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SECTION

DRIVER INFORMATION SYSTEM

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PRECAUTION

PRECAUTION

PPF:00011

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

GKS00055

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

WARNING:

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

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COMBINATION METERS

PFP:24814

System Description

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UNIFIED METER CONTROL UNIT

- 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.
- Warning lamp and indicator lamp are controlled by signals drawn from each unit with CAN communication and components connected directly to the combination meter.
- Odo/trip meter display is include in the combination meter, which displays odometer, trip-meter, engine oil maintenance information and A/T position* .
* : A/T models.
- Clock display is included in the combination meter, which displays current time, ambient air temperature* and 4WD indicator* .
* : vehicles with each system only.
- Unified meter control unit corresponds a CONSULT-II function (self-diagnosis results and data monitor).
- The following items can be checked during self-diagnosis mode.
 - Sweep of gauges pointer
 - Present gauge values
 - Odo/trip meter display and clock display segments.
 - Condition of warning lamps/indicator lamps controlled by unified meter control unit
 - Battery voltage
 - Driver's seat belt buckle switch status
 - CPU status of unified meter control unit

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 3.

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 16.

Ground is supplied

- to combination meter terminals 13 and 23
- through grounds M21, M80 and M83.

SPEEDOMETER

The speedometer indicates the vehicle speed.

With ABS

- ABS actuator and electric unit (control unit) reads a pulse signal from wheel sensor, and transmits vehicle speed signal to combination meter with CAN communication.
- Combination meter indicates the vehicle speed according to vehicle speed signal.

Without ABS

- Combination meter reads a pulse signal from vehicle speed sensor.

Signal is supplied

- from vehicle speed sensor terminal 1 and 2.
- to combination meter terminals 47 and 48
- Combination meter converts a pulse signal to vehicle speed signal.
- And indicates the vehicle speed according to vehicle speed signal.

COMBINATION METERS

TACHOMETER

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

- ECM reads a signal from crank position sensor, and transmits engine speed signal to combination meter with CAN communication.
- Combination meter indicates the engine speed according to engine speed signal.

WATER TEMPERATURE GAUGE

The water temperature gauge indicates the engine coolant temperature.

- ECM reads a signal from water temperature sensor, and transmits engine coolant temperature signal to combination meter with CAN communication.
- Combination meter indicates the engine coolant temperature according to engine coolant temperature signal.

FUEL GAUGE

The fuel gauge indicates the approximate fuel level in the fuel tank.
Combination meter reads a resistor signal from fuel level sensor unit.

YD Engine Models

Signal is supplied

- to combination meter terminal 9
- through fuel level sensor unit terminal 1 and 2
- from combination meter terminal 4.

VQ Engine Models

Signal is supplied

- to combination meter terminal 9
- through fuel level sensor unit and fuel pump terminal 2 and 5
- from combination meter terminal 4.

ODO/TRIP METER

With ABS

- ABS actuator and electric unit (control unit) reads a pulse signal from wheel sensor, and transmits vehicle speed signal to combination meter with CAN communication.
- Combination meter uses the vehicle speed signal to calculate the mileage, and it displays.

Without ABS

- Combination meter reads a pulse signal from vehicle speed sensor.

Signal is supplied

- from vehicle speed sensor terminal 1 and 2.
- to combination meter terminals 47 and 48
- Combination meter converts a pulse signal to vehicle speed signal.
- Combination meter uses the vehicle speed signal to calculate the mileage, and it displays.

NOTE:

The record of the odometer is kept even if the battery cable is disconnected.

ENGINE OIL MAINTENANCE INFORMATION

- Engine oil maintenance information displays maintenance intervals of engine oil.
- With ignition switch ON position, engine oil maintenance information is displayed on odo/trip meter display for 5 seconds.

NOTE:

Refer to Owner's Manual for setting.

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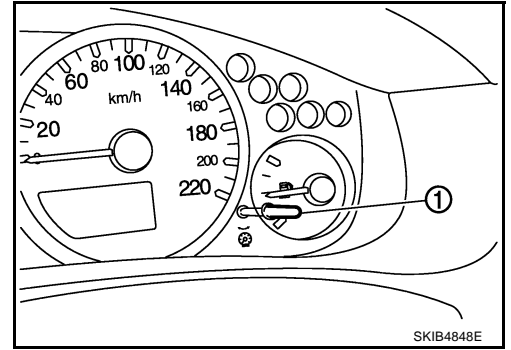
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COMBINATION METERS

METER ILLUMINATION CONTROL

When the lighting switch is turned ON, the odo/trip meter switch (1) can be used to adjust the brightness of the combination meter illumination.

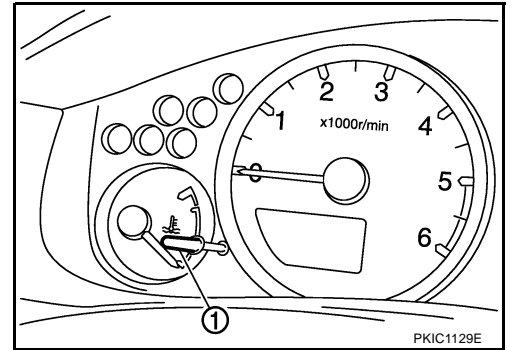


CLOCK

With ignition switch ON position, combination meter displays clock on clock display. Time can be adjusted by clock switch (1). Clock can be adjusted to 12-hour or 24-hour cycle clock.

NOTE:

If the battery cable is disconnected, the clock displays the time 12:00 in 12-hour mode.



AMBIENT AIR TEMPERATURE INDICATION

Combination meter displays ambient air temperature on clock display.

With ignition switch ON, "°C" blinks for a while. Ambient air temperature indication can be selected between Centigrade and Fahrenheit.

Combination meter reads ambient air temperature signal from ambient sensor.

Signal is supplied

- from combination meter terminal 49
- through ambient sensor terminals 1 and 2
- to combination meter terminal 50.

When a temperature detected by sensor rises, combination meter controls increase of the indicated temperature depending on engine heat and other effective factors.

- If the vehicle speed is more than 20 km/h, the indicated temperature rises according to the vehicle speed.
- If the vehicle speed is less than 20 km/h, the indicated temperature is maintained.

When a temperature detected by sensor falls, the temperature is indicated immediately.

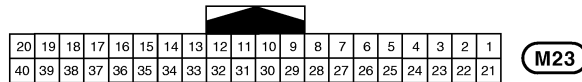
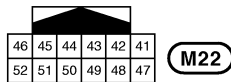
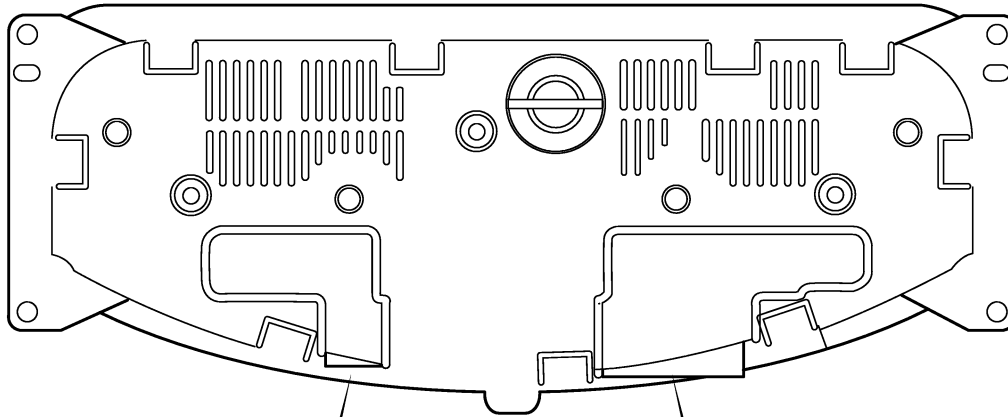
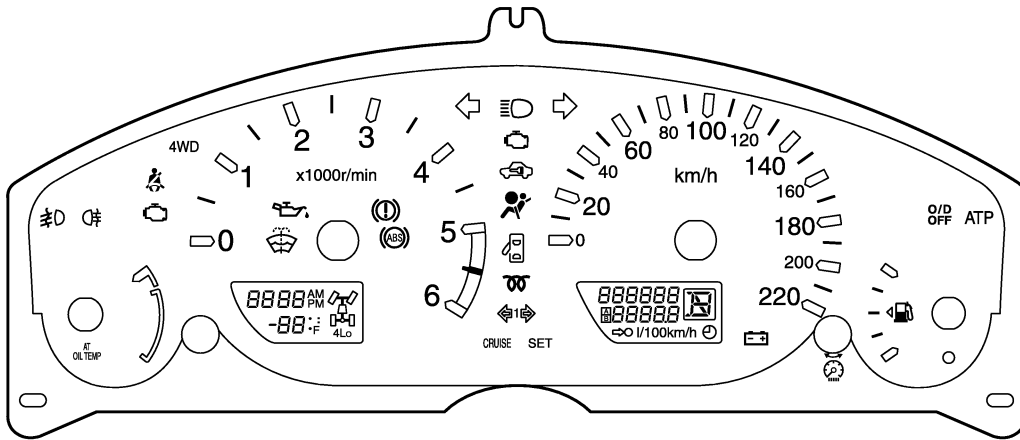
NOTE:

- The range indicated on the display is between -30 and 60 °C for Centigrade or between -22 and 99 °F for Fahrenheit.
- When the temperature is from -40 °C (-40 °F) to -30 °C (-22 °F), "-- °C" is indicated on the display as over range.
- When the temperature is under -40 °C (-40 °F) or over 60 °C (140 °F), nothing is indicated.
- When indicated temperature becomes less than 3 °C (37 °F), ambient air temperature indication blinks warning. After blinking for 20 seconds, only "°C" blinks. At more than 4 C° (39 °F) the display stops blinking.

COMBINATION METERS

Arrangement of Combination Meter

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NOTE: Tachometer red zone for VQ engine models is 6,300 - 8,000 rpm.

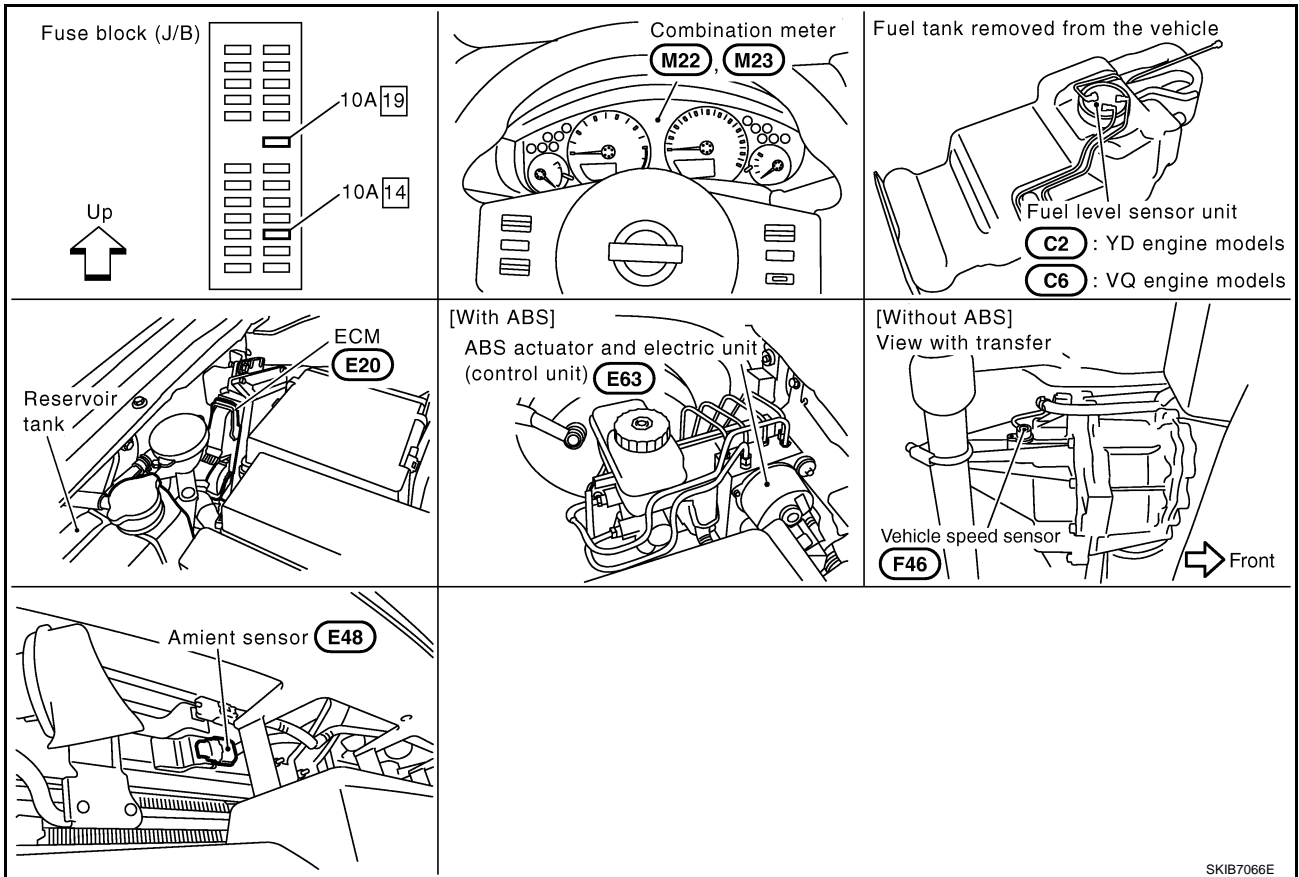
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COMBINATION METERS

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Component Parts and Harness Connector Location

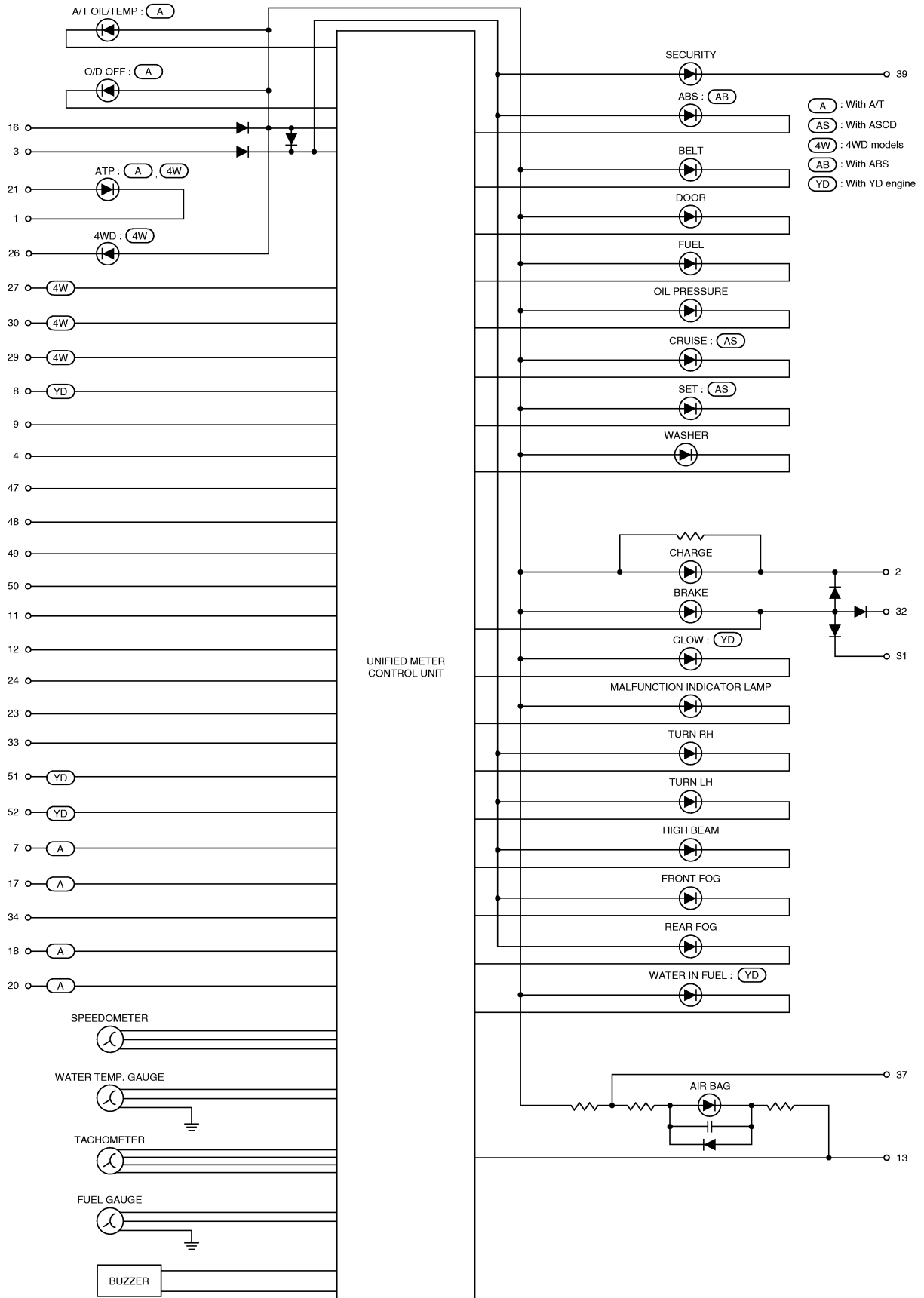


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COMBINATION METERS

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Internal Circuit



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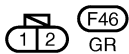
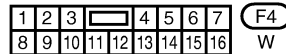
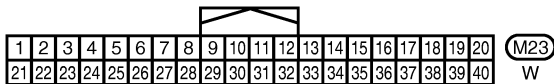
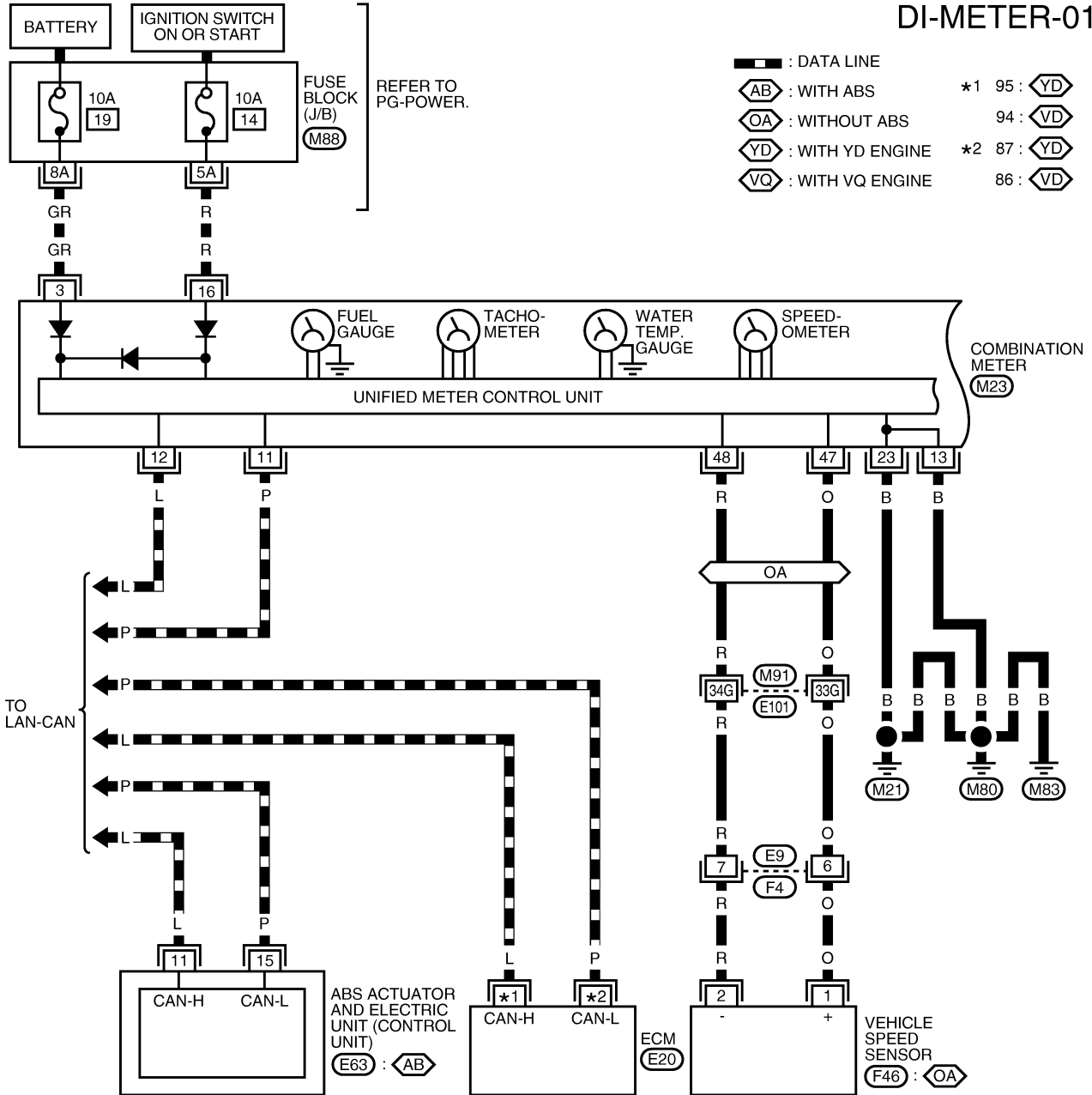
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COMBINATION METERS

Wiring Diagram — METER —

GKS0005B

DI-METER-01



REFER TO THE FOLLOWING.

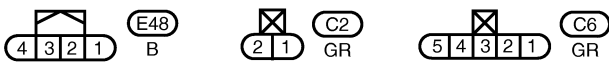
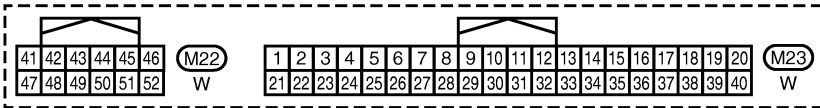
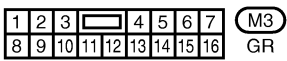
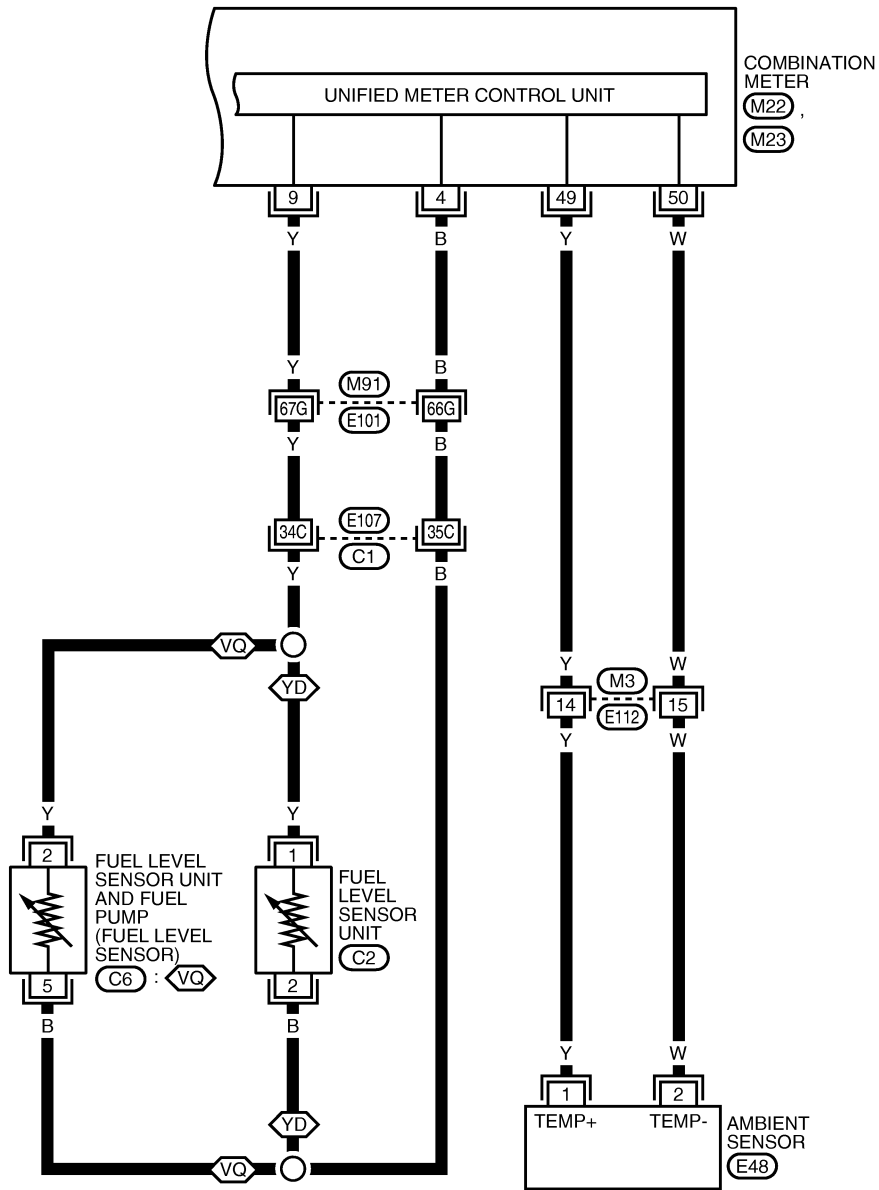
- (E20), (E63) - ELECTRICAL UNITS
- (M88) - FUSE BLOCK - JUNCTION BOX (J/B)
- (M91) - SUPER MULTIPLE JUNCTION (SMJ)

MKWA4155E

COMBINATION METERS

DI-METER-02

- ▬ : DATA LINE
- ◇ YD : WITH YD ENGINE
- ◇ VQ : WITH VQ ENGINE



REFER TO THE FOLLOWING.
 (M91), (C1) - SUPER
 MULTIPLE JUNCTION (SMJ)

COMBINATION METERS

Terminals and Reference Value for Combination Meter

GKS0005C

Terminal No.	Wire color	Item	Condition		Reference value (Approx.)
			Ignition switch	Operation or condition	
3	GR	Battery power supply	OFF	—	Battery voltage
4	B	Fuel level sensor ground	ON	—	0 V
9	Y	Fuel level sensor signal	—	—	Refer to DI-30, "FUEL LEVEL SENSOR UNIT CHECK [YD ENGINE MODELS]" or DI-30, "FUEL LEVEL SENSOR UNIT CHECK [VQ ENGINE MODELS]" .
11	P	CAN L	—	—	—
12	L	CAN H	—	—	—
13	B	Ground	—	—	0 V
16	R	Ignition power supply	ON	—	Battery voltage
23	B	Ground	—	—	0 V
47	O	Vehicle speed sensor input signal	ON	Speedometer operated [When vehicle speed is approx. 20km/h (12.5 MPH)] [When vehicle speed is approx. 40km/h (25 MPH)] [When vehicle speed is approx. 60km/h (37.5 MPH)]	<p style="text-align: right;">PKIA0501E</p>
48	R				
49	Y	Ambient sensor signal	ON	—	<p style="text-align: right;">PKIC2339E</p>
				Ambient sensor connector disconnected	5 V
50	W	Ambient sensor ground	ON	—	0 V

COMBINATION METERS

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Self-Diagnosis Mode of Combination Meter FUNCTION

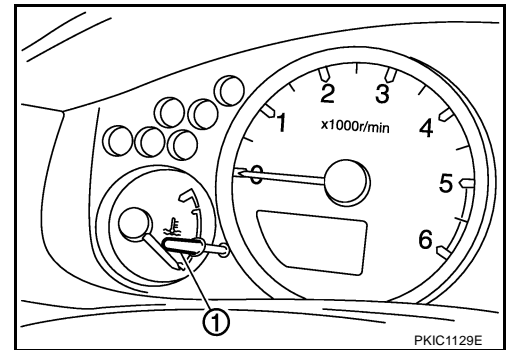
The following items can be checked during self-diagnosis mode.

