

SECTION **DI**
DRIVER INFORMATION SYSTEM

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PRECAUTION

PFP:00011

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

AKS003V4

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 harness connectors.

Precautions for Battery Service

AKS003V6

This vehicle is equipped with the automatic window adjusting function. When a door is opened, the window automatically lowers slightly to avoid contact between the window and the side roof panel. After the door is closed, the window will automatically raise slightly.

On vehicles equipped with the automatic window adjusting function, lower both the driver and front passenger side windows before disconnecting the battery cables. This will prevent interference between the side window and the roof panel when either door is opened/closed.

CAUTION:

After the battery cables are disconnected, do not open/close the driver and/or front passenger door with the window in the full up position. The automatic window adjusting function will not work and the side roof panel may be damaged.

Wiring Diagrams and Trouble Diagnosis

AKS000WM

When you read wiring diagrams, refer to the following:

- Refer to [GI-15, "How to Read Wiring Diagrams"](#) .
- Refer to [PG-4, "POWER SUPPLY ROUTING CIRCUIT"](#) for power distribution circuit.

When you perform trouble diagnosis, refer to the following:

- Refer to [GI-11, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"](#) .
- Refer to [GI-27, "How to Perform Efficient Diagnosis for an Electrical Incident"](#) .

COMBINATION METERS

PFP:24814

System Description

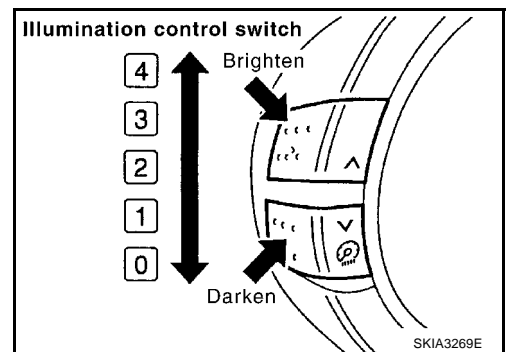
UNIFIED METER CONTROL UNIT

AKS000WN

- 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. Unified meter control unit receives signals from unified meter and A/C amp.
- Warning lamp and indicator lamp of combination meter are controlled by signals drawn from the unified meter and A/C amp.
- Digital meter is adopted for odo/trip meter.*
*The record of the odo meter is kept even if the battery cable is disconnected. The record of the trip meter is erased when the battery cable is disconnected.
- Odo/trip meter and A/T indicator segments can be checked in diagnosis mode.
- Meters/gauges can be checked in diagnosis mode.

Illumination control

The unified meter control unit outputs the combination meter and triple meter dial lighting when the ignition switch is turned on. When the lighting switch is turned on, light on for the trip computer switch, illumination control switch and external lighting are output. In addition, when the lighting switch is turned on, the illumination control switch on the left side of the combination meter can be used to adjust the brightness of each light. The brightness can be adjusted to five different levels: From 0 (no lights) to 4 (maximum). Pressing the illumination control switch will brighten or darken the lights. When the key switch is in the START position, the combination meter and triple meter dial lighting and the trip computer switch and illumination control switch lighting are turned off.

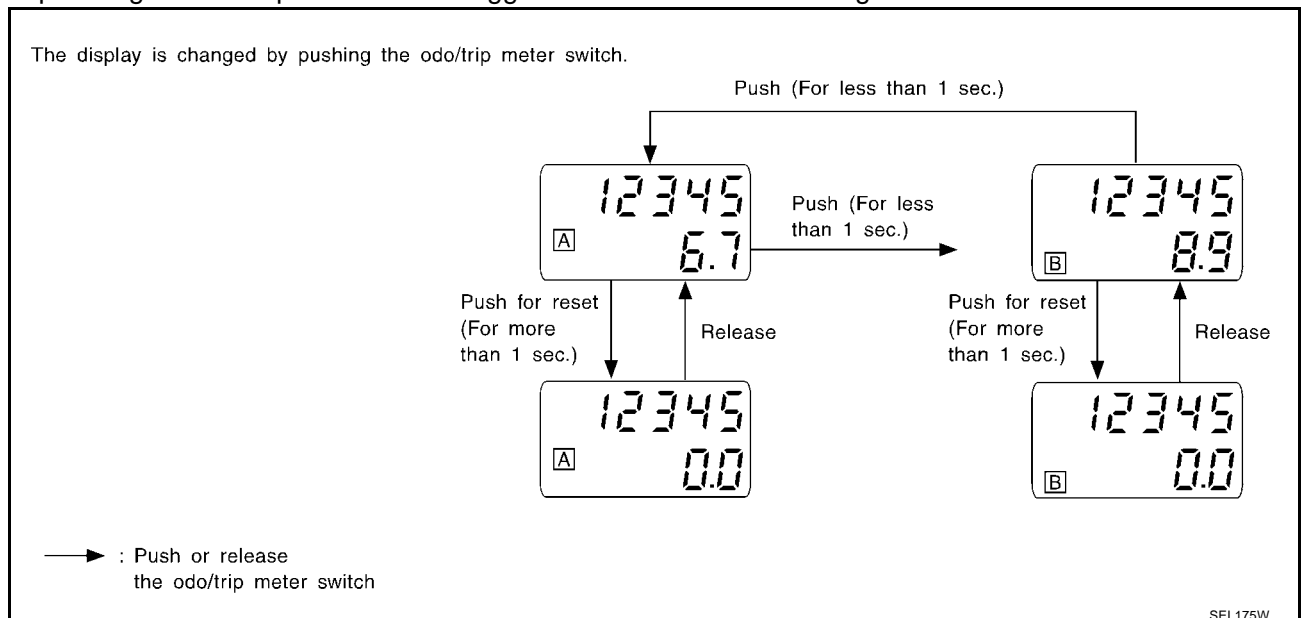


UNIFIED METER AND A/C AMP.

Refer to [DI-50, "System Description"](#) in "UNIFIED METER AND A/C AMP".

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 odo/trip meter 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).

COMBINATION METERS

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 24 and
- to unified meter and A/C amp. 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 23, and
- through 10A fuse [No.12, located in the fuse block (J/B)]
- to unified meter and A/C amp. 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 14, and
- through 15A fuse [No.10, located in the fuse block (J/B)] and
- through 15A fuse [No.11, located in the fuse block (J/B)]
- to unified meter and A/C amp. terminal 46.

Ground is supplied

- to combination meter terminals 10, 11 and 12
- to unified meter and A/C amp. terminals 29 and 30
- through body grounds M30 and M66.

WATER TEMPERATURE GAUGE

The water temperature gauge indicates the engine coolant temperature.

ECM provides a water temperature signal to unified meter and A/C amp. with CAN communication line. Unified meter and A/C amp. provides a water temperature signal to combination meter for water temperature gauge with communication line between unified meter and A/C amp. and combination meter.

TACHOMETER

The tachometer indicates engine speed in revolutions per minute (rpm).

ECM provides an engine speed signal to unified meter and A/C amp. CAN communication line. Unified meter and A/C amp. provides an engine speed signal to combination meter for tachometer with communication line between unified meter and A/C amp. and combination meter.

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

- from unified meter and A/C amp. terminal 36
- through terminals 5 and 2 of the fuel level sensor unit and fuel pump (main), and
- through terminals 2 and 1 of the fuel level sensor unit (sub)
- to unified meter and A/C amp. terminal 28 for the fuel gauge.

Unified meter and A/C amp. provides an fuel level signal to combination meter for fuel gauge with communication line between unified meter and A/C amp. and combination meter.

SPEEDOMETER

VDC/TCS/ABS control unit (with VDC system) or ABS actuator and electric unit (control unit) [without VDC system] provides a vehicle speed signal to the unified meter and A/C amp. with CAN communication line. Unified meter and A/C amp. provides a vehicle speed signal to combination meter for speedometer with communication line between unified meter and A/C amp. and combination meter.

A

B

C

D

E

F

G

H

I

J

DI

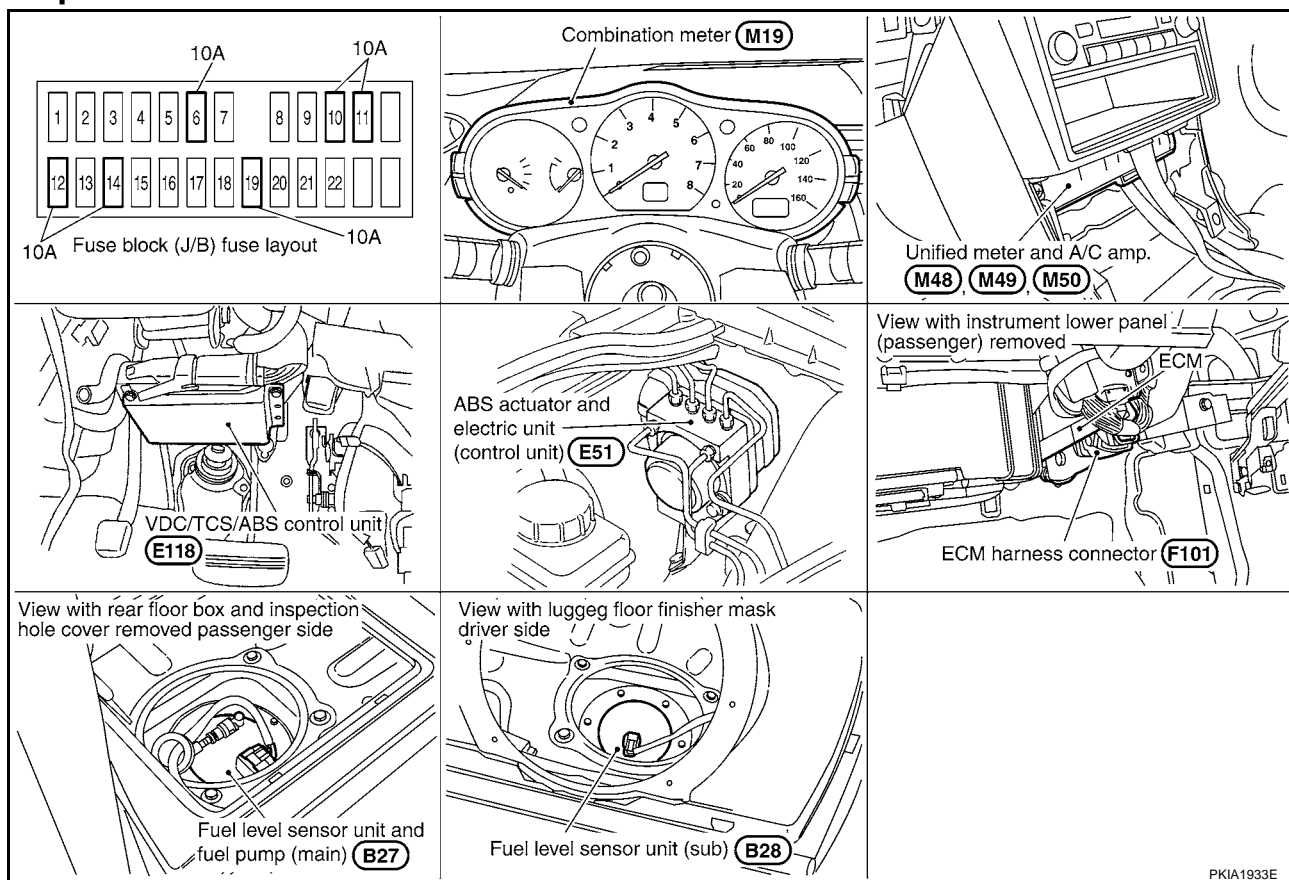
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M

COMBINATION METERS

Component Parts and Harness Connector Location

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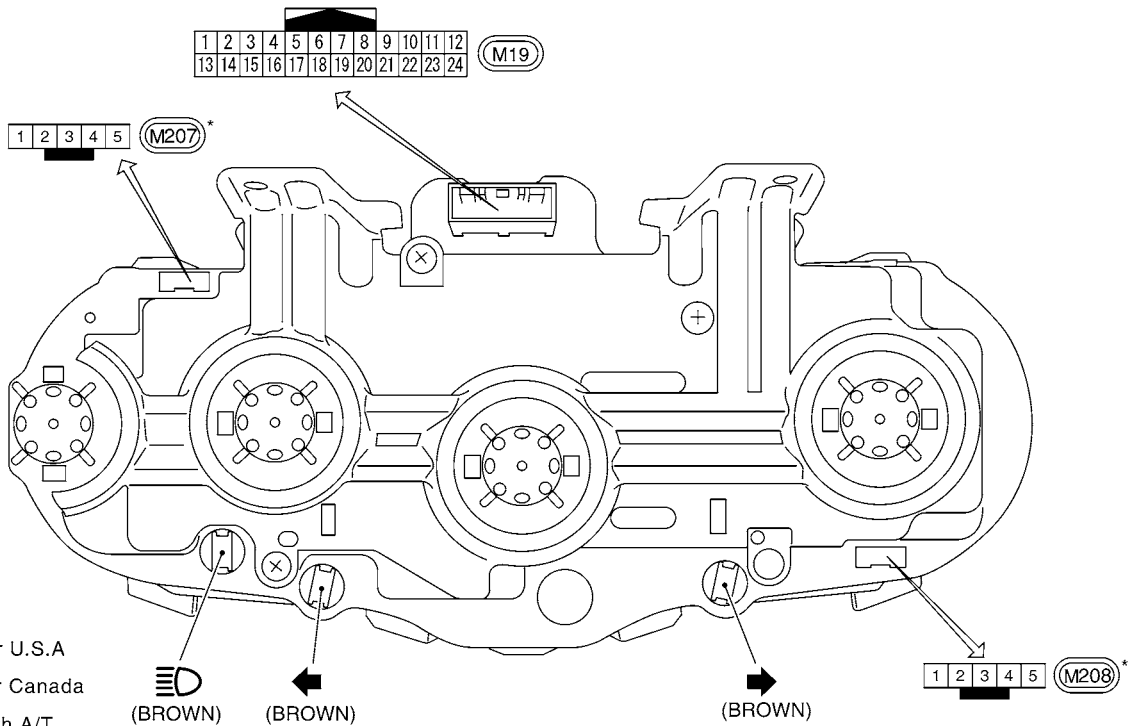
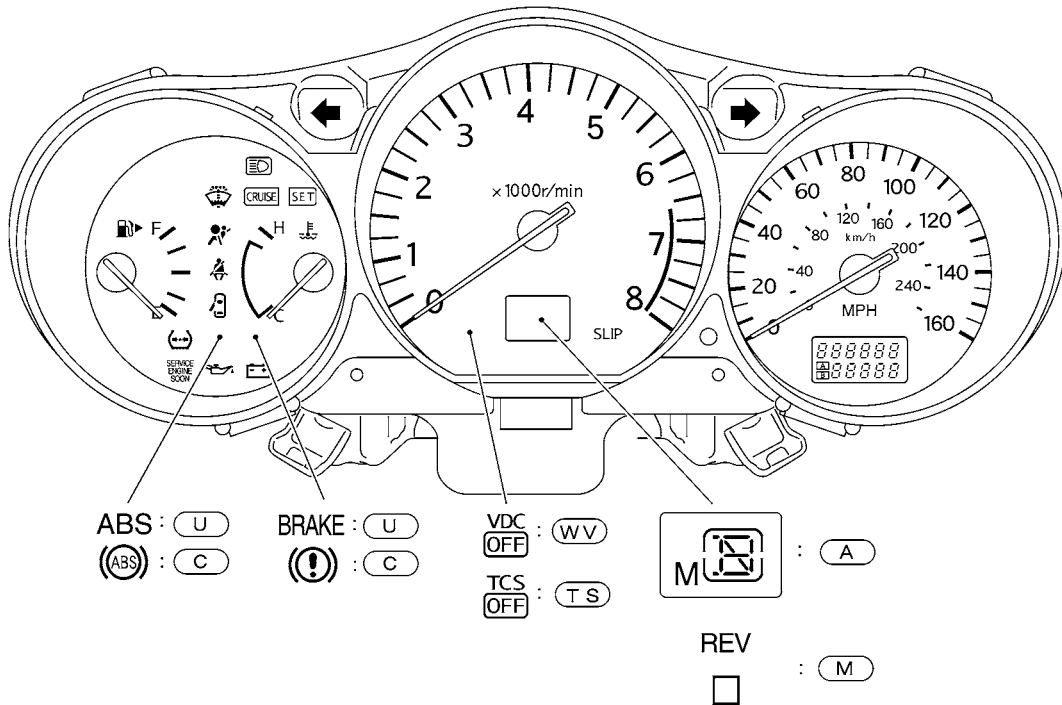


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COMBINATION METERS

Combination Meter CHECK

AKS000WQ



(U) : For U.S.A

(C) : For Canada

(A) : With A/T

(M) : With M/T

(WV) : With VDC system

(TS) : With TCS without VDC system

Blub wattage : 1.4W

() : Bulb socket color

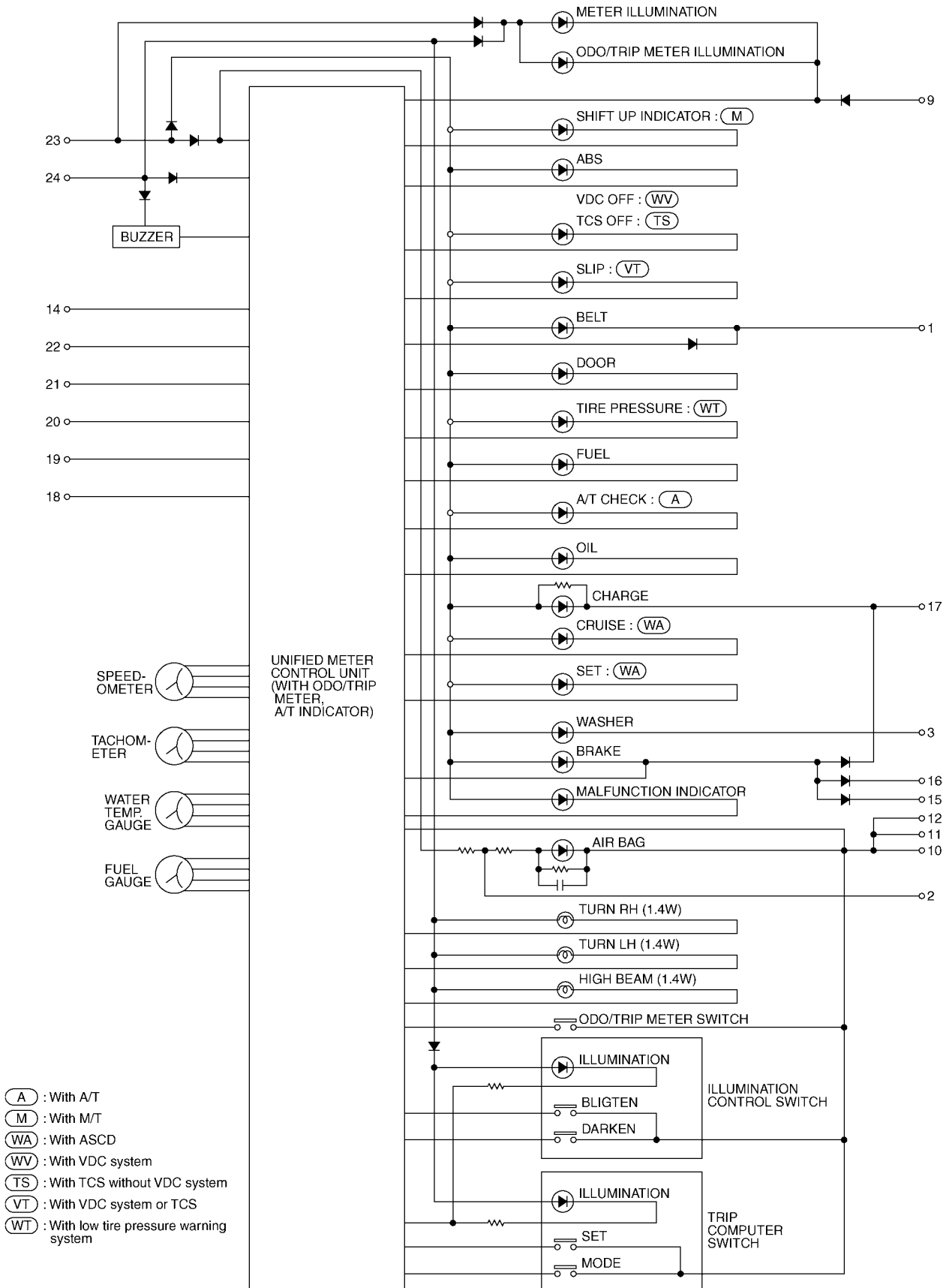
* THIS CONNECTOR IS NOT SHOW IN "HARNESS LAYOUT", PG SECTION.

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COMBINATION METERS

Circuit Diagram

AKS003/O



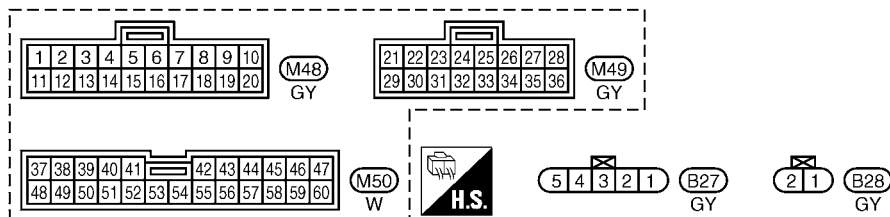
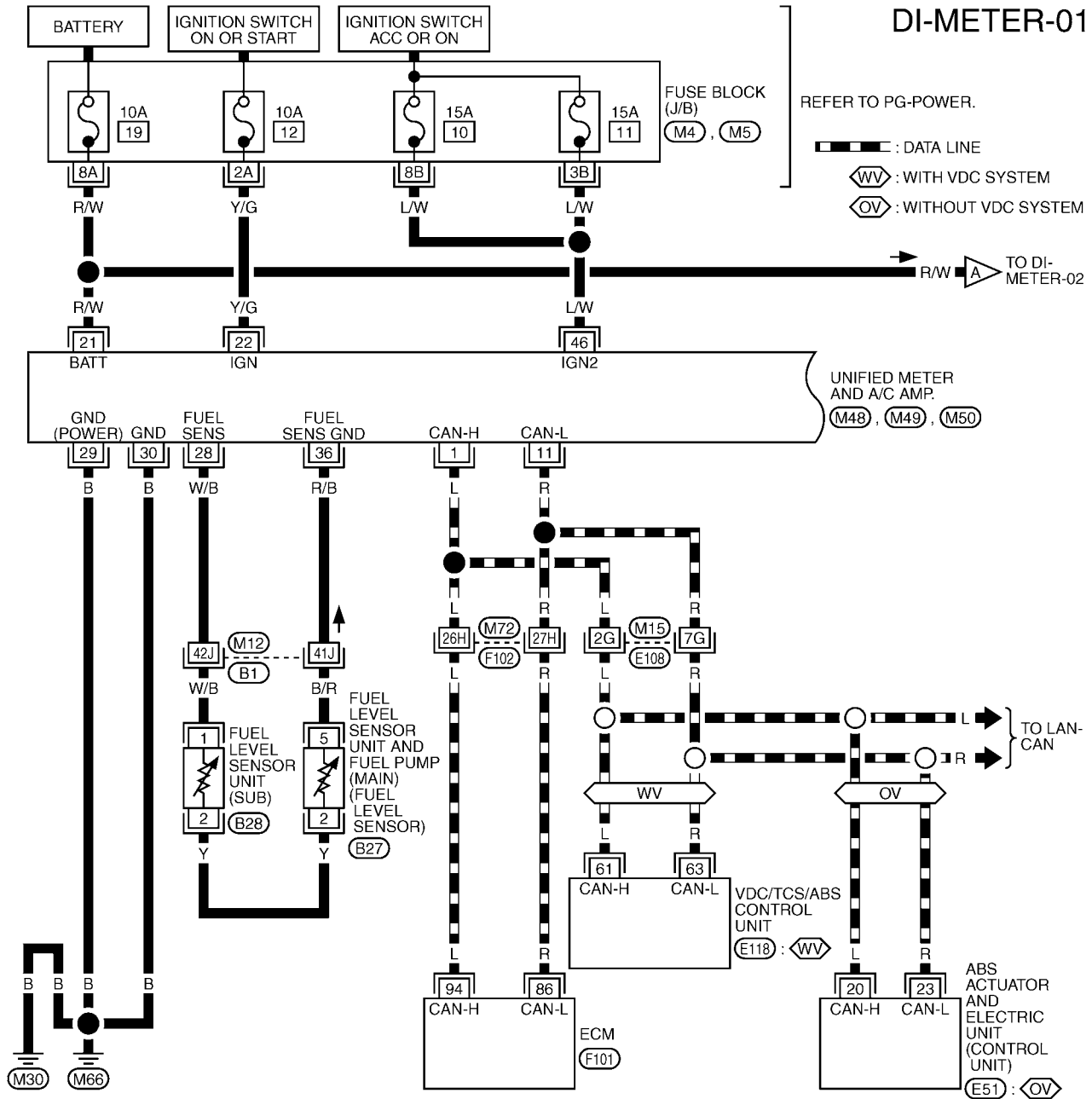
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COMBINATION METERS

Wiring Diagram — METER —

AKS000WS

DI-METER-01

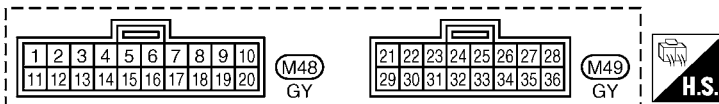
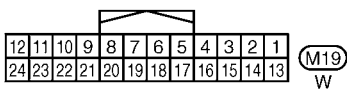
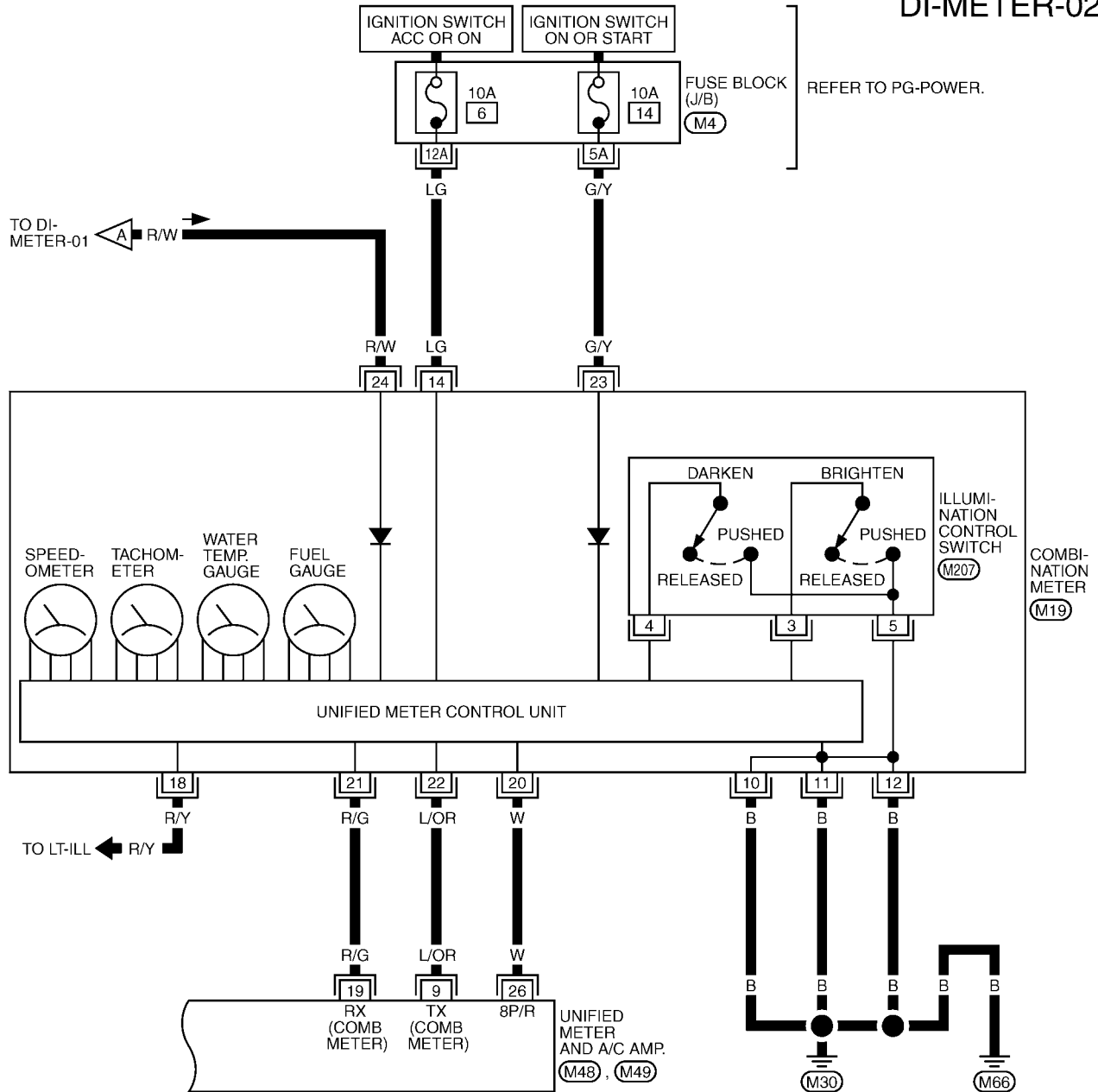


REFER TO THE FOLLOWING.
 (E108), (F102), (B1) -SUPER
 MULTIPLE JUNCTION (SMJ)
 (M4), (M5) -FUSE BLOCK-
 JUNCTION BOX (J/B)
 (E51), (E118), (F101)
 -ELECTRICAL UNITS

TKWT0480E

COMBINATION METERS

DI-METER-02



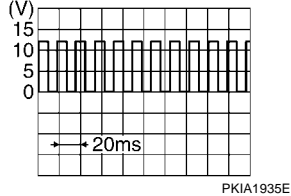
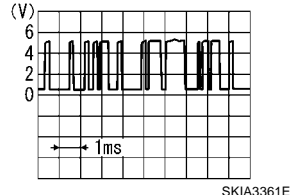
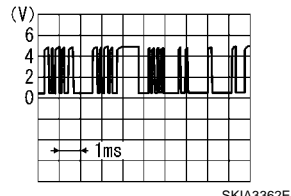
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

REFER TO THE FOLLOWING.
(M4) -FUSE BLOCK-JUNCTION BOX (J/B)

COMBINATION METERS

Terminals and Reference Value for Combination Meter

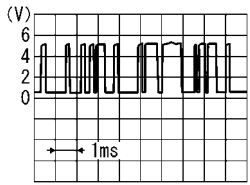
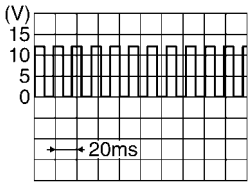
AKS002V8

TERMI- NAL	WIRE COLOR	ITEM	CONDITION		REFERENCE VALUE (V)
			Ignition switch	Operation or condition	
10	B	Ground	ON	—	Approx. 0
11	B	Ground	ON	—	Approx. 0
12	B	Ground	ON	—	Approx. 0
14	LG	Ignition switch ACC or ON	ACC	—	Battery voltage
18	R/Y	Illumination signal	ON	—	Approx. 0
20	W	Vehicle speed signal (8-pulse)	ON	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	
21	R/G	TX communication line (To unified meter and A/C amp.)	ON	—	
22	L/OR	RX communication line (From unified meter and A/C amp.)	ON	—	
23	G/Y	Ignition switch ON or START	ON	—	Battery voltage
24	R/W	Battery power supply	OFF	—	Battery voltage

COMBINATION METERS

Terminals and Reference Value for Unified Meter and A/C Amp.

AKS000WT

TERMI- NAL	WIRE COLOR	ITEM	CONDITION		REFERENCE VALUE (V)
			Ignition switch	Operation or condition	
1	L	CAN-H	—	—	—
9	L/OR	TX communication line (To combination meter)	ON	—	 SKIA3362E
11	R	CAN-L	—	—	—
19	R/G	RX communication line (From combination meter)	ON	—	 SKIA3361E
21	R/W	Battery power supply	OFF	—	Battery voltage
22	Y/G	Ignition switch ON or START	ON	—	Battery voltage
26	W	Vehicle speed signal (8-pulse)	ON	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	 PKIA1935E
28	W/B	Fuel level sensor signal	—	—	Refer to DI-26. "FUEL LEVEL SENSOR UNIT CHECK" .
29	B	Ground (For power)	ON	—	Approx. 0
30	B	Ground	ON	—	Approx. 0
36	R/B	Fuel level sensor signal ground	—	—	—
46	L/W	Ignition switch ACC or ON	ACC	—	Battery voltage

Meter/Gauges Operation and Odo/Trip Meter SELF-DIAGNOSIS FUNCTION

AKS000WU

- Odo/trip meter segment and A/T indicator 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 odo/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).

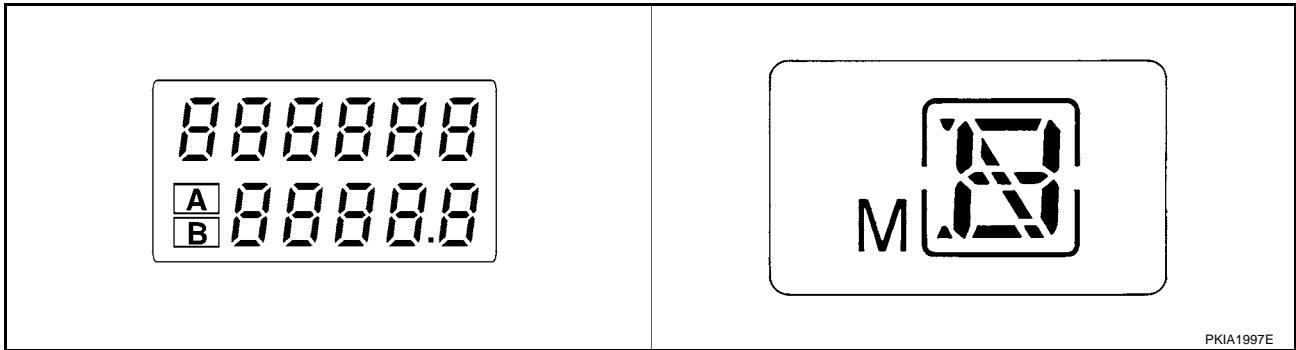
2. Turn the ignition switch OFF.
3. While pushing the odo/trip meter switch, turn the ignition switch ON again.
4. Check that the trip meter displays "0000.0".
5. Push the odo/trip meter switch at least 3 times within 5 seconds.

COMBINATION METERS

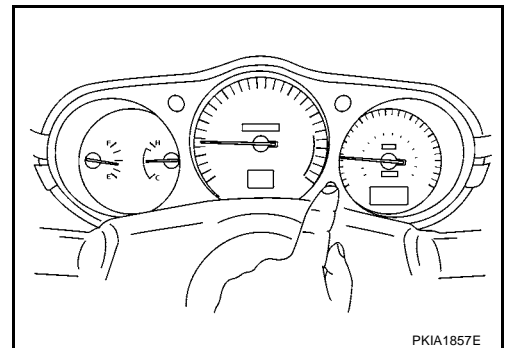
6. All the segments on the odo/trip meter and A/T indicator illuminate, and simultaneously the fuel warning lamp indicator illuminates. At this time, the unified meter control unit is turned to diagnosis mode.

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).



CONSULT-II Function

Refer to [DI-61, "CONSULT-II Function"](#) in "UNIFIED METER AND A/C AMP".

How to Proceed With Trouble Diagnosis

1. Confirm the symptom or customer complaint.
2. Perform diagnosis according to diagnosis flow. Refer to [DI-13, "Diagnosis Flow"](#).
3. According to the symptom chart, repair or replace the cause of the symptom.
4. Does the meter operate normally? If YES, go to 5. If NO, go to 2.
5. Inspection end.

Diagnosis Flow

1. CHECK SELF-DIAGNOSIS RESULTS OF UNIFIED METER AND A/C AMP.

Select "METER A/C AMP" on CONSULT-II, and perform self-diagnosis of unified meter and A/C amp. Refer to [DI-61, "CONSULT-II Function"](#).

Self-diagnosis results content

No malfunction detected>>Go to 2.

Malfunction detected>>Go to [DI-16, "Symptom Chart 2"](#).

2. CHECK WARNING LAMP ILLUMINATION

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

Do warning lamps illuminate?

Yes >> GO TO 3.

No >> Check ignition power supply system of combination meter. Refer to [DI-15, "Power Supply and Ground Circuit Check"](#).

COMBINATION METERS

3. CHECK SELF-DIAGNOSIS OPERATION OF COMBINATION METER

Perform combination meter self-diagnosis. Refer to [DI-12, "SELF-DIAGNOSIS FUNCTION"](#) .

Does self-diagnosis function operate?

Yes >> GO TO 4.

No >> Check battery power supply of combination meter and ground system. Refer to [DI-15, "Power Supply and Ground Circuit Check"](#) .

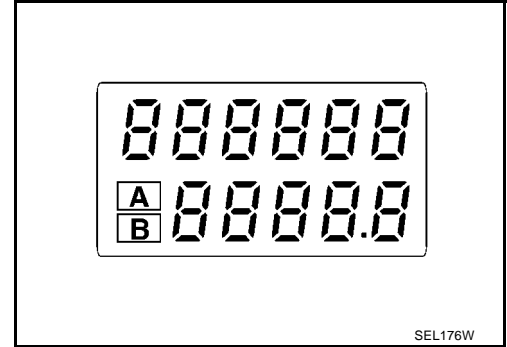
4. CHECK ODO/TRIP METER OPERATION

Check segment display status of odo/trip meter.

Is the display normal?

Yes >> GO TO 5.

No >> Replace the combination meter.



5. CHECK FUEL WARNING LAMP ILLUMINATION CONFIRMATION

During fuel warning lamp check, confirm illumination of fuel warning lamp.

