SECTION DI
DRIVER INFORMATION SYSTEM

CONTENTS

PRECAUTION

PFP:00011

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

AKS00CS7

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

WARNING:

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

COMBINATION METERS

PFP:24814

System Description

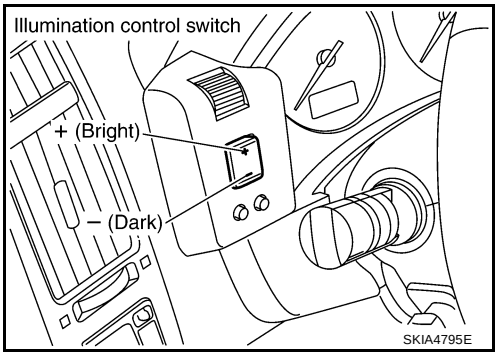
AKS005MH

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

Illumination Control

The unified meter control unit outputs the odo/trip meter and A/T indicator lighting when the ignition switch is turned on. When the lighting switch is turned on, light on for the combination meter dial, illumination control switch and external lighting are output. In addition, when the lighting switch is turned on, the illumination control switch on the left side of the combination meter can be used to adjust the brightness of each light. The brightness can be adjusted to sixteen different levels: From 0 (no lights) to 15 (maximum). Pressing the illumination control switch will brighten or darken the lights. When the ignition switch is in the START position, the combination meter dial lighting and illumination control switch lighting are turned off.

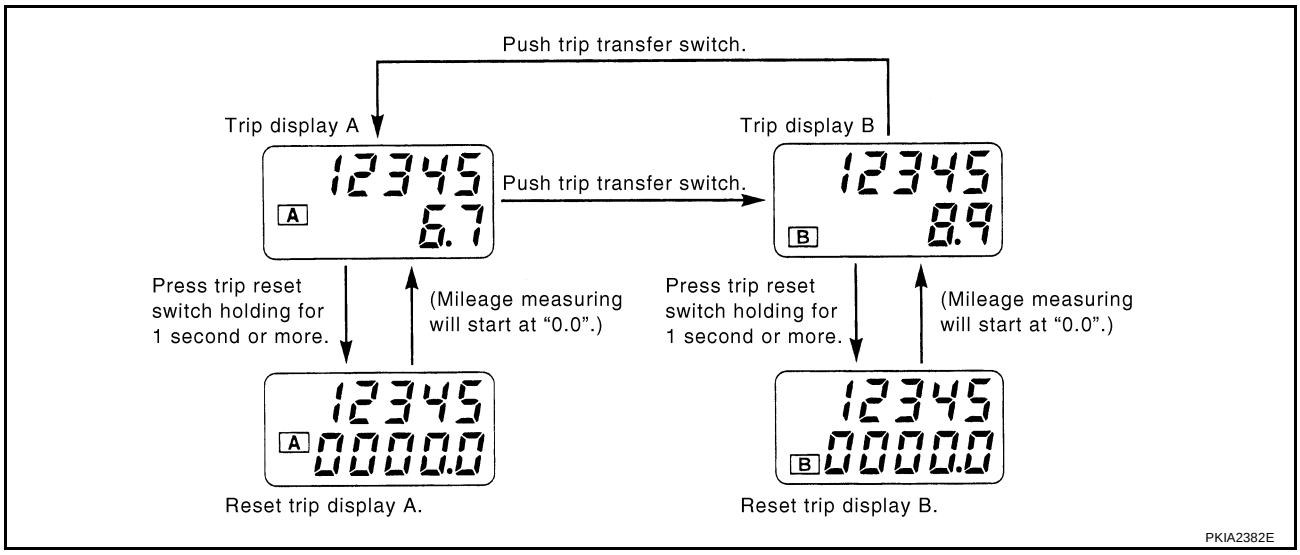


UNIFIED METER AND A/C AMP.

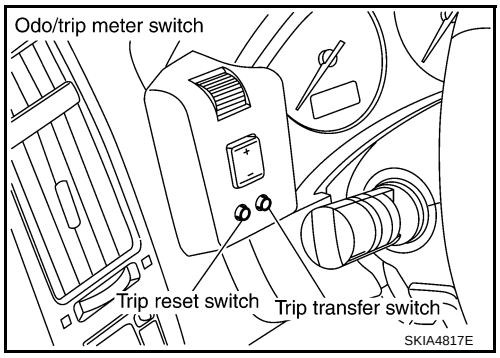
Refer to DI-28, "System Description" in “UNIFIED METER AND A/C AMP”.

HOW TO CHANGE THE DISPLAY FOR ODO/TRIP METER

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



- When trip transfer switch is pressed, trip meter display changes.
- If trip reset switch is pressed for 1 second or more while trip A is displayed, only trip A is reset. (Trip B operates the same way.)
- If the battery is disconnected, odometer mileage will be retained but the trip meter is reset to 0.0.



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 8, and
- to unified meter and A/C amp. terminal 21.

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

- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to combination meter terminal 7,
- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to unified meter and A/C amp. terminal 22.

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

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

Ground is supplied

- to combination meter terminals 5, 6 and 15
- through grounds M35, M45 and M85,
- to unified meter and A/C amp. terminals 29 and 30
- through grounds M35, M45 and M85.

SPEEDOMETER

ABS actuator and electric unit (control unit) provides a vehicle speed signal to the unified meter and A/C amp. with CAN communication line. After unified meter and A/C amp. received the vehicle speed signal, it changes the signal to 8 pulse signal and provides the 8 pulse signal to the combination meter for the speedometer.

TACHOMETER

The tachometer indicates engine speed in revolutions per minute (rpm).
ECM provides an engine speed signal to unified meter and A/C amp. with CAN communication line. Unified meter and A/C amp. provides an engine speed signal to combination meter for tachometer with communication line between unified meter and A/C amp. and combination meter.

WATER TEMPERATURE GAUGE

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

FUEL GAUGE

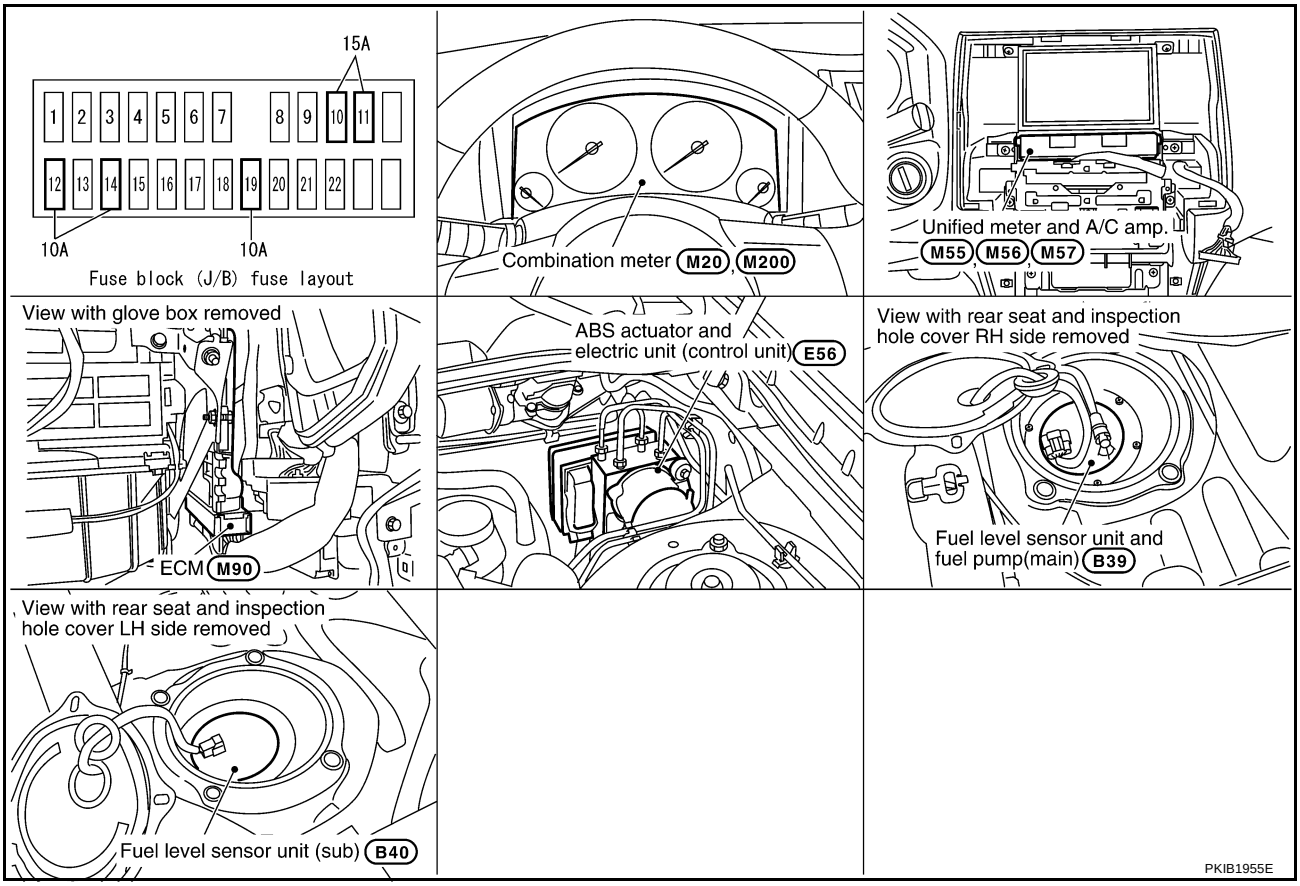
The fuel gauge indicates the approximate fuel level in the fuel tank.
The fuel gauge is regulated by a variable ground signal supplied

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

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

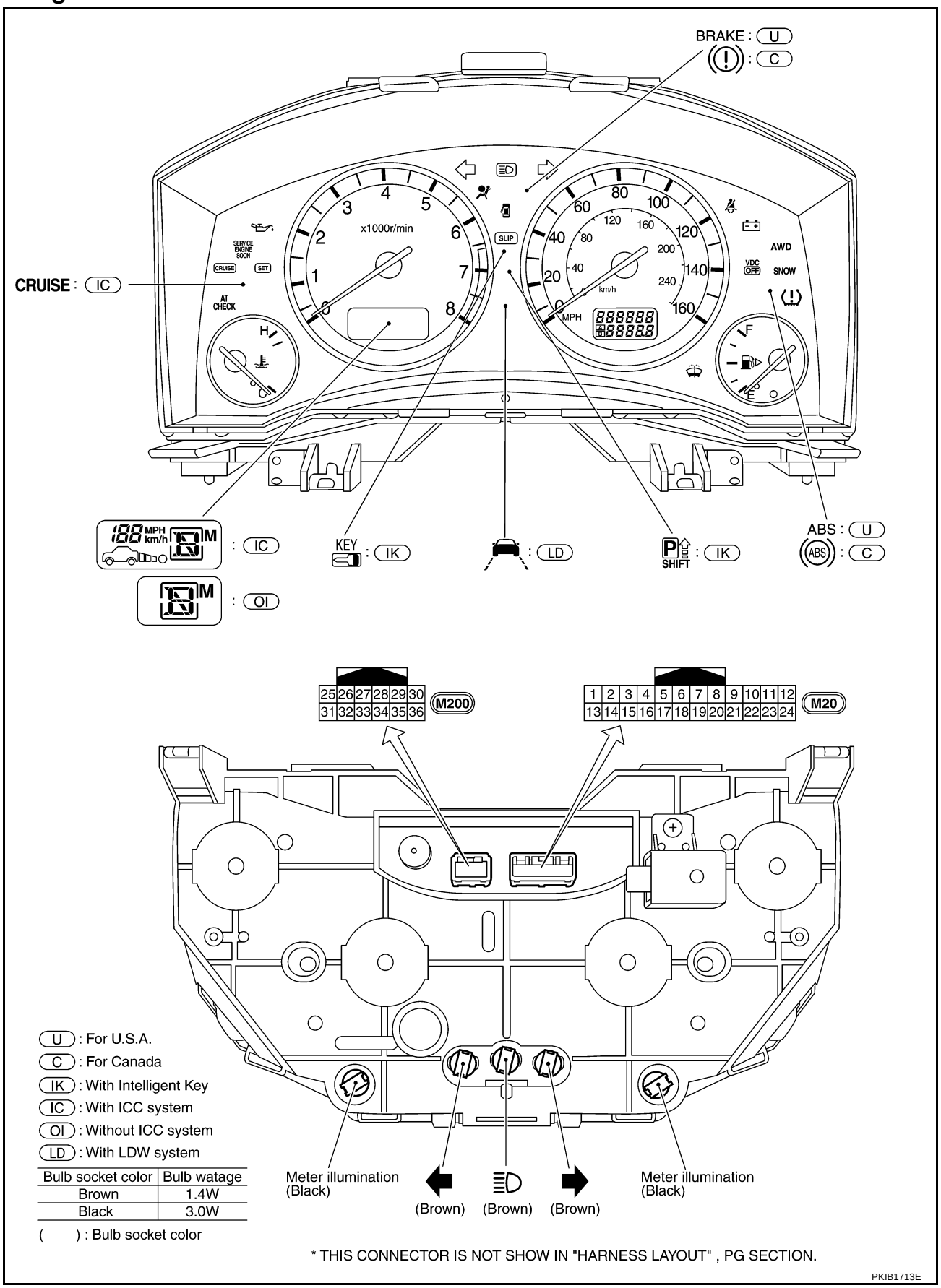
Component Parts and Harness Connector Location

AKS005MI



Arrangement of Combination Meter

AKS005MJ



U : For U.S.A.
C : For Canada
IK : With Intelligent Key
IC : With ICC system
OI : Without ICC system
LD : With LDW system

Bulb socket color	Bulb watage
Brown	1.4W
Black	3.0W

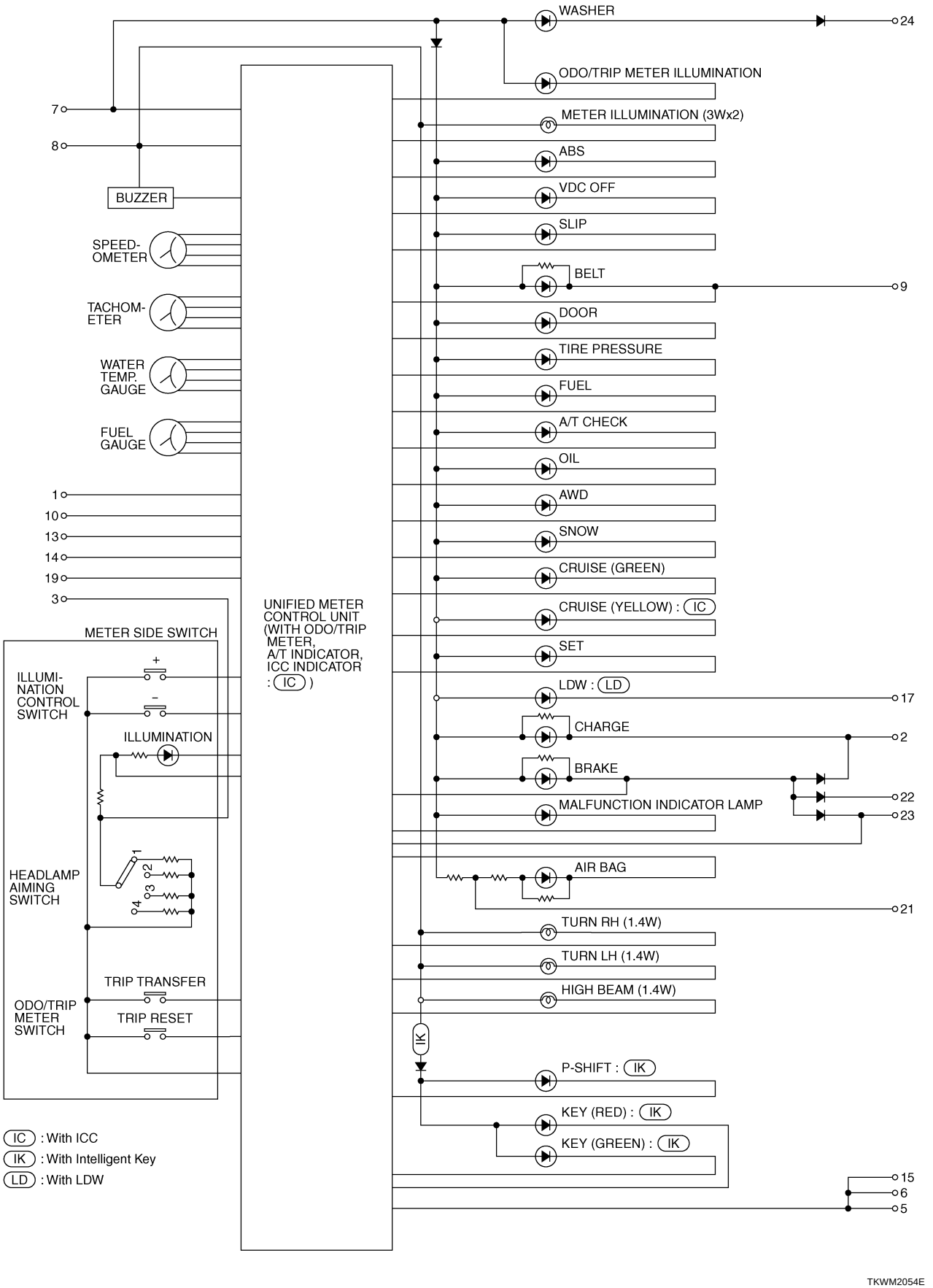
( ) : Bulb socket color

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

PKIB1713E

Circuit Diagram

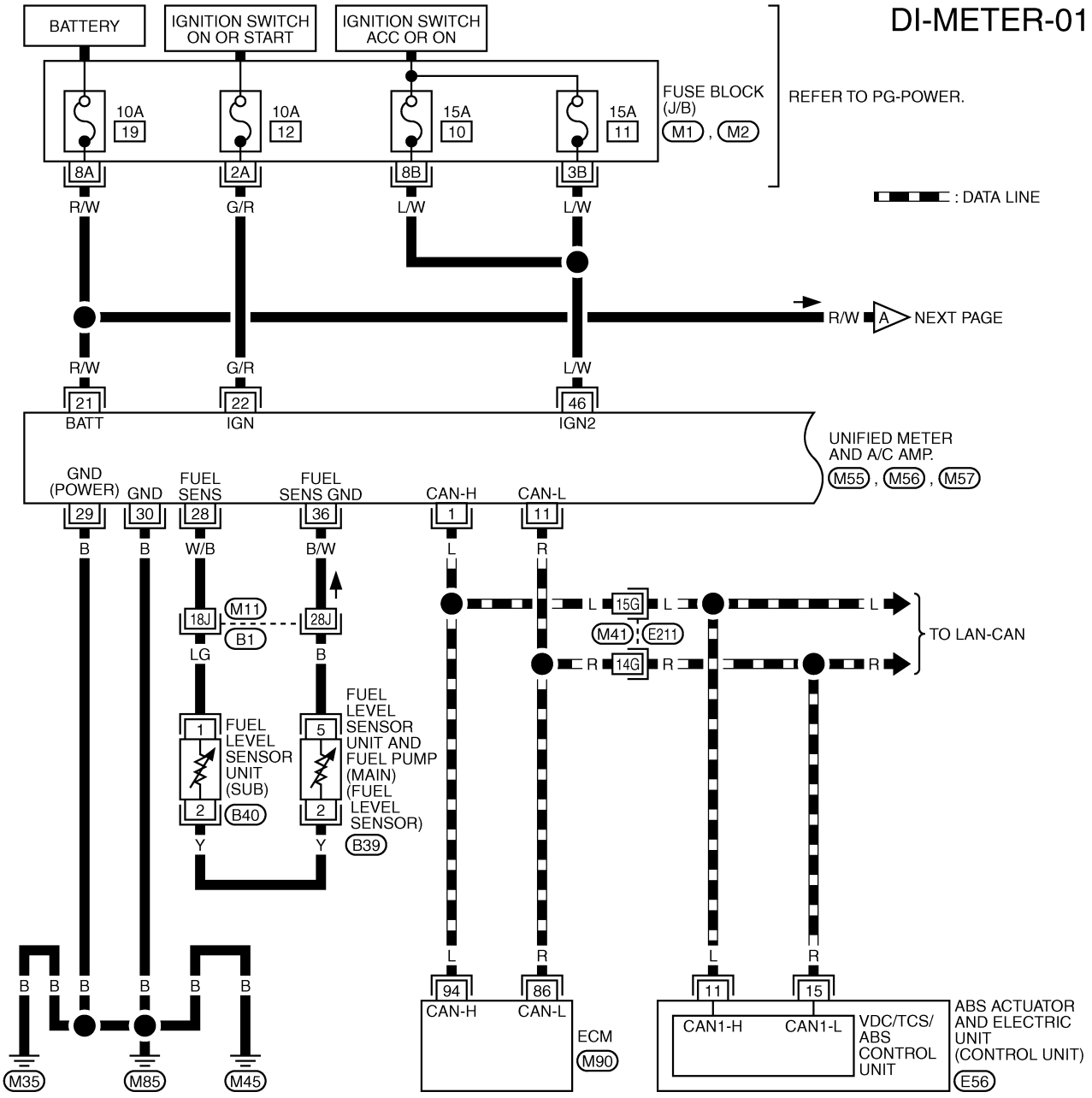
AKS005MK

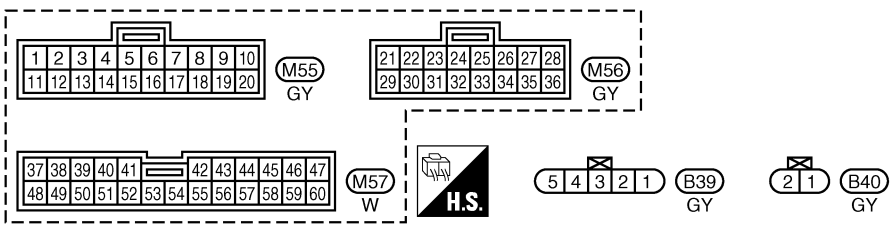


TKWM2054E

Wiring Diagram — METER —

AKS005ML





REFER TO THE FOLLOWING.

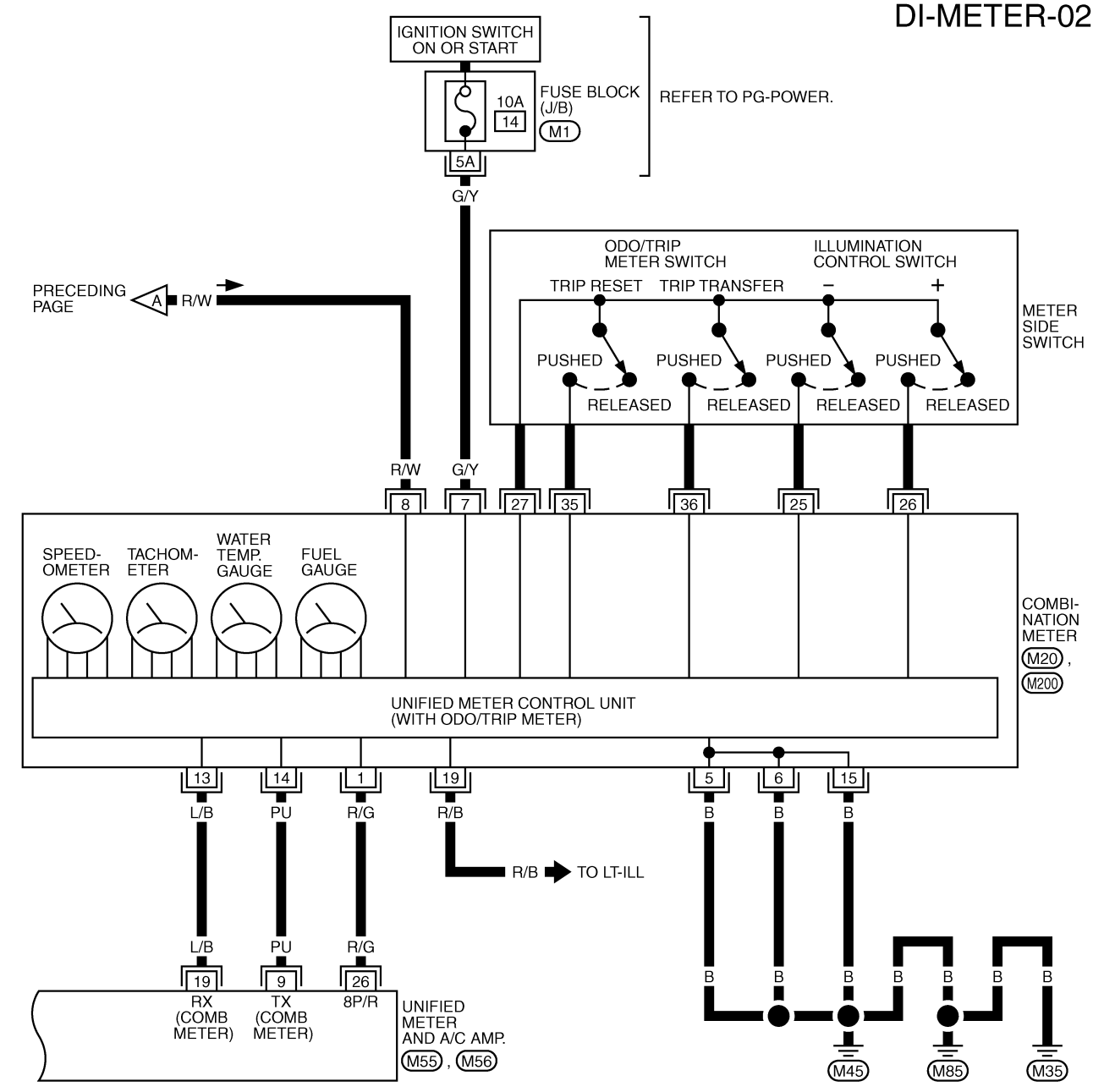
E211, B1 -SUPER MULTIPLE JUNCTION (SMJ)

M1, M2 -FUSE BLOCK-JUNCTION BOX (J/B)

M90, E56 -ELECTRICAL UNITS

TKWM2505E

DI-METER-02



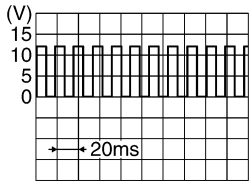
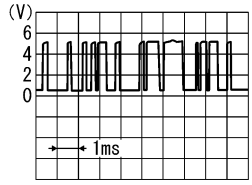
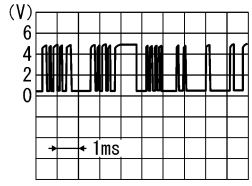
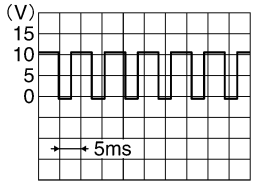
∗: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWM0682E

Terminals and Reference Value for Combination Meter

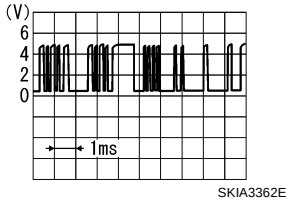
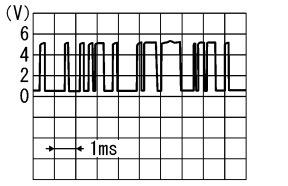
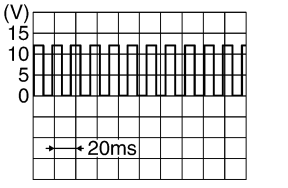
AKS005MM

Terminal No.	Wire color	Item	Condition		Reference value
			Ignition switch	Operation or condition	
1	R/G	Vehicle speed signal (8-pulse)	ON	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	**NOTE:** Maximum voltage may be 5 V due to specifications (connected units).  PKIA1935E
5	B	Ground	ON	—	Approx. 0 V
6					
7	G/Y	Ignition switch ON or START	ON	—	Battery voltage
8	R/W	Battery power supply	OFF	—	Battery voltage
13	L/B	TX communication line (To unified meter and A/C amp.)	ON	—	 SKIA3361E
14	PU	RX communication line (From unified meter and A/C amp.)	ON	—	 SKIA3362E
15	B	Ground	ON	—	Approx. 0 V
19	R/B	Illumination signal	ON	Lighting switch ON, then operate the illumination control switch.	<e.g.> When brightness level is midway.  SKIA8970E
				Lighting switch OFF	Approx. 0 V
25	—	Illumination control switch (–)	OFF	Illumination control switch (–) is pushed.	Approx. 0 V
				Illumination control switch (–) is released.	Approx. 5 V
26	—	Illumination control switch (+)	OFF	Illumination control switch (+) is pushed.	Approx. 0 V
				Illumination control switch (+) is released.	Approx. 5 V
27	—	Odo/trip meter and illumination control switch ground	OFF	—	Approx. 0 V

Terminal No.	Wire color	Item	Condition		Reference value
			Ignition switch	Operation or condition	
35	—	Trip reset switch	OFF	Trip reset switch is pushed	Approx. 0 V
				Trip reset switch is released	Approx. 5 V
36	—	Trip transfer switch	OFF	Trip transfer switch is pushed	Approx. 0 V
				Trip transfer switch is released	Approx. 5 V

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

AKS005MN

Terminal No.	Wire color	Item	Condition		Reference value
			Ignition switch	Operation or condition	
1	L	CAN H	—	—	—
9	PU	TX communication line (To combination meter)	ON	—	 SKIA3362E
11	R	CAN L	—	—	—
19	L/B	RX communication line (From combination meter)	ON	—	 SKIA3361E
21	R/W	Battery power supply	OFF	—	Battery voltage
22	G/R	Ignition switch ON or START	ON	—	Battery voltage
26	R/G	Vehicle speed signal (8-pulse)	ON	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	**NOTE:** Maximum voltage may be 5 V due to specifications (connected units).  PKIA1935E
28	W/B	Fuel level sensor signal	—	—	Refer to DI-25, "CHECK FUEL LEVEL SENSOR UNIT" .
29	B	Ground (for power)	ON	—	Approx. 0 V
30	B	Ground	ON	—	Approx. 0 V
36	B/W	Fuel level sensor ground	ON	—	Approx. 0 V
46	L/W	Ignition switch ACC or ON	ACC	—	Battery voltage

Self-Diagnosis Mode of Combination Meter

AKS005MO

SELF-DIAGNOSIS FUNCTION

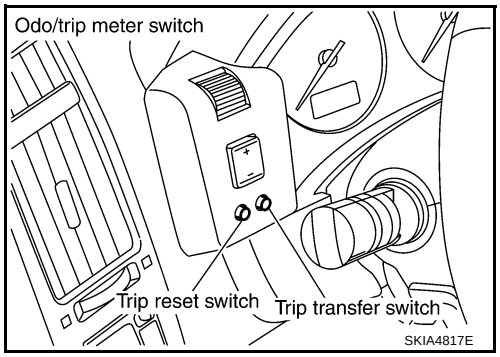
- Odo/trip meter segment, A/T indicator segment and ICC system display segment operation can be checked in self-diagnosis mode.
- Meters/gauges can be checked in self-diagnosis mode.

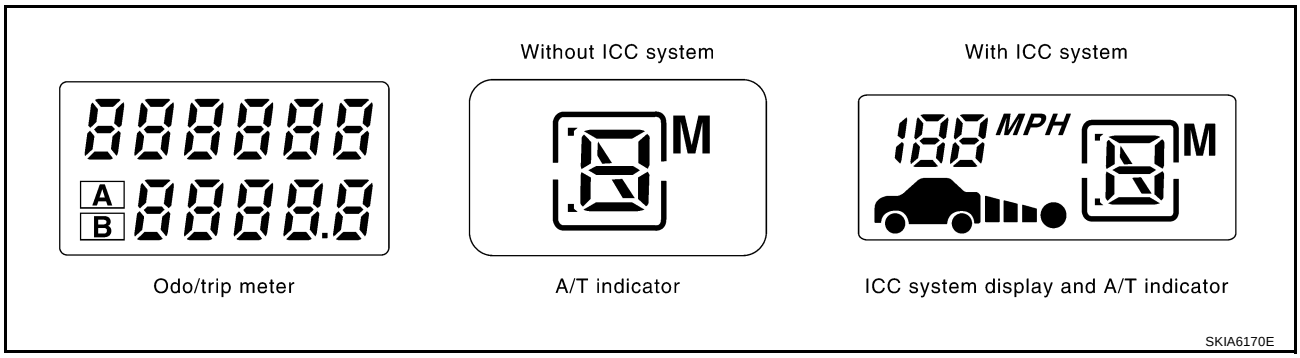
OPERATION PROCEDURE

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

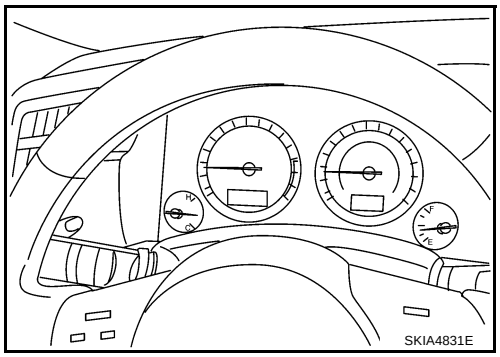
   NOTE:
   If the diagnosis function is activated with the trip meter A displayed, the mileage on the trip meter A will indicate 0000.0, but the actual trip mileage will be retained. (Trip B operates the same way.)
2. Turn ignition switch OFF.
3. Turn ignition switch ON while pressing trip transfer switch and trip reset switch at the same time.
4. After ignition switch is turned ON, release trip transfer switch and trip reset switch. (With 7 seconds after the ignition switch is turned ON.)
5. All the segments on the odo/trip meter, A/T indicator and ICC system display illuminates, and simultaneously the low-fuel warning lamp indicator illuminates. At this time, the unified meter control unit is turned to diagnosis mode.

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





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



CONSULT-II Function (METER A/C AMP)

AKS005MP

Refer to DI-31, "CONSULT-II Function (METER A/C AMP)" in “UNIFIED METER AND A/C AMP”.

Trouble Diagnosis

AKS005MQ

HOW TO PERFORM TROUBLE DIAGNOSIS

1. Confirm the symptom or customer complaint.
2. Perform preliminary check. Refer to DI-15, "PRELIMINARY CHECK" .
3. According to the symptom chart, repair or replace the cause of the symptom. Refer to DI-17, "Symptom Chart 1" .
4. Does the meter operate normally? If so, GO TO 5. If not, GO TO 2.
5. INSPECTION END

PRELIMINARY CHECK

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

Select “METER A/C AMP” on CONSULT-II, and perform self-diagnosis of unified meter and A/C amp. Refer to DI-31, "CONSULT-II Function (METER A/C AMP)" .

Self-diagnostic results content

No malfunction detected>>GO TO 2.
Malfunction detected>> Go to DI-17, "Symptom Chart 2" .

2. CHECK WARNING LAMP ILLUMINATION

Turn ignition switch ON. (Engine stopped)

Do warning lamps (such as malfunction indicator lamp and oil pressure warning lamp) illuminate?

YES >> GO TO 3.
NO >> Check power supply circuit of combination meter when ignition switch is ON. Refer to DI-18, "Power Supply and Ground Circuit Inspection" .

3. CHECK SELF-DIAGNOSIS OPERATION OF COMBINATION METER

Perform combination meter self-diagnosis. Refer to DI-14, "SELF-DIAGNOSIS FUNCTION" .

Does self-diagnosis function operate?

YES >> GO TO 5.
NO >> GO TO 4.

