|---|
| Outside air temperature display is not displayed properly. (It may take a short time to steady the indication after ignition switch is turned ON.)<br>**NOTE:**<br>If the meter is powered up with the ambient sensor disconnected, outside air temperature display will show "---" even if the sensor is reconnected. In this case, with the sensor connected, disconnect and reconnect the battery, then the correct temperature will be displayed. | 1. Ambient sensor<br>2. Ambient sensor circuit<br>3. Vehicle speed sensor signal (without TCS or 5-speed A/T)<br>4. ABS actuator and electric unit (with TCS or 5-speed A/T) | 1. Check ambient sensor.<br>2. Check harness for open or short between ambient sensor and board computer.<br>3. Check harness for open or short between combination meter terminal 36 and vehicle speed sensor.<br>4. Perform ABS actuator and electric unit self diagnosis. |
| DTE (distance to empty) is not displayed properly.) | 1. Average fuel consumption display<br>2. Fuel tank gauge signal circuit. | 1. Make sure fuel consumption is displayed properly. If NG, check fuel consumption display.<br>2. Make sure fuel gauge operates properly. If NG, check fuel gauge. Refer to DI-16, "Fuel System" . |

| Symptom | Possible cause | Repair order |
|---|---|---|
| Trip distance is not indicated properly. | 1. Vehicle speed sensor signal circuit (without TCS or 5-speed A/T)<br>2. ABS actuator and electric unit (with TCS or 5-speed A/T) | 1. Check harness for open or short between combination meter terminal 36 and vehicle speed sensor.<br>2. Perform ABS actuator and electric unit self diagnosis. |
| Trip time is not indicated properly. | 1. Fuse | 1. 10A fuse [No. 19 located in fuse block (J/B)]. Verify battery voltage is present at combination meter terminal 21. |
| Average fuel consumption is not displayed properly. | 1. Trip distance display<br>2. Fuel consumption signal | 1. Check harness for open or short between combination meter terminal 36 and vehicle speed sensor (without TCS or 5-speed A/T) or perform ABS actuator and electric unit self diagnosis (with TCS or 5-speed A/T).<br>2. Check CAN lines for open or short between ECM and combination meter. |
| Average vehicle speed is not indicated properly. | 1. Trip distance display<br>2. Trip time display | 1. Check harness for open or short between combination meter terminal 36 and vehicle speed sensor (without TCS or 5-speed A/T) or perform ABS actuator and electric unit self diagnosis (with TCS or 5-speed A/T).<br>2. Make sure trip time is displayed properly. If NG, check trip time display. |

## Electrical Components Inspection

EKS008QE

### AMBIENT SENSOR

After disconnecting ambient sensor harness connector, measure resistance between terminals 2 and 1 at sensor harness side, using the table below.

| Temperature °C (°F) | Resistance kΩ |
|---|---|
| -15 (5) | 12.73 |
| -10 (14) | 9.92 |
| -5 (23) | 7.80 |
| 0 (32) | 6.19 |
| 5 (41) | 4.95 |
| 10 (50) | 3.99 |
| 15 (59) | 3.24 |
| 20 (68) | 2.65 |
| 25 (77) | 2.19 |
| 30 (86) | 1.81 |
| 35 (95) | 1.51 |
| 40 (104) | 1.27 |
| 45 (113) | 1.07 |

If NG, replace ambient sensor.