Condition of odo/trip meter switch	Fuel warning lamp
Pushed	Does not illuminate.
Released	Illuminates.

OK or NG

OK >> GO TO 6.

NG >> Replace the combination meter.

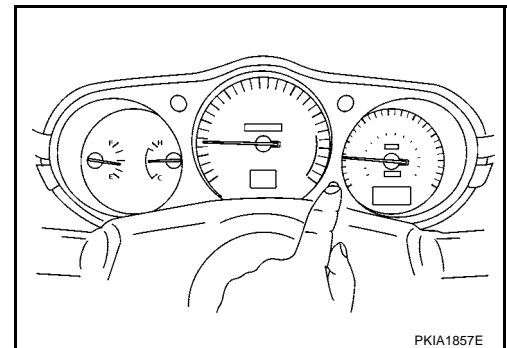
6. CHECK COMBINATION METER CIRCUIT

Check indication of each meter/gauge in self-diagnosis mode.

OK or NG

OK >> Go to [DI-16, "Symptom Chart 1"](#) .

NG >> Replace the combination meter.



COMBINATION METERS

Power Supply and Ground Circuit Check

AKS000WX

1. CHECK FUSES

- Check for blown combination meter and unified meter and A/C amp. fuses.

Unit	Power source	Fuse No.
Combination meter	Battery	19
Unified meter and A/C amp.		
Combination meter	Ignition switch ACC or ON	6
	Ignition switch ON or START	14
Unified meter and A/C amp.	Ignition switch ACC or ON	10, 11
	Ignition switch ON or START	12

OK or NG

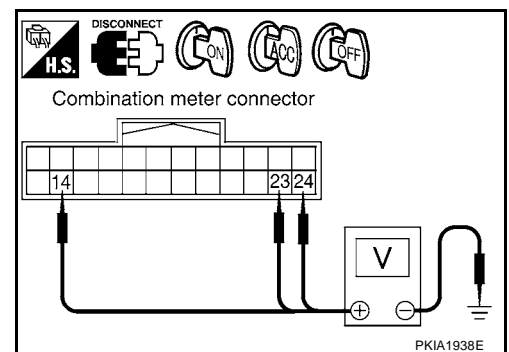
OK >> GO TO 2.

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

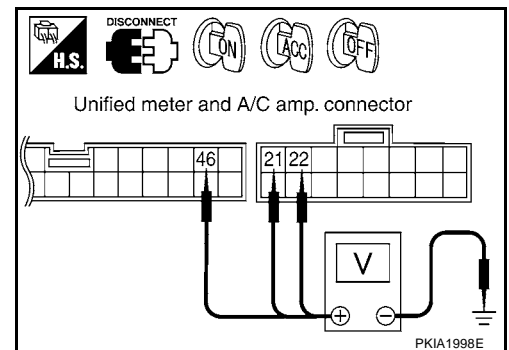
- Disconnect the combination meter connector and unified meter and A/C amp. connector.
- Check voltage between combination meter connector and ground.

Terminals		Ignition switch position			
(+) Terminal (Wire color)		(-) Ground	OFF	ACC	ON
M19	24 (R/W)	Ground	Battery voltage	Battery voltage	Battery voltage
	23 (G/Y)		0V	0V	Battery voltage
	14 (LG)		0V	Battery voltage	Battery voltage



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

Terminals		Ignition switch position			
(+) Terminal (Wire color)		(-) Ground	OFF	ACC	ON
M49	21 (R/W)	Ground	Battery voltage	Battery voltage	Battery voltage
	22 (Y/G)		0V	0V	Battery voltage
M50	46 (L/W)	Ground	0V	Battery voltage	Battery voltage



OK or NG

OK >> GO TO 3.

NG >> Check the following.

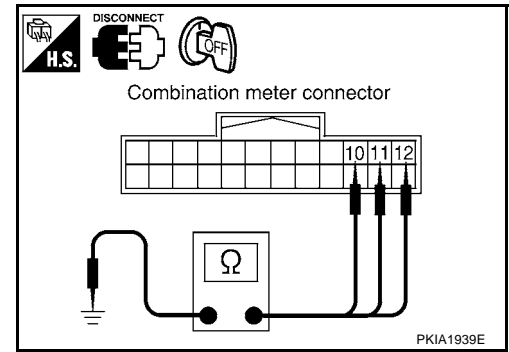
- Harness for open between combination meter and fuse
- Harness for open between unified meter and A/C amp. and fuse

COMBINATION METERS

3. CHECK GROUND CIRCUIT

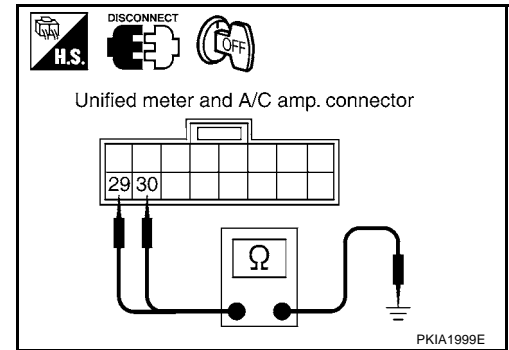
1. Check continuity between combination meter and ground.

Terminals			Continuity
(+) Connector		(-)	
Terminal (Wire color)			
M19	10 (B)	Ground	Yes
	11 (B)		
	12 (B)		



2. Check continuity between unified meter and A/C amp. and ground.

Terminals			Continuity
(+) Connector		(-)	
Terminal (Wire color)			
M49	29 (B)	Ground	Yes
	30 (B)		



OK or NG

- OK >> Inspection end.
NG >> Check ground harness.

Symptom Chart 1

AKS000WY

Trouble phenomenon	Possible cause
Indication is irregular for the speedometer and odo/trip meter.	Refer to DI-17, "Vehicle Speed Signal Inspection" .
Tachometer indication is malfunction.	Refer to DI-19, "Engine Speed Signal Inspection" .
Water temperature gauge indication is malfunction.	Refer to DI-19, "Water Temperature Signal Inspection" .
Fuel gauge indication is malfunction.	Refer to DI-19, "Fuel Level Sensor Signal Inspection 1" .
Fuel warning lamp indication is irregular.	Refer to DI-20, "Fuel Level Sensor Signal Inspection 2" .
Indications are irregular for more than one gauge.	Replace combination meter.
A/T position indicator is malfunction.	Refer to DI-77, "A/T INDICATOR" .
Illumination control does not operate.	Refer to DI-24, "Illumination Control Switch Inspection" .

Symptom Chart 2

AKS00323

Displayed item	Inspection contents	Possible cause
CAN COMM CIRC [U1000]	Inspect the CAN communication.	Refer to DI-22, "CAN Communication System Inspection" .
T/METER COMM CIRC [B2201]	Inspect the communication line between triple meter and unified meter and A/C amp.	Refer to DI-47, "Communication Line Inspection" in "TRIPLE METERS".
METER COMM CIRC [B2202]	Inspect the communication line between combination meter and unified meter and A/C amp.	Refer to DI-23, "Communication Line Inspection" .

COMBINATION METERS

Displayed item	Inspection contents	Possible cause
CODE A203	Inspect the fuel level sensor input signal.	Refer to DI-20, "Fuel Level Sensor Signal Inspection 3" .
CODE A204		<ul style="list-style-type: none"> Refer to DI-20, "Fuel Level Sensor Signal Inspection 3" . Even if vehicle has no malfunction, when fuel level becomes less than 10 ℓ (10-5/8 US quarts, 8-3/4 Imp quarts) and float of fuel level sensor goes down extremely because of shake, etc., it is regarded as a malfunction.
VEHICLE SPEED CIRC [B2205]	Inspect the vehicle speed input signal.	Refer to DI-17, "Vehicle Speed Signal Inspection" .
CODE A206	Inspect the A/T device output signal.	<ul style="list-style-type: none"> Refer to DI-24, "A/T Device Output Signal Inspection" . Even if vehicle has no malfunction, if A/T shift lever is held more than 2 seconds to up or down side, it is regarded as a malfunction.

Vehicle Speed Signal Inspection

AKS003L5

1. CHECK VDC/TCS/ABS CONTROL UNIT OR ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) SELF-DIAGNOSIS

Perform the following self-diagnosis.

- VDC/TCS/ABS control unit (with VDC system); refer to [BRC-101, "TROUBLE DIAGNOSIS"](#) .
- ABS actuator and electric unit (control unit) [without VDC system]; refer to [BRC-54, "TROUBLE DIAGNOSIS"](#) (with TCS) or [BRC-11, "TROUBLE DIAGNOSIS"](#) (without TCS).

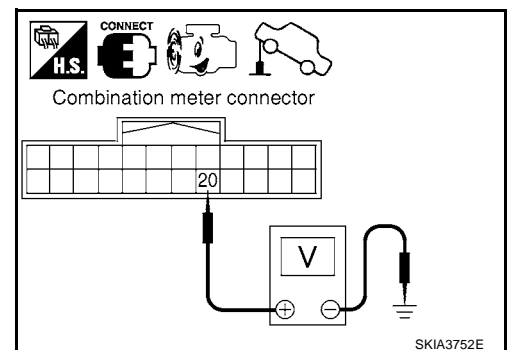
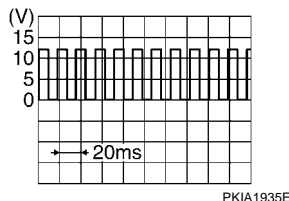
OK or NG

OK >> GO TO 2.

NG >> Check the applicable parts.

2. CHECK UNIFIED METER AND A/C AMP. OUTPUT SIGNAL

- Lift up drive wheels.
- Start engine and drive vehicle at approximately 40km/h (25MPH).
- Check voltage signal between combination meter harness connector M19 terminal 20 (W) and ground with simple oscilloscope of CONSULT-II.



OK or NG

OK >> Replace combination meter.

NG >> GO TO 3.

COMBINATION METERS

3. CHECK CONTINUITY BETWEEN COMBINATION METER AND UNIFIED METER AND A/C AMP.

1. Turn ignition switch to OFF.
2. Disconnect combination meter connector and unified meter and A/C amp. connector.
3. Check continuity (open circuit) between combination meter harness connector M19 terminal 20 (W) and unified meter and A/C amp. harness connector M49 terminal 26 (W).

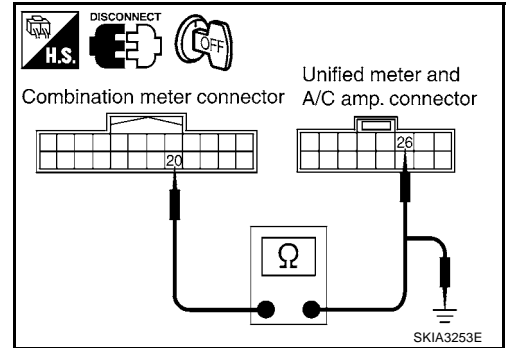
Continuity should exist.

4. Check continuity (short circuit) between combination meter harness connector M19 terminal 20 (W) and ground.

Continuity should not exist.

OK or NG

- OK >> Replace unified meter and A/C amp. Refer to [ATC-111](#), "[AUTO AMP](#)".
- NG >> Repair harness or connector.



COMBINATION METERS

Engine Speed Signal Inspection

AKS000X0

1. CHECK ECM SELF-DIAGNOSIS

Perform ECM self-diagnosis. Refer to [EC-80, "TROUBLE DIAGNOSIS"](#).

OK or NG

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

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

1. Start engine and select "METER A/C AMP" on CONSULT-II.
2. Using "TACHO METER" on the data monitor, compare the value of data monitor with tachometer pointer of combination meter.

OK or NG

- OK >> Replace unified meter and A/C amp. Refer to [ATC-111, "AUTO AMP"](#).
- NG >> Replace combination meter.

DATA MONITOR	
MONITOR	
TACHO METER	XXXX rpm

PKIA2090E

Water Temperature Signal Inspection

AKS000X1

1. CHECK ECM SELF-DIAGNOSIS

Perform the ECM self-diagnosis. Refer to [EC-80, "TROUBLE DIAGNOSIS"](#).

OK or NG

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

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

1. Start engine and select "METER A/C AMP" on CONSULT-II.
2. Using "W TEMP METER" on the data monitor, compare the value of data monitor with water temperature gauge pointer of combination meter.

Water temperature gauge pointer	Reference value of data monitor [°C (°F)]
Hot	Approx. 130 (266)
Middle	Approx. 70-105 (158-221)
Cold	Approx. 50 (122)

OK or NG

- OK >> Replace unified meter and A/C amp. Refer to [ATC-111, "AUTO AMP"](#).
- NG >> Replace combination meter.

DATA MONITOR	
MONITOR	
W TEMP METER	XX °C

PKIA2091E

Fuel Level Sensor Signal Inspection 1

AKS003L6

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.

COMBINATION METERS

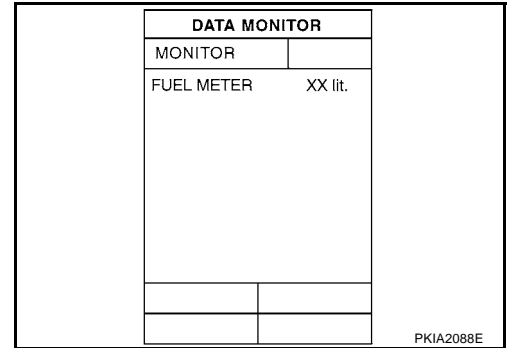
1. CHECK UNIFIED METER AND A/C AMP. INPUT SIGNAL

1. Select "METER A/C AMP" on CONSULT-II.
2. Using "FUEL METER" on the data monitor, compare the value of data monitor with fuel gauge pointer of combination meter.

Fuel gauge pointer	Reference value of data monitor [lit.]
Full	Approx. 73.8
Half	Approx. 41.7
Empty	Approx. 8.3

OK or NG

- OK >> GO TO 2.
NG >> Replace combination meter.



2. CHECK FUEL LEVEL SENSOR

Check components. Refer to [DI-26, "FUEL LEVEL SENSOR UNIT CHECK"](#) .

OK or NG

- OK >> GO TO 3.
NG >> Replace the applicable parts.

3. 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 unified meter and A/C amp. Refer to [ATC-111, "AUTO AMP"](#) .
NG >> Install the fuel level sensor unit properly.

Fuel Level Sensor Signal Inspection 2

AKS003L7

The following symptoms do not indicate a malfunction.

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. CHECK FUEL GAUGE

Check if fuel gauge is normally operating.

OK or NG

- OK >> Replace combination meter.
NG >> Go to [DI-19, "Fuel Level Sensor Signal Inspection 1"](#) .

Fuel Level Sensor Signal Inspection 3

AKS003L8

1. CHECK SELF-DIAGNOSIS RESULTS OF UNIFIED METER AND A/C AMP.

1. Confirm fuel level isn't low. If fuel level is low, supply a vehicle with fuel.
2. After erase self-diagnosis results, use "METER A/C AMP" on CONSULT-II again, and perform self-diagnosis of unified meter and A/C amp.

Self-diagnosis results content

- No malfunction detected>>Inspection end.
Malfunction detected>>GO TO 2.

COMBINATION METERS

2. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Check unified meter and A/C amp., fuel level sensor unit and terminals (unified meter and A/C amp.-side, fuel level sensor unit-side, harness-side) for looseness or bent terminals.

OK or NG

- OK >> GO TO 3.
NG >> Repair terminal or connector.

3. CHECK FUEL LEVEL SENSOR (SUB) CIRCUIT

1. Disconnect unified meter and A/C amp. connector and fuel level sensor unit (sub) connector.
2. Check continuity (open circuit) between unified meter and A/C amp. harness connector M49 terminal 28 (W/B) and fuel level sensor unit (sub) harness connector B28 terminal 1 (W/B).

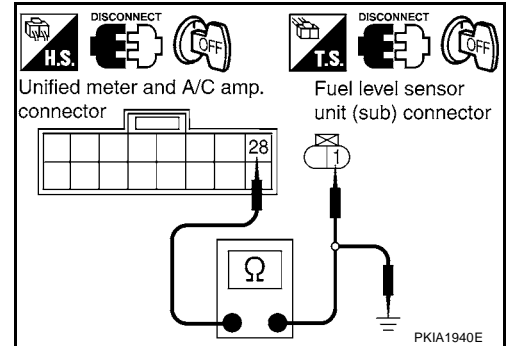
Continuity should exist.

3. Check continuity (short circuit) between unified meter and A/C amp. harness connector M49 terminal 28 (W/B) and ground.

Continuity should not exist.

OK or NG

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



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

1. Disconnect fuel level sensor unit and fuel pump (main) connector.
2. Check continuity (open circuit) between fuel level sensor unit (sub) harness connector B28 terminal 2 (Y) and fuel level sensor unit and fuel pump (main) harness connector B27 terminal 2 (Y).

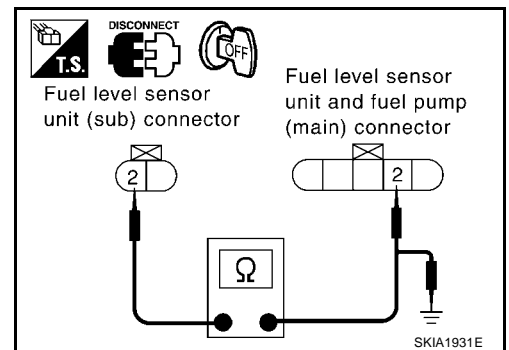
Continuity should exist.

3. Check continuity (short circuit) between fuel level sensor unit (sub) harness connector B28 terminal 2 (Y) and ground.

Continuity should not exist.

OK or NG

- OK >> GO TO 5.
NG >> Repair harness or connector.



5. CHECK FUEL LEVEL SENSOR (MAIN) CIRCUIT

1. Check continuity (open circuit) between fuel level sensor unit and fuel pump (main) harness connector B27 terminal 5 (B/R) and unified meter and A/C amp. harness connector M49 terminal 36 (R/B).

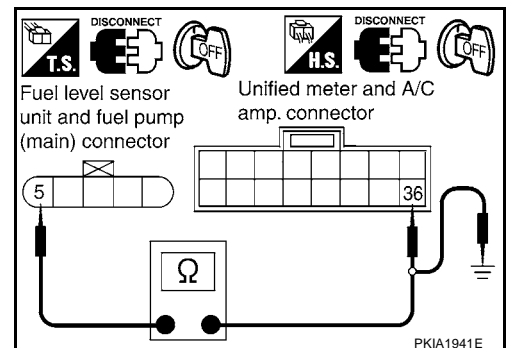
Continuity should exist.

2. Check continuity (short circuit) between fuel level sensor unit and fuel pump (main) harness connector B27 terminal 5 (B/R) and ground.

Continuity should not exist.

OK or NG

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



COMBINATION METERS

6. CHECK FUEL LEVEL SENSOR

Check components. Refer to [DI-26, "FUEL LEVEL SENSOR UNIT CHECK"](#) .

OK or NG

OK >> Replace unified meter and A/C amp. Refer to [ATC-111, "AUTO AMP"](#) .

NG >> Replace the applicable parts.

CAN Communication System Inspection

AKS00318

1. CHECK CAN COMMUNICATION

1. Start engine.
2. Select "CAN DIAG SUPPORT MNTR" in "DATA MONITOR" mode for "METER A/C AMP" with CONSULT-II.
3. Print out CONSULT-II screen.

Normal conditions		Error conditions (examples)
With M/T models	Without A/T models	
CAN CIRC1: OK	CAN CIRC1: OK	CAN CIRC1: UNKWN
CAN CIRC2: OK	CAN CIRC2: OK	CAN CIRC2: UNKWN
CAN CIRC3: UNKWN	CAN CIRC3: OK	CAN CIRC3: UNKWN
CAN CIRC4: OK	CAN CIRC4: OK	CAN CIRC4: UNKWN
CAN CIRC5: OK	CAN CIRC5: OK	CAN CIRC5: UNKWN
CAN CIRC6: OK	CAN CIRC6: OK	CAN CIRC6: UNKWN
CAN CIRC7: UNKWN	CAN CIRC7: UNKWN	CAN CIRC7: UNKWN
CAN CIRC8: UNKWN	CAN CIRC8: UNKWN	CAN CIRC8: UNKWN
CAN CIRC9: UNKWN	CAN CIRC9: UNKWN	CAN CIRC9: UNKWN
CAN CIRC10: UNKWN	CAN CIRC10: UNKWN	CAN CIRC10: UNKWN
CAN CIRC11: UNKWN	CAN CIRC11: UNKWN	CAN CIRC11: UNKWN
CAN CIRC12: UNKWN	CAN CIRC12: UNKWN	CAN CIRC12: UNKWN
CAN CIRC13: UNKWN	CAN CIRC13: UNKWN	CAN CIRC13: UNKWN
CAN CIRC14: OK	CAN CIRC14: UNKWN	CAN CIRC14: UNKWN
CAN 1 STAT: 0	CAN 1 STAT: 0	CAN 1 STAT: 40
CAN 2 STAT: 0	CAN 2 STAT: 0	CAN 2 STAT: 40
CAN 3 STAT: 0	CAN 3 STAT: 0	CAN 3 STAT: 40
CAN 4 STAT: 0	CAN 4 STAT: 0	CAN 4 STAT: 40
CAN 5 STAT: 0	CAN 5 STAT: 0	CAN 5 STAT: 40
CAN 6 STAT: 0	CAN 6 STAT: 0	CAN 6 STAT: 40
CAN 7 STAT: 0	CAN 7 STAT: 0	CAN 7 STAT: 0
CAN 8 STAT: 0	CAN 8 STAT: 0	CAN 8 STAT: 0
CAN 9 STAT: 0	CAN 9 STAT: 0	CAN 9 STAT: 0
CAN 10 STAT: 0	CAN 10 STAT: 0	CAN 10 STAT: 0
CAN 11 STAT: 0	CAN 11 STAT: 0	CAN 11 STAT: 0
CAN 12 STAT: 0	CAN 12 STAT: 0	CAN 12 STAT: 0
CAN 13 STAT: 0	CAN 13 STAT: 0	CAN 13 STAT: 0
CAN 14 STAT: 0	CAN 14 STAT: 0	CAN 14 STAT: 40

>> Go to "CAN system". Refer to [LAN-4, "Precautions When Using CONSULT-II"](#) .

COMBINATION METERS

Communication Line Inspection

AKS00319

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Check combination meter, unified meter and A/C amp. and terminals (combination meter-side, unified meter and A/C amp.-side, harness-side) for looseness or bent terminals.

OK or NG

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

2. CHECK CONTINUITY COMMUNICATION CIRCUIT 1

1. Disconnect combination meter connector and unified meter and A/C amp. connector.
2. Check continuity (open circuit) between combination meter harness connector M19 terminal 22 (L/OR) and unified meter and A/C amp. harness connector M48 terminal 9 (L/OR).

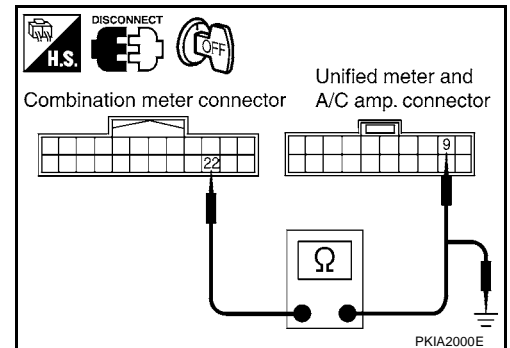
Continuity should exist.

3. Check continuity (short circuit) between combination meter harness connector M19 terminal 22 (L/OR) and ground.

Continuity should not exist.

OK or NG

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



3. CHECK CONTINUITY COMMUNICATION CIRCUIT 2

1. Check continuity (open circuit) between combination meter harness connector M19 terminal 21 (R/G) and unified meter and A/C amp. harness connector M48 terminal 19 (R/G).

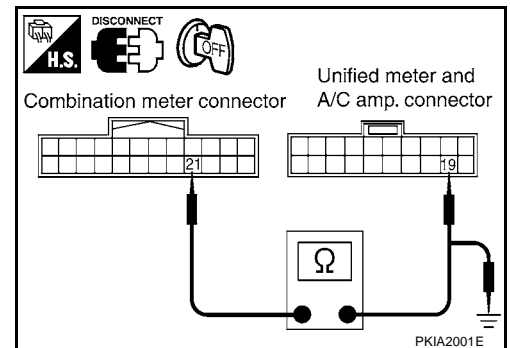
Continuity should exist.

2. Check continuity (short circuit) between combination meter harness connector M19 terminal 21 (R/G) and ground.

Continuity should not exist.

OK or NG

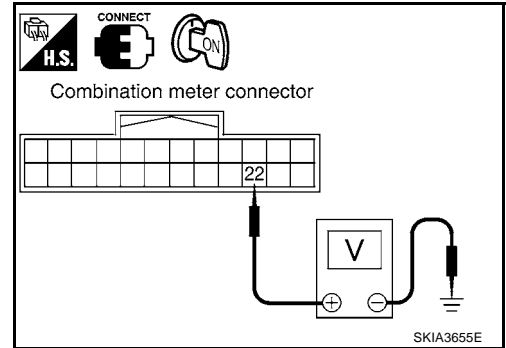
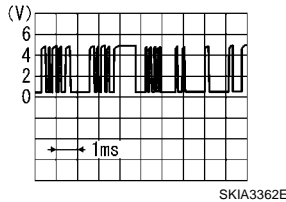
- OK >> GO TO 4.
NG >> Repair harness or connector.



COMBINATION METERS

4. CHECK VOLTAGE SIGNAL OF UNIFIED METER AND A/C AMP.

1. Connect combination meter connector and unified meter and A/C amp. connector.
2. Ignition switch turn ON.
3. Check the signal between combination meter harness connector M19 terminal 22 (L/OR) and ground with simple oscilloscope of CONSULT-II.



OK or NG

- OK >> Replace combination meter.
NG >> Replace unified meter and A/C amp. Refer to [ATC-111, "AUTO AMP"](#) .

A/T Device Output Signal Inspection

AKS003RM

1. CHECK SELF-DIAGNOSIS RESULTS OF UNIFIED METER AND A/C AMP.

After erase self-diagnosis results, use "METER A/C AMP" on CONSULT-II again, and perform self-diagnosis of unified meter and A/C amp.

Self-diagnosis results content

- No malfunction detected>>Inspection end.
Malfunction detected>>GO TO 2.

2. CHECK A/T DEVICE

Check manual mode switch system. Refer to [AT-141, "DTC P1815 MANUAL MODE SWITCH"](#) .

OK or NG

- OK >> Replace unified meter and A/C amp. Refer to [ATC-111, "AUTO AMP"](#) .
NG >> Replace the applicable parts.

Illumination Control Switch Inspection

AKS003IR

1. CHECK CONNECTOR

1. Remove combination meter. Refer to [DI-26, "Removal and Installation for Combination Meter"](#) .
2. Remove rear finisher to combination meter. Refer to [DI-27, "Disassembly and Assembly for Combination Meter"](#) .
3. Check illumination control switch connector for looseness.

OK or NG

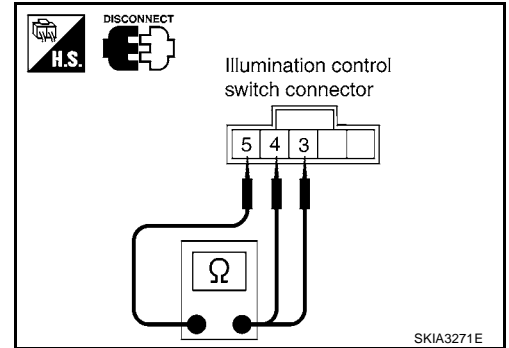
- OK >> GO TO 2.
NG >> Repair illumination control switch connector.

COMBINATION METERS

2. CHECK SWITCH CIRCUIT

1. Disconnect illumination control switch connector.
2. Check continuity between illumination control switch harness connector terminals 3, 4 and 5.

Terminal		Condition	Continuity
3	5	Illumination control switch upper side (BRIGHTEN) is pushed.	Yes
		Illumination control switch upper side (BRIGHTEN) is released.	No
4	5	Illumination control switch lower side (DARKEN) is pushed.	Yes
		Illumination control switch lower side (DARKEN) is released.	No



OK or NG

- OK >> Replace combination meter.
NG >> Replace illumination control switch.

Fuel Gauge Pointer Fluctuates, Indicator Wrong Value or Varies

AKS000X3

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.

Fuel Gauge Does Not Move to Full-position

AKS000X4

1. QUESTION 1

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. QUESTION 2

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. QUESTION 3

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. QUESTION 4

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

Yes or No

- Yes >> Check the fuel level sensor unit. Refer to [DI-26. "FUEL LEVEL SENSOR UNIT CHECK"](#) .
No >> The float arm may interfere or bind with any of the components in the fuel tank.

COMBINATION METERS

Electrical Components Inspection FUEL LEVEL SENSOR UNIT CHECK

AKS000X7

For removal, refer to [FL-5, "FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY"](#).

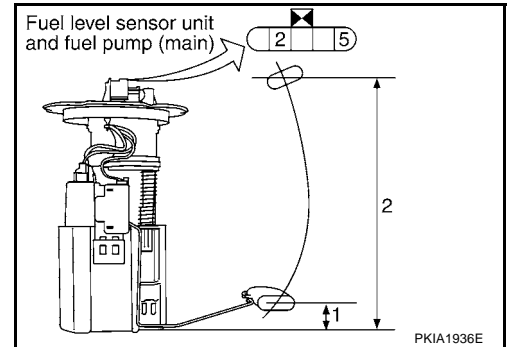
Check fuel level sensor unit and fuel pump (main)

1. Check the resistance between terminals 2 and 5.

Ohmmeter		Float position mm (in)			Resistance value (Ω)
(+)	(-)				
2	5	*1	Empty	30 (1.18)	Approx. 80
		*2	Full	210 (8.27)	Approx. 3

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

2. If the results of check is NG, perform check the fuel level sensor unit and fuel pump (main) harness.

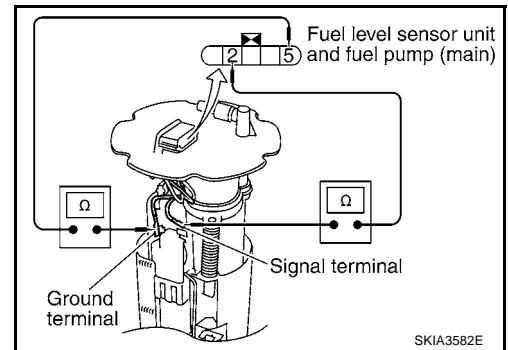


Check fuel level sensor unit and pump (main) harness

1. Check the continuity following terminals.

Terminal	Continuity
2 - Signal terminal	Yes
5 - Ground terminal	

2. If the results of check is NG, replace fuel pump assembly. If the results of check is OK, replace fuel level sensor unit.

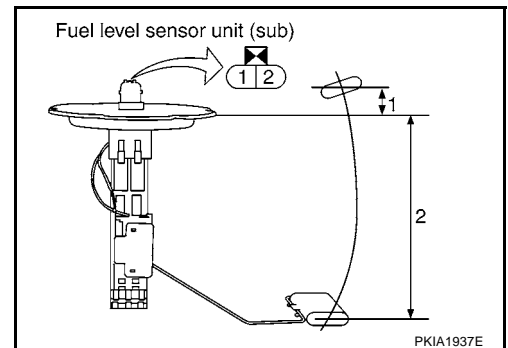


Check fuel level sensor unit (sub)

Check the resistance between terminals 1 and 2.

Ohmmeter		Float position mm (in)			Resistance value Ω
(+)	(-)				
1	2	*1	Full	8 (0.31)	Approx. 3
		*2	Empty	175 (6.89)	Approx. 43

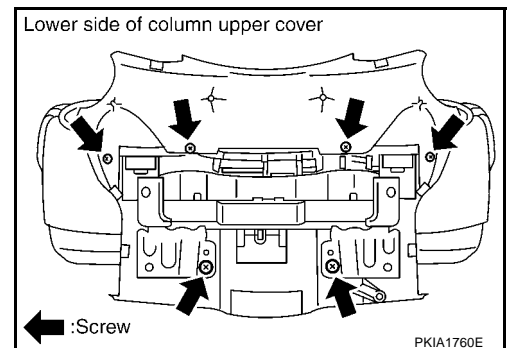
*1 and *2: When float rod is in contact with stopper.



Removal and Installation for Combination Meter REMOVAL

AKS000X8

1. Remove instrument driver panel lower. Refer to [IP-12, "Removal and Installation"](#).
2. Remove steering column lower cover. Refer to [IP-12, "Removal and Installation"](#).
3. Remove bolts (4) and remove column upper cover and combination meter assembly. Refer to [IP-12, "Removal and Installation"](#).
4. Remove screws (6) and remove combination meter.



INSTALLATION

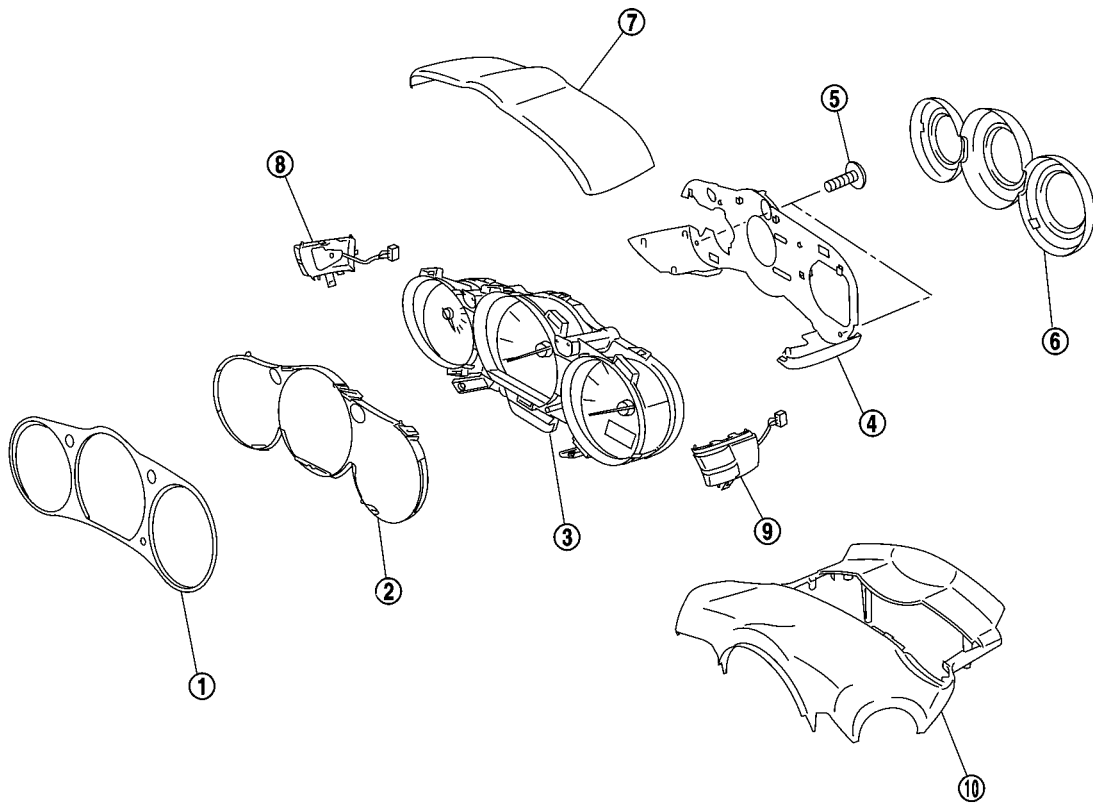
Install in the reverse order of removal.

COMBINATION METERS

Disassembly and Assembly for Combination Meter

AKS000X9

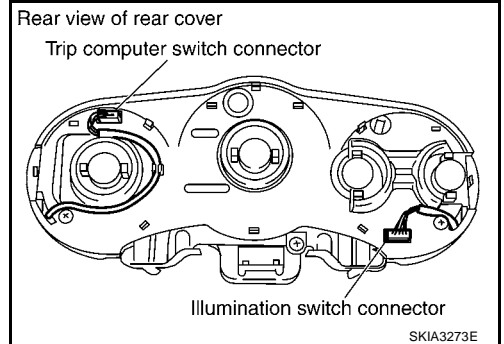
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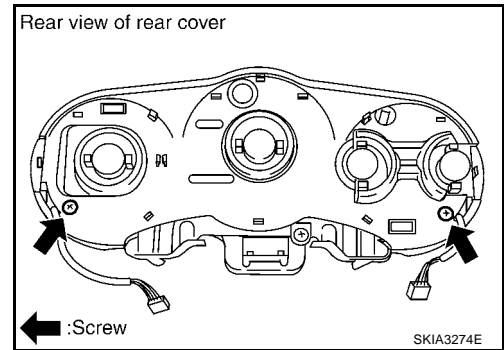
- | | | |
|---------------------------------|--------------------------------|-------------------------------|
| 1. Front finisher | 2. Front cover | 3. Unified meter control unit |
| 4. Rear cover | 5. Screws | 6. Rear finisher |
| 7. Upper cover | 8. Illumination control switch | 9. Trip computer switch |
| 10. Steering column upper cover | | |

1. Remove screws (6) to separate steering column upper cover.
2. Disengage tabs (2) to separate front finisher.
3. Disengage tabs (8) to separate rear finisher.
4. Disconnect illumination control switch connector and trip computer switch connector.



COMBINATION METERS

5. Remove screws (2) and remove rear cover.



6. Disengage tabs (4) to separate upper cover from rear cover.
7. Remove illumination control switch.
8. Remove trip computer switch.
9. Disengage tabs (7) to separate front cover.