4. CHECK POWER SUPPLY AND GROUND CIRCUIT OF COMBINATION METER

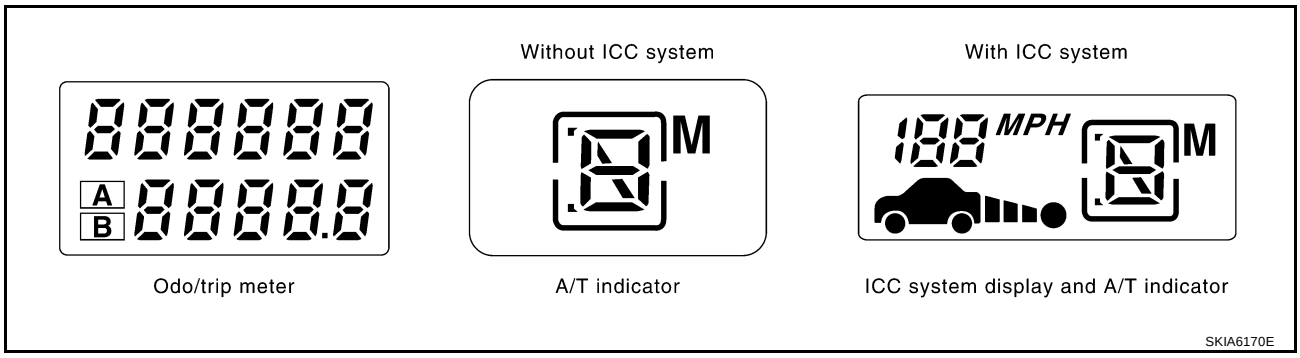
Check power supply and ground circuit of combination meter. Refer to DI-18, "Power Supply and Ground Circuit Inspection" .

OK or NG

OK >> Replace combination meter.
NG >> Repair as need.

5. CHECK ODO/TRIP METER OPERATION

Check odo/trip meter segment, A/T indicator or ICC system display segment.



Do all segments illuminate?

YES >> GO TO 6.
NO >> Replace combination meter.

6. CHECK LOW-FUEL WARNING LAMP ILLUMINATION CONFIRMATION

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

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

OK or NG

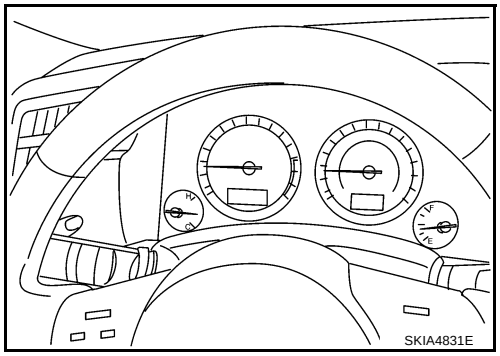
OK >> GO TO 7.
NG >> Replace combination meter.

7. CHECK COMBINATION METER CIRCUIT

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

OK or NG

OK >> Go to DI-17, "Symptom Chart 1" .
NG >> Replace combination meter.



Symptom Chart 1

AKS005MT

Trouble phenomenon	Possible cause
Indication is irregular for the speedometer and odo/trip meter.	Refer to DI-20, "Vehicle Speed Signal Inspection" .
Tachometer indication is malfunction.	Refer to DI-21, "Engine Speed Signal Inspection" .
Water temperature gauge indication is malfunction.	Refer to DI-21, "Engine Coolant Temperature Signal Inspection" .
Fuel gauge indication is malfunction.	Refer to DI-22, "Fuel Level Sensor Signal Inspection" .
Low-fuel warning lamp indication is irregular.	
A/T position indicator is malfunction.	Refer to DI-56, "A/T Indicator Is Malfunction" .
Illumination control does not operate.	Refer to DI-24, "Odo/Trip Meter and Illumination Control Switch Inspection" .

Symptom Chart 2

AKS005MU

Displayed item [Code]	Inspection contents	Possible cause
CAN COMM CIRC [U1000]	Inspect the CAN communication.	Refer to DI-34, "DTC [U1000] CAN Communication Circuit" . **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 disconnected.**
METER COMM CIRC [B2202]	Inspect the communication line between combination meter and unified meter and A/C amp.	Refer to DI-34, "DTC [B2202] Meter Communication Circuit" .
VEHICLE SPEED CIRC [B2205]	Inspect the vehicle speed input signal.	Refer to DI-37, "DTC [B2205] Vehicle Speed Circuit" . **CAUTION:** **Even when there is no malfunction on speed signal system, malfunction may be misinterpreted when battery has low voltage (when maintaining 7 - 8 V for about 2 seconds).**

Power Supply and Ground Circuit Inspection

AKS005MS

1. CHECK FUSE

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

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

OK or NG

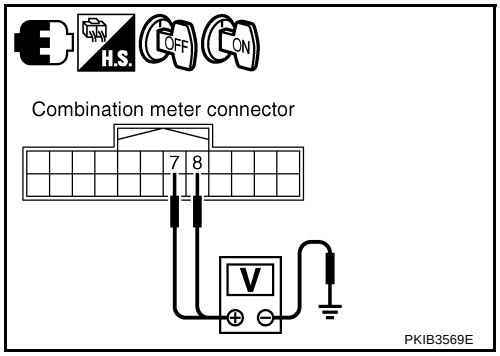
OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

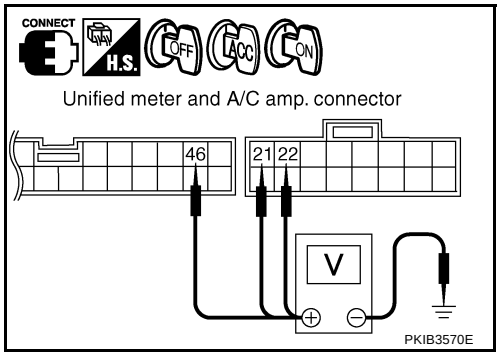
1. Check voltage between combination meter harness connector M20 terminals 8 (R/W), 7 (G/Y) and ground.

Terminals			Ignition switch position	
(+)		(–)	OFF	ON
Connector	Terminal (Wire color)			
M20	8 (R/W)	Ground	Battery voltage	Battery voltage
	7 (G/Y)		0 V	Battery voltage



2. Check voltage between unified meter and A/C amp. harness connector terminals and ground.

Terminals			Ignition switch position		
(+)		(–)	OFF	ACC	ON
Connector	Terminal (Wire color)				
M56	21 (R/W)	Ground	Battery voltage	Battery voltage	Battery voltage
	22 (G/R)		0 V	0 V	Battery voltage
M57	46 (L/W)		0 V	Battery voltage	Battery voltage



OK or NG

OK >> GO TO 3.

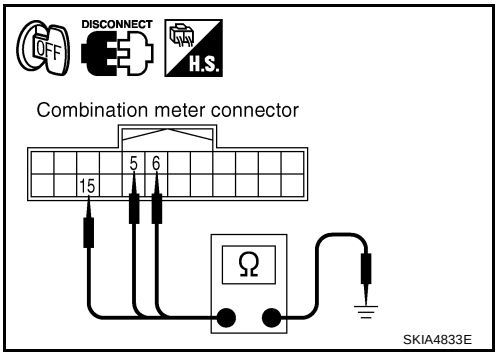
NG >> Check the following.

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

3. CHECK GROUND CIRCUIT

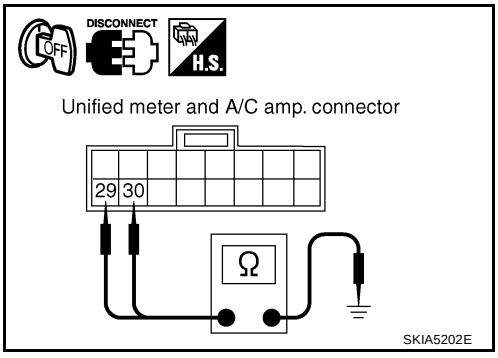
1. Turn ignition switch OFF.
2. Disconnect combination meter connector and unified meter and A/C amp. connector.
3. Check continuity between combination meter harness connector M20 terminals 5 (B), 6 (B), 15 (B) and ground.

5 (B) – Ground
6 (B) – Ground **: Continuity should exist.**
15 (B) – Ground



4. Check continuity between unified meter and A/C amp. harness connector M56 terminals 29 (B), 30 (B) and ground.

29 (B) – Ground
30 (B) – Ground **: Continuity should exist.**



OK or NG

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

Vehicle Speed Signal Inspection

AKS005MV

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

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

Preform the ABS actuator and electric unit (control unit) self-diagnosis. Refer to BRC-25, "CONSULT-II Functions" .

Self-diagnostic results content

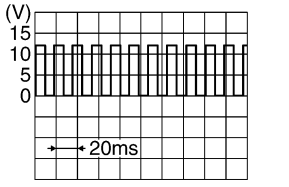
No malfunction detected>>GO TO 2.
Malfunction detected>>Check applicable parts, and repair or replace corresponding parts.

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

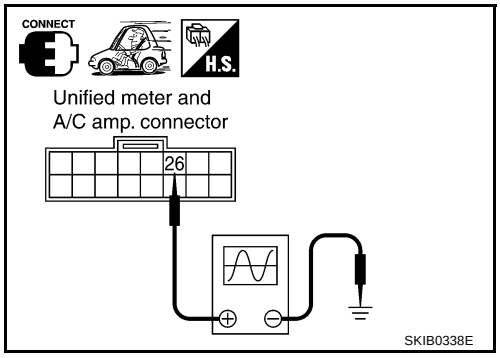
1. Start engine and drive vehicle at approximately 40 km/h (25 MPH).
2. Check voltage signal between unified meter and A/C amp. harness connector M56 terminal 26 (R/G) and ground.

NOTE:
Maximum voltage may be 5 V due to specifications (connected units).

26 (R/G) – Ground:



PKIA1935E



SKIB0338E

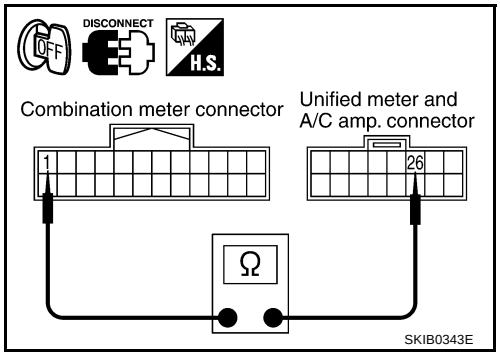
OK or NG

OK >> GO TO 3.
NG >>
- If monitor indicates “0 V” constantly, repair or replace malfunctioning parts after checking each unit inputting vehicle speed signal (8 pulse), harness and connector between each unit and unified meter and A/C amp.
- If monitor indicates “5 V” or “12 V” constantly, replace unified meter and A/C amp. Refer to DI-37, "Removal and Installation of Unified Meter and A/C Amp." .

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

1. Turn ignition switch OFF.
2. Disconnect combination meter connector and unified meter and A/C amp. connector.
3. Check continuity between combination meter harness connector M20 terminal 1 (R/G) and unified meter and A/C amp. harness connector M56 terminal 26 (R/G).

1 (R/G) – 26 (R/G) : Continuity should exist.



SKIB0343E

OK or NG

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

Engine Speed Signal Inspection

AKS005MW

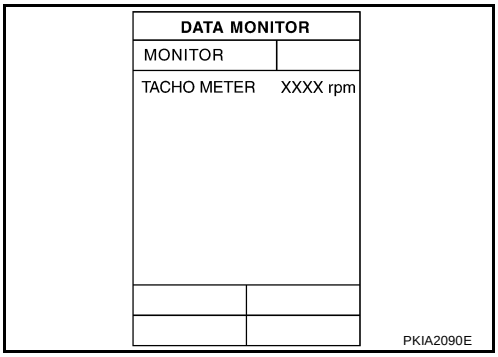
Symptom: Tachometer indication is malfunction.

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

1. Start an engine and select “METER A/C AMP” 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 >> GO TO 2.
NG >> Replace combination meter.

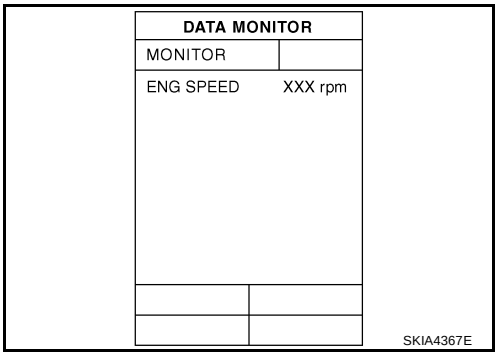


2. CHECK UNIFIED METER AND A/C AMP. INPUT SIGNAL

1. Select “ENGINE” on CONSULT-II.
2. Using “ENG SPEED” on “DATA MONITOR”, print out the CONSULT-II screen when the engine is idling.
3. Select “METER A/C AMP” on CONSULT-II.
4. Using “TACHO METER” on “DATA MONITOR”, compare the value of “DATA MONITOR” of the idling speed with that of the “ENG SPEED”.

OK or NG

OK >> Perform ECM self-diagnosis. Refer to EC-132, "CONSULT-II Function (ENGINE)" (for VQ35DE) or EC-822, "CONSULT-II Function (ENGINE)" (for VK45DE).
NG >> Replace unified meter and A/C amp. Refer to DI-37, "Removal and Installation of Unified Meter and A/C Amp." .



Engine Coolant Temperature Signal Inspection

AKS005MX

Symptom: Water temperature gauge indication is malfunction.

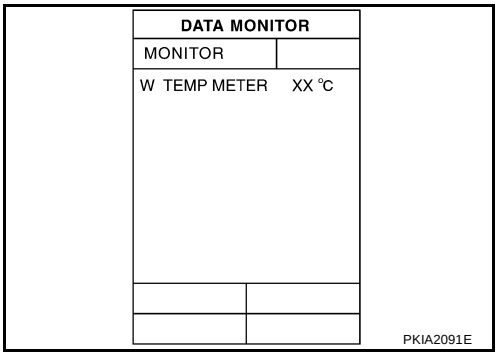
1. CHECK UNIFIED METER AND A/C AMP. INPUT SIGNAL

1. Start engine and select “METER A/C AMP” on CONSULT-II.
2. Using “W TEMP METER” on “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)

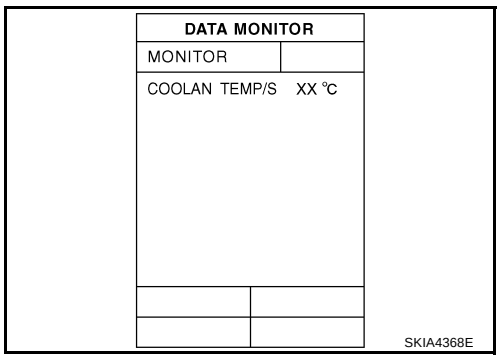
OK or NG

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



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

1. Select “ENGINE” on CONSULT-II.
2. Using “COOLAN TEMP/S” on “DATA MONITOR”, print out the CONSULT-II screen.
3. Select “METER A/C AMP” on CONSULT-II.
4. Using “W TEMP METER” on “DATA MONITOR”, compare the value of “DATA MONITOR” with that of the “COOLAN TEMP/S”.



OK or NG

OK >> Perform ECM self-diagnosis. Refer to EC-132, "CONSULT-II Function (ENGINE)" (for VQ35DE) or EC-822, "CONSULT-II Function (ENGINE)" (for VK45DE).

NG >> Replace unified meter and A/C amp. Refer to DI-37, "Removal and Installation of Unified Meter and A/C Amp." .

Fuel Level Sensor Signal Inspection

AKS005MY

Symptom:

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

NOTE:
The following symptoms are not malfunction.

Fuel level sensor unit

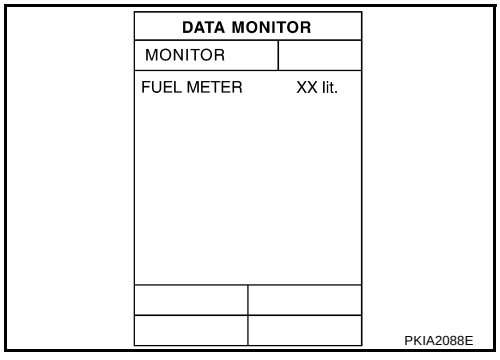
- Depending on vehicle position or driving circumstance, the fuel level in the tank various, and the pointer may fluctuate.
- If the vehicle is fueled with the ignition switch ON, the pointer will move slowly.

Low-fuel warning lamp

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

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

1. Select “METER A/C AMP” 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. 86
Three quarters	Approx. 70
Half	Approx. 48
A quarter	Approx. 25
Empty	Approx. 9

OK or NG

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

2. CHECK FUEL LEVEL SENSOR

Check components. Refer to DI-25, "CHECK FUEL LEVEL SENSOR UNIT" .

OK or NG

OK >> GO TO 3.
NG >> Replace fuel level sensor unit.

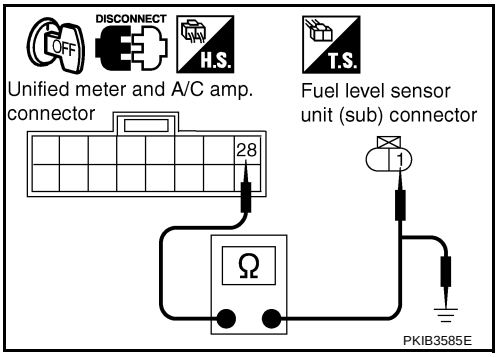
3. CHECK FUEL LEVEL SENSOR (SUB) CIRCUIT

1. Disconnect unified meter and A/C amp. connector and fuel level sensor unit (sub) connector.
2. Check continuity between unified meter and A/C amp. harness connector M56 terminal 28 (W/B) and fuel level sensor unit (sub) harness connector B40 terminal 1 (LG).

28 (W/B) – 1 (LG) : Continuity should exist.

3. Check continuity between unified meter and A/C amp. harness connector M56 terminal 28 (W/B) and ground.

28 (W/B) – Ground : Continuity should not exist.



OK or NG

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

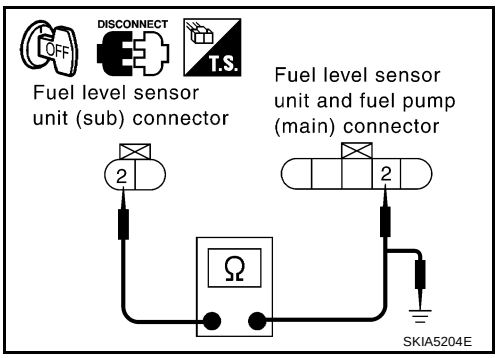
4. CHECK FUEL LEVEL SENSOR (MAIN·SUB) CIRCUIT

1. Disconnect fuel level sensor unit and fuel pump (main) connector.
2. Check continuity between fuel level sensor unit (sub) harness connector B40 terminal 2 (Y) and fuel level sensor unit and fuel pump (main) harness connector B39 terminal 2 (Y).

2 (Y) – 2 (Y) : Continuity should exist.

3. Check continuity between fuel level sensor unit (sub) harness connector B40 terminal 2 (Y) and ground.

2 (Y) – Ground : Continuity should not exist.



OK or NG

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

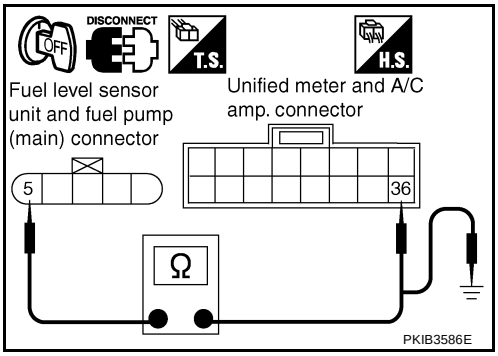
5. CHECK FUEL LEVEL SENSOR (MAIN) CIRCUIT

1. Check continuity between fuel level sensor unit and fuel pump (main) harness connector B39 terminal 5 (B) and unified meter and A/C amp. harness connector M56 terminal 36 (B/W).

5 (B) – 36 (B/W) : Continuity should exist.

2. Check continuity between fuel level sensor unit and fuel pump (main) harness connector B39 terminal 5 (B) and ground.

5 (B) – Ground : Continuity should not exist.



OK or NG

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

6. CHECK INSTALLATION CONDITION

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

OK or NG

OK >> Replace unified meter and A/C amp. Refer to DI-37, "Removal and Installation of Unified Meter and A/C Amp."
NG >> Install the fuel level sensor unit properly.

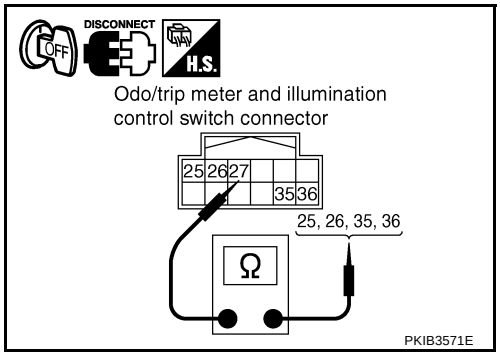
Odo/Trip Meter and Illumination Control Switch Inspection

AKS005N2

Symptom: Illumination control does not operate.

1. CHECK ODO/TRIP METER AND ILLUMINATION CONTROL SWITCH

1. Remove odo/trip meter and illumination control switch. Refer to DI-27, "Removal and Installation of Odo/Trip Meter and Illumination Control Switch" .
2. Check continuity between odo/trip meter and illumination control switch harness connector terminals 25, 26, 35 or 36 and 27.



Terminal		Condition	Continuity
25	27	Illumination control switch (–) is pushed.	Yes
		Illumination control switch (–) is released.	No
26		Illumination control switch (+) is pushed.	Yes
		Illumination control switch (+) is released.	No
36		Trip transfer switch is pushed.	Yes
		Trip transfer switch is released.	No
35		Trip reset switch is pushed.	Yes
		Trip reset switch is released.	No

OK or NG

OK >> Replace combination meter.
NG >> Replace odo/trip meter and illumination control switch.

Fuel Gauge Pointer Fluctuates, Indicator Wrong Value or Varies

AKS005N3

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

AKS005N4

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

3. QUESTION 3

Is the vehicle parked on an incline?

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

4. QUESTION 4

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

YES >> Check the fuel level sensor unit. Refer to DI-25, "CHECK FUEL LEVEL SENSOR UNIT" .
NO >> The float arm may interfere or bind with any of the components in the fuel tank.

Electrical Components Inspection

AKS005N5

CHECK FUEL LEVEL SENSOR UNIT

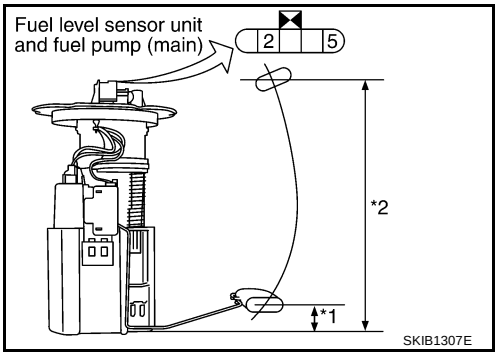
For removal, refer to FL-4, "FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY" .

Check Fuel Level Sensor Unit and Fuel Pump (Main)

Check the resistance between terminals 2 and 5.

Terminal		Float position [mm (in)]			Resistance value [Ω]
2	5	*1	Empty	29 (1.14)	Approx. 80
		*2	Full	236 (9.29)	Approx. 3

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

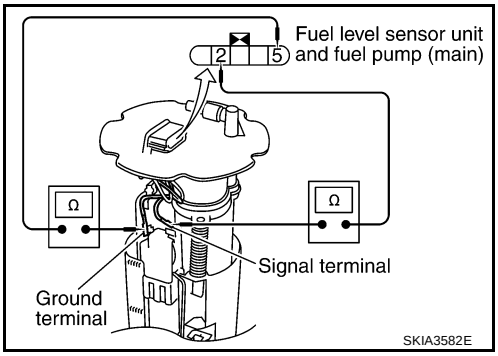


- If the results of check are NG, check the fuel level sensor unit and fuel pump (main) harness. Refer to DI-25, "Check Fuel Level Sensor Unit and Pump (Main) Harness" .

Check Fuel Level Sensor Unit and Pump (Main) Harness

Check continuity at following terminals.

Terminal	Continuity
2 - Signal terminal	Yes
5 - Ground terminal	



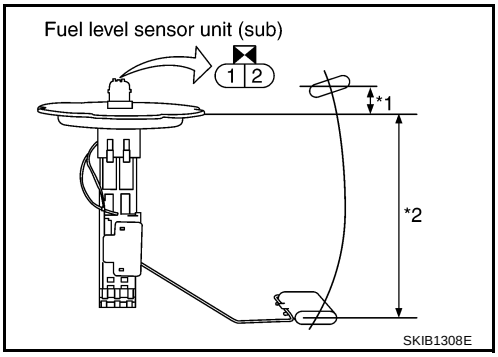
- If the results of check are NG, replace fuel pump assembly. If the results of check are OK, replace fuel level sensor unit.

Check Fuel Level Sensor Unit (Sub)

Check resistance between terminals 1 and 2.

Terminal		Float position [mm (in)]			Resistance value [Ω]
1	2	*1	Full	6 (0.24)	Approx. 3
		*2	Empty	203 (7.99)	Approx. 48

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



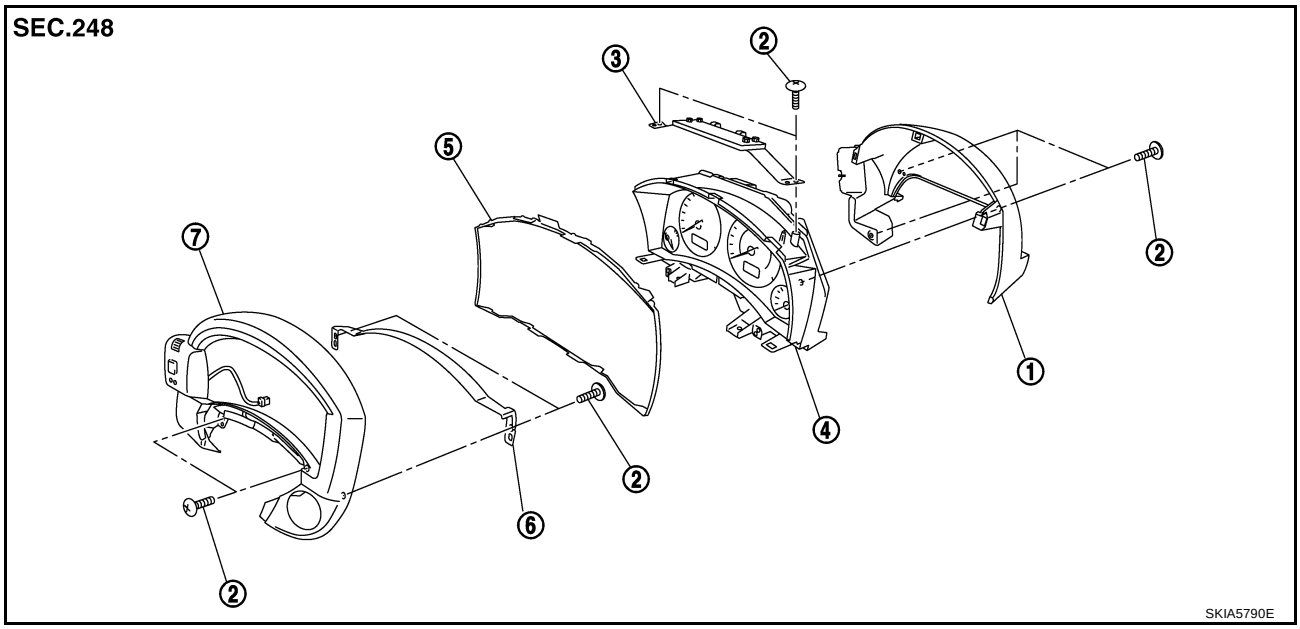
Removal and Installation of Combination Meter

AKS005N6

Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .

Disassembly and Assembly of Combination Meter

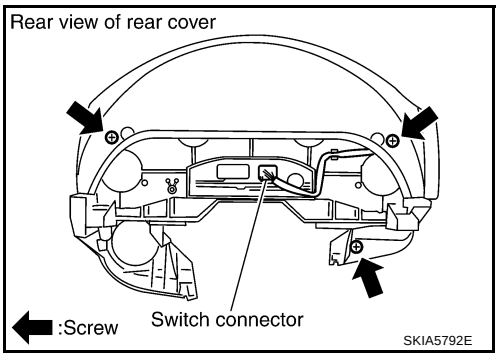
AKS007G1



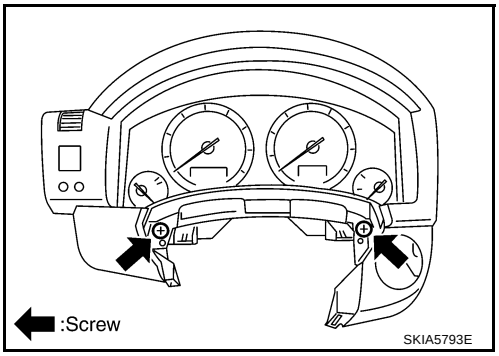
1. Rear cover
2. Screws
3. Plate
4. Unified meter control unit assembly
5. Front cover
6. Reinforcing metal
7. Switch and meter housing

DISASSEMBLY

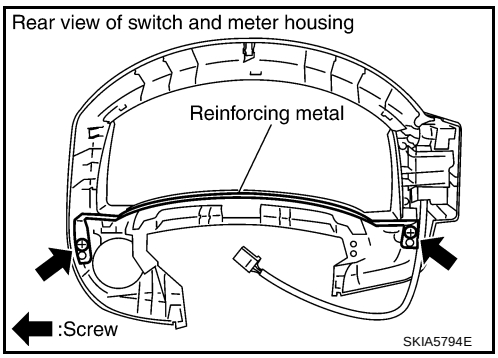
1. Remove screws (3) and remove rear cover.
2. Disconnect odo/trip meter and illumination control switch connector.



3. Remove screws (2) and remove switch and meter housing.



4. Remove screws (2) and remove reinforcing metal.
5. Disengage tabs (8) to separate front cover.
6. Remove screws (2) and remove prate.



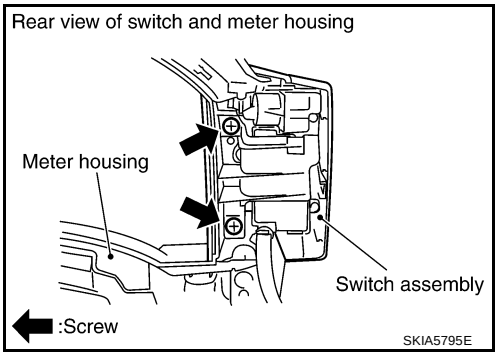
ASSEMBLY

Assembly is the reverse order of disassembly.

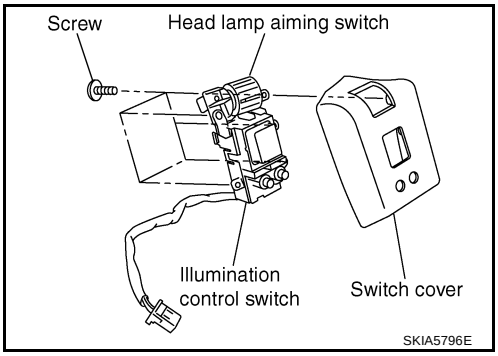
Removal and Installation of Odo/Trip Meter and Illumination Control Switch AKS007G2

REMOVAL

1. Remove combination meter. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove switch and meter housing. Refer to DI-26, "Disassembly and Assembly of Combination Meter" .
3. Remove screws (2), and remove switch assembly.



4. Remove screws (5), and remove odo/trip meter and illumination control switch.



INSTALLATION

Installation is the reverse order of removal.

UNIFIED METER AND A/C AMP

PFP:27760

System Description

AKS005N8

- For the unified meter and A/C amp., the signal required for controlling the combination meter are integrated in the A/C auto amp.
- Unified meter and A/C amp. controls each operation for A/C auto amp. For information regarding A/C control, refer to ATC-30, "AIR CONDITIONER CONTROL" in ATC section.
- Unified meter and A/C amp. inputs necessary information for combination meter from each unit by CAN communication and so on.
- And unified meter and A/C amp. outputs these signals using communication line (TX, RX) between unified meter and A/C amp. and combination meter.
- The signals required for the distance to empty (DTE) display are centralized in the unified meter and A/C amp., converted into data, and sent to the display unit (without NAVI) display control unit (with NAVI) using CAN communication.
- Other input signals are also sent to the ECM, TCM, AWD control unit, BCM, display unit (without NAVI) and display control unit (with NAVI) using CAN communication.
- The unified meter and A/C amp. correspond a CONSULT-II function (self-diagnostic results, CAN diagnostic support monitor, data monitor).

INPUT/OUTPUT SIGNALS

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

Unit	Input	Output
Unified meter and A/C amp.	● Seat belt buckle switch signal (Driver's side) ● Parking brake signal ● Illumination control nighttime required signal ● Refuel status signal ● Low-fuel warning lamp condition signal ● Combination meter receive error signal ● Delivery destination data signal ● Combination meter specifications signal	● Vehicle speed signal (8-pulse) ● Engine speed signal ● Engine coolant temperature signal ● Fuel level sensor signal (resistance value) ● Malfunction indicator lamp signal ● ABS warning lamp signal ● Low tire pressure warning lamp signal ● Brake warning lamp signal ● A/T CHECK warning lamp signal ● ICC warning lamp signal ● Oil pressure switch signal ● Door switch signal ● AWD warning lamp signal ● VDC OFF indicator lamp signal ● SLIP indicator lamp signal ● CRUISE indicator lamp signal ● SET indicator lamp signal ● High beam request signal ● Turn indicator signal ● Snow mode switch signal ● ICC system display signal ● A/T position indicator signal ● Manual mode indicator signal ● Manual mode gear position signal ● CAN communication condition signal of A/T ● Position lights request signal ● Buzzer output signal

FAIL-SAFE

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

Function		Specifications
Speedometer		Return to zero when discontinuing communication or receiving irregular data.
Tachometer		Reset to zero by suspending communication.
Fuel gauge		
Water temperature gauge		
Illumination control	Combination meter illumination	When suspending communication, change to nighttime mode.
Odo/trip meter		Integrate in response to 8-pulse input.
A/T position indicator		The display turns off by suspending communication.
Warning buzzer		The warning buzzer turns off by suspending communication.
Warning lamp/indicator lamp	ABS warning lamp	The lamp turns on by suspending communication.
	VDC OFF indicator	
	SLIP indicator	
	Brake warning lamp	
	Door warning lamp	The lamp turns off by suspending communication.
	Low tire pressure warning lamp	
	SET indicator lamp	
	CRUISE indicator lamp	
	AWD warning lamp	
	ICC warning lamp	
	A/T CHECK warning lamp	
	Oil pressure warning lamp	
	Snow mode indicator lamp	
	Turn signal indicator	
	Malfunction indicator lamp	
	High beam indicator	

CAN Communication System Description

AKS007Z1

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.