- Sweep of gauges pointer
- Present gauge data values
- Odo/trip meter display and clock display segments
- Condition of warning lamps/indicator lamps controlled by unified meter control unit
- Battery voltage
- Driver's seat belt buckle switch status
- CPU of unified meter control unit status

OPERATION PROCEDURE

To initiate combination meter self-diagnosis mode, refer to the following procedure.

1. Turn ignition switch ON while pressing clock switch (1).
2. Press and hold clock switch until "tEst" is indicated on odo/trip meter display (within 7 seconds after the ignition switch ON).
3. Release clock switch when "tEst" is indicated.
4. Combination meter self-diagnosis mode starts.
5. Press clock switch to go to next item. Refer to [DI-13. "TEST ITEM"](#).



NOTE:

Combination meter self-diagnosis mode exits upon turning the ignition switch to OFF or ACC position.

TEST ITEM

Test order	Test Item	Description of test/data	Notes
1	GAGE	Sweeps all gauges.	Sweeps gauges within 10 seconds. If any of gauges is not swept, replace combination meter.
2	(All segments illuminated)	Illuminates all segments on odo/trip meter display and clock display.	If any of the segments is not illuminated, replace combination meter.
3	bulb	Illuminates all lamps controlled by unified meter control unit.	If any of lamp controlled by unified meter control unit is not illuminated, replace combination meter.
4	rXXXX/FAIL	Displays ROM status as "r XXXX" or "FAIL".	If "FAIL" is displayed, replace combination meter.
5	nrXXXX	—	Not used for service.
6	EE XX/FAIL	Displays memory status as "EE XX" or "FAIL".	If "FAIL" is displayed, replace combination meter.
7	dtXXXX	—	Not used for service.
8	Sc1XX	—	Not used for service.
9	Sc2XX	—	Not used for service.
10	EprXX	—	Not used for service.
11	1nFXX	Displays market info value.	\$15 = Australia \$EE = Others
12	cYLXX	Displays engine configuration value.	\$08 = 8 cylinder \$06 = 6 cylinder \$04 = 4 cylinder
13	FFXXXX	—	Not used for service.
14	tF	—	Not used for service.
15	ot1XX	—	Not used for service.
16	ot0XX	—	Not used for service.

COMBINATION METERS

Test order	Test Item	Description of test/data	Notes
17	XXXXXX	Displays vehicle speed signal value (MPH).	Displays "----" if message is not received. Displays "99999" if data received is invalid. If "----" or "99999" is displayed, perform DI-21, "Vehicle Speed Signal Inspection [With ABS]" or DI-21, "Vehicle Speed Signal Inspection [Without ABS]" .
18	XXXXXX	Displays vehicle speed signal value (km/h).	Displays "----" if message is not received. Displays "99999" if data received is invalid. If "----" or "99999" is displayed, perform DI-21, "Vehicle Speed Signal Inspection [With ABS]" or DI-21, "Vehicle Speed Signal Inspection [Without ABS]" .
19	tXXXX	Displays engine speed signal value (RPM).	Displays "----" if message is not received. If "----" is displayed, perform DI-23, "Engine Speed Signal Inspection" .
20	F1 XXXX	Displays ratioed fuel level sensor signal value.	000-009 = Short circuit 010-254 = Normal range 255 = Open circuit --- = Missing 5 seconds If "000-009" or "255" is displayed, perform DI-23, "Fuel Level Sensor Signal Inspection [YD Engine models]" or DI-25, "Fuel Level Sensor Signal Inspection [VQ Engine Models]" .
21	XXXX	Displays engine coolant temperature signal value (°C).	Displays "---" C if message is not received. Displays "999" C if data received is invalid. If "---" or "999" is displayed, perform DI-23, "Engine Coolant Temperature Signal Inspection" .
22	BAt XXX	Displays battery voltage.	
23	rES -X	Driver's seat belt buckle switch status.	1= Buckled 0 = Unbuckled
24	PA -XX	—	Not used for service.
25	Pb -XX	—	Not used for service.
26	PE -XX	—	Not used for service.
27	PL -XX	—	Not used for service.
28	P6 -XX	—	Not used for service.
29	Pn -XX	—	Not used for service.
30	PP -XX	—	Not used for service.
31	PS -XX	—	Not used for service.
32	Pt -XX	—	Not used for service.
33	Pu -XX	—	Not used for service.
34	P4 -XX	—	Not used for service.
35	Puu -XX	—	Not used for service.
36	A00XXX	—	Not used for service.
37	A01XXX	—	Not used for service.
38	A02XXX	—	Not used for service.
39	A03XXX	—	Not used for service.
40	A04XXX	—	Not used for service.
41	A05XXX	—	Not used for service.
42	A06XXX	—	Not used for service.
43	A07XXX	—	Not used for service.
44	A08XXX	—	Not used for service.
45	A09XXX	—	Not used for service.

COMBINATION METERS

Test order	Test Item	Description of test/data	Notes
46	A10XXX	—	Not used for service.
47	A11XXX	—	Not used for service.
48	A12XXX	—	Not used for service.
49	A13XXX	—	Not used for service.
50	A14XXX	—	Not used for service.
51	A15XXX	—	Not used for service.
52	PA0-XX	—	Not used for service.
53	PA1-XX	—	Not used for service.
—	GAGE	—	Return to beginning of self-diagnosis.

CONSULT-II Function (METER)

GKS0005E

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

System	Diagnosis mode	Description	Reference page
METER	SELF-DIAG RESULTS	Combination meter checks the conditions and displays memorized error.	DI-16
	DATA MONITOR	Displays combination meter input data in real time.	DI-17
	CAN DIAG SUPPORT MNTR ^{Note}	—	—

NOTE:

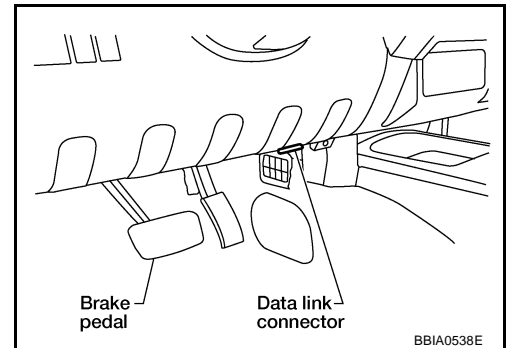
This item is not available though indicated.

CONSULT-II BASIC OPERATION

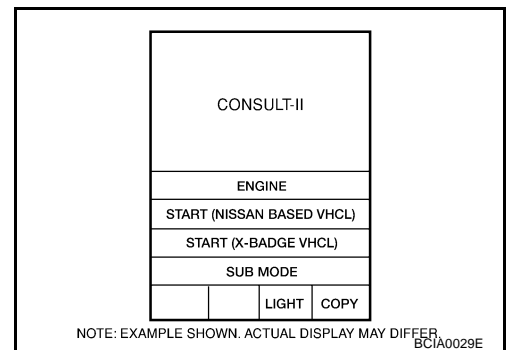
CAUTION:

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, and then turn ignition switch ON.

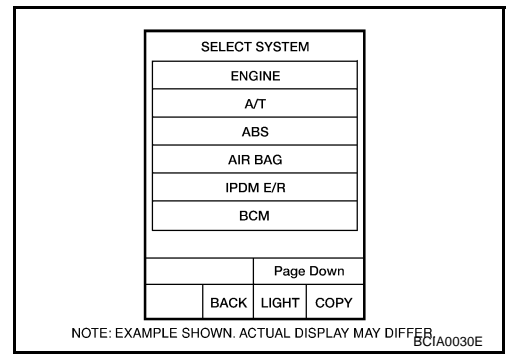


2. Touch "START (NISSAN BASED VHCL)".

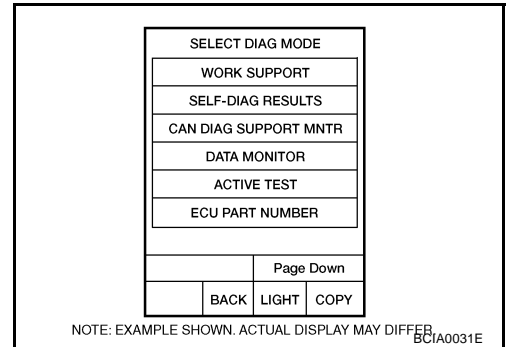


COMBINATION METERS

3. Touch "METER" on "SELECT SYSTEM" screen. If "METER" is not indicated, go to [GI-47, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



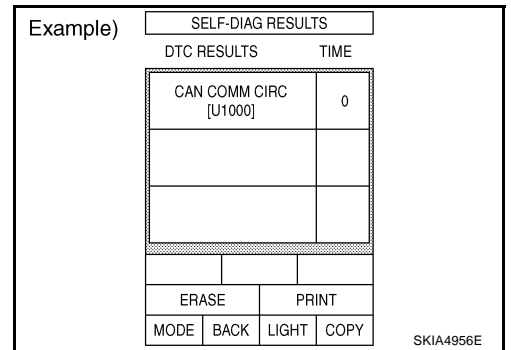
4. Select "SELF-DIAG RESULTS", "DATA MONITOR" or "CAN DIAG SUPPORT MNTR" on "SELECT DIAG MODE" screen.



SELF-DIAG 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	Reference page
CAN COMM CIRC [U1000]	<p>Malfunction is detected in CAN communication lines.</p> <p>CAUTION: Even when there is no malfunction on CAN communication system, malfunction may be misinterpreted when battery has low voltage (when maintaining 7 - 8 V for about 2 seconds) or 10A fuse [No. 19, located in the fuse block (J/B)] is removed.</p>	DI-29
VEHICLE SPEED CIRC [B2205]	<p>Malfunction is detected when an erroneous speed signal is input.</p> <p>CAUTION: Even when there is no malfunction on speed signal system, malfunctions may be misinterpreted when battery has low voltage (when maintaining 7 - 8 V for about 2 seconds).</p>	DI-29

NOTE:

"TIME" means the following.

- 0: Means detected malfunction at present.
- 1-63: Means detected malfunction in the past. (Displays the number of ignition switch OFF → ON after detecting malfunction. "SELF-DIAG RESULTS" is erased when exceeding "63".)

COMBINATION METERS

DATA MONITOR

Operation Procedure

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

MAIN SIGNALS	Monitors main signals.
SELECTION FROM MENU	Selects and monitors individual signal.

3. When "SELECTION FROM MENU" is selected, touch individual items to monitor. When "MAIN SIGNALS" is selected, main items is monitored.
4. Touch "START".
5. To record monitored item, touch "RECORD" while monitoring. To stop recording, touch "STOP".

Example)

DATA MONITOR	
MONITOR	
SPEED METER	0.0km/h
SPEED OUTPUT	0.0km/h
TACHO METER	0 rpm
W TEMP METER	26°C
FUEL METER	6 lit.
DISTANCE	0 km
FUEL W/L	ON
BUZZER	OFF
M RANGE SW	OFF
	Page Down
	STOP
MODE	BACK LIGHT COPY

SKIA4957E

Display Item List

Display item [Unit]	MAIN SIGNALS	SELECTION FROM MENU	Contents
SPEED METER [km/h] or [mph]	X	X	The value of vehicle speed signal, which is input from ABS actuator and electric unit (control unit).
SPEED OUTPUT [km/h] or [mph]	X	X	The value of vehicle speed signal, which is transmitted to each unit with CAN communication.
TACHO METER [rpm]	X	X	The value of engine speed signal, which is input from ECM.
W TEMP METER [°C] or [°F]	X	X	The value of engine coolant temperature signal, which is input from ECM.
FUEL METER [lit.]	X	X	The value, which processes a resistance signal from fuel gauge.
DISTANCE [km] or [mile]	X	X	The value, which is calculated by vehicle speed signal from ABS actuator and electric unit (control unit), fuel gauge and fuel consumption signal from ECM.
FUEL W/L [ON/OFF]	X	X	Indicates [ON/OFF] condition of low-fuel warning lamp.
C-ENG W/L [ON/OFF]		X	Indicates [ON/OFF] condition of malfunction indicator.
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 high beam indicator lamp.
TURN IND [ON/OFF]		X	Indicates [ON/OFF] condition of turn indicator.
FR FOG IND [ON/OFF]		X	Indicates [ON/OFF] condition of front fog indicator lamp.
RR FOG IND [ON/OFF]		X	Indicates [ON/OFF] condition of rear fog indicator lamp.
OIL W/L [ON/OFF]		X	Indicates [ON/OFF] condition of oil pressure warning lamp.
VDC/TCS IND [ON/OFF]		X	Indicates [ON/OFF] condition of ESP 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.*

COMBINATION METERS

Display item [Unit]	MAIN SIGNALS	SELECTION FROM MENU	Contents
KEY G W/L [ON/OFF]		X	Indicates [ON/OFF] condition of KEY warning lamp (green).
KEY R W/L [ON/OFF]		X	Indicates [ON/OFF] condition of KEY warning lamp (red).
KEY KNOB W/L [ON/OFF]		X	Indicates [ON/OFF] condition of LOCK warning lamp.
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.
AT SFT DWN SW [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift-down switch.
O/D OFF SW [ON/OFF]		X	Indicates [ON/OFF] condition of OD OFF switch.
BRAKE SW [ON/OFF]		X	Indicates [ON/OFF] condition of parking brake switch.
AT-M IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T manual mode indicator.
AT-M GEAR [1, 2, 3, 4, 5]	X	X	Indicates [1, 2, 3, 4, 5] 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.
4 RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift 4 range indicator.
3 RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift 3 range indicator.
2 RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift 2 range indicator.
1 RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift 1 range indicator.
O/D OFF W/L [ON/OFF]		X	Indicates [ON/OFF] condition of OD OFF indicator lamp.
CRUISE IND [ON/OFF]		X	Indicates [ON/OFF] condition of CRUISE indicator lamp.
SET IND [ON/OFF]		X	Indicates [ON/OFF] condition of SET indicator lamp.
4WD LOCK SW [ON/OFF]		X	Indicates [ON/OFF] condition of 4WD LOCK switch.
4WD LOCK IND [ON/OFF]		X	Indicates [ON/OFF] condition of 4WD LOCK indicator lamp.
4WD W/L [ON/OFF]		X	Indicates [ON/OFF] condition of 4WD warning lamp.

NOTE:

Some items are not available depend on vehicle specification.

*: Monitor keeps indicating "OFF", when brake warning lamp is on because of parking brake operation or low brake fluid level.

Trouble Diagnosis

HOW TO PERFORM TROUBLE DIAGNOSIS

GKS0005F

1. Confirm the symptom or customer complaint.
2. Perform preliminary check. Refer to [DI-19, "PRELIMINARY CHECK"](#).
3. According to the symptom chart, make sure of the symptom cause and repair or replace applicable parts. Refer to [DI-19, "Symptom Chart"](#).
4. Does the meter operate normally? If so, GO TO 5. If not, GO TO 2.
5. INSPECTION END

COMBINATION METERS

PRELIMINARY CHECK

1. CHECK WARNING LAMPS ILLUMINATION

1. Turn ignition switch ON.
2. Make sure warning lamps (such as malfunction indicator lamp and oil pressure warning indicator) illuminate.

Do warning lamps illuminate?

YES >> GO TO 2.

NO >> Check ignition power supply system of combination meter. Refer to [DI-19, "Power Supply and Ground Circuit Inspection"](#).

2. CHECK COMBINATION METER (SELF-DIAGNOSIS MODE)

Perform self-diagnosis mode of combination meter function. Refer to [DI-13, "Self-Diagnosis Mode of Combination Meter"](#).

Does self-diagnosis mode operate normally?

YES >> GO TO 3.

NO >> Check applicable parts, and repair or replace corresponding parts.

3. CHECK COMBINATION METER (CONSULT-II)

Perform self-diagnosis of combination meter. Refer to [DI-15, "CONSULT-II Function \(METER\)"](#).

Self-diagnosis results

No malfunction detected>>INSPECTION END

Malfunction detected>>Check applicable parts, and repair or replace corresponding parts.

Symptom Chart

GKS0005G

Symptom	Possible cause
Speedometer and odo/trip meter indication is malfunction.	Refer to DI-21, "Vehicle Speed Signal Inspection [With ABS]" or DI-21, "Vehicle Speed Signal Inspection [Without ABS]" .
Tachometer indication is malfunction.	Refer to DI-23, "Engine Speed Signal Inspection" .
Water temperature gauge indication is malfunction.	Refer to DI-23, "Engine Coolant Temperature Signal Inspection" .
Fuel gauge indication is malfunction.	Refer to DI-23, "Fuel Level Sensor Signal Inspection [YD Engine models]" or DI-25, "Fuel Level Sensor Signal Inspection [VQ Engine Models]" .
Low-fuel warning lamp indication is irregular.	
A/T indicator indication is malfunction.	Refer to DI-54, "A/T Indicator Does Not Illuminate" .
Ambient air temperature indication is malfunction.	Refer to DI-27, "Ambient Sensor Signal Inspection" .

Power Supply and Ground Circuit Inspection

GKS0005H

1. CHECK FUSE

Check for blown fuse of combination meter.

Power source	Fuse No.
Battery	19
Ignition switch ON or START	14

OK or NG

OK >> GO TO 2.

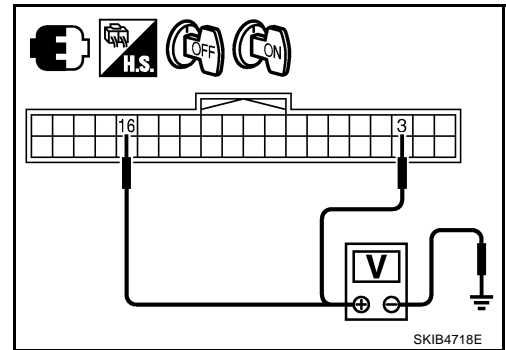
NG >> Be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-4, "POWER SUPPLY ROUTING CIRCUIT"](#).

COMBINATION METERS

2. CHECK POWER SUPPLY CIRCUIT

Check voltage between combination meter harness connector terminals and ground.

Terminals		(-)	Ignition switch position	
(+) Terminal			OFF	ON
Combination meter connector M23	3	Ground	Battery voltage	Battery voltage
	16		0 V	Battery voltage



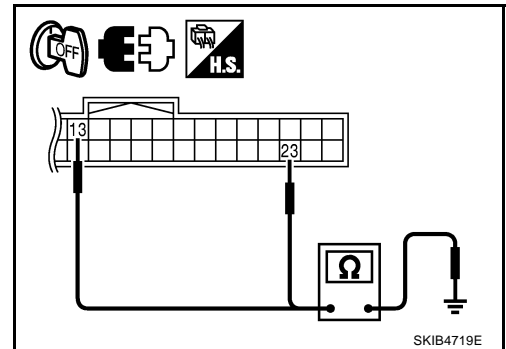
OK or NG

- OK >> GO TO 3.
- NG >> Repair harness between combination meter and fuse.

3. CHECK GROUND CIRCUIT

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

Combination meter connector	Terminal	Ground	Continuity
M23	13		
	23		



OK or NG

- OK >> INSPECTION END
- NG >> Repair harness or connector.

COMBINATION METERS

Vehicle Speed Signal Inspection [With ABS]

GKS000D2

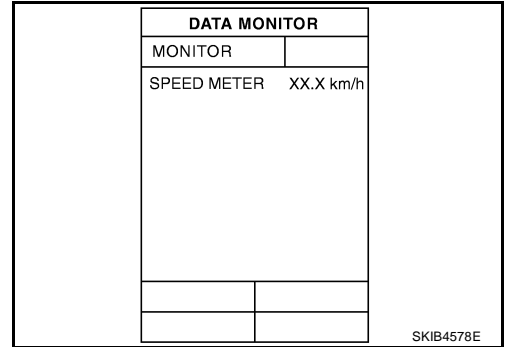
Symptom: Indication is irregular for the speedometer and odo/trip meter.

1. CHECK COMBINATION METER INPUT SIGNAL

1. Start engine and select "METER" on CONSULT-II.
2. Drive vehicle.
3. Using "SPEED METER" on "DATA MONITOR", compare the value of "DATA MONITOR" with speedometer pointer of combination meter.

OK or NG

- OK >> Perform ABS actuator and electric unit (control unit) self-diagnosis. Refer to [BRC-17, "CONSULT- II Functions"](#).
- NG >> Replace combination meter.



Vehicle Speed Signal Inspection [Without ABS]

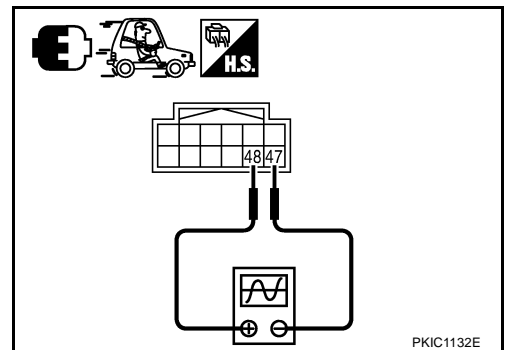
GKS000D3

Symptom: Indication is irregular for the speedometer and odo/trip meter.

1. CHECK VEHICLE SPEED SIGNAL INPUT

1. Start engine and drive vehicle at approximately 40 km/h (25 MPH).
2. Check voltage signal between combination meter harness connector terminals.

Terminals		Voltage (Approx.)
(+)	(-)	
Combination meter connector	Terminal	
M22	47 48	<p>(V) Approx. 60 km/h Approx. 40 km/h Approx. 20 km/h 10 ms</p> <p>PKIA0501E</p>



OK or NG

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

2. CHECK VEHICLE SPEED SENSOR

1. Turn ignition switch OFF.
2. Check the vehicle speed sensor. Refer to [DI-30, "VEHICLE SPEED SENSOR CHECK"](#).

OK or NG

- OK >> GO TO 3.
- NG >> Replace vehicle speed sensor.

COMBINATION METERS

3. CHECK VEHICLE SPEED SENSOR CIRCUIT (+)

1. Disconnect combination meter connector.
2. Check continuity between combination meter harness connector (A) and vehicle speed sensor harness connector (B).