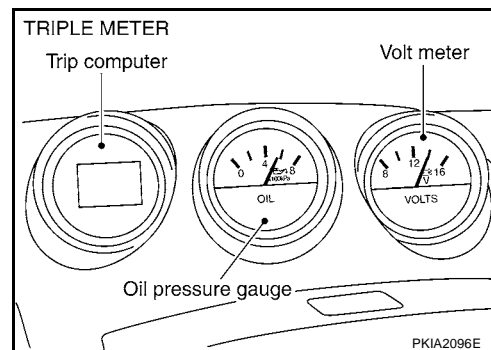
TRIPLE METERS

PFP:24845

System Description

TRIPLE METER

- Oil pressure gauge and voltmeter are controlled by the triple meter.
- Trip computer are controlled by signals from the unified meter and A/C amp.
- Trip computer segment can be checked in self-diagnosis mode of combination 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 2,
- to combination meter terminal 24 and
- to unified meter and A/C amp. 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 3 and
- to combination meter terminal 23, and
- through 10A fuse [No.12, located in the fuse block (J/B)]
- to unified meter and A/C amp. terminal 22.

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

- through 15A fuse [No.10, located in the fuse block (J/B)] and
- through 15A fuse [No.11, located in the fuse block (J/B)]
- to unified meter and A/C amp. terminal 46.

Ground is supplied

- to triple meter terminal 1,
- to combination meter terminals 10,11 and 12 and
- to unified meter and A/C amp. terminals 29 and 30
- through body grounds M30 and M66.

TRIP COMPUTER

Function

The display of the trip computer is situated in the triple meter. When the ignition switch is turned to ON, the display scrolls all the modes of the trip computer and then shows the mode chosen before the ignition switch is turned OFF.

The trip computer can indicate the following items.

- Vehicle speed
- Outside air temperature
- DTE (distance to empty)
- Average fuel consumption
- Average vehicle speed
- Trip time
- Trip distance
- Stopwatch
- Tire pressure

TRIPLE METERS

- Shift-up indicator setting

Vehicle speed indication

With ignition switch ON or START position, trip computer displays vehicle speed according to vehicle speed signal from unified meter and A/C amp. Unified meter and A/C amp. received this signal from the combination meter.

The vehicle speed indication is displayed in km/h (MPH) while driving.

Outside air temperature indication

With ignition switch ON position, trip computer displays outside air temperature according to signal of outside air temperature from unified meter and A/C amp. Unified meter and A/C amp. receives these signals from outside air temperature sensor.

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

Signal is supplied

- through ambient sensor terminal 1
- to unified meter and A/C amp. terminal 39.
- through unified meter and A/C amp. terminal 10
- to triple meter terminal 5.

Indication range is between -30 and 55°C (-22 and 131°F). When outside air temperature is less than -30°C (-22°F) or more than 55°C (131°F), display shows "--". When outside temperature is less than 3°C (37°F) continuously, display will "ICY" indicator illuminate as warning. In this case, the display will change to the outside air temperature mode even though the display is showing a different mode. The "ICY" indicator will continue illuminate as long as the temperature remains below 4°C (39°F).

DTE (Distance to empty) indication

With ignition switch ON position, trip computer displays DTE according to signal to DTE from unified meter and A/C amp.

The DTE indication provides the driver with an estimation of the distance that can be driven before refueling. The DTE is calculated by signals from the fuel level sensor unit (fuel remaining), ECM (fuel consumption) and VDC/TCS/ABS control unit or ABS actuator and electric unit (control unit) [vehicle speed].

The indication will be refreshed every 30 seconds. When fuel remaining is less than approximately 10 ℓ (10-5/8 US quarts, 8-3/4 Imp quarts), the indication will "dte" indicator blink as a warning. If the fuel remaining is less than approximately 8 ℓ (8-1/2 US quarts, 7 Imp quarts), the indication will show "----". In this case, the display will change to the DTE mode even though the display is showing a different mode. Press trip computer mode switch if you wish to return to the mode that was selected before the warning occurred. The "dte" indicator will remain blinking until the vehicle is refueled. When the battery is disconnected and reconnected, DTE mode will display "----" for 30 seconds.

Average fuel consumption indication

With ignition switch ON position, trip computer displays average fuel consumption according to signal of average fuel consumption from unified meter and A/C amp. Average fuel consumption is calculated by signals from the VDC/TCS/ABS control unit or ABS actuator and electric unit (control unit) [vehicle speed] and the ECM (fuel consumption). The indication will be refreshed every 30 seconds. If average fuel consumption is reset, average vehicle speed will be reset at the same time. At about 1/3 miles (500 m) or for 80 seconds after resetting, the display shows "----".

Average vehicle speed indication

With ignition switch ON position, trip computer displays average vehicle speed according to signal of average vehicle speed from unified meter and A/C amp.

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.

Trip time indication

With ignition switch ON position, trip computer displays trip time according to trip time signal from unified meter and A/C amp.

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

TRIPLE METERS

Trip distance indication

With ignition switch ON position, trip computer displays trip distance according to trip distance signal from unified meter and A/C amp.

Trip distance is calculated by vehicle speed signal from the VDC/TCS/ABS control unit or ABS actuator and electric unit (control unit) [vehicle speed] with CAN communication line. If trip distance is reset, trip time will be reset at the same time.

Stopwatch indication

With ignition switch ON position, trip computer displays stopwatch according to trip computer setting switch signal from unified meter and A/C amp.

Stopwatch can be changed in START, STOP or RESET by pressing trip computer setting switch. After 100 hours, the time will start from the reset display again. Even if the display is switched to the other mode while the time is starting, the stopwatch continues to advance until you stop the time in the stopwatch mode. When the ignition switch is turned OFF, the time is reset.

Tire pressure indication

With ignition switch ON position, trip computer displays tire pressure according to signals of each tire pressure indication, tire pressure warning and tire pressure irregular from unified meter and A/C amp. Unified meter and A/C amp. receives these signals from tire pressure warning control unit with CAN communication line.

The tire pressure indicator shows tire pressure 0 - 51 psi (0 - 353kPa, 0 - 3.6kg/cm²) of all wheels (except the spare tire) by sending a signal from a tire pressure sensor that is installed in each wheel. If the tire pressure signal cannot be received correctly, the display shows "----". If the vehicle is being driven with very low tire pressure or a flat tire, the tire pressure indicator mode is automatically selected and "PSI" indicator will blink as warning. When pressing the trip computer mode switch, return to the mode that was selected before the warning occurred. The "PSI" indicator will continue blinking until the tire pressure of each tire is properly adjusted.

Shift-up indicator setting indication

With ignition switch ON position, trip computer displays shift-up indicator setting according to trip computer setting switch signal from unified meter and A/C amp. Shift-up indicator in combination meter is setting according to trip computer setting switch signal from unified meter and A/C amp.

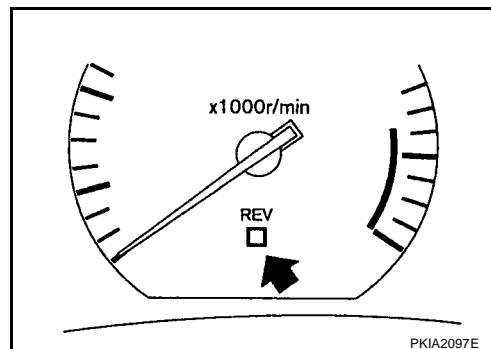
The shift-up indicator setting indication is used to set the desired engine speed (rpm) for the shift-up indicator (situated in the tachometer) to illuminate. When the engine speed approaches or reaches the set figure, the shift-up indicator will flash or illuminate to show the driver the timing for shifting into a higher gear. The shift-up indicator will start flashing when the engine speed is within 500 rpm of the set figure while driving, and then illuminate after the engine speed reaches the set figure. The figure of engine speed can be changed between 2,000 and 8,000 rpm by pressing trip computer setting switch. Pressing the trip computer setting switch for less than approximately 1 second will add the figure by 100 rpm. If pressing for more than approximately 1 second, the figure will increase by 500 rpm.

For example, you can use the shift-up indicator when driving as follows:

- If the maximum engine speed is desired, set the figure at 6,600 rpm. (The indicator starts flashing from about 6,100 rpm and comes on steady at 6,600 rpm.)
- If the maximum acceleration performance is desired, set the figure at 4,800 rpm. (The indicator starts flashing from about 4,300 rpm and comes on steady at 4,800 rpm.)

NOTE:

- There may be a lag between the timing of the shift-up indicator illumination and the tachometer indication.
- If the battery cable is disconnected, the set engine speed will be returned to the initial figure (6,600 rpm).
- This is also available for the purpose of breaking in to the vehicle.

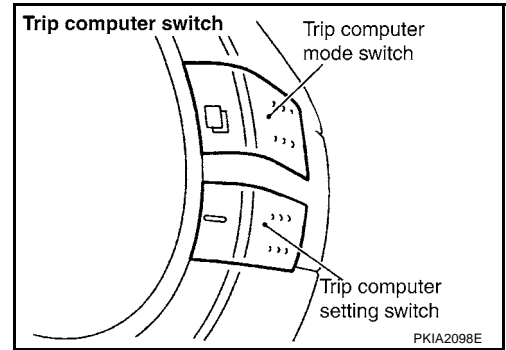


TRIPLE METERS

How to change/reset indication

When the ignition switch is turned to ON, modes of the trip computer can be selected by pressing trip computer mode switch. The switches for the trip computer are located on the right side of the combination meter. Indication can be changed in the following order by momentarily depressing the trip computer mode switch. Vehicle speed → Outside air temperature → DTE → Average fuel consumption and average vehicle speed → Trip time and trip distance → Stopwatch → Tire pressure → Shift-up indicator setting.

Holding the trip computer setting switch for more than 0.8 second will reset the indication of the currently displayed mode (Average fuel consumption, average vehicle speed, trip time, trip distance or stopwatch).



NOTE:

When the **OUTSIDE AIR TEMPERATURE** warning, **TIRE PRESSURE** warning and the **DTE** warning match warning conditions at the same time, the display automatically indicates the **OUTSIDE AIR TEMPERATURE**.

OIL PRESSURE GAUGE

The oil pressure gauge indicates engine oil pressure drawn from oil pressure sensor.

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

- to triple meter terminal 7
- through oil pressure sensor terminal 3.

And triple meter receives oil pressure signal from oil pressure sensor

- through oil pressure sensor terminal 2.
- to triple meter terminal 8.

NOTE:

This gauge is not designed to indicate low oil level. Use the oil level gauge to check the oil level.

VOLTMETER

When the ignition switch is turned to the ON position, the voltmeter indicates the battery voltage drawn from battery, while the engine is running, it indicates the alternator voltage of about 11 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 3.

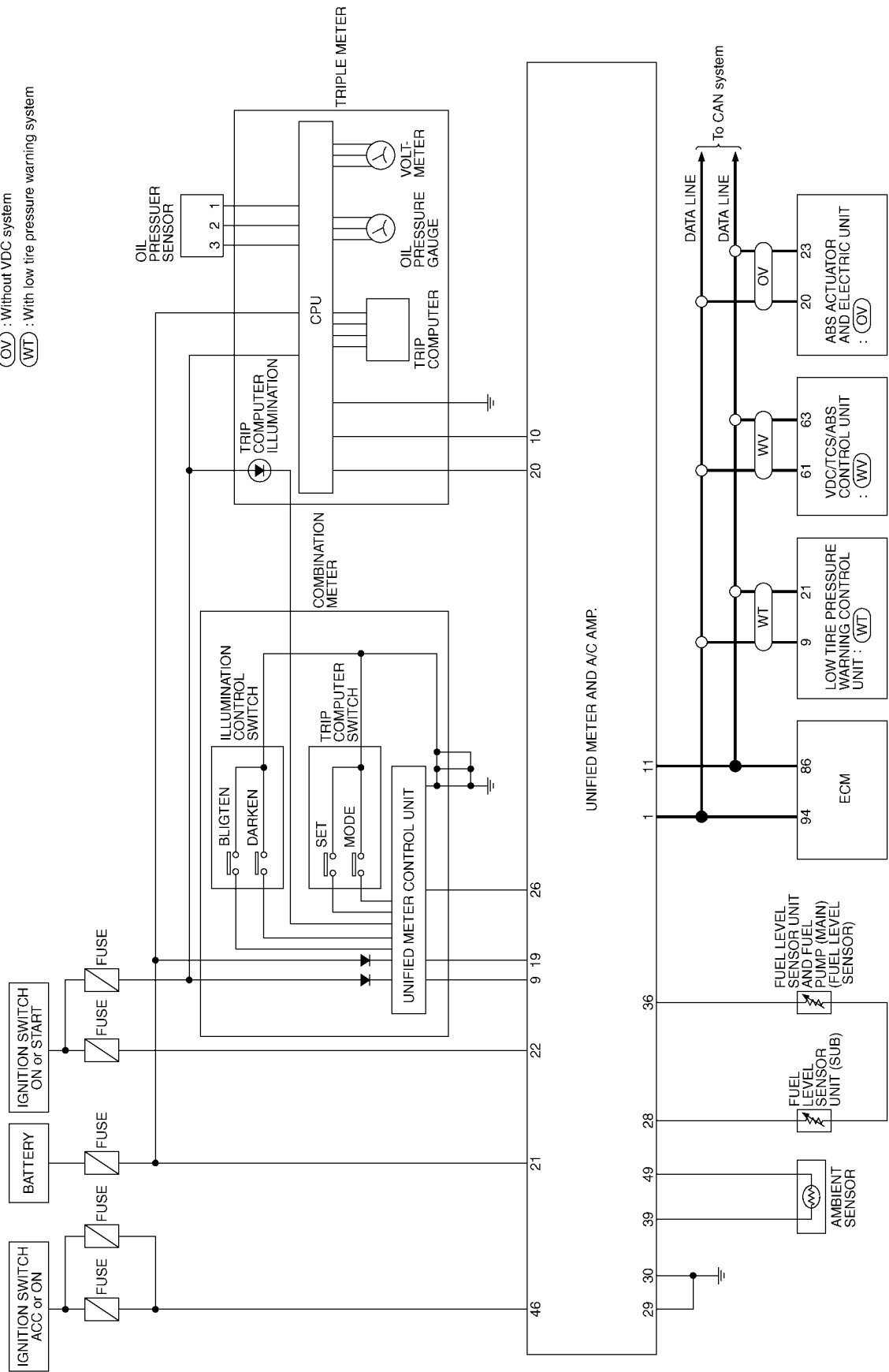
Ground is supplied

- to triple meter terminal 1
- through body grounds M30 and M66.

Schematic

AKS003IP

- (WV) : With VDC system
- (OV) : Without VDC system
- (WT) : With low tire pressure warning system



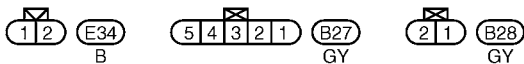
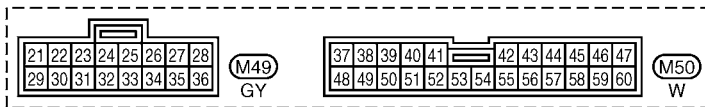
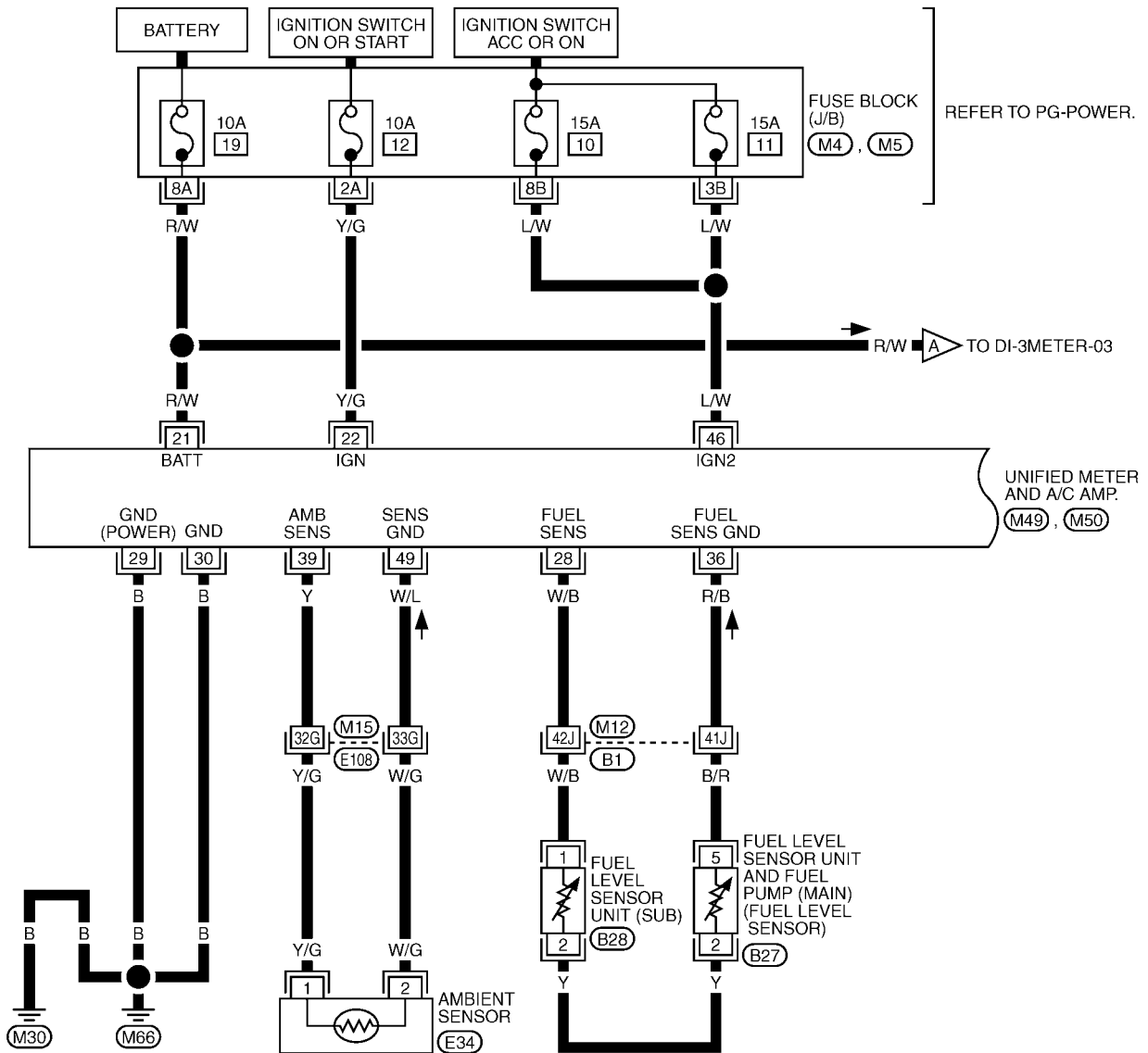
TKWT0496E

TRIPLE METERS

Wiring Diagram — 3METER —

AKS002VO

DI-3METER-01

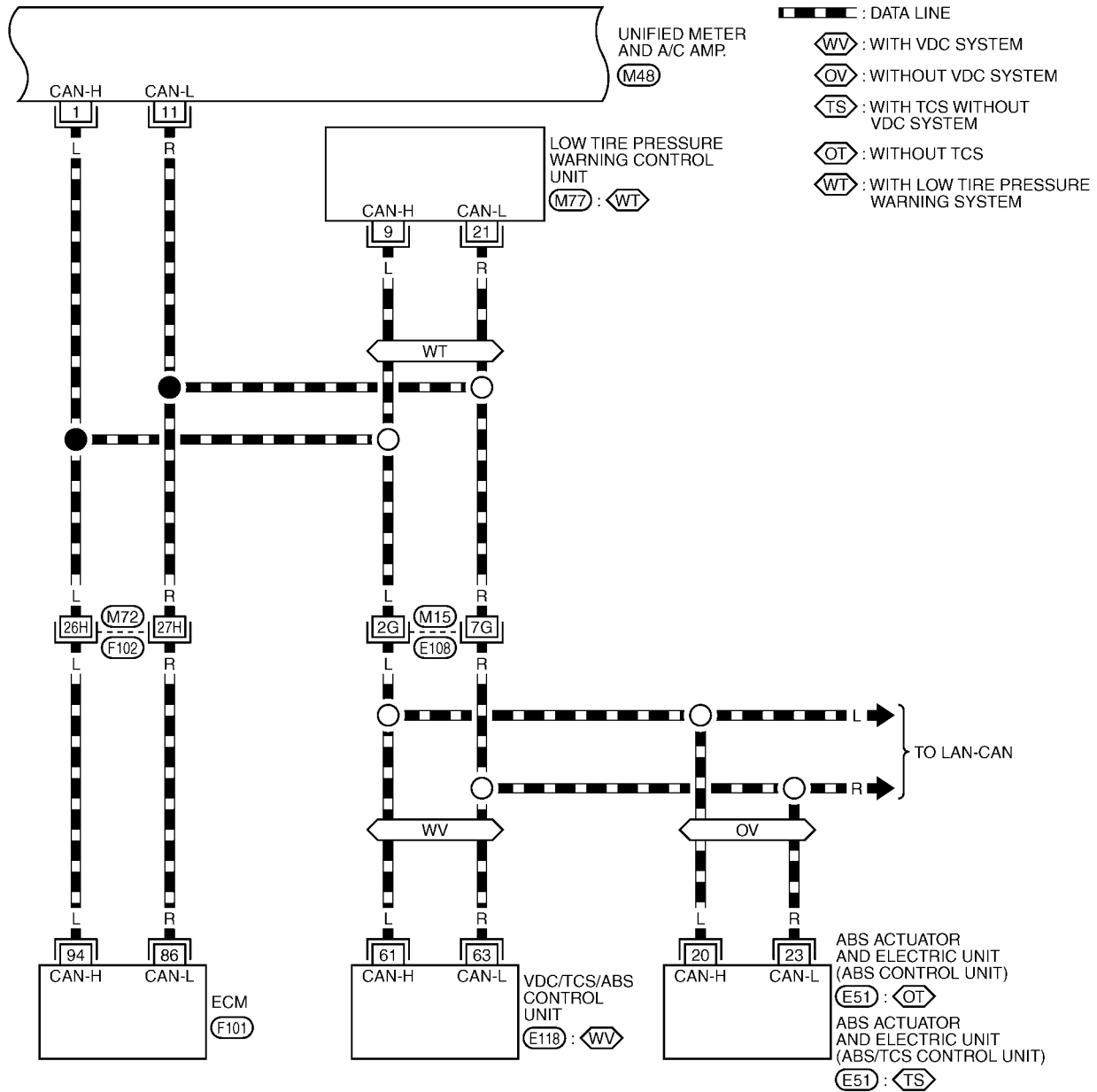


REFER TO THE FOLLOWING.
 (E108), (B1) -SUPER MULTIPLE JUNCTION (SMJ)
 (M4), (M5) -FUSE BLOCK-JUNCTION BOX (J/B)

TKWT0497E

TRIPLE METERS

DI-3METER-02



1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

(M48)
GY



12	11	10	9	8	7	6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13

(M77)
W

REFER TO THE FOLLOWING.

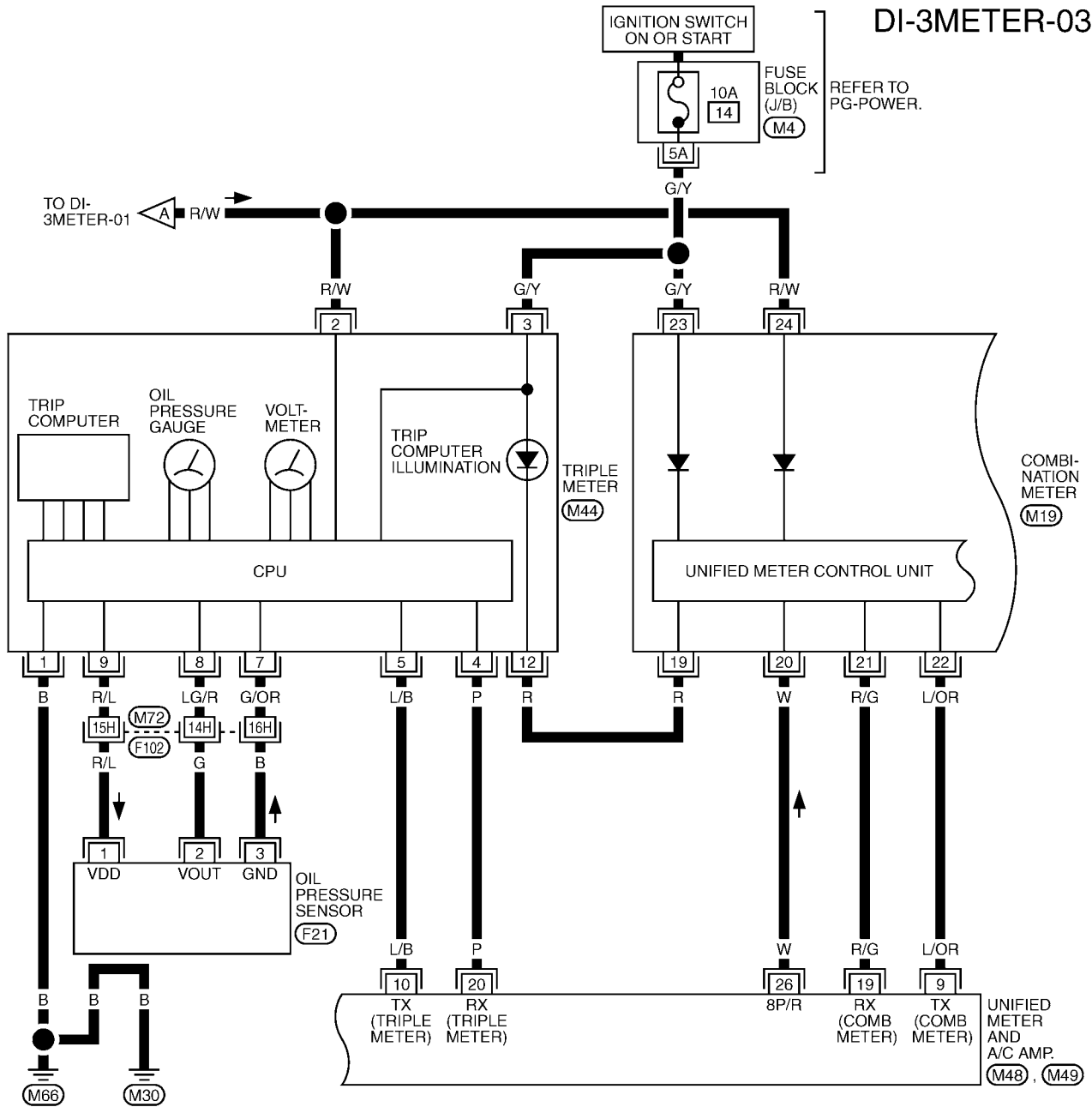
(E108), (F102) -SUPER MULTIPLE JUNCTION (SMJ)

(E51), (E118), (F101) -ELECTRICAL UNITS

TKWT0498E

TRIPLE METERS

DI-3METER-03



12	11	10	9	8	7	6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13

(M19)
W

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

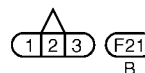
(M44)
W

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

(M48)
GY

21	22	23	24	25	26	27	28
29	30	31	32	33	34	35	36

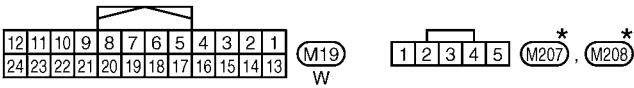
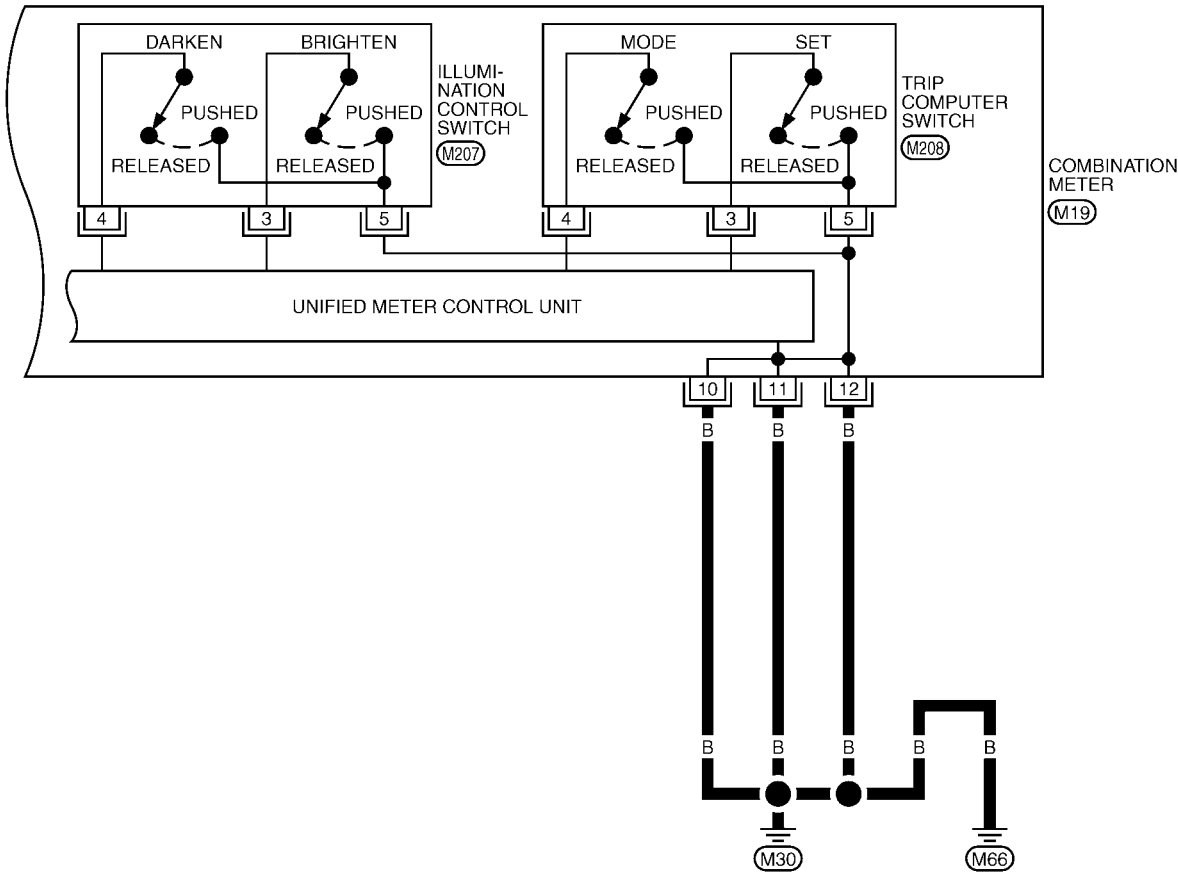
(M49)
GY



REFER TO THE FOLLOWING.

(F102) -SUPER MULTIPLE JUNCTION (SMJ)

(M4) -FUSE BLOCK-JUNCTION BOX (J/B)


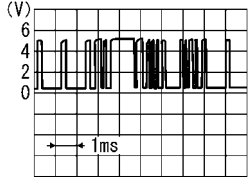


★: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TRIPLE METERS

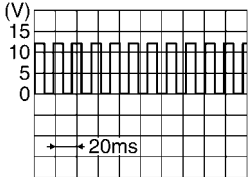
Terminals and Reference Value for Triple Meter

AKS002VP

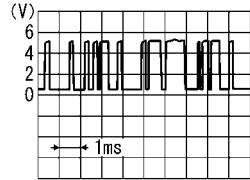
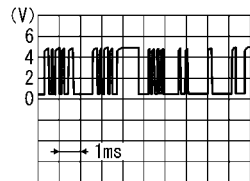
TERMI- NAL	WIRE COLOR	ITEM	CONDITION		REFERENCE VALUE (V)
			Ignition switch	Operation or condition	
1	B	Ground	ON	—	Approx. 0
2	R/W	Battery power supply	OFF	—	Battery voltage
3	G/Y	Ignition switch ON or START	ON	—	Battery voltage
4	P	TX communication line (To unified meter and A/C amp.)	ON	—	 <p>SKIA3364E</p>
5	L/B	RX communication line (From unified meter and A/C amp.)	ON	—	 <p>SKIA3363E</p>
7	G/OR	Oil pressure sensor ground	ON	—	Approx. 0
8	LG/R	Oil pressure sensor signal	ON	Engine stopped.	Approx. 1
				Engine running. (When the oil pressure is 500kpa.)	Approx. 3
9	R/L	Oil pressure sensor power supply	ON	—	Approx. 5
12	R	Illumination signal	ON	—	Approx. 0

Terminals and Reference Value for Combination Meter

AKS003NG

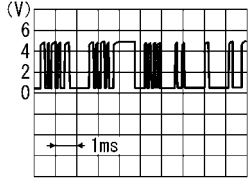
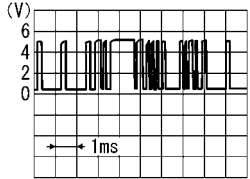
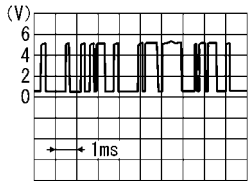
TERMI- NAL	WIRE COLOR	ITEM	CONDITION		REFERENCE VALUE (V)
			Ignition switch	Operation or condition	
10	B	Ground	ON	—	Approx. 0
11	B	Ground	ON	—	Approx. 0
12	B	Ground	ON	—	Approx. 0
19	R	Illumination signal	ON	—	Approx. 0
20	W	Vehicle speed signal (8-pulse)	ON	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	 <p>PKIA1935E</p>

TRIPLE METERS

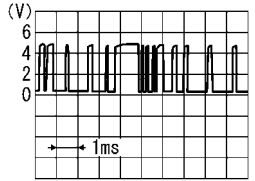
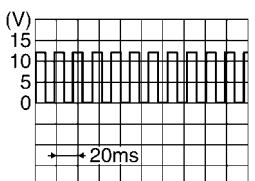
TERMI- NAL	WIRE COLOR	ITEM	CONDITION		REFERENCE VALUE (V)
			Ignition switch	Operation or condition	
21	R/G	TX communication line (To unified meter and A/C amp.)	ON	—	 SKIA3361E
22	L/OR	RX communication line (From unified meter and A/C amp.)	ON	—	 SKIA3362E
23	G/Y	Ignition switch ON or START	ON	—	Battery voltage
24	R/W	Battery power supply	OFF	—	Battery voltage

Terminals and Reference Value for Unified Meter and A/C Amp.

AKS0031Z

TERMI- NAL	WIRE COLOR	ITEM	CONDITION		REFERENCE VALUE (V)
			Ignition switch	Operation or condition	
1	L	CAN-H	—	—	—
9	L/OR	TX communication line (To combination meter)	ON	—	 SKIA3362E
10	L/B	TX communication line (To triple meter)	ON	—	 SKIA3363E
11	R	CAN-L	—	—	—
19	R/G	RX communication line (From combination meter)	ON	—	 SKIA3361E

TRIPLE METERS

TERMI- NAL	WIRE COLOR	ITEM	CONDITION		REFERENCE VALUE (V)
			Ignition switch	Operation or condition	
20	P	RX communication line (From triple meter)	ON	—	 SKIA3364E
21	R/W	Battery power supply	OFF	—	Battery voltage
22	Y/G	Ignition switch ON or START	ON	—	Battery voltage
26	W	Vehicle speed signal (8-pulse)	ON	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	 PKIA1935E
28	W/B	Fuel level sensor signal	—	—	Refer to DI-26, "FUEL LEVEL SENSOR UNIT CHECK" .
29	B	Ground (For power)	ON	—	Approx. 0
30	B	Ground	ON	—	Approx. 0
36	R/B	Fuel level sensor signal ground	ON	—	Approx. 0
39	Y	Ambient sensor signal	—	—	Refer to ATC-100, "Ambient Sensor Cir- cuit" .
46	L/W	Ignition switch ACC or ON	ACC	—	Battery voltage
49	W/L	Ambient sensor signal ground	ON	—	Approx. 0

Meter/Gauges Operation and Trip Computer SELF-DIAGNOSIS FUNCTION

AKS002VQ

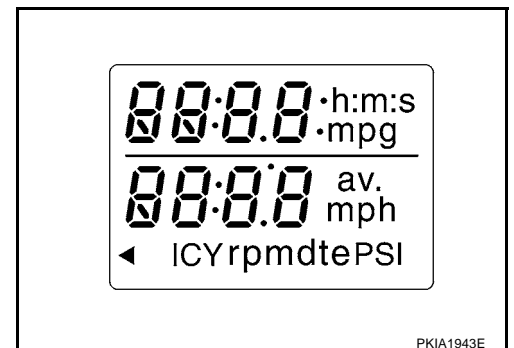
- Trip computer segment operation can be checked in self-diagnosis mode of combination meter.
- Meters/gauges can be checked in self-diagnosis mode of combination meter.

HOW TO ALTERNATE DIAGNOSIS MODE

1. While pushing the odo/trip meter switch, turn the ignition switch ON.
2. Check that the trip meter displays "0000.0".
3. Push the odo/trip meter switch at least 3 times within 5 seconds.
4. All the segments on the trip computer illuminate. At this time, the unified meter control unit is turned to diagnosis mode.

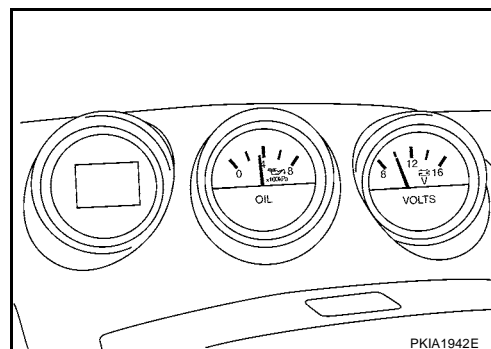
NOTE:

If any of the segments is not displayed, replace the triple meter.



TRIPLE METERS

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



AKS003KK

CONSULT-II Function

Refer to [DI-61, "CONSULT-II Function"](#) in "UNIFIED METER AND A/C AMP".