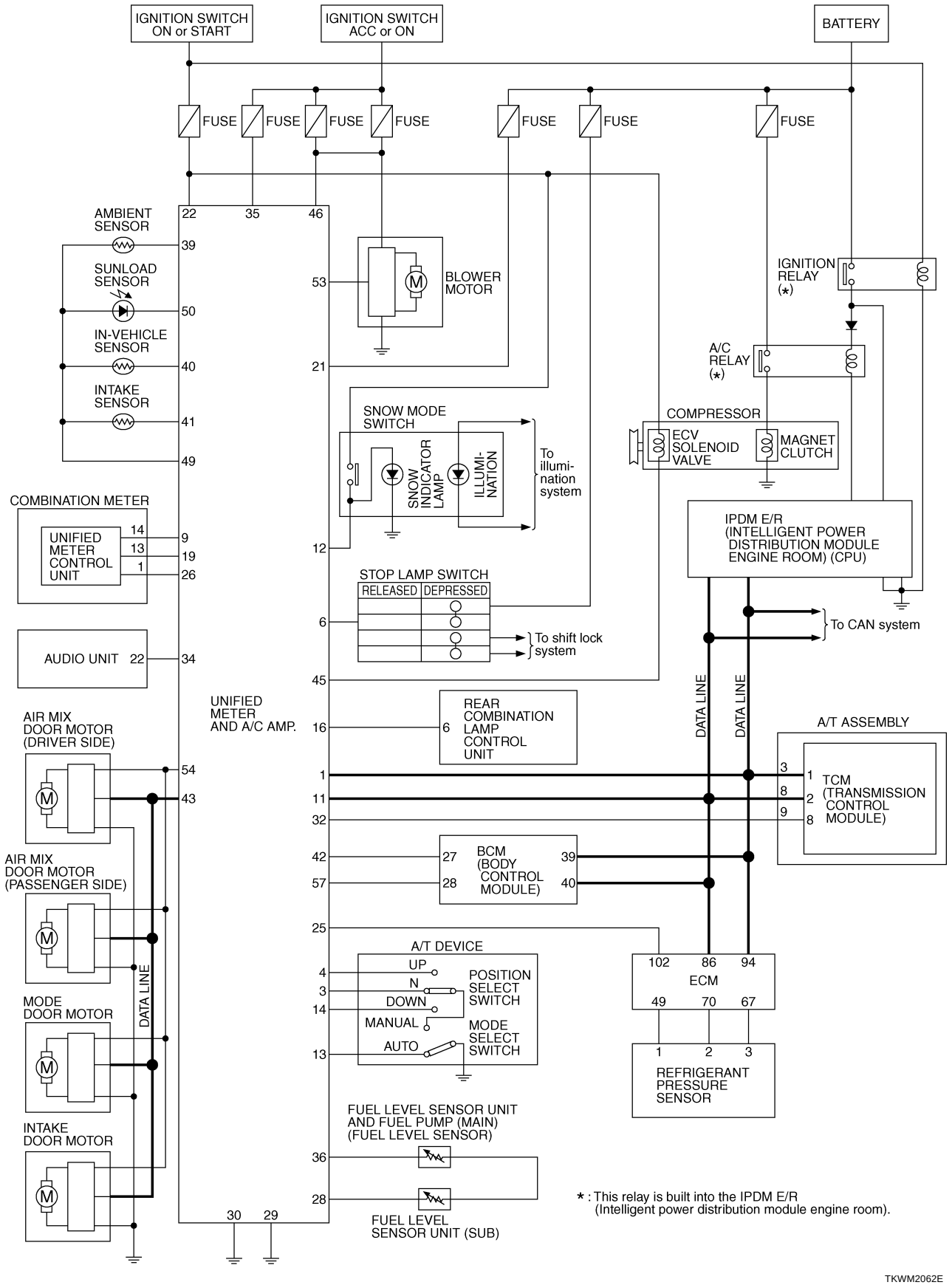
CAN Communication Unit

AKS007YX

Refer to LAN-30, "CAN Communication Unit" in “LAN SYSTEM”.

Schematic

AKS005NA



CONSULT-II Function (METER A/C AMP)

AKS005NB

CONSULT-II performs the following functions communicating with the unified meter and A/C amp.

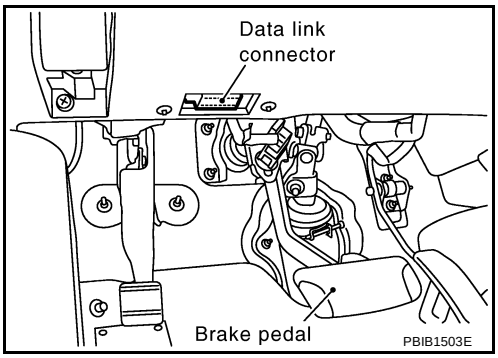
System	Diagnosis mode	Description	Reference page
METER A/C AMP	Self-diagnostic results	Unified meter and A/C amp. check the conditions and indicates any error that unified meter and A/C amp. memorized.	DI-32
	CAN diagnostic support monitor	The results of transmit/receive diagnosis of CAN communication can be read.	LAN-18
	Data monitor	Displays unified meter and A/C amp. input data in real time.	DI-32

CONSULT-II BASIC OPERATION

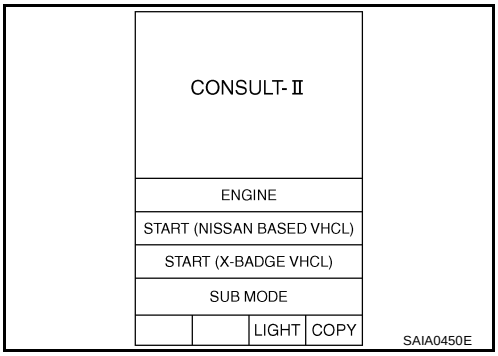
CAUTION:

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

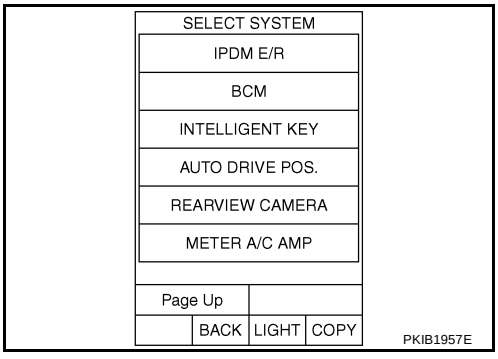
1. With the ignition switch OFF, connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector, then turn ignition switch ON.



2. Touch “START (NISSAN BASED VHCL)”.



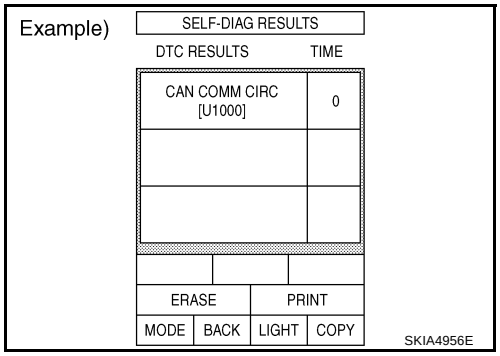
3. Touch “METER A/C AMP” on “SELECT SYSTEM” screen. If “METER A/C AMP” is not indicated, go to GI-39, "CONSULT-II Data Link Connector (DLC) Circuit" .
4. Select “SELF-DIAG RESULTS”, “CAN DIAG SUPPORT MNTR” or “DATA MONITOR”.



SELF-DIAGNOSTIC RESULTS

Operation Procedure

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



Display Item List

CONSULT-II display	Malfunction is detected when...	Reference page
CAN COMM CIRC [U1000]	Malfunction is detected in CAN communication. **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 disconnected.**	DI-34
METER COMM CIRC [B2202]	Malfunction is detected in communication of between combination meter and unified meter and A/C amp.	DI-34
VEHICLE SPEED CIRC [B2205]	When an erroneous speed signal is input for 1 second. **CAUTION:** **Even when there is no malfunction on speed signal system, malfunction may be misinterpreted when battery has low voltage (when maintaining 7 - 8 V for about 2 seconds).**	DI-37

“TIME” indicates the condition of the self-diagnostic results judged by each signal input.

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

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

CAUTION:

“TIME” keeps showing “0” after returning to normal condition only in the case that malfunction history of “CAN COMM CIRC [U1000]” remains because of low tire pressure warning control unit, display control unit (with NAVI) or display unit (without NAVI) malfunction.

DATA MONITOR

Operation Procedure

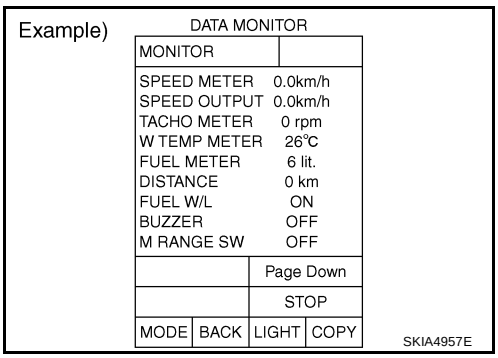
1. Touch “DATA MONITOR” on “SELECT DIAG MODE” screen.
2. Touch either “MAIN SIGNALS” or “SELECTION FROM MENU” on the “DATA MONITOR” screen.

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

3. When “SELECTION FROM MENU” is selected, touch individual items to be monitored. When “MAIN SIGNALS” is selected, main items will be monitored.

4. Touch “START”.
5. Touch “RECORD” while monitoring, then the status of the monitored item can be recorded. To stop recording, touch “STOP”.

Example)



Display Item List

Display item [Unit]	MAIN SIGNALS	SELECTION FROM MENU	Contents
SPEED METER [km/h] or [mph]	X	X	This is the angle correction value after the speed signal from the ABS actuator and electric unit (control unit) is converted into the vehicle speed.
SPEED OUTPUT [km/h] or [mph]	X	X	This is the angle correction value before the speed signal from the ABS actuator and electric unit (control unit) is converted into the vehicle speed.
TACHO METER [rpm]	X	X	This is the converted value for the engine speed signal from the ECM.
W TEMP METER [°C] or [°F]	X	X	This is the converted value for the engine coolant temperature signal from the ECM.
FUEL METER [lit.]	X	X	This is the processed value for the signal (resistance value) from the fuel gauge.
DISTANCE [km] or [mile]	X	X	This is the calculated value for the speed signal from the ABS actuator and electric unit (control unit), the signal (resistance signal) from the fuel gauge and fuel consumption signal from ECM.
FUEL W/L [ON/OFF]	X	X	Indicates [ON/OFF] condition of low-fuel warning lamp.
MIL [ON/OFF]		X	Indicates [ON/OFF] condition of malfunction indicator lamp.
AIR PRES W/L [ON/OFF]		X	Indicates [ON/OFF] condition of low tire pressure warning lamp.
SEAT BELT W/L [ON/OFF]		X	Indicates [ON/OFF] condition of seat belt warning lamp.
BUZZER [ON/OFF]	X	X	Indicates [ON/OFF] condition of buzzer.
DOOR W/L [ON/OFF]		X	Indicates [ON/OFF] condition of door warning lamp.
HI-BEAM IND [ON/OFF]		X	Indicates [ON/OFF] condition of high beam indicator.
TURN IND [ON/OFF]		X	Indicates [ON/OFF] condition of turn indicator.
OIL W/L [ON/OFF]		X	Indicates [ON/OFF] condition of oil pressure warning lamp.
VDC/TCS IND [ON/OFF]		X	Indicates [ON/OFF] condition of VDC 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.*
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 key knob 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.

Display item [Unit]	MAIN SIGNALS	SELECTION FROM MENU	Contents
BRAKE SW [ON/OFF]		X	Indicates [ON/OFF] condition of brake switch (stop lamp switch).
AT-M IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T manual mode indicator.
AT-M GEAR [5-1]	X	X	Indicates [5-1] condition of A/T manual mode gear position.
P RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift P range indicator.
R RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift R range indicator.
N RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift N range indicator.
D RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift D range indicator.
AT CHECK W/L		X	Indicates [ON/OFF] condition of AT CHECK warning 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.
CRUISE W/L [ON/OFF]		X	Indicates [ON/OFF] condition of ICC warning lamp.
4WD LOCK SW [ON/OFF]		X	Indicates [ON/OFF] condition of snow mode switch.
4WD LOCK IND [ON/OFF]		X	Indicates [ON/OFF] condition of SNOW indicator lamp.
4WD W/L [ON/OFF]		X	Indicates [ON/OFF] condition of AWD warning lamp.

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

DTC [U1000] CAN Communication Circuit

AKS00CM7

Symptom: Display CAN COMM CIRC [U1000] at the result of self-diagnosis for unified meter and A/C amp.

1. CHECK CAN COMMUNICATION

1. Select “SELF-DIAG RESULTS” mode for “METER A/C AMP” with CONSULT-II.
2. Print out CONSULT-II screen.

>> Go to “CAN system”. Refer to LAN-5, "Precautions When Using CONSULT-II" .

DTC [B2202] Meter Communication Circuit

AKS00CM8

Symptom: Display METER COMM CIRC [B2202] at the result of self-diagnosis for unified meter and A/C amp.

1. CHECK CONNECTOR

Check combination meter, unified meter and A/C amp. and terminals (combination meter side, unified meter and A/C amp. side, and harness side) for looseness or bent terminals.

OK or NG

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

2. CHECK METER/GAUGES VISUALLY

Check the pointer on the meter/gauge fluctuate at the engine start.

Is the fluctuation acceptable?

YES >> GO TO 3.
NO >> GO TO 6.

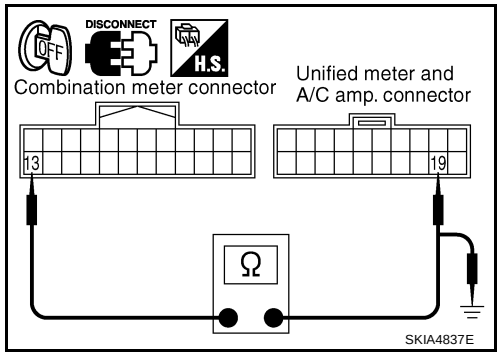
3. CHECK CONTINUITY COMMUNICATION CIRCUIT (TX: COMBINATION METER)

1. Turn ignition switch OFF.
2. Disconnect combination meter connector and unified meter and A/C amp. connector.
3. Check continuity between combination meter harness connector M20 terminal 13 (L/B) and unified meter and A/C amp. harness connector M55 terminal 19 (L/B).

13 (L/B) – 19 (L/B) : Continuity should exist.

4. Check continuity between combination meter harness connector M20 terminal 13 (L/B) and ground.

13 (L/B) – Ground : Continuity should not exist.



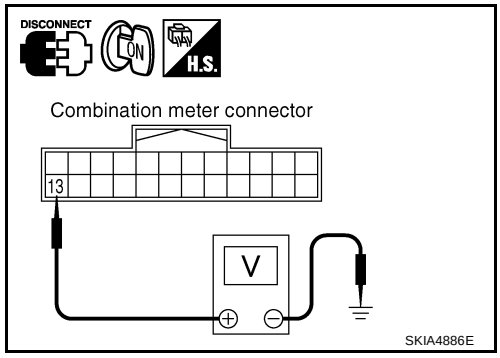
OK or NG

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

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

1. Connect unified meter and A/C amp. connector.
2. Turn ignition switch ON.
3. Check voltage between combination meter harness connector M20 terminal 13 (L/B) and ground.

13 (L/B) – Ground : Approx. 5 V



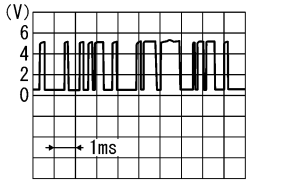
OK or NG

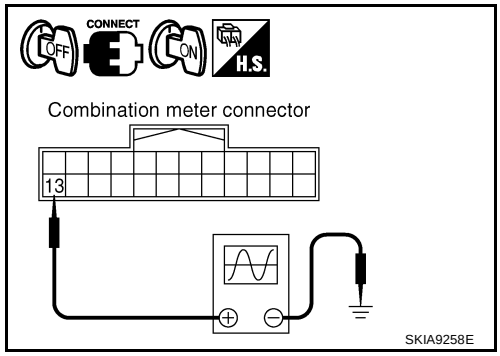
OK >> GO TO 5.
NG >> Replace unified meter and A/C amp. Refer to DI-37, "Removal and Installation of Unified Meter and A/C Amp."

5. CHECK VOLTAGE SIGNAL OF COMBINATION METER

1. Turn ignition switch OFF and connect combination meter connector.
2. Turn ignition switch ON.
3. Check voltage signal between combination meter harness connector M20 terminal 13 (L/B) and ground.

13 (L/B) – Ground:





OK or NG

OK >> Replace unified meter and A/C amp. Refer to DI-37, "Removal and Installation of Unified Meter and A/C Amp."
NG >> Replace combination meter.

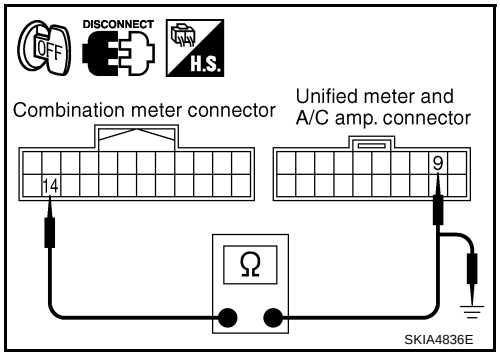
6. CHECK CONTINUITY COMMUNICATION CIRCUIT (RX: COMBINATION METER)

1. Turn ignition switch OFF.
2. Disconnect combination meter connector and unified meter and A/C amp. connector.
3. Check continuity between combination meter harness connector M20 terminal 14 (PU) and unified meter and A/C amp. harness connector M55 terminal 9 (PU).

14 (PU) – 9 (PU) : Continuity should exist.

4. Check continuity between combination meter harness connector M20 terminal 14 (PU) and ground.

14 (PU) – Ground : Continuity should not exist.



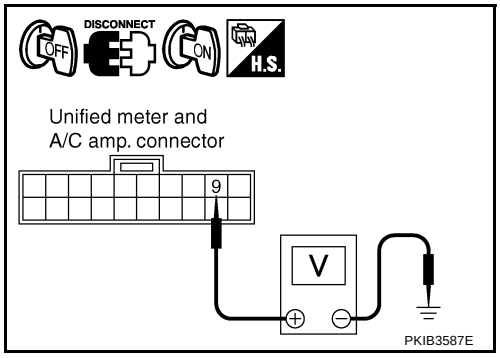
OK or NG

OK >> GO TO 7.
NG >> Repair harness or connector.

7. CHECK VOLTAGE OF COMBINATION METER

1. Connect combination meter connector.
2. Turn ignition switch ON.
3. Check voltage between unified meter and A/C amp. harness connector M55 terminal 9 (PU) and ground.

9 (PU) – Ground : Approx. 5 V



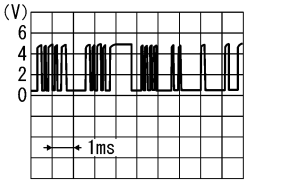
OK or NG

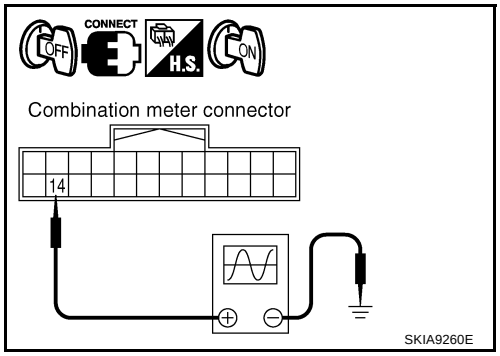
OK >> GO TO 8.
NG >> Replace combination meter.

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

1. Turn ignition switch OFF and connect unified meter and A/C amp. connector.
2. Turn ignition switch ON.
3. Check voltage signal between combination meter harness connector M20 terminal 14 (PU) and ground.

14 (PU) – Ground:





OK or NG

OK >> Replace combination meter.
NG >> Replace unified meter and A/C amp. Refer to DI-37, "Removal and Installation of Unified Meter and A/C Amp." .

DTC [B2205] Vehicle Speed Circuit

AKS00CM9

Symptom: Display VEHICLE SPEED CIRC [B2205] at the result of self-diagnosis for unified meter and A/C amp.

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

Preform the ABS actuator and electric unit (control unit) self-diagnosis. Refer to BRC-25, "CONSULT-II Functions" .

Self-diagnostic results content

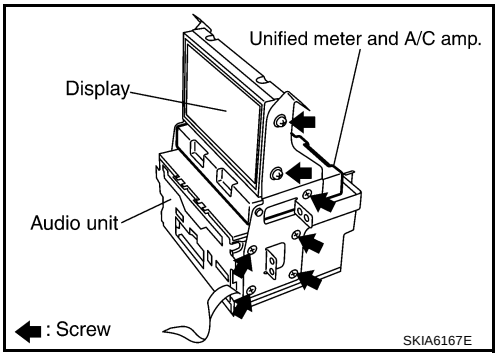
No malfunction detected>>Replace unified meter and A/C amp.
Malfunction detected>>Check applicable parts, and repair or replace corresponding parts.

Removal and Installation of Unified Meter and A/C Amp.

AKS005NC

REMOVAL

1. Remove the audio unit. Refer to AV-47, "Removal and Installation of Audio Unit" .
2. Remove the fixing screws, then remove the unified meter and A/C amp.



INSTALLATION

Installation is basically in the reverse order of removal.

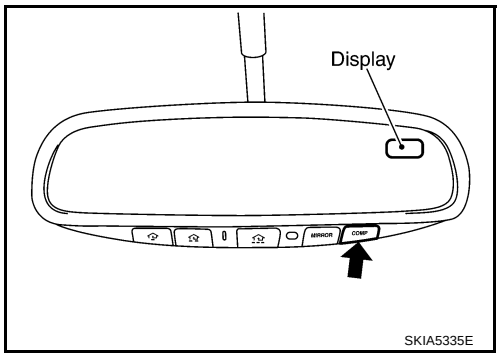
COMPASS

PFP:24835

System Description

AKS007AO

This unit displays earth magnetism and heading direction of vehicle.



DIRECTION DISPLAY

Push the switch when the ignition key is in the “ON” or “START” position. The direction will be displayed. Pushing the “COMP” switch a second time will turn off the display.

1. If the display reads “C” calibrate the compass by driving the vehicle in 3 complete circles at less than 8 km/h (5 MPH).
2. To adjust for compass variance:

a. Press the “COMP” switch for more than 3 seconds. The current zone number will appear in the display.

b. Find your current location and variance zone number on the zone map.

c. Press the “COMP” switch until the new zone number appears in the display. After you stop pressing the button in, the display will show a compass direction within a few seconds.

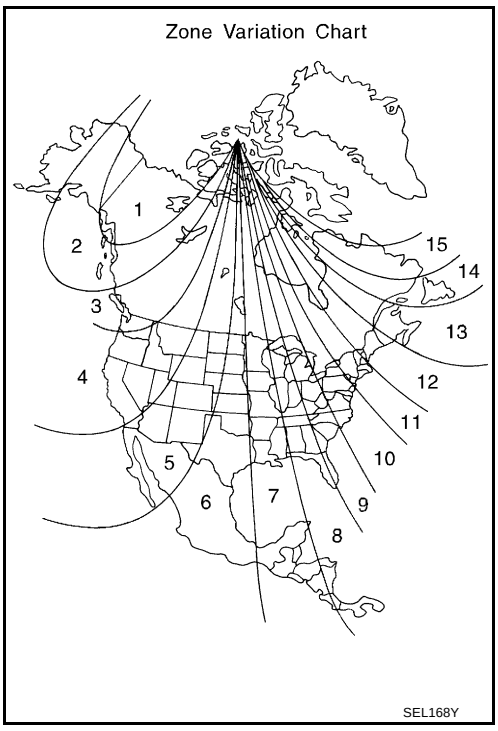
NOTE:

1. 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.
2. If the compass deviates from the correct indication soon after repeated adjustment, have the compass checked at an authorized dealer.
3. 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.)

3. Cleaning the Mirror
   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.

“C” is displayed in the compass window.

The compass needs to be calibrated. Drive the vehicle in 3 circles at 8 km/h (5 MPH) or less until the display reads a direction. You can also calibrate the compass by driving your vehicle on your everyday routine. The compass will be calibrated once it has tracked 3 complete circles.

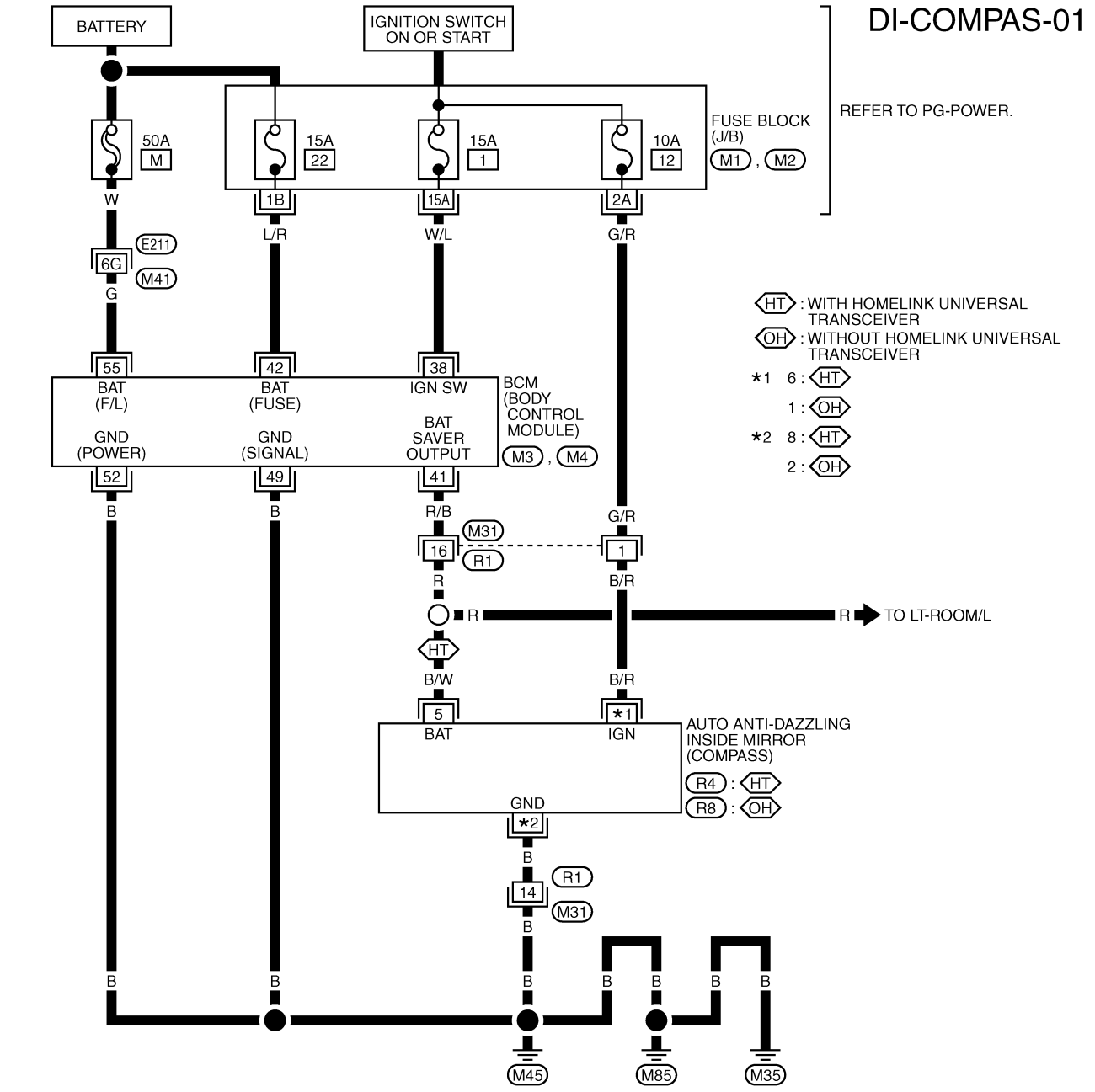


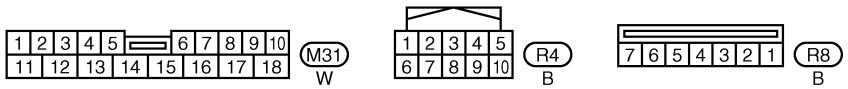
Inaccurate Compass Direction

1. With the display turned on, push the “COMP” switch for 3 seconds, until the zone selection comes up (a number will be displayed in the mirror compass window).
2. Toggle until correct zone is found and release switch.
3. The display will show all segments, and return to the normal compass mode within 10 seconds of no switch activity.
4. If the vehicle changes zone, repeat steps 1 through 3. See map.

Wiring Diagram – COMPAS –

AKS007AP





REFER TO THE FOLLOWING.

E211 -SUPER MULTIPLE JUNCTION (SMJ)

M1 , M2 -FUSE BLOCK-JUNCTION BOX (J/B)

M3 , M4 -ELECTRICAL UNITS

TKWM2055E

Removal and Installation of Compass

AKS007AQ

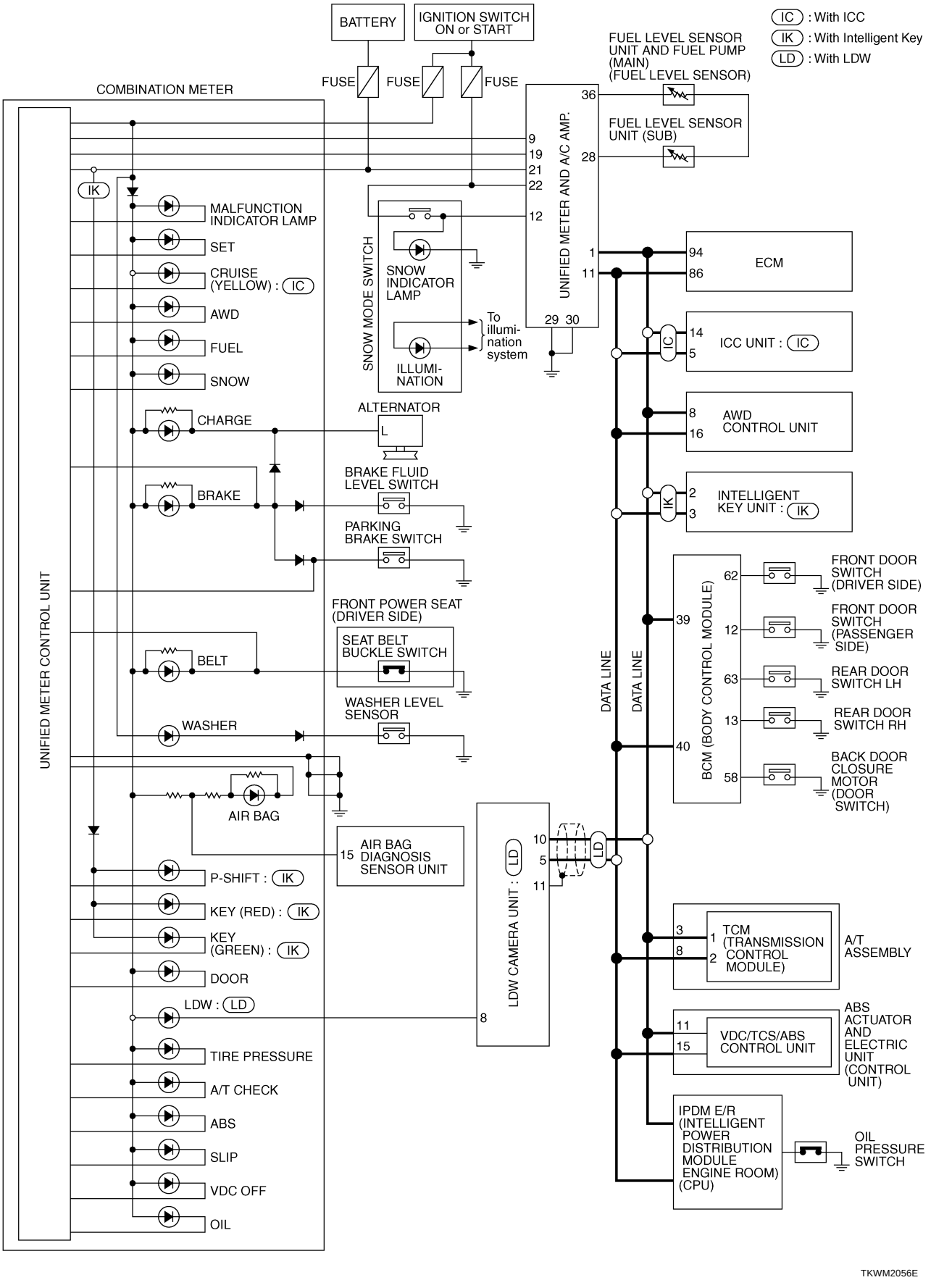
Refer to GW-85, "Removal and Installation" .

WARNING LAMPS

PFP:24814

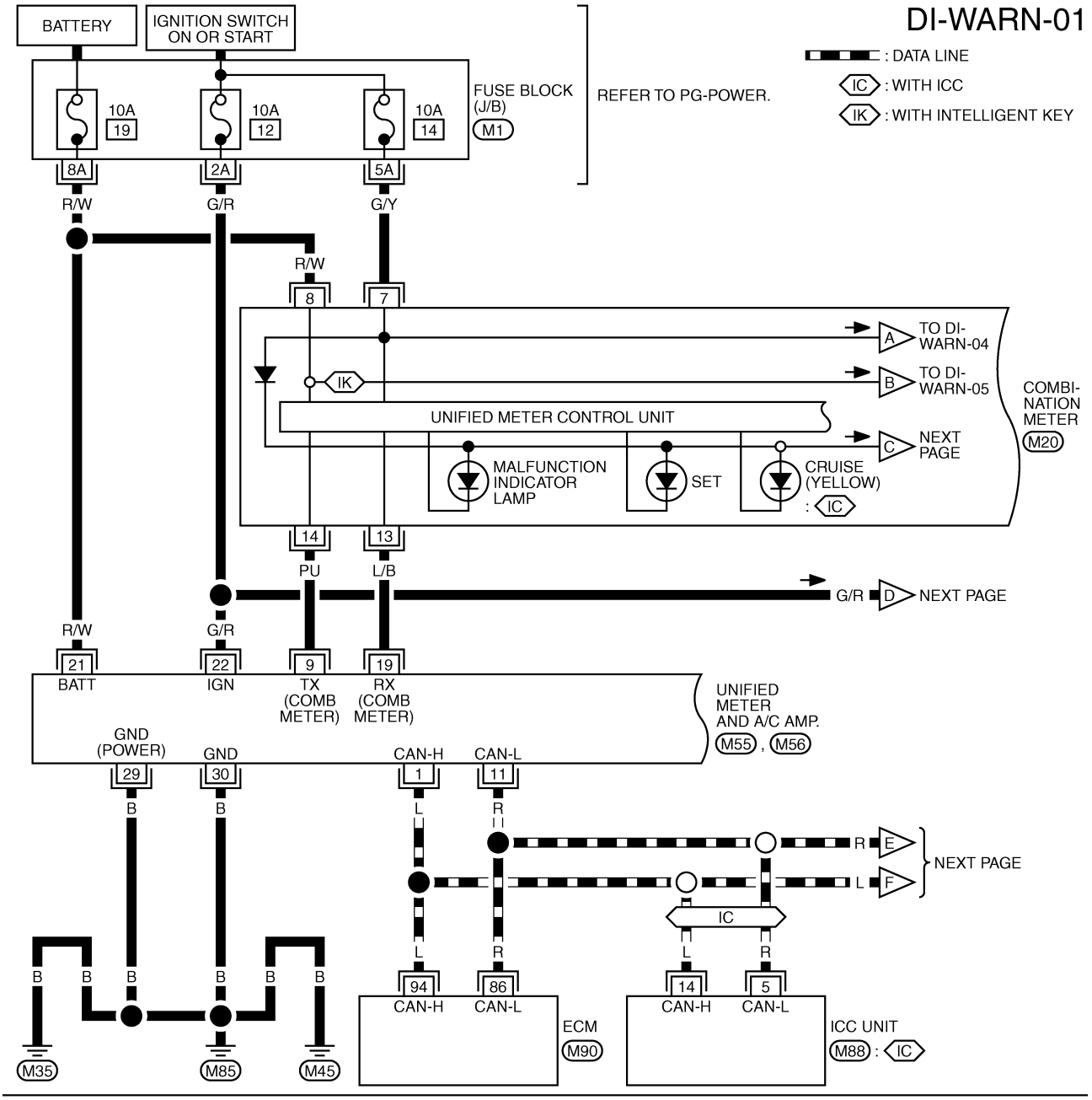
Schematic

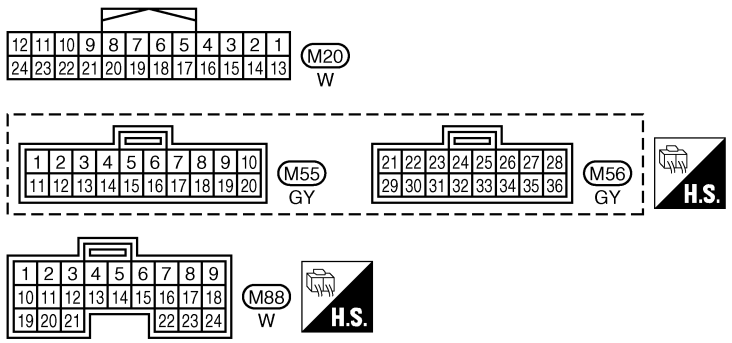
AKS005ND



Wiring Diagram — WARN —

AKS005NE





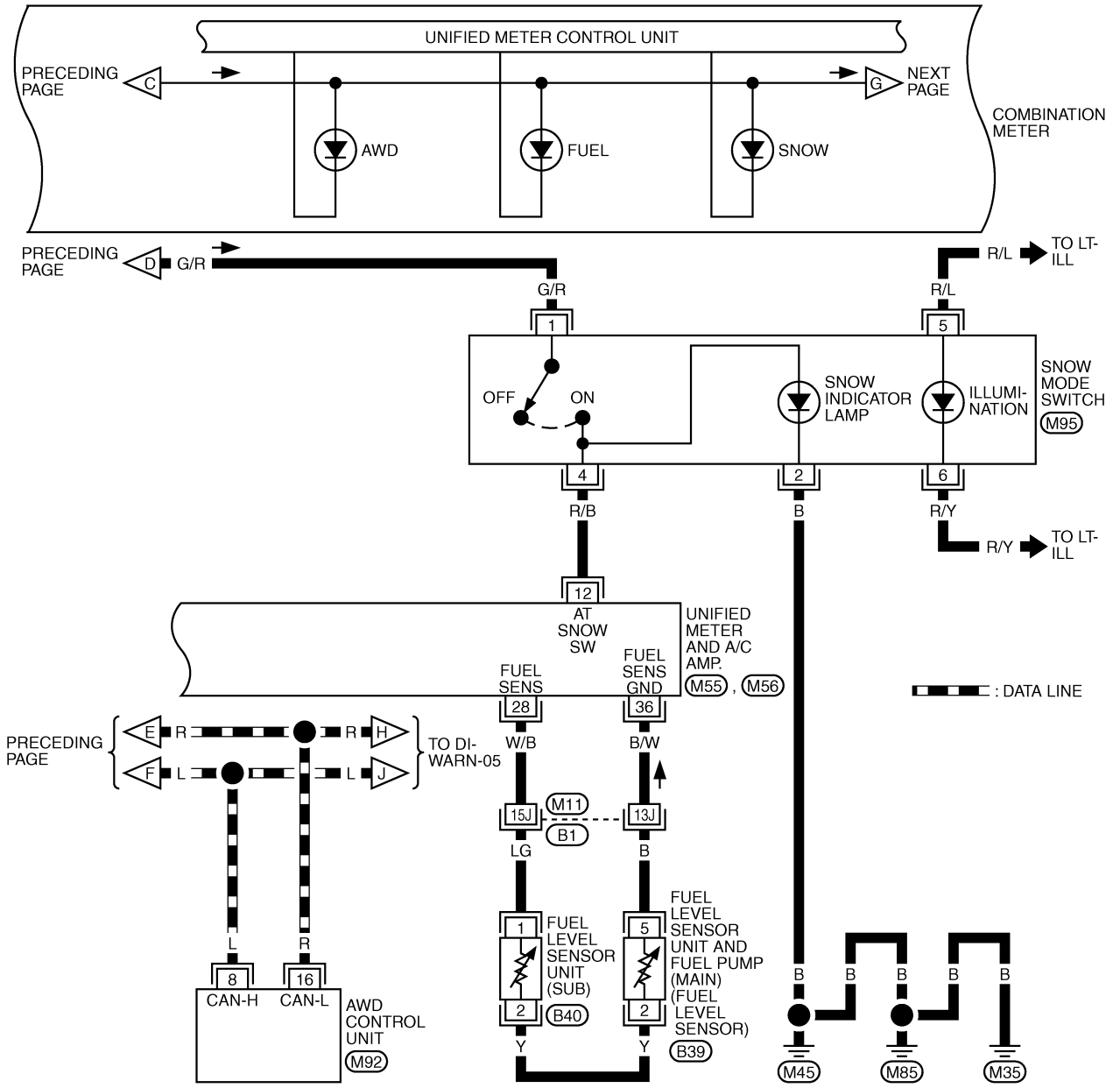
REFER TO THE FOLLOWING.