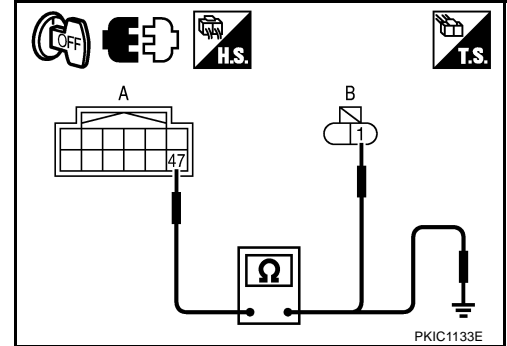
A		B		Continuity
Connector	Terminal	Connector	Terminal	
M22	47	F46	1	Yes

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

A		Ground	Continuity
Connector	Terminal		
M22	47		No

OK or NG

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



4. CHECK VEHICLE SPEED SENSOR CIRCUIT (-)

1. Check continuity between combination meter harness connector (A) and vehicle speed sensor harness connector (B).

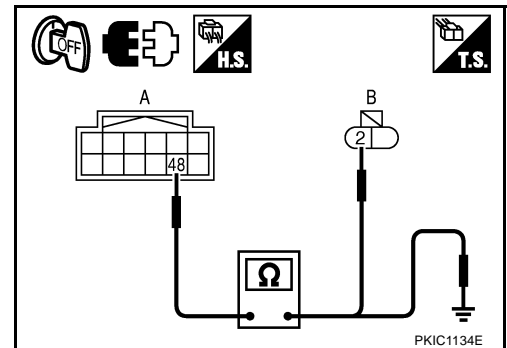
A		B		Continuity
Connector	Terminal	Connector	Terminal	
M22	48	F46	2	Yes

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

A		Ground	Continuity
Connector	Terminal		
M22	48		No

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness or connector.



COMBINATION METERS

Engine Speed Signal Inspection

GKS0005J

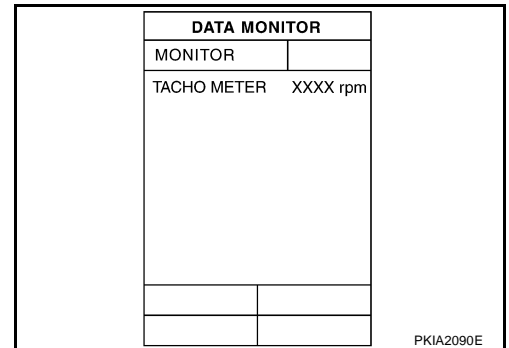
Symptom: Tachometer indication is malfunction.

1. CHECK COMBINATION METER INPUT SIGNAL

1. Start engine and select "METER" on CONSULT-II.
2. Using "TACHO METER" on "DATA MONITOR", compare the value of "DATA MONITOR" with tachometer pointer of combination meter.

OK or NG

- OK >> Perform ECM self-diagnosis. Refer to [EC-1047, "CONSULT-II Function \(ENGINE\)"](#).
- NG >> Replace combination meter. (Perform self-diagnosis of ECM when the value in the monitor indicates 8191.875 rpm. Then repair or replace the malfunction part. Refer to [EC-1047, "CONSULT-II Function \(ENGINE\)"](#) .)



Engine Coolant Temperature Signal Inspection

GKS0005K

Symptom: Water temperature gauge indication is malfunction.

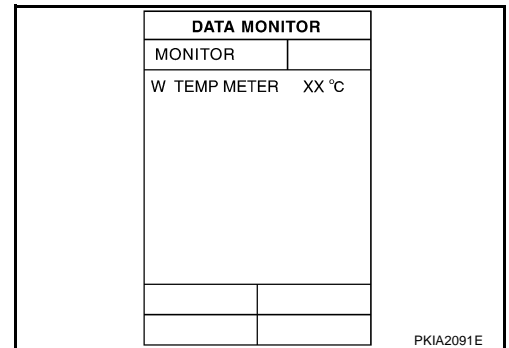
1. CHECK COMBINATION METER INPUT SIGNAL

1. Start engine and select "METER" on CONSULT-II.
2. Using "W TEMP METER" on "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 >> Perform ECM self-diagnosis. Refer to [EC-1047, "CONSULT-II Function \(ENGINE\)"](#).
- NG >> Replace combination meter. (Perform self-diagnosis of ECM when the value in the monitor indicates 215 °C. Then repair or replace the malfunction part. Refer to [EC-1047, "CONSULT-II Function \(ENGINE\)"](#) .)



Fuel Level Sensor Signal Inspection [YD Engine models]

GKS000D4

Symptom:

- Fuel gauge indication is malfunction.
- Low-fuel warning lamp indication is irregular.

NOTE:

The following symptoms are not malfunction.

Fuel level sensor unit

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

Low-fuel warning lamp

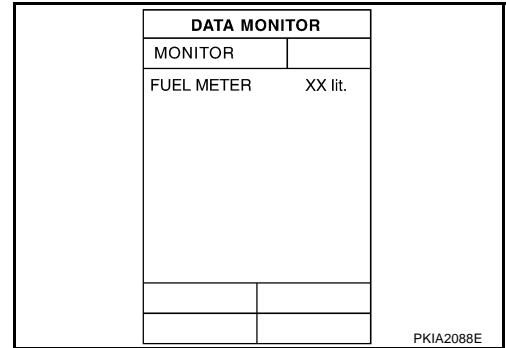
- Depending on vehicle incline or driving circumstance, the fuel in the tank flows and the warning lamp ON timing may change.

COMBINATION METERS

1. CHECK COMBINATION METER INPUT SIGNAL

1. Select "METER" on CONSULT-II.
2. Using "FUEL METER" on "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. 79
Three quarters	Approx. 59
Half	Approx. 37
A quarter	Approx. 22
Empty	Approx. 8



OK or NG

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

2. CHECK HARNESS CONNECTOR

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

OK or NG

- OK >> GO TO 3.
 NG >> Repair or replace terminals or connectors.

3. CHECK FUEL LEVEL SENSOR UNIT

Check fuel level sensor unit. Refer to [DI-30, "FUEL LEVEL SENSOR UNIT CHECK \[YD ENGINE MODELS\]"](#).

OK or NG

- OK >> GO TO 4.
 NG >> Replace fuel level sensor unit. Refer to [FL-26, "FUEL LEVEL SENSOR UNIT"](#).

4. CHECK FUEL LEVEL SENSOR UNIT CIRCUIT 1

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

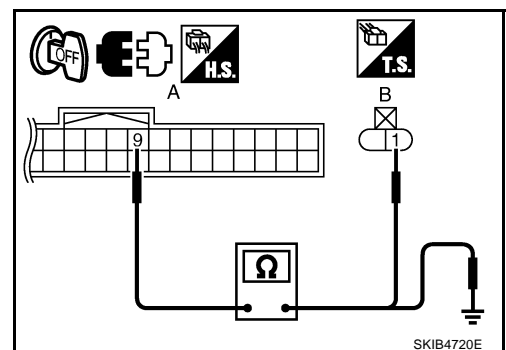
A		B		Continuity
Connector	Terminal	Connector	Terminal	
M23	9	C2	1	Yes

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

A		Ground	Continuity
Connector	Terminal		
M23	9		No

OK or NG

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



COMBINATION METERS

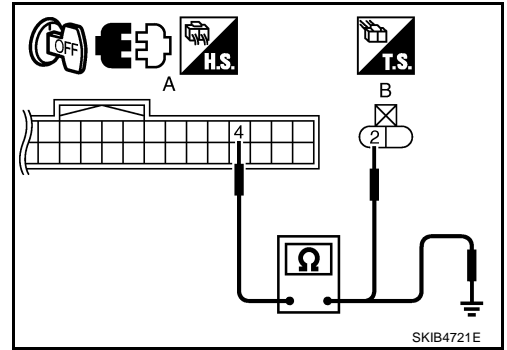
5. CHECK FUEL LEVEL SENSOR UNIT CIRCUIT 2

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M23	4	C2	2	Yes

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

A		Ground	Continuity
Connector	Terminal		
M23	4		No



OK or NG

- OK >> 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.
- NG >> Repair harness or connector.

Fuel Level Sensor Signal Inspection [VQ Engine Models]

GKS000D5

Symptom:

- Fuel gauge indication is malfunction.
- Low-fuel warning lamp indication is irregular.

NOTE:

The following symptoms are not malfunction.

Fuel level sensor unit

- Depending on vehicle incline or driving circumstance, the fuel level in the tank varies, and the pointer may fluctuate.
- If the vehicle is fueled with the ignition switch ON, the pointer moves slowly.

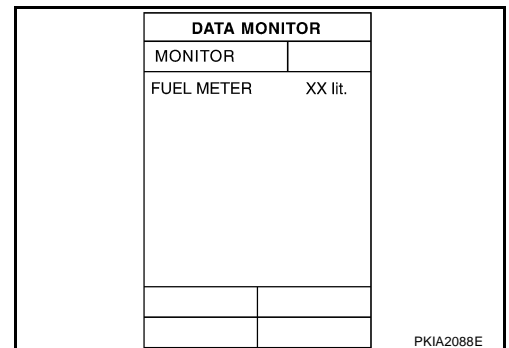
Low-fuel warning lamp

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

1. CHECK COMBINATION METER INPUT SIGNAL

1. Select "METER" on CONSULT-II.
2. Using "FUEL METER" on "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. 79
Three quarters	Approx. 59
Half	Approx. 37
A quarter	Approx. 22
Empty	Approx. 8



OK or NG

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

COMBINATION METERS

2. CHECK HARNESS CONNECTOR

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

OK or NG

- OK >> GO TO 3.
 NG >> Repair or replace terminals or connectors.

3. CHECK FUEL LEVEL SENSOR UNIT

Check fuel level sensor unit. Refer to [DI-30, "FUEL LEVEL SENSOR UNIT CHECK \[VQ ENGINE MODELS\]"](#).

OK or NG

- OK >> GO TO 4.
 NG >> Replace fuel level sensor unit. Refer to [FL-10, "FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY"](#).

4. CHECK FUEL LEVEL SENSOR UNIT CIRCUIT 1

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M23	9	C6	2	Yes

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

A		Ground	Continuity
Connector	Terminal		
M23	9	No	

OK or NG

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

5. CHECK FUEL LEVEL SENSOR UNIT CIRCUIT 2

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

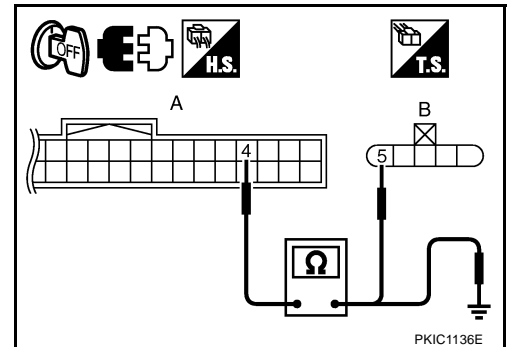
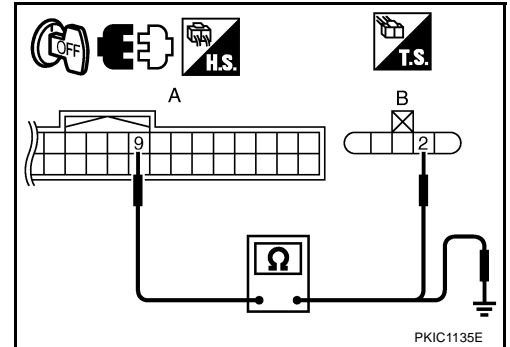
A		B		Continuity
Connector	Terminal	Connector	Terminal	
M23	4	C6	5	Yes

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

A		Ground	Continuity
Connector	Terminal		
M23	4	No	

OK or NG

- OK >> 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.
 NG >> Repair harness or connector.



COMBINATION METERS

GKS0005M

Ambient Sensor Signal Inspection

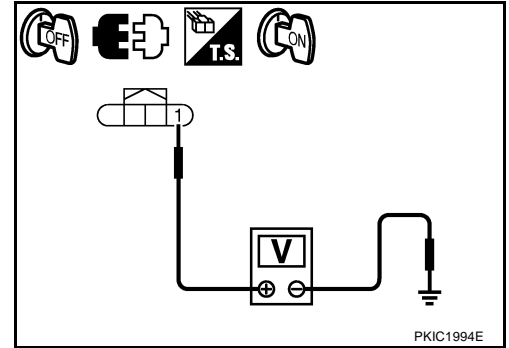
1. CHECK OUTPUT VOLTAGE OF COMBINATION METER

1. Turn ignition switch OFF.
2. Disconnect ambient sensor harness connector.
3. Turn ignition switch ON.
4. Check voltage between ambient sensor harness connector and ground.

Terminals		(-)	Voltage (Approx.)
(+)			
Ambient sensor connector	Terminal		
E48	1	Ground	5 V

OK or NG

- OK >> GO TO 2.
 NG >> GO TO 4.



2. CHECK AMBIENT SENSOR

1. Turn ignition switch OFF.
2. Check ambient sensor. Refer to [DI-31, "AMBIENT SENSOR CHECK"](#).

OK or NG

- OK >> GO TO 3.
 NG >> Replace ambient sensor.

3. CHECK AMBIENT SENSOR CIRCUIT (-)

1. Disconnect combination meter connector.
2. Check continuity between combination meter harness connector (A) and ambient sensor harness connector (B).

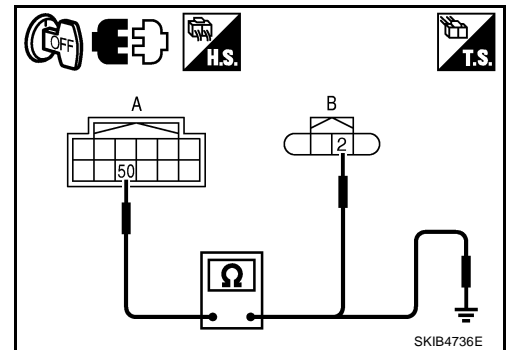
A		B		Continuity
Connector	Terminal	Connector	Terminal	
M22	50	E48	2	Yes

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

A		Ground	Continuity
Connector	Terminal		
M22	50		No

OK or NG

- OK >> Replace combination meter.
 NG >> Repair harness or connector.



COMBINATION METERS

4. CHECK AMBIENT SENSOR CIRCUIT (+)

1. Turn ignition switch OFF.
2. Disconnect combination meter connector.
3. Check continuity between combination meter harness connector (A) and ambient sensor harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M22	49	E48	1	Yes

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

A		Ground	Continuity
Connector	Terminal		
M22	49		No

OK or NG

- OK >> Replace combination meter.
- NG >> Repair harness or connector.

Fuel Gauge Fluctuates, Indicates Wrong Value, or Varies

GKS0005N

1. CHECK FUEL GAUGE FLUCTUATION

Test drive vehicle to see if gauge fluctuates only during driving or at the instant of stopping.

Does the indication value vary only during driving or at the instant of 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

GKS0005O

1. QUESTION 1

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

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

2. QUESTION 2

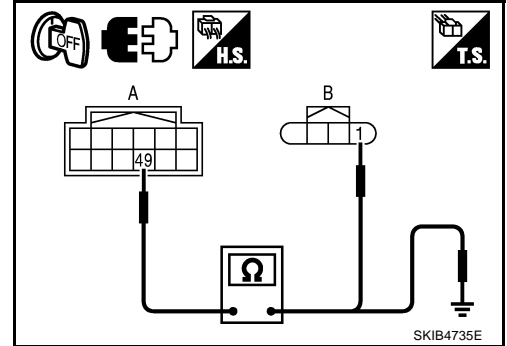
Was the vehicle fueled with the ignition switch ON?

- YES >> Fuel the vehicle with the ignition switch OFF. Otherwise, it takes 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 >> Check the fuel level indication with vehicle on a level surface.
- NO >> GO TO 4.



COMBINATION METERS

4. QUESTION 4

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

YES >> Check the fuel level sensor unit. Refer to [DI-30, "Electrical Components Inspection"](#) .

NO >> The float arm may interfere or bind with any of the components in the fuel tank.

DTC [U1000] CAN Communication Circuit

GKS0005P

Symptom: Displays "CAN COMM CIRC [U1000]" at the self-diagnosis result for combination meter.

1. CHECK CAN COMMUNICATION

1. Select "SELF-DIAG RESULTS" mode for "METER" with CONSULT-II.
2. Print out CONSULT-II screen.

>> Go to "LAN SYSTEM". Refer to [LAN-3, "Precautions When Using CONSULT-II"](#) .

DTC [B2205] Vehicle Speed Circuit

GKS0005Q

Symptom: Displays "VEHICLE SPEED CIRC [B2205]" at the self-diagnosis result for combination meter.

Perform the ABS actuator and electric unit (control unit) self-diagnosis, and repair or replace malfunctioning parts. Refer to [BRC-17, "CONSULT- II Functions"](#) .

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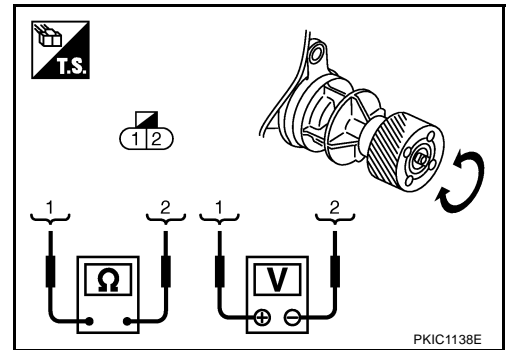
DI

COMBINATION METERS

GKS000D6

Electrical Components Inspection VEHICLE SPEED SENSOR CHECK

- Check vehicle speed sensor gear for damage.
- Check if there is a resistance (sense of click) when vehicle speed sensor gear is turned by hand.
- Check voltage between vehicle speed sensor terminals 1 and 2 when vehicle speed sensor gear is turned by hand.
- Check resistance between vehicle speed sensor terminals 1 and 2.



Terminal		Condition	Voltage [V]	Resistance [Ω] (Approx.)
1	2	When vehicle speed sensor gear is turned by hand	Voltage should exist	—
		—	—	250 - 330

FUEL LEVEL SENSOR UNIT CHECK [YD ENGINE MODELS]

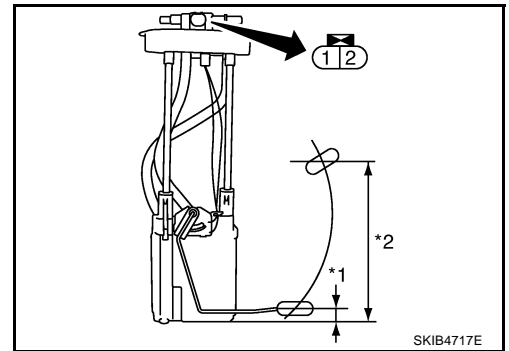
For removal, refer to [FL-26, "FUEL LEVEL SENSOR UNIT"](#).

Check Fuel Level Sensor Unit

Check resistance between terminals 1 and 2.

Terminal		Float position [mm (in)]			Resistance value [Ω] (Approx.)
1	2	*1	Empty	26 (1.02)	80
		*2	Full	205 (8.07)	6

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



FUEL LEVEL SENSOR UNIT CHECK [VQ ENGINE MODELS]

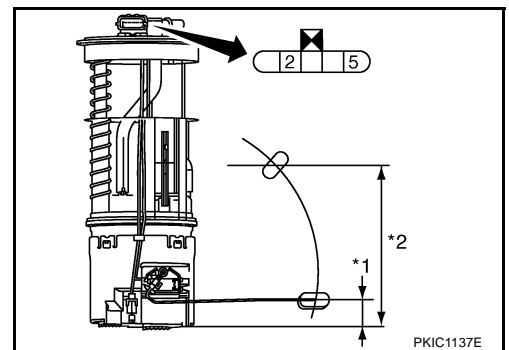
For removal, refer to [FL-10, "FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY"](#).

Check Fuel Level Sensor Unit and Fuel Pump

Check resistance between terminals 2 and 5.

Terminal		Float position [mm (in)]			Resistance value [Ω] (Approx.)
2	5	*1	Empty	26 (1.02)	80
		*2	Full	205 (8.07)	6

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

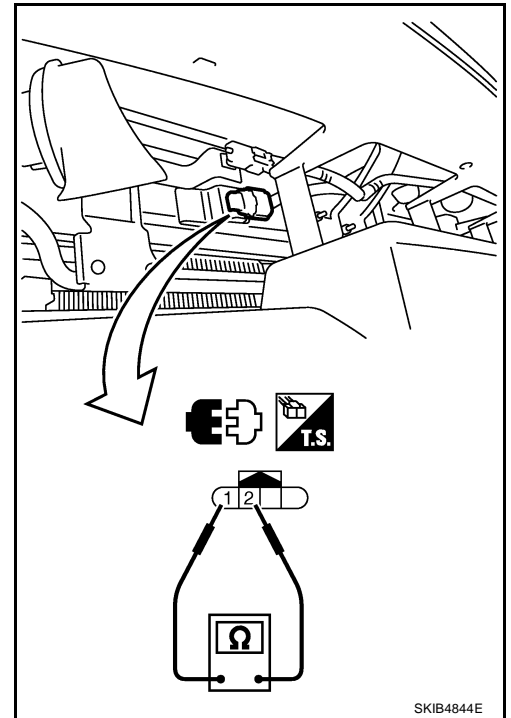


COMBINATION METERS

AMBIENT SENSOR CHECK

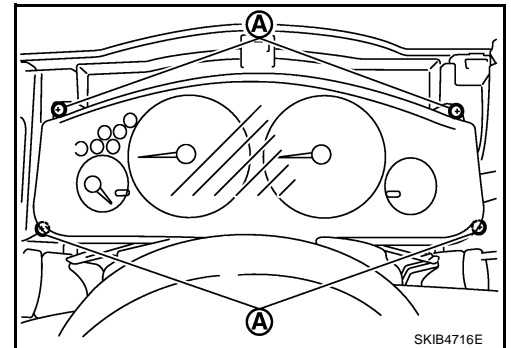
Check resistance between terminals 1 and 2.

Terminals		Temperature [°C (°F)]	Resistance value [kΩ] (Approx.)
1	2	-20 (-4)	15.8
		-10 (14)	9.60
		0 (32)	6.02
		10 (50)	3.87
		20 (68)	2.55
		30 (86)	1.74
		40 (104)	1.20



Removal and Installation of Combination Meter

1. Remove cluster lid A. Refer to [IP-10, "INSTRUMENT PANEL ASSEMBLY"](#).
2. Remove screws (A) and combination meter.



WARNING LAMPS

WARNING LAMPS

PF24814

System Description

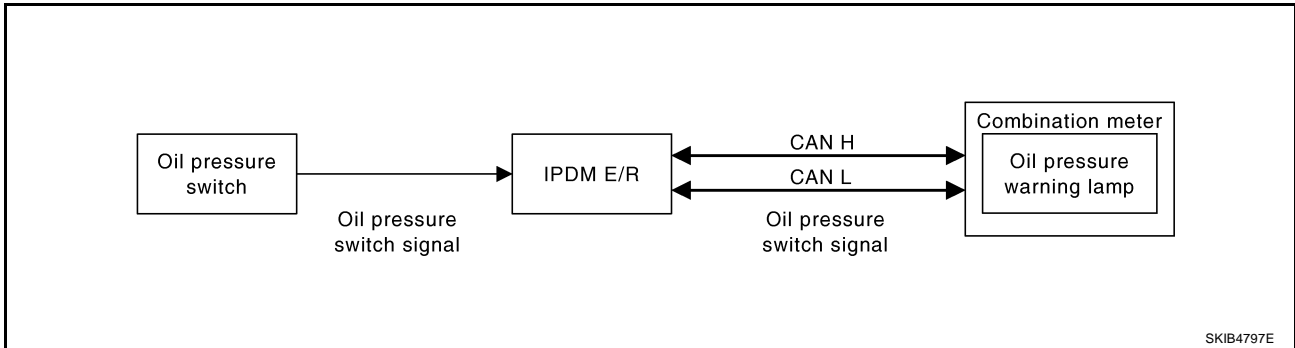
GKS0005T

OIL PRESSURE WARNING LAMP

Oil Pressure Warning

Oil pressure warning lamp turns ON when engine oil pressure reducing abnormally.

- IPDM E/R reads ON/OFF signal from oil pressure switch, and transmits the signal to combination meter with CAN communication.
- Combination meter turns oil pressure warning lamp according to oil pressure switch signal.



Oil Level Warning [YD Engine Models Only]

If engine oil level is 15 mm below low level of oil level gauge, oil level warning is detected.

Oil pressure warning lamp blinks and "OIL Lo" is displayed on odo/trip meter display, when oil level warning is detected.

Oil level warning is displayed during ignition switch ON for 30 seconds after engine oil maintenance information is displayed for 5 seconds.