How to Proceed With Trouble Diagnosis

AKS002VR

1. Confirm the symptom or customer complaint.
2. Perform diagnosis according to diagnosis flow. Refer to [DI-41, "Diagnosis Flow"](#).
3. According to the symptom chart, repair or replace the cause of the symptom.
4. Does the meter operate normally? If YES, go to 5. If NO, go to 2.
5. Inspection end.

Diagnosis Flow

AKS002VS

1. CHECK SELF-DIAGNOSIS RESULTS OF UNIFIED METER AND A/C AMP.

Select "METER A/C AMP" on CONSULT-II, and perform self-diagnosis of unified meter and A/C amp. Refer to [DI-61, "CONSULT-II Function"](#).

Self-diagnosis results content

No malfunction detected>>GO TO 2.

Malfunction detected>>Go to [DI-45, "Symptom Chart 2"](#).

2. CHECK TRIP COMPUTER ILLUMINATION

1. Turn the ignition switch ON.
2. Check that trip computer display illuminate.

Do trip computer display illuminate?

Yes >> GO TO 3.

No >> Check ignition power supply system of triple meter. Refer to [DI-42, "Power Supply and Ground Circuit Check"](#).

3. CHECK SELF-DIAGNOSIS OPERATION OF COMBINATION METER

Perform combination meter self-diagnosis. Refer to [DI-40, "SELF-DIAGNOSIS FUNCTION"](#).

Does self-diagnosis function operate?

Yes >> GO TO 4.

No >> Check battery power supply of triple meter and ground system. Refer to [DI-42, "Power Supply and Ground Circuit Check"](#).

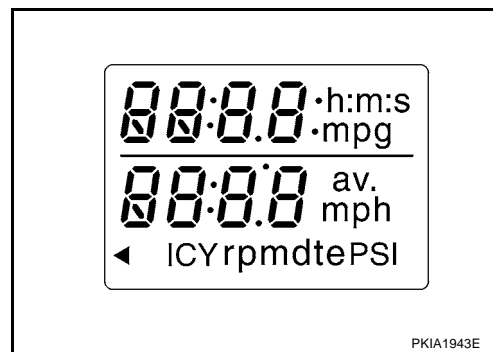
TRIPLE METERS

4. CHECK TRIP COMPUTER OPERATION

Check segment display status of trip computer.

Is the display normal?

- Yes >> GO TO 5.
No >> Replace the triple meter.

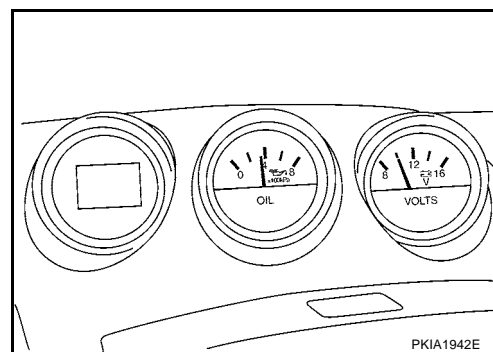


5. CHECK METER CIRCUIT

Check indication of each meter/gauge in self-diagnosis mode.

OK or NG

- OK >> Go to [DI-44, "Symptom Chart 1"](#) .
NG >> Replace the triple meter.



Power Supply and Ground Circuit Check

1. CHECK FUSES

Check for blown triple meter fuses.

Unit	Power source	Fuse No.
Triple meter	Battery	19
Unified meter and A/C amp.		
Unified meter and A/C amp.	Ignition switch ACC or ON	10, 11
Triple meter	Ignition switch ON or START	14
Unified meter and A/C amp.		12

OK or NG

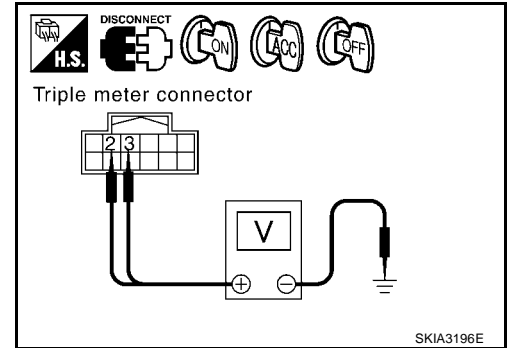
- OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-4, "POWER SUPPLY ROUTING CIRCUIT"](#) .

TRIPLE METERS

2. CHECK POWER SUPPLY CIRCUIT

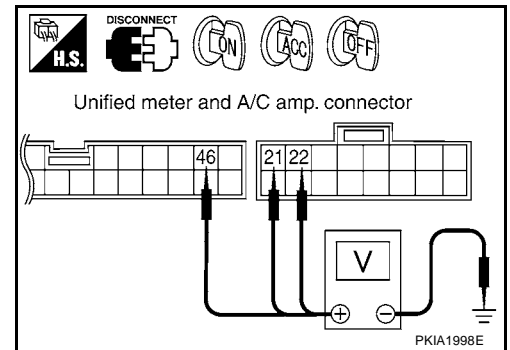
1. Disconnect the triple meter connector.
2. Check voltage between triple meter and ground.

Terminals		Ignition switch position			
(+) (–)					
Connector	Terminal (Wire color)		OFF	ACC	ON
M44	2 (R/W)	Ground	Battery voltage	Battery voltage	Battery voltage
	3 (G/Y)		0V	0V	Battery voltage



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

Terminals		Ignition switch position			
(+) (–)					
Connector	Terminal (Wire color)		OFF	ACC	ON
M49	21 (R/W)	Ground	Battery voltage	Battery voltage	Battery voltage
	22 (Y/G)		0V	0V	Battery voltage
M50	46 (L/W)		0V	Battery voltage	Battery voltage



OK or NG

OK >> GO TO 3.

NG >> Check the following.

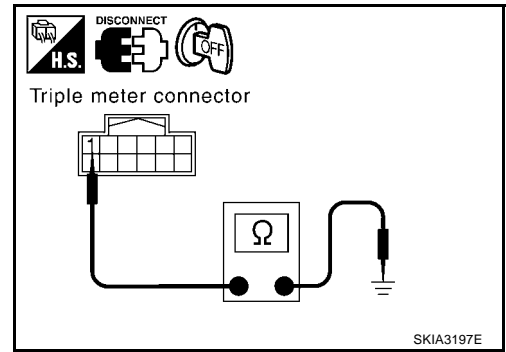
- Harness for open between triple meter and fuse.
- Harness for open between unified meter and A/C amp. and fuse.

TRIPLE METERS

3. CHECK GROUND CIRCUIT

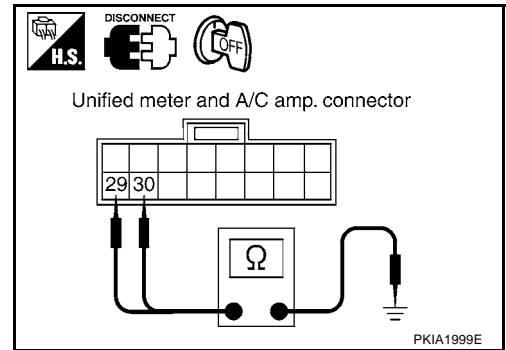
1. Check continuity between triple meter harness connector M44 terminal 1 (B) and ground.

Continuity should exist.



2. Check continuity between unified meter and A/C amp. and ground.

Terminals		Continuity
(+)	(-)	
Connector	Terminal (Wire color)	
M49	29 (B)	Ground
	30 (B)	
		Yes



OK or NG

- OK >> Inspection end.
NG >> Check ground harness.

Symptom Chart 1

AKS002VU

Trouble phenomenon	Possible cause
Speed indication is not displayed properly.	Refer to DI-45, "Vehicle Speed Signal Inspection" .
Outside air temperature indication is not displayed properly. (It may take a short time to steady the indication after ignition switch is turned ON.) NOTE: 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.	Refer to ATC-100, "AMBIENT TEMPERATURE INPUT PROCESS" in "ATC".
DTE (distance to empty) indication is not displayed properly.	Refer to DI-45, "Fuel Consumption Signal Inspection" .
Average fuel consumption indication is not displayed properly.	
Tire pressure indication is not displayed properly.	Refer to WT-19, "TROUBLE DIAGNOSES" in "WT".
Shift-up indicator setting indication is not displayed properly or shift-up indicator does not operate properly.	Refer to DI-48, "Trip Computer Switch Inspection" .
Average vehicle speed indication is not indicated properly.	Replace triple meter.
Trip distance indication is not indicated properly.	
Trip time indication is not indicated properly.	
Stopwatch indication is not displayed properly.	
Indication is malfunction of voltmeter.	Refer to DI-46, "Oil Pressure Sensor Inspection" .
Indication is malfunction of oil pressure gauge.	
Trip computer switch is not operate.	Refer to DI-48, "Trip Computer Switch Inspection" .

TRIPLE METERS

Symptom Chart 2

AKS0033E

Displayed item	Inspection contents	Possible cause
CAN COMM CIRC [U1000]	Inspect the CAN communication circuit.	Refer to DI-22, "CAN Communication System Inspection" in "COMBINATION METERS"
T/METER COMM CIRC [B2201]	Inspect the communication line of between triple meter and unified meter and A/C amp.	Refer to DI-47, "Communication Line Inspection" .
METER COMM CIRC [B2202]	Inspect the communication line of between combination meter and unified meter and A/C amp.	Refer to DI-47, "Communication Line Inspection" in "COMBINATION METERS".
CODE A203	Inspect the fuel level sensor input signal.	Refer to DI-20, "Fuel Level Sensor Signal Inspection 3" in "COMBINATION METERS".
CODE A204		<ul style="list-style-type: none"> Refer to DI-20, "Fuel Level Sensor Signal Inspection 3" in "COMBINATION METERS". Even if vehicle has no malfunction, when fuel level becomes less than 10 ℓ (10-5/8 US quarts, 8-3/4 Imp quarts) and float of fuel level sensor goes down extremely because of shake, etc., it is regarded as a malfunction.
VEHICLE SPEED CIRC [B2205]	Inspect the vehicle speed input signal.	Refer to DI-17, "Vehicle Speed Signal Inspection" in "COMBINATION METERS".
CODE A206	Inspect the A/T device output signal.	<ul style="list-style-type: none"> Refer to DI-24, "A/T Device Output Signal Inspection" in "COMBINATION METER". Even if vehicle has no malfunction, if A/T shift lever is held more than 2 seconds to up or down side, it is regarded as a malfunction.

Vehicle Speed Signal Inspection

AKS0033V

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

- Lift up drive wheels
- Select "METER A/C AMP" on CONSULT-II and start engine.
- Using "SPEED METER" on the data monitor, Compare the value of data monitor with speed indication of trip computer.

OK or NG

- OK >> Refer to [DI-17, "Vehicle Speed Signal Inspection"](#) of "COMBINATION METERS".
- NG >> Replace triple meter.

DATA MONITOR	
MONITOR	
SPEED METER	XX km/h

PKIA2092E

Fuel Consumption Signal Inspection

AKS0033O

1. CHECK ECM SELF-DIAGNOSIS

Perform ECM self-diagnosis. Refer to [EC-80, "TROUBLE DIAGNOSIS"](#) .

OK or NG

- OK >> Replace unified meter and A/C amp. Refer to [ATC-111, "AUTO AMP"](#) .
- NG >> Check the applicable parts.

TRIPLE METERS

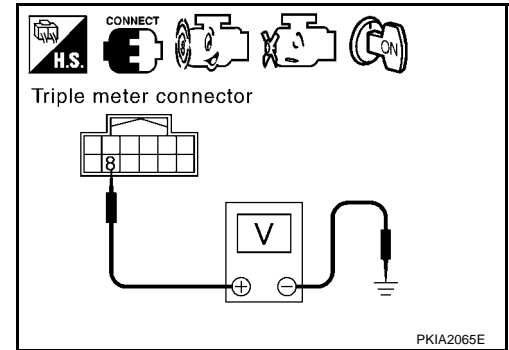
AKS0033W

Oil Pressure Sensor Inspection

1. CHECK OIL PRESSURE SENSOR SIGNAL

1. Turn the ignition switch ON.
2. Check voltage between triple meter and ground.

Terminals			Condition	Voltage (V)
Connector	(+)	(-)		
	Terminal (Wire color)			
M44	8 (LG/R)	Ground	Engine stopped.	Approx. 1
			Engine running. (When the oil pressure is 500kpa)	Approx. 3



OK or NG

- OK >> Replace triple meter.
NG >> GO TO 2.

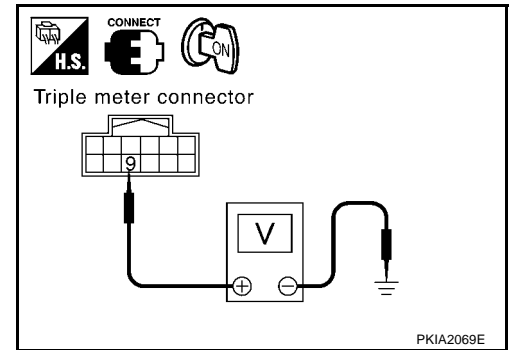
2. CHECK OIL PRESSURE SENSOR POWER SUPPLY

Check voltage between triple meter harness connector M44 terminal 9 (R/L) and ground.

Approx. 5V

OK or NG

- OK >> GO TO 3.
NG >> Replace triple meter.



3. CHECK OIL PRESSURE SENSOR POWER SUPPLY CIRCUIT

1. Disconnect triple meter and oil pressure switch connector.
2. Check harness continuity (open circuit) between triple meter harness connector M44 terminal 9 (R/L) and oil pressure sensor harness connector F21 terminal 1 (R/L).

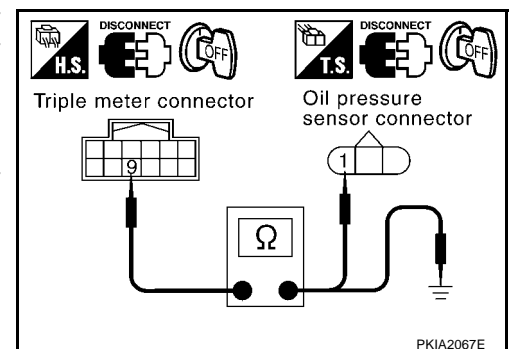
Continuity should exist.

3. Check harness continuity (short circuit) between triple meter harness connector M44 terminal 9 (R/L) 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.



TRIPLE METERS

4. CHECK OIL PRESSURE SENSOR SIGNAL CIRCUIT

1. Check harness continuity (open circuit) between triple meter harness connector M44 terminal 8 (LG/R) and oil pressure sensor harness connector F21 terminal 2 (G).

Continuity should exist.

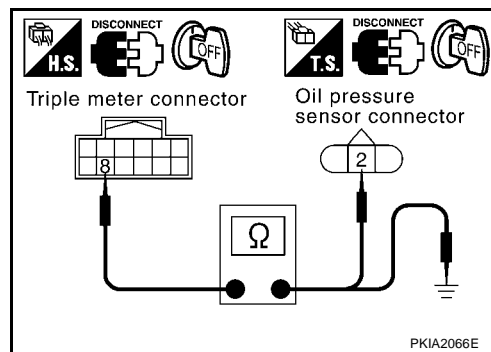
2. Check harness continuity (short circuit) between triple meter harness connector M44 terminal 8 (LG/R) and ground.

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

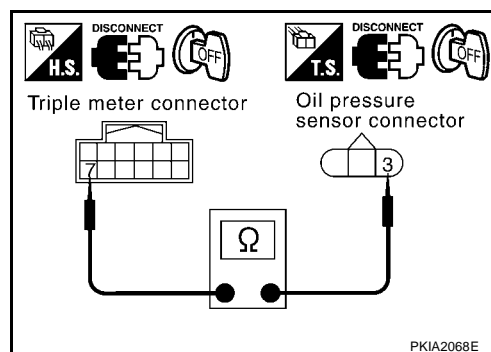
Check harness continuity (open circuit) between triple meter harness connector M44 terminal 7 (G/OR) and oil pressure sensor harness connector F21 terminal 3 (B).

Continuity should exist.

OK or NG

OK >> Replace oil pressure sensor.

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



Communication Line Inspection

1. CHECK CONNECTOR

1. Turn the ignition switch OFF.
2. Check triple meter, unified meter and A/C amp. and terminals (triple meter-side, unified meter and A/C amp.-side, harness-side) for looseness or bent terminals.

OK or NG

OK >> GO TO 2.

NG >> Repair terminal or connector.

2. CHECK CONTINUITY COMMUNICATION CIRCUIT 1

1. Disconnect triple meter connector and unified meter and A/C amp. connector.
2. Check continuity (open circuit) between triple meter harness connector M44 terminal 5 (L/B) and unified meter and A/C amp. harness connector M48 terminal 10 (L/B).

Continuity should exist.

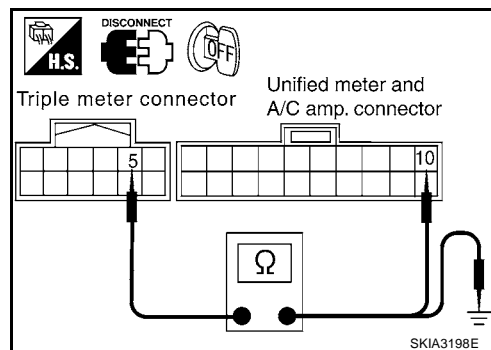
3. Check continuity (short circuit) between triple meter harness connector M44 terminal 5 (L/B) and ground.

Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.



TRIPLE METERS

3. CHECK CONTINUITY COMMUNICATION CIRCUIT 2

1. Check continuity (open circuit) between triple meter harness connector M44 terminal 4 (P) and unified meter and A/C amp. harness connector M48 terminal 20 (P).

Continuity should exist.

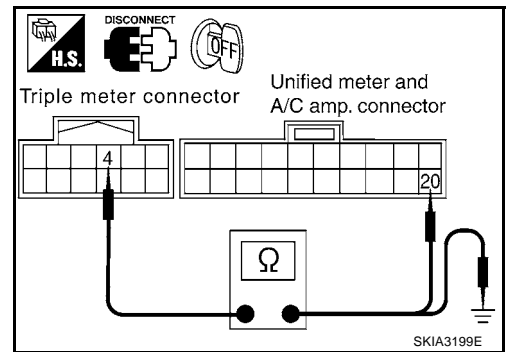
2. Check continuity (short circuit) between triple meter harness connector M44 terminal 4 (P) and ground.

Continuity should not exist.

OK or NG

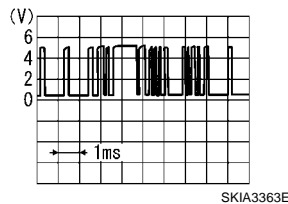
OK >> GO TO 4.

NG >> Repair harness or connector.



4. CHECK VOLTAGE SIGNAL OF UNIFIED METER AND A/C AMP.

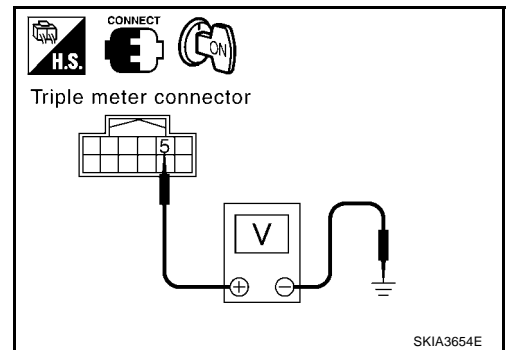
1. Connect triple meter connector and unified meter and A/C amp. connector.
2. Ignition switch turn ON.
3. Check the signal between triple meter harness connector M44 terminal 5 (L/B) and ground with simple oscilloscope of CONSULT-II.



OK or NG

OK >> Replace triple meter.

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



Trip Computer Switch Inspection

AKS003/S

1. CHECK CONNECTOR

1. Remove combination meter. Refer to [DI-26, "Removal and Installation for Combination Meter"](#) .
2. Remove rear finisher to combination meter. Refer to [DI-27, "Disassembly and Assembly for Combination Meter"](#) .
3. Check trip computer connector for looseness.

OK or NG

OK >> GO TO 2.

NG >> Repair trip computer switch connector.

TRIPLE METERS

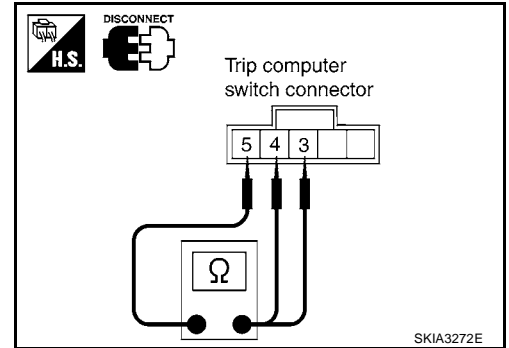
2. CHECK CIRCUIT

1. Disconnect trip computer switch connector.
2. Check continuity between trip computer switch harness connector terminals 3, 4 and 5.

Terminal		Condition	Continuity
3	5	Mode switch is pushed.	Yes
		Mode switch is released.	No
4	5	Setting switch is pushed.	Yes
		Setting switch is released.	No

OK or NG

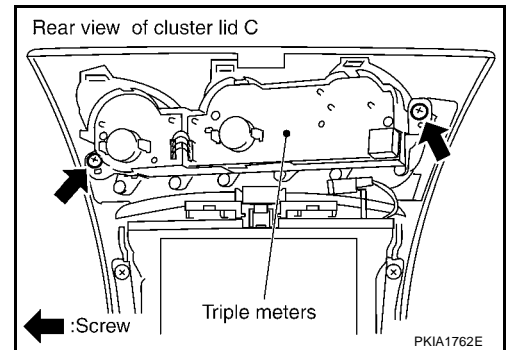
- OK >> Replace combination meter.
 NG >> Replace trip computer switch.



Removal and Installation of Triple Meters

REMOVAL

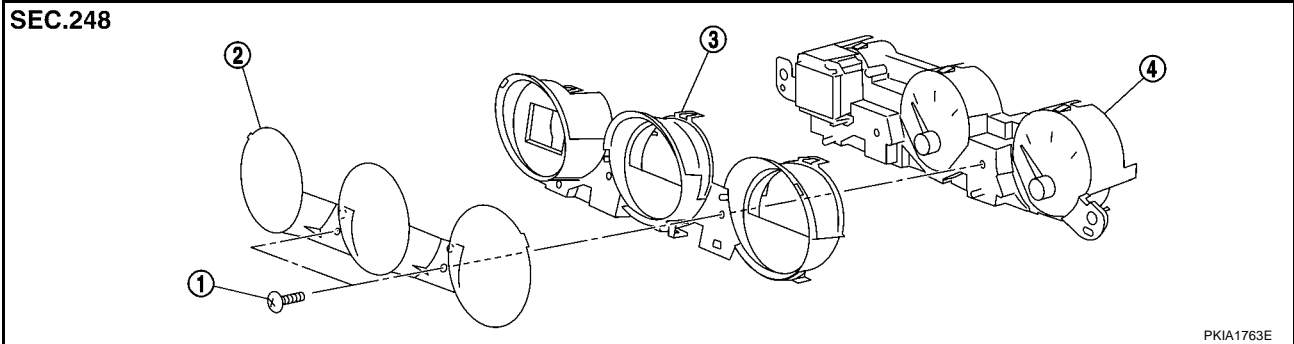
1. Remove cluster lid C. Refer to [IP-12, "Removal and Installation"](#).
2. Remove screws (2), and remove triple meters.



INSTALLATION

Install in the reverse order of removal.

Disassembly and Assembly for Triple Meters



1. Screws
2. Front cover
3. Upper housing
4. Triple meter

1. Remove screws (2), and remove front cover.
2. Disengage tabs (6) to separate upper housing.

UNIFIED METER AND A/C AMP

PFP:27760

System Description

AKS00374

- For the unified meter and A/C amp., the signal line (CAN H, CAN L) and circuit (fuel level sensor) required for controlling the combination meter and triple meter are integrated in the air conditioning auto amp.
- In addition to controlling the air conditioning auto amp. operations, the signals required for the combination meter and triple meter are input from the various units using CAN communication and so on, and these signals are output to the various meters using the TX and RX communication lines between the meters and unified meter and A/C amp. and the various meters. For information regarding air conditioning control, refer to [ATC-27, "AIR CONDITIONER CONTROL"](#) in "AUTOMATIC AIR CONDITIONER".
- In addition to sending output to the combination meter and triple meter containing the signals input from the various units, it also receives the signals between the combination meter and triple meter.
- Other input signals are also sent to the ECM, TCM, and BCM using CAN communication.
- The signals required for the trip computer display are centralized in the unified meter and A/C amp., converted into data, and sent to the triple meter.
- The unified meter and A/C amp. have a CONSULT-II function (self-diagnostic results, data monitor) that is used to identify errors in the communication lines connected to the unified meter and A/C amp. and to monitor the status of signals input by the various meters from the unified meter and A/C amp.

INPUT/OUTPUT SIGNALS

Between Unified meter and A/C amp. and Combination Meter

Unit	Input	Output
Unified meter and A/C amp.	<ul style="list-style-type: none"> • Seat belt buckle switch signal (Driver's side) • Trip computer mode switch signal • Trip computer setting switch signal • Illumination control nighttime required signal • Meter daytime and nighttime status signal • Refuel status signal • Vehicle speed signal • Fuel warning lamp condition signal • Self-diagnosis condition signal • Odo/trip switch signal • Delivery destination data signal • Combination meter specifications signal • Triple meter specifications signal 	<ul style="list-style-type: none"> • Vehicle speed signal (8-pulse) • Engine speed signal • Engine coolant temperature signal • Fuel level sensor signal (resistance value) • Malfunction indicator lamp signal • ABS warning lamp signal • Tire pressure warning lamp signal • Brake warning lamp signal • Turn indicator signal • Hi beam indicator signal • VDC OFF indicator lamp signal • TCS OFF indicator lamp signal • SLIP indicator lamp signal • Cruise indicator lamp signal • Set indicator lamp signal • A/T CHECK indicator lamp signal • A/T position indicator signal • Manual mode indicator signal • Manual mode gear signal • Shift-up indicator setting signal • CAN communication condition signal of A/T • Door switch signal • Tail lamp request signal • Buzzer output signal

UNIFIED METER AND A/C AMP

Between Unified meter and A/C amp. and Triple Meter

Unit	Input	Output
Unified meter and A/C amp.	<ul style="list-style-type: none"> ● LCD indication condition signal ● Shift-up indicator setting signal ● Oil pressure warning lamp signal 	<ul style="list-style-type: none"> ● Outside air temperature signal ● Outside air temperature warning signal ● Trip distance signal ● Trip time signal ● Average vehicle speed signal ● Average fuel consumption signal ● Tire pressure signal ● Tire pressure warning signal ● Vehicle speed signal ● Trip computer mode switch signal ● Trip computer setting switch signal ● DTE (Distance to empty) signal ● DTE (Distance to empty) warning signal ● Self-diagnosis condition signal ● Odo/trip switch signal

FAIL-SAFE

Solution When Communication Error Between the Unified Meter & A/C Amp. and the Combination Meter

Function		Specifications
Speedometer		Reset to zero by inputting erroneous signal for 1 second.
Tachometer		Reset to zero by suspending communication for 1 second.
Fuel gauge		Reset to zero by suspending communication for 60 seconds.
Water temperature gauge		
Illumination control	Combination meter illumination	When suspending communication, maintain the daytime/nighttime mode.
Odo/trip meter		Integrate in response to 8-pulse input.
A/T indicator		Turn the display off by suspending communication for 2 seconds.
Warning buzzer		Turn the warning off by suspending communication for 2 seconds.
Warning lamp/indicator lamp	A/T CHECK lamp	Turn on the light by suspending communication for 2 seconds.
	ABS warning lamp	
	VDC OFF indicator	
	TCS OFF indicator	
	SLIP indicator	
	Brake warning lamp	
	Tire pressure warning lamp	
	Oil pressure warning lamp	Turn off the light by suspending communication for 2 seconds.
	Door warning lamp	
	Hi beam indicator	
	Turn signal indicator	
	Engine warning lamp	

UNIFIED METER AND A/C AMP

Solution When Communication Error Between the Unified Meter & A/C Amp. and the Triple Meter

Function		Specifications
Trip computer	Vehicle speed indication	<ul style="list-style-type: none"> ● Display "---" by suspending communications for 1 second. ● Display "---" using erroneous signal input for 1 second.
	Out air temperature indication	Display "---" by suspending communications for 1 second.
	DTE (Distance to empty) indication	Display "----" by suspending communications for 1 second.
	Average fuel consumption indication	
	Average vehicle speed indication	
	Trip distance indication	
	Tire pressure indication	
	Trip time indication	Display "--:--" by suspending communications for 1 second.
Illumination control	Triple meter illumination	When suspending communication, maintain the daytime/nighttime mode.

CAN Communication System Description

AKS0037A

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Unit

AKS003M6

Body type	Coupe						
Axle	2WD						
Engine	VQ35DE						
Transmission	A/T	M/T					
Brake control	TCS	ABS		TCS		VDC	
Low tire pressure warning system	Not Applicable	Not Applicable	Applicable	Not Applicable	Applicable	Not Applicable	Applicable
CAN communication unit							
ECM	×	×	×	×	×	×	×
TCM	×						
Data link connector	×	×	×	×	×	×	×
Unified meter and A/C amp.	×	×	×	×	×	×	×
BCM	×	×	×	×	×	×	×
Low tire pressure warning control unit			×		×		×
Steering angle sensor						×	×
ABS actuator and electric unit (control unit)	×	×	×	×	×		
VDC/TCS/ABS control unit						×	×
IPDM E/R	×	×	×	×	×	×	×
CAN communication type	DI-53. "TYPE 1"	DI-54. "TYPE 2/TYPE3"		DI-56. "TYPE 4/TYPE5"		DI-58. "TYPE 6/TYPE7"	

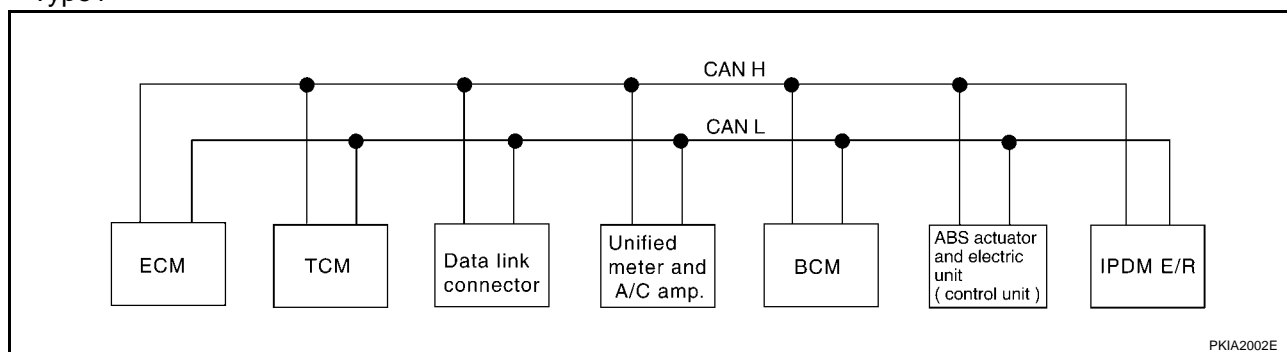
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UNIFIED METER AND A/C AMP

TYPE 1

System diagram

- Type1



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	Unified meter and A/C amp.	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R	R		R	
Engine torque signal	T	R				
Engine coolant temperature signal	T	R	R			
Accelerator pedal position signal	T	R			R	
Closed throttle position signal	T	R				
Wide open throttle position signal	T	R				
Battery voltage signal	T	R				
Stop lamp switch signal		R	T			
Fuel consumption monitor signal	T		R			
A/T self-diagnosis signal	R	T				
A/T CHECK indicator lamp signal		T	R			
A/T position indicator signal		T	R		R	
ABS operation signal		R			T	
A/T shift schedule change demand signal		R			T	
Air conditioner switch signal	R			T		
A/C compressor request signal	T					R
A/C compressor feedback signal	T		R			
Blower fan motor switch signal	R			T		
Cooling fan speed request signal	T					R
Position lights request signal			R	T		R
Low beam request signal				T		R
Low beam status signal	R					T
High beam request signal			R	T		R
High beam status signal	R					T
Vehicle speed signal			R		T	
	R	R	T	R		
Sleep request 1 signal			R	T		
Sleep request 2 signal				T		R
Wake up request 1 signal			R	T		

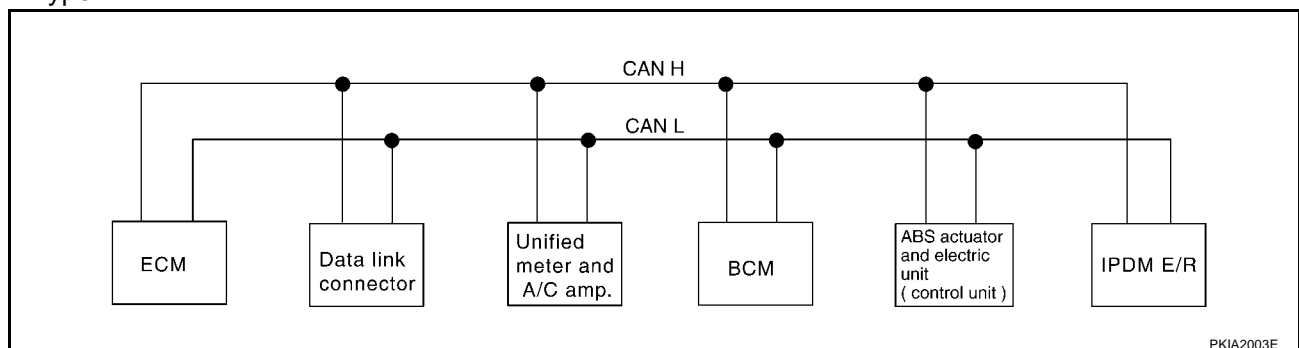
UNIFIED METER AND A/C AMP

Signals	ECM	TCM	Unified meter and A/C amp.	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Door switch signal			R	T		R
Turn indicator signal			R	T		
Seat belt buckle switch signal			T	R		
Buzzer output signal			R	T		
Fuel level sensor signal	R		T			
Malfunction indicator lamp signal	T		R			
ASCD SET lamp signal	T		R			
ASCD operation signal	T	R				
ASCD CRUISE lamp signal	T		R			
Overdrive cancel signal	T	R				
Output shaft revolution signal	R	T				
Turbine revolution signal	R	T				
Front wiper request signal				T		R
Front wiper stop position signal				R		T
Rear window defogger switch signal				T		R
Rear window defogger control signal	R					T
Manual mode signal		R	T			
Not manual mode signal		R	T			
Manual mode shift up signal		R	T			
Manual mode shift down signal		R	T			
Manual mode indicator signal		T	R			
Hood switch signal				R		T
Theft warning horn request signal				T		R
Horn chirp signal				T		R
ABS warning lamp signal			R		T	
TCS OFF indicator lamp signal			R		T	
SLIP indicator lamp signal			R		T	
Brake (EBD) warning lamp signal			R		T	

TYPE 2/TYPE3

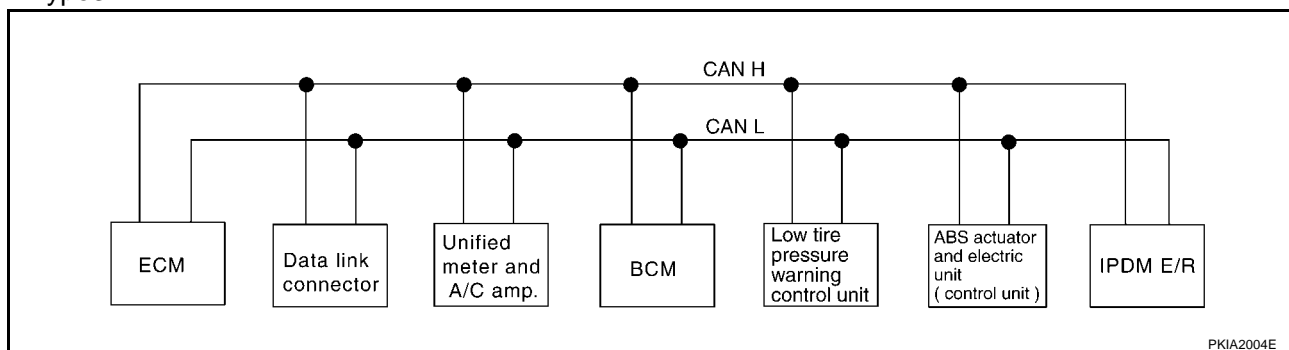
System diagram

- Type2



UNIFIED METER AND A/C AMP

● Type3



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Unified meter and A/C amp.	BCM	Low tire pressure warning control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R			R	
Engine coolant temperature signal	T	R				
Accelerator pedal position signal	T				R	
Fuel consumption monitor signal	T	R				
Air conditioner switch signal	R		T			
A/C compressor request signal	T					R
A/C compressor feedback signal	T	R				
Blower fan motor switch signal	R		T			
Cooling fan speed request signal	T					R
Position lights request signal			R	T		R
Low beam request signal			T			R
Low beam status signal	R					T
High beam request signal		R	T			R
High beam status signal	R					T
Vehicle speed signal		R			T	
	R	T	R	R		
Sleep request 1 signal		R	T			
Sleep request 2 signal			T			R
Wake up request 1 signal		R	T			
Door switch signal		R	T			R
Turn indicator signal		R	T			
Seat belt buckle switch signal		T	R			
Buzzer output signal		R	T			
Fuel level sensor signal	R	T				
Malfunction indicator lamp signal	T	R				
ASCD SET lamp signal	T	R				
ASCD CRUISE lamp signal	T	R				
Front wiper request signal			T			R
Front wiper stop position signal			R			T
Rear window defogger switch signal			T			R