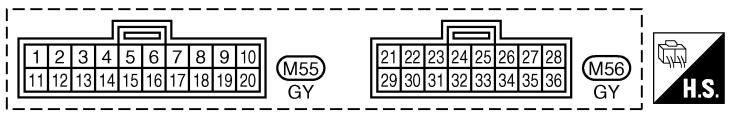
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

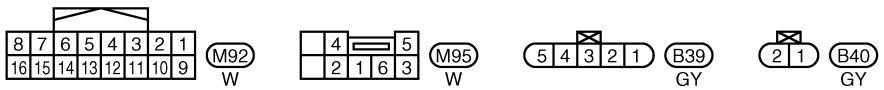
M90 -ELECTRICAL UNITS

TKWM2433E

DI-WARN-02



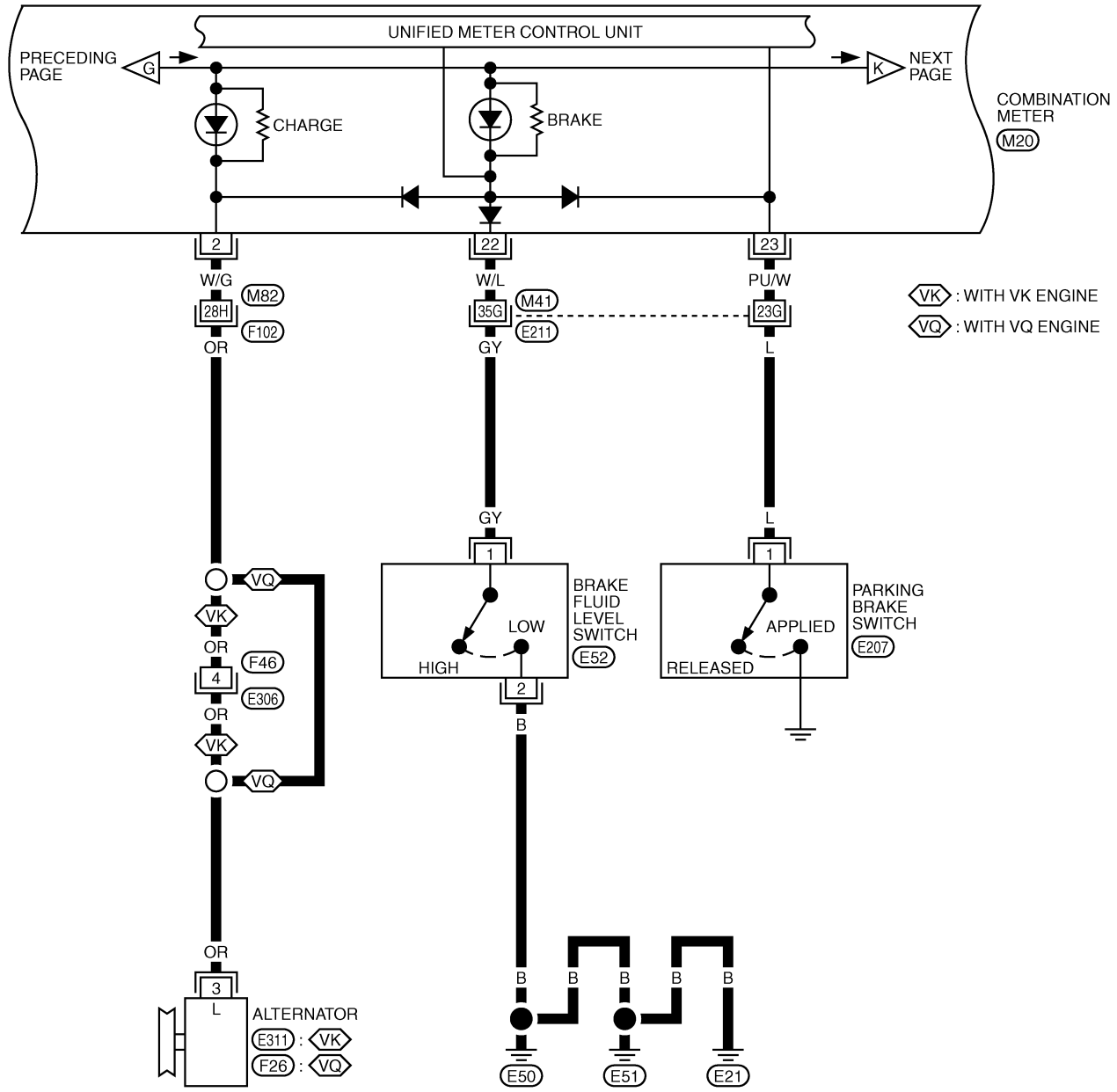


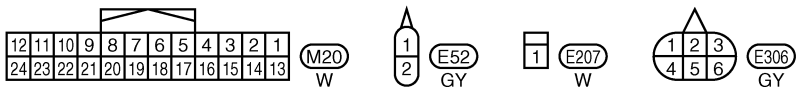


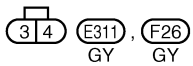
REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

TKWM2057E

DI-WARN-03



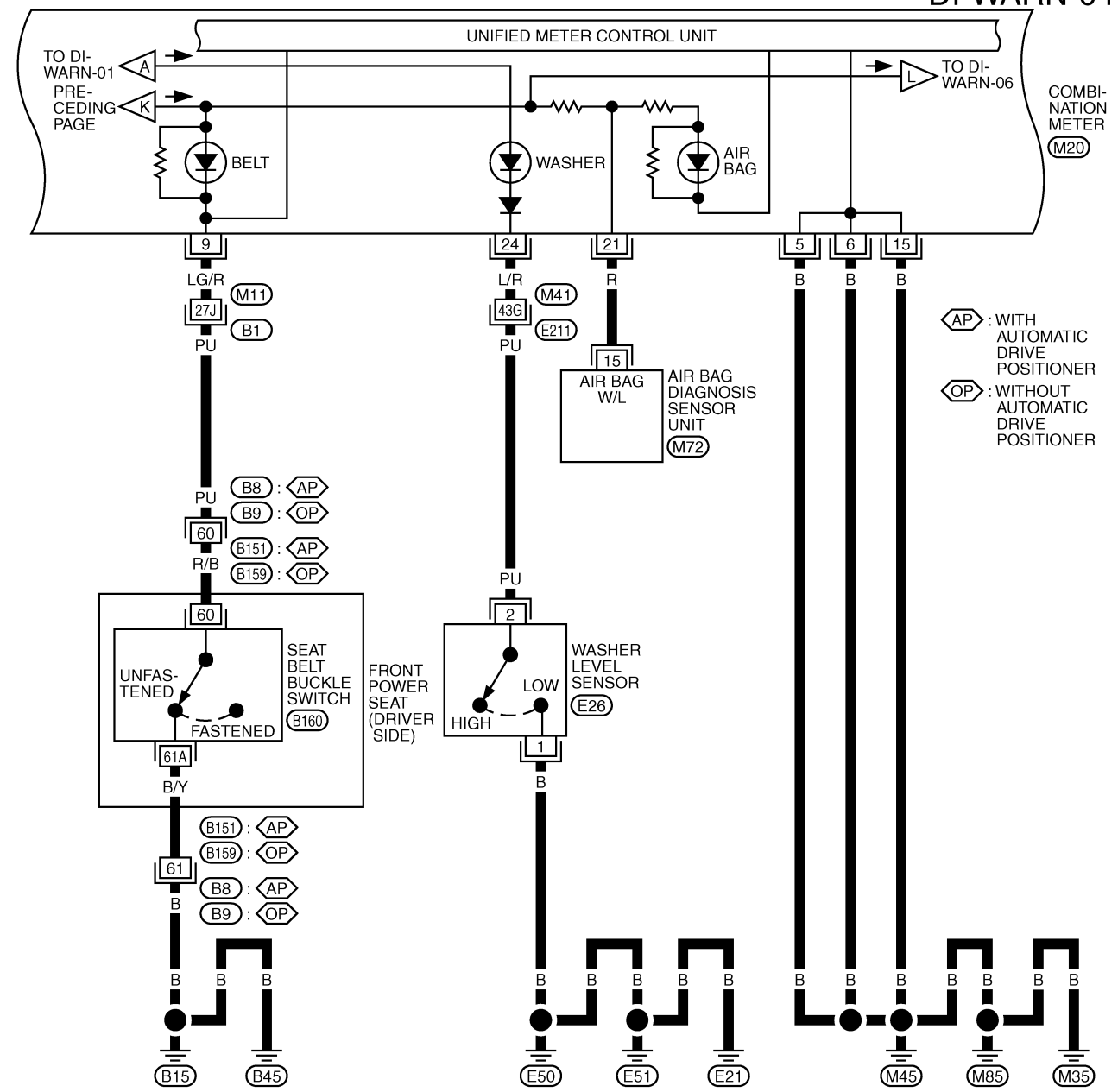


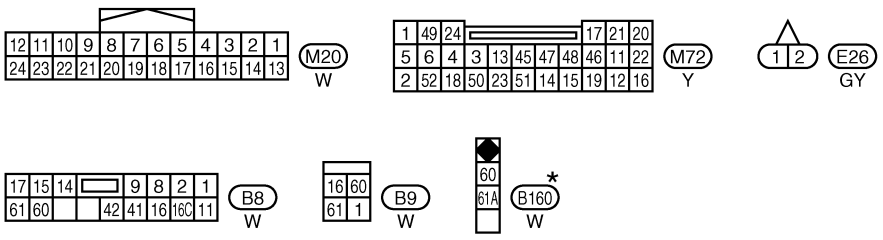


REFER TO THE FOLLOWING.
E211 , F102 -SUPER MULTIPLE JUNCTION (SMJ)

TKWM2058E

DI-WARN-04





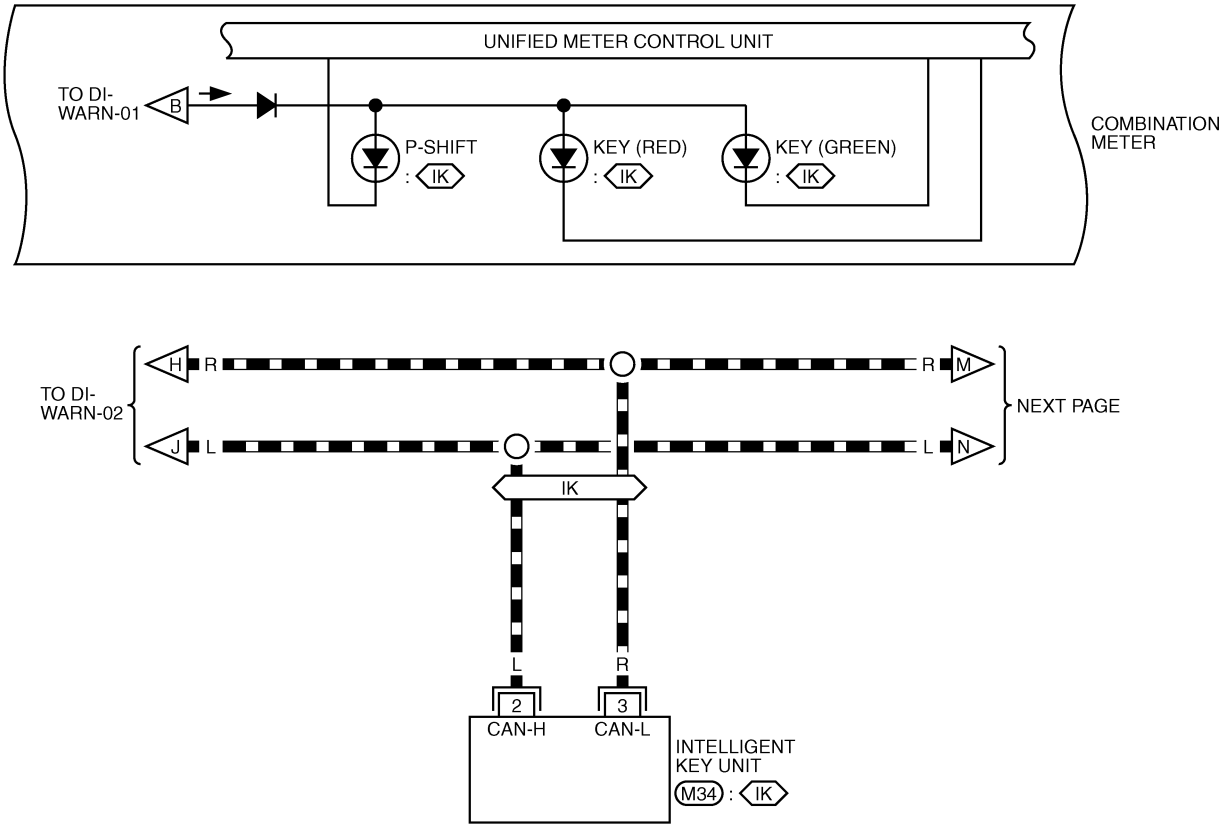
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

REFER TO THE FOLLOWING.
E211 , B1 -SUPER MULTIPLE JUNCTION (SMJ)

TKWM2059E

DI-WARN-05

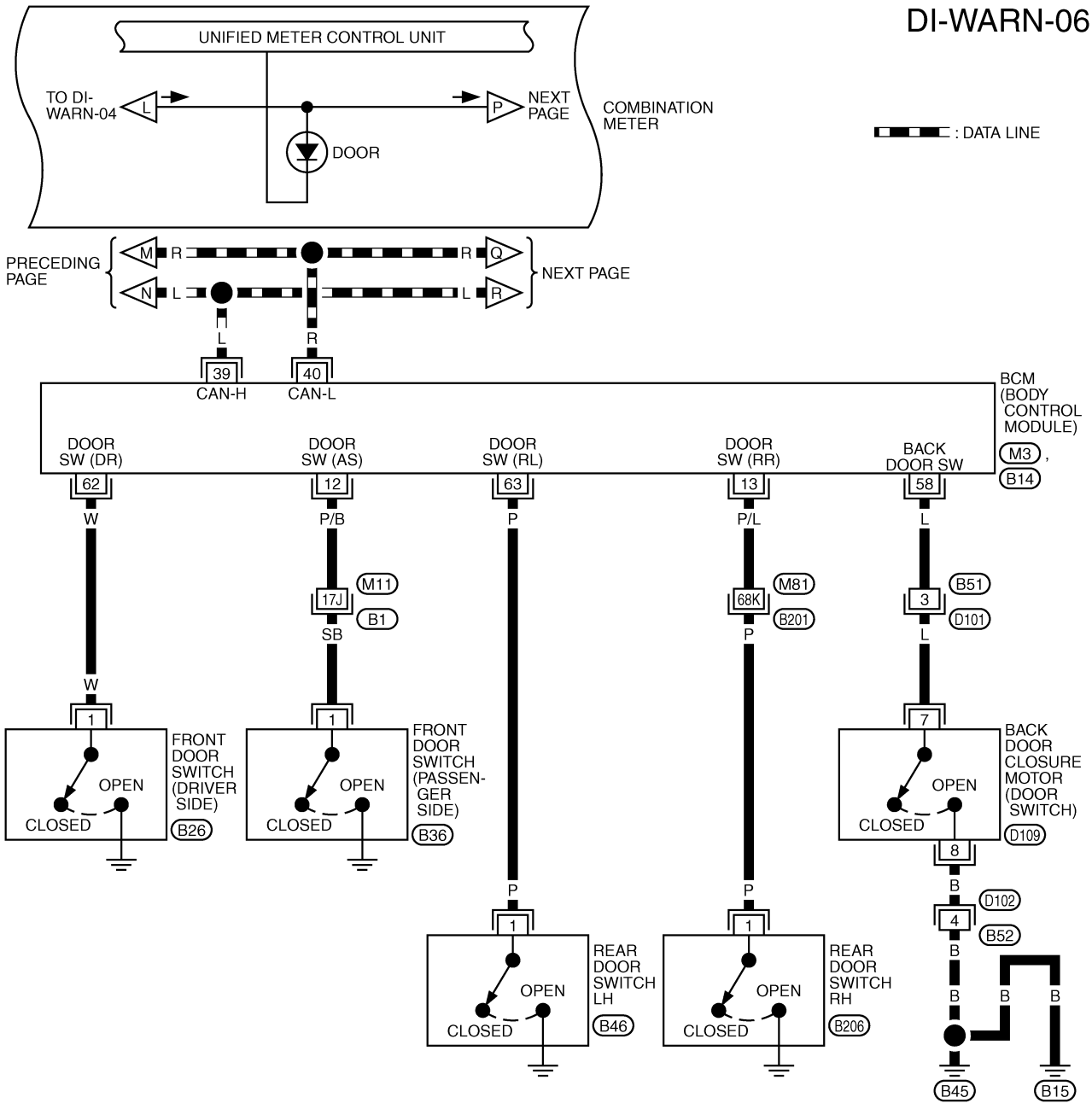
: DATA LINE
IK : WITH INTELLIGENT KEY

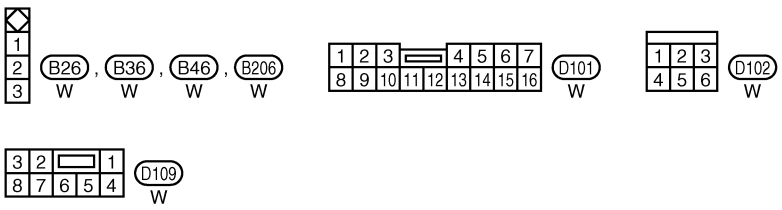


REFER TO THE FOLLOWING.
M34 -ELECTRICAL UNITS

TKWM1056E

DI-WARN-06





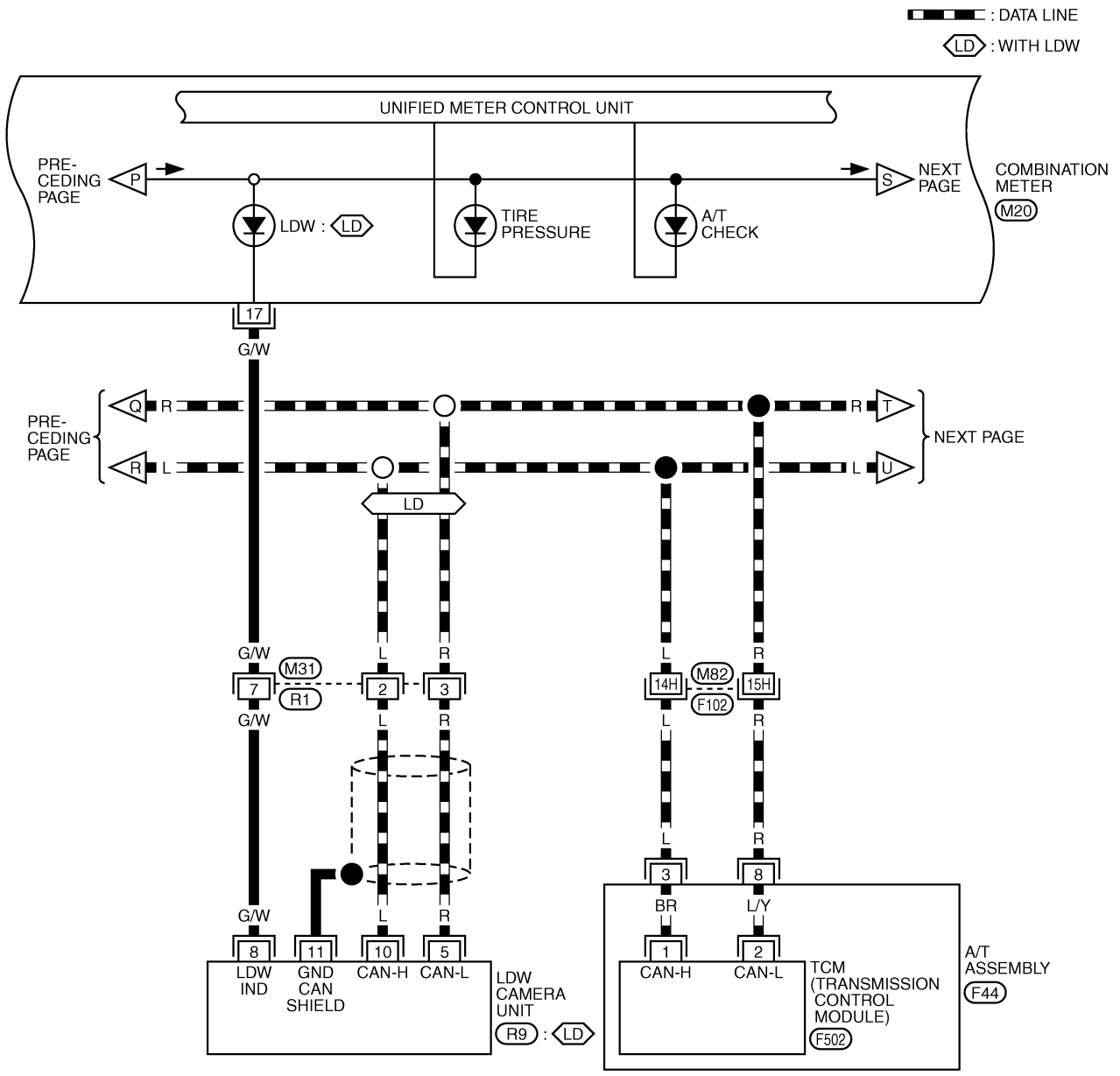
REFER TO THE FOLLOWING.

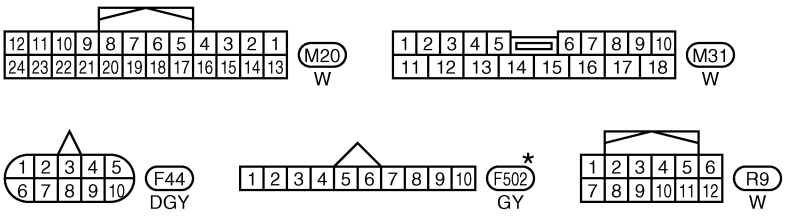
B1 , B201 -SUPER MULTIPLE JUNCTION (SMJ)

M3 , B14 -ELECTRICAL UNITS

TKWM1086E

DI-WARN-07





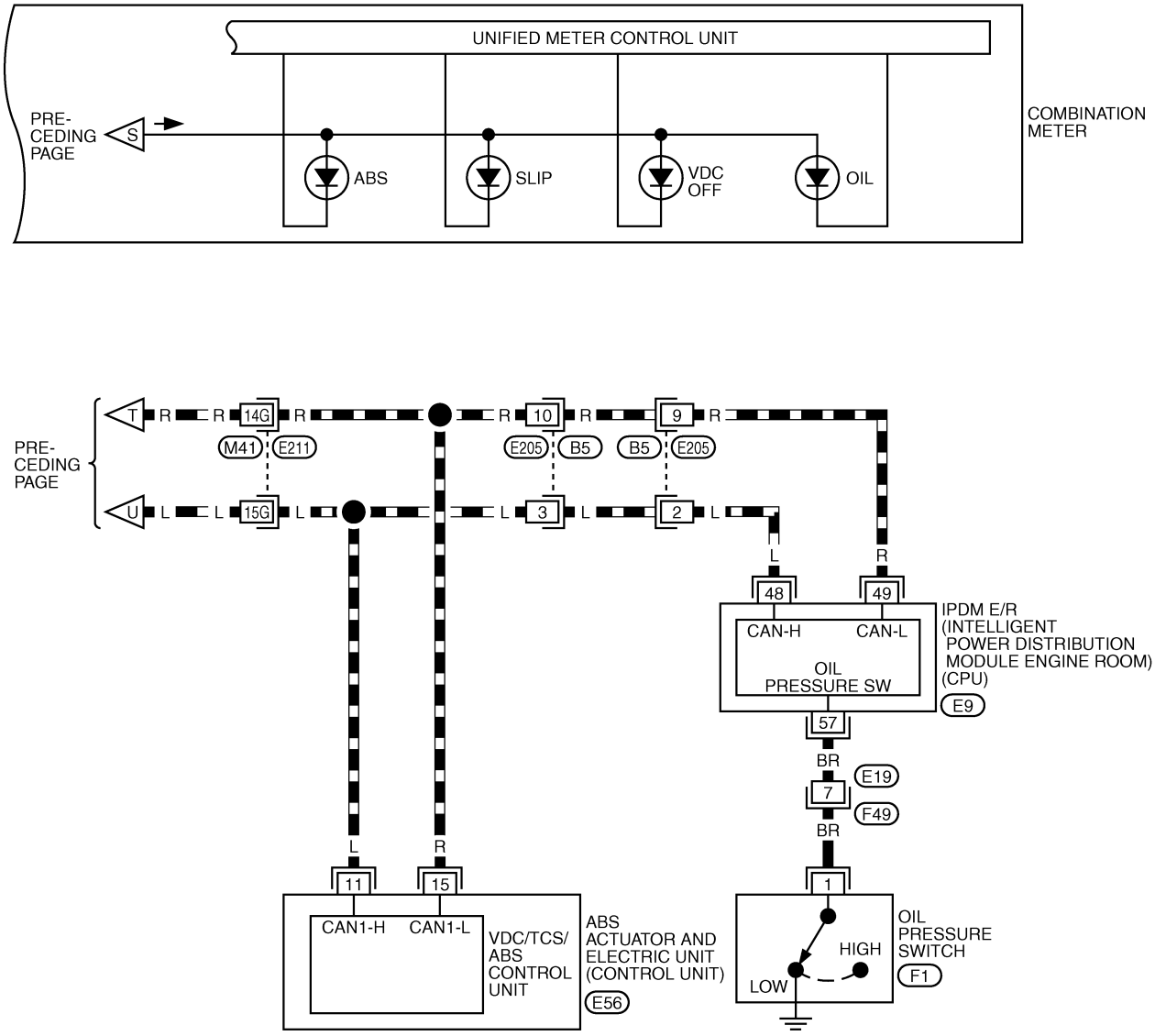
REFER TO THE FOLLOWING.
F102 -SUPER MULTIPLE JUNCTION (SMJ)

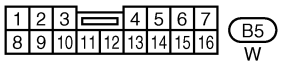
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWM2060E

DI-WARN-08

: DATA LINE





REFER TO THE FOLLOWING.

E211 -SUPER MULTIPLE JUNCTION (SMJ)

E56 -ELECTRICAL UNITS

TKWM1058E

Oil Pressure Warning Lamp Stays Off (Ignition Switch ON)

AKS005NF

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

Select “METER A/C AMP” on CONSULT-II, and perform self-diagnosis of unified meter and A/C amp. Refer to DI-31, "CONSULT-II Function (METER A/C AMP)" .

Self-diagnostic results content

No malfunction detected>> GO TO 2.
Malfunction detected>> Go to DI-17, "Symptom Chart 2" in “COMBINATION METER”.

2. CHECK IPDM E/R OUTPUT SIGNAL

Activate IPDM E/R auto active test. Refer to PG-24, "Auto Active Test" .

Does oil pressure warning lamp is blinking?

YES >> GO TO 5.
NO >> GO TO 3.

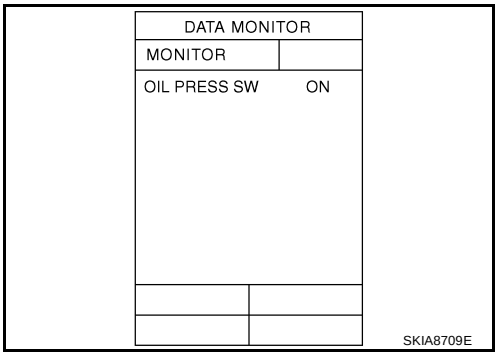
3. CHECK BCM INPUT SIGNAL

Select “DATA MONITOR” of “SIGNAL BUFFER”. Refer to BCS-13, "CONSULT-II Function (BCM)" . Operate ignition switch with “OIL PRESS SW” of “DATA MONITOR” and check operate status.

“OIL PRESS SW”

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

When engine running : OFF



OK or NG

OK >> GO TO 4.
NG >> Replace IPDM E/R. Refer to PG-30, "Removal and Installation of IPDM E/R" .

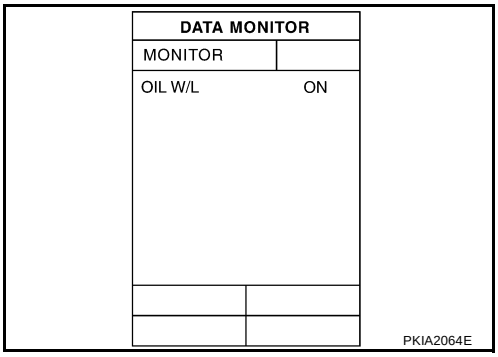
4. CHECK UNIFIED METER AND A/C AMP. INPUT SIGNAL

Select “METER A/C AMP” on CONSULT-II. Operate ignition switch with “OIL W/L” of “DATA MONITOR” and check operation status.

“OIL W/L”

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

When engine running : OFF



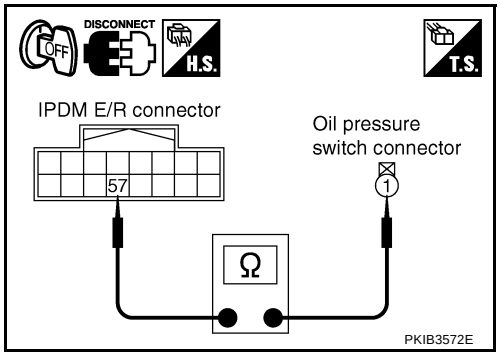
OK or NG

OK >> Replace combination meter.
NG >> Replace BCM. Refer to BCS-16, "Removal and Installation of BCM" .

5. 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 E9 terminal 57 (BR) and oil pressure switch harness connector F1 terminal 1 (BR).

57 (BR) – 1 (BR) : Continuity should exist.



OK or NG

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

6. CHECK OIL PRESSURE SWITCH

Check oil pressure switch. Refer to DI-53, "OIL PRESSURE SWITCH" .

OK or NG

OK >> Replace IPDM E/R. Refer to PG-30, "Removal and Installation of IPDM E/R" .
NG >> Replace oil pressure switch.

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

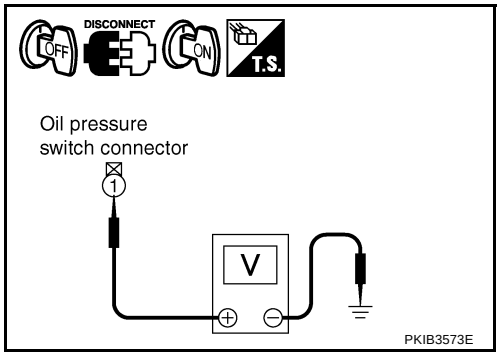
AKS005NG

NOTE:
For oil pressure inspection, refer to LU-8, "OIL PRESSURE CHECK" (VQ35DE) or LU-25, "OIL PRESSURE CHECK" (VK45DE)

1. 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 F1 terminal 1 (BR) and ground.

1 (BR) – Ground : Approx. 12 V



OK or NG

OK >> GO TO 2.
NG >> GO TO 3.

2. CHECK OIL PRESSURE SWITCH

1. Turn ignition switch OFF.
2. Check oil pressure switch. Refer to DI-53, "OIL PRESSURE SWITCH" .

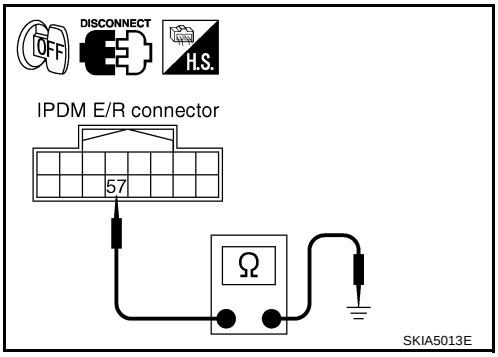
OK or NG

OK >> Replace IPDM E/R. Refer to PG-30, "Removal and Installation of IPDM E/R" .
NG >> Replace oil pressure switch.