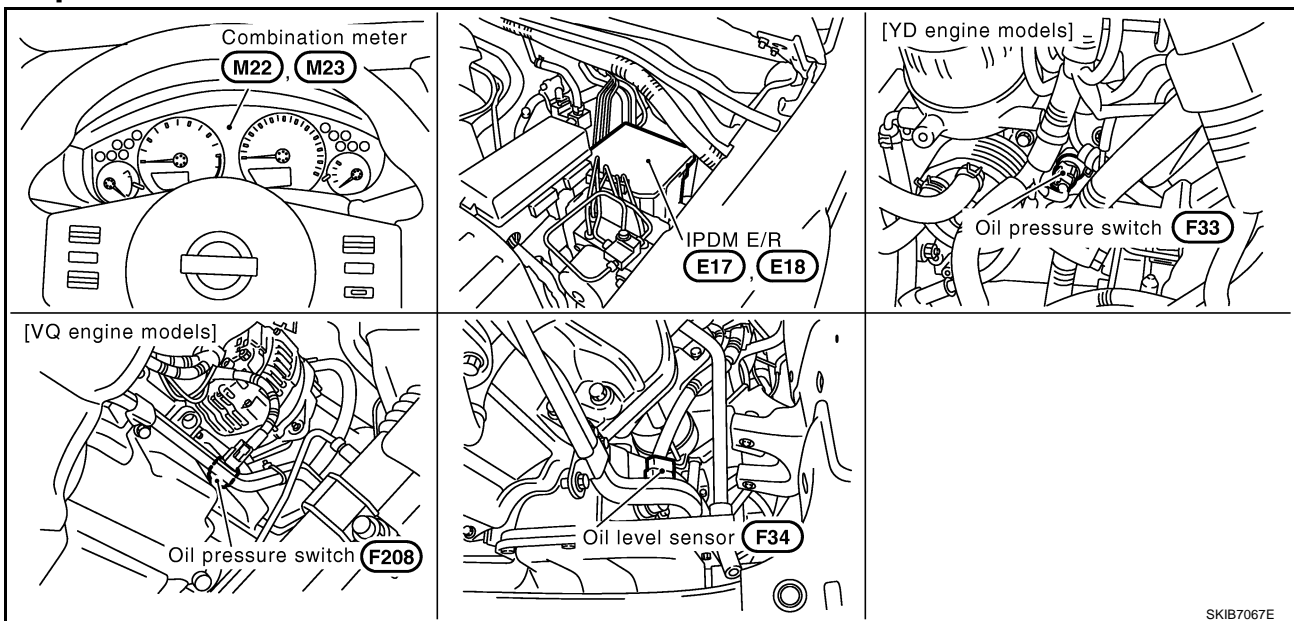
- Combination meter reads oil level signal from oil level sensor.
- When combination meter judges oil level warning condition by oil level signal, oil level warning is displayed.

NOTE:

- Oil level is gauged when the driver door is open.
- Oil level is not gauged for 5 minutes after ignition switch OFF to wait oil falling down from cylinder head.

Component Parts and Harness Connector Location

GKS0005U

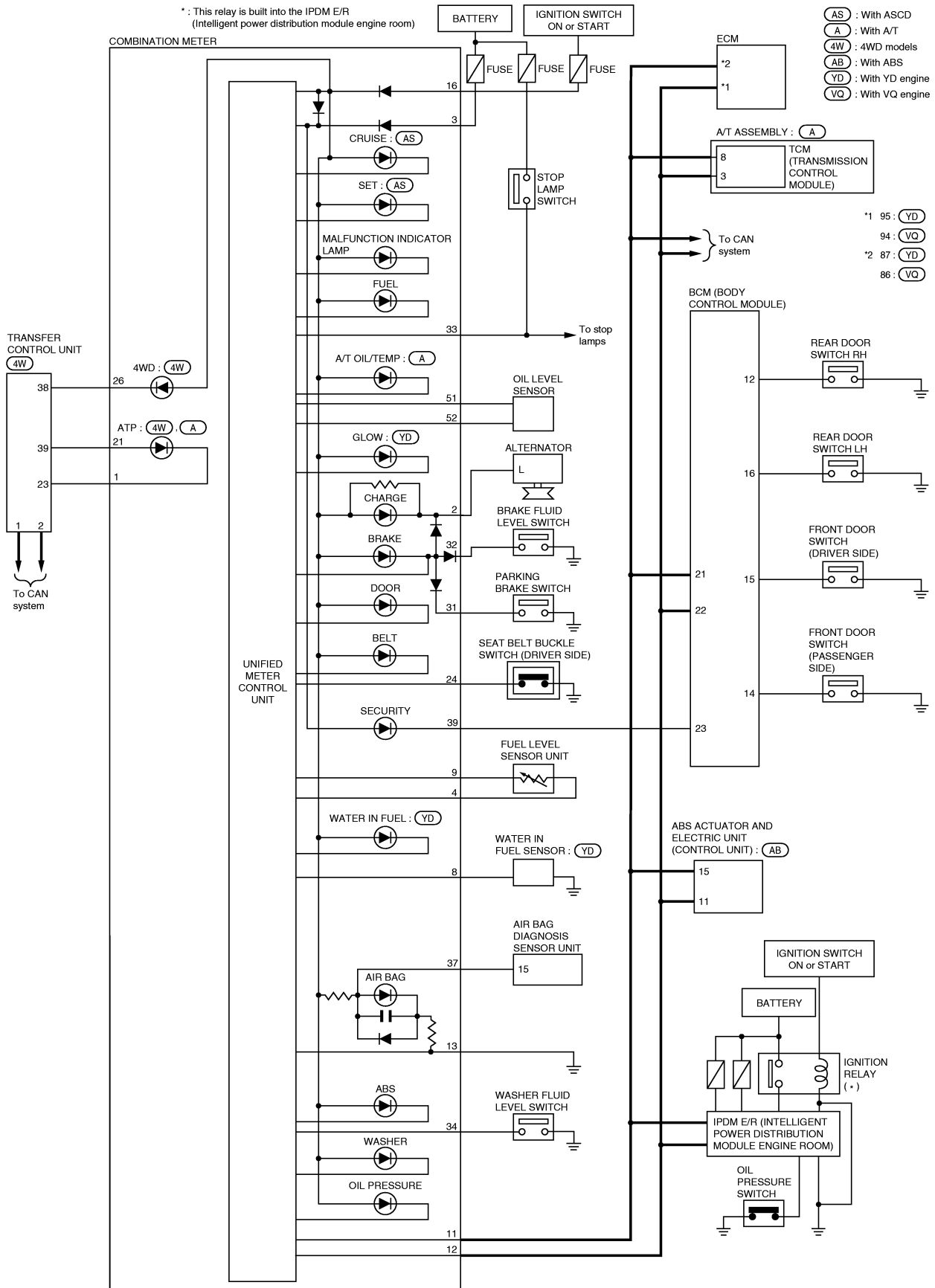


SKIB7067E

WARNING LAMPS

Schematic

GKS0005V



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NOTE:
For the further detail, refer to descriptions on each system.

WARNING LAMPS

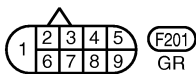
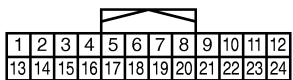
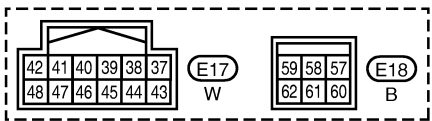
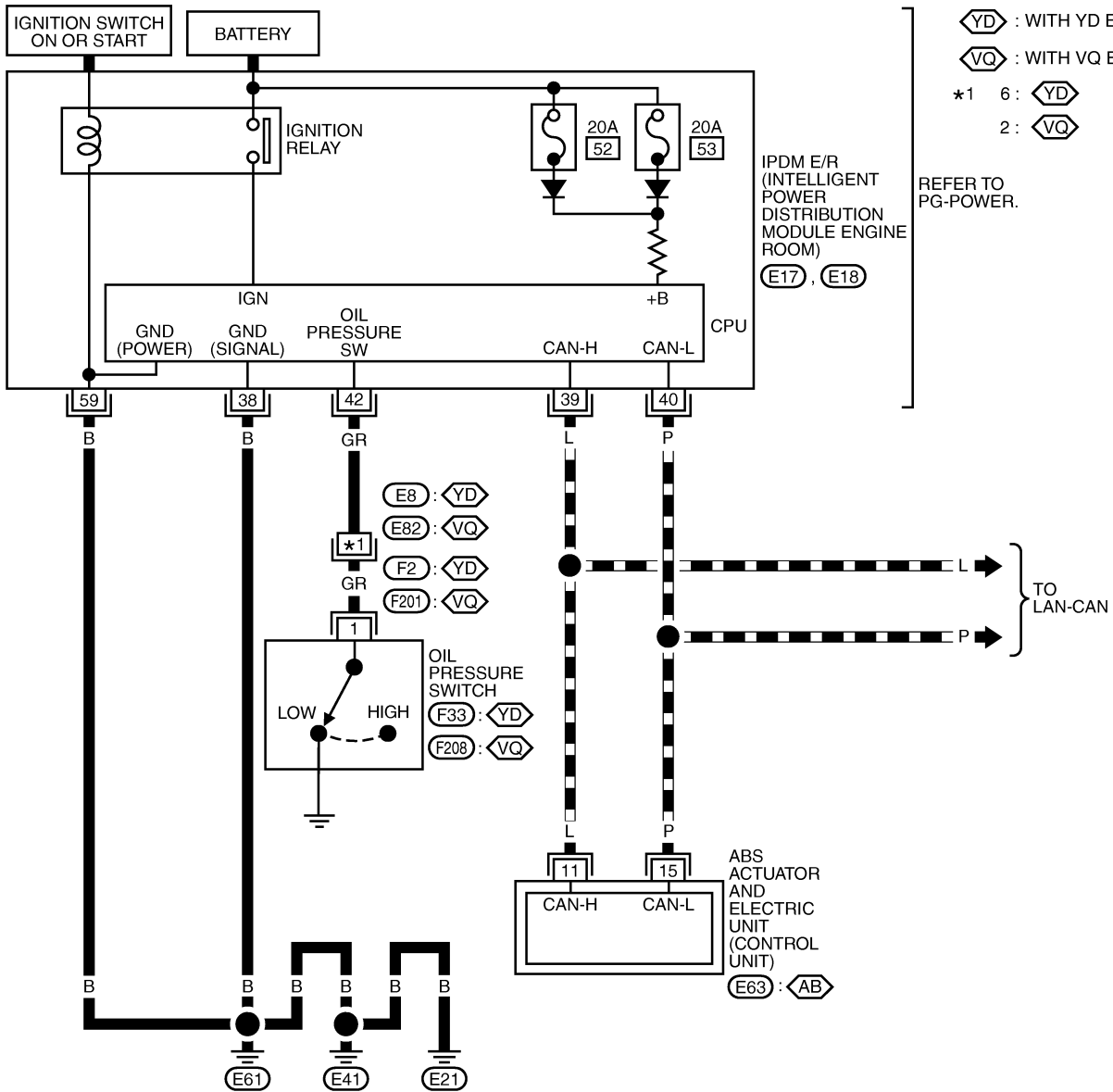
Wiring Diagram — WARN — A/T MODELS

GKS0005W

DI-WARN-01

- ▬ : DATA LINE
- ⬡ (AB) : WITH ABS
- ⬡ (YD) : WITH YD ENGINE
- ⬡ (VQ) : WITH VQ ENGINE
- *1 6: ⬡ (YD)
- 2: ⬡ (VQ)

REFER TO PG-POWER.

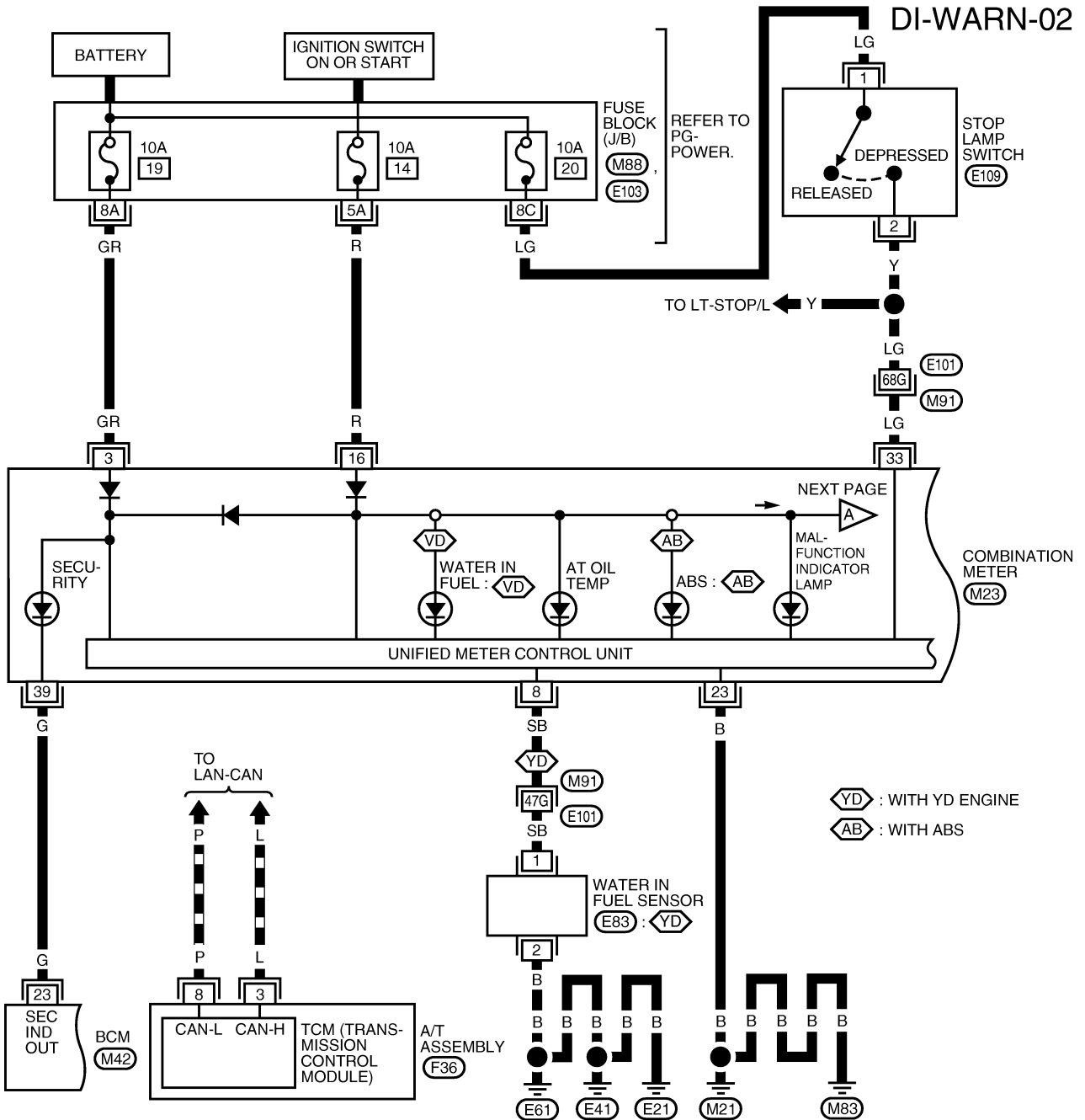


REFER TO THE FOLLOWING.

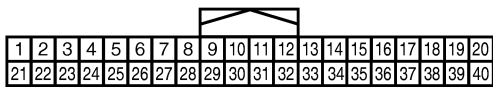
(E63) - ELECTRICAL UNITS

MKWA4158E

WARNING LAMPS



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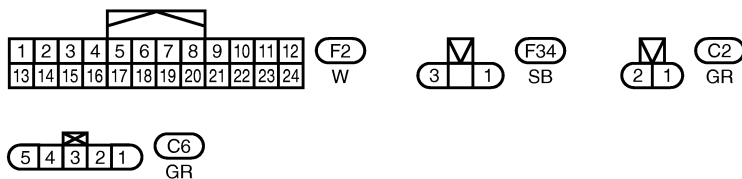
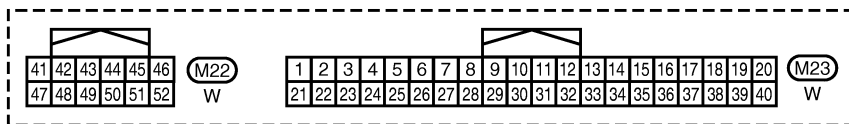
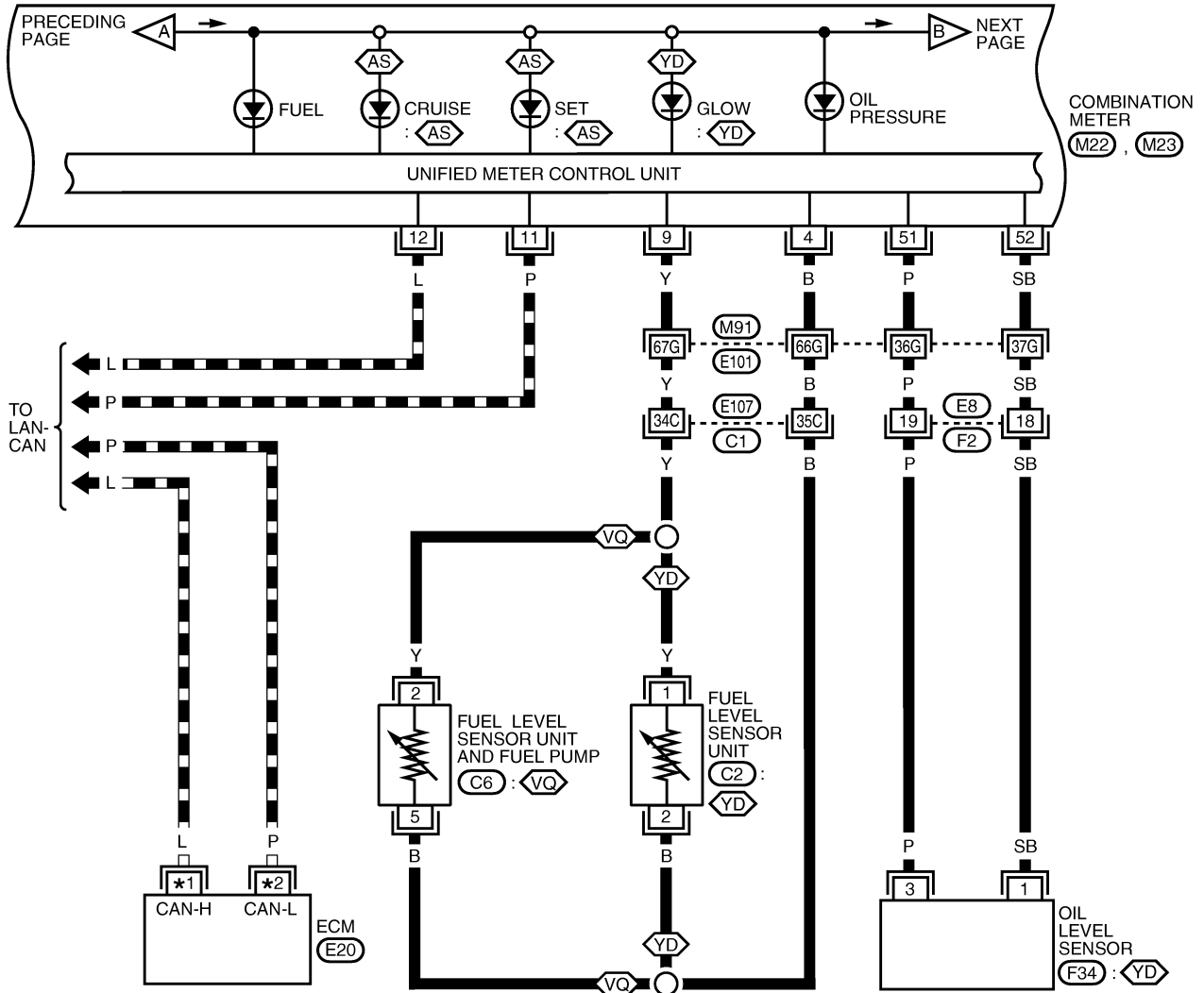


REFER TO THE FOLLOWING.
 (M91) - SUPER MULTIPLE JUNCTION (SMJ)
 (M88), (E103) - FUSE BLOCK JUNCTION BOX (J/B)
 (M42) - ELECTRICAL UNITS

WARNING LAMPS

DI-WARN-03

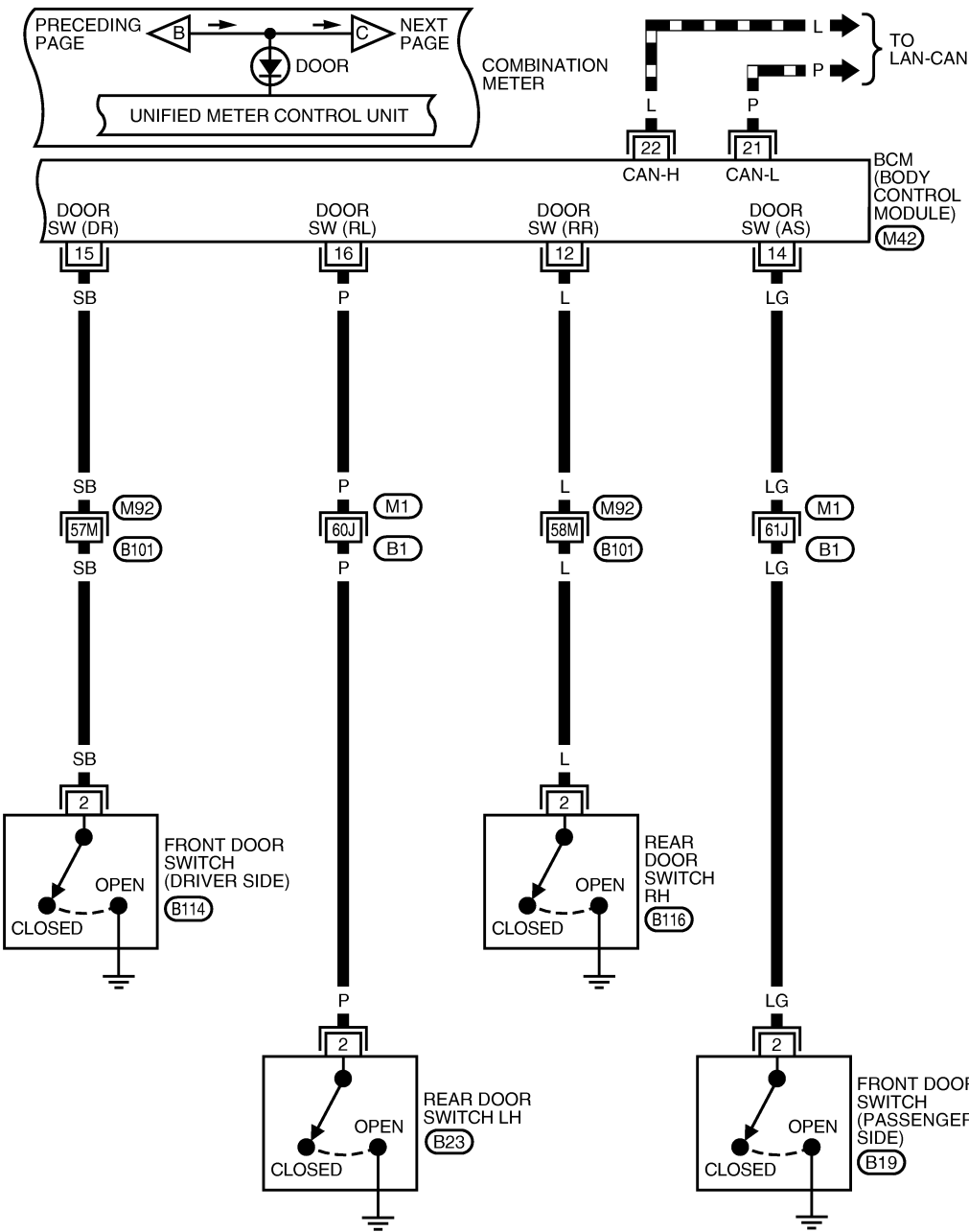
- *1 95 : : DATA LINE
- 94 : : WITH ASCD
- *2 87 : : WITH YD ENGINE
- 86 : : WITH VQ ENGINE



REFER TO THE FOLLOWING.
 - ELECTRICAL UNITS
 , - SUPER
 MULTIPLE JUNCTION (SMJ)

WARNING LAMPS

DI-WARN-04



1	(B19), (B23), (B114), (B116)
2	W, W, W, W
3	

REFER TO THE FOLLOWING.