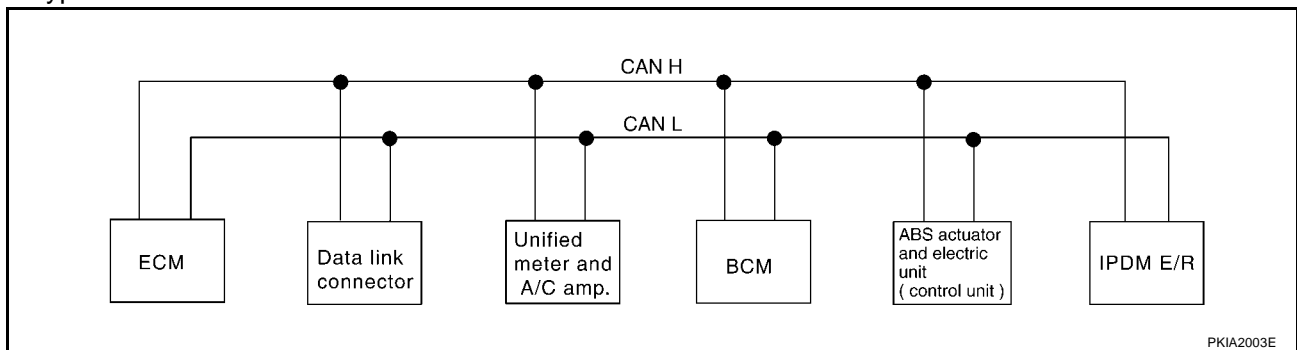
UNIFIED METER AND A/C AMP

Signals	ECM	Unified meter and A/C amp.	BCM	Low tire pressure warning control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Rear window defogger control signal	R					T
Hood switch signal			R			T
Theft warning horn request signal			T			R
Horn chirp signal			T			R
Tire pressure signal		R		T		
ABS warning lamp signal		R			T	
Brake (EBD) warning lamp signal		R			T	

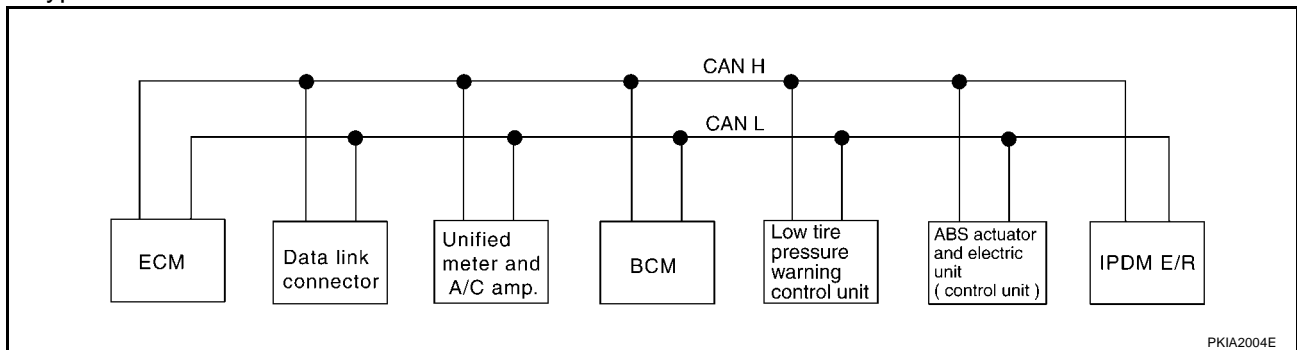
TYPE 4/TYPE5

System diagram

- Type4



- Type5



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Unified meter and A/C amp.	BCM	Low tire pressure warning control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R			R	
Engine coolant temperature signal	T	R				
Accelerator pedal position signal	T				R	
Fuel consumption monitor signal	T	R				
Air conditioner switch signal	R		T			
A/C compressor request signal	T					R
A/C compressor feedback signal	T	R				
Blower fan motor switch signal	R		T			
Cooling fan speed request signal	T					R

UNIFIED METER AND A/C AMP

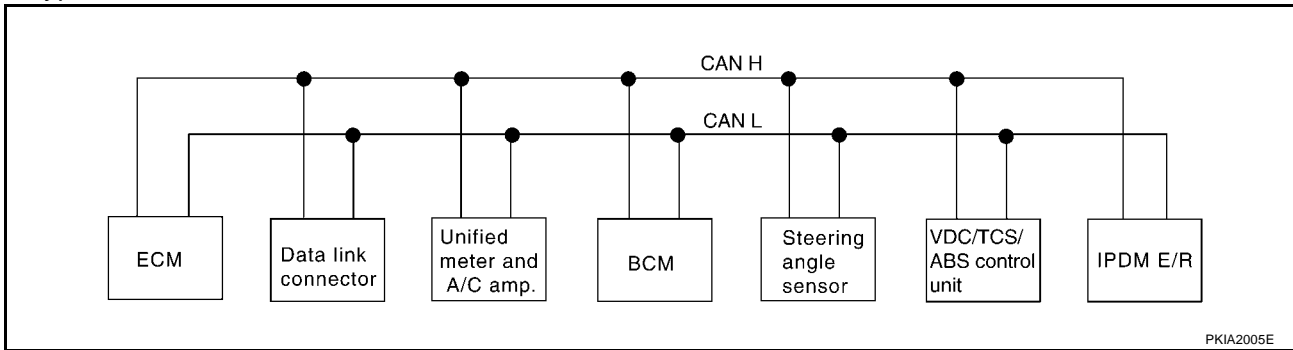
Signals	ECM	Unified meter and A/C amp.	BCM	Low tire pressure warning control unit	ABS actuator and electric unit (control unit)	IPDM E/R	
Position lights request signal		R	T			R	A
Low beam request signal			T			R	B
Low beam status signal	R					T	C
High beam request signal		R	T			R	
High beam status signal	R					T	
Vehicle speed signal		R			T		D
	R	T	R	R			
Sleep request 1 signal		R	T				
Sleep request 2 signal			T			R	E
Wake up request 1 signal		R	T				
Door switch signal		R	T			R	F
Turn indicator signal		R	T				
Seat belt buckle switch signal		T	R				
Buzzer output signal		R	T				G
Fuel level sensor signal	R	T					
Malfunction indicator lamp signal	T	R					H
ASCD SET lamp signal	T	R					
ASCD CRUISE lamp signal	T	R					
Front wiper request signal			T			R	I
Front wiper stop position signal			R			T	
Rear window defogger switch signal			T			R	J
Rear window defogger control signal	R					T	
Hood switch signal			R			T	DI
Theft warning horn request signal			T			R	
Horn chirp signal			T			R	
Tire pressure signal		R		T			L
ABS warning lamp signal		R			T		
TCS OFF indicator lamp signal		R			T		M
SLIP indicator lamp signal		R			T		
Brake (EBD) warning lamp signal		R			T		

UNIFIED METER AND A/C AMP

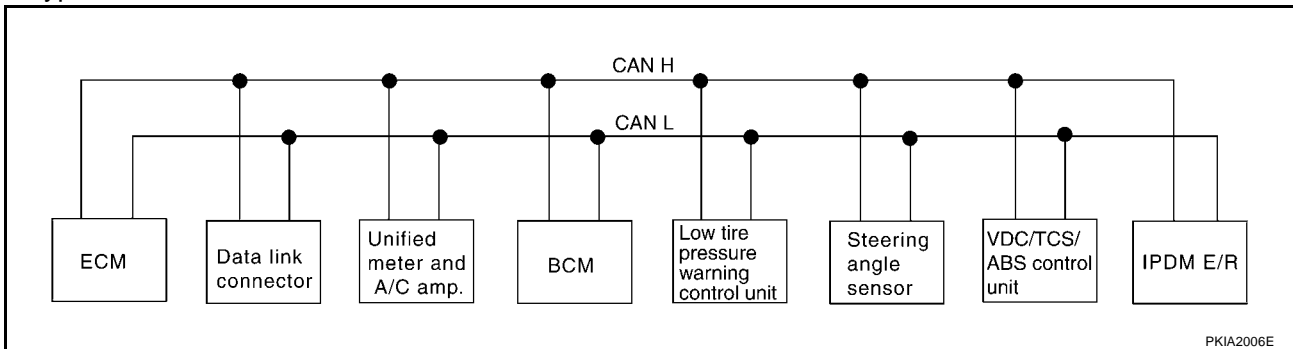
TYPE 6/TYPE7

System diagram

- Type6



- Type7



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Unified meter and A/C amp.	BCM	Low tire pressure warning control unit	Steering angle sensor	VDC/TCS/ABS control unit	IPDM E/R
Engine speed signal	T	R				R	
Engine coolant temperature signal	T	R					
Accelerator pedal position signal	T					R	
Fuel consumption monitor signal	T	R					
Air conditioner switch signal	R		T				
A/C compressor request signal	T						R
A/C compressor feedback signal	T	R					
Blower fan motor switch signal	R		T				
Cooling fan speed request signal	T						R
Position lights request signal		R	T				R
Low beam request signal			T				R
Low beam status signal	R						T
High beam request signal		R	T				R
High beam status signal	R						T
Vehicle speed signal		R				T	
	R	T	R	R			
Sleep request 1 signal		R	T				
Sleep request 2 signal			T				R
Wake up request 1 signal		R	T				
Door switch signal		R	T				R

UNIFIED METER AND A/C AMP

Signals	ECM	Unified meter and A/C amp.	BCM	Low tire pressure warning control unit	Steering angle sensor	VDC/TCS/ABS control unit	IPDM E/R
Turn indicator signal		R	T				
Seat belt buckle switch signal		T	R				
Buzzer output signal		R	T				
Fuel level sensor signal	R	T					
Malfunction indicator signal	T	R					
ASCD SET lamp signal	T	R					
ASCD CRUISE lamp signal	T	R					
Front wiper request signal			T				R
Front wiper stop position signal			R				T
Rear window defogger switch signal			T				R
Rear window defogger control signal	R						T
Hood switch signal			R				T
Theft warning horn request signal			T				R
Horn chirp signal			T				R
Steering angle sensor signal					T	R	
Tire pressure signal		R		T			
ABS warning lamp signal		R				T	
VDC OFF indicator lamp signal		R				T	
SLIP indicator lamp signal		R				T	
Brake (EBD) warning lamp signal		R				T	

A

B

C

D

E

F

G

H

I

J

DI

L

M

Schematic

The diagram illustrates the electrical system for the 2000 Nissan Xterra 2.5T. It shows the following components and their connections:

- Ignition Switches:**
 - IGNITION SWITCH ON or START (Terminals 22, 46)
 - IGNITION SWITCH ACC or ON (Terminals 53, 21, 6, 56)
- Battery:** Connected to the main power distribution.
- Fuses:** Multiple fuses are shown protecting various circuits.
- Relays and Switches:**
 - STOP LAMP SWITCH
 - A/C RELAY (*)
 - REAR WINDOW DEFOGGER RELAY (*)
 - COMPRESSOR
 - MAGNET CLUTCH
- IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (CPU):** The central power distribution module.
- Sensors:**
 - AMBIENT SENSOR (Terminal 39)
 - SUNLOAD SENSOR (Terminal 50)
 - IN-VEHICLE SENSOR (Terminal 40)
 - INTAKE SENSOR (Terminal 41)
 - FUEL LEVEL SENSOR (Terminal 36)
 - FUEL LEVEL SENSOR (SUB) (Terminal 36)
 - REFRIGERANT PRESSURE SENSOR (Terminals 1, 2, 3)
- Actuators:**
 - BLOWER MOTOR (Terminal 53)
 - AIR MIX DOOR MOTOR (Terminal 43)
 - MODE DOOR MOTOR (Terminal 54)
 - INTAKE DOOR MOTOR (Terminal 54)
- Control Modules:**
 - A/C CONTROLLER (Terminals 71-90)
 - COMBINATION METER (Terminals 9, 19, 26)
 - TRIPLE METER (Terminals 5, 4, 10, 20)
 - BCM (BODY CONTROL MODULE) (Terminals 69, 58, 65, 70, 71)
 - ECM (Engine Control Module) (Terminals 102, 86, 94, 49, 70, 67)
 - TCM (TRANSMISSION CONTROL MODULE) (Terminals 3, 8, 9)
- Other Components:**
 - UNIFIED METER AND A/C AMP. (Terminals 4, 3, 14, 13)
 - A/T DEVICE (UP, N, DOWN, MANUAL, AUTO, POSITION SELECT SWITCH, MODE SELECT SWITCH)
 - A/T ASSEMBLY (A)
 - To rear window defogger and mirror defogger
 - To CAN system
 - To Park/Neutral position switch

Terminal numbers are provided for each component, and the diagram includes a legend for the A/T assembly (A).

TKWT0521E

UNIFIED METER AND A/C AMP

CONSULT-II Function

AKS00375

CONSULT-II executes the following functions by combining data reception and command transmission via the communication line from unified meter and A/C amp. Self-diagnosis results and data monitor display.

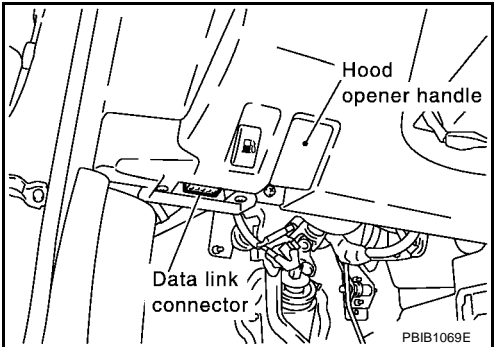
System part	Check item, diagnosis mode	Description
METER A/C AMP	Self-diagnosis results	Unified meter and A/C amp. performs self-diagnosis of CAN communication system, communication of between combination meter and meter and A/C amp., communication of between triple meter and meter and A/C amp., fuel gauge, speed meter and A/T manual mode switch.
	Data monitor	Displays unified meter and A/C amp. input data in real time.

CONSULT-II BASIC OPERATION

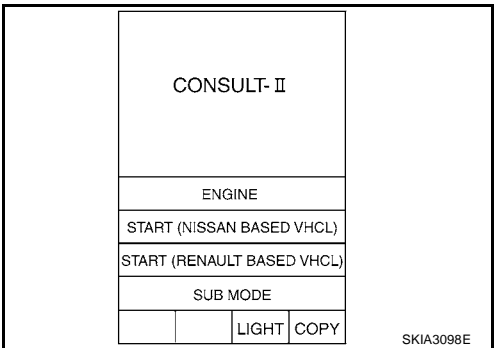
CAUTION:

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

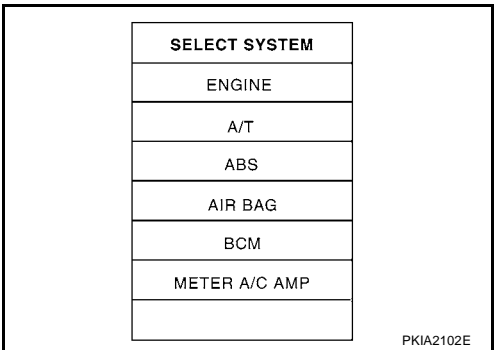
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn ignition switch ON.



2. Touch "START (NISSAN BASED VHCL)".



3. Touch "METER A/C AMP" on "SELECT SYSTEM" screen. If "METER A/C AMP" is not indicated, go to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).
4. Select "SELF-DIAG RESULTS" or "DATA MONITOR".



UNIFIED METER AND A/C AMP

SELF-DIAGNOSIS RESULTS

Operation Procedure

1. Touch "SELF-DIAG RESULTS" on "SELECT DIAG MODE" screen.
2. Self-diagnosis results are displayed.

Display Item List

CONSULT-II display	Malfunction is detected when...	Reference page
CAN COMM CIRC [U1000]	Malfunction is detected in CAN communication.	DI-22, "CAN Communication System Inspection"
T/METER COMM CIRC [B2201]	Malfunction is detected in communication of between triple meter and unified meter and A/C amp.	DI-47, "Communication Line Inspection"
METER COMM CIRC [B2202]	Malfunction is detected in communication of between combination meter and unified meter and A/C amp.	DI-23, "Communication Line Inspection"
CODE A203	When the sensor input is 0V for 60 seconds.	
CODE A204	<ul style="list-style-type: none"> ● When the sensor input is open for 60 seconds. ● Even if vehicle has no malfunction, when fuel level becomes less than 10 ℓ (10-5/8 US quarts, 8-3/4 Imp quarts) and float of fuel level sensor goes down extremely because of shake, etc., it is regarded as a malfunction. 	DI-20, "Fuel Level Sensor Signal Inspection 3"
VEHICLE SPEED CIRC [B2205]	When an erroneous signal is input for 1 seconds.	DI-17, "Vehicle Speed Signal Inspection"
CODE A206	<ul style="list-style-type: none"> ● When the manual mode switch and a switch other than the manual mode switch are turned on or off at the same time for 2 seconds. ● Even if vehicle has no malfunction, if A/T shift lever is held more than 2 seconds to up or down side, it is regarded as a malfunction. 	DI-24, "A/T Device Output Signal Inspection"

Time indicates the condition of the self-diagnosis results judged by each signal input.

- Normal: In case of operating properly at the present in spite of having problem in the past, then time indicates "1-63".
- Malfunction: Soon after detecting malfunctions by self-diagnoses or current malfunction, "0" is indicated.

After returning to normal condition, every time when ignition switch is turned to "OFF" from "ON", time will be added like "1"→"2"→"3"... "63", and when the key operation is performed 64 times, the result of the self-diagnoses will be erased. And if any malfunction is detected again, "0" will be indicated.

DATA MONITOR

Operation Procedure

1. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
2. Touch either "MAIN SIGNALS", "CAN DIAG SUPPORT MNTR" or "SELECTION FROM MENU" on the "DATA MONITOR" screen.

MAIN SIGNALS	Monitors main signals.
CAN DIAG SUPPORT MNTR	Monitors CAN diagnosis support.
SELECTION FROM MENU	Selects and monitors individual signal.

3. Touch "START".
4. When "SELECTION FROM MENU" is selected, touch individual items to be monitored. When "MAIN SIGNALS" is selected, main items will be monitored.
5. Touch "RECORD" while monitoring, then the status of the monitored item can be recorded. To stop recording, touch "STOP".

UNIFIED METER AND A/C AMP

Display Item List

Display item [Unit]	MAIN SIGNALS	CAN DIAG SUPPORT MNTR	SELECTION FROM MENU	Contents
SPEED METER [km/h] or [mph]	X		X	This is the angle correction value after the speed signal from the VDC/TCS/ABS control unit (with VDC system) or ABS actuator and electric unit (without VDC system) is converted into the vehicle speed.
SPEED OUTPUT [km/h] or [mph]	X		X	This is the angle correction value before the speed signal from the VDC/TCS/ABS control unit (with VDC system) or ABS actuator and electric unit (without VDC system) is converted into the vehicle speed.
TACHO METER [rpm]	X		X	This is the converted value for the engine speed signal from the ECM.
W TEMP METER [°C] or [°F]	X		X	This is the converted value for the signal (resistance value) from the fuel gauge.
FUEL METER [lit.]	X		X	This is the processed value for the signal (resistance value) from the fuel gauge.
DISTANCE [km]	X		X	This is the calculated value for the speed signal from the VDC/TCS/ABS control unit (with VDC system) or ABS actuator and electric unit (without VDC system) and the signal (resistance signal) from the fuel gauge.
FUEL W/L [ON/OFF]	X		X	Indicates [ON/OFF] condition of fuel warning lamp.
MIL [ON/OFF]			X	Indicates [ON/OFF] condition of malfunction indicator lamp.
AIR PRES W/L [ON/OFF]			X	Indicates [ON/OFF] condition of low tire pressure warning lamp.
SEAT BELT W/L [ON/OFF]			X	Indicates [ON/OFF] condition of seat belt warning lamp.
BUZZER [ON/OFF]	X		X	Indicates [ON/OFF] condition of buzzer.
DOOR W/L [ON/OFF]			X	Indicates [ON/OFF] condition of door warning lamp.
HI-BEAM IND [ON/OFF]			X	Indicates [ON/OFF] condition of hi beam indicator.
TURN IND [ON/OFF]			X	Indicates [ON/OFF] condition of turn indicator.
OIL W/L [ON/OFF]			X	Indicates [ON/OFF] condition of oil warning lamp.
VDC/TCS IND [ON/OFF]			X	Indicates [ON/OFF] condition of VDC/TCS OFF indicator lamp.
ABS W/L [ON/OFF]			X	Indicates [ON/OFF] condition of ABS warning lamp.
SLIP IND [ON/OFF]			X	Indicates [ON/OFF] condition of SLIP indicator lamp.
BRAKE W/L [ON/OFF]			X	Indicates [ON/OFF] condition of brake warning lamp by EBD warning. *1
PNP P SW [ON/OFF]	X		X	Indicates [ON/OFF] condition of parking switch.
PNP N SW [ON/OFF]	X		X	Indicates [ON/OFF] condition of neutral switch.
M RANGE SW [ON/OFF]	X		X	Indicates [ON/OFF] condition of manual mode range switch.
NM RANGE SW [ON/OFF]	X		X	Indicates [ON/OFF] condition of except for manual mode range switch.
AT SFT UP SW [ON/OFF]	X		X	Indicates [ON/OFF] condition of A/T shift up switch.

UNIFIED METER AND A/C AMP

Display item [Unit]	MAIN SIG- NALS	CAN DIAG SUPPORT MNTR	SELECTION FROM MENU	Contents
AT SFT DWN SW [ON/OFF]	X		X	Indicates [ON/OFF] condition of A/T shift down switch.
BRAKE SW [ON/OFF]			X	Indicates [ON/OFF] condition of brake switch.
AT-M IND [ON/OFF]	X		X	Indicates [ON/OFF] condition of A/T manual mode indicator.
AT-M GEAR [1-8/OFF]	X		X	Indicates [1-8/OFF] condition of A/T manual mode gear position.
P RANGE IND [ON/OFF]	X		X	Indicates [ON/OFF] condition of A/T shift P range indicator.
R RANGE IND [ON/OFF]	X		X	Indicates [ON/OFF] condition of A/T shift R range indicator.
N RANGE IND [ON/OFF]	X		X	Indicates [ON/OFF] condition of A/T shift N range indicator.
D RANGE IND [ON/OFF]	X		X	Indicates [ON/OFF] condition of A/T shift D range indicator.
AT CHECK W/L [ON/OFF]			X	Indicates [ON/OFF] condition of A/T CHECK warning lamp.
CRUISE IND [ON/OFF]			X	Indicates [ON/OFF] condition of cruise indicator.
SET IND [ON/OFF]			X	Indicates [ON/OFF] condition of set indicator.
CAN CIRC 1 [OK/UNKWN]		X		Displays [OK/UNKWN] condition of the CAN communication judged by each signal input.
CAN CIRC 2 [OK/UNKWN]		X		
CAN CIRC 3 [OK/UNKWN]		X		
CAN CIRC 4 [OK/UNKWN]		X		
CAN CIRC 5 [OK/UNKWN]		X		
CAN CIRC 6 [OK/UNKWN]		X		
CAN CIRC 7 [OK/UNKWN]		X		
CAN CIRC 8 [OK/UNKWN]		X		
CAN CIRC 9 [OK/UNKWN]		X		
CAN CIRC 10 [OK/UNKWN]		X		
CAN CIRC 11 [OK/UNKWN]		X		
CAN CIRC 12 [OK/UNKWN]		X		
CAN CIRC 13 [OK/UNKWN]		X		
CAN CIRC 14 [OK/UNKWN]		X		

UNIFIED METER AND A/C AMP

Display item [Unit]	MAIN SIG- NALS	CAN DIAG SUPPORT MNTR	SELECTION FROM MENU	Contents
CAN 1 STAT [0-40] *2		X		Displays condition of the CAN communication judged by each signal input.
CAN 2 STAT [0-40]		X		
CAN 3 STAT [0-40]		X		
CAN 4 STAT [0-40]		X		
CAN 5 STAT [0-40]		X		
CAN 6 STAT [0-40]		X		
CAN 7 STAT [0-40]		X		
CAN 8 STAT [0-40]		X		
CAN 9 STAT [0-40]		X		
CAN 10 STAT [0-40]		X		
CAN 11 STAT [0-40]		X		
CAN 12 STAT [0-40]		X		
CAN 13 STAT [0-40]		X		
CAN 14 STAT [0-40]		X		

NOTE:

Any monitored item that does not match the vehicle being diagnosed is deleted from the display automatically.
 *1: Monitor keeps indicating "OFF" when break warning lamp is on by the parking break operation or low break fluid level.

*2: CAN status indicates the condition of the CAN communication judged by each signal input.

- Normal: If any problems were not found in the past, CAN status indicates "0". In case of operating properly at the present in spite of having problem in the past, then CAN status indicates "39-1".
- Malfunction: If there is a malfunction, CAN indicates "40".

After returning to normal condition, every time ignition switch is turned OFF from ON, the indication will change like "39"→"38"→"37"... "1". And if a malfunction is detected again, CAN status indicates "40". (Though returning to the normal condition, "0" is not indicated. To reset, select and press the "ERASE" on the "SELF-DIAGNOSIS" screen.)

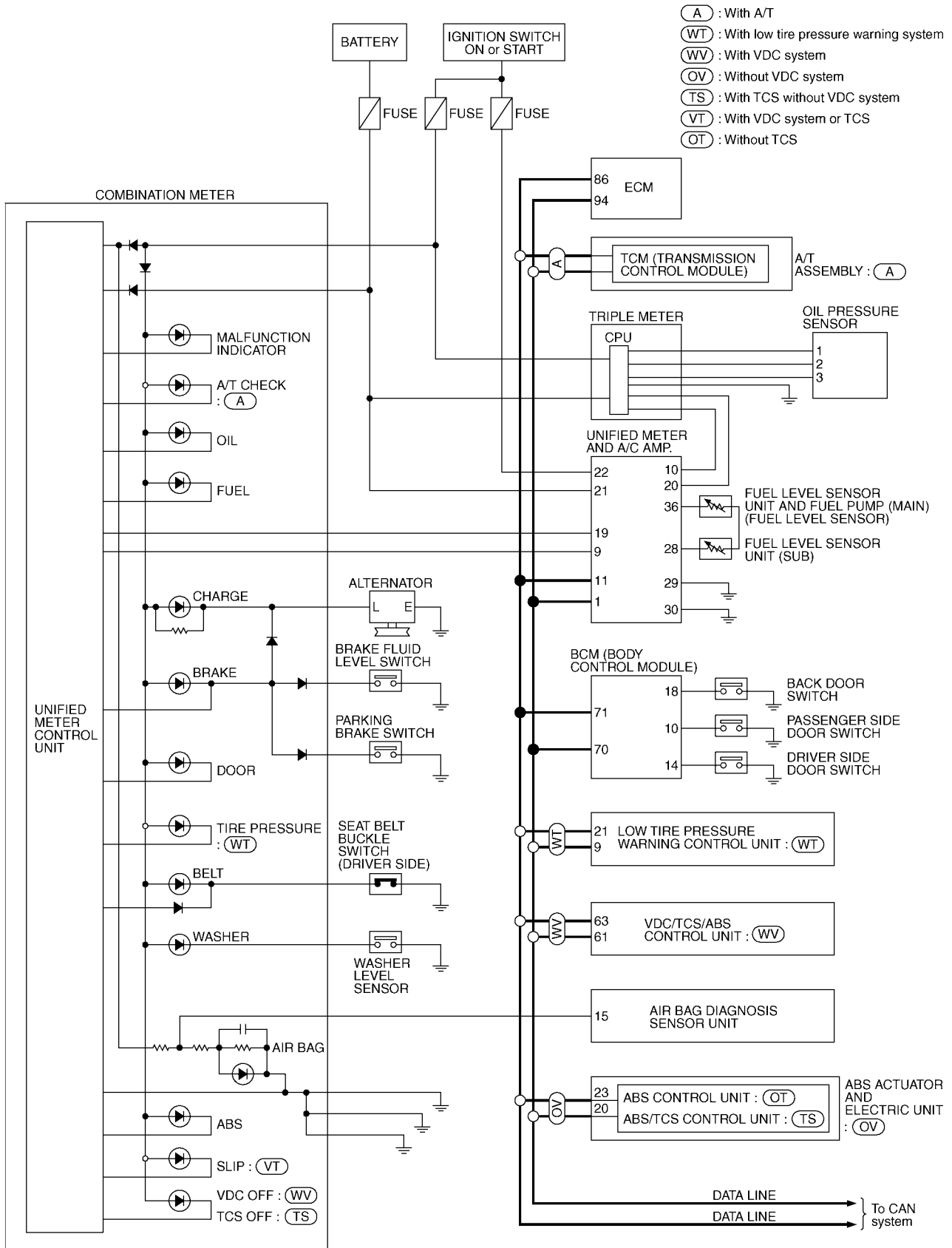
WARNING LAMPS

WARNING LAMPS

PFP:24814

Schematic

AKS000XJ



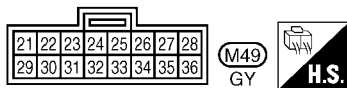
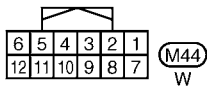
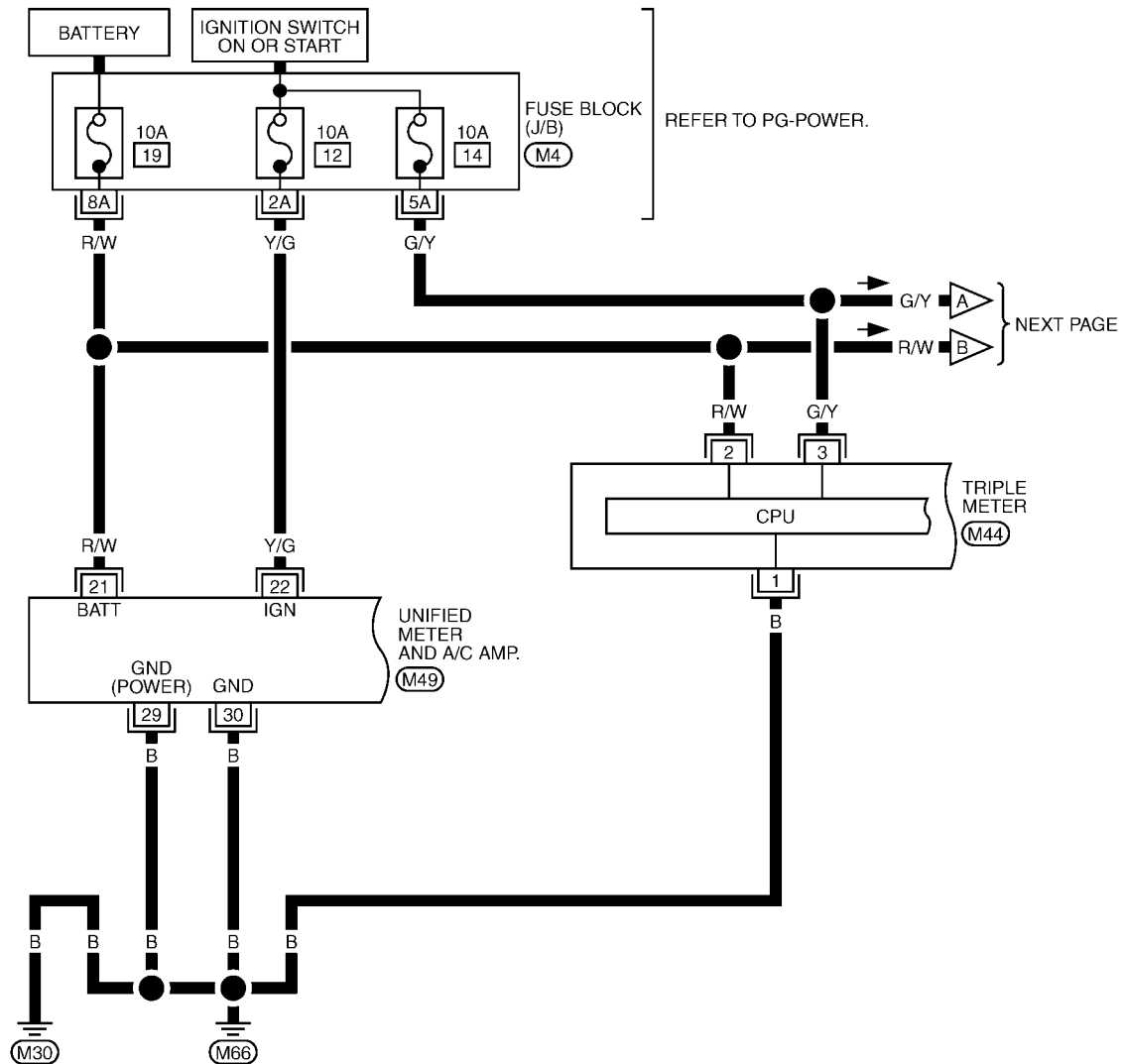
TKWT0484E

WARNING LAMPS

Wiring Diagram — WARN —

AKS000XK

DI-WARN-01



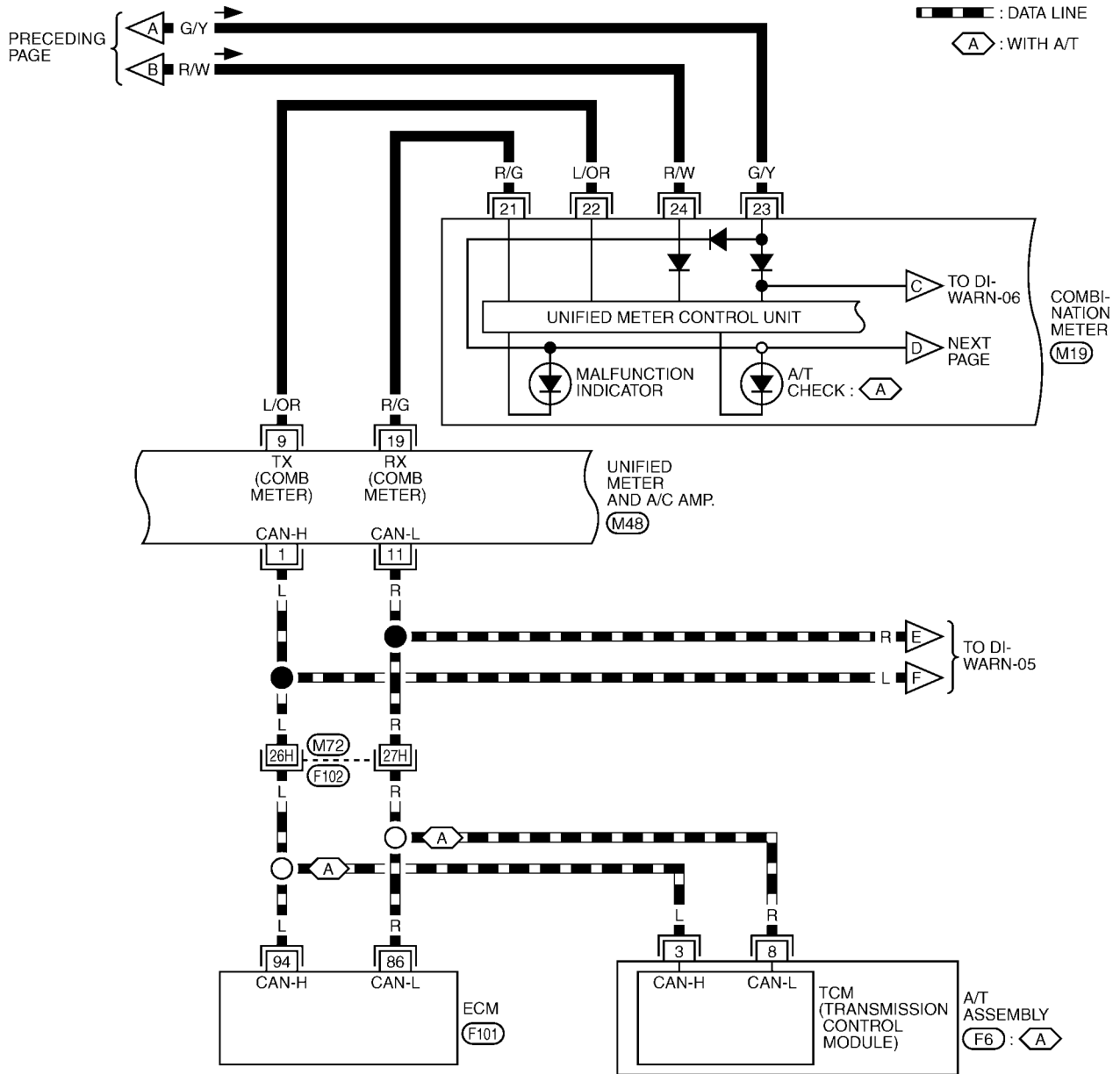
REFER TO THE FOLLOWING.

M4 - FUSE BLOCK-JUNCTION BOX (J/B)

TKWT0485E

WARNING LAMPS

DI-WARN-02



12	11	10	9	8	7	6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13

M19
W

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20

M48
GY



1	2	3	4	5
6	7	8	9	10

F6
G

REFER TO THE FOLLOWING.