3. CHECK OIL PRESSURE SWITCH CIRCUIT

1. Disconnect IPDM E/R connector.
2. Check continuity between IPDM E/R harness connector E9 terminal 57 (BR) and ground.

57 (BR) – Ground : Continuity should not exist.



OK or NG

OK >> Replace IPDM E/R. Refer to PG-30, "Removal and Installation of IPDM E/R" .

NG >> Repair harness or connector.

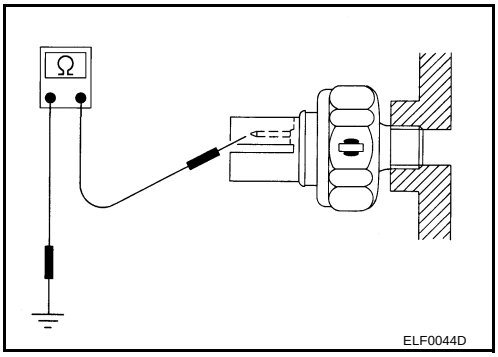
Component Inspection

OIL PRESSURE SWITCH

AKS005NH

Check continuity between oil pressure switch and ground.

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



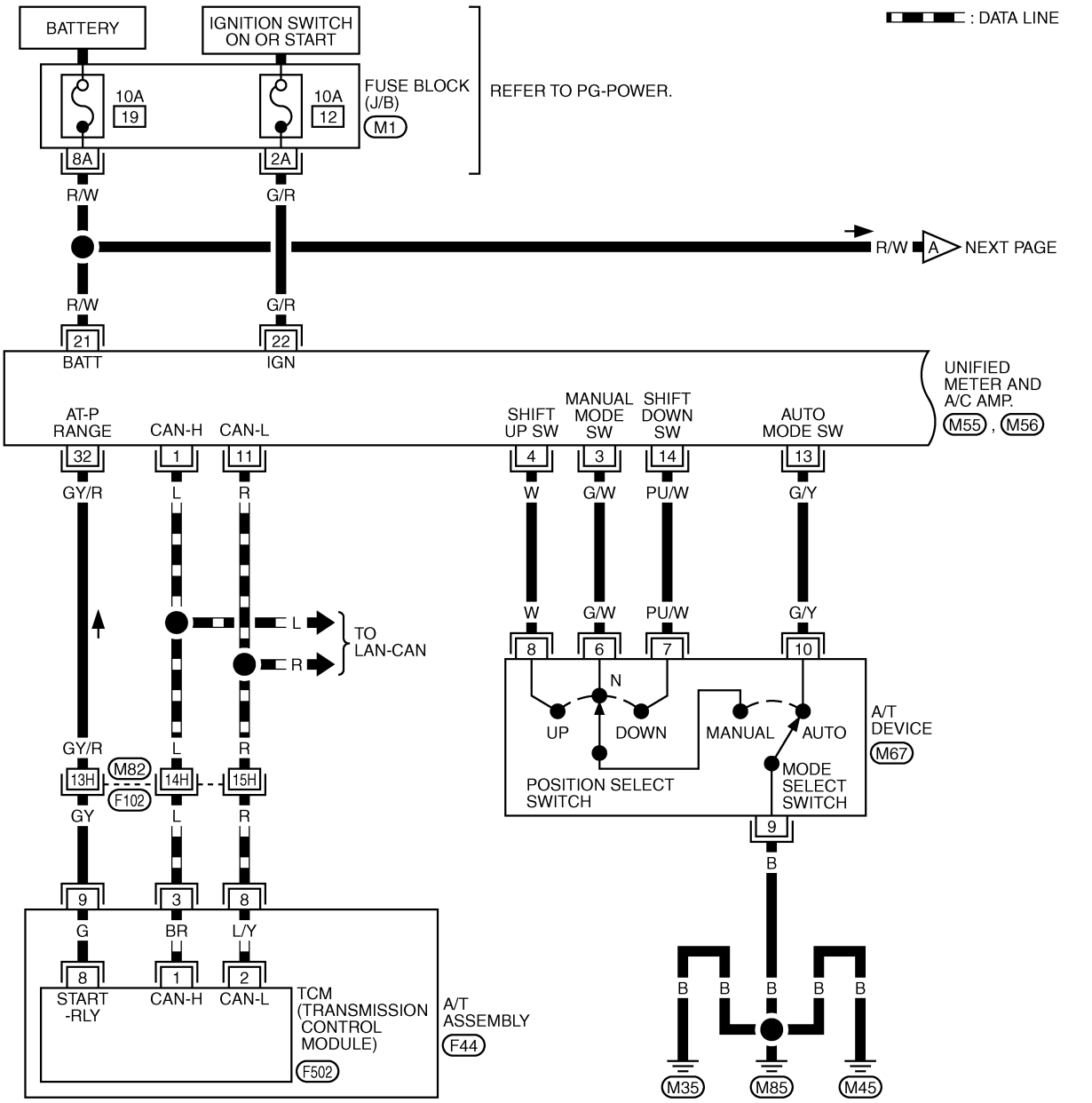
A/T INDICATOR

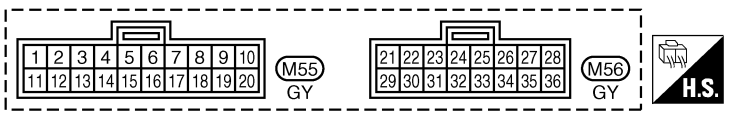
PFP:24814

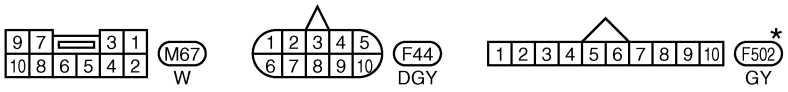
Wiring Diagram — AT/IND —

AKS005NI

DI-AT/IND-01







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

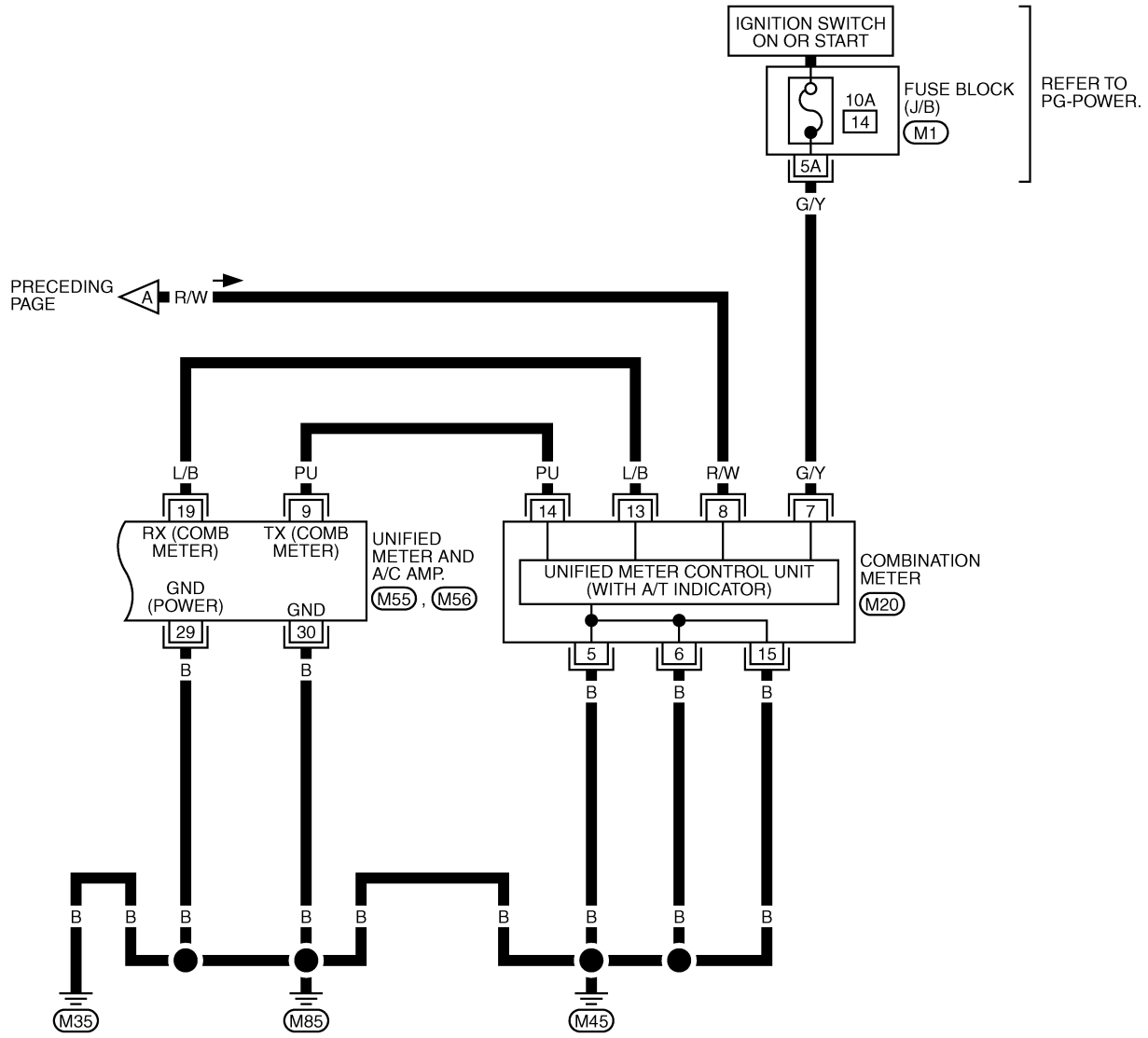
REFER TO THE FOLLOWING.

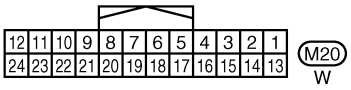
F102 -SUPER MULTIPLE JUNCTION (SMJ)

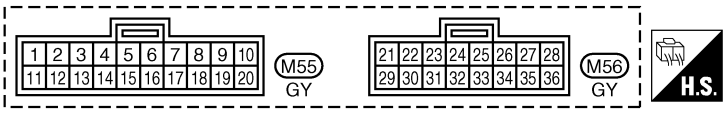
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWM1282E

DI-AT/IND-02







REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWM2434E

A/T Indicator Is Malfunction

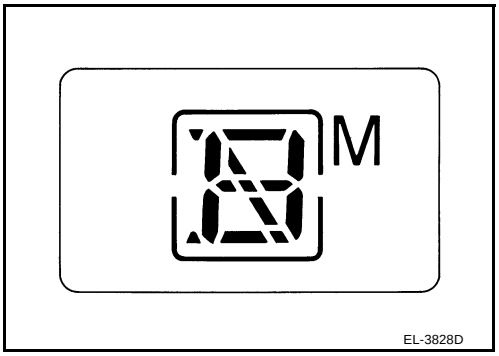
AKS005NJ

1. CHECK SELF-DIAGNOSIS OF COMBINATION METER

Perform combination meter self-diagnosis. Refer to DI-14, "OPERATION PROCEDURE" .

Are all segments displayed?

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



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

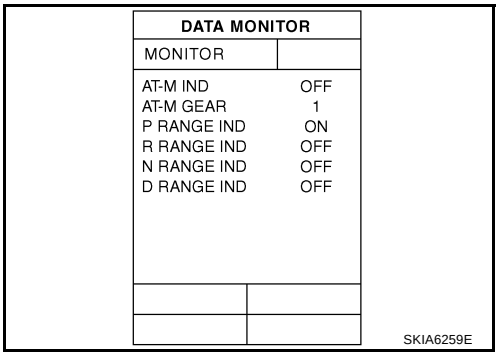
Select “METER A/C AMP” on CONSULT-II, and perform self-diagnosis of unified meter and A/C amp. Refer to DI-31, "CONSULT-II Function (METER A/C AMP)" .

Self-diagnostic results content

No malfunction detected>> GO TO 3.
Malfunction detected>> Go to DI-17, "Symptom Chart 2" in “COMBINATION METER”.

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

1. Connect CONSULT-II and start engine.
2. Use “DATA MONITOR” of “METER A/C AMP” on CONSULT-II. Confirm each indication on the monitor when operating the shift lever.



CONSULT-II display	Switch operation	Operation status
AT-M IND	Manual mode range	ON
	Except for manual mode range	OFF
AT-M GEAR	Manual mode range (shift- up or down)	5 - 1
	Except for manual mode range	1
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

OK or NG

OK >> Replace combination meter.
NG >> GO TO 4.

4. CHECK A/T DEVICE

Perform A/T device inspection. Refer to AT-170, "DTC P1815 MANUAL MODE SWITCH" .

OK or NG

OK >> GO TO 5.
NG >> Repair or replace applicable parts.

5. CHECK TCM

Check TCM input/output signal. Refer to AT-89, "TCM Input/Output Signal Reference Values" .

OK or NG

OK >> Replace unified meter and A/C amp. Refer to DI-37, "Removal and Installation of Unified Meter and A/C Amp." .

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

WARNING CHIME

PFP:24814

System Description

AKS005NL

FUNCTION

Power is supplied at all times

- through 50A fusible link (letter **M** , located in the fuse and fusible link block)
- to BCM terminal 55,
- through 15A fuse [No. 22, located in the fuse block (J/B)]
- to key switch and ignition knob switch terminal 3 (with Intelligent Key)
- to key switch terminal 2 (without Intelligent Key), and
- to BCM terminal 42,
- through 10A fuse [No. 38, located in the fuse and fusible link block (with Intelligent Key)]
- to key switch and ignition knob switch terminal 1,
- through 10A fuse [No. 19, located in the fuse block (J/B)]
- to unified meter and A/C amp. terminal 21, and
- to combination meter terminal 8.

When ignition switch is in ON or START position, power is supplied

- through 15A fuse [No. 1, located in the fuse block (J/B)]
- to BCM terminal 38,
- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to unified meter and A/C amp. terminal 22,
- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to combination meter terminal 7.

Ground is supplied

- to BCM terminals 49 and 52,
- to unified meter and A/C amp. terminals 29 and 30, and
- to combination meter terminals 5, 6 and 15
- through grounds M35, M45 and M85.

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

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

IGNITION KEY WARNING CHIME (WITHOUT INTELLIGENT KEY)

With the key inserted into the ignition switch, and the ignition switch OFF or ACC, when driver's door is opened, the warning chime will sound.
Power is supplied

- through key switch terminal 1
- to BCM terminal 37.

Ground is supplied

- to BCM terminal 62
- through front door switch (driver side) terminal 1.

Front door switch (driver side) is case grounded.
BCM detects key inserted into the ignition switch, and sends key warning signal to unified meter and A/C amp. with CAN communication line. Unified meter and A/C amp. sends key warning signal to combination meter with communication line between unified meter and A/C amp. and combination meter.
When combination meter receives key warning signal, it sounds warning chime.

IGNITION KEY WARNING CHIME (WITH INTELLIGENT KEY)

When Mechanical Key Is Used

With the key inserted into the ignition switch, and the ignition switch LOCK or ACC, when driver's door is opened, the warning chime will sound.
Power is supplied

- through key switch and ignition knob switch terminal 4
- to BCM terminal 37.

Ground is supplied

- to BCM terminal 62
- through front door switch (driver side) terminal 1.

Front door switch (driver side) is case grounded.
BCM detects key inserted into the ignition switch, and sends key warning signal to unified meter and A/C amp. with CAN communication line. Unified meter and A/C amp. sends key warning signal to combination meter with communication line between unified meter and A/C amp. and combination meter.
When combination meter receives key warning signal, it sounds warning chime.

When Intelligent Key Is Carried With The Driver

When the ignition knob is in LOCK (push switch ON) or ACC, when driver's door is opened, the warning chime will sound.
Power is supplied

- through key switch and ignition knob switch terminal 2
- to Intelligent Key unit terminal 27.

Ground is supplied

- to BCM terminal 62
- through front door switch (driver side) terminal 1.

Front door switch (driver side) is case grounded.
BCM sends front door switch signal to Intelligent Key unit with CAN communication line.
Intelligent Key unit detects ignition knob return is forgotten, and sends key warning signal to unified meter and A/C amp. with CAN communication line. Unified meter and A/C amp. sends key warning signal to combination meter with communication line between unified meter and A/C amp. and combination meter.
When combination meter receives key warning signal, it sounds warning chime.

LIGHT WARNING CHIME

With the key removed from the ignition switch or when the ignition knob is in LOCK (push switch OFF) [with Intelligent Key], the driver's door is opened, and the lighting switch is in ON position, the warning chime will sound. [Except when headlamp battery saver control operates (for 5 minutes after ignition switch is turned to OFF or ACC position) and headlamps do not illuminate.]
Signal is supplied

- from combination switch (lighting switch) terminals 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10
- to BCM terminals 2, 3, 4, 5, 6, 32, 33, 34, 35 and 36.

NOTE:
BCM detected lighting switch in 1st or 2nd position, refer to BCS-3, "COMBINATION SWITCH READING FUNCTION" .

Ground is supplied

- to BCM terminal 62
- through front door switch (driver side) terminal 1.

Front door switch (driver side) is case grounded.
BCM detects headlamps are illuminated, and sends light warning signal to unified meter and A/C amp. with CAN communication line. Unified meter and A/C amp. sends light warning signal to combination meter with communication line between unified meter and A/C amp. and combination meter.
When combination meter receives light warning signal, it sounds warning chime.

SEAT BELT WARNING CHIME

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

- to combination meter terminal 9
- through seat belt buckle switch (driver side) terminal 60.

Seat belt buckle switch (driver side) terminal 61A is grounded through body grounds B15 and B45.
Combination meter sends seat belt unfastened [seat belt buckle switch (driver side) ON] signal to unified meter and A/C amp. with communication line between unified meter and A/C amp. and combination meter.
BCM receives seat belt unfastened [seat belt buckle switch (driver side) ON] signal from unified meter and A/C amp. with CAN communication line, and sends seat belt warning signal to unified meter and A/C amp. with CAN communication line. Unified meter and A/C amp. sends seat belt warning signal to combination meter with communication line between unified meter and A/C amp. and combination meter.
When combination meter receives seat belt warning signal, it sounds warning chime.

CAN Communication System Description

AKS007Z2

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.

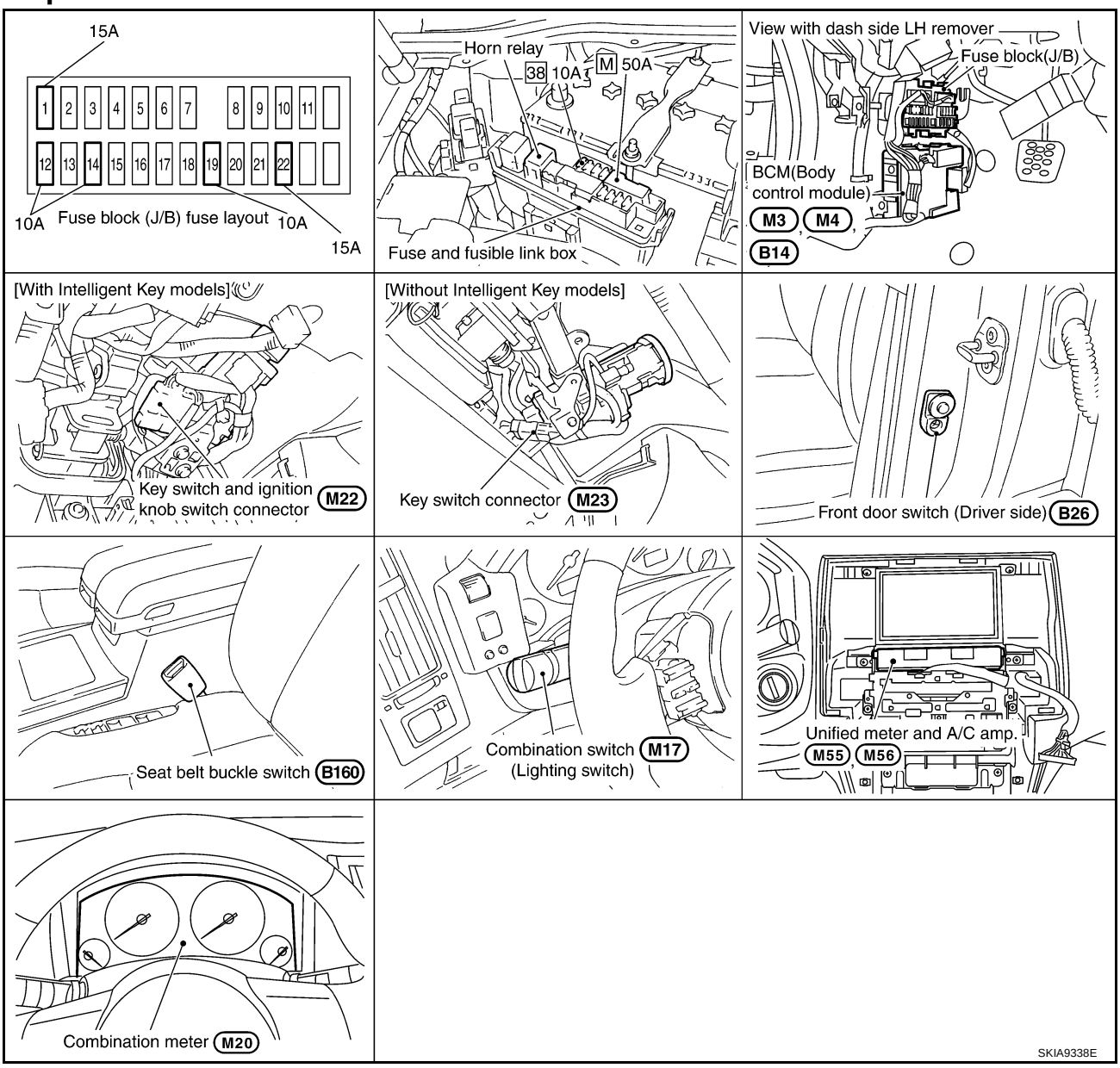
CAN Communication Unit

AKS007YY

Refer to LAN-30, "CAN Communication Unit" in “LAN SYSTEM”.

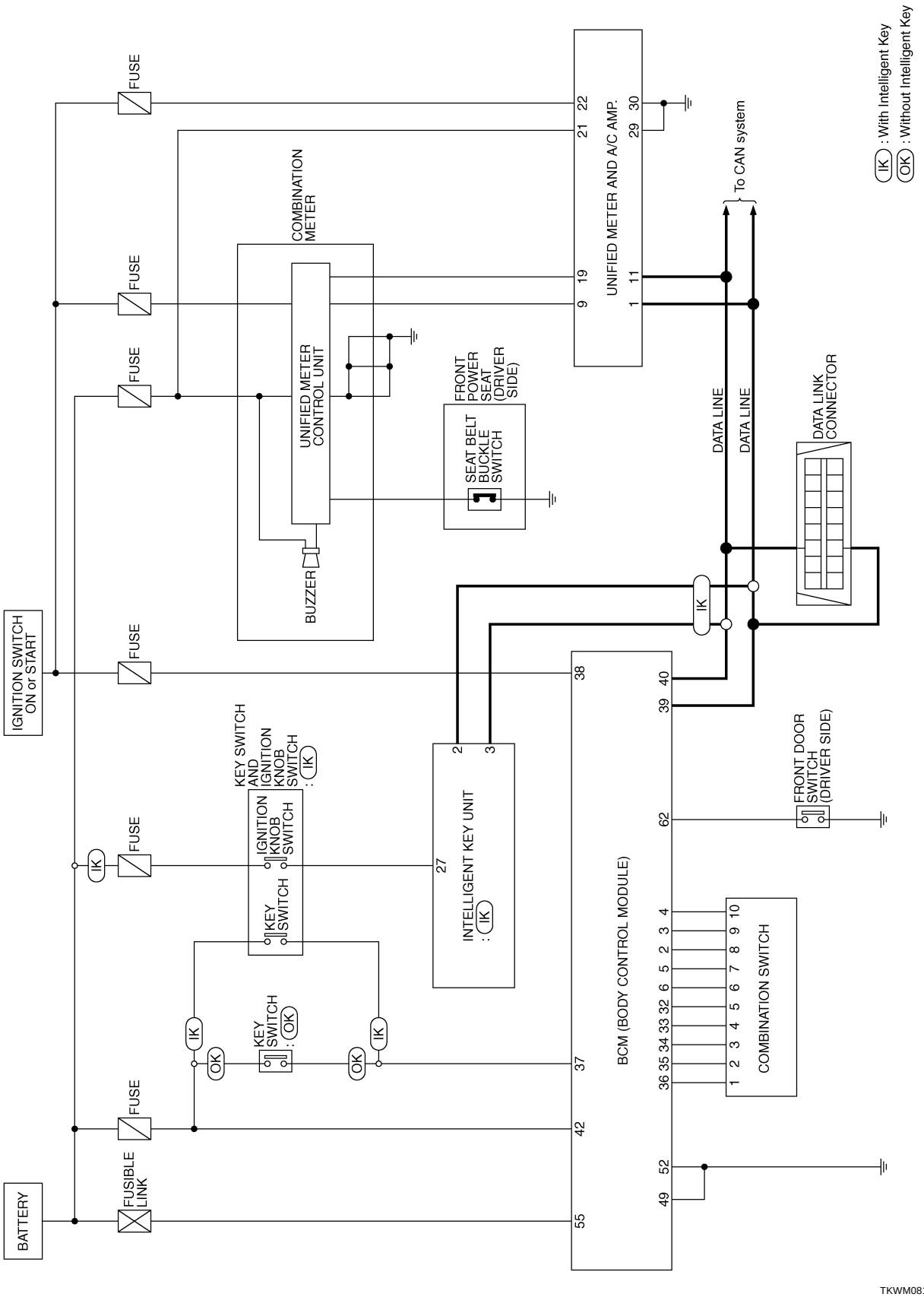
Component Parts and Harness Connector Location

AKS005NK



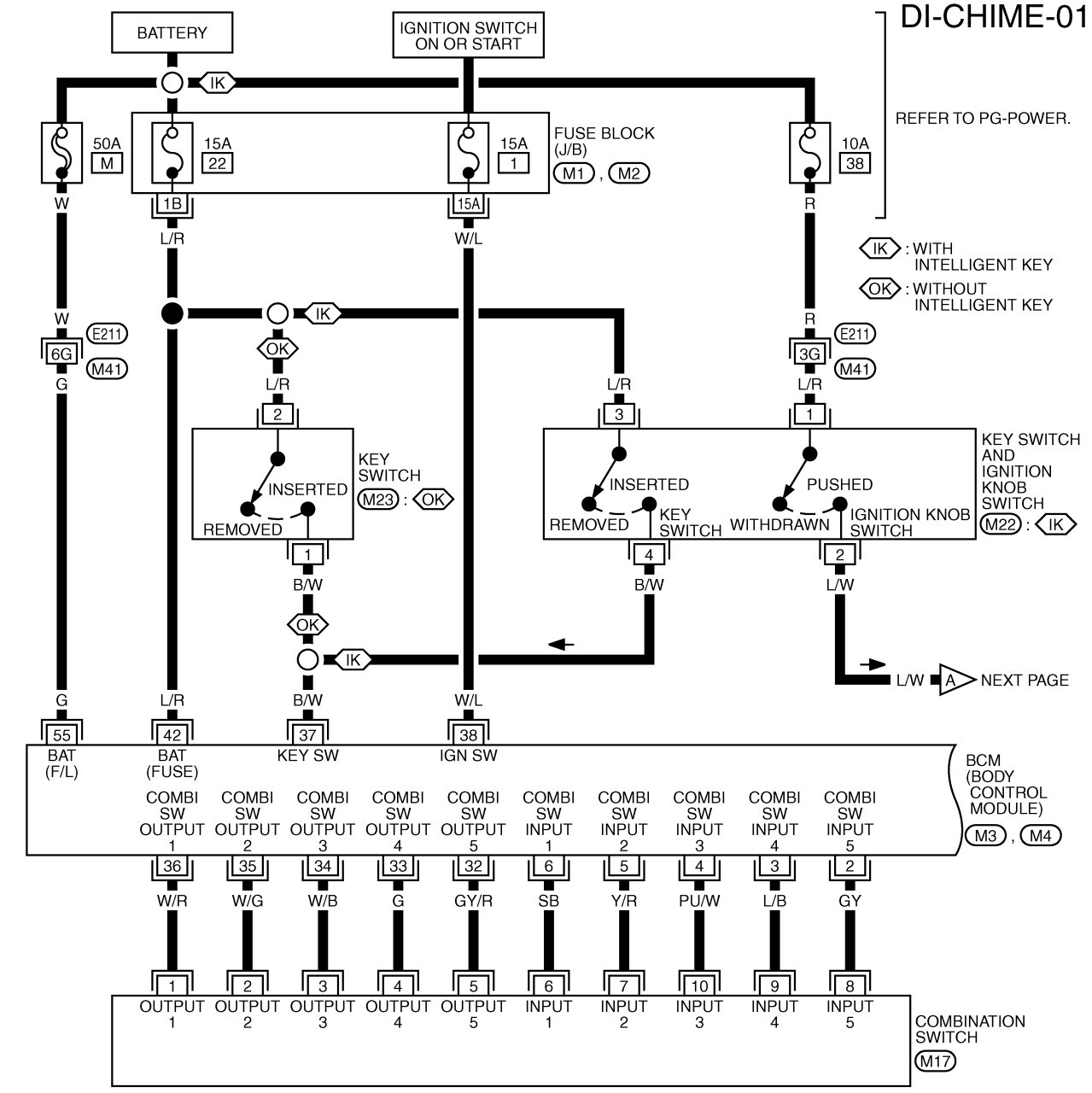
Schematic

AKS0069H



Wiring Diagram — CHIME —

AKS005NN



M17 W

M22 GY

M23 BR

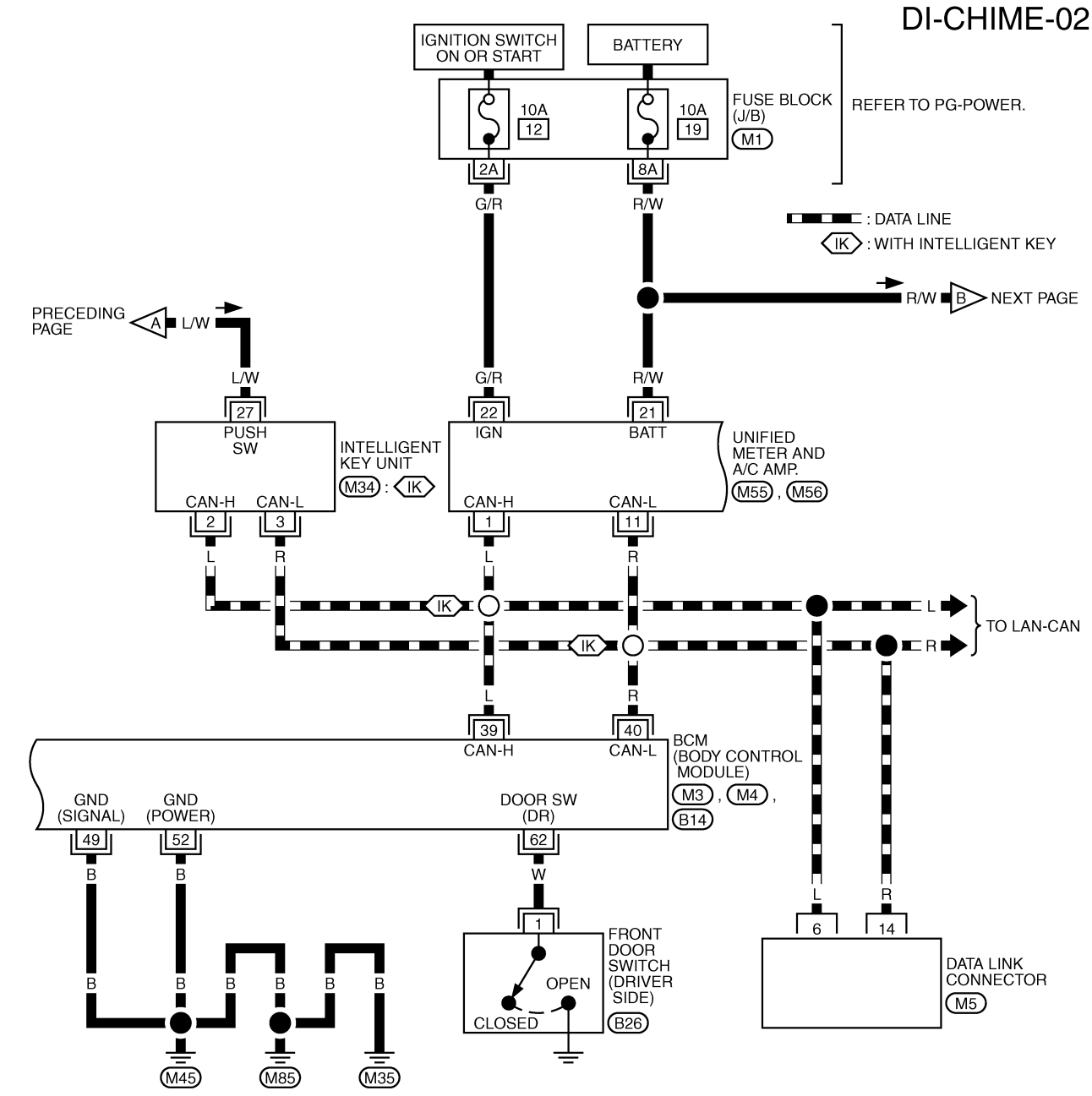
REFER TO THE FOLLOWING.