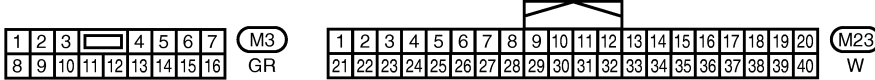
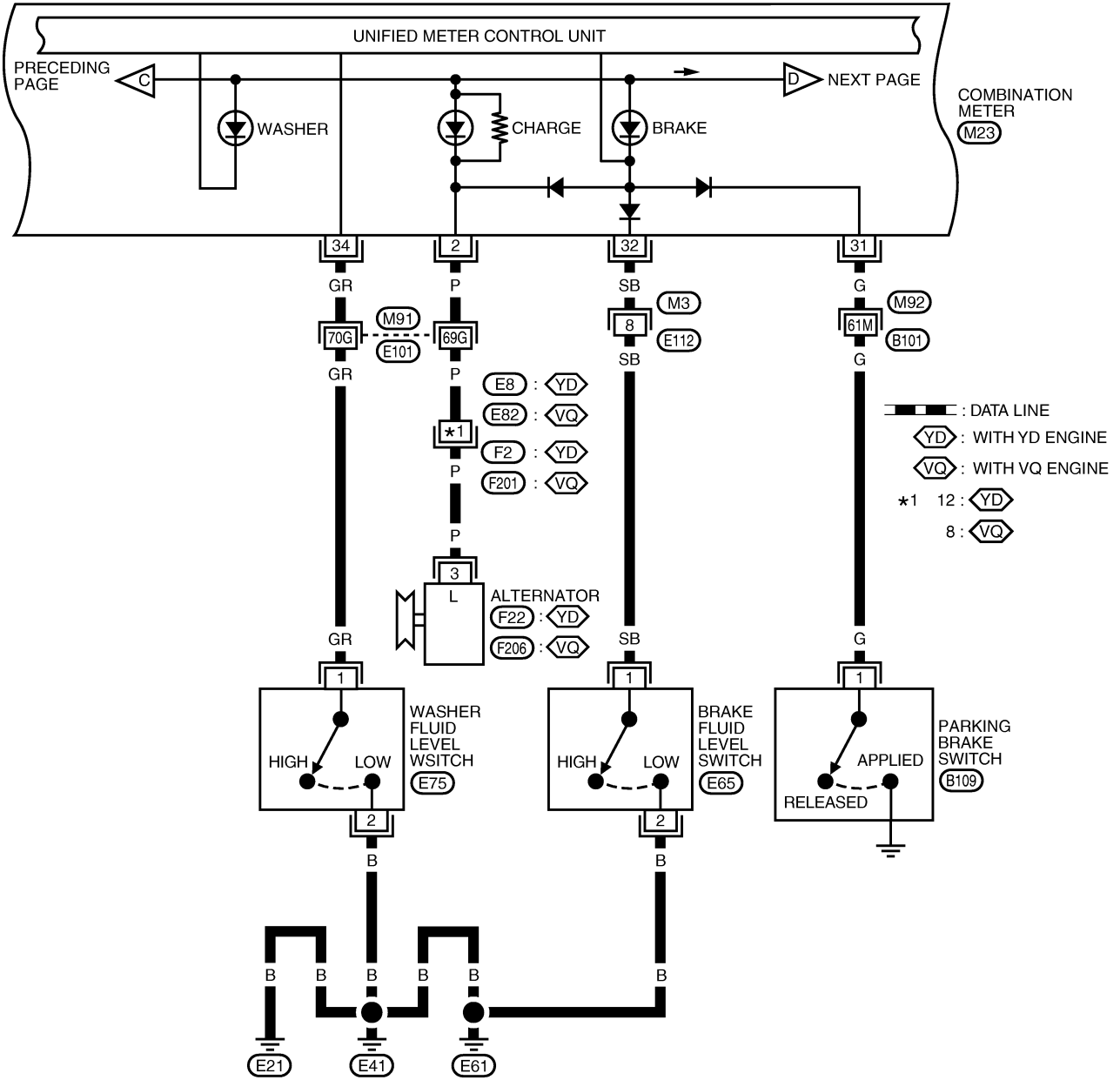
(M42) - ELECTRICAL UNITS

(M1), (M92) - SUPER MULTIPLE JUNCTION (SMJ)

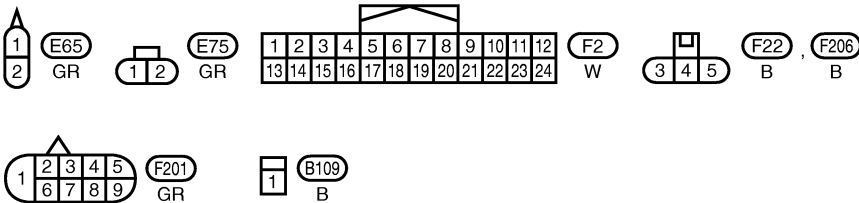
MKWA4161E

WARNING LAMPS

DI-WARN-05



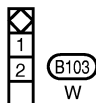
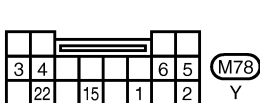
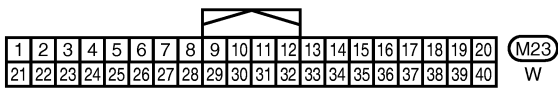
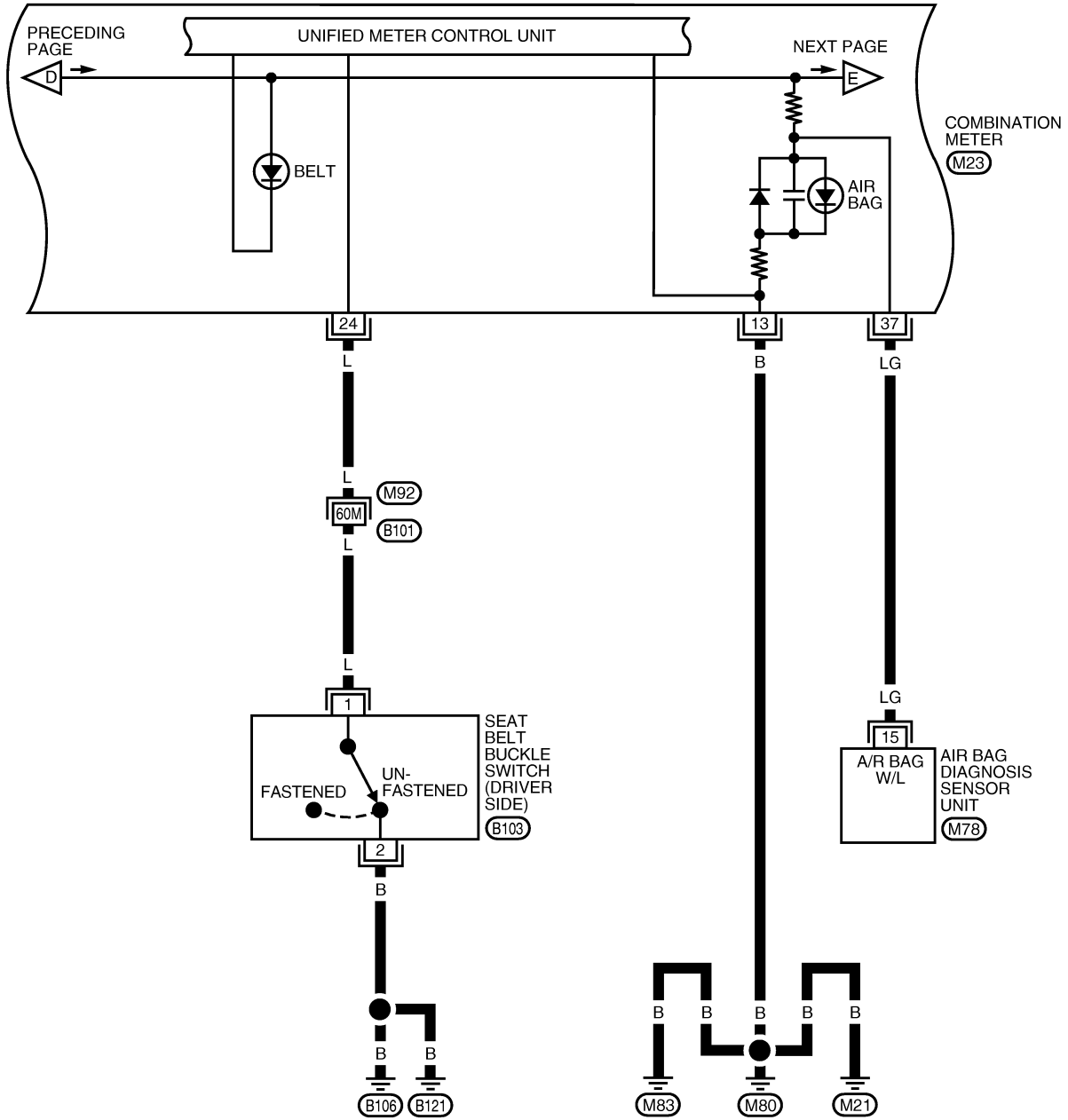
REFER TO THE FOLLOWING.
 (M91), (M92) - SUPER MULTIPLE JUNCTION (SMJ)



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WARNING LAMPS

DI-WARN-06



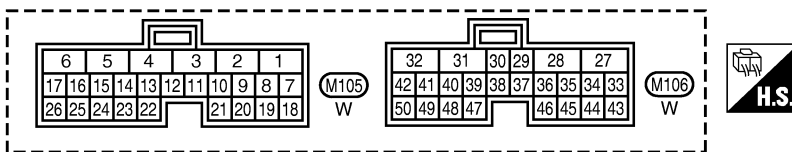
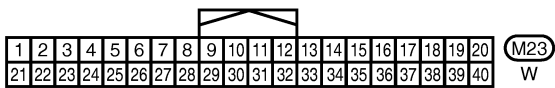
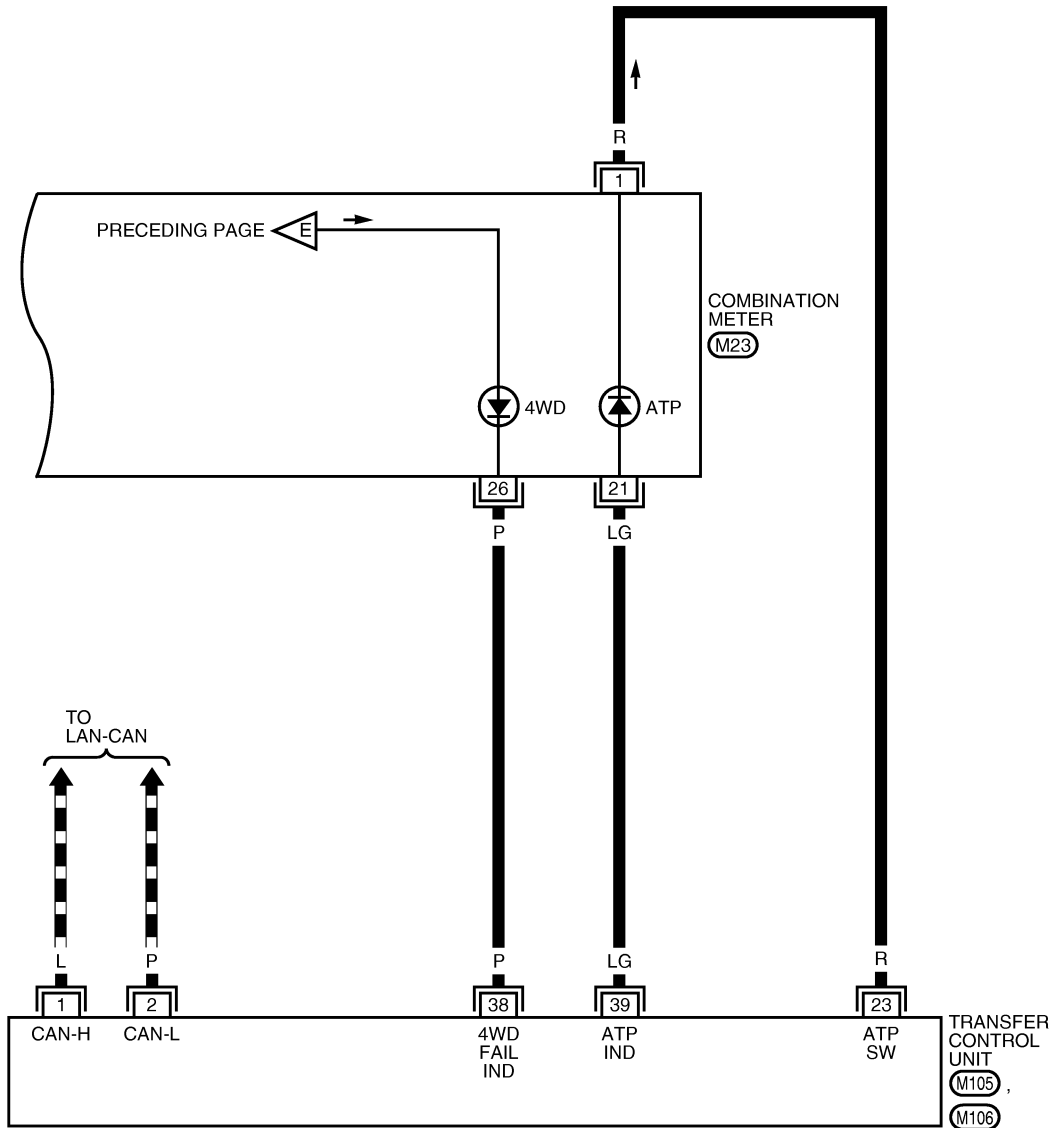
REFER TO THE FOLLOWING
 (M92) - SUPER MULTIPLE
 JUNCTION (SMJ)

MKWA4163E

WARNING LAMPS

DI-WARN-07

▬ : DATA LINE



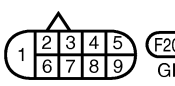
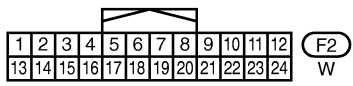
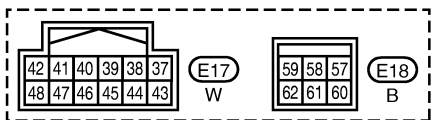
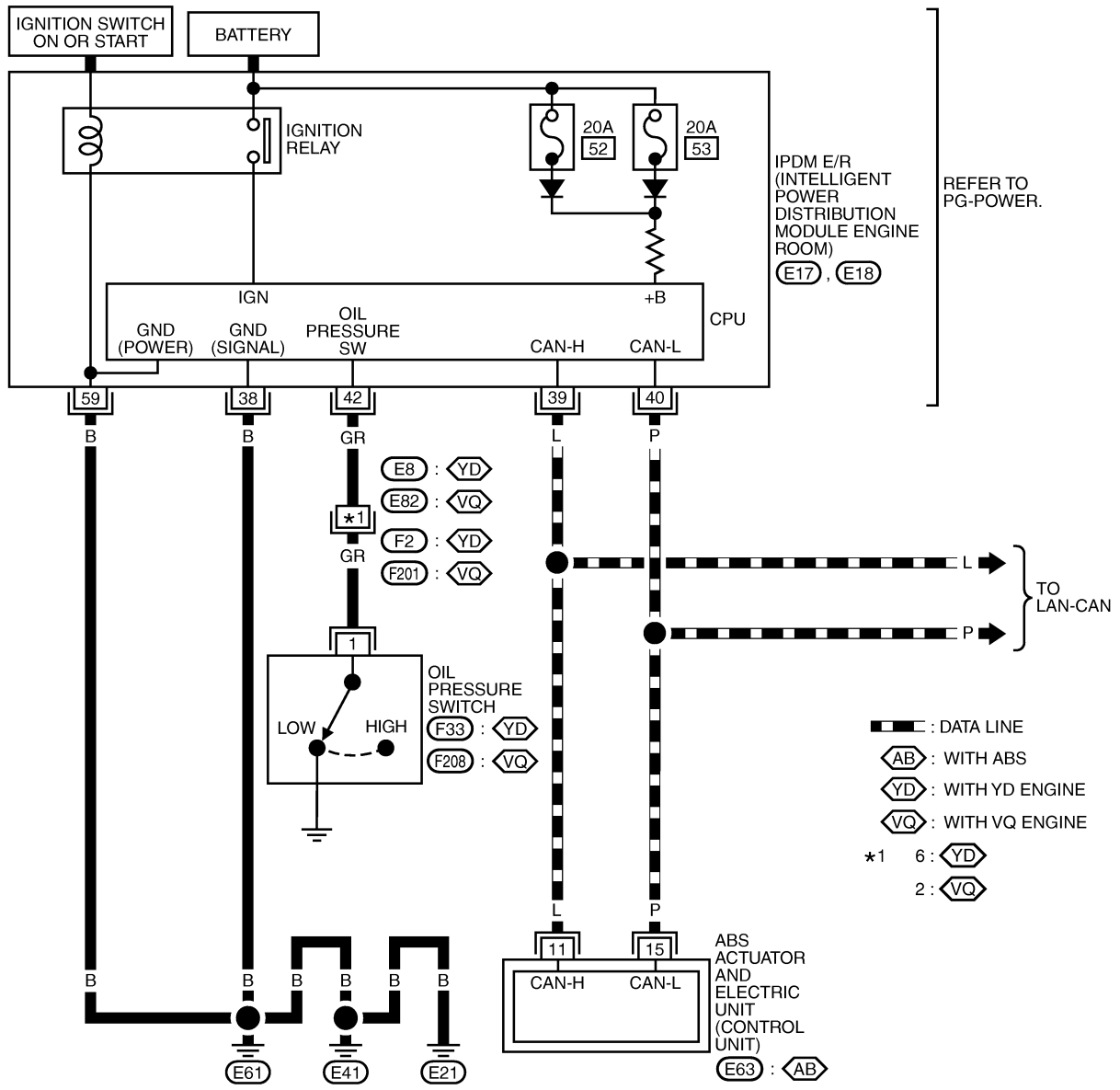
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WARNING LAMPS

M/T MODELS

DI-WARN-08

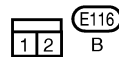
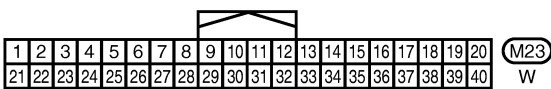
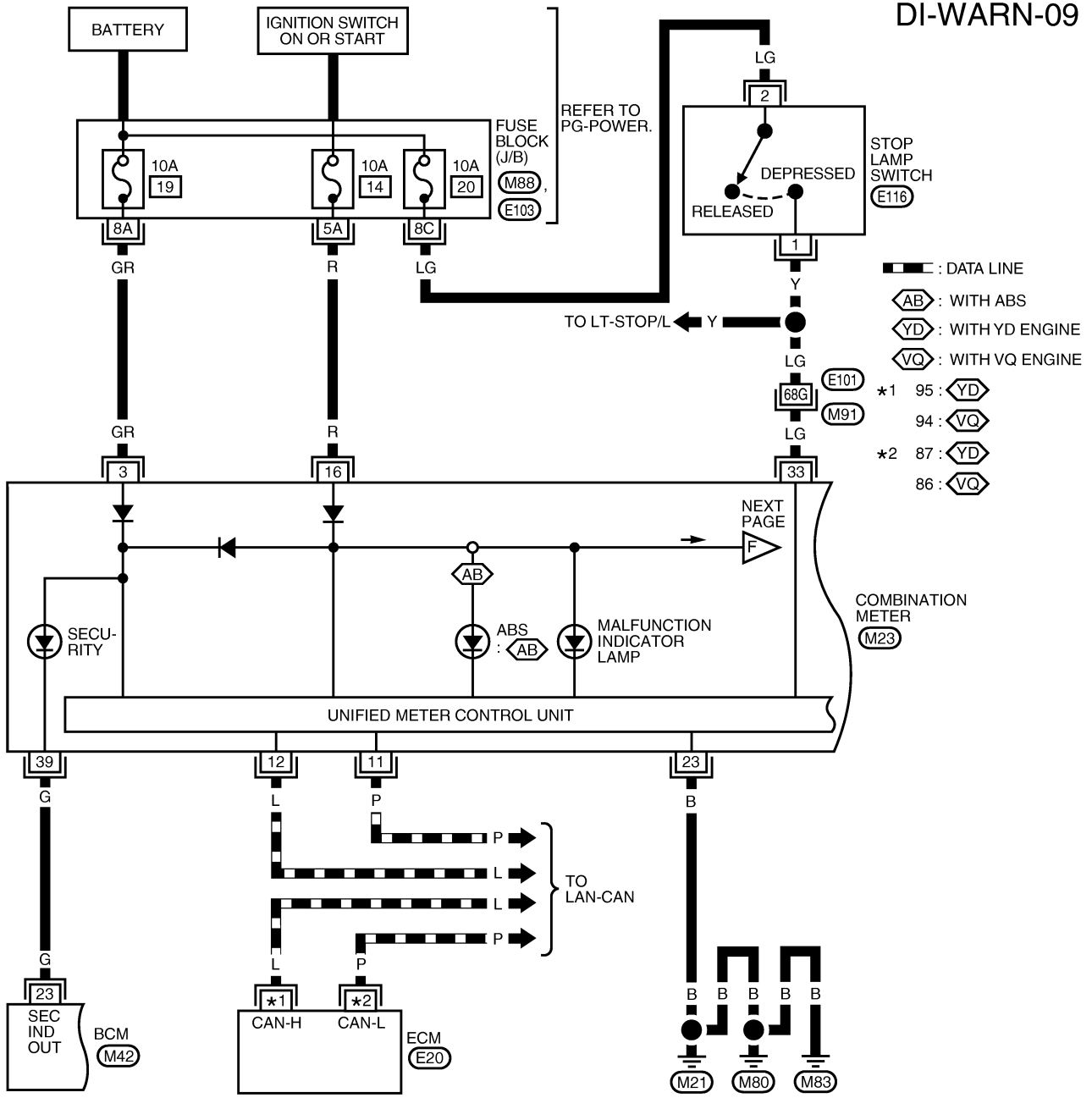
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REFER TO THE FOLLOWING.
E63 - ELECTRICAL UNITS

WARNING LAMPS

DI-WARN-09



REFER TO THE FOLLOWING.

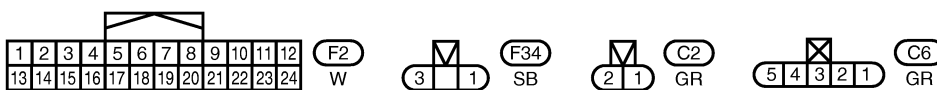
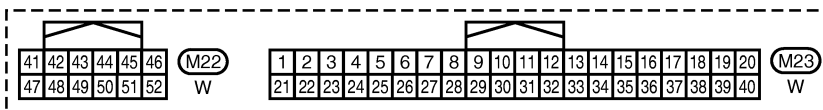
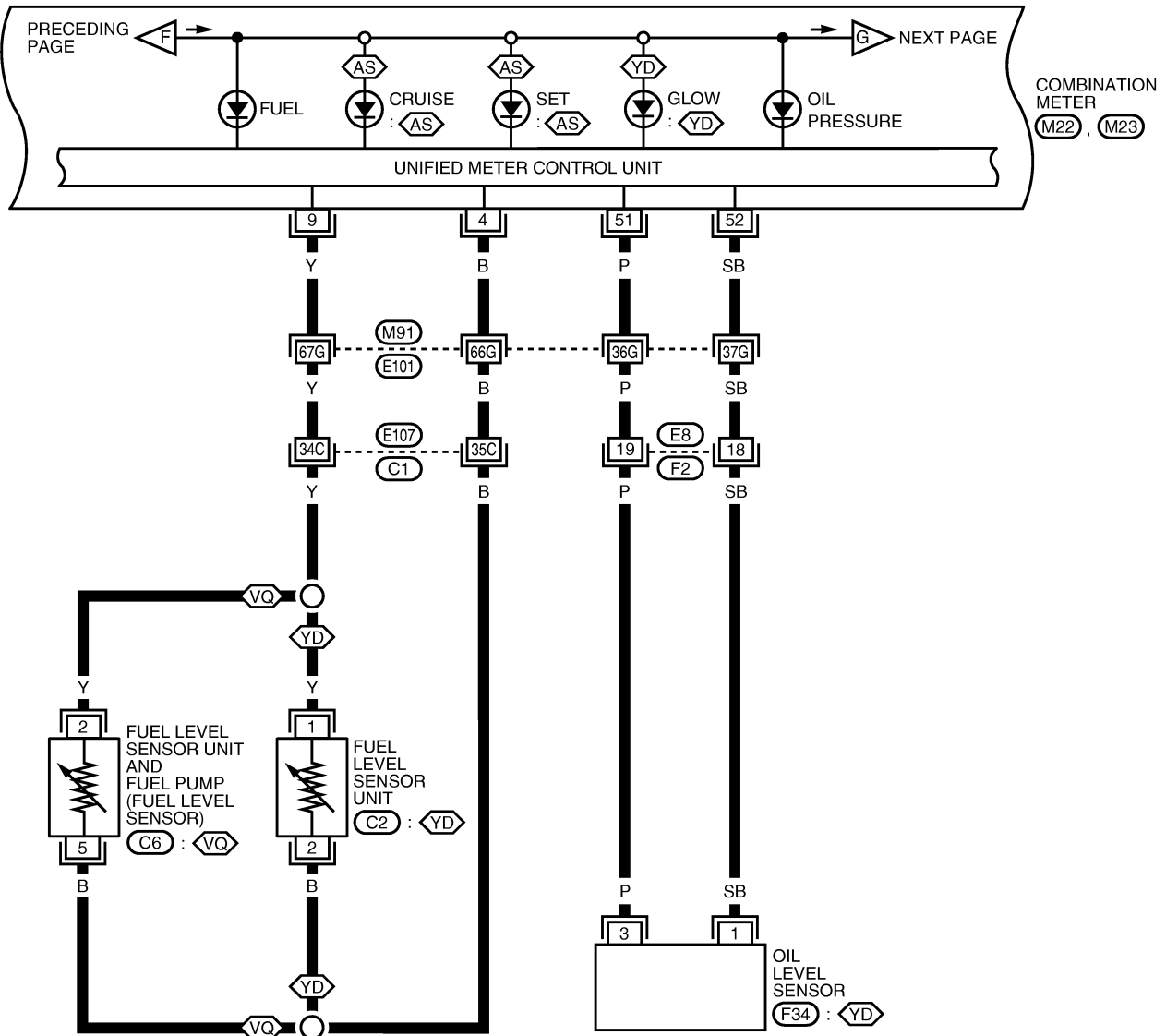
- M88 , E103 - FUSE BLOCK JUNCTION BOX (J/B)
- E20 , M42 - ELECTRICAL UNITS
- M91 - SUPER MULTIPLE JUNCTION (SMJ)