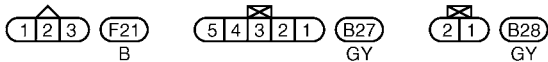
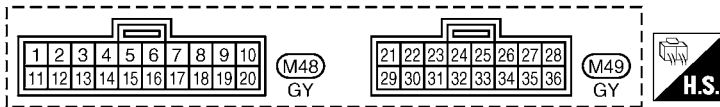
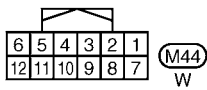
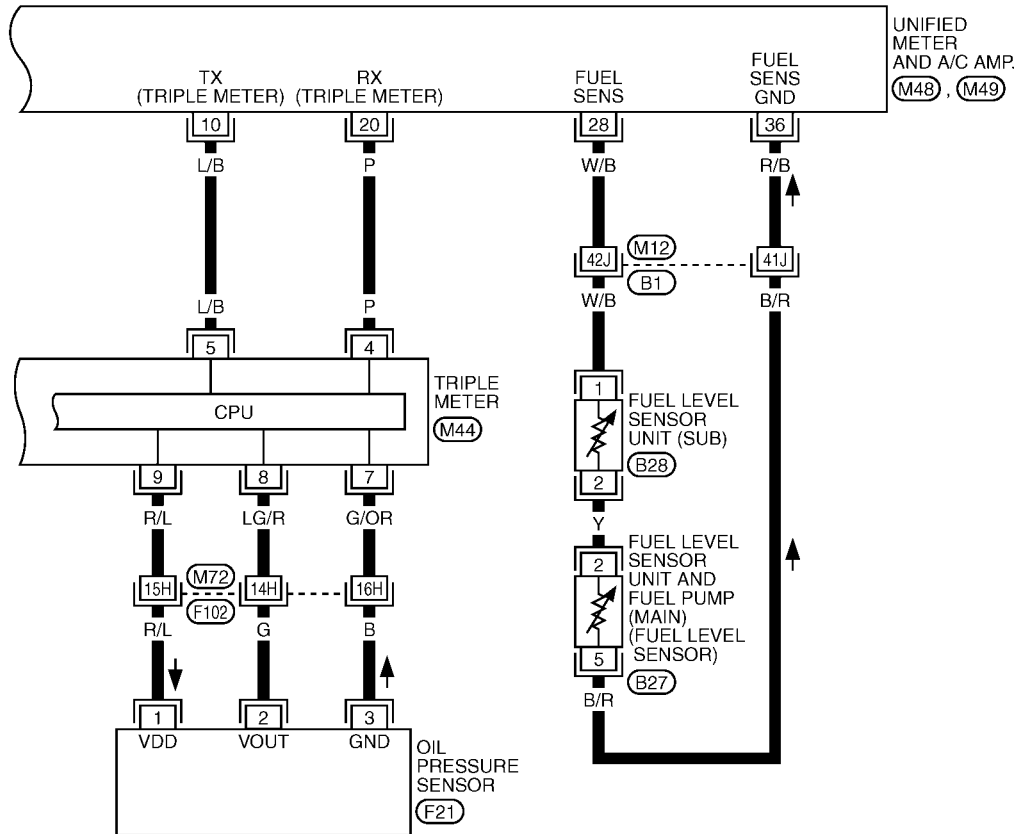
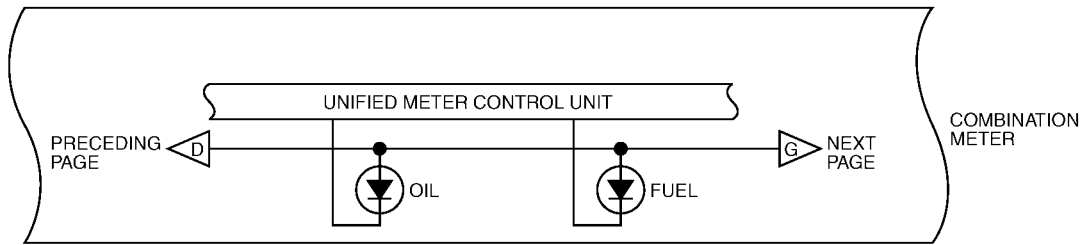
(F102) -SUPER MULTIPLE JUNCTION (SMJ)

(F101) -ELECTRICAL UNITS

TKWT0486E

WARNING LAMPS

DI-WARN-03

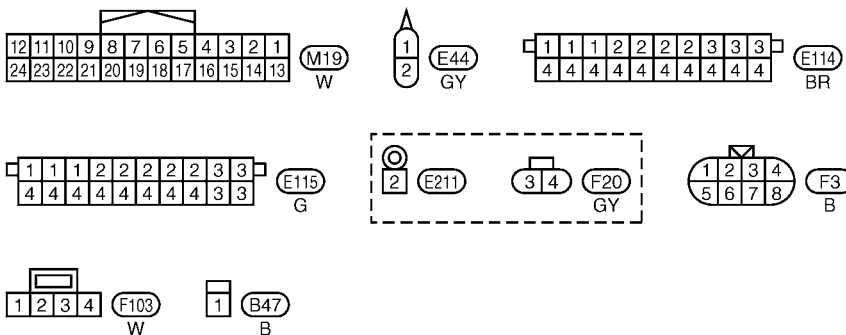
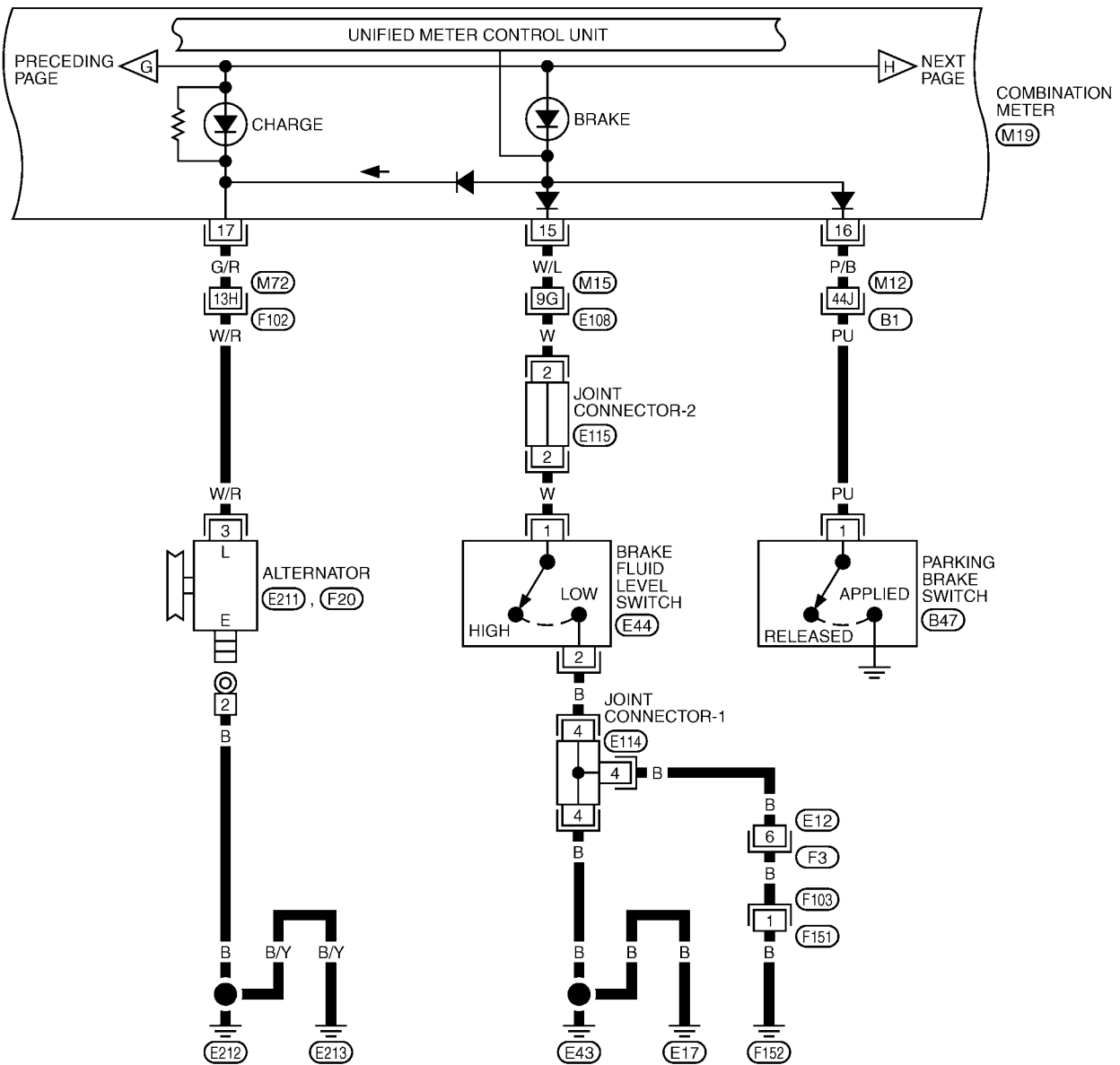


REFER TO THE FOLLOWING.
(F102), (B1) -SUPER MULTIPLE JUNCTION (SMJ)

TKWT0487E

WARNING LAMPS

DI-WARN-04



REFER TO THE FOLLOWING.
 (E108), (F102), (B1) -SUPER
 MULTIPLE JUNCTION (SMJ)

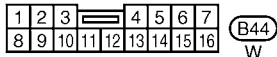
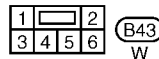
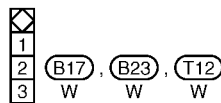
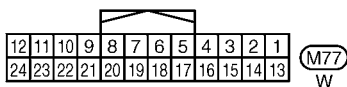
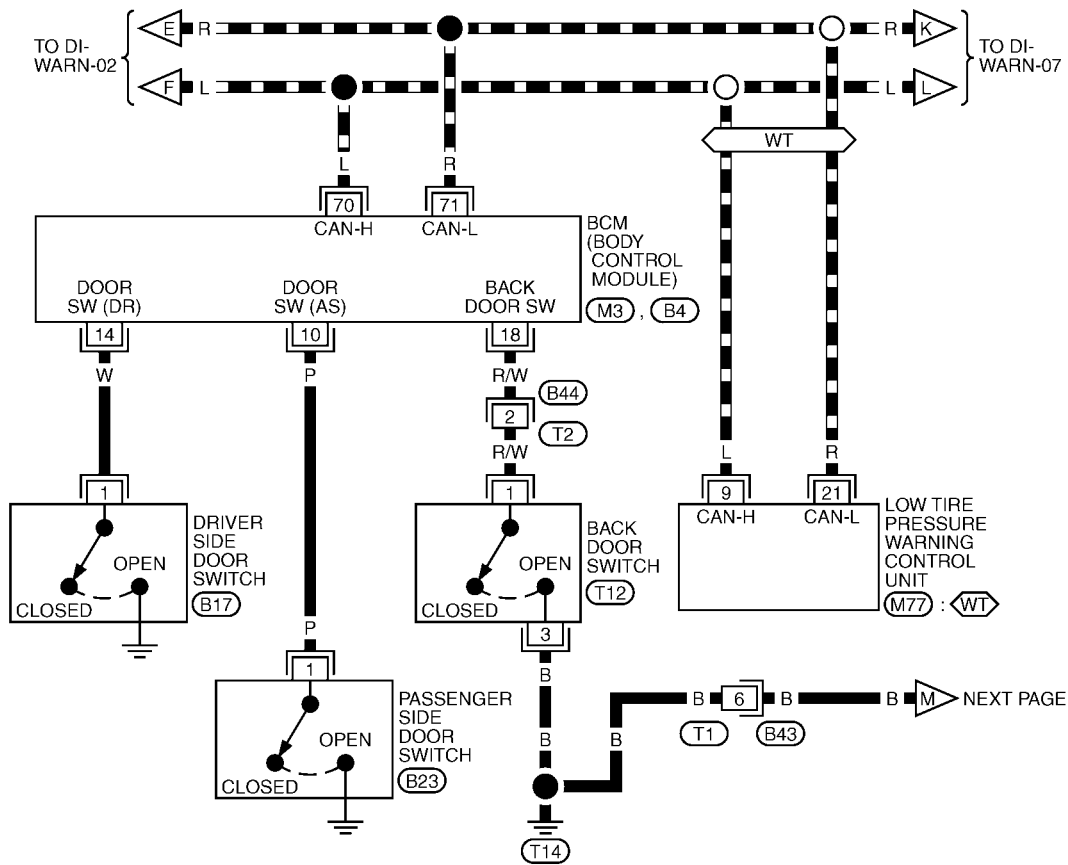
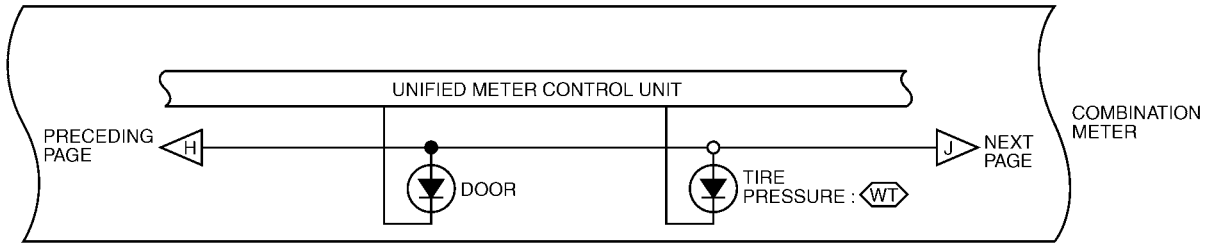
TKWT0488E

WARNING LAMPS

DI-WARN-05

DATA LINE

WT : WITH LOW TIRE PRESSURE WARNING SYSTEM

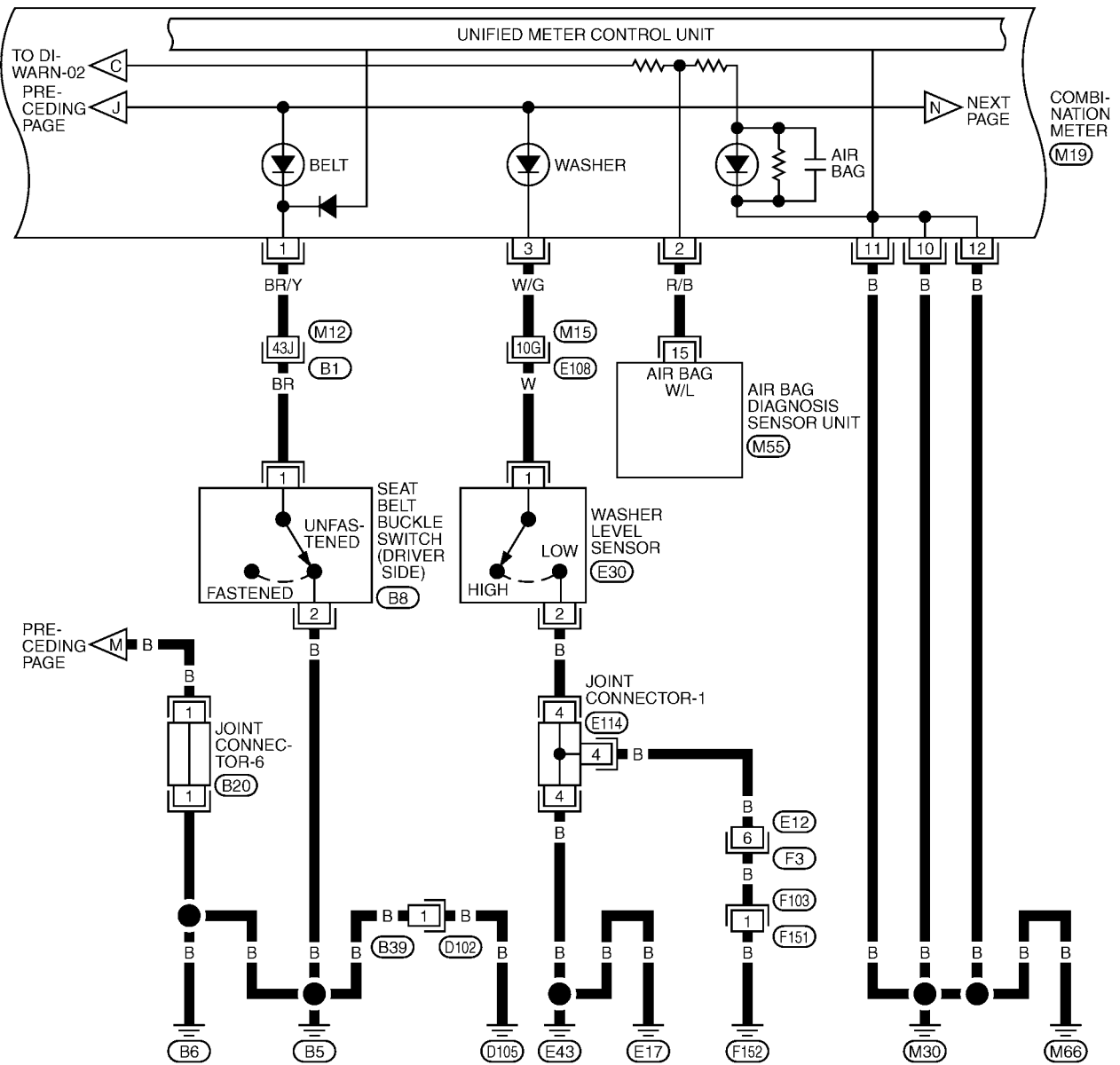


REFER TO THE FOLLOWING.
(M3), (B4) -ELECTRICAL
UNITS

TKWT0489E

WARNING LAMPS

DI-WARN-06



12	11	10	9	8	7	6	5	4	3	2	1
24	23	22	21	20	19	18	17	16	15	14	13

(M19)
W

1	49	24						17	21	20
5	6	4	3	13	45	47	48	46	11	22
2	52	18	50	23	51	14	15	19	12	16

(M55)
Y

(E30)
BR

1	1	1	2	2	2	3	3	3
4	4	4	4	4	4	4	4	4

(E114)
BR

1	2	3	4
5	6	7	8

(F3)
W

1	2	3	4
---	---	---	---

(F103)
W

1
2
3

(B8)
W

1	1	1	1	1	1
---	---	---	---	---	---

(B20)
GY

1
2

(D102)
GY

REFER TO THE FOLLOWING.

(E108), (B1) -SUPER MULTIPLE JUNCTION (SMJ)

WARNING LAMPS

DI-WARN-07

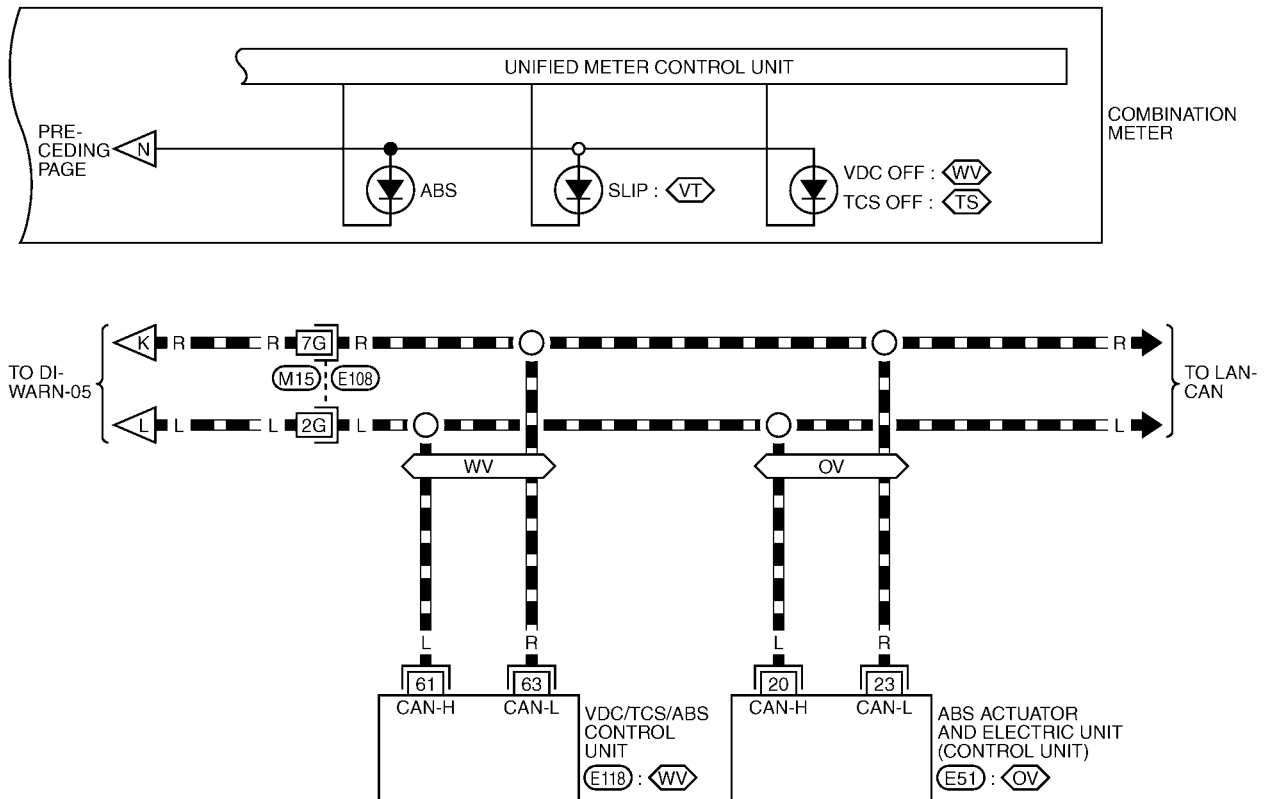
— — — — — : DATA LINE

◀WV▶ : WITH VDC SYSTEM

◀OV▶ : WITHOUT VDC SYSTEM

◀TS▶ : WITH TCS WITHOUT VDC SYSTEM

◀VT▶ : WITH VDC SYSTEM OR TCS



REFER TO THE FOLLOWING.

◀E108▶ -SUPER MULTIPLE
JUNCTION (SMJ)

◀E51▶, ◀E118▶ -ELECTRICAL
UNITS

TKWT0491E

WARNING LAMPS

Oil Pressure Warning Lamp Stays Off (Ignition Switch ON) or Stays On (Oil Pressure Is Normal)

AKS000XL

NOTE:

For oil pressure inspection, refer to [LU-7, "OIL PRESSURE CHECK"](#) .

1. CHECK SELF-DIAGNOSTIC RESULTS OF UNIFIED METER AND A/C AMP.

Select "METER A/C AMP" on CONSULT-II, and perform self-diagnosis of unified meter and A/C amp. Refer to [DI-61, "CONSULT-II Function"](#) .

Self-diagnostic results content

No malfunction detected>>GO TO 2.

Malfunction detected>>Go to [DI-16, "Symptom Chart 2"](#) in "COMBINATION METER".

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

Select "METER A/C AMP" on CONSULT-II. Operate ignition switch with "OIL W/L" of data monitor and check operation status.

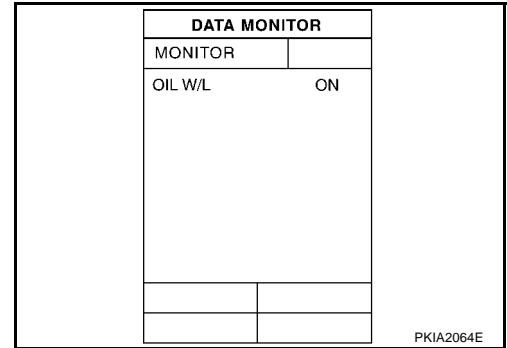
When ignition switch is in ON : OIL W/L ON position (Engine stopped.)

When engine running : OIL W/L OFF

OK or NG

OK >> Replace combination meter.

NG >> GO TO 3.



3. CHECK OIL PRESSURE SENSOR SIGNAL

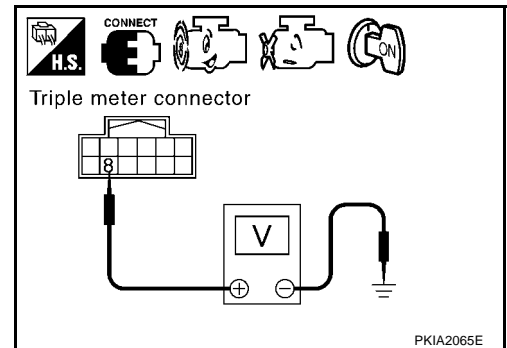
Check voltage between triple meter and ground.

Terminals			Condition	Voltage (V)
(+)		(-)		
Connector	Terminal (Wire color)			
M44	8 (LG/R)	Ground	When ignition switch is in ON position (Engine stopped)	Approx. 1
			Engine running. (When the oil pressure is 500kpa)	Approx. 3

OK or NG

OK >> Replace triple meter.

NG >> GO TO 4.



WARNING LAMPS

4. CHECK OIL PRESSURE SENSOR INPUT SIGNAL CIRCUIT

1. Disconnect triple meter and oil pressure sensor connector.
2. Check harness continuity (open circuit) between triple meter harness connector M44 terminal 8 (LG/R) and oil pressure sensor harness connector F21 terminal 2 (G).

Continuity should exist.

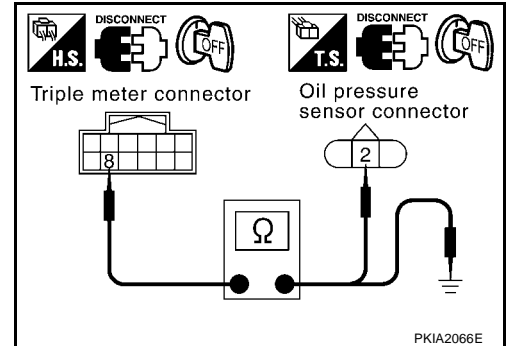
3. Check harness continuity (short circuit) between triple meter harness connector M44 terminal 8 (LG/R) and ground.

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 POWER SUPPLY CIRCUIT

1. Check harness continuity (open circuit) between triple meter harness connector M44 terminal 9 (R/L) and oil pressure sensor harness connector F21 terminal 1 (R/L).

Continuity should exist.

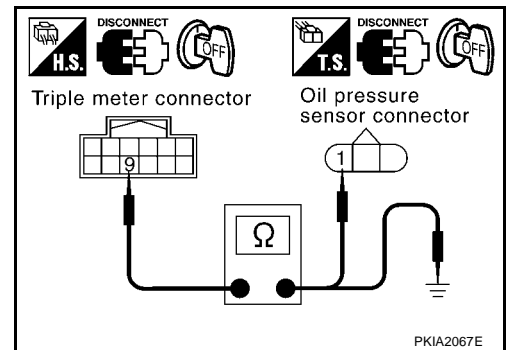
2. Check harness continuity (short circuit) between triple meter harness connector M44 terminal 9 (R/L) and ground.

Continuity should not exist.

OK or NG

OK >> GO TO 6.

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



6. CHECK OIL PRESSURE SENSOR GROUND CIRCUIT

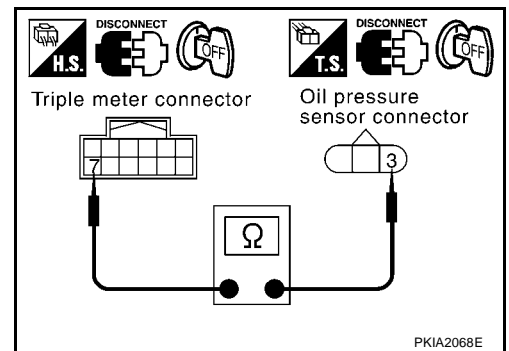
Check harness continuity (open circuit) between triple meter harness connector M44 terminal 7 (G/OR) and oil pressure sensor harness connector F21 terminal 3 (B).

Continuity should exist.

OK or NG

OK >> GO TO 7.

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



WARNING LAMPS

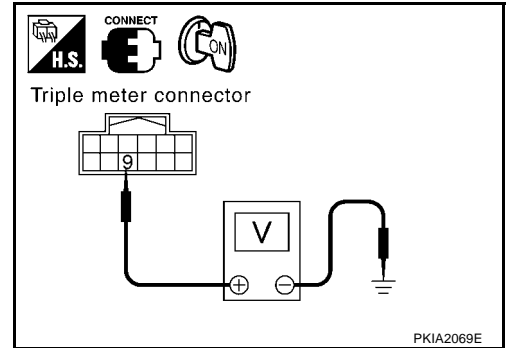
7. CHECK OIL PRESSURE SENSOR POWER SUPPLY

1. Connect triple meter connector.
2. Check voltage between triple meter harness connector M44 terminal 9 (R/L) and ground.

Approx. 5V

OK or NG

- OK >> Replace oil pressure sensor.
NG >> Replace triple meter.



A/T INDICATOR

A/T INDICATOR

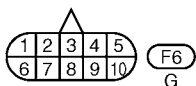
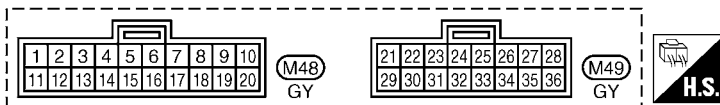
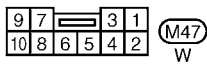
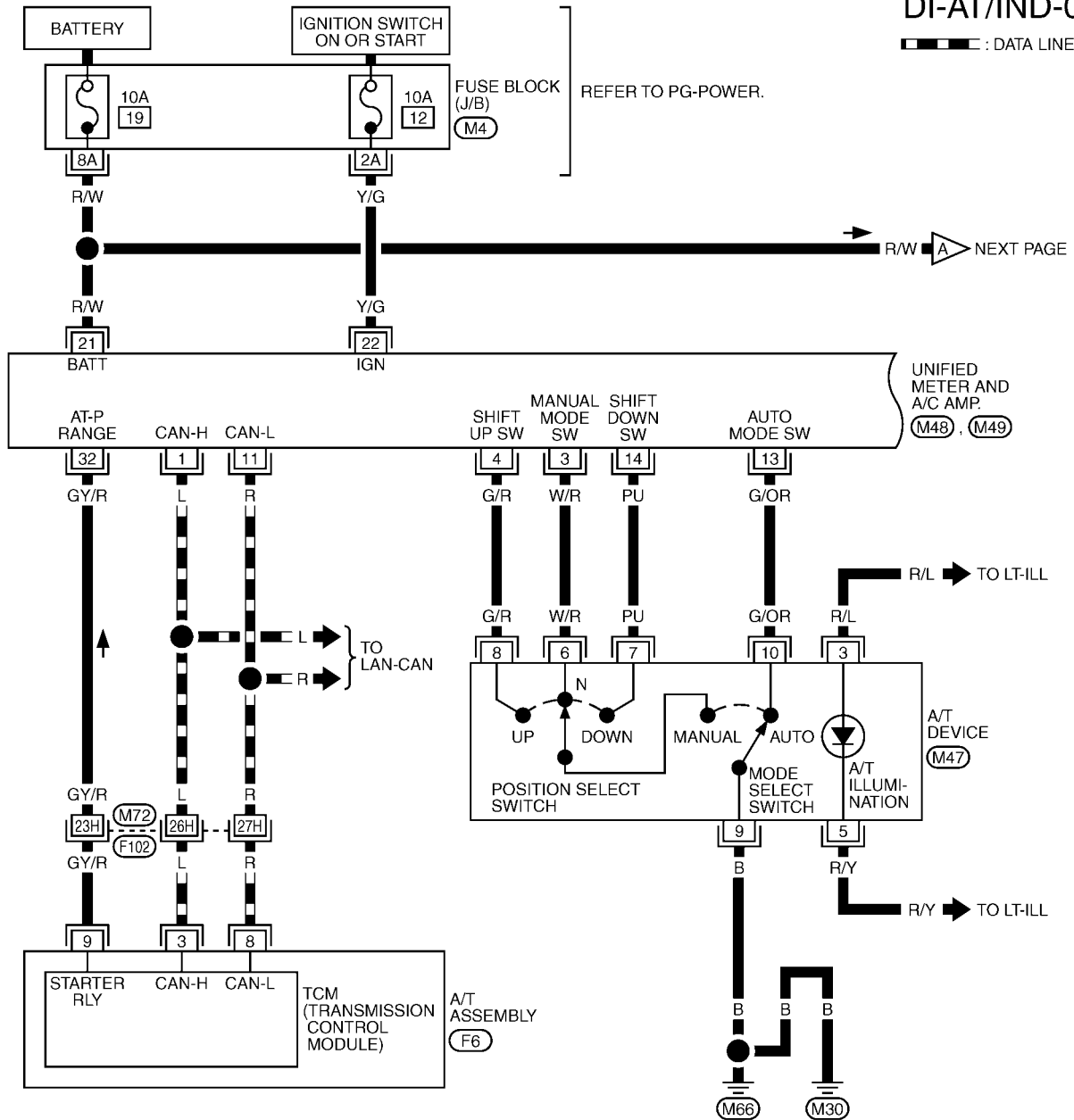
PFP:24814

Wiring Diagram — AT/IND —

AKS000XO

DI-AT/IND-01

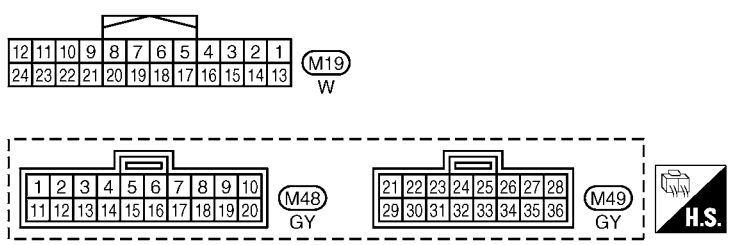
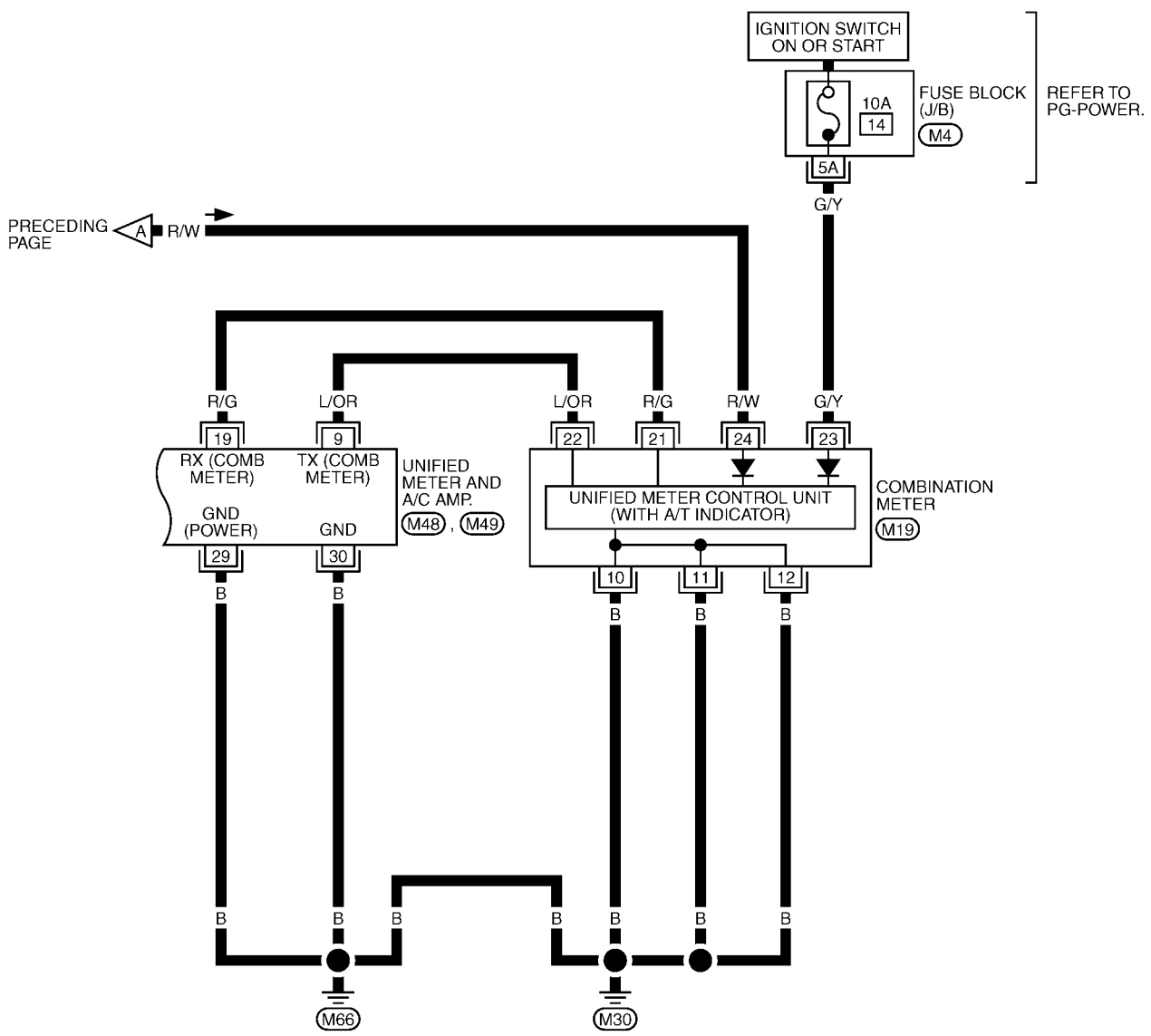
DATA LINE



REFER TO THE FOLLOWING.

(F102) -SUPER MULTIPLE JUNCTION (SMJ)

(M4) -FUSE BLOCK-JUNCTION BOX (J/B)



REFER TO THE FOLLOWING.
(M4) -FUSE BLOCK-JUNCTION BOX (J/B)

A/T INDICATOR

A/T Indicator Does Not Illuminate

AKS000XP

1. CHECK SELF-DIAGNOSIS OF COMBINATION METER

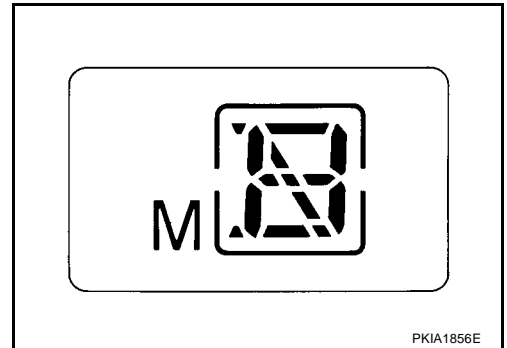
Perform combination meter self-diagnosis. Refer to [DI-12, "HOW TO ALTERNATE DIAGNOSIS MODE"](#).