E211 -SUPER MULTIPLE JUNCTION (SMJ)

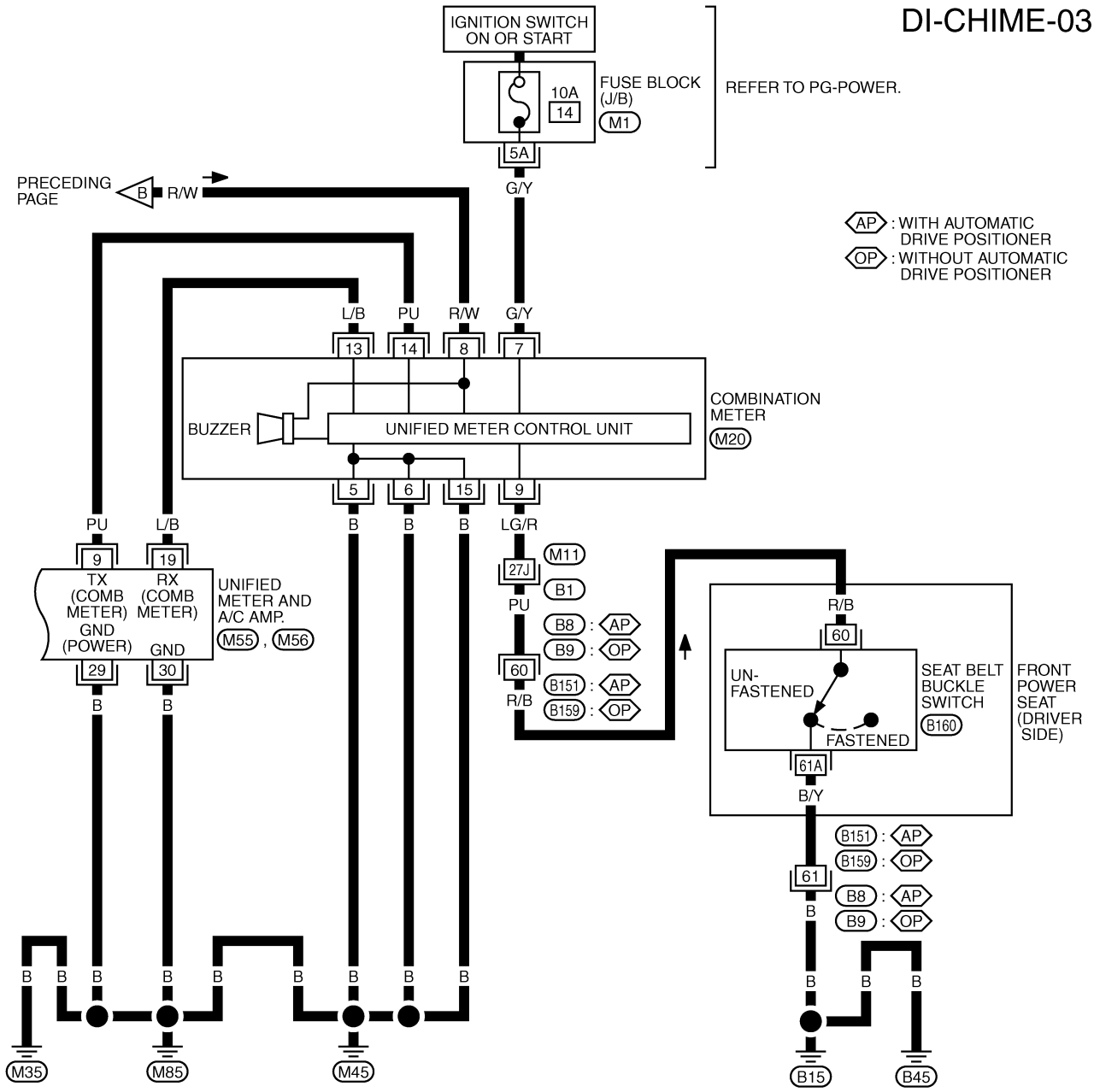
M1, M2 -FUSE BLOCK-JUNCTION BOX (J/B)

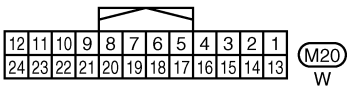
M3, M4 -ELECTRICAL UNITS

TKWM2061E

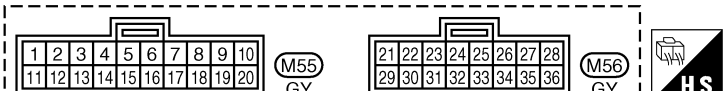

DI-CHIME-02
IGNITION SWITCH ON OR START
BATTERY
10A 12
10A 19
FUSE BLOCK (J/B) M1
REFER TO PG-POWER.
2A
8A
G/R
R/W
: DATA LINE
IK : WITH INTELLIGENT KEY
PRECEDING PAGE
A
L/W
R/W
B
NEXT PAGE
L/W
G/R
R/W
27
22
21
PUSH SW
IGN
BATT
INTELLIGENT KEY UNIT M34 : IK
UNIFIED METER AND A/C AMP. M55 , M56
CAN-H
CAN-L
2
3
1
11
L
R
IK
TO LAN-CAN
39
40
CAN-H
CAN-L
BCM (BODY CONTROL MODULE) M3 , M4 , B14
GND (SIGNAL)
GND (POWER)
DOOR SW (DR)
49
52
62
B
W
1
FRONT DOOR SWITCH (DRIVER SIDE)
OPEN
CLOSED
B26
6
14
DATA LINK CONNECTOR M5
M45
M85
M35
16 15 14 13 12 11 10 9
8 7 6 5 4 3 2 1
M5
W
1 2 3 4 5 6 7 8 9 10
11 12 13 14 15 16 17 18 19 20
M55
GY
21 22 23 24 25 26 27 28
29 30 31 32 33 34 35 36
M56
GY
H.S.
1
2
3
B26
W
REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B)
M3 , M4 , M34 , B14
-ELECTRICAL UNITS

TKWM0697E





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



REFER TO THE FOLLOWING.

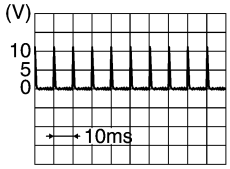
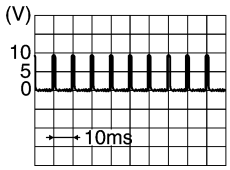
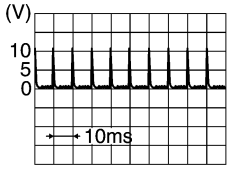
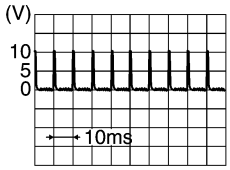
B1 -SUPER MULTIPLE JUNCTION (SMJ)

M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWM2435E

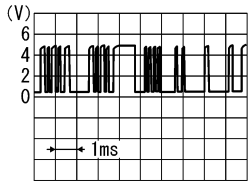
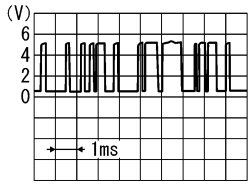
Terminals and Reference Value for BCM

AKS005NO

Terminal No.	Wire color	Item	Measuring condition		Reference value
			Ignition switch	Operation or condition	
2	GY	Combination switch input 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 PKIB3468E
3	L/B	Combination switch input 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 PKIB3469E
4	PU/W	Combination switch input 3			
5	Y/R	Combination switch input 2			
6	SB	Combination switch input 1			
32	GY/R	Combination switch output 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 PKIB3470E
33	G	Combination switch output 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 PKIB3471E
34	W/B	Combination switch output 3			
35	W/G	Combination switch output 2			
36	W/R	Combination switch output 1			
37	B/W	Key switch signal	OFF	Key is removed	Approx. 0 V
				Key is inserted	Battery voltage
38	W/L	Ignition switch ON or START	ON	—	Battery voltage
39	L	CAN H	OFF	—	—
40	R	CAN L	OFF	—	—
42	L/R	Battery power supply	OFF	—	Battery voltage
49	B	Ground	ON	—	Approx. 0 V
52					
55	G	Battery power supply	OFF	—	Battery voltage
62	W	Front door switch (driver side)	OFF	When driver side door is opened (Door switch ON)	Approx. 0 V
				When driver side door is closed (Door switch OFF)	Approx. 12 V

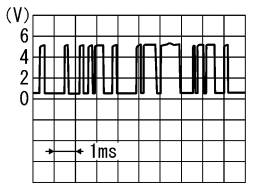
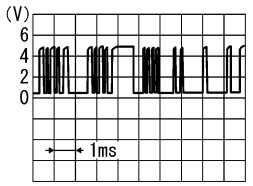
Terminals and Reference Value for Unified Meter and A/C Amp.

AKS005NP

Terminal No.	Wire color	Item	Measuring condition		Reference value
			Ignition switch	Operation or condition	
1	L	CAN H	OFF	—	—
9	PU	TX communication line (To combination meter)	ON	—	 SKIA3362E
11	R	CAN L	OFF	—	—
19	L/B	RX communication line (From combination meter)	ON	—	 SKIA3361E
21	R/W	Battery power supply	OFF	—	Battery voltage
22	G/R	Ignition switch ON or START	ON	—	Battery voltage
29	B	Ground (power)	ON	—	Approx. 0 V
30		Ground			

Terminals and Reference Value for Combination Meter

AKS005NQ

Terminal No.	Wire color	Item	Measuring condition		Reference value
			Ignition switch	Operation or condition	
5	B	Ground	ON	—	Approx. 0 V
6					
7	G/Y	Ignition switch ON or START	ON	—	Battery voltage
8	R/W	Battery power supply	OFF	—	Battery voltage
9	LG/R	Seat belt buckle switch (driver side)	ON	Unfastened (ON)	Approx. 0 V
				Fastened (OFF)	Approx. 12 V
13	L/B	TX communication line (To unified meter and A/C amp.)	ON	—	 SKIA3361E
14	PU	RX communication line (From unified meter and A/C amp.)	ON	—	 SKIA3362E
15	B	Ground	ON	—	Approx. 0 V

Trouble Diagnosis

AKS005NR

HOW TO PERFORM TROUBLE DIAGNOSIS

1. Confirm the malfunction symptom or customer complaint.
2. Understand operation description and function description. Refer to DI-58, "System Description" .
3. Perform the Preliminary Check. Refer to DI-68, "PRELIMINARY CHECK" .
4. Select “METER A/C AMP” on CONSULT-II, and perform self-diagnosis of unified meter and A/C amp. Refer to DI-31, "CONSULT-II Function (METER A/C AMP)" . When no malfunction detected, go to next step 5. When malfunction detected, go to DI-17, "Symptom Chart 2" in “COMBINATION METER”.
5. Check symptom and repair or replace the cause of malfunction.
6. Does the warning chime operate normally? If so, GO TO 7. If not, GO TO 5.
7. INSPECTION END

PRELIMINARY CHECK

Inspection for Power Supply and Ground Circuit

1. CHECK FUSE AND FUSIBLE LINK

Check BCM fuses and fusible link for blown-out.

Unit	Power source	Fuse and fusible link No.
BCM	Battery	M
		22
	Ignition switch ON or START	1

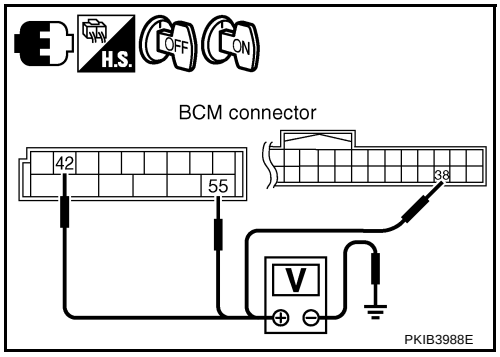
OK or NG

OK >> GO TO 2.
NG >> If fuse or fusible link is blown, be sure to eliminate cause of malfunction before installing new fuse or fusible link. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

Check voltage between BCM harness connector terminals and ground.

Terminals			Ignition switch position	
(+)		(–)	OFF	ON
Connector	Terminal (Wire color)			
M4	55 (G)	Ground	Battery voltage	Battery voltage
	42 (L/R)			
M3	38 (W/L)		0 V	Battery voltage



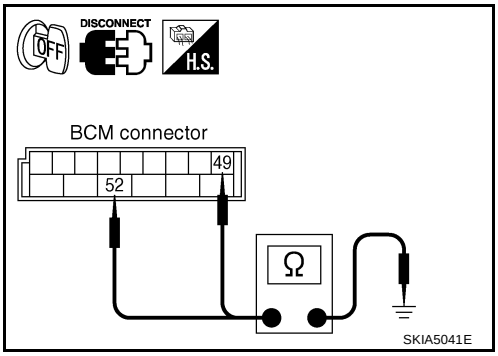
OK or NG

OK >> GO TO 3.
NG >> Check harness between BCM and fuse or fusible link.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between BCM harness connector M4 terminals 49 (B), 52 (B) and ground.

49 (B) – Ground
52 (B) – Ground **: Continuity should exist.**



OK or NG

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

CONSULT-II Function (BCM)

AKS005NT

CONSULT-II performs the following functions communicating with the BCM.

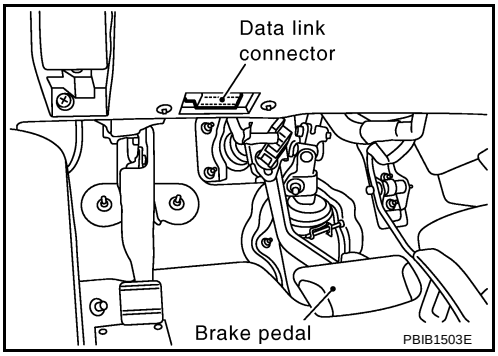
DIAGNOSTIC ITEMS DESCRIPTION

System	Test item	Diagnosis mode	Description	Reference page
BCM	BUZZER	Data monitor	The input data to the BCM control unit is displayed in real time.	DI-70
		Active test	Operation of electrical loads can be checked by sending driving signal to them.	DI-70
	BCM	Self-diagnostic	BCM performs self-diagnosis of CAN communication.	DI-71

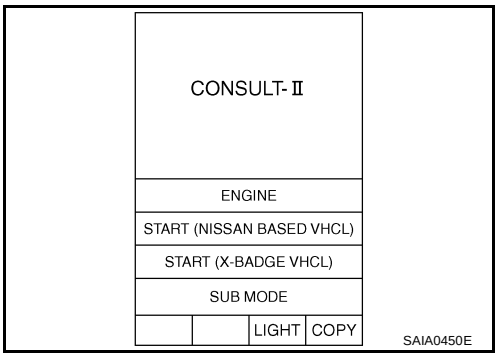
CONSULT-II BASIC OPERATION PROCEDURE

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.

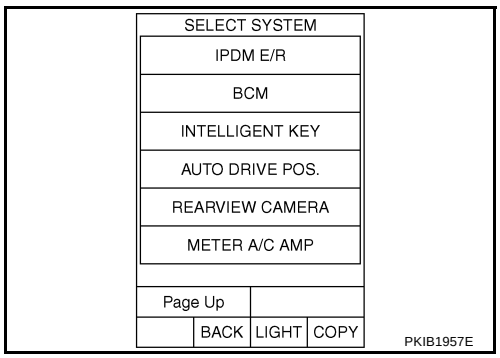
1. With the ignition switch OFF, connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector, and turn the ignition switch ON.



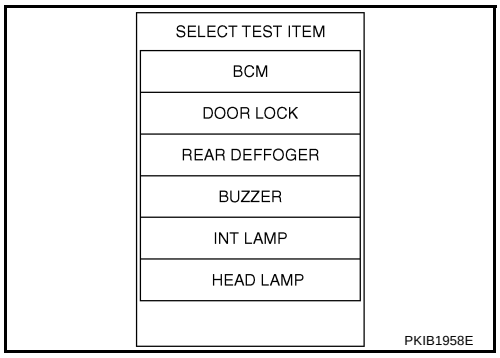
2. Touch “START (NISSAN BASED VHCL)”.



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



4. Touch “BUZZER” or “BCM”.
5. Select “DATA MONITOR”, “ACTIVE TEST” or “SELF-DIAG RESULTS”.



DATA MONITOR

Operation Procedure

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

ALL SIGNALS	Monitors main 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. During monitoring, touching “RECORD” can start recording the monitored item status.

Display Item List

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

ACTIVE TEST

Operation Procedure

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

Display Item List

Test item	Malfunction is detected when···
LIGHT WARN ALM	This test is able to check light warning chime operation. Light warning chime sounds for 2 seconds after touching “ON” on CONSULT-II screen.
IGN KEY WARN ALM	This test is able to check key warning chime operation. Key warning chime sounds for 2 seconds after touching “ON” on CONSULT-II screen.
SEAT BELT WARN TEST	This test is able to check seat belt warning chime operation. Seat belt warning chime sounds for 2 seconds after touching “ON” on CONSULT-II screen.

SELF-DIAGNOSTIC RESULTS

Operation Procedure

1. Touch “BCM” on “SELECT TEST ITEM” screen.
2. Touch “SELF-DIAG RESULTS” on “SELECT DIAG MODE” screen.
3. 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, after printing the monitor item, go to “CAN system”. Refer to LAN-5, "Precautions When Using CONSULT-II" .

All Warnings Are Not Operated

AKS005NU

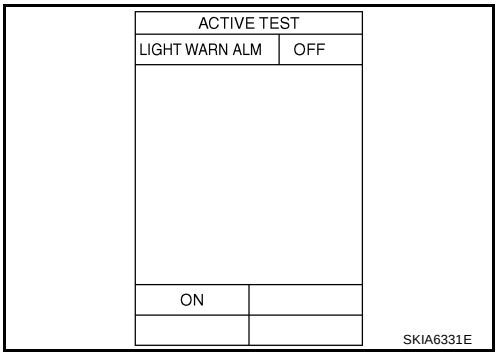
1. CHECK CHIME OPERATION

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

Does chime sound?

YES >> Replace BCM. Refer to BCS-16, "Removal and Installation of BCM" .

NO >> GO TO 2.



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

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

“BUZZER”

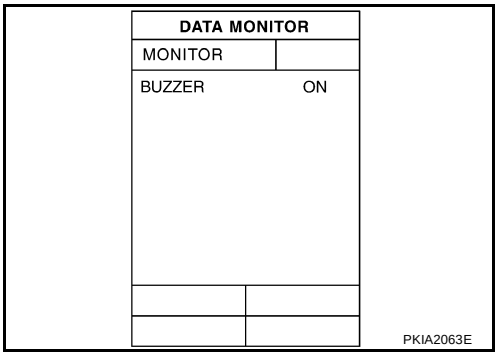
When meet the requirements to sounds warning chime : ON

Except above : OFF

OK or NG

OK >> Replace combination meter.

NG >> Replace BCM. Refer to BCS-16, "Removal and Installation of BCM" .



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

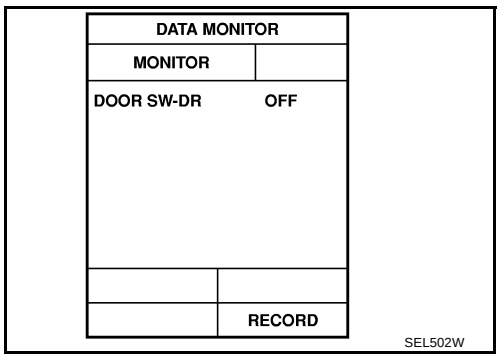
AKS005NV

1. CHECK BCM INPUT SIGNAL

With CONSULT-II

1. Select “BCM”.
2. With “DATA MONITOR” of “BUZZER”, confirm “DOOR SW-DR” when the driver side door is operated.

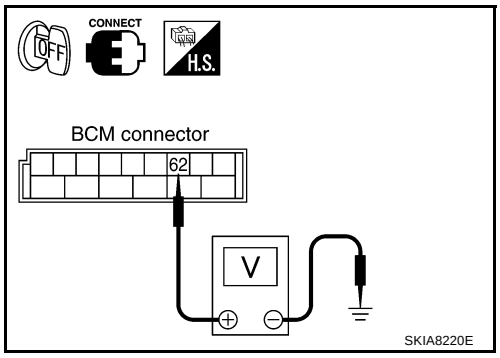
“DOOR SW-DR”
When driver side door is opened : ON
When driver side door is closed : OFF



Without CONSULT-II

Check voltage between BCM harness connector B14 terminal 62 (W) and ground.

62 (W) – Ground
When driver side door is opened : Approx. 0 V
When driver side door is closed : Approx. 12 V



OK or NG

OK >> Replace BCM. Refer to BCS-16, "Removal and Installation of BCM" .
NG >> GO TO 2.

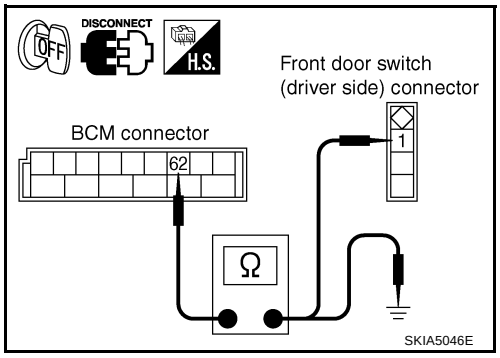
2. CHECK FRONT DOOR SWITCH (DRIVER SIDE) CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and front door switch (driver side) connector.
3. Check continuity between BCM harness connector B14 terminal 62 (W) and front door switch (driver side) harness connector B26 terminal 1 (W).

62 (W) – 1 (W) : Continuity should exist.

4. Check continuity between BCM harness connector B14 terminal 62 (W) and ground.

62 (W) – Ground : Continuity should not exist.



OK or NG

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

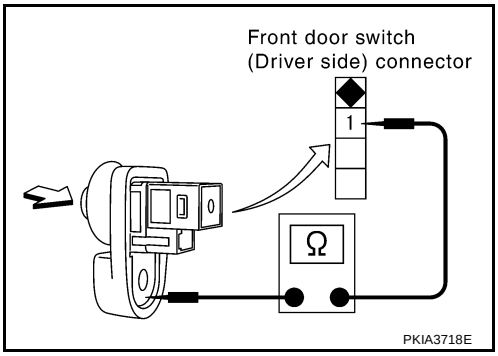
3. CHECK FRONT DOOR SWITCH (DRIVER SIDE)

Check front door switch (driver side).

1 – Door switch case ground

When driver side door switch is released : Continuity should exist.

When driver side door switch is pushed : Continuity should not exist.



OK or NG

OK >> Replace BCM. Refer to BCS-16, "Removal and Installation of BCM" .

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

Key Warning Chime Does Not Operate (Without Intelligent Key)

AKS005NW

1. CHECK FUSE

Check if the key switch 15A fuse [No. 22, located in the fuse block (J/B)] is blown. Refer to DI-63, "Wiring Diagram — CHIME —" .

Is the fuse blown?

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

NO >> GO TO 2.

2. CHECK WARNING CHIME OPERATION

Check the chime under conditions in exception of key warning chime (without Intelligent Key) operation.

Does warning chime sound?

YES >> GO TO 3.

NO >> Go to DI-71, "All Warnings Are Not Operated" or DI-72, "Key Warning Chime and Light Warning Chime Does Not Operate (Seat Belt Warning Chime Does Operate)" .

3. CHECK BCM INPUT SIGNAL

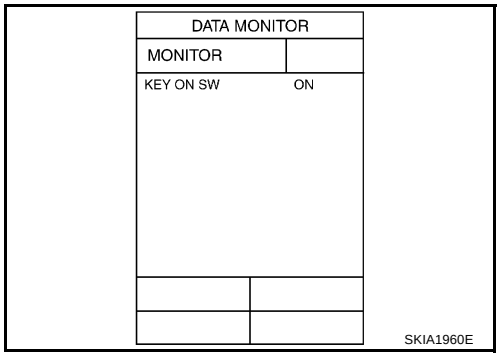
With CONSULT-II

1. Select “BCM”.
2. With “DATA MONITOR” of “BUZZER”, confirm “KEY ON SW” when the key is operated.

“KEY ON SW”

When key is inserted to ignition key cylinder : ON

When key is removed from ignition key cylinder : OFF



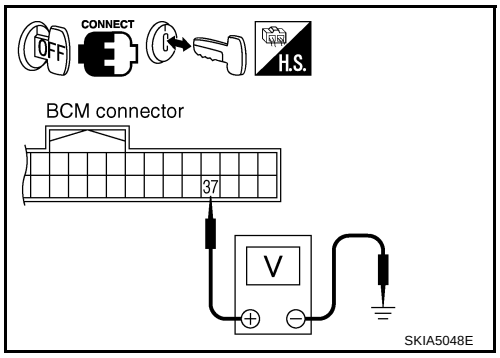
Without CONSULT-II

Check voltage between BCM harness connector M3 terminal 37 (B/W) and ground.

37 (B/W) – Ground

When key is inserted to ignition key cylinder : Approx. 12 V

When key is removed from ignition key cylinder : Approx. 0 V



OK or NG

OK >> Replace BCM. Refer to BCS-16, "Removal and Installation of BCM" .

NG >> GO TO 4.

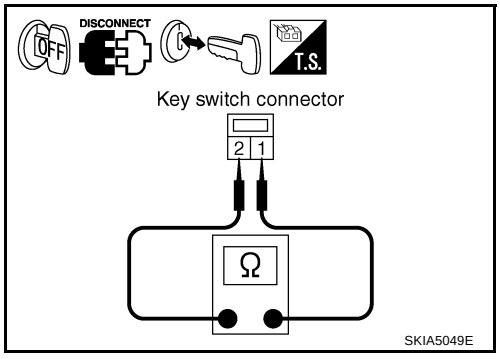
4. CHECK KEY SWITCH

1. Disconnect key switch connector.
2. Check continuity between key switch connector M23 terminals 1 and 2.

1 – 2

When key is inserted to ignition key cylinder : Continuity should exist.

When key is removed from ignition key cylinder : Continuity should not exist.



OK or NG

OK >> GO TO 5.

NG >> Replace key switch.

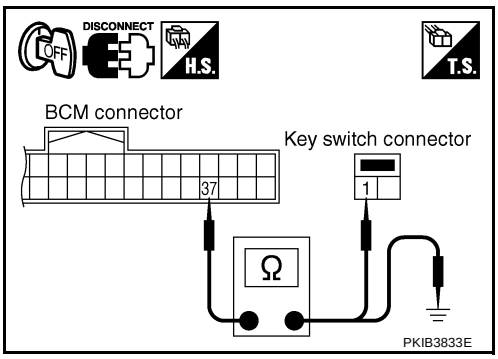
5. CHECK KEY SWITCH CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector M3 terminal 37 (B/W) and key switch harness connector M23 terminal 1 (B/W).

37 (B/W) – 1 (B/W) : Continuity should exist.

3. Check continuity between BCM harness connector M3 terminal 37 (B/W) and ground.

37 (B/W) – Ground : Continuity should not exist.



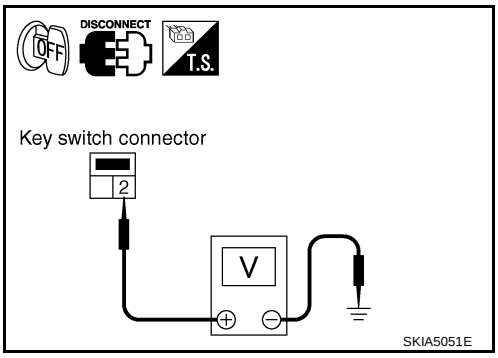
OK or NG

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

6. CHECK KEY SWITCH POWER SUPPLY CIRCUIT

Check voltage between key switch harness connector M23 terminal 2 (L/R) and ground.

2 (L/R) – Ground : Battery voltage



OK or NG

OK >> Replace BCM. Refer to BCS-16, "Removal and Installation of BCM" .
NG >> Check harness between key switch and fuse.

Key Warning Chime Does Not Operate (With Intelligent Key, When Mechanical Key Is Used)

AKS0079U

1. CHECK FUSE

Check if the key switch and ignition knob switch 10A fuse (No. 38, located in the fuse and fusible link box) is blown. Refer to DI-63, "Wiring Diagram — CHIME —" .

Is the fuse blown?

YES >> Replace fuse. Be sure to repair the cause of malfunction before installing new fuse.
NO >> GO TO 2.

2. CHECK WARNING CHIME OPERATION

Check the chime under conditions in exception of key warning chime (when mechanical key is used) operation.

Does warning chime sound?

YES >> GO TO 3.
NO >> Go to DI-71, "All Warnings Are Not Operated" or DI-72, "Key Warning Chime and Light Warning Chime Does Not Operate (Seat Belt Warning Chime Does Operate)" .

3. CHECK BCM INPUT SIGNAL

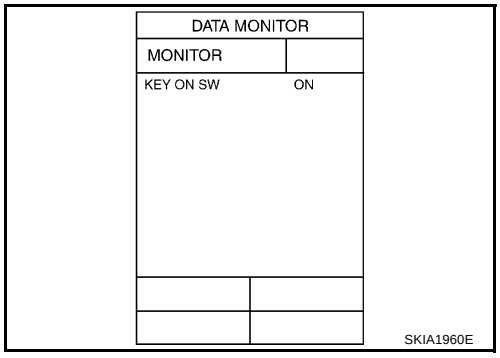
With CONSULT-II

1. Select “BCM”.
2. With “DATA MONITOR” of “BUZZER”, confirm “KEY ON SW” when the key is operated.

“KEY ON SW”

When key is inserted to ignition key cylinder : ON

When key is removed from ignition key cylinder : OFF



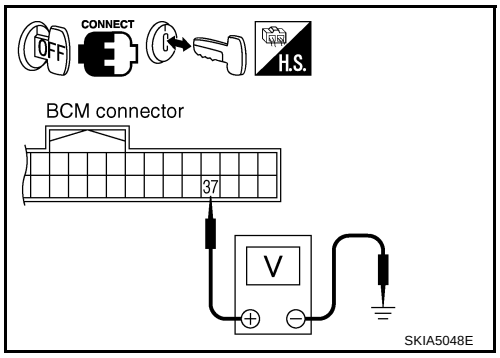
Without CONSULT-II

Check voltage between BCM harness connector M3 terminal 37 (B/W) and ground.

37 (B/W) – Ground

When key is inserted to ignition key cylinder : Approx. 12 V

When key is removed from ignition key cylinder : Approx. 0 V



OK or NG

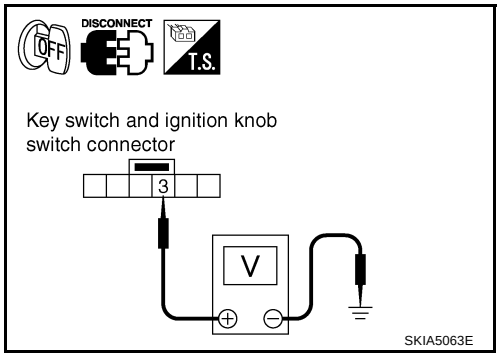
OK >> Replace BCM. Refer to BCS-16, "Removal and Installation of BCM" .

NG >> GO TO 4.

4. CHECK KEY SWITCH POWER SUPPLY CIRCUIT

1. Disconnect key switch and ignition knob switch connector.
2. Check voltage between key switch and ignition knob switch harness connector M22 terminal 3 (L/R) and ground.

3 (L/R) – Ground : Battery voltage



OK or NG

OK >> GO TO 5.

NG >> Check harness between key switch and ignition knob switch and fuse.

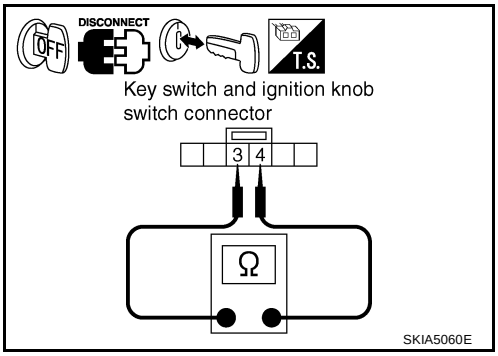
5. CHECK KEY SWITCH

Check continuity between key switch and ignition knob switch connector M22 terminals 3 and 4.

3 – 4

When key is inserted to ignition key cylinder : Continuity should exist.

When key is removed from ignition key cylinder : Continuity should not exist.



OK or NG

OK >> GO TO 6.
NG >> Replace key switch and ignition knob switch.

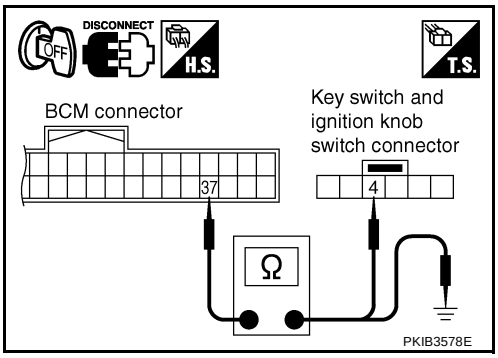
6. CHECK KEY SWITCH CIRCUIT

1. Disconnect BCM connector.
2. Check continuity between BCM harness connector M3 terminal 37 (B/W) and key switch and ignition knob switch harness connector M22 terminal 4 (B/W).

37 (B/W) – 4 (B/W) : Continuity should exist.

3. Check continuity between BCM harness connector M3 terminal 37 (B/W) and ground.

37 (B/W) – Ground : Continuity should not exist.



OK or NG

OK >> Replace BCM. Refer to BCS-16, "Removal and Installation of BCM" .
NG >> Repair harness or connector.

Key Warning Chime Does Not Operate (With Intelligent Key, When Intelligent Key Is Carried With The Driver)

AKS0079V

1. CHECK WARNING CHIME OPERATION

Check the chime under conditions in exception of key warning chime (when Intelligent Key is carried with the driver) operation.

Does warning chime sound?

YES >> GO TO 2.
NO >> Go to DI-71, "All Warnings Are Not Operated" or DI-72, "Key Warning Chime and Light Warning Chime Does Not Operate (Seat Belt Warning Chime Does Operate)" .

2. CHECK INTELLIGENT KEY UNIT SELF-DIAGNOSIS

Perform the Intelligent Key unit self-diagnosis. Refer to BL-119, "CONSULT-II Functions" .

OK or NG

OK >> GO TO 3.
NG >> Check the applicable parts.

3. CHECK INTELLIGENT KEY UNIT INPUT SIGNAL

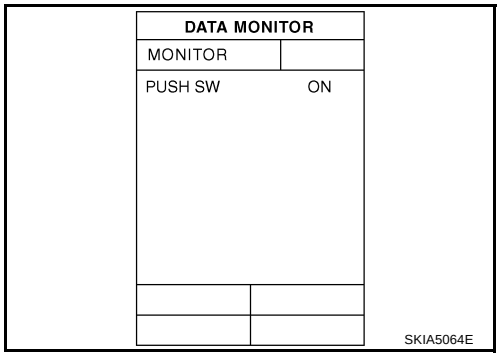
With CONSULT-II

1. Select “INTELLIGENT KEY”.
2. With “DATA MONITOR”, confirm “PUSH SW” when the ignition knob switch is operated. Refer to BL-119, "CONSULT-II Functions" .

“PUSH SW”

When ignition knob switch is pushed : ON

When ignition knob switch is withdrawn : OFF



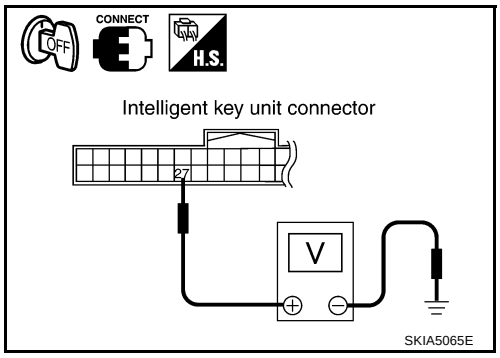
Without CONSULT-II

Check voltage between Intelligent Key unit harness connector M34 terminal 27 (L/W) and ground.

27 (L/W) – Ground

When ignition knob switch is pushed : Approx. 12 V

When ignition knob switch is withdrawn : Approx. 0 V



OK or NG

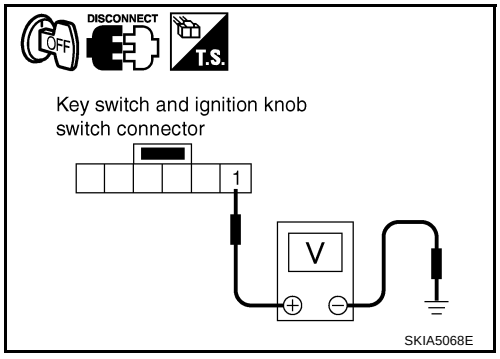
OK >> Replace Intelligent Key unit. Refer to BL-151, "Removal and Installation of Intelligent Key Unit" .

NG >> GO TO 4.

4. CHECK IGNITION KNOB SWITCH POWER SUPPLY CIRCUIT

1. Disconnect key switch and ignition knob switch connector.
2. Check voltage between key switch and ignition knob switch harness connector M22 terminal 1 (L/R) and ground.

1 (L/R) – Ground : Battery voltage



OK or NG

OK >> GO TO 5.

NG >> Check harness between key switch and ignition knob switch and fuse.

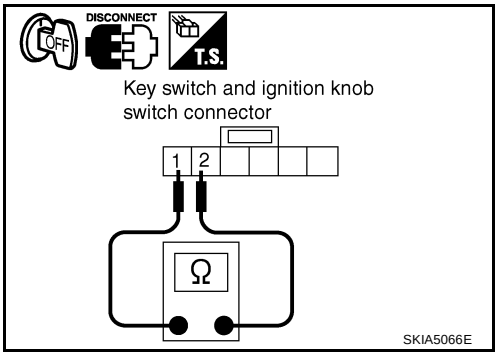
5. CHECK IGNITION KNOB SWITCH

Check continuity between key switch and ignition knob switch connector M22 terminals 1 and 2.

1 – 2

When ignition knob switch is pushed : Continuity should exist.

When ignition knob switch is withdrawn : Continuity should not exist.



OK or NG

OK >> GO TO 6.
NG >> Replace key switch and ignition knob switch.