MKWA4166E

WARNING LAMPS

DI-WARN-10

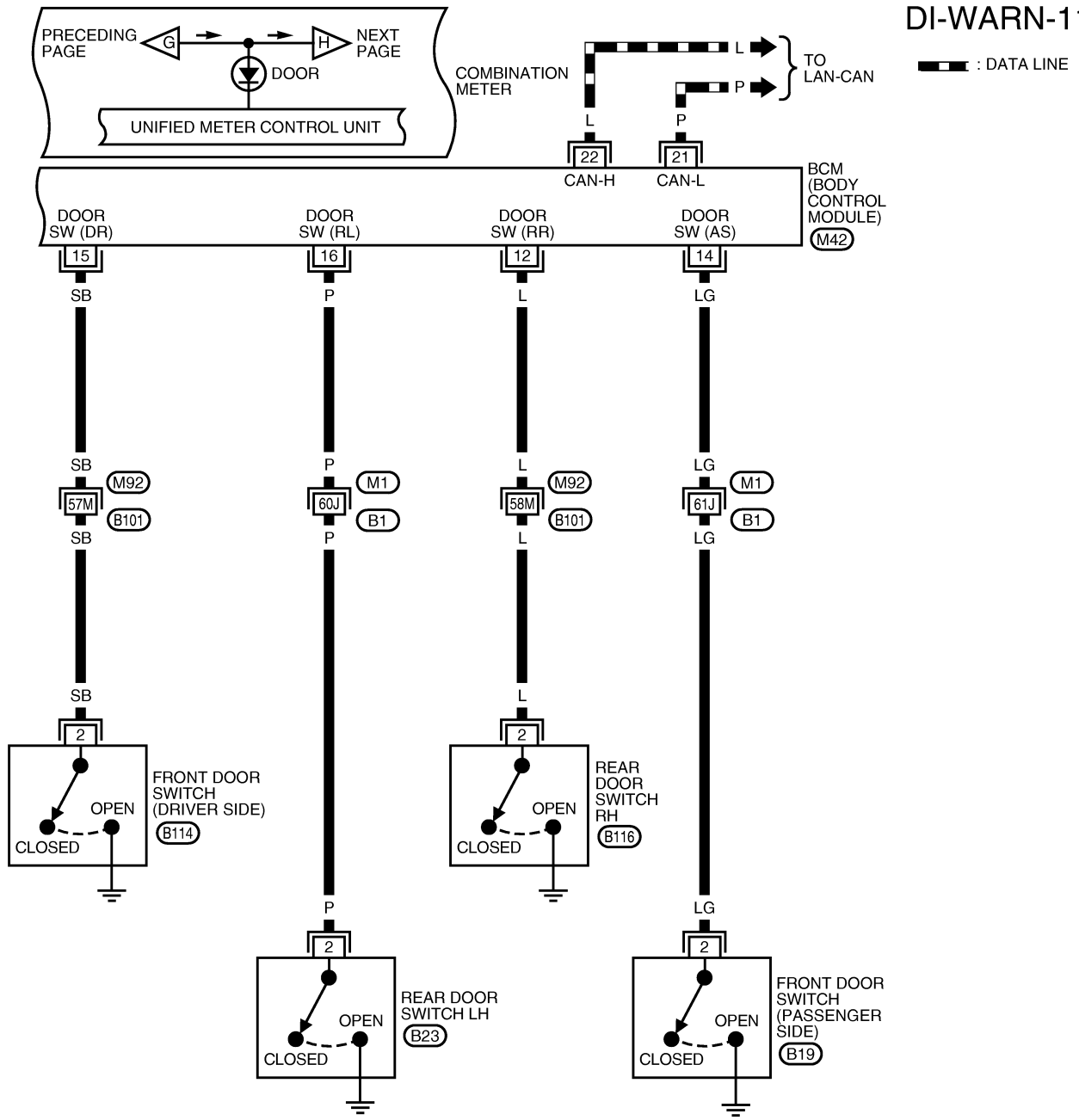
- AS : WITH ASCD
- YD : WITH YD ENGINE
- VQ : WITH VQ ENGINE



REFER TO THE FOLLOWING.
 (M91), (C1) - SUPER
 MULTIPLE JUNCTION (SMJ)

WARNING LAMPS

DI-WARN-11



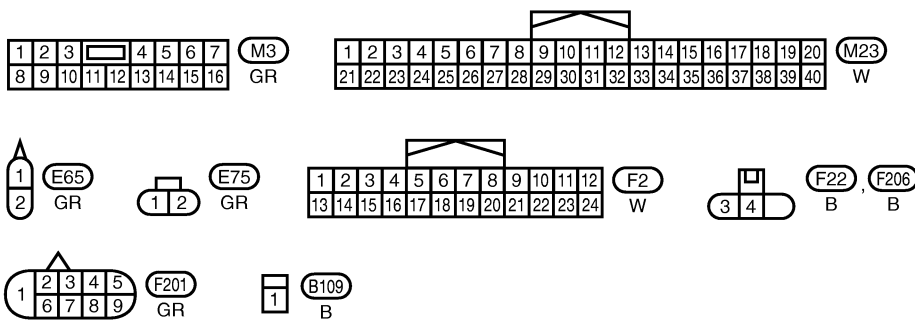
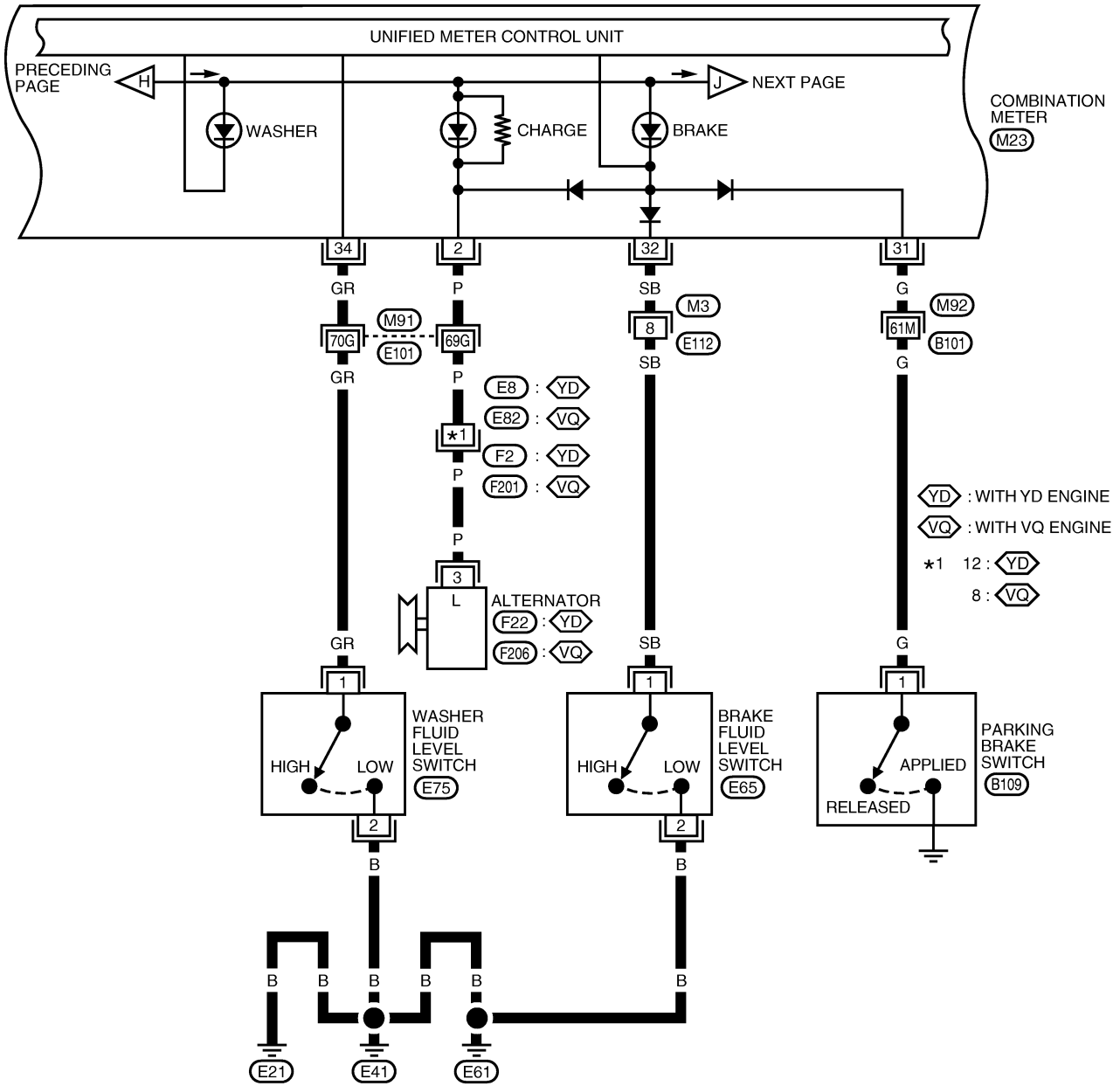
- | | |
|---|------------------------------|
| 1 | (B19), (B23), (B114), (B116) |
| 2 | W, W, W, W |
| 3 | |

REFER TO THE FOLLOWING.
 (M42) - ELECTRICAL UNITS
 (M1), (M92) - SUPER
 MULTIPLE JUNCTION (SMJ)

WARNING LAMPS

DI-WARN-12

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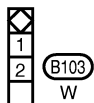
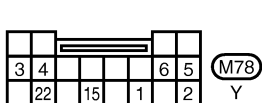
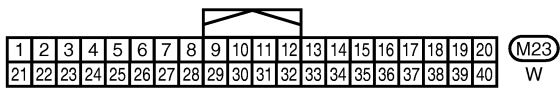
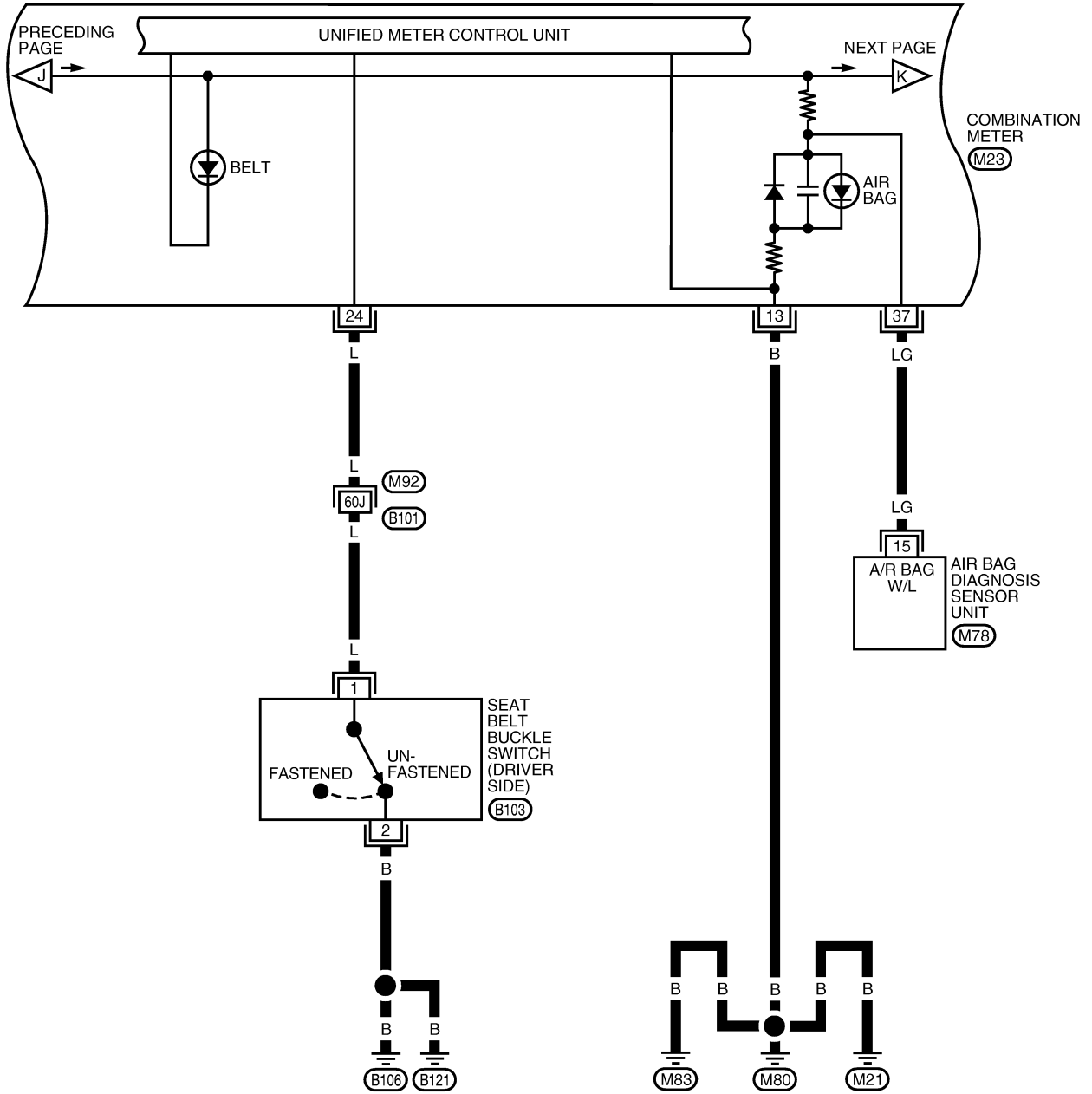
REFER TO THE FOLLOWING.

(M1), (M91), (M92)
- SUPER MULTIPLE
JUNCTION (SMJ)

MKWA4169E

WARNING LAMPS

DI-WARN-13

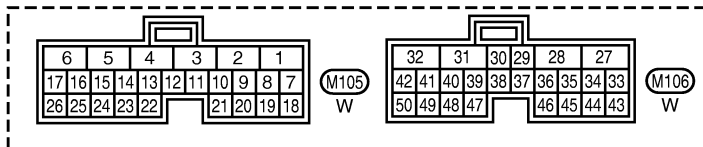
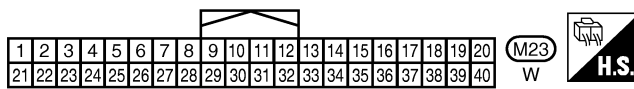
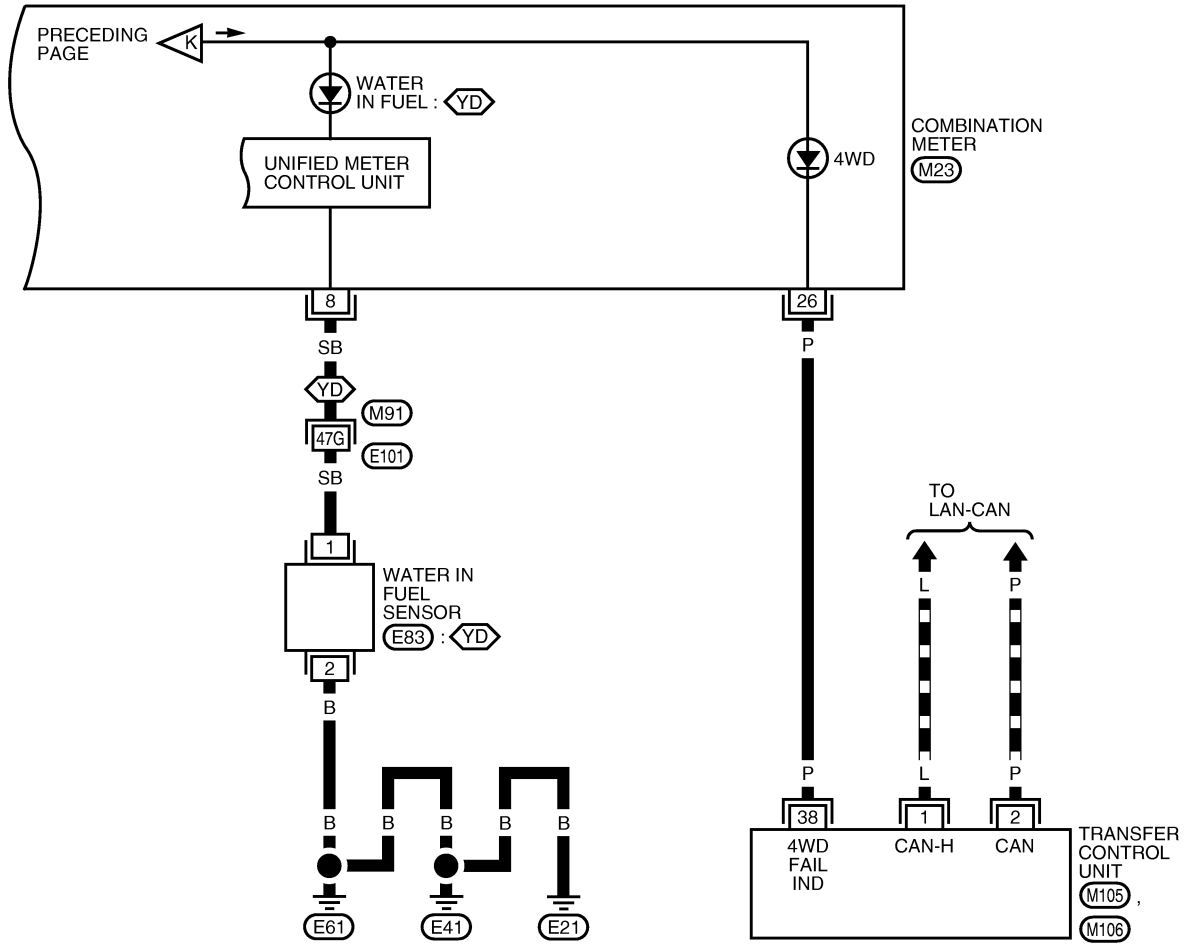


REFER TO THE FOLLOWING
 (M92) - SUPER MULTIPLE
 JUNCTION (SMJ)

WARNING LAMPS

DI-WARN-14

▬ : DATA LINE
 ⬡(YD) : WITH YD ENGINE



REFER TO THE FOLLOWING.

(M91) - SUPER MULTIPLE JUNCTION (SMJ)

MKWA4171E

WARNING LAMPS

GKS0005X

Oil Pressure Warning Lamp Stays Off (Ignition Switch ON)

1. CHECK OIL PRESSURE WARNING LAMP OPERATION

Activate IPDM E/R auto active test. Refer to [PG-19, "Auto Active Test"](#) .

Does oil pressure warning lamp blink?

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

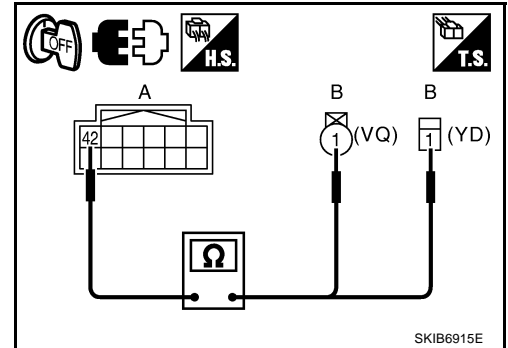
2. CHECK OIL PRESSURE SWITCH CIRCUIT

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

A		B	
Connector	Terminal	Connector	Terminal
E17	42	F33 (YD) F208 (VQ)	1

OK or NG

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



3. CHECK OIL PRESSURE SWITCH

Check oil pressure switch. Refer to [DI-51, "OIL PRESSURE SWITCH"](#) .

OK or NG

- OK >> Replace IPDM E/R. Refer to [PG-26, "Removal and Installation of IPDM E/R"](#) .
- NG >> Replace oil pressure switch.

4. CHECK COMBINATION METER (CONSULT-II)

Perform self-diagnosis of combination meter. Refer to [DI-15, "CONSULT-II Function \(METER\)"](#) .

Self-diagnosis results

- No malfunction detected >> GO TO 5.
- Malfunction detected >> Check applicable parts, and repair or replace corresponding parts.

5. CHECK COMBINATION METER INPUT SIGNAL

Select "METER" on CONSULT-II. Operate ignition switch with "OIL W/L" of "DATA MONITOR" and check operation status.

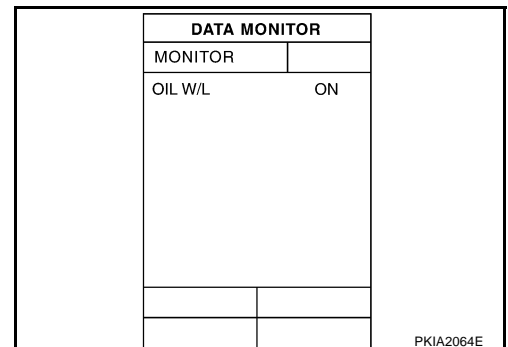
"OIL W/L"

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

When engine running : OFF

OK or NG

- OK >> Replace combination meter.
- NG >> Replace IPDM E/R.



PKIA2064E

WARNING LAMPS

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

GKS0005Y

NOTE:

For oil pressure inspection, refer to [LU-20, "ENGINE OIL PRESSURE CHECK"](#).

1. CHECK OIL PRESSURE WARNING LAMP OPERATION

Activate IPDM E/R auto active test. Refer to [PG-19, "Auto Active Test"](#).

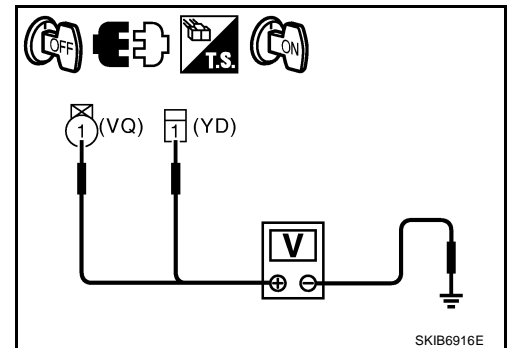
Does oil pressure warning lamp blink?

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

2. CHECK IPDM E/R OUTPUT SIGNAL

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

Terminals		(-)	Voltage (Approx.)
(+)	Terminal		
Oil pressure switch connector	1	Ground	12 V
F33 (YD) F208 (VQ)			



OK or NG

- OK >> GO TO 3.
- NG >> GO TO 4.

3. CHECK OIL PRESSURE SWITCH

1. Turn ignition switch OFF.
2. Check oil pressure switch. Refer to [DI-51, "OIL PRESSURE SWITCH"](#).

OK or NG

- OK >> Replace IPDM E/R. Refer to [PG-26, "Removal and Installation of IPDM E/R"](#).
- NG >> Replace oil pressure switch.

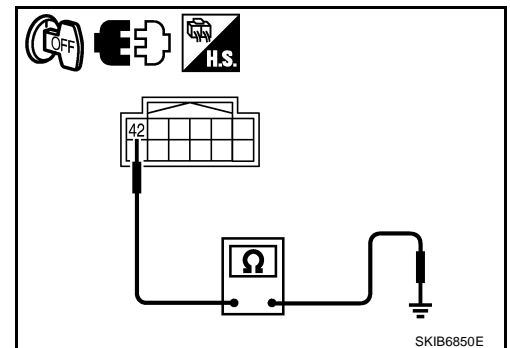
4. CHECK OIL PRESSURE SWITCH CIRCUIT

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

IPDM E/R connector	Terminal	Ground	Continuity
E17	42		No

OK or NG

- OK >> Replace IPDM E/R. Refer to [PG-26, "Removal and Installation of IPDM E/R"](#).
- NG >> Repair harness or connector.



WARNING LAMPS

5. CHECK IPDM E/R (CONSULT-II)

Perform self-diagnosis of IPDM E/R. Refer to [PG-16, "CONSULT-II Function \(IPDM E/R\)"](#) .

Self-diagnosis results

No malfunction detected>>Replace combination meter.

Malfunction detected>>Check applicable parts, and repair or replace corresponding parts.

Oil Pressure Warning Lamp Keeps Blinking (Oil Level Is Normal)

GKS0005Z

NOTE:

For engine oil level inspection, refer to [LU-20, "ENGINE OIL LEVEL"](#) .

If combination meter detects that oil level sensor is open or short circuit, oil level warning is displayed.

1. CHECK OIL LEVEL SENSOR

1. Turn ignition switch OFF.
2. Disconnect oil level sensor connector.
3. Check oil level sensor. Refer to [DI-51, "OIL LEVEL SENSOR"](#) .

OK or NG

OK >> GO TO 2.

NG >> Replace oil level sensor.

2. CHECK OIL LEVEL SENSOR POWER SUPPLY CIRCUIT

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M22	51	F34	3	Yes

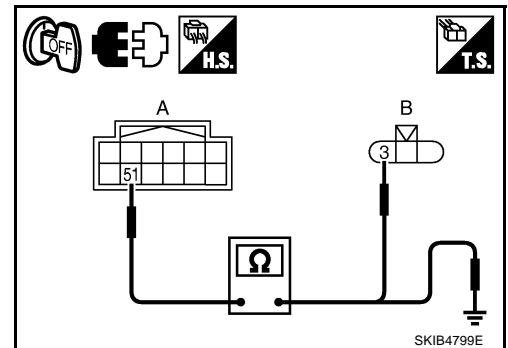
3. Check continuity between combination meter harness connector (A) and ground.

A		Ground	Continuity
Connector	Terminal		
M22	51		No

OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.