Are all segments displayed?

Yes or No

Yes >> GO TO 2.

No >> Replace combination meter.



2. CHECK SELF-DIAGNOSIS RESULTS OF UNIFIED METER AND A/C AMP.

Use "METER A/C AMP" on CONSULT-II, and perform self-diagnosis of unified meter and A/C amp. Refer to [DI-61, "CONSULT-II Function"](#).

Self-diagnosis results content

No malfunction detected>>Inspection end.

Malfunction detected>>Go to [DI-16, "Symptom Chart 2"](#) in combination meter.

A/T Indicator Is Malfunction

AKS003RB

1. CHECK SELF-DIAGNOSIS OF COMBINATION METER

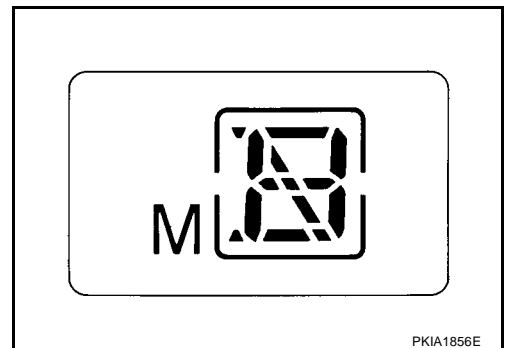
Perform combination meter self-diagnosis. Refer to [DI-12, "HOW TO ALTERNATE DIAGNOSIS MODE"](#).

Are all segments displayed?

Yes or No

Yes >> GO TO 2.

No >> Replace combination meter.



A/T INDICATOR

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

1. Lift up drive wheels.
2. Connect CONSULT-II and start engine.
3. Use "DATA MONITOR" of "METER A/C AMP" on CONSULT-II. Operate each switch with data monitor of "AT-M IND", "AT-M GEAR", "P RANGE IND", "R RANGE IND", "N RANGE IND", "N RANGE IND" and "D RANGE IND" and check operation status of applicable switches.

Switch operation	CONSULT-II display	Operation status
Manual mode range	AT-M IND	ON
Except for manual mode range		OFF
Manual mode range (shift up or down)	AT-M GEAR	1-8
Except for manual mode range		OFF
P range position	P RANGE IND	ON
Except for P range position		OFF
R range position	R RANGE IND	ON
Except for R range position		OFF
N range position	N RANGE IND	ON
Except for N range position		OFF
D range position	D RANGE IND	ON
Except for D range position		OFF

DATA MONITOR	
MONITOR	
AT-M IND	OFF
AT-M GEAR	OFF
P RANGE IND	ON
R RANGE IND	OFF
N RANGE IND	OFF
D RANGE IND	OFF

PKIA2062E

OK or NG

- OK >> Replace combination meter.
NG >> GO TO 3.

3. CHECK TCM SELF-DIAGNOSIS

Perform TCM self-diagnosis. Refer to [AT-39, "TROUBLE DIAGNOSIS"](#) .

OK or NG

- OK >> Replace unified meter and A/C amp. Refer to [ATC-111, "AUTO AMP"](#) .
NG >> Check the applicable parts.

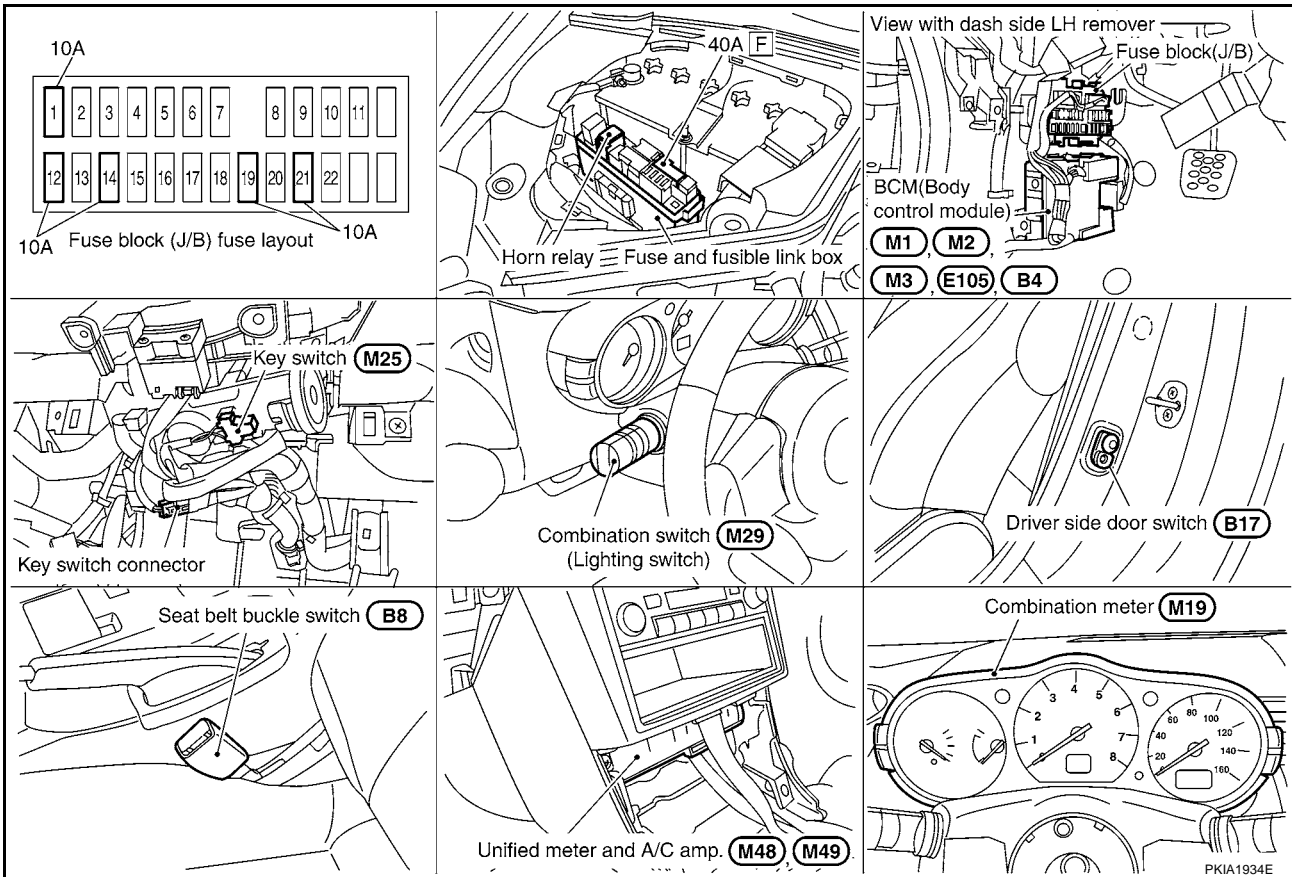
WARNING CHIME

WARNING CHIME

PFP:24814

Component Parts and Harness Connector Location

AKS000XQ



System Description FUNCTION

AKS000XR

Power is supplied at all times

- through 40A fuse (letter F, located in the fuse and fusible link box)
- to BCM terminal 7,
- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to key switch terminal 2,
- through 10A fuse [No.19, located in the fuse block (J/B)]
- to unified meter and A/C amp. terminal 21 and
- to combination meter terminal 24.

When ignition switch ON or START position, power is supplied

- through 10A fuse [No.1, located in the fuse block (J/B)]
- to BCM terminal 35,
- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to unified meter and A/C amp. terminal 22 and
- through 10A fuse [No.14, located in the fuse block (J/B)]
- to combination meter terminal 23.

Ground is supplied

- to BCM terminal 8
- through body grounds E17, E43 and F152,
- to unified meter and A/C amp. terminals 29 and 30 and
- to combination meter terminals 10,11 and 12
- through body grounds M30 and M66.

WARNING CHIME

IGNITION KEY WARNING CHIME

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

Power is supplied

- through key switch terminal 1
- to BCM terminal 62.

Ground is supplied

- to BCM terminal 14
- through driver side door switch terminal 1.

Driver side door switch is case grounded.

BCM detects key inserted into the ignition switch, and sends key warning signal to unified meter and A/C amp. with CAN communication line. Unified meter and A/C amp. sends key warning signal to combination meter with communication line between unified meter and A/C amp. and combination meter.

When combination meter receives key warning signal, it sounds warning chime.

LIGHT WARNING CHIME

With the key removed from the ignition switch, the driver's 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 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10
- to BCM terminals 40, 41, 42, 43, 47, 48, 49, 50, 51 and 52.

NOTE:

BCM detected lighting switch in 1st or 2nd position, refer to [LT-159. "Combination Switch Reading Function"](#).

Ground is supplied

- to BCM terminal 14
- through driver side door switch terminal 1.

BCM detects headlamps are illuminated, and sends light warning signal to unified meter and A/C amp. with CAN communication line. Unified meter and A/C amp. sends light warning signal to combination meter with communication line between unified meter and A/C amp. and combination meter.

When combination meter receives light warning signal, it sounds warning chime.

SEAT BELT WARNING CHIME

With ignition switch turned ON and seat belt unfastened [seat belt buckle switch (driver side) ON], warning chime will sound for approximately 6 seconds.

Ground is supplied

- to combination meter terminal 1
- through seat belt buckle switch (driver side) terminal 1.

Seat belt buckle switch (driver side) terminal 2 is grounded through body grounds B5, B6, T14 and D105.

Combination meter sends seat belt unfastened [seat belt buckle switch (driver side) ON] signal to unified meter and A/C amp. with communication line between unified meter and A/C amp. and combination meter.

BCM receives seat belt unfastened [seat belt buckle switch (driver side) ON] signal from unified meter and A/C amp. with CAN communication line, and sends seat belt warning signal to unified meter and A/C amp. with CAN communication line. Unified meter and A/C amp. sends seat belt warning signal to combination meter with communication line between unified meter and A/C amp. and combination meter.

When combination meter receives seat belt warning signal, it sounds warning chime.

CAN Communication System Description

AKS000XS

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN-H line, CAN-L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

WARNING CHIME

CAN Communication Unit

AKS003M7

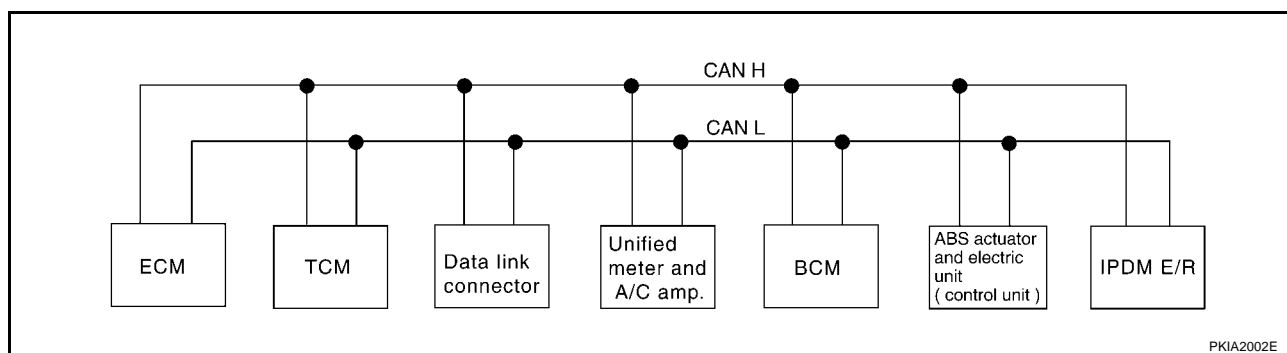
Body type	Coupe						
Axle	2WD						
Engine	VQ35DE						
Transmission	A/T	M/T					
Brake control	TCS	ABS		TCS		VDC	
Low tire pressure warning system	Not Applicable	Not Applicable	Applicable	Not Applicable	Applicable	Not Applicable	Applicable
CAN communication unit							
ECM	×	×	×	×	×	×	×
TCM	×						
Data link connector	×	×	×	×	×	×	×
Unified meter and A/C amp.	×	×	×	×	×	×	×
BCM	×	×	×	×	×	×	×
Low tire pressure warning control unit			×		×		×
Steering angle sensor						×	×
ABS actuator and electric unit (control unit)	×	×	×	×	×		
VDC/TCS/ABS control unit						×	×
IPDM E/R	×	×	×	×	×	×	×
CAN communication type	DI-83, "TYPE 1"	DI-85, "TYPE 2/ TYPE3"		DI-87, "TYPE 4/ TYPE5"		DI-88, "TYPE 6/ TYPE7"	

×: Applicable

TYPE 1

System diagram

- Type1



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	TCM	Unified meter and A/C amp.	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R	R		R	
Engine torque signal	T	R				
Engine coolant temperature signal	T	R	R			
Accelerator pedal position signal	T	R			R	
Closed throttle position signal	T	R				
Wide open throttle position signal	T	R				

WARNING CHIME

Signals	ECM	TCM	Unified meter and A/C amp.	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Battery voltage signal	T	R				
Stop lamp switch signal		R	T			
Fuel consumption monitor signal	T		R			
A/T self-diagnosis signal	R	T				
A/T CHECK indicator lamp signal		T	R			
A/T position indicator signal		T	R		R	
ABS operation signal		R			T	
A/T shift schedule change demand signal		R			T	
Air conditioner switch signal	R			T		
A/C compressor request signal	T					R
A/C compressor feedback signal	T		R			
Blower fan motor switch signal	R			T		
Cooling fan speed request signal	T					R
Position lights request signal			R	T		R
Low beam request signal				T		R
Low beam status signal	R					T
High beam request signal			R	T		R
High beam status signal	R					T
Vehicle speed signal			R		T	
	R	R	T	R		
Sleep request 1 signal			R	T		
Sleep request 2 signal				T		R
Wake up request 1 signal			R	T		
Door switch signal			R	T		R
Turn indicator signal			R	T		
Seat belt buckle switch signal			T	R		
Buzzer output signal			R	T		
Fuel level sensor signal	R		T			
Malfunction indicator lamp signal	T		R			
ASCD SET lamp signal	T		R			
ASCD operation signal	T	R				
ASCD CRUISE lamp signal	T		R			
Overdrive cancel signal	T	R				
Output shaft revolution signal	R	T				
Turbine revolution signal	R	T				
Front wiper request signal				T		R
Front wiper stop position signal				R		T
Rear window defogger switch signal				T		R
Rear window defogger control sig- nal	R					T
Manual mode signal		R	T			
Not manual mode signal		R	T			

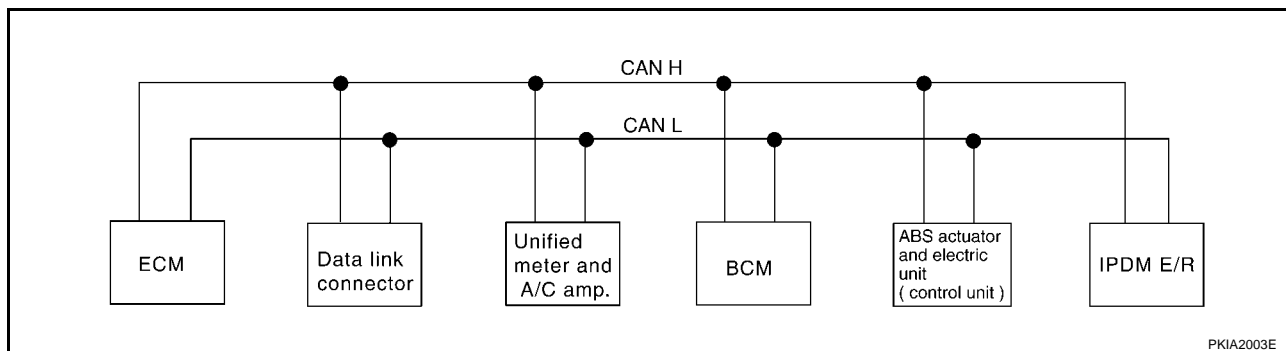
WARNING CHIME

Signals	ECM	TCM	Unified meter and A/C amp.	BCM	ABS actuator and electric unit (control unit)	IPDM E/R
Manual mode shift up signal		R	T			
Manual mode shift down signal		R	T			
Manual mode indicator signal		T	R			
Hood switch signal				R		T
Theft warning horn request signal				T		R
Horn chirp signal				T		R
ABS warning lamp signal			R		T	
TCS OFF indicator lamp signal			R		T	
SLIP indicator lamp signal			R		T	
Brake (EBD) warning lamp signal			R		T	

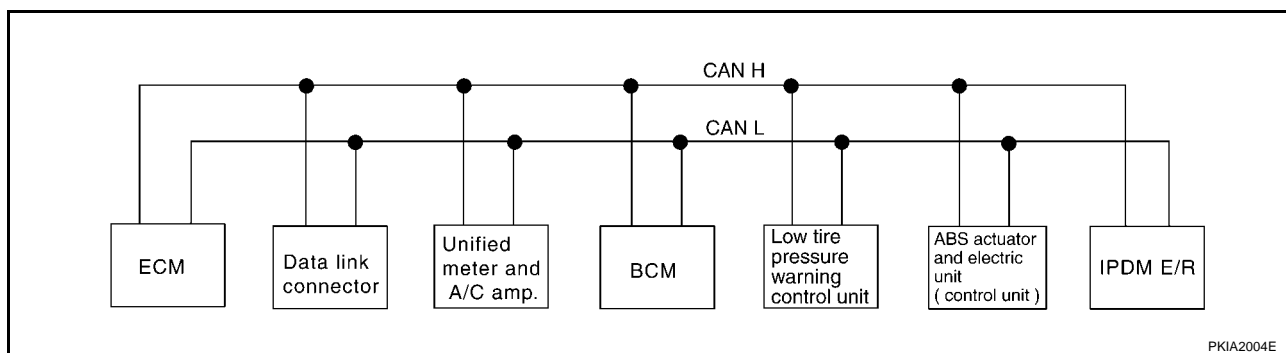
TYPE 2/TYPE3

System diagram

- Type2



- Type3



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Unified meter and A/C amp.	BCM	Low tire pressure warning control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R			R	
Engine coolant temperature signal	T	R				
Accelerator pedal position signal	T				R	
Fuel consumption monitor signal	T	R				
Air conditioner switch signal	R		T			
A/C compressor request signal	T					R

WARNING CHIME

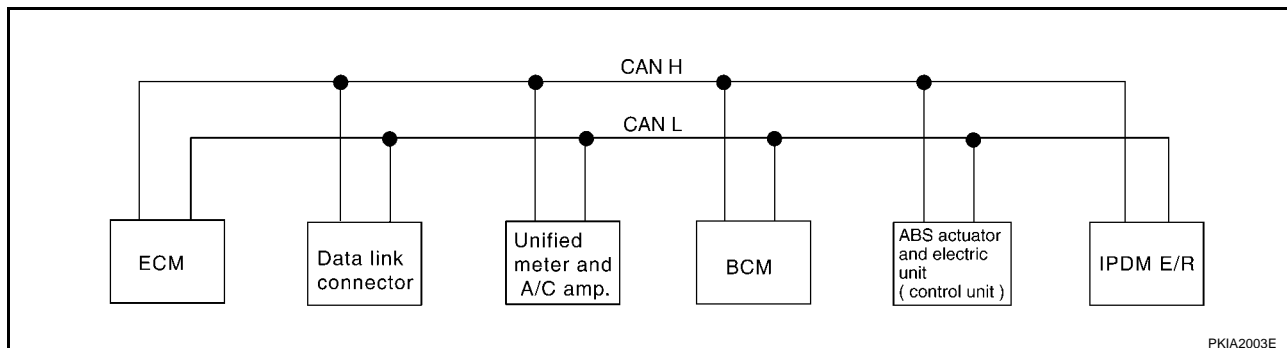
Signals	ECM	Unified meter and A/C amp.	BCM	Low tire pressure warning control unit	ABS actuator and electric unit (control unit)	IPDM E/R
A/C compressor feedback signal	T	R				
Blower fan motor switch signal	R		T			
Cooling fan speed request signal	T					R
Position lights request signal			R	T		R
Low beam request signal			T			R
Low beam status signal	R					T
High beam request signal		R	T			R
High beam status signal	R					T
Vehicle speed signal		R			T	
	R	T	R	R		
Sleep request 1 signal		R	T			
Sleep request 2 signal			T			R
Wake up request 1 signal		R	T			
Door switch signal		R	T			R
Turn indicator signal		R	T			
Seat belt buckle switch signal		T	R			
Buzzer output signal		R	T			
Fuel level sensor signal	R	T				
Malfunction indicator lamp signal	T	R				
ASCD SET lamp signal	T	R				
ASCD CRUISE lamp signal	T	R				
Front wiper request signal			T			R
Front wiper stop position signal			R			T
Rear window defogger switch signal			T			R
Rear window defogger control signal	R					T
Hood switch signal			R			T
Theft warning horn request signal			T			R
Horn chirp signal			T			R
Tire pressure signal		R		T		
ABS warning lamp signal		R			T	
Brake (EBD) warning lamp signal		R			T	

WARNING CHIME

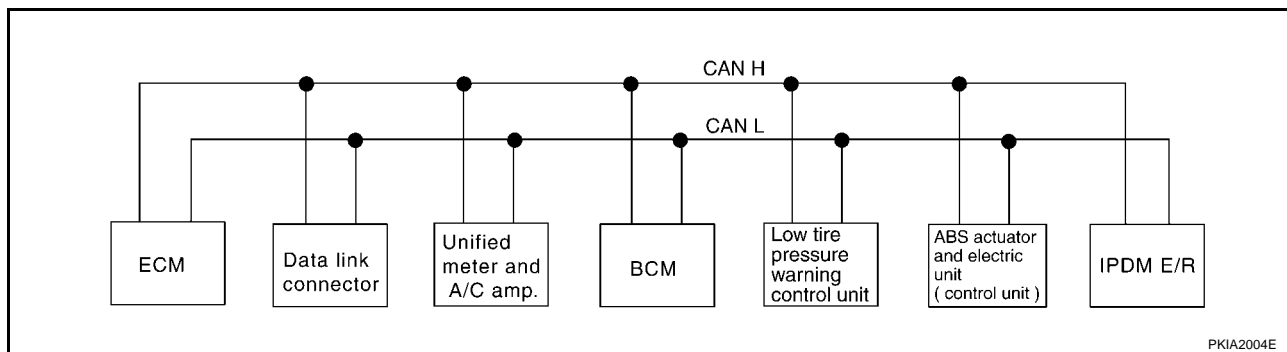
TYPE 4/TYPER5

System diagram

- Type4



- Type5



Input/output signal chart

T: Transmit R: Receive

Signals	ECM	Unified meter and A/C amp.	BCM	Low tire pressure warning control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Engine speed signal	T	R			R	
Engine coolant temperature signal	T	R				
Accelerator pedal position signal	T				R	
Fuel consumption monitor signal	T	R				
Air conditioner switch signal	R		T			
A/C compressor request signal	T					R
A/C compressor feedback signal	T	R				
Blower fan motor switch signal	R		T			
Cooling fan speed request signal	T					R
Position lights request signal		R	T			R
Low beam request signal			T			R
Low beam status signal	R					T
High beam request signal		R	T			R
High beam status signal	R					T
Vehicle speed signal		R			T	
	R	T	R	R		
Sleep request 1 signal		R	T			
Sleep request 2 signal			T			R
Wake up request 1 signal		R	T			

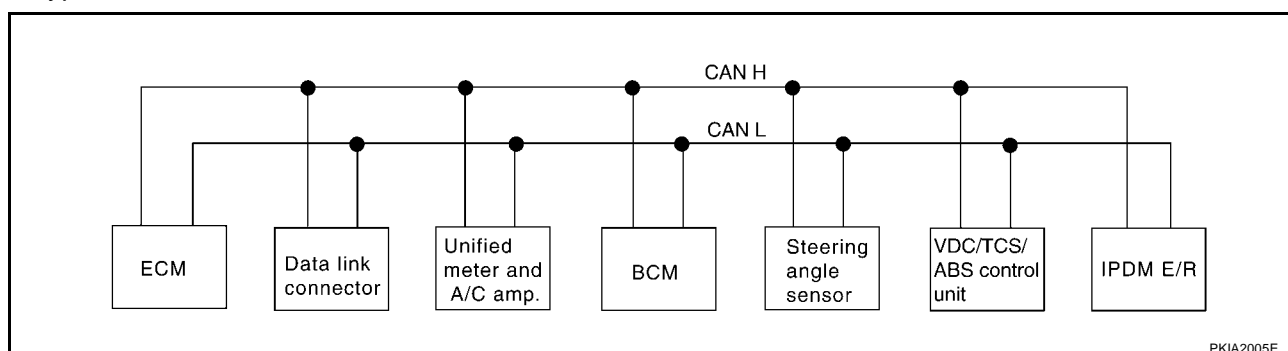
WARNING CHIME

Signals	ECM	Unified meter and A/C amp.	BCM	Low tire pressure warning control unit	ABS actuator and electric unit (control unit)	IPDM E/R
Door switch signal		R	T			R
Turn indicator signal		R	T			
Seat belt buckle switch signal		T	R			
Buzzer output signal		R	T			
Fuel level sensor signal	R	T				
Malfunction indicator lamp signal	T	R				
ASCD SET lamp signal	T	R				
ASCD CRUISE lamp signal	T	R				
Front wiper request signal			T			R
Front wiper stop position signal			R			T
Rear window defogger switch signal			T			R
Rear window defogger control signal	R					T
Hood switch signal			R			T
Theft warning horn request signal			T			R
Horn chirp signal			T			R
Tire pressure signal		R		T		
ABS warning lamp signal		R			T	
TCS OFF indicator lamp signal		R			T	
SLIP indicator lamp signal		R			T	
Brake (EBD) warning lamp signal		R			T	

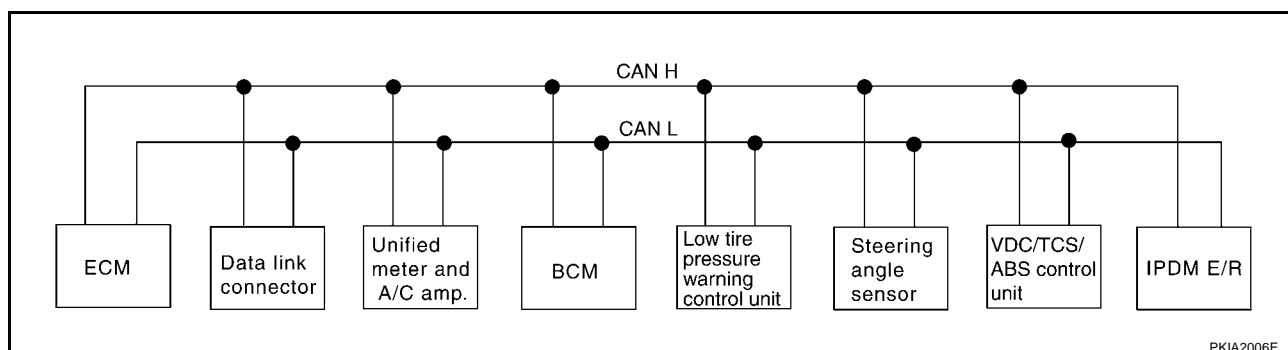
TYPE 6/TYPE7

System diagram

- Type6



- Type7



WARNING CHIME

Input/output signal chart

T: Transmit R: Receive

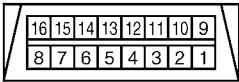
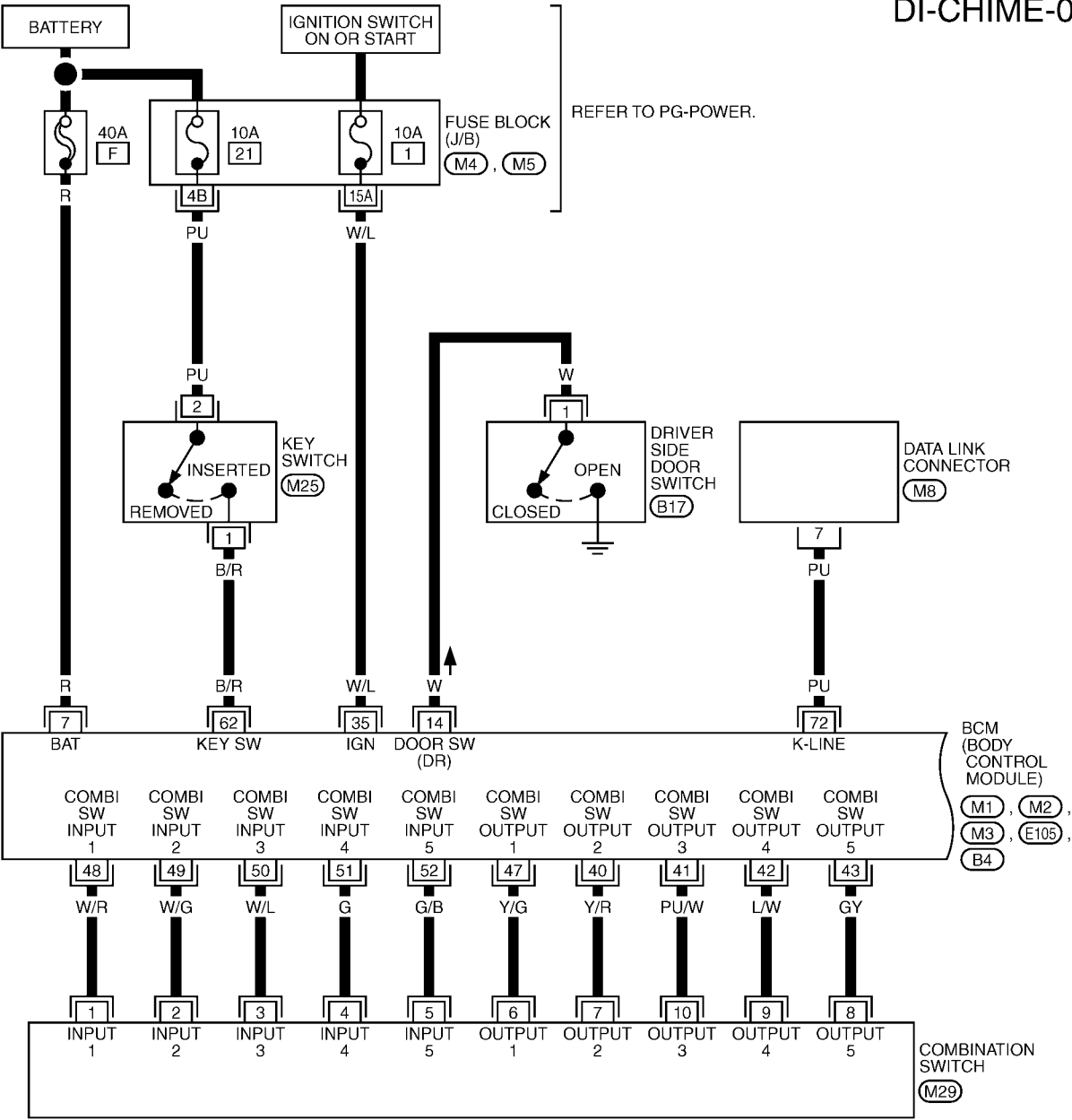
Signals	ECM	Unified meter and A/C amp.	BCM	Low tire pressure warning control unit	Steering angle sensor	VDC/TCS/ABS control unit	IPDM E/R
Engine speed signal	T	R				R	
Engine coolant temperature signal	T	R					
Accelerator pedal position signal	T					R	
Fuel consumption monitor signal	T	R					
Air conditioner switch signal	R		T				
A/C compressor request signal	T						R
A/C compressor feedback signal	T	R					
Blower fan motor switch signal	R		T				
Cooling fan speed request signal	T						R
Position lights request signal		R	T				R
Low beam request signal			T				R
Low beam status signal	R						T
High beam request signal		R	T				R
High beam status signal	R						T
Vehicle speed signal		R				T	
	R	T	R	R			
Sleep request 1 signal		R	T				
Sleep request 2 signal			T				R
Wake up request 1 signal		R	T				
Door switch signal		R	T				R
Turn indicator signal		R	T				
Seat belt buckle switch signal		T	R				
Buzzer output signal		R	T				
Fuel level sensor signal	R	T					
Malfunction indicator signal	T	R					
ASCD SET lamp signal	T	R					
ASCD CRUISE lamp signal	T	R					
Front wiper request signal			T				R
Front wiper stop position signal			R				T
Rear window defogger switch signal			T				R
Rear window defogger control signal	R						T
Hood switch signal			R				T
Theft warning horn request signal			T				R
Horn chirp signal			T				R
Steering angle sensor signal					T	R	
Tire pressure signal		R		T			
ABS warning lamp signal		R				T	
VDC OFF indicator lamp signal		R				T	
SLIP indicator lamp signal		R				T	
Brake (EBD) warning lamp signal		R				T	

WARNING CHIME

Wiring Diagram — CHIME —

AKS000XT

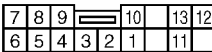
DI-CHIME-01



M8
W



M25
BR



M29
W



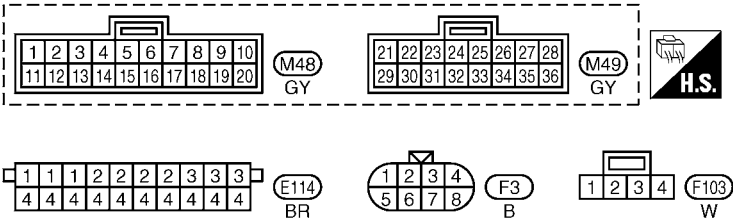
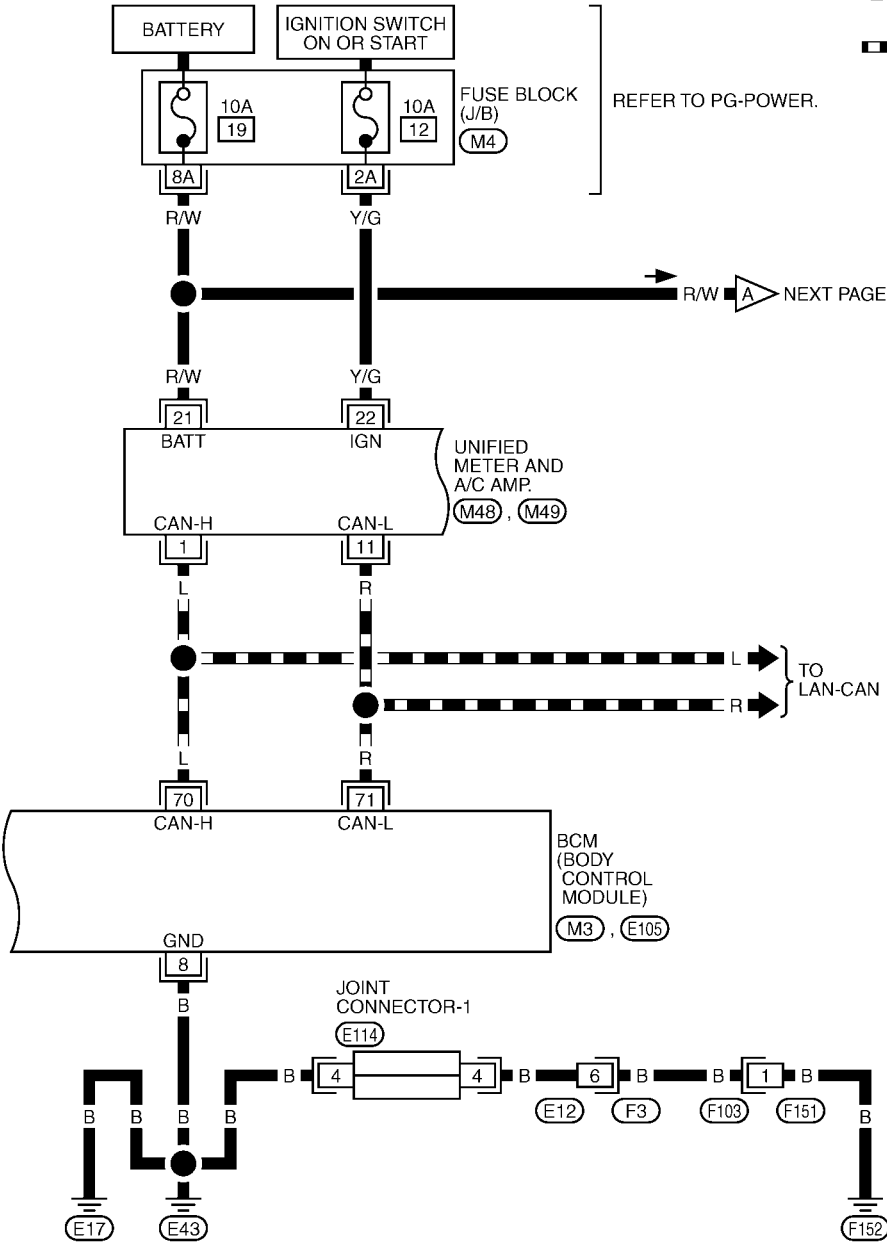
B17
W

REFER TO THE FOLLOWING.
(M4), (M5) -FUSE BLOCK-
JUNCTION BOX (J/B)
(M1), (M2), (M3), (E105),
(B4) -ELECTRICAL UNITS

WARNING CHIME

DI-CHIME-02

▬ : DATA LINE



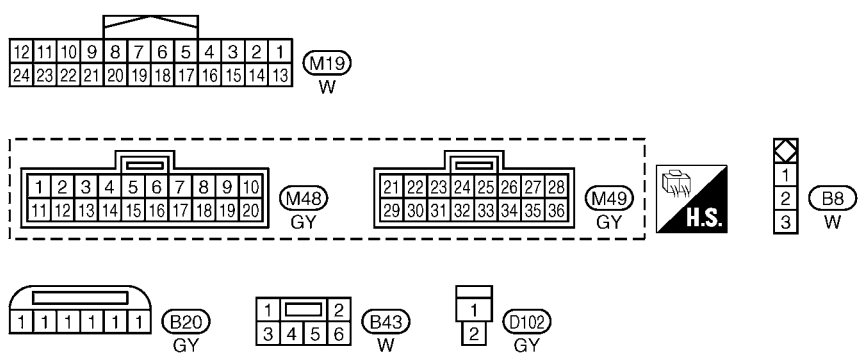
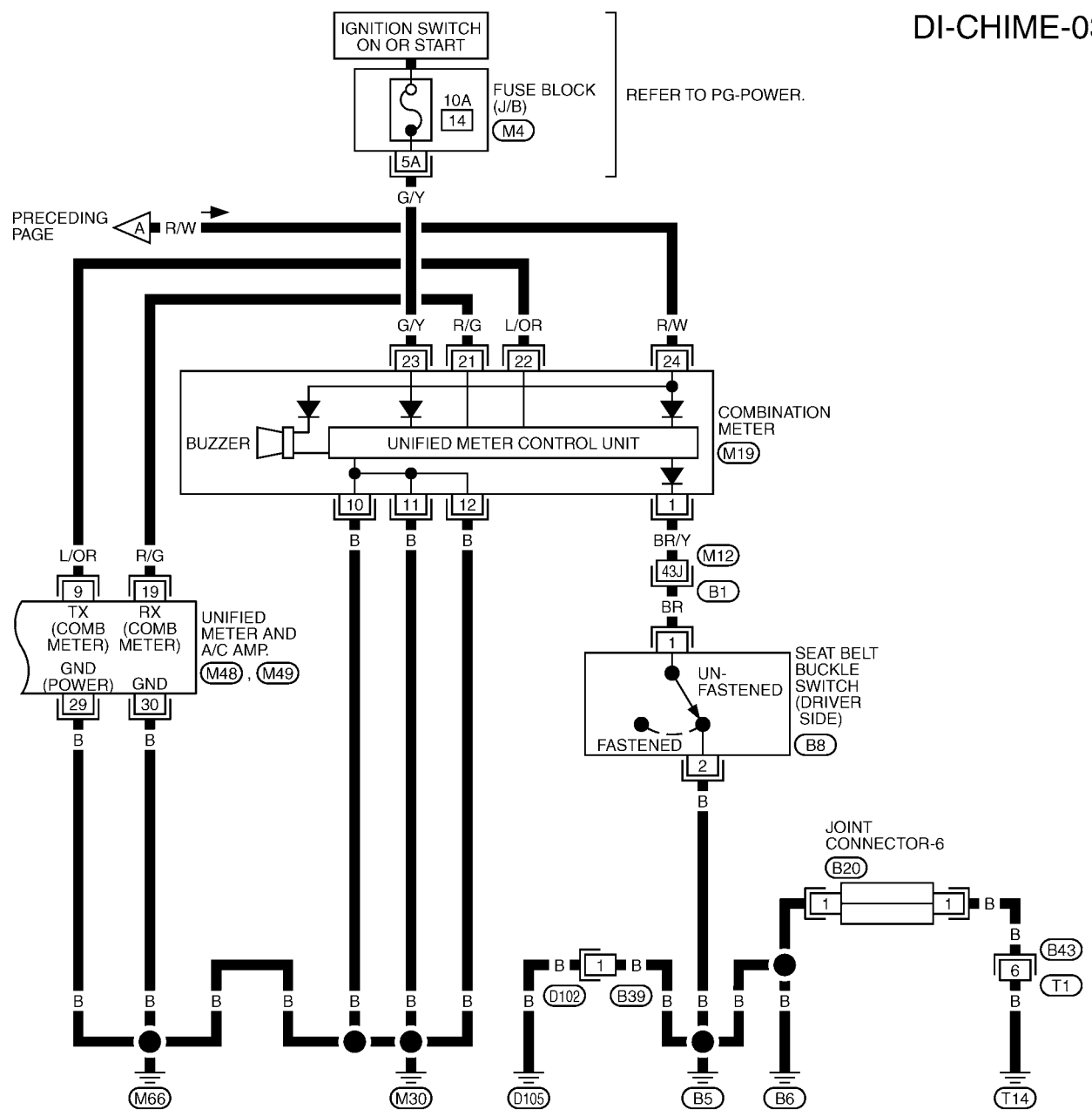
REFER TO THE FOLLOWING.