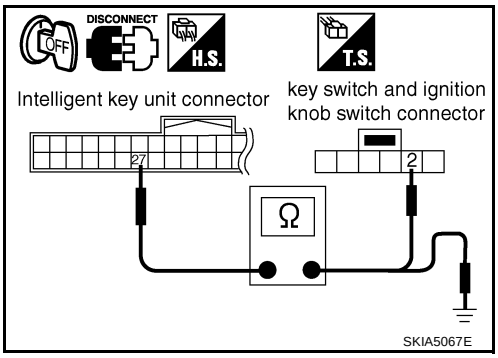
6. CHECK IGNITION KNOB SWITCH CIRCUIT

1. Disconnect Intelligent Key unit connector.
2. Check continuity between Intelligent Key unit harness connector M34 terminal 27 (L/W) and key switch and ignition knob switch harness connector M22 terminal 2 (L/W).

27 (L/W) – 2 (L/W) : Continuity should exist.

3. Check continuity between Intelligent Key unit harness connector M34 terminal 27 (L/W) and ground.

27 (L/W) – Ground : Continuity should not exist.



OK or NG

OK >> Replace Intelligent Key unit. Refer to BL-151, "Removal and Installation of Intelligent Key Unit" .
NG >> Repair harness or connector.

Light Warning Chime Does Not Operate

AKS007OJ

1. CHECK WARNING CHIME OPERATION

Check the chime under conditions in exception of light warning chime operation.

Does warning chime sound?

YES >> GO TO 2.
NO >> Go to DI-71, "All Warnings Are Not Operated" .

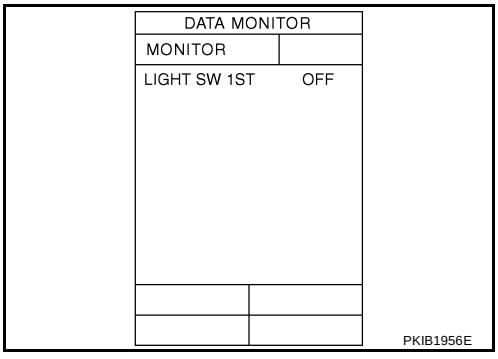
2. CHECK BCM INPUT SIGNAL

1. Select “BCM”.
2. 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 >> Replace BCM. Refer to BCS-16, "Removal and Installation of BCM" .
NG >> Check the lighting switch. Refer to LT-110, "Removal and Installation" .

Seat Belt Warning Chime Does Not Operate

AKS005NX

1. CHECK WARNING CHIME OPERATION

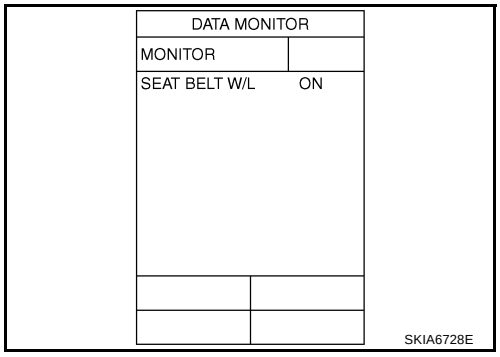
Check the chime under conditions in exception of seat belt warning chime operation.

Does warning chime sound?

YES >> GO TO 2.
NO >> Go to DI-71, "All Warnings Are Not Operated" .

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

1. Select “METER A/C AMP”.
2. With “DATA MONITOR” of “METER A/C AMP”, confirm “SEAT BELT W/L” when the seat belt is operated.



“SEAT BELT W/L”

When seat belt is fastened : OFF

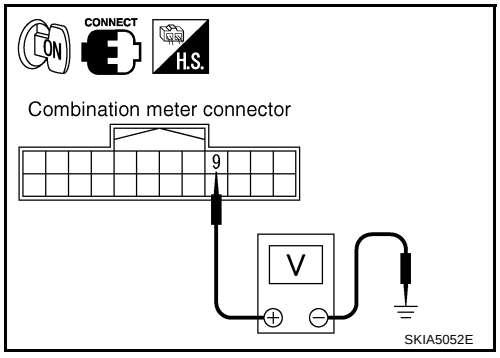
When seat belt is unfastened : ON

OK or NG

OK >> Replace BCM. Refer to BCS-16, "Removal and Installation of BCM" .
NG >> GO TO 3.

3. CHECK COMBINATION METER INPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between combination meter harness connector M20 terminal 9 (LG/R) and ground.



9 (LG/R) – Ground

When seat belt is fastened : Approx. 12 V

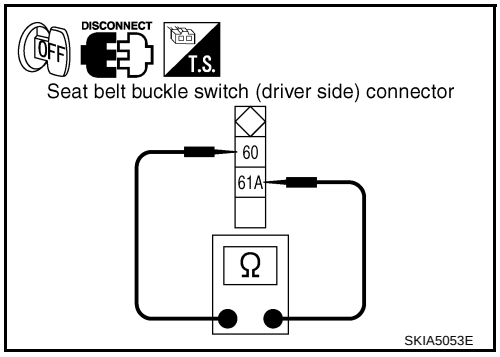
When seat belt is unfastened : Approx. 0 V

OK or NG

OK >> Replace combination meter.
NG >> GO TO 4.

4. CHECK SEAT BELT BUCKLE SWITCH

1. Turn ignition switch OFF.
2. Disconnect seat belt buckle switch (driver side) connector.
3. Check continuity between seat belt buckle switch (driver side) connector B160 terminals 60 and 61A.



60 – 61A

When seat belt is fastened : Continuity should not exist.

When seat belt is unfastened : Continuity should exist.

OK or NG

OK >> GO TO 5.
NG >> Replace seat belt buckle switch (driver side).

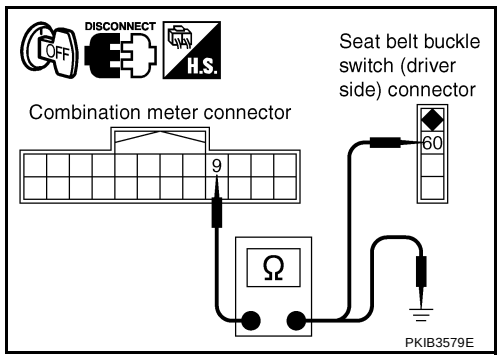
5. CHECK SEAT BELT BUCKLE SWITCH CIRCUIT

1. Disconnect combination meter connector.
2. Check continuity between combination meter harness connector M20 terminal 9 (LG/R) and seat belt buckle switch (driver side) harness connector B160 terminal 60 (R/B).

9 (LG/R) – 60 (R/B) : Continuity should exist.

3. Check harness continuity between combination meter harness connector M20 terminal 9 (LG/R) and ground.

9 (LG/R) – Ground : Continuity should not exist.



OK or NG

OK >> Check seat belt buckle switch (driver side) ground circuit.

NG >> Repair harness or connector.

LANE DEPARTURE WARNING SYSTEM

PFP:28442

Precautions for Lane Departure Warning (LDW) system

AKS00C7T

WARNING:

Lane Departure Warning (LDW) is only a warning device to inform the driver of an unintended lane departure. It will not steer the vehicle or prevent loss of control. It is the driver's responsibility to stay alert, drive safely, keep the vehicle in the traveling lane, and be in control of the vehicle at all times.

- **LDW system does not operate under the following conditions:**
  - **At speeds below 45 MPH (72 km/h).**
  - **If it cannot detect lane markers.**
- **LDW system may not function properly under the following conditions:**
  - **On roads where a water puddle, dirt or snow is covering the lane markers.**
  - **On roads where the lane markers are faded or are not painted clearly.**
  - **On roads where the lane markers are painted yellow.**
- **LDW system may not monitor the lane markers in certain road, weather or driving conditions.**
  - **On roads where there are sharp curves.**
  - **Where the traveling lane merges or separates.**
  - **On roads where the discontinued lane markers are present, such as near tollgates, etc.**
  - **On roads where there are not general lane markers.**
  - **During bad weather (rain, fog, snow, etc.).**
  - **When strong light (for example, at sunrise or sunset) is directly shining on the front of the vehicle.**
  - **When entering or exiting a tunnel where sudden changes in brightness occur.**
  - **When traveling close to the vehicle in front of you, which causes obstruction of the camera unit range.**
  - **When the vehicle's traveling direction does not align with the lane marker.**
  - **When rain, snow or dirt adhere to the windshield in front of the camera unit.**
- **Excessive noise interferes with warning system chime sound and the chime may not be heard.**

CAUTION:

To keep the LDW system operating properly, be sure to observe the following:

- **Always keep the windshield clean. The sensing capability of the camera unit depends on the condition of the windshield. See “Appearance and care” for cleaning instruction.**
- **Never strike or damage the areas around the camera unit.**
- **Never touch the camera lens.**
- **Never attach a sticker (including transparent material) or install an accessory near the camera unit.**
- **Never place reflective materials, such as a white paper or mirrors on the instrument panel. Reflection of the sunlight may adversely affect the camera unit's lane marker detection capability.**

System Description

AKS00C7U

LDW SYSTEM OPERATION

- The Lane Departure Warning (LDW) system warns the driver when the vehicle is traveling close to either the left or the right of the traveling lane.
- The system monitors lane markers of the traveling lane using the LDW camera unit. When the LDW camera unit detects that the vehicle is traveling close to either the left or the right of the traveling lane, the LDW indicator lamp flashes and a chime sounds to alert the driver.

  NOTE:
  When activating turn signal, LDW system does not give a warning to the lane marker on the turn signal side.
- The LDW system can be turned on or off by pushing the LDW switch. When the system is on, the LDW system ON indicator illuminates.
- The LDW system has an automatic mode and manual mode.

In the automatic mode

- LDW system automatically turns on, when the ignition switch is turned to the ON position.

- LDW system ON indicator located on the LDW switch illuminates, indicating that the system is on.
- To cancel LDW system, push the LDW switch to turn off LDW system ON indicator.
- To turn on the system, push LDW switch again.

In the manual mode

- LDW system is still off when the ignition switch is turned to the ON position.
- The LDW switch must be pushed to turn on the system.

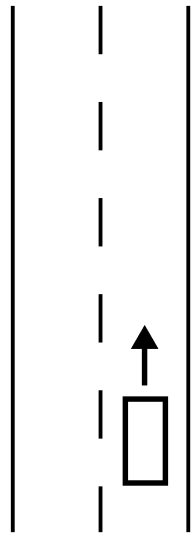
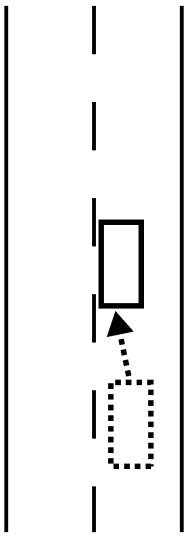
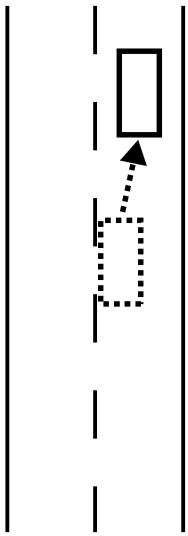
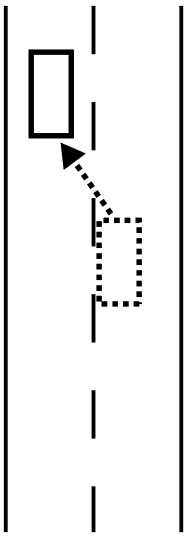
To the change modes

- Push and hold LDW switch for more than 4 seconds, when LDW system ON indicator is off.
- Then LDW chime sounds and blinking of LDW system ON indicator informs that the mode change is completed.

● Temporary disabled status at high temperature

- If the vehicle is parked in direct sunlight under high temperature conditions [approximately over 104 °F (40 °C)] and then started, the LDW system may sound a chime and cancel automatically. Then LDW system ON indicator will blink.
- When the interior temperature is reduced, the system will resume to operate automatically and the LDW system ON indicator illuminates.

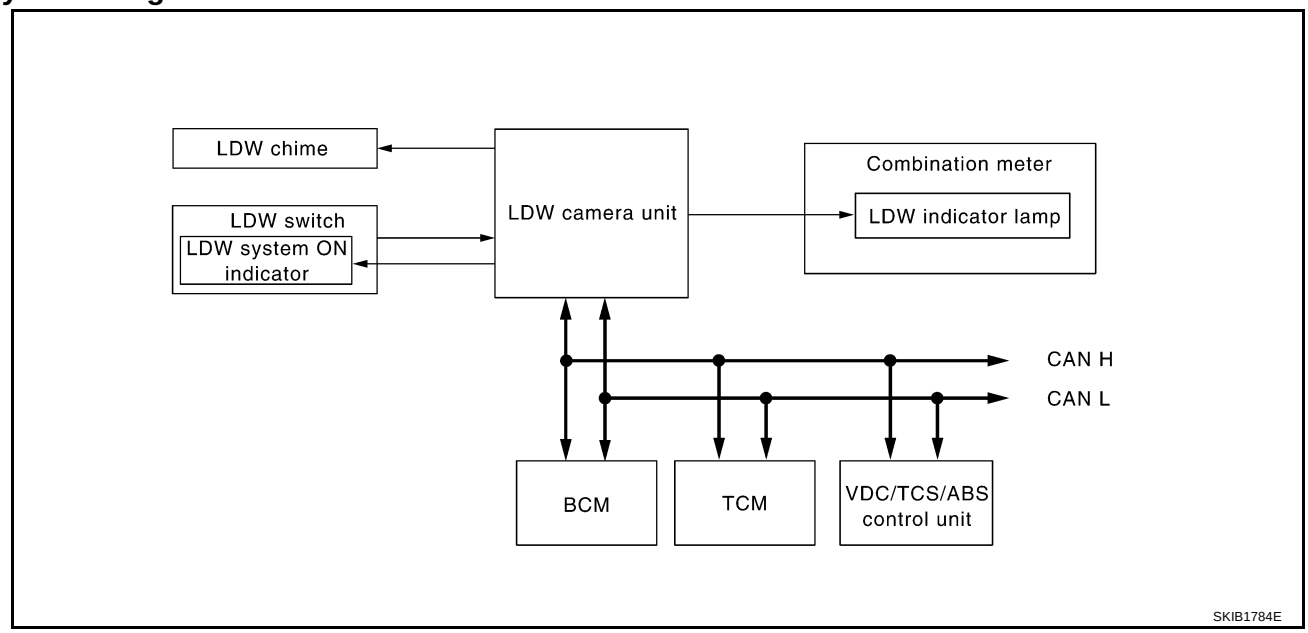
Warning Function

Driving Condition	Normal Driving	Entering into the warning range	Getting out of the warning range	Pass the warning range. (Going across the lane)
Warning	–	Give a warning* (Continue warning when vehicle edge is in the warning range.)	Stop the warning	Stop the warning
Example				

*: No warning when changing the course to the turn signal direction.

SKIB1783E

System Diagram



Components Description

Component	Description
LDW camera unit	Detects the lane marker by the built-in camera, gives judgement for the warning according to the result of detection and signals from each unit, and transmits the operation signal to LDW chime and LDW indicator lamp.
LDW switch	● Selects ON/OFF of the system. ● Indicates ON/OFF of the signal with LDW system ON indicator.
LDW chime	Gives a warning chime according to the direction from LDW camera unit.
LDW indicator lamp	Installed in combination meter, and indicates the system condition. ● Blinks when LDW system is functioning to alert the driver. ● Stays on when LDW system is malfunctioning.*
BCM	Transmits turn indicator signal to LDW camera unit with CAN communication signal.
ABS actuator and electric unit (control unit)	Transmits vehicle speed signal to LDW camera unit with CAN communication signal.
TCM	Transmits vehicle speed signal to LDW camera unit with CAN communication signal. (For detecting incorrect speed.)

NOTE:

*: This indicates in a few seconds for the system check during ignition switch ON.

POWER SUPPLY AND GROUND CIRCUIT

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

- through 10A fuse [No. 12, located in the fuse block (J/B)]
- to LDW camera unit terminal 1.

Ground is supplied

- to LDW camera unit terminals 6 and 12
- through grounds M45, M85 and M35.

CAN Communication

AKS00C6X

SYSTEM DESCRIPTION

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 two communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN COMMUNICATION UNIT

Refer to LAN-30, "CAN Communication Unit" in “LAN SYSTEM”.

Action Test

AKS00C70

LDW SYSTEM RUNNING TEST

WARNING:

- **Be careful when performing road test.**
- **Understand “Precautions” and “System Description” well before the road test. Refer to DI-82, "Precautions for Lane Departure Warning (LDW) system" and DI-82, "System Description" .**

Function Check

Check the LDW system operation according to the condition that the warning function works. Refer to DI-82, "LDW SYSTEM OPERATION" .

Camera Aiming Adjustment

AKS00C7J

OUTLINE

Adjust the camera aiming every time the LDW camera unit is removed or installed.

CAUTION:

- **Place the vehicle on the level ground when the camera aiming adjustment is operated.**
- **Follow the CONSULT-II when adjusting the camera aiming. (Camera aiming adjustment cannot be operated without CONSULT-II.)**

PREPARATION

- Keep all tires inflated to correct pressures. Adjust the tire pressure to the specified pressure value.
- There is no-load in vehicle. Check if coolant, engine oil are filled up to correct level and fuel tank is full.
- Shift the gear into “P” position and release the parking brake.
- Clean the windshield.

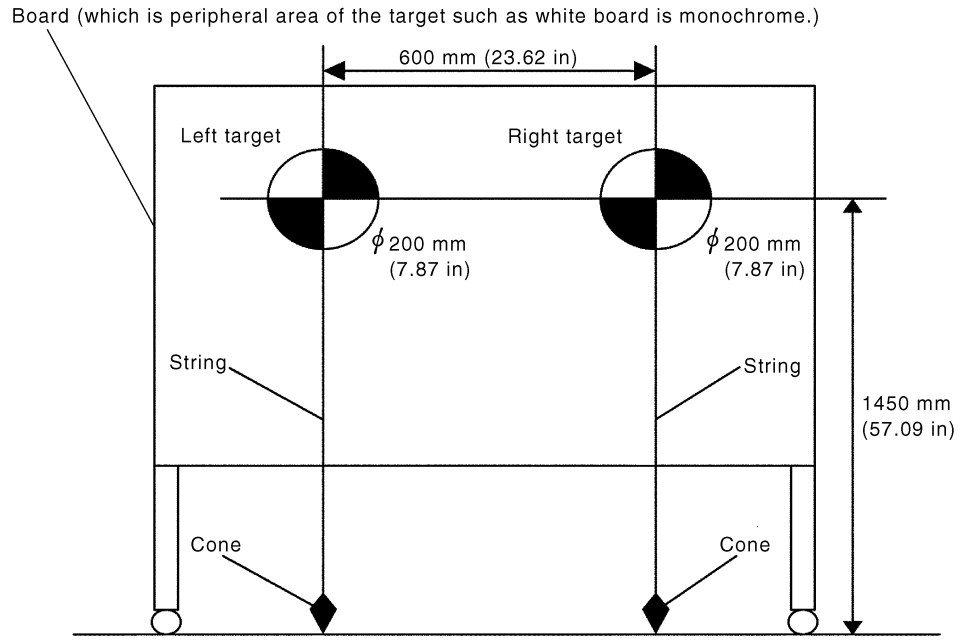
NOTE:

Do not place anything reflective on the upper surface of instrument panel.

TARGET SETTING

Preparation Aiming Adjustment Jig

For aiming adjustment, prepare the following jigs and targets.



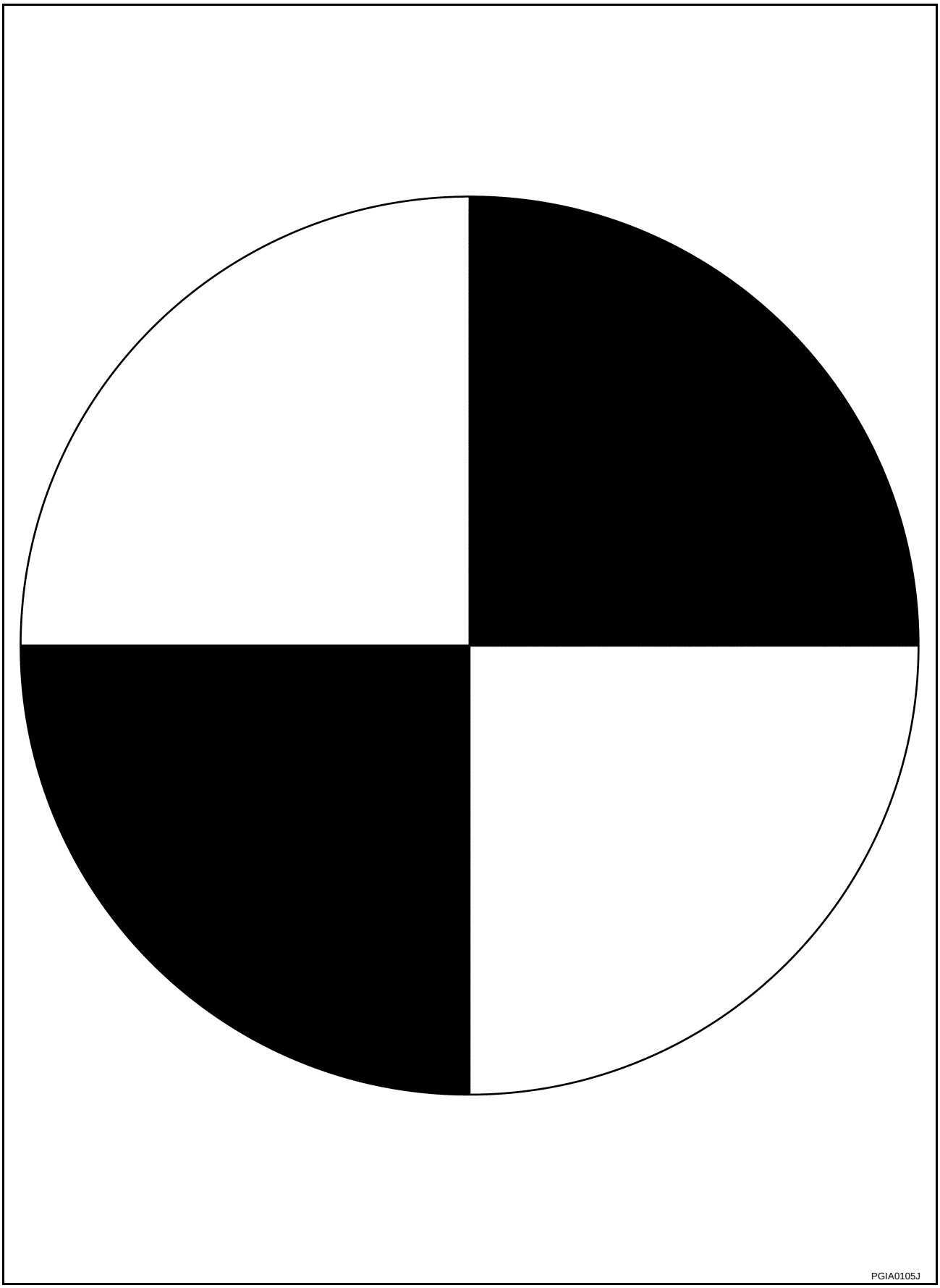
Enlarge the target mark attached in this SM (Next page) to 122%.
And stick the enlarged mark on a board with a scotch tape or a double-faced tape.
Notice that the cross of target is horizontal and vertical.

PKIB4693E

Target

NOTE:

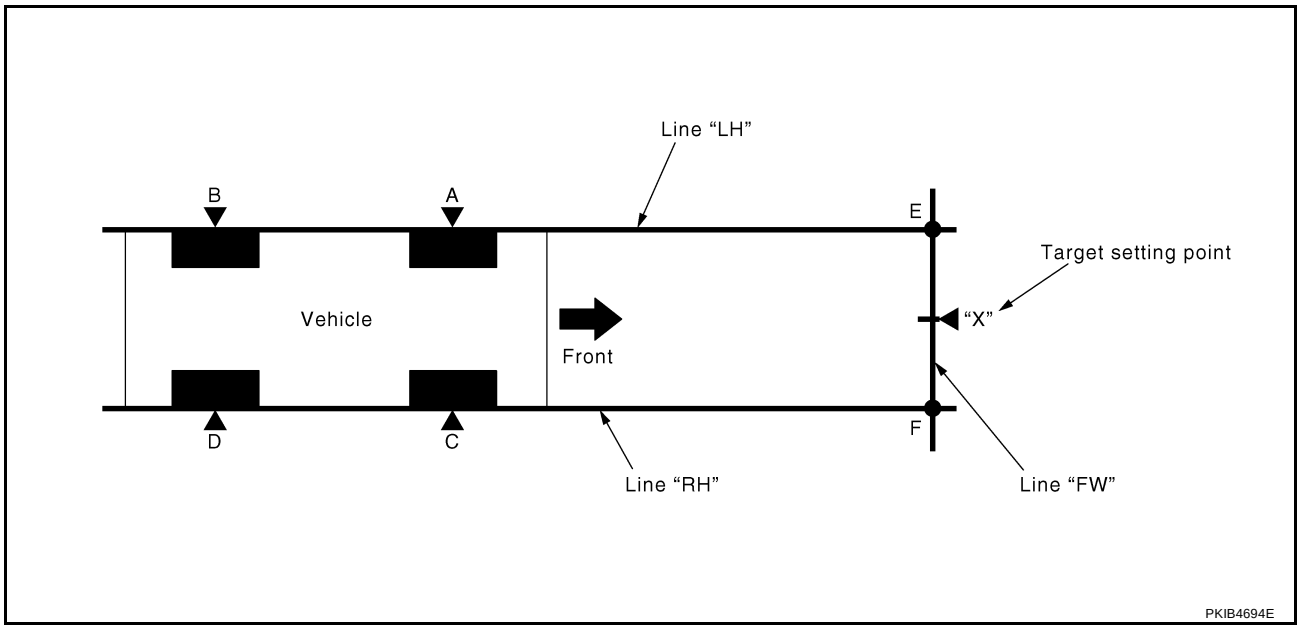
Enlarge this page to 122% size and print it out.



Target Setting

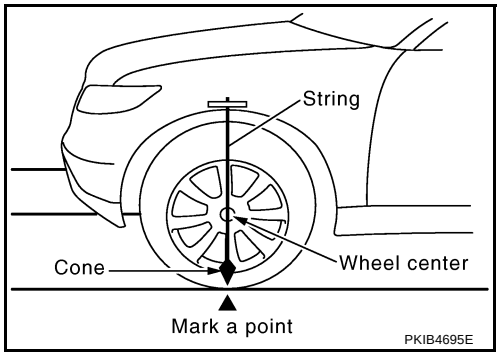
CAUTION:

- **Perform this operation in a horizontal position where there is a clear view for 5 m (16.4 ft) forward and 3 m (9.84 ft) wide.**
- **Place the target at a well-lighted location. (Poor lighting may make it hard to adjust.)**
- **The target may not be detected when there is a light source within 1.5 m (4.92 ft) from either side and within 1 m (3.28 ft) upward/downward from the target.**
- **Make sure location of the sun. (Sunlight should not shine directly on front of the vehicle.)**
- **The target may not be detected when there is the same pattern of black and white as the target when the pattern is within 1 m (3.28 ft) from either side and upward/downward position from the target. (It is desirable that the vehicle is positioned on the opposite side of a single-color wall.)**



1. Mark a point at the center of lateral surface of each wheels (“A”, “B”, “C” and “D”).

   NOTE:
   Dangle a string with a cone from the fender so as to pass through the center of wheel, and then mark a point at the center of lateral surface of wheels.



2. Draw a line passing through points “A” and “B” on the left side of vehicle (line “LH”).

   NOTE:
   Approximately 4 m (13.12 ft) or more from the forward end of vehicle.

3. Mark points on the line “LH”, at the positions 3850 mm (151.57 in) from the point “A” (“E”).
4. Draw a line passing through the points “C” and “D” on the right side of vehicle as with the step 2 (line “RH”).

   NOTE:
   Approximately 4 m (13.12 ft) or more from the forward end of vehicle.

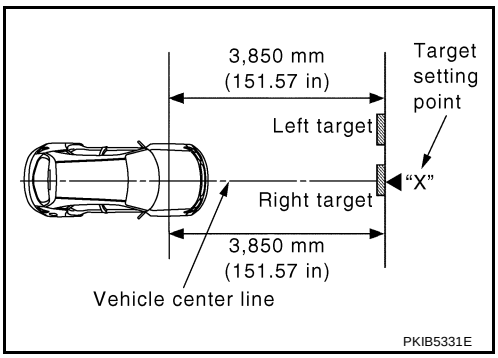
5. Mark points on the line “RH”, at the positions 3850 mm (151.57 in) from the point “C” (“F”).
6. Draw a line passing through the points “E” and “F” (line “FW”).

7. Mark point at the center of the point “E” and “F”, on the line “FW”.

CAUTION:

Make sure that “E” through “X” is equal to “F” through “X”.

8. Position the center of the right target to the point of “X”.



VEHICLE HEIGHT CHECK

Measure the wheel arch height. And calculate “Dh”.

Dh [mm] = (Hfl + Hfr) ÷ 2 – 840

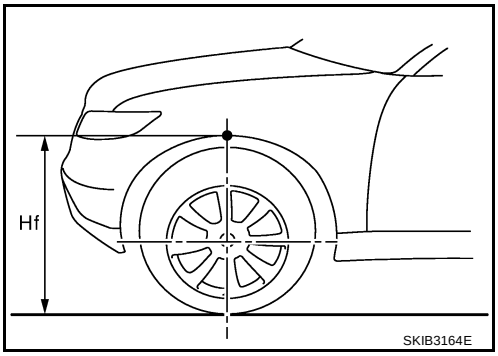
where,

Hfl: Front left wheel arch height [mm]

Hfr: Front right wheel arch height [mm]

NOTE:

“Dh” may be calculated as a minus value.



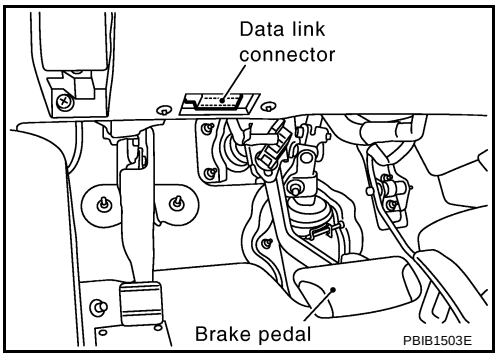
AIMING ADJUSTMENT

Operation Procedure

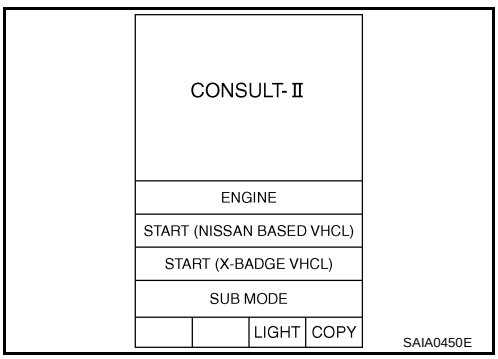
CAUTION:

- **Perform the adjustment under unloaded vehicle condition.**
- **LDW indicator is turned off after the removal/installation, and blinks after replacement.**

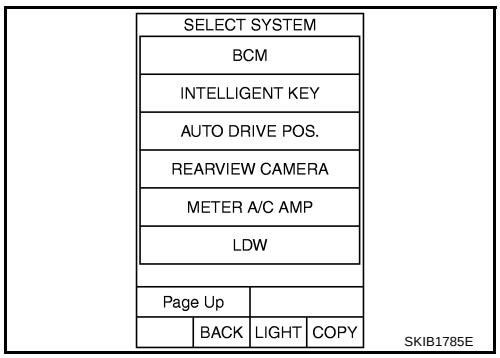
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER on the data link connector.



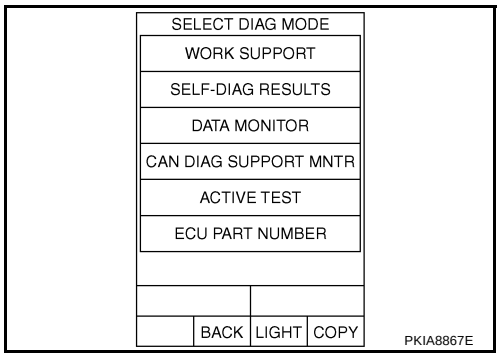
3. Start the engine, wait for at least 10 seconds, and touch “START (NISSAN BASED VHCL)”.



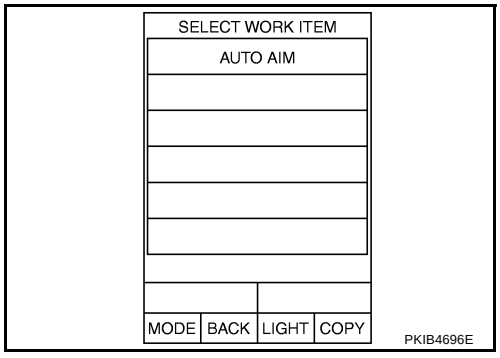
4. Touch “LDW”.
If “LDW” is not displayed, go to GI-39, "CONSULT-II Data Link Connector (DLC) Circuit" .



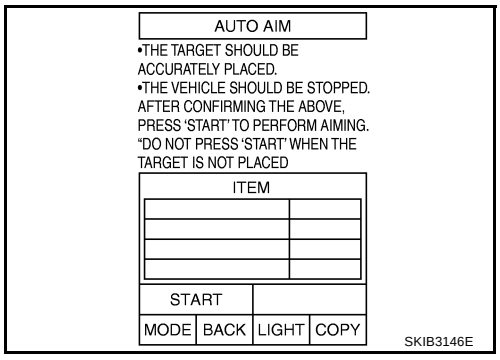
5. Touch “WORK SUPPORT”.



6. Touch “AUTO AIM”.

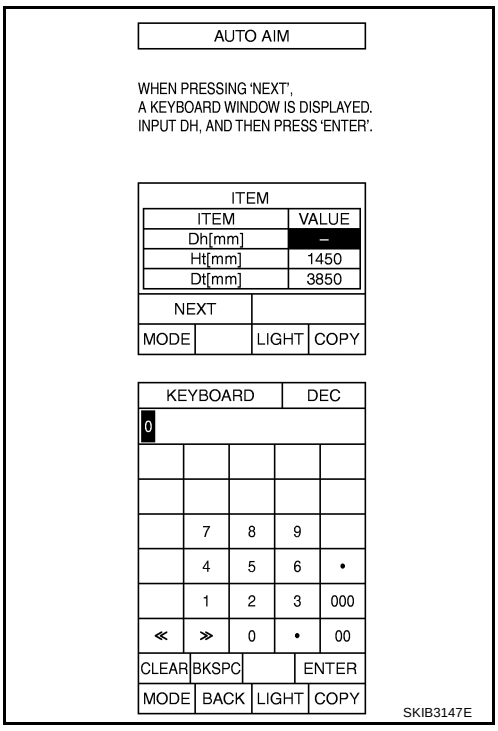


7. The target should be accurately placed.
The vehicle should be stopped.
After confirming the above, touch “START” to perform aiming.
CAUTION:
Never touch “START” when the target is not placed.



8. Touch “NEXT”, then a keyboard window is displayed. And input “Dh”, and then touch “ENTER”.

NOTE:
Check the value “Dh”. Refer to DI-89, "VEHICLE HEIGHT CHECK" .

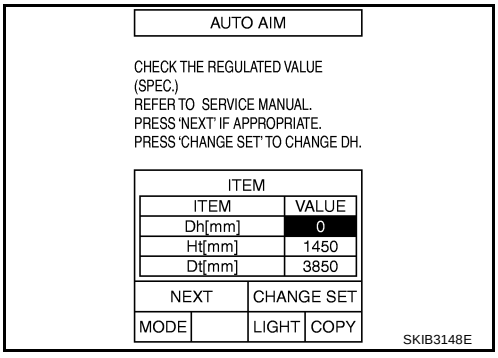


9. Check the regulated value. (Spec.)

NOTE:
Check the value input at step 8.