WARNING LAMPS

3. CHECK OIL LEVEL SENSOR GROUND CIRCUIT

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M22	52	F34	1	Yes

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

A		Ground	Continuity
Connector	Terminal		
M22	52		No

OK or NG

- OK >> Replace combination meter.
- NG >> Repair harness or connector.

Component Inspection OIL PRESSURE SWITCH

GKS00060

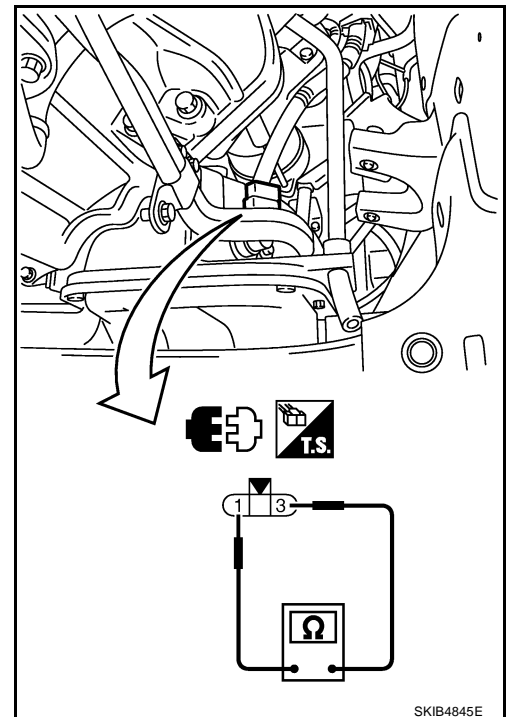
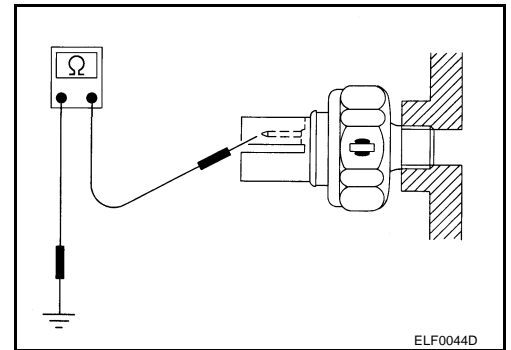
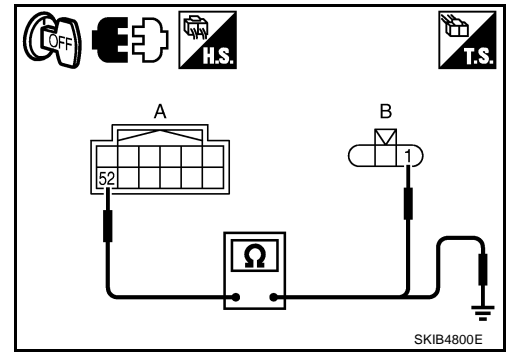
Check continuity between oil pressure switch and ground.

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

OIL LEVEL SENSOR

Check resistance between oil level sensor terminals 1 and 3.

Terminal		Resistance value [Ω]
1	3	3 – 20



A
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A/T INDICATOR

A/T INDICATOR

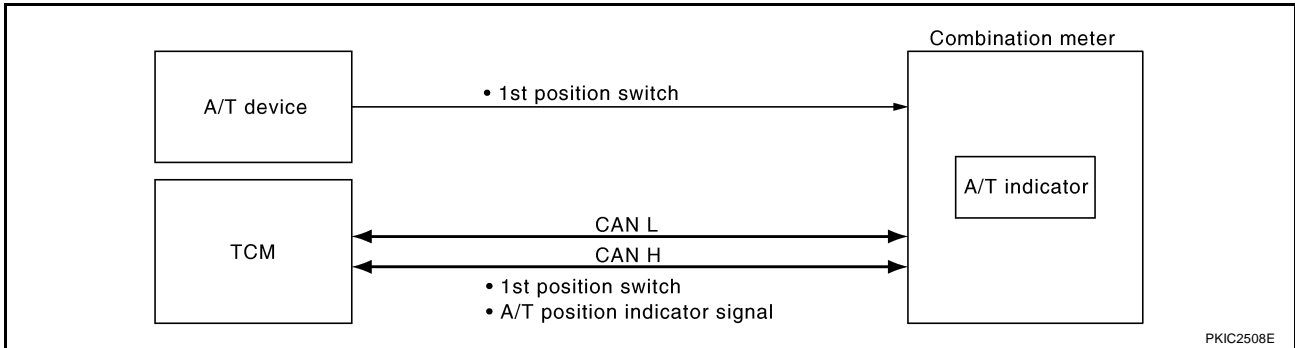
PFP:24814

System Description

GKS0061

A/T position is displayed on odo/trip meter display of combination meter.

- Combination meter reads 1st position switch signal from A/T device, and transmits the signals to TCM with CAN communication.
- TCM transmits A/T position indicator signal to combination meter with CAN communication.
- Combination meter displays A/T shift position according to A/T position indicator signal.



A/T INDICATOR

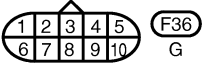
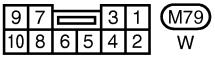
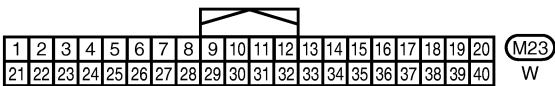
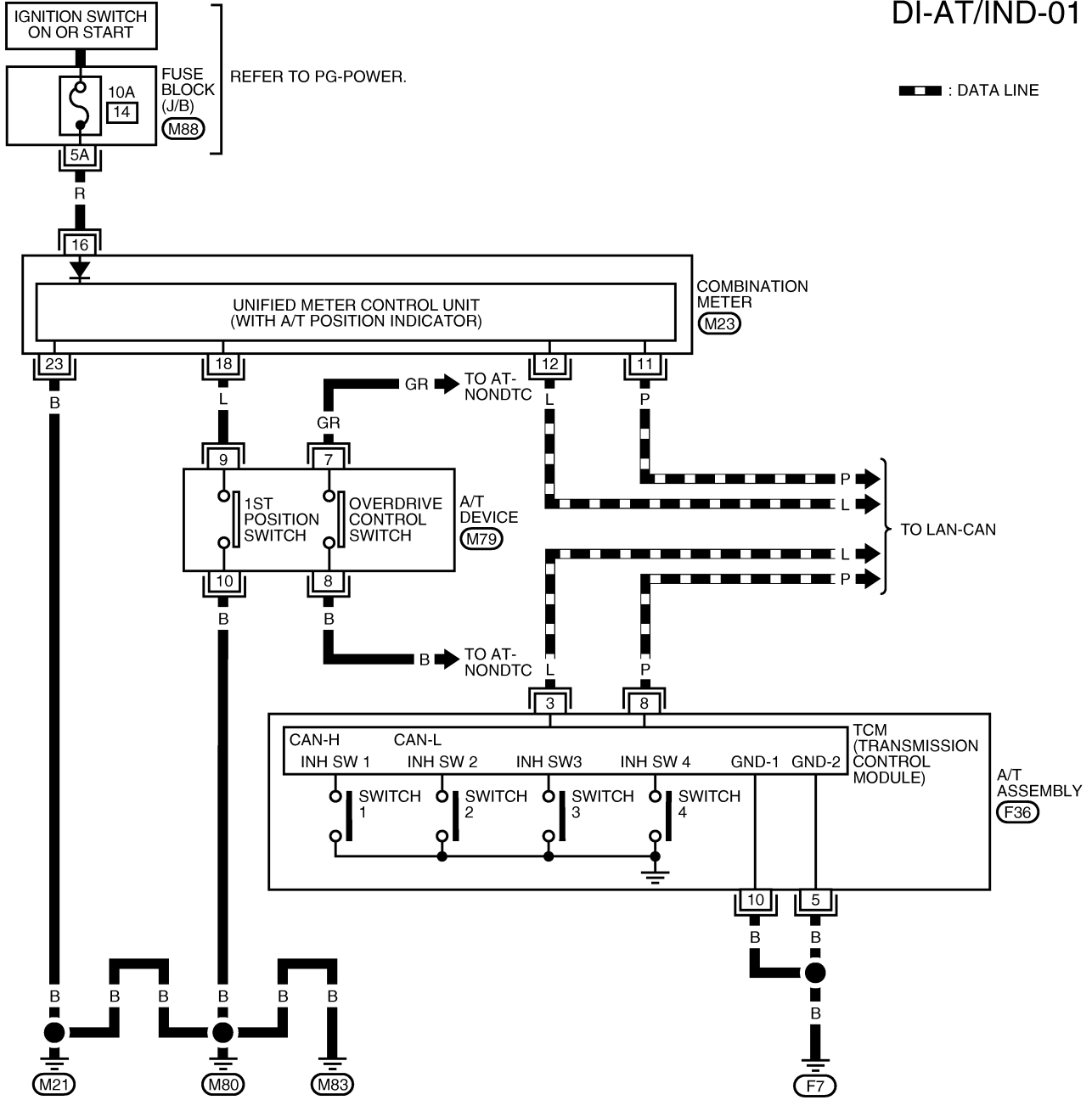
Wiring Diagram — AT/IND —

GKS00062

DI-AT/IND-01

A
B
C
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DI
L
M

▬ : DATA LINE



REFER TO THE FOLLOWING.
(M88) - FUSE BLOCK - JUNCTION BOX (J/B)

A/T INDICATOR

GKS00063

A/T Indicator Does Not Illuminate

1. CHECK SEGMENT OF A/T INDICATOR

Perform self-diagnosis mode of combination meter. Refer to [DI-13, "Self-Diagnosis Mode of Combination Meter"](#).

Are all segments displayed?

YES >> GO TO 2.

NO >> Replace combination meter.

2. CHECK COMBINATION METER (CONSULT-II)

Perform self-diagnosis of combination meter. Refer to [DI-15, "CONSULT-II Function \(METER\)"](#).

OK or NG

OK >> GO TO 3.

NG >> Check applicable part, and repair or replace corresponding parts.

3. CHECK COMBINATION METER INPUT SIGNAL

Use "DATA MONITOR" of "METER" on CONSULT-II. Confirm each indication on the monitor when shifting the selector lever.

Display item	Switch operation	Status
P RANGE IND	P range position	ON
	Except for P range position	OFF
R RANGE IND	R range position	ON
	Except for R range position	OFF
N RANGE IND	N range position	ON
	Except for N range position	OFF
D RANGE IND	D range position	ON
	Except for D range position	OFF
3 RANGE IND	3 range position	ON
	Except for 3 range position	OFF
2 RANGE IND	2 range position	ON
	Except for 2 range position	OFF
1 RANGE IND	1 range position	ON
	Except for 1 range position	OFF

DATA MONITOR	
MONITOR	
P RANGE IND	ON
R RANGE IND	OFF
N RANGE IND	OFF
D RANGE IND	OFF
3 RANGE IND	OFF
2 RANGE IND	OFF
1 RANGE IND	OFF

PKIC2509E

OK or NG

OK >> Replace combination meter.

NG >> GO TO 4.

4. CHECK TCM (CONSULT-II)

Perform self-diagnosis of TCM. Refer to [AT-82, "CONSULT-II Function \(A/T\)"](#).

OK or NG

OK >> Check TCM input/output signal. Refer to [AT-81, "TCM Input/Output Signal Reference Values"](#).

NG >> Check applicable part, and repair or replace corresponding parts.

WARNING CHIME

WARNING CHIME

PPF:24814

System Description

GKS0064

- Buzzer for warning chime system is installed in the combination meter.
- The buzzer sounds at the following conditions:
 - When combination meter receives buzzer output signal with CAN communication line
 - When combination meter judges warning chime sound condition is found

POWER SUPPLY AND GROUND CIRCUIT

Power is supplied at all times

- through 50A fusible link (letter **G** , located in the fuse and fusible link box)
- to BCM terminal 57.

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

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to BCM terminal 3.

Ground is supplied

- to BCM terminal 55
- through grounds M21, M80 and M83.

LIGHT WARNING CHIME

With ignition switch in OFF or ACC position, driver's door open, and lighting switch in 1ST or 2ND position, the light warning chime will sound.

- BCM detects ignition switch in OFF or ACC position, front door switch (driver side) ON, and lighting switch in 1ST or 2ND position. And then transmits buzzer output signal (light warning chime) to combination meter with CAN communication line.
- When combination meter receives buzzer output signal (light warning chime), it sounds the buzzer.

NOTE:

For further details of combination switch, refer to [BCS-3, "COMBINATION SWITCH READING FUNCTION"](#) .

KEY REMINDER WARNING CHIME

Key reminder chime sounds, at the same time, when key reminder system starts operating. key reminder chime also sounds when the following three conditions are simultaneously met.

- Key is inserted in the ignition key cylinder
- Driver's door is opened
- The setting of driver's door lock knob is "LOCK"

For information regarding key reminder system, refer to [BL-20, "POWER DOOR LOCK SYSTEM"](#) .

LOW-FUEL WARNING CHIME

Low-fuel warning chime sounds, when low-fuel warning lamp is turned ON.

Combination meter sounds warning chime three times when low-fuel warning lamp turns ON.

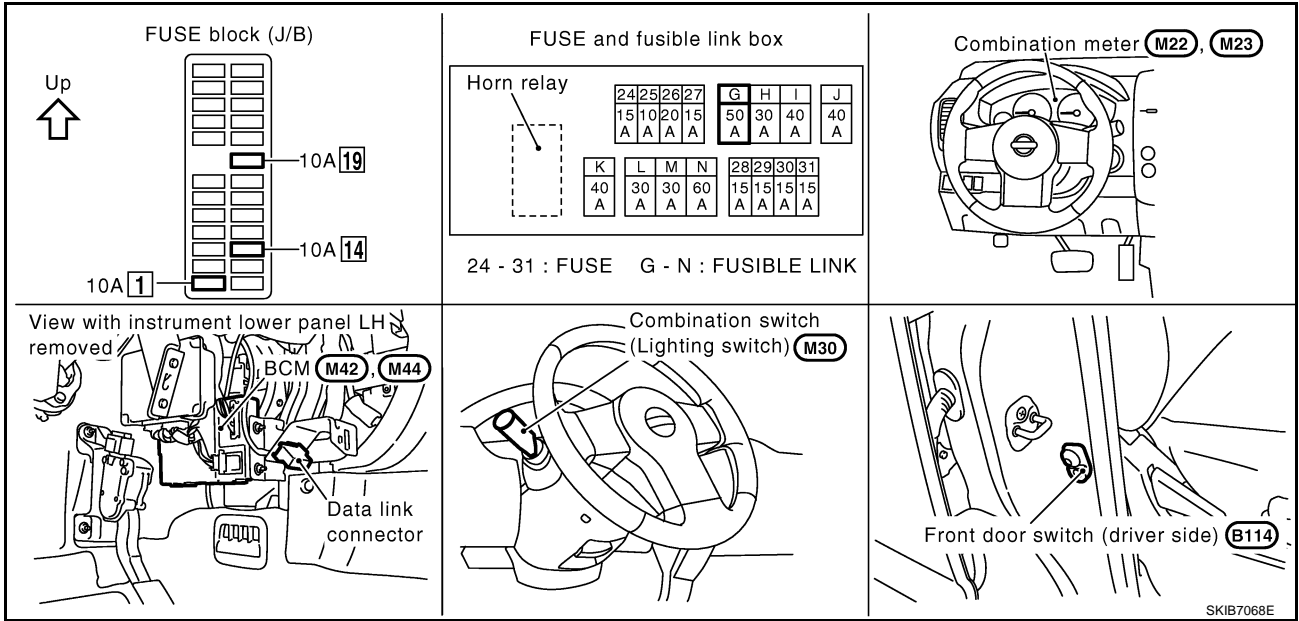
A
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DI

WARNING CHIME

GKS00065

Component Parts and Harness Connector Location



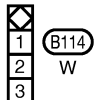
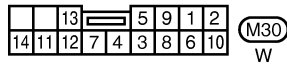
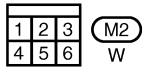
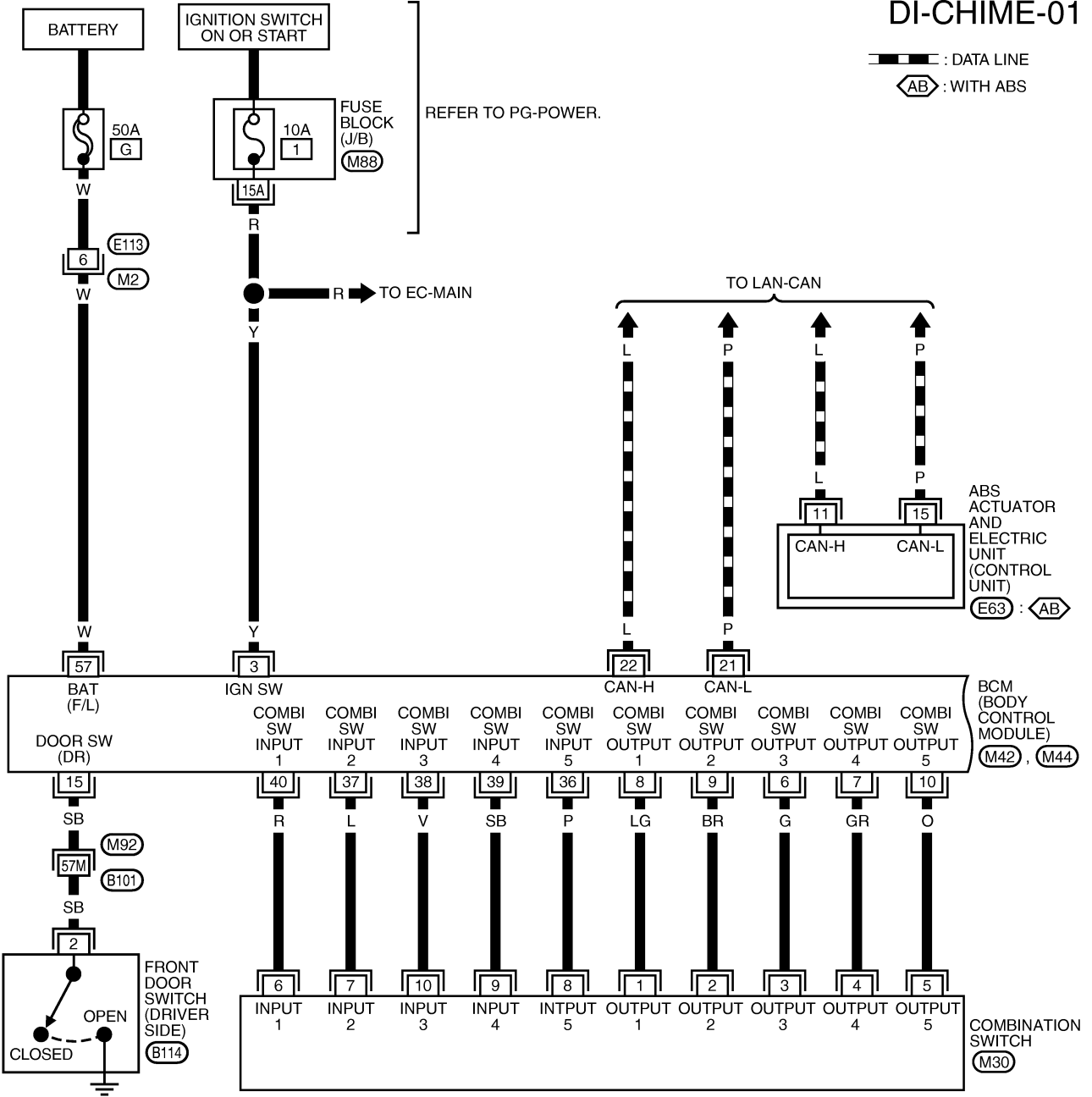
WARNING CHIME

Wiring Diagram — CHIME —

GKS00066

DI-CHIME-01

: DATA LINE
 : WITH ABS



REFER TO THE FOLLOWING.

(M42), (M44), (E62) - ELECTRICAL UNITS

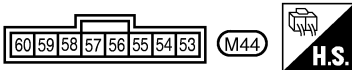
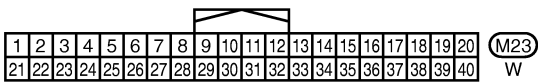
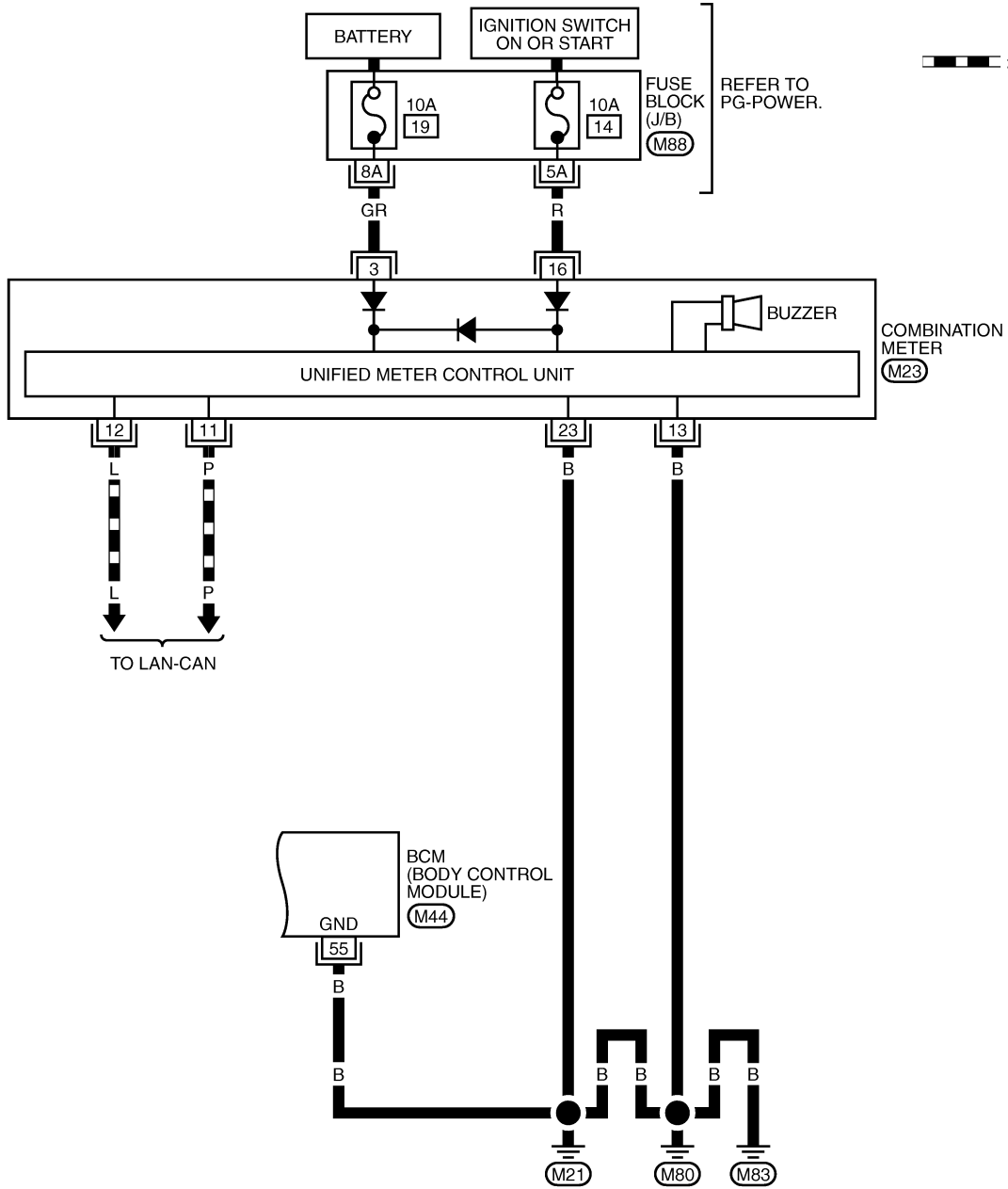
(M88) - FUSE BLOCK - JUNCTION BOX (J/B)

(M92) - SUPER MULTIPLE JUNCTION (SMJ)

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M

WARNING CHIME

DI-CHIME-02



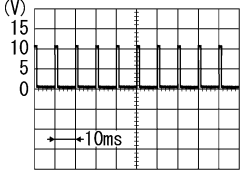
REFER TO THE FOLLOWING.