(M4) -FUSE BLOCK-JUNCTION BOX (J/B)

(M3, E105) -ELECTRICAL UNITS

WARNING CHIME

DI-CHIME-03

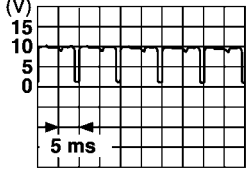


REFER TO THE FOLLOWING.
(B1) -SUPER MULTIPLE JUNCTION (SMJ)
(M4) -FUSE BLOCK-JUNCTION BOX (J/B)

WARNING CHIME

Terminals and Reference Value for BCM

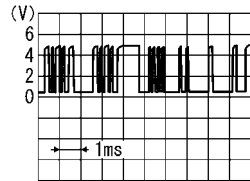
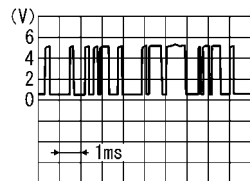
AKS000XU

Terminal No.	Wire color	Item	Condition		Reference value (V)
			Ignition switch	Measurement method	
7	R	Battery power supply	OFF	—	Battery voltage
8	B	Ground	ON	—	Approx. 0
14	W	Driver side door switch signal	OFF	ON (open)	Approx. 0
				OFF (closed)	Approx. 5
35	W/L	Ignition switch ON or START	ON	—	Battery voltage
40	Y/R	Combination switch output 2	ON	—	
41	PU/W	Combination switch output 3			
42	L/W	Combination switch output 4			
43	GY	Combination switch output 5			
47	Y/G	Combination switch output 1			
48	W/R	Combination switch input 1	ON	Lighting switch and wiper switch are OFF.	4.5 or more
49	W/G	Combination switch input 2			
50	W/L	Combination switch input 3			
51	G	Combination switch input 4			
52	G/B	Combination switch input 5			
62	B/R	Key switch signal	OFF	Key is removed	Approx. 0
				Key is inserted	Battery voltage
70	L	CAN-H	OFF	—	—
71	R	CAN-L	OFF	—	—

SKIA1119J

Terminals and Reference Value for Unified Meter and A/C Amp.

AKS002TU

Terminal No.	Wire color	Item	Condition		Reference value (V)
			Ignition switch	Measurement method	
1	L	CAN-H	OFF	—	—
9	L/OR	TX communication line (To combination meter)	ON	—	
11	R	CAN-L	OFF	—	—
19	R/G	RX communication line (From combination meter)	ON	—	
21	R/W	Battery power supply	OFF	—	Battery voltage
22	Y/G	Ignition switch ON or START	ON	—	Battery voltage
29	B	Ground (power)	ON	—	Approx. 0
30	B	Ground	ON	—	Approx. 0

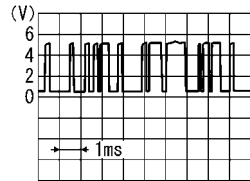
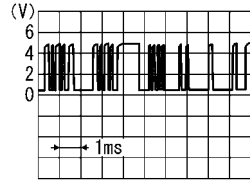
SKIA3362E

SKIA3361E

WARNING CHIME

Terminals and Reference Value for Combination Meter

AKS002V9

Terminal No.	Wire color	Item	Condition		Reference value (V)
			Ignition switch	Measurement method	
1	BR/Y	Seat belt buckle switch (Driver side)	ON	Unfastened (ON)	Approx. 0
				Fastened (OFF)	Approx. 5
10	B	Ground	ON	—	Approx. 0
11	B	Ground	ON	—	Approx. 0
12	B	Ground	ON	—	Approx. 0
21	R/G	TX communication line (To unified meter and A/C amp.)	ON	—	 <p>SKIA3361E</p>
22	L/OR	RX communication line (From unified meter and A/C amp.)	ON	—	 <p>SKIA3362E</p>
23	G/Y	Ignition switch ON or START	OFF	—	Battery voltage
24	R/W	Battery power supply	OFF	—	Battery voltage

How to Proceed With Trouble Diagnosis

AKS000XV

1. Confirm the malfunction symptom or customer complaint.
2. Understand operation description and function description. Refer to [DI-81, "System Description"](#).
3. Carry out the Preliminary Check. Refer to [DI-95, "Preliminary Check"](#).
4. Select "METER A/C AMP" on CONSULT-II, and perform self-diagnosis of unified meter and A/C amp. Refer to [DI-61, "CONSULT-II Function"](#). When no malfunction detected, go to next step 5. When malfunction detected, go to [DI-62, "Display Item List"](#) in "UNIFIED METER AND A/C AMP".
5. Check symptom and repair or replace the cause of malfunction.
6. Does the warning chime operate normally? If YES, go to 7. If NO, go to 5.
7. Inspection end.

Preliminary Check

INSPECTION FOR POWER SUPPLY AND GROUND CIRCUIT

AKS000XW

1. CHECK FUSES

- Check for blown BCM fuses.

Unit	Power source	Fuse No.
BCM	Battery	F
	Ignition switch ON or START position	1

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"](#).

WARNING CHIME

2. POWER SUPPLY CIRCUIT CHECK

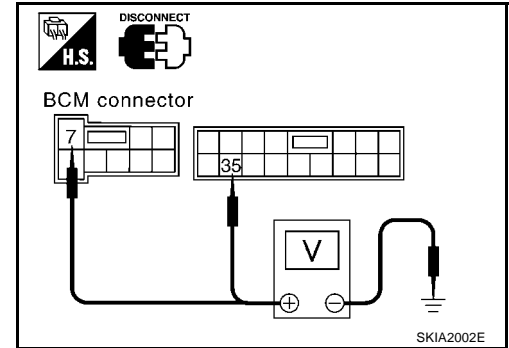
1. Disconnect BCM connector.
2. Check voltage between BCM harness connector and ground.

Terminals		Ignition switch position			
(+)		(-)	OFF	ACC	ON
Connector	Terminal (Wire color)				
E105	7 (R)	Ground	Battery voltage	Battery voltage	Battery voltage
M1	35 (W/L)		0V	0V	Battery voltage

OK or NG

OK >> GO TO 3.

NG >> Check harness for open between BCM and fuse.



3. GROUND CIRCUIT CHECK

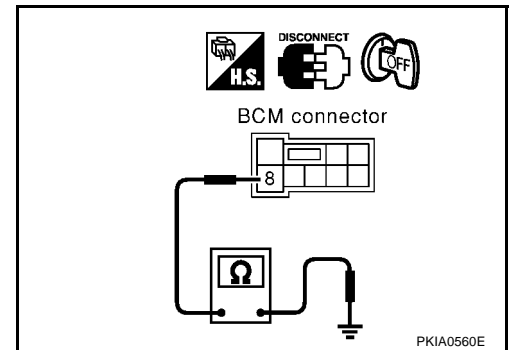
Check continuity between BCM and ground.

Terminals			Continuity
(+)		(-)	
Connector	Terminal (wire color)		
E105	8 (B)	Ground	Yes

OK or NG

OK >> Inspection end.

NG >> Check harness ground circuit.



CONSULT-II Function

- CONSULT-II executes the following functions by combining data reception and command transmission via the communication line from BCM. Work support, self-diagnosis, data monitor, and active test display.

DIAGNOSTIC ITEMS DESCRIPTION

BCM diagnosis position	Diagnosis mode	Description
KEY WARN ALM	Data monitor	The input data to the BCM control unit is displayed in real time.
	Active test	Operation of electrical loads can be checked by sending driving signal to them.
LIGHT WARN ALM	Data monitor	The input data to the BCM control unit is displayed in real time.
	Active test	Operation of electrical loads can be checked by sending driving signal to them.
SEAT BELT ALM	Data monitor	The input data to the BCM control unit is displayed in real time.
	Active test	Operation of electrical loads can be checked by sending driving signal to them.
BCM	Self-diagnostic	BCM performs self-diagnosis of CAN communication and combination switch.

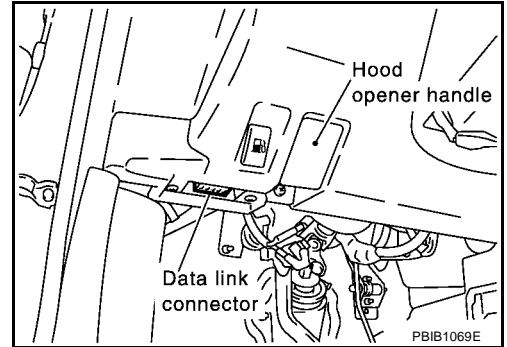
CONSULT-II BASIC OPERATION PROCEDURE

CAUTION:

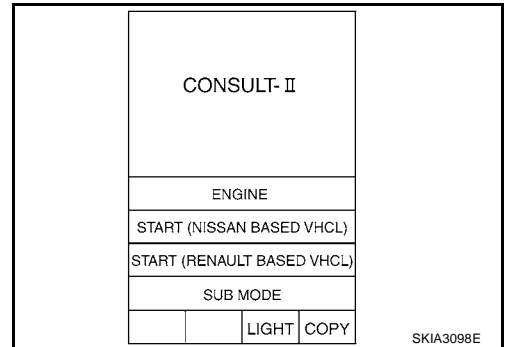
If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

WARNING CHIME

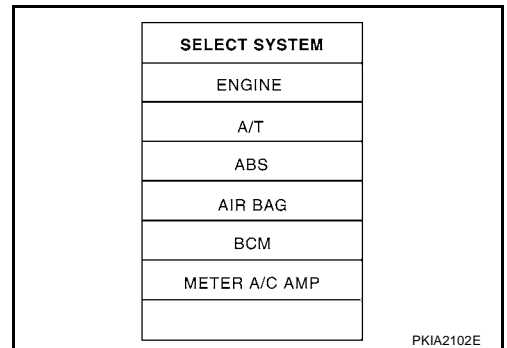
1. With the ignition switch OFF, connect CONSULT-II to the data link connector, and turn the ignition switch ON.



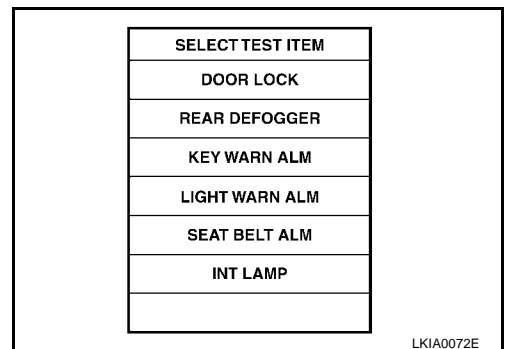
2. Touch "START (NISSAN BASED VHCL)".



3. Touch "BCM" on "SELECT SYSTEM" screen. If "BCM" is not indicated, go to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



4. Touch "KEY WARN ALM", "LIGHT WARN ALM", "SEAT BELT ALM" or "BCM C/U".
5. Select "DATA MONITOR" "ACTIVE TEST" or "SELF-DIAG RESULTS".



DATA MONITOR

Operation procedure

1. Touch "IGN WARN ALM", "LIGHT WARN ALM" or "SEAT BELT ALM" 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 main items.
SELECTION FROM MENU	Selects and monitors items.

4. Touch "START".

WARNING CHIME

5. If “SELECTION FROM MENU” is selected, touch the desired monitor item. If “ALL SIGNALS” is selected, all items required to control are monitored.
6. During monitoring, touching “RECORD” can start recording the monitored item status.

Data monitor item (Key warning chime)

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 driver side door switch.

Data monitor item (Light warning chime)

Monitored item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
DOOR SW-DR	Indicates [ON/OFF] condition of driver side door switch.
TAIL LAMP SW	Indicates [ON/OFF] condition of lighting switch.

Data monitor item (Seat belt warning chime)

Monitored item	Description
IGN ON SW	Indicates [ON/OFF] condition of ignition switch.
SEAT BELT SW	Indicates [ON/OFF] condition of seat belt buckle switch.

ACTIVE TEST

Operation procedure

1. Touch “IGN WARN ALM”, “LIGHT WARN ALM” or “SEAT BELT ALM” 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 (Key warning chime)

Test item	Malfunction is detected when...
CHIME	This test is able to check key warning chime operation. Key warning chime sounds for 2 seconds after touching “ON” on CONSULT-II screen.

Active test item (Light warning chime)

Test item	Malfunction is detected when...
CHIME	This test is able to check light warning chime operation. Light warning chime sounds for 2 seconds after touching “ON” on CONSULT-II screen.

Active test item (Seat belt warning chime)

Test item	Malfunction is detected when...
CHIME	This test is able to check seat belt warning chime operation. Seat belt warning chime sounds for 2 seconds after touching “ON” on CONSULT-II screen.

SELF-DIAGNOSTIC RESULTS

Operation Procedure

1. Touch “BCM C/U” 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.

WARNING CHIME

All Warnings Are Not Operated

AKS000XY

1. CHECK CHIME OPERATION

Select "KEY WARN ALM", "LIGHT WARN ALM" or "SEAT BELT ALM" on CONSULT-II, and perform "CHIME" active test.

Does chime sound?

Yes >> GO TO 3.

No >> GO TO 2.

SELECT TEST ITEM
CHIME

WKIA0150E

2. CHECK SELF-DIAGNOSIS OF BCM

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

Self-diagnostic results content

No malfunction detected>> GO TO 3.

CAN communication or CAN communication system>> Check CAN communication system. Go to [LAN-4](#), ["Precautions When Using CONSULT-II"](#) after print out CONSULT-II screen.

Diagnosis 1 - 5 systems open circuit>> Malfunction in combination switch system. Go to [LT-164](#), ["Combination Switch Inspection According to Self-Diagnostic Results"](#) according to self-diagnostic results.

WARNING CHIME

3. CHECK BCM INPUT SIGNAL

Select BCM on CONSULT-II. Operate each switch with data monitor of “KEY WARN ALM”, “LIGHT WARN ALM” or “SEAT BELT ALM” and check operation status of applicable switches.

KEY WARNING ALM

Switch operation	CONSULT-II display	Operation status
Ignition switch (ON)	IGN ON SW	ON
Ignition switch (OFF)		OFF
Key switch (key inserted)	KEY ON SW	ON
Key switch (key removed)		OFF
Driver side door switch (open)	DOOR SW-DR	ON
Driver side door switch (closed)		OFF

DATA MONITOR	
MONITOR	
ING ON SW	ON
KEY ON SW	ON
DOOR SW-DR	OFF

SKIA2003E

LIGHT WARNING ALM

Switch operation	CONSULT-II display	Operation status
Ignition switch (ON)	IGN ON SW	ON
Ignition switch (OFF)		OFF
Driver side door switch (open)	DOOR SW-DR	ON
Driver side door switch (closed)		OFF
Lighting switch (1st position)	TAIL LAMP SW	ON
Lighting switch (OFF)		OFF

DATA MONITOR	
MONITOR	
ING ON SW	ON
DOOR SW-DR	ON
TAIL LAMP SW	OFF

SKIA2004E

SEAT BELT ALM

Switch operation	CONSULT-II display	Operation status
Ignition switch (ON)	IGN ON SW	ON
Ignition switch (OFF)		OFF
Seat belt buckle switch (unfastened)	SEAT BELT SW	ON
Seat belt buckle switch (fastened)		OFF

DATA MONITOR	
MONITOR	
ING ON SW	ON
SEAT BELT SW	ON

SKIA2005E

OK or NG

- OK >> GO TO 4.
NG >> GO TO 5.

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

Select “METER A/C AMP” on CONSULT-II. Operate switches meet the requirements to sounds warning chime with “BUZZER” of data monitor and check operation status.

When meet the requirements to sounds warning chime : BUZZER ON
Except above : BUZZER OFF

OK or NG

- OK >> Replace combination meter.
NG >> Replace unified meter and A/C amp. Refer to [ATC-111](#), “[AUTO AMP](#)”.

DATA MONITOR	
MONITOR	
BUZZER	ON

PKIA2063E

WARNING CHIME

5. CHECK DRIVER SIDE DOOR SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and driver side door switch connector.
3. Check harness continuity (open circuit) between BCM harness connector B4 terminal 14 (W) and driver side door switch harness connector B17 terminal 1 (W).

Continuity should exist.

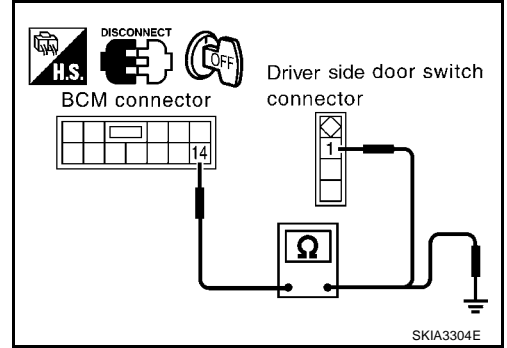
4. Check continuity (short circuit) between BCM harness connector B4 terminal 14 (W) and ground.

Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness or connector between BCM and driver side door switch.



6. CHECK DRIVER SIDE DOOR SWITCH

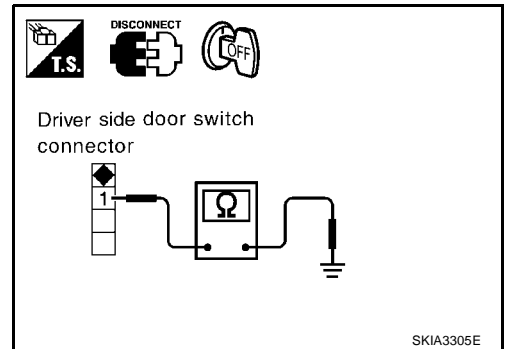
Check continuity between driver side door switch and ground.

Terminals			Condition	Continuity
(+)		(−)		
Connector	Terminal (Wire color)			
B17	1 (W)	Ground	Driver side door open	Yes
			Driver side door closed	No

OK or NG

OK >> Replace BCM. Refer to [BCS-20, "Removal and Installation of BCM"](#).

NG >> Repair harness or connector.



Key Warning Chime Does Not Operate

AKS000XZ

1. CHECK FUSE

Check if the key switch fuse is blown. Refer to [DI-91, "Wiring Diagram — CHIME —"](#).

Is the fuse blown?

Yes >> Replace fuse. Be sure to repair the cause of malfunction before installing new fuse.

No >> GO TO 2.

2. CHECK WARNING CHIME OPERATION

Check except for key warning chime operation.

Does warning chime sound?

Yes >> GO TO 3.

No >> Go to [DI-99, "All Warnings Are Not Operated"](#).

WARNING CHIME

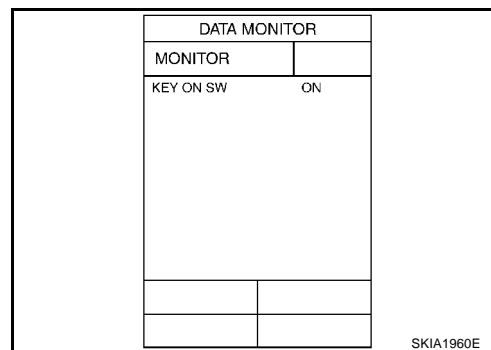
3. CHECK BCM INPUT SIGNAL

With CONSULT-II

Check key switch ("KEY ON SW") in "DATA MONITOR" mode with CONSULT-II.

When key is inserted to ignition : KEY ON SW ON
key cylinder

When key is removed from : KEY ON SW OFF
ignition key cylinder



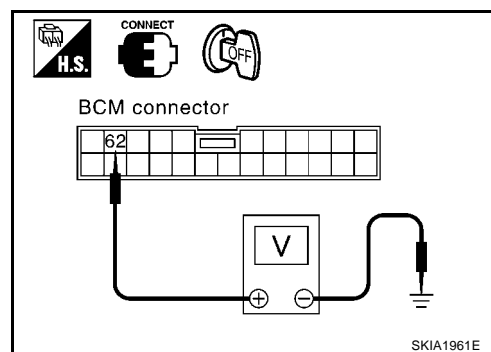
Without CONSULT-II

Check voltage between BCM and ground.

Terminals		Condition	Voltage (V)
(+)	(-)		
Connector	Terminal (Wire color)		
M3	62 (B/R)	Key is inserted	Battery voltage
		Key is removed	0

OK or NG

- OK >> Replace BCM. Refer to [BCS-20, "Removal and Installation of BCM"](#) .
NG >> GO TO 4.



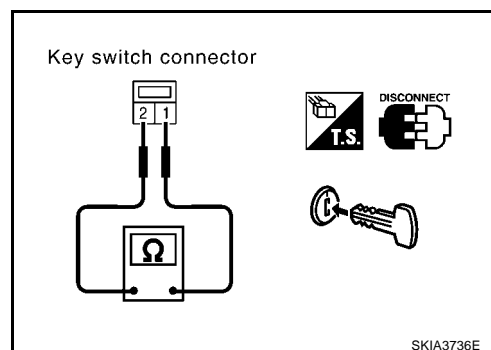
4. CHECK KEY SWITCH (INSERT)

- Disconnect key switch connector.
- Check continuity between key switch terminals 1 and 2.

Terminal		Condition	Continuity
1	2		
		Key is inserted	Yes
		Key is removed	No

OK or NG

- OK >> GO TO 5.
NG >> Replace key cylinder assembly (key switch).



5. CHECK KEY SWITCH CIRCUIT

- Disconnect BCM connector.
- Check harness continuity (open circuit) between BCM harness connector M3 terminal 62 (B/R) and key switch harness connector M25 terminal 1 (B/R).

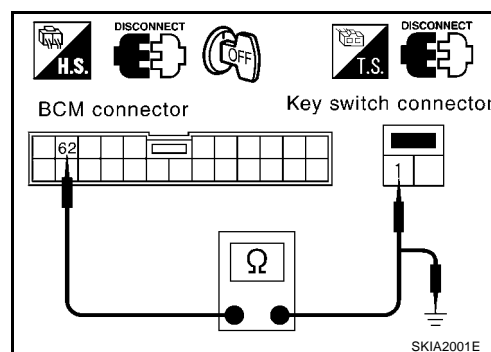
Continuity should exist.

- Check harness continuity (short circuit) between BCM harness connector M3 terminal 62 (B/R) and ground.

Continuity should not exist.

OK or NG

- OK >> GO TO 6.
NG >> Repair harness or connector between BCM and key switch.



WARNING CHIME

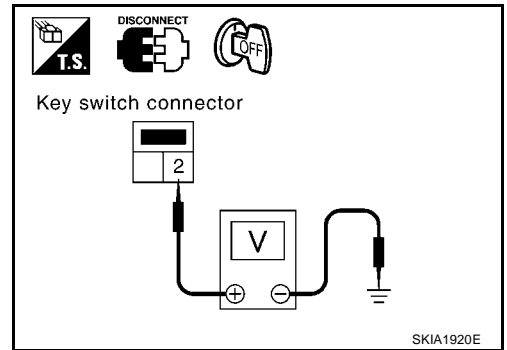
6. CHECK KEY SWITCH POWER SUPPLY CIRCUIT

1. Remove key from ignition cylinder.
2. Check voltage between key switch harness connector M25 terminal 2 (PU) and ground.

Battery voltage should exist.

OK or NG

- OK >> Replace BCM. Refer to [BCS-20, "Removal and Installation of BCM"](#).
- NG >> Check continuity (open or short) between key switch and fuse.



AKS000Y0

Light Warning Chime Does Not Operate

1. CHECK WARNING CHIME OPERATION

Check except for headlamp warning chime operation.

Does warning chime sound?

- Yes >> GO TO 2.
- No >> Go to [DI-99, "All Warnings Are Not Operated"](#).

2. CHECK BCM INPUT SIGNAL

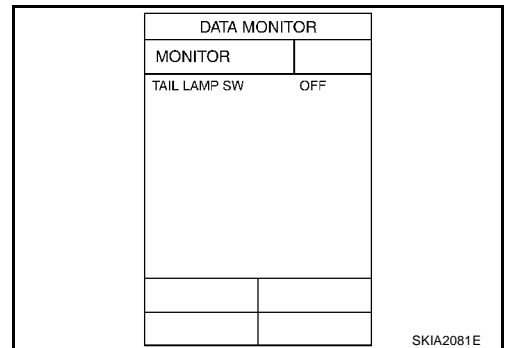
With "LIGHT WARN ALM" on the data monitor, confirm "TAIL LAMP SW" turn ON/OFF when lighting switch is operated.

When lighting switch is in 1st position : TAIL LAMP ON

When lighting switch is OFF : TAIL LAMP OFF

OK or NG

- OK >> Replace BCM. Refer to [BCS-20, "Removal and Installation of BCM"](#).
- NG >> Replace lighting switch. Refer to [LT-156, "LIGHTING AND TURN SIGNAL SWITCH"](#).



AKS000Y1

Seat Belt Warning Chime Does Not Operate

1. CHECK WARNING CHIME OPERATION

Check except for seat belt warning chime operation.

Does warning chime sound?

- Yes >> GO TO 2.
- No >> Go to [DI-99, "All Warnings Are Not Operated"](#).

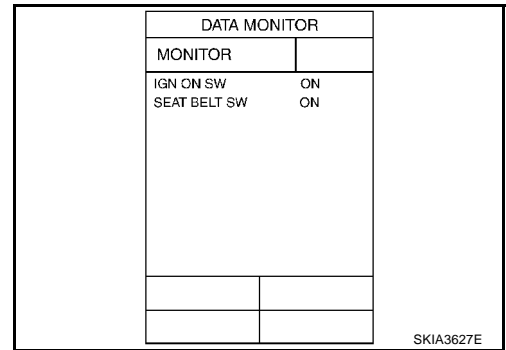
WARNING CHIME

2. CHECK BCM INPUT SIGNAL

With "SEAT BELT ALM" on the data monitor, confirm "SEAT BELT SW" when the seat belt buckle switch is operated.

When seat belt is fastened : SEAT BELT SW OFF

When seat belt is unfastened : SEAT BELT SW ON



OK or NG

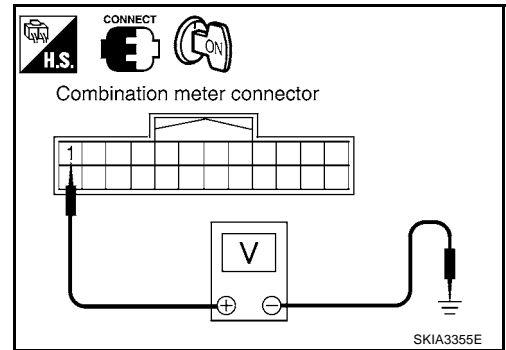
OK >> Replace BCM. Refer to [BCS-20, "Removal and Installation of BCM"](#) .

NG >> GO TO 3.

3. CHECK COMBINATION METER INPUT SIGNAL

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

Terminals		Condition	Voltage (V)
(+)	(-)		
Connector	Terminal		
M19	1 (BR/Y)	Seat belt is fastened	Approx. 5
		Seat belt is unfastened	Approx. 0



OK or NG

OK >> Replace combination meter.

NG >> GO TO 4.

4. CHECK SEAT BELT BUCKLE SWITCH

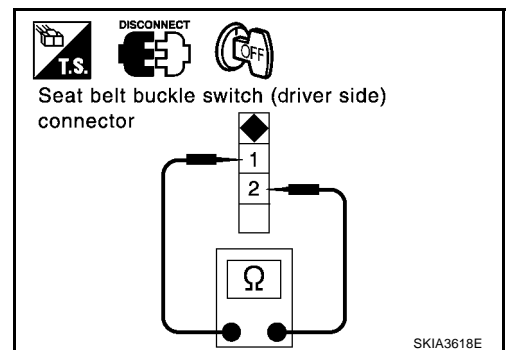
1. Turn ignition switch OFF.
2. Disconnect seat belt buckle switch (driver side) connector.
3. Check continuity between seat belt buckle switch (driver side) harness connector B8 terminals 1 and 2.

Terminal		Condition	Continuity
1	2		
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 (driver side).



WARNING CHIME

5. CHECK SEAT BELT BUCKLE SWITCH CIRCUIT

1. Disconnect combination meter connector.
2. Check harness continuity (open circuit) between combination meter harness connector M19 terminal 1 (BR/Y) and seat belt buckle switch (driver side) harness connector B8 terminal 1 (BR).

Continuity should exist.

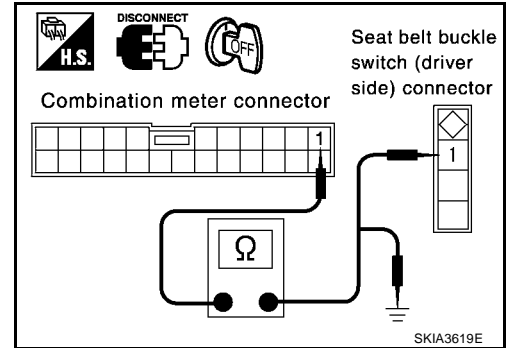
3. Check harness continuity (short circuit) between combination meter harness connector M19 terminal 1 (BR/Y) and ground.

Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness or connector between combination meter and seat belt buckle switch (driver side).



6. CHECK SEAT BELT BUCKLE SWITCH GROUND CIRCUIT

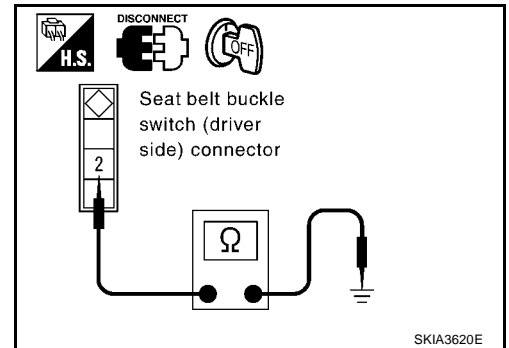
Check harness continuity (open circuit) between seat belt buckle switch (driver side) harness connector B8 terminal 2 (B) and ground.

Continuity should exist.

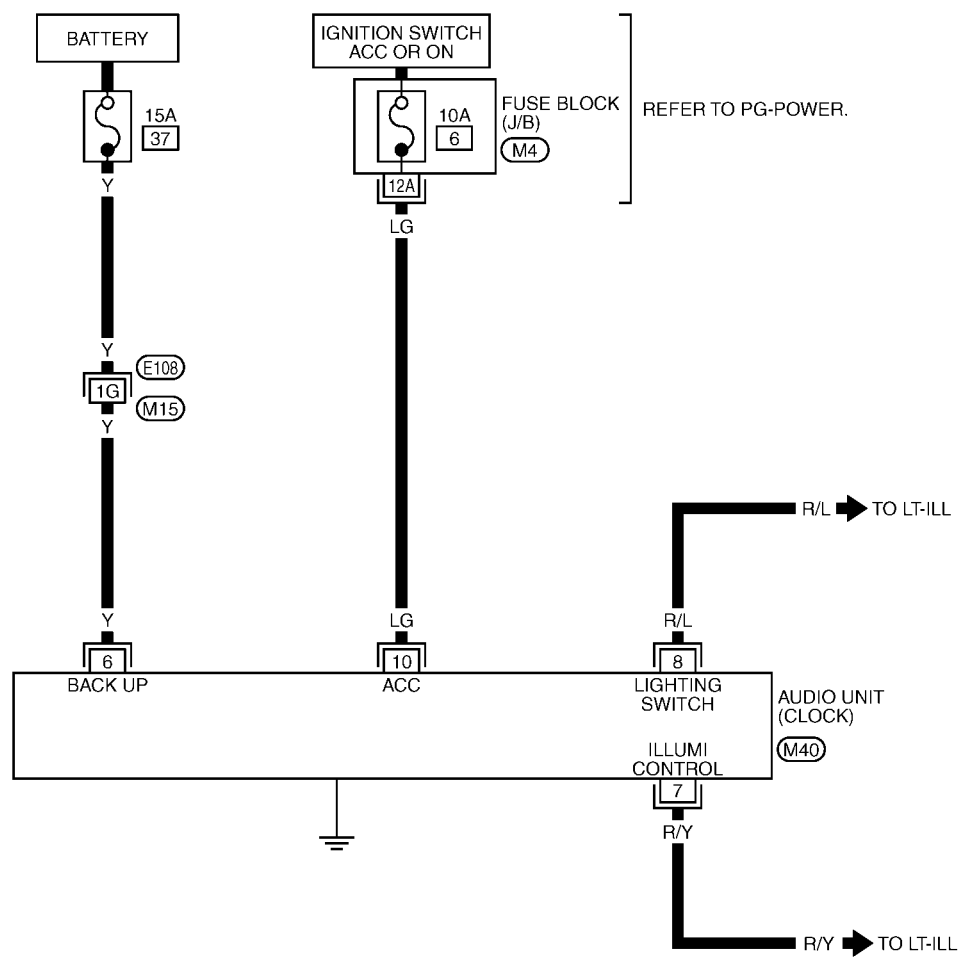
OK or NG

OK >> Replace combination meter.

NG >> Repair harness or connector between seat belt buckle switch (driver side) and ground.



CLOCK



10	8	4	2
9	7	6	5

M40 W

REFER TO THE FOLLOWING.

E108 -SUPER MULTIPLE JUNCTION (SMJ)

M4 -FUSE BLOCK-JUNCTION BOX (J/B)

CLOCK

Description

AKS00378

Audio display indication type digital clock has been adopted, and integrated in electronic tuner radio.

- Clock Adjustment

AKS00379
- When DISP SW is pressed and held for 1.5 seconds or more, mode is changed to clock mode.
 - “hour” and “minute” are flashed.
 - When SEEK UP/DOWN SW is pressed, “hour” is adjusted.
 - When TUNE UP/DOWN SW is pressed, “minute” is adjusted.
 - When DISP SW is pressed, clock mode is canceled.
 - During clock adjustment mode, pressing DISP SW and TUNE UP/DOWN SW reset clock, and clock mode is canceled.

A
B
C
D
E
F
G
H
I
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DI
L
M