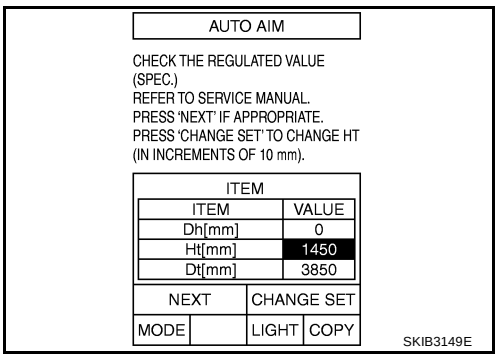
a. Touch “NEXT” if appropriate.

b. Touch “CHANGE SET” to change “Dh”.



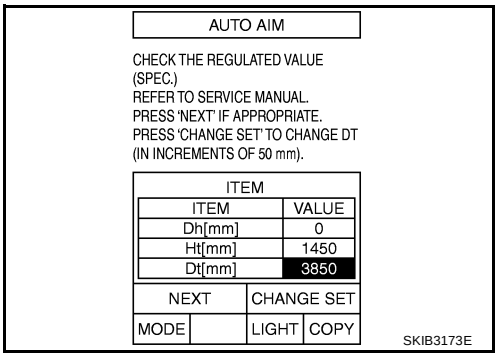
10. Touch “NEXT”.

CAUTION:
Never change “Ht”.

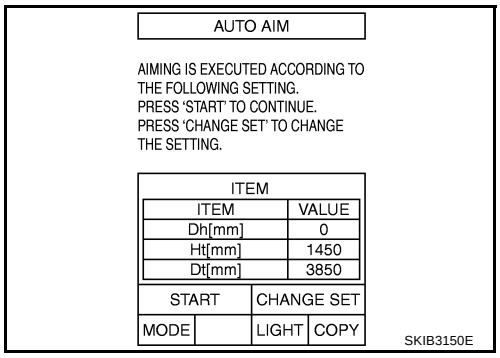


11. Touch “NEXT”.

CAUTION:
Never change “Dt”.

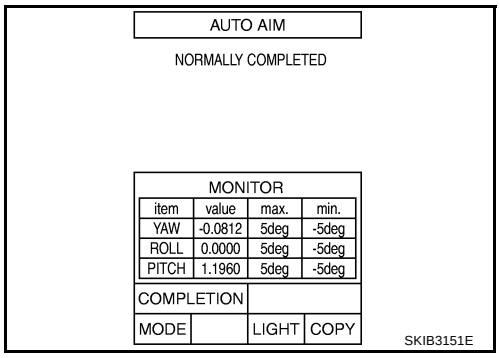


12. Touch “START”.

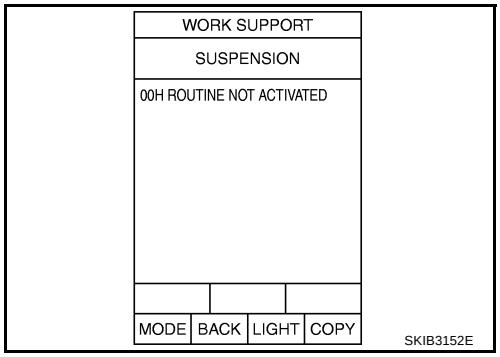


13. Check it display item.

a. “NORMALLY COMPLETED” is displayed, then touching “COMPLETION”.



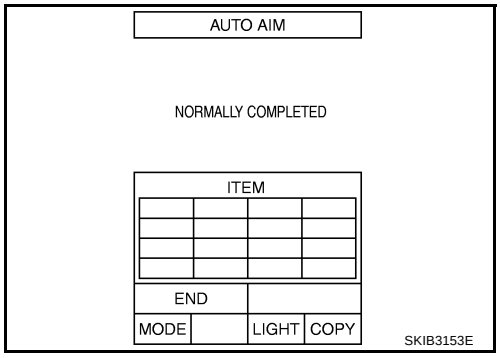
b. Perform the following services when displayed “SUSPENSION” or “ABNORMALLY COMPLETED”.



Displays item		Service procedure
SUSPENSION	00H Routine not activated	Position the target appropriately again. Perform the aiming again. Refer to DI-86, "Camera Aiming Adjustment" .
	10H Writing error	
ABNORMALLY COMPLETED	—	

NOTE:
Replace camera unit if “suspension” is repeatedly indicated though the above two service is performed.

14. Check if “NORMALLY COMPLETED” is displayed and close the aiming adjustment procedure by touching “END”.



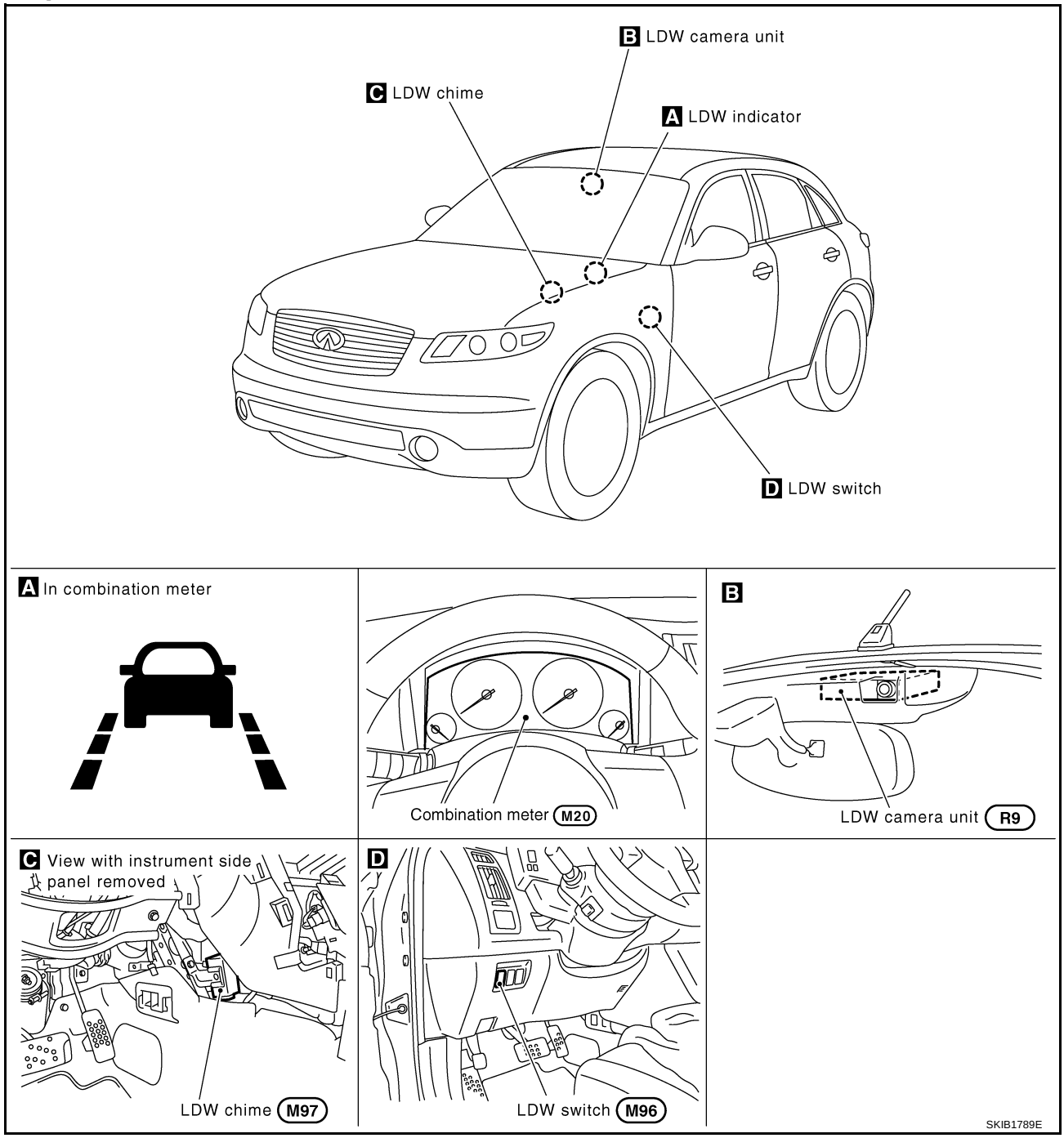
Check After The Adjustment

1. Perform the LDW camera unit self-diagnosis. Refer to DI-98, "CONSULT-II Function (LDW)" .

2. Test the LDW system operation by running test. Refer to DI-85, "LDW SYSTEM RUNNING TEST" .

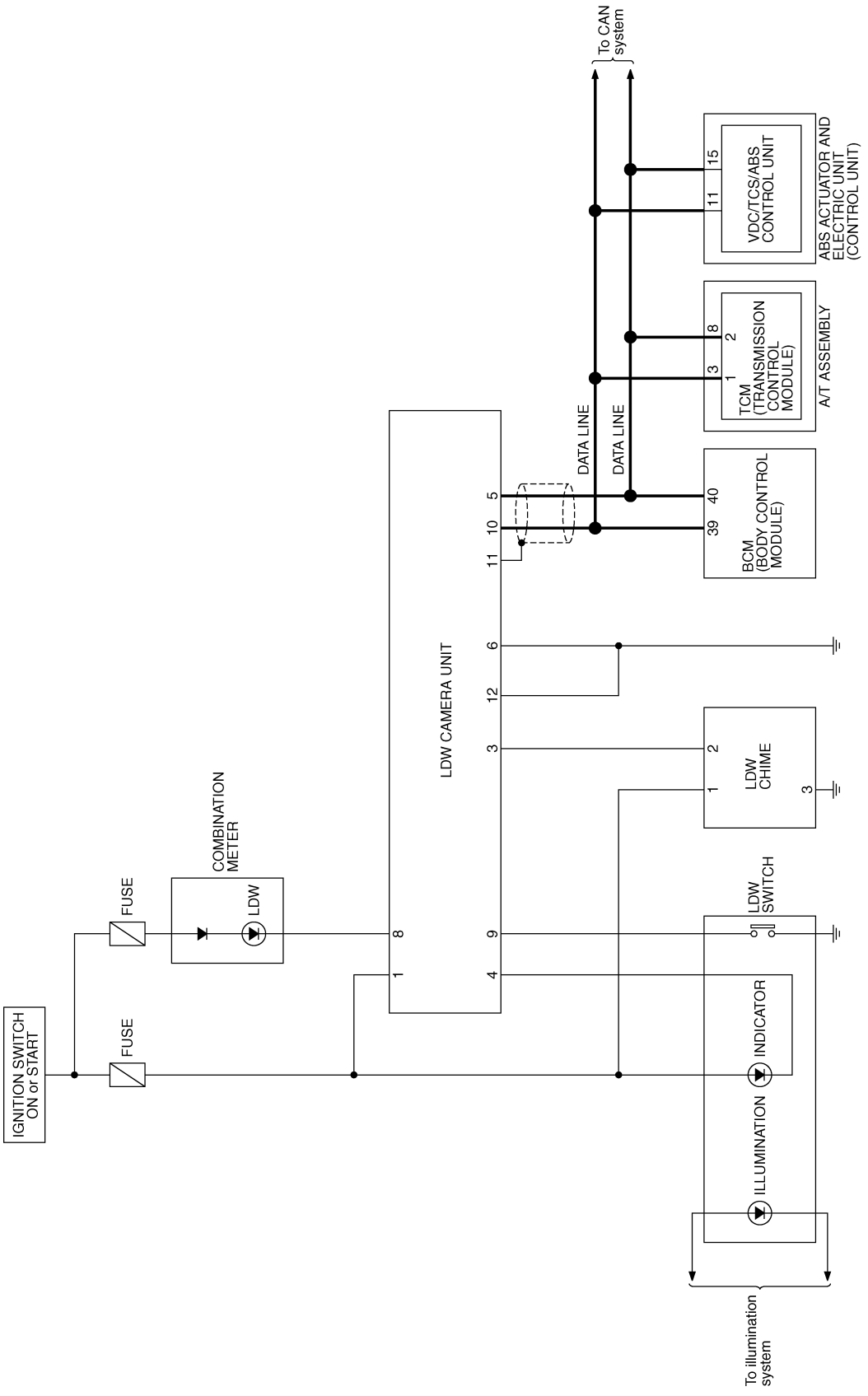
Component Parts and Harness Connector Location

AKS00C7K



Schematic

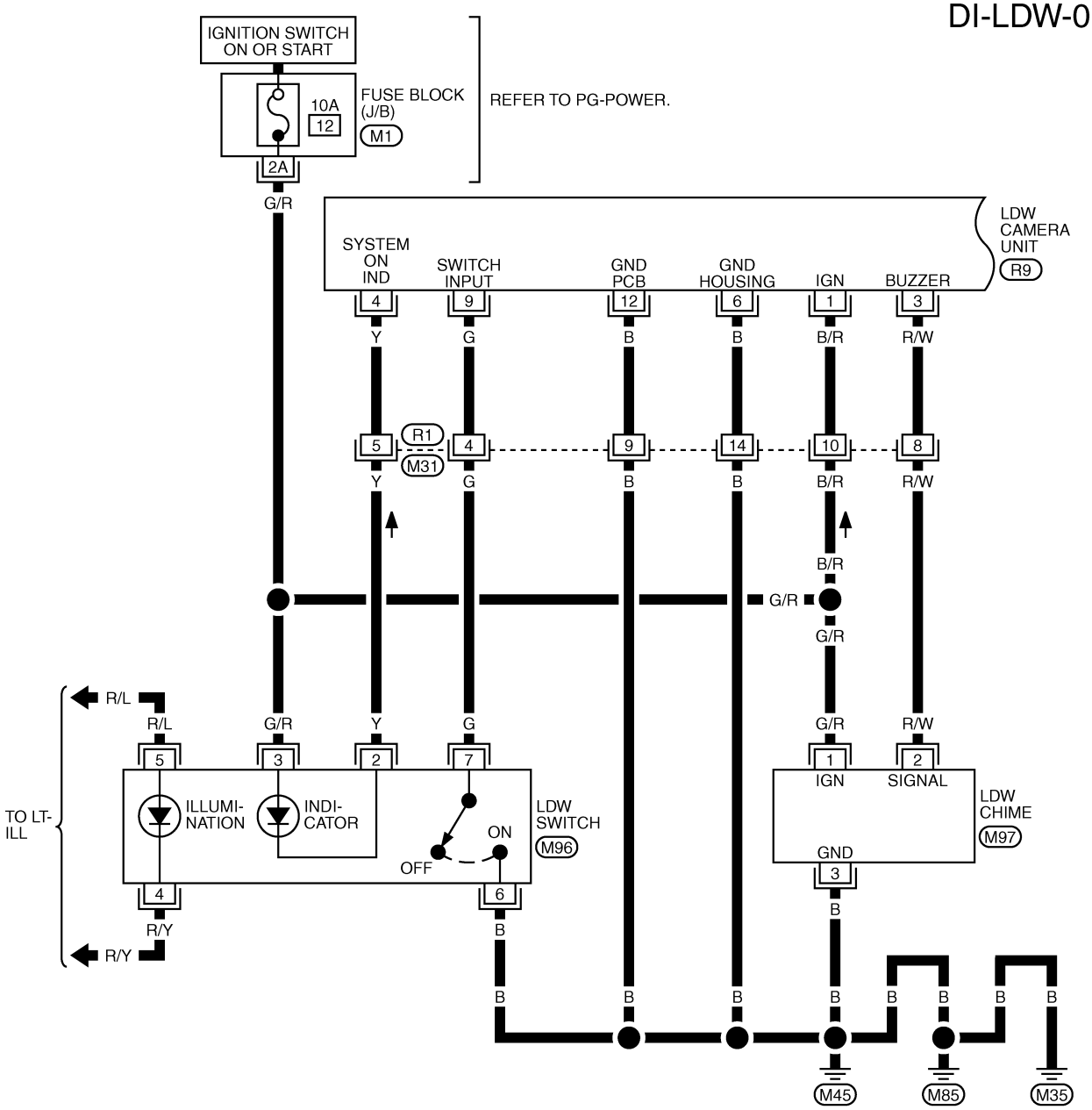
AKS00C7L

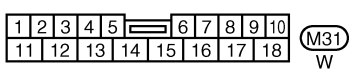


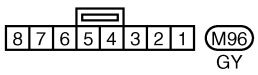
Wiring Diagram — LDW —

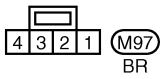
AKS00C7M

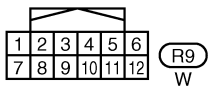
DI-LDW-01









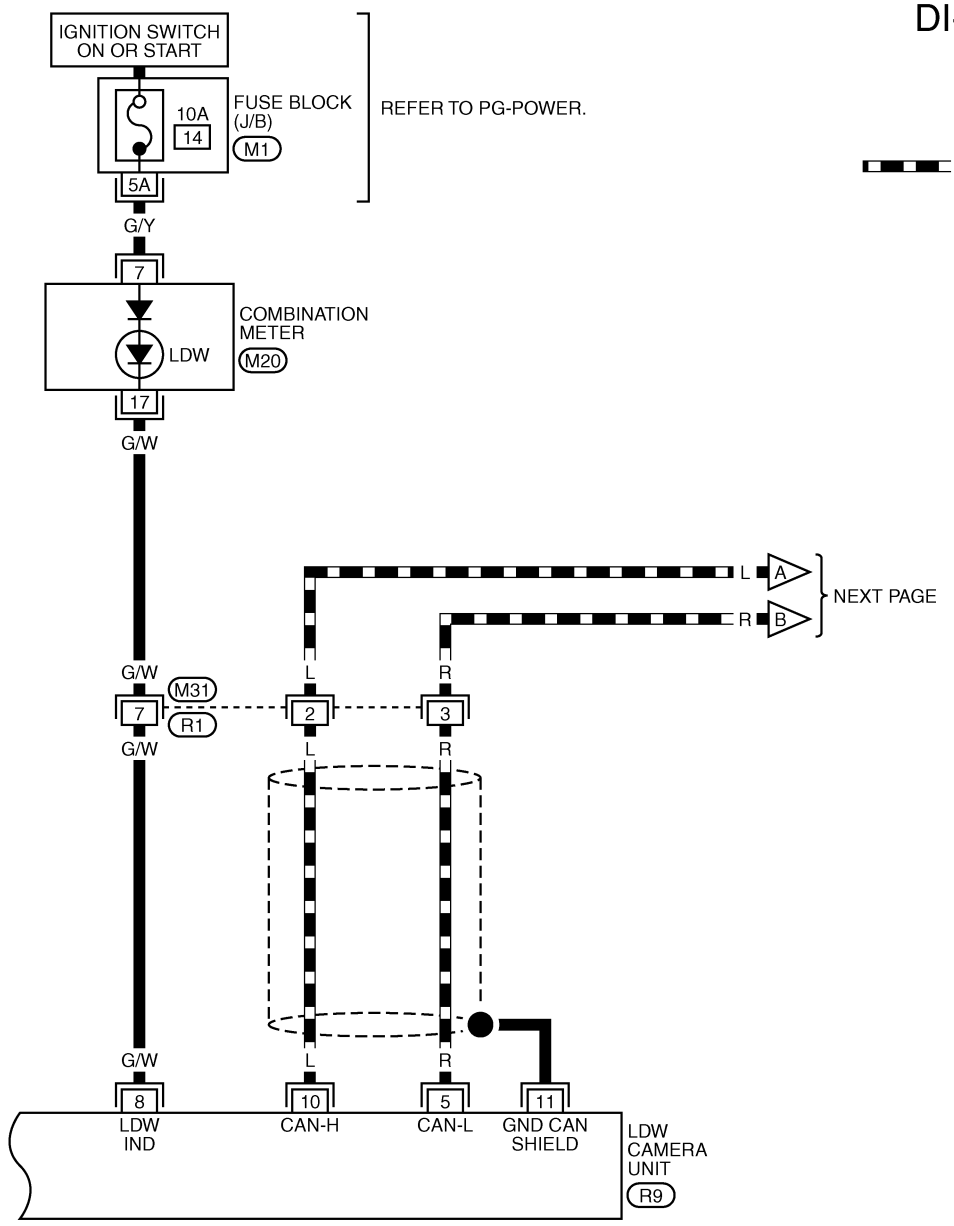


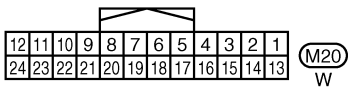
REFER TO THE FOLLOWING.

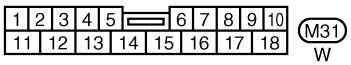
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

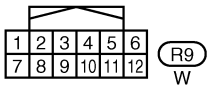
TKWM2064E

DI-LDW-02





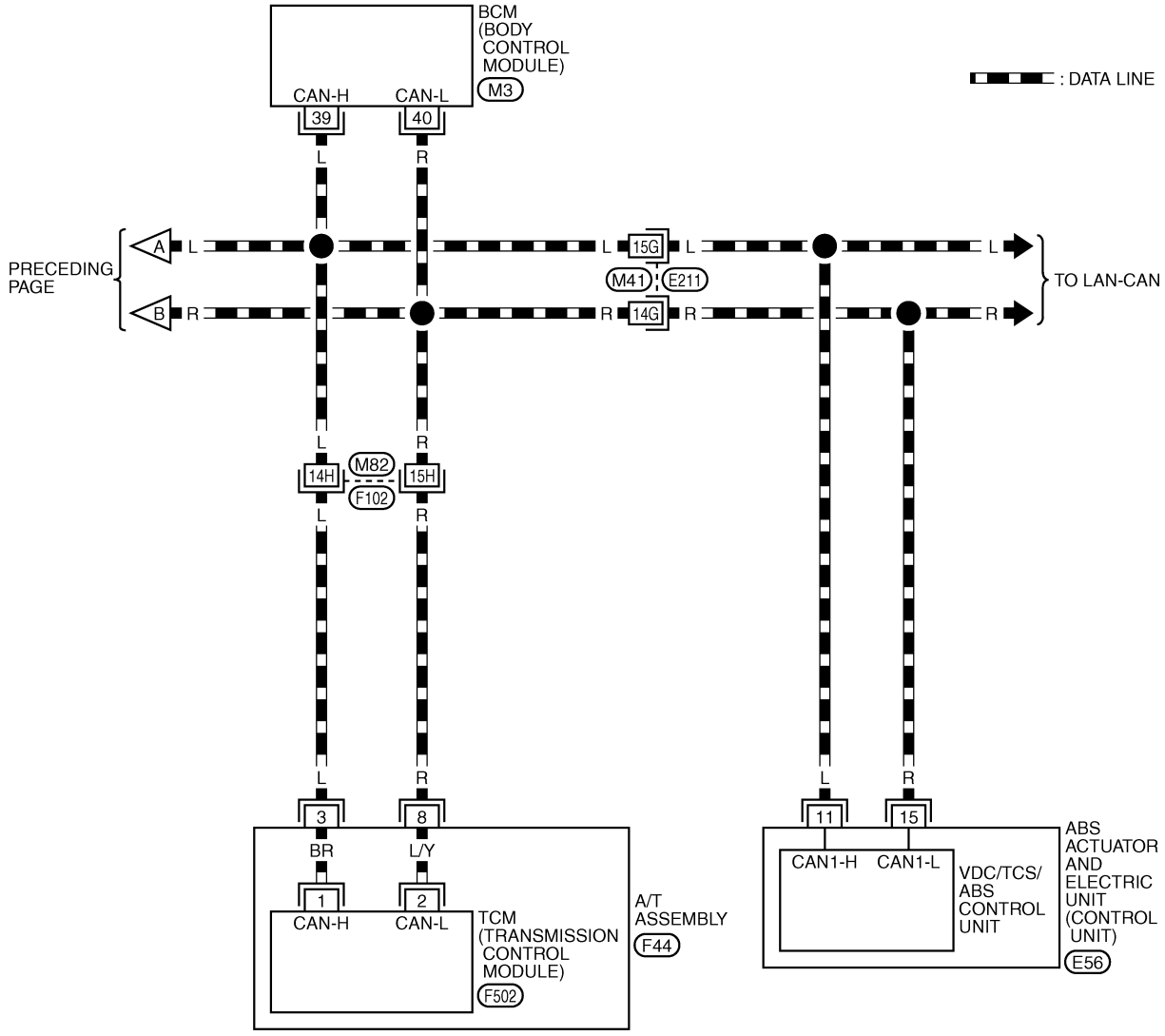


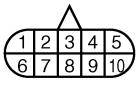


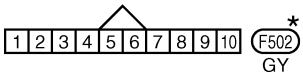
REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWM2065E

DI-LDW-03







REFER TO THE FOLLOWING.
E211, F102 -SUPER MULTIPLE JUNCTION (SMJ)
M3, E56 -ELECTRICAL UNITS

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

TKWM2066E

Terminals and Reference Value for LDW Camera Unit

AKS00C7N

Terminal No.	Wire Color	Item	Condition			Reference Value (Approx. [V])
			Ignition switch	Operation or condition		
1	B/R	Ignition switch (ON)	ON	—		Battery voltage
3	R/W	LDW chime	ON	LDW chime	Activated*	0
					Not activated	12
4	Y	System ON indicator	ON	LDW system	ON	0
					OFF	12
5	R	CAN L	—	—		—
6	B	Ground	ON	—		0
8	G/W	LDW indicator lamp	ON	LDW indicator lamp	Illuminated*	0
					Turned OFF	12
9	G	LDW switch	ON	LDW switch	Pushed	0
					Released	5
10	L	CAN H	—	—		—
11	—	Shield	—	—		—
12	B	Ground	ON	—		0

NOTE:

*: Perform “ACTIVE TEST” with CONSULT-II. Refer to DI-101, "ACTIVE TEST" .

CONSULT-II Function (LDW)

AKS00C7H

DESCRIPTION

CONSULT-II performs the following functions communicating with the LDW camera unit.

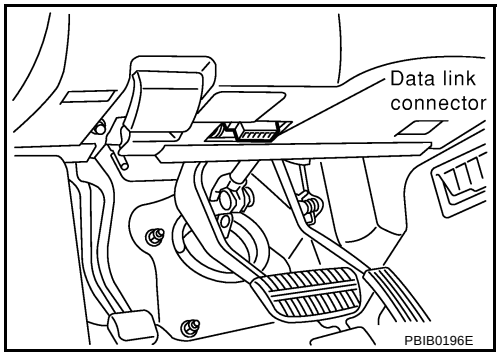
Select diag mode	Function	Reference page
WORK SUPPORT	Displays causes of automatic cancellation of the LDW system.	DI-99
SELF-DIAG RESULTS	Displays malfunctioning system memorized in LDW camera unit.	DI-99
DATA MONITOR	Displays real-time input/output data of LDW camera unit.	DI-100
CAN DIAG SUPPORT MNTR	The results of transmit/receive diagnosis of CAN communication can be read.	LAN-5
ACTIVE TEST	Enables operation check of electrical loads by sending driving signal to them.	DI-101
ECU PART NUMBER	Displays part number of LDW camera unit.	—

CONSULT-II BASIC OPERATION

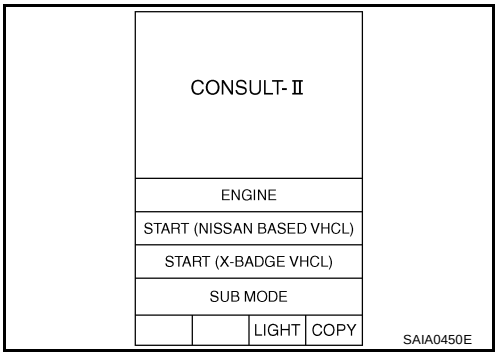
CAUTION:

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.

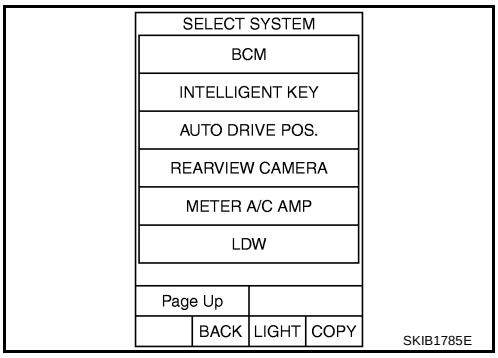
1. Turn ignition switch OFF.
2. Connect CONSULT-II and CONSULT-II CONVERTER on the data link connector.
3. Turn ignition switch ON.



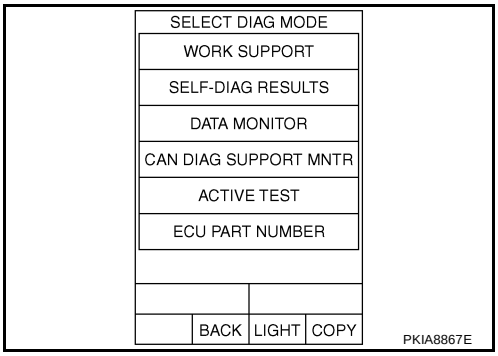
4. Touch “START (NISSAN BASED VHCL)”.



5. Touch “LDW” on “SELECT SYSTEM” screen.
If “LDW” is not displayed, go to GI-39, "CONSULT-II Data Link Connector (DLC) Circuit" .



6. Touch any field, “WORK SUPPORT”, “SELF-DIAG RESULTS”, “DATA MONITOR”, “CAN DIAG SUPPORT MNTR”, “ACTIVE TEST” and “ECU PART NUMBER”, on selection screen.



WORK SUPPORT

Operation Procedure

Touch “WORK SUPPORT” on “SELECT DIAG MODE” screen.

Display Item

Operation	Function	Reference page
AUTO AIM	Outputs camera unit, calculates dislocation of the camera, and displays adjustment direction.	DI-86

SELF-DIAG RESULTS

Operation Procedure

1. Touch “SELF-DIAG RESULTS” on “SELECT DIAG MODE” screen.
2. See the displayed result of self-diagnosis.

Display Item

×: Applicable

Display item [Code]	LDW indicator lamp	Fail-safe	Malfunctions detected where...	Reference page
CAMERA UNIT MALF [C1B00]	×	×	LDW camera unit internal malfunction	DI-104
CAM AIMING INCMP [C1B01]	×	×	LDW camera aiming is not adjusted.	DI-104

Display item [Code]	LDW indicator lamp	Fail-safe	Malfunctions detected where...	Reference page
VHCL SPD DATA MALF [C1B02]	×	×	● Wheel sensor malfunction ● ABS actuator and electric unit (control unit) malfunction ● A/T vehicle speed sensor malfunction ● TCM malfunction	DI-105
ABNRML TEMP DETECT [C1B03]	×	×	Temperature around LDW camera unit is excessively high.	DI-105
CAN COMM CIRCUIT [U1000]	×	×	LDW camera unit detected CAN communication malfunction.	DI-105
CONTROL UNIT (CAN) [U1010]	×	×	LDW camera unit detected internal CAN communication circuit malfunction.	DI-105

DATA MONITOR

Operation Procedure

1. Touch “DATA MONITOR” on “SELECT DIAG MODE” screen.
2. Touch any of “ALL SIGNALS” and “SELECTION FROM MENU” on selection screen.
3. Touch “START”.
4. Display the data monitor.
5. If necessary, touch “COPY” in turn, and print data.

Monitored Item

×: Applicable

Monitored Item [unit]	ALL SIGNALS	SELECTION FROM MENU	Description
MAIN SW [ON/OFF]	×	×	Displays [ON/OFF] status as judged from LDW switch signal.
SW ON LAMP [ON/OFF]	×	×	Displays [ON/OFF] status of LDW system ON indicator signal output.
INDICATE LAMP [ON/OFF]	×	×	Displays [ON/OFF] status of LDW indicator signal output.
BUZZER OUTPUT [ON/OFF]	×	×	Displays [ON/OFF] status of LDW chime operation signal output.
LDW INACCURAT [ON/OFF]	×	×	Displays LDW camera unit status.
VHCL SPD SE [km/h] or [mph]	×	×	Displays vehicle speed calculated by LDW camera unit through CAN communication [ABS actuator and electric unit (control unit) transmits wheel sensor signal through CAN communication].
VHCL SPD AT [km/h] or [mph]	×	×	Displays vehicle speed calculated from A/T vehicle speed sensor by LDW camera unit through CAN communication (TCM transmits A/T vehicle speed sensor signal through CAN communication).
TURN SIGNAL [OFF/LH/RH]	×	×	Displays “Turn signal” status, determined from BCM through CAN communication.
LANE DETCT LH [ON/OFF]	×	×	Displays left lane marker is detected.
LANE DETCT RH [ON/OFF]	×	×	Displays right lane marker is detected.
CROSS LANE LH [ON/OFF]	×	×	Displays vehicle is crossing left lane.
CROSS LANE RH [ON/OFF]	×	×	Displays vehicle is crossing right lane.
WARN LANE LH [ON/OFF]	×	×	Displays warning for left lane.

Monitored Item [unit]	ALL SIGNALS	SELECTION FROM MENU	Description
WARN LANE RH [ON/OFF]	×	×	Displays warning for right lane.
VALID POS LH [VLD/INVLD]	×	×	Displays lateral position for left lane marker is valid.
VALID POS RH [VLD/INVLD]	×	×	Displays lateral position for right lane marker is valid.
AIMING DONE [OK/NG]	×	×	Displays camera aiming done.
AIMING RESULT [OK/NOK]	×	×	Displays camera aiming result.
FCTRY AIM YAW [deg]	×	×	Displays camera unit installation condition.
FCTRY AIM ROLL [deg]	×	×	Displays camera unit installation condition.
FCTRY AIM PIT [deg]	×	×	Displays camera unit installation condition.
XOFFSET [pixel]	×	×	Displays camera unit installation condition.

ACTIVE TEST

CAUTION:

- **Never perform the active test while driving.**
- **Active test cannot be started while LDW indicator lamp is illuminated.**

1. Touch “ACTIVE TEST” on “SELECT DIAG MODE” screen. Refer to DI-98, "CONSULT-II BASIC OPERATION" .
2. Touch any field, “BUZZER DRIVE ”, “SYSTEM ON LAMP DRIVE” and “INDICATOR LAMP DRIVE”, on selection screen.
3. Touch necessary item and “START”.
4. Active test screen will be shown.

Active Test Item

Active test item	Operation item	Function	Reference page
BUZZER DRIVE	LDW chime	This test is able to check LDW chime operation.	DI-101
SYSTEM ON LAMP DRIVE	LDW system ON indicator	This test is able to check LDW system ON indicator operation.	DI-102
INDICATOR LAMP DRIVE	LDW indicator lamp	This test is able to check LDW indicator lamp operation.	DI-102

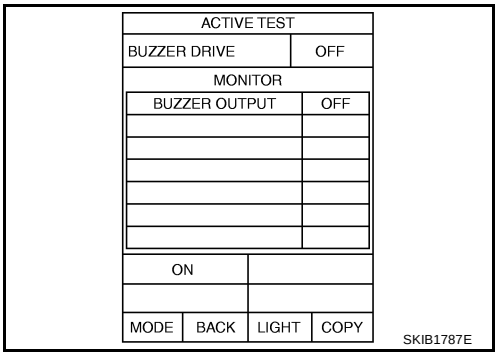
BUZZER DRIVE

Touch “ON” and “OFF” to check if LDW chime operates as follows.

“BUZZER DRIVE”

Touch “ON” : LDW chime is activated.

Touch “OFF” : LDW chime is not activated.



SYSTEM ON LAMP DRIVE

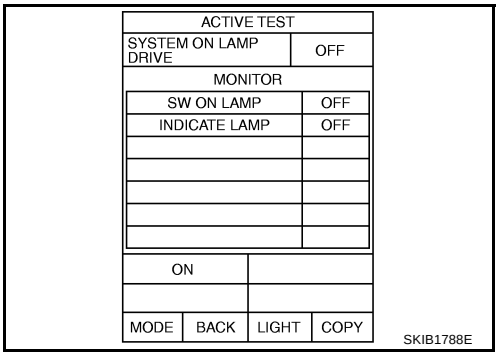
Touch “ON” and “OFF” to check if LDW system ON indicator operates as follows.

“SYSTEM ON LAMP DRIVE”

Touch “ON” : LDW system ON indicator illuminates.

Touch “OFF” : LDW system ON indicator turns OFF.

NOTE:