(M88) - FUSE BLOCK - JUNCTION BOX (J/B)

WARNING CHIME

Terminals and Reference Value for BCM

GKS00067

Terminal No.	Wire color	Item	Condition		Reference value (Approx.)
			Ignition switch	Measurement method	
3	Y	Ignition switch ON or START	ON	—	Battery voltage
6	G	Combination switch output 3	ON	<ul style="list-style-type: none"> ● Lighting switch, turn signal switch and wiper switch OFF ● Wiper dial position 4 	
7	GR	Combination switch output 4			
8	LG	Combination switch output 1			
9	BR	Combination switch output 2			
10	O	Combination switch output 5			
15	SB	Front door switch (driver side) signal	OFF	ON (open) OFF (closed)	0 V 12 V
21	P	CAN L	—	—	—
22	L	CAN H	—	—	—
36	P	Combination switch input 5	ON	<ul style="list-style-type: none"> ● Lighting switch, turn signal switch and wiper switch OFF ● Wiper dial position 4 	0 V
37	L	Combination switch input 2			
38	V	Combination switch input 3			
39	SB	Combination switch input 4			
40	R	Combination switch input 1			
55	B	Ground	—	—	0 V
57	W	Battery power supply	OFF	—	Battery voltage

Terminals and Reference Value for Combination Meter

GKS00068

Terminal No.	Wire color	Item	Condition		Reference value (Approx.)
			Ignition switch	Measurement method	
3	GR	Battery power supply	—	—	Battery voltage
11	P	CAN L	—	—	—
12	L	CAN H	—	—	—
13	B	Ground	ON	—	0 V
16	R	Ignition power supply	ON	—	Battery voltage
23	B	Ground	ON	—	0 V

WARNING CHIME

GKS00069

CONSULT-II Function (BCM)

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

DIAGNOSTIC ITEMS DESCRIPTION

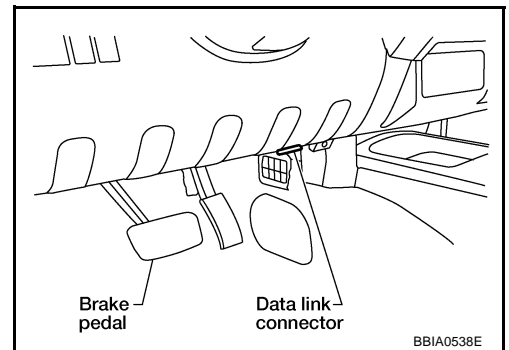
System	Test Item	Diagnosis mode	Description	Reference page
BCM	BUZZER	DATA MONITOR	Displays BCM input data in real time.	DI-61
		ACTIVE TEST	Operation of electrical loads can be checked by sending driving signal.	DI-61
	BCM	SELF-DIAG RESULTS	The result of transmit/receive diagnosis of CAN communication can be read.	DI-62

CONSULT-II BASIC OPERATION PROCEDURE

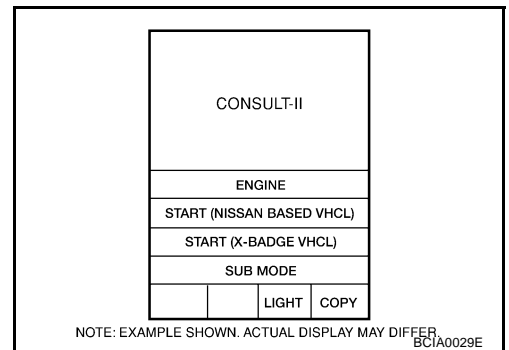
CAUTION:

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.

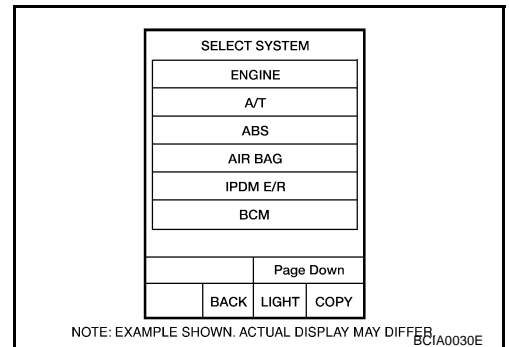
1. With the ignition switch OFF, connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector, and then turn the ignition switch ON.



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

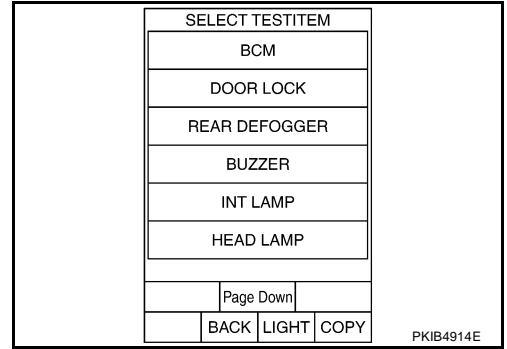


3. Touch "BCM" on "SELECT SYSTEM" screen. If "BCM" is not indicated, go to [GI-47, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).

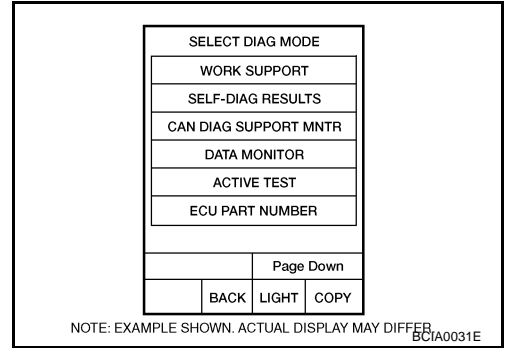


WARNING CHIME

4. Touch "BUZZER" or "BCM" on "SELECT TEST ITEM" screen.



5. Select "DATA MONITOR", "ACTIVE TEST" or "SELF-DIAG RESULTS" on "SELECT DIAG MODE" screen.



DATA MONITOR

Operation Procedure

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

ALL SIGNALS	Monitors all items.
SELECTION FROM MENU	Selects and monitors items.

4. If "SELECTION FROM MENU" is selected, touch the desired monitor item. If "ALL SIGNALS" is selected, all items required to control are monitored.
5. Touch "START".
6. While monitoring, touching "RECORD" can start recording the monitored item status.

Display Item List

Monitored item	ALL SIGNALS	SELECTION FROM MENU	Contents
IGN ON SW	X	X	Indicates [ON/OFF] condition of ignition switch.
KEY ON SW	X	X	Indicates [ON/OFF] condition of key switch.
DOOR SW-DR	X	X	Indicates [ON/OFF] condition of front door switch (driver side).
DOOR SW-AS	X	X	Indicates [ON/OFF] condition of front door switch (passenger side).
DOOR SW-RR	X	X	Indicates [ON/OFF] condition of rear door switch (right side).
DOOR SW-RL	X	X	Indicates [ON/OFF] condition of rear door switch (left side).
BACK DOOR SW	X	X	Indicates [ON/OFF] condition of buck door switch.
LIGHT SW 1ST	X	X	Indicates [ON/OFF] condition of lighting switch.
FR FOG SW	X	X	Indicates [ON/OFF] condition of front fog lamp switch.

ACTIVE TEST

Operation Procedure

1. Touch "BUZZER" on "SELECT TEST ITEM" screen.
2. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Touch the item to be tested, and check the operation.

WARNING CHIME

- During the operation check, touching "OFF" deactivates the operation.

Display Item List

Test item	Malfunction is detected when...
LIGHT WARN ALM	This test is able to check light warning chime operation.
IGN KEY WARN ALM	This test is able to check key warning chime operation.
KEY REMINDER WARN	This test is able to check key reminder warning chime operation.

SELF-DIAG RESULTS

Operation Procedure

- Touch "BCM" on "SELECT TEST ITEM" screen.
- Touch "SELF-DIAG RESULTS" on "SELECT DIAG MODE" screen.
- Self-diagnosis results are displayed.

Display Item List

Monitored Item	CONSULT-II display	Description
CAN communication	CAN communication [U1000]	Malfunction is detected in CAN communication.

NOTE:

If "CAN communication [U1000]" is indicated, print the monitor item, and then go to "LAN System". Refer to [LAN-3, "Precautions When Using CONSULT-II"](#) .

Trouble Diagnosis

HOW TO PERFORM TROUBLE DIAGNOSIS

GKS0006A

- Confirm the symptom and customer complaint.
- Understand the outline of system. Refer to [DI-55, "System Description"](#) .
- Perform the preliminary inspection. Refer to [DI-62, "PRELIMINARY INSPECTION"](#) .
- Referring to trouble diagnosis chart, repair or replace the cause of the malfunction. Refer to [DI-63, "SYMPTOM CHART"](#) .
- Does warning chime system operate normally? If it operates normally, GO TO 6. If not, GO TO 3.
- INSPECTION END

PRELIMINARY INSPECTION

1. CHECK BCM (CONSULT-II)

Perform self-diagnosis of BCM. Refer to [BCS-12, "CONSULT-II Function \(BCM\)"](#) .

Self-diagnosis results

No malfunction detected>>GO TO 2.

Malfunction detected>>Check applicable parts, and repair or replace corresponding parts.

2. CHECK COMBINATION METER (CONSULT-II)

Perform self-diagnosis of combination meter. Refer to [DI-15, "CONSULT-II Function \(METER\)"](#) .

Self-diagnosis results

No malfunction detected>>INSPECTION END

Malfunction detected>>Check applicable parts, and repair or replace corresponding parts.

WARNING CHIME

SYMPTOM CHART

Symptom	Diagnoses/Service procedure
All warning chime systems do not activate.	Perform DI-63, "Meter Buzzer Circuit Inspection" .
Key reminder warning chime does not operate.	Perform key reminder system trouble diagnosis. Refer to BL-33, "Trouble Diagnoses Chart by Symptom" .
Light warning chime does not activate.	Perform the following inspection. <ul style="list-style-type: none"> ● DI-63, "Lighting Switch Signal Inspection" ● DI-64, "Front Door Switch (Driver Side) Signal Inspection" Replace BCM, found normal function in the above inspection.

Meter Buzzer Circuit Inspection

GKS006B

1. CHECK CHIME OPERATION

- Select "BUZZER" of "BCM".
- Perform "LIGHT WARN ALM", "IGN KEY WARN ALM" of "ACTIVE TEST".

Does chime sound?

- YES >> Check battery power supply of combination meter. Refer to [DI-19, "Power Supply and Ground Circuit Inspection"](#) in combination meter.
- NO >> GO TO 2.

ACTIVE TEST	
LIGHT WARN ALM	OFF
ON	

SKIA6331E

2. CHECK COMBINATION METER SIGNAL

- Select "METER".
- With "DATA MONITOR", confirm "BUZZER" under the condition of buzzer input. (Turn signal lamp operate, etc.)

"BUZZER"

Under the condition of buzzer input : ON

Except above : OFF

OK or NG

- OK >> Replace combination meter.
- NG >> Replace BCM. Refer to [BCS-15, "Removal and Installation of BCM"](#) .

DATA MONITOR	
MONITOR	
BUZZER	ON

PKIA2063E

Lighting Switch Signal Inspection

GKS006C

1. CHECK BCM INPUT SIGNAL

- Select "BCM".
- With "DATA MONITOR" of "BUZZER", confirm "LIGHT SW 1ST" when the lighting switch is operated.

"LIGHT SW 1ST"

Lighting switch ON (1st position) : ON

Lighting switch OFF : OFF

OK or NG

- OK >> Lighting switch signal is OK. Return to [DI-63, "SYMPTOM CHART"](#) .
- NG >> Check the lighting switch. Refer to [LT-71, "Combination Switch Inspection"](#) .

DATA MONITOR	
MONITOR	
LIGHT SW 1ST	OFF

PKIB1956E

WARNING CHIME

Front Door Switch (Driver Side) Signal Inspection

GKS0006D

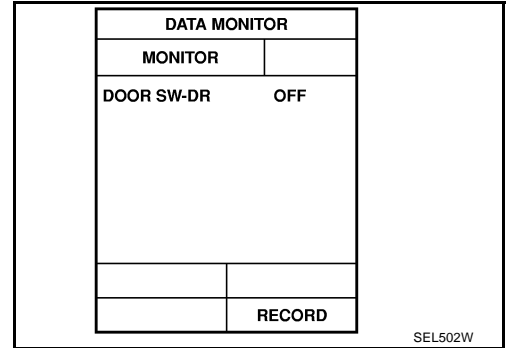
1. CHECK BCM INPUT SIGNAL

1. Select "BCM".
2. With "DATA MONITOR" of "BUZZER", confirm "DOOR SW-DR" when the driver side door is opened/closed.

"DOOR SW-DR"

When driver side door is opened : ON

When driver side door is closed : OFF



OK or NG

OK >> Front door switch (driver side) signal is OK. Return to [DI-63, "SYMPTOM CHART"](#).

NG >> GO TO 2.

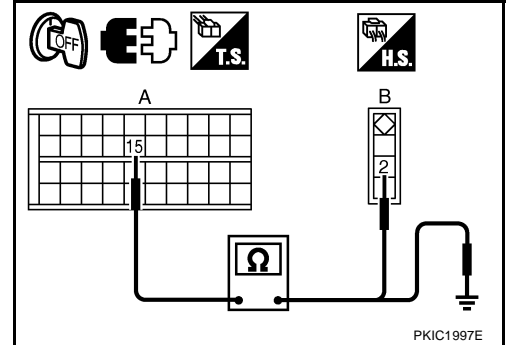
2. CHECK FRONT DOOR SWITCH (DRIVER SIDE) CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and front door switch (driver side) connector.
3. Check continuity between BCM harness connector (A) and front door switch (driver side) harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
M42	15	B114	2	Yes

4. Check continuity between BCM harness connector (A) and ground.

A		Ground	Continuity
Connector	Terminal		
M42	15		No



OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.

3. CHECK FRONT DOOR SWITCH (DRIVER SIDE)

Check front door switch (driver side). Refer to [DI-64, "FRONT DOOR SWITCH \(DRIVER SIDE\)"](#).

OK or NG

OK >> Replace BCM. Refer to [BCS-15, "Removal and Installation of BCM"](#).

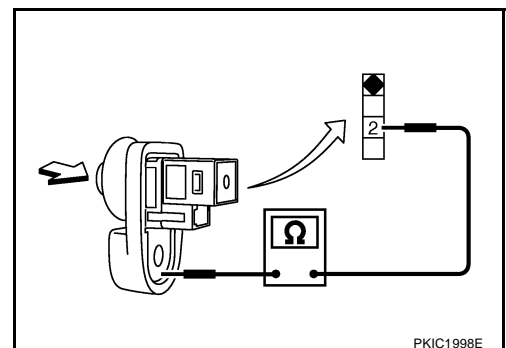
NG >> Replace front door switch (driver side).

Electrical Component Inspection FRONT DOOR SWITCH (DRIVER SIDE)

GKS0006F

Check continuity between terminal 2 and door switch case ground.

terminal	Condition	Continuity	
2	Door switch case ground	When door switch is released	Yes
		When door switch is pressed	No



CAN COMMUNICATION

CAN COMMUNICATION

PFP:23710

System Description

GKS0006G

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

GKS0006H

Refer to [LAN-26. "CAN Communication Unit"](#) in "LAN SYSTEM".

A

B

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DI

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M

COMPASS

COMPASS

PFP:24835

System Description

GKS006J

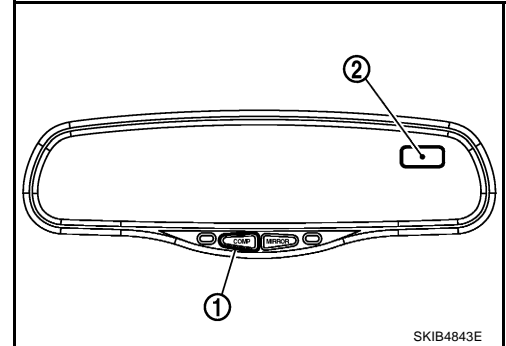
This unit displays earth magnetism and heading direction of vehicle.

DIRECTION DISPLAY

Press "COMP" switch (1) when ignition switch is in "ON" or "START" position. The direction is displayed. Pressing "COMP" switch (1) for a second turns off the display (2).

NOTE:

- Do not install the ski rack, antenna, etc. which are attached to the vehicle by means of a magnet. They affect the operation of the compass.
- The compass may not indicate the correct compass point in tunnels or while driving up or down a steep hill. (The compass returns to the correct compass point when the vehicle moves to an area where the geomagnetism is stabilized.)
- When cleaning the mirror, use a paper towel or similar material dampened with glass cleaner. Do not spray glass cleaner directly on the mirror as that may cause the liquid cleaner to enter the mirror housing.

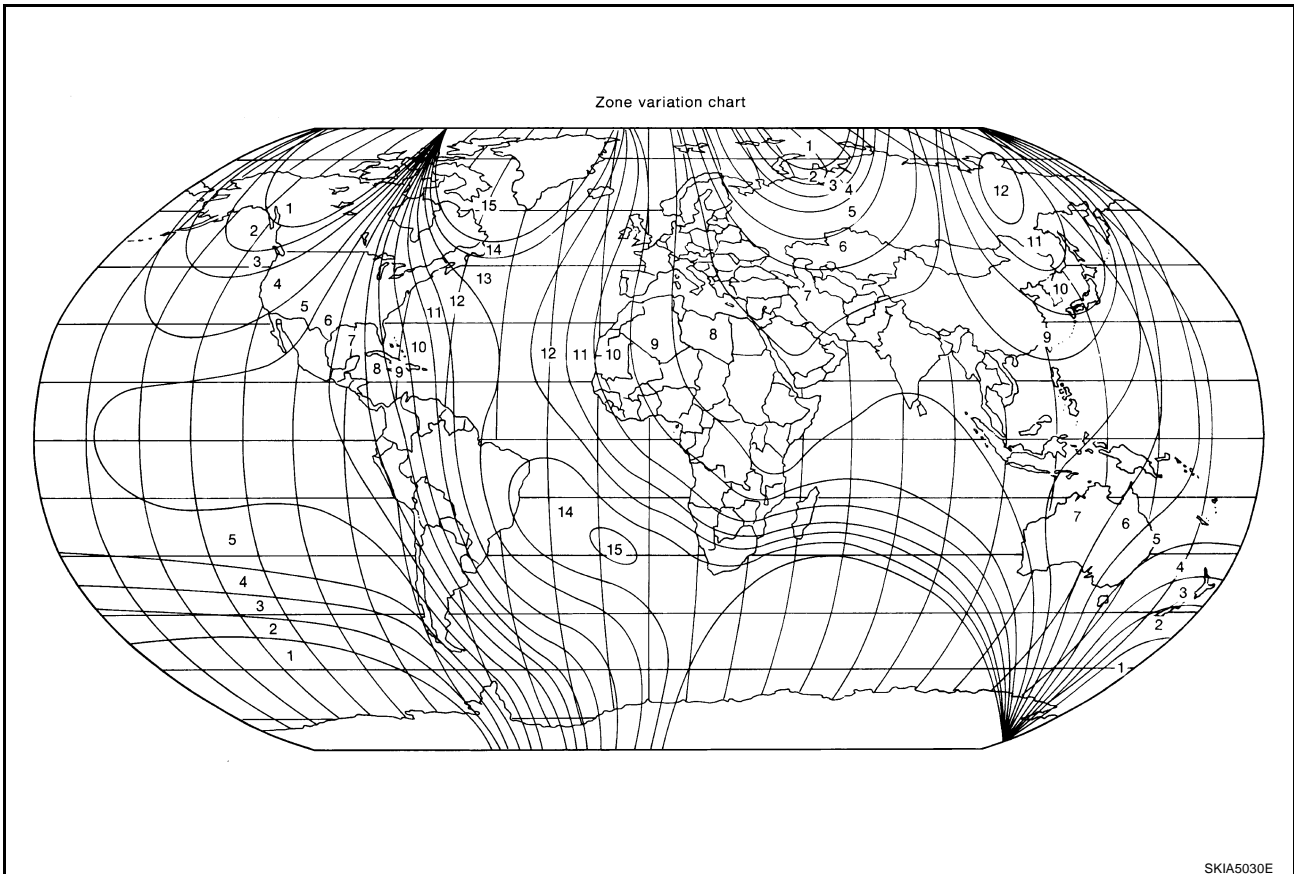


Zone Variation Change Procedure

GKS006J

The difference between magnetic north and geographical north is known as variance. In some areas, this difference can sometimes be great enough to cause false compass reading.

Follow these instructions to set the variance for the particular location if this happens:



1. Press "COMP" switch for more than 3 seconds. The current zone number appears on the display.
2. Find the current location and variance one number on the zone variation chart.
3. Press "COMP" switch until the new zone number appears on the display. After releasing the switch, the display shows a compass direction within a few seconds.

COMPASS

Correction Functions of the Compass Display

GKS0006K

AUTOMATIC CORRECTION

The compass display is equipped with automatic correction function. If the direction is not shown correctly, perform manual correction procedure set out below.

MANUAL CORRECTION PROCEDURE

When the display reads "C" or "CAL", calibrate the compass by driving the vehicle in 3 complete circles at less than 8 km/h (5 MPH).

The compass can be calibrated by driving the vehicle on everyday route. The compass is calibrated once it has tracked 3 complete circles.

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

A

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C

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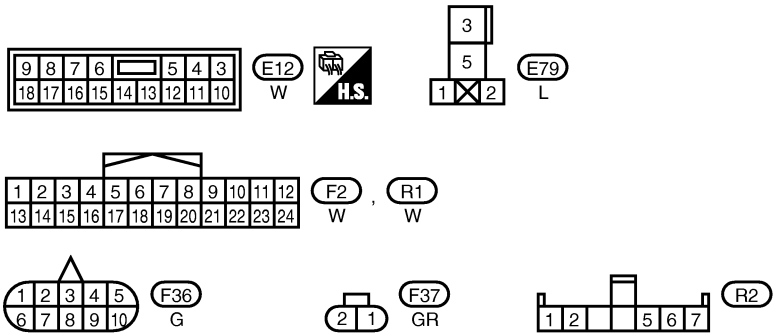
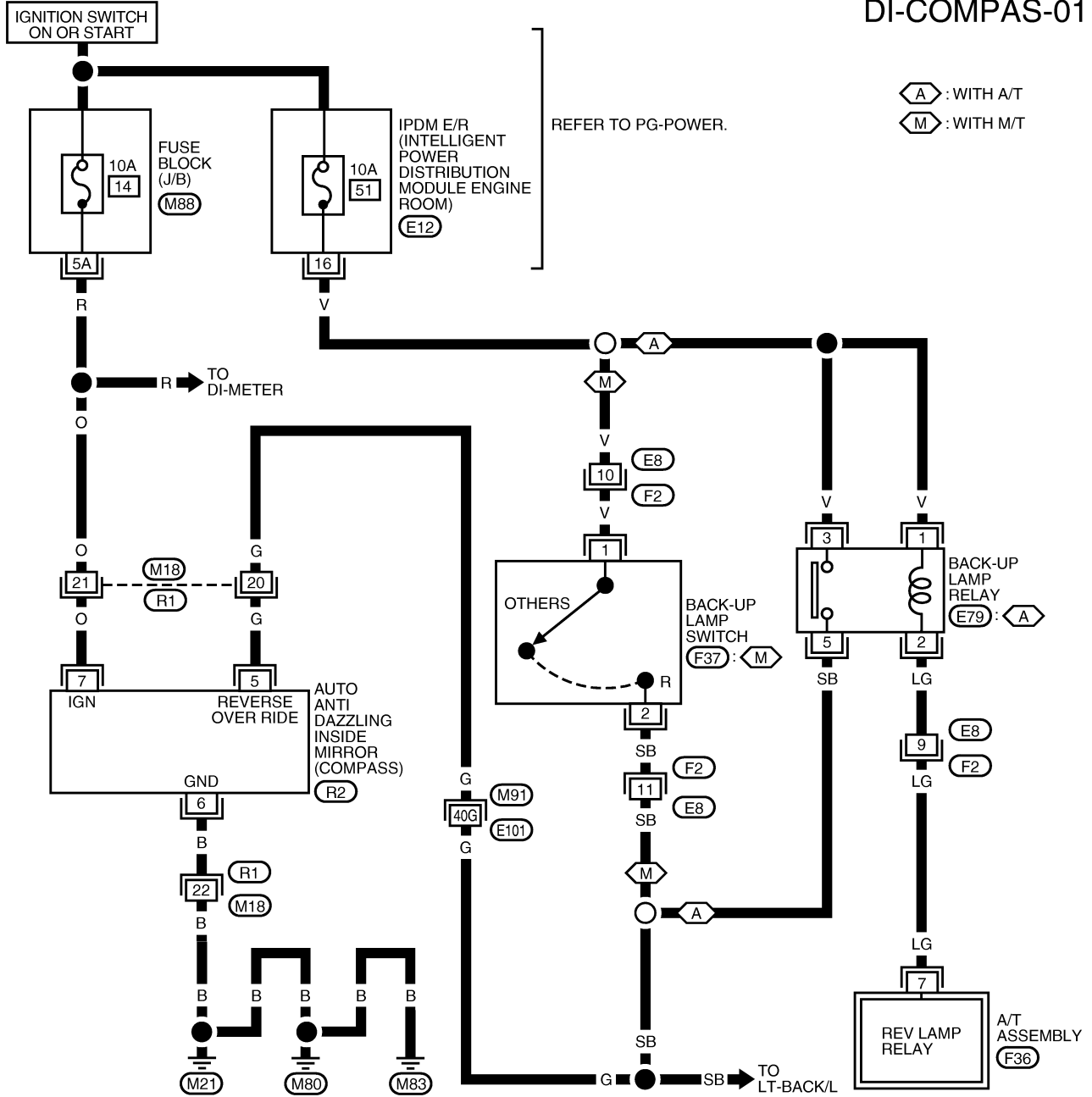
M

COMPASS

GKS0006L

Wiring Diagram — COMPAS —

DI-COMPAS-01



REFER TO THE FOLLOWING.

- (M88) - FUSE BLOCK - JUNCTION BOX (J/B)
- (M91) - SUPER MULTIPLE JUNCTION (SMJ)

MKWA3656E

Removal and Installation of Compass

GKS0006M

Refer to [GW-44, "Removal and Installation"](#) .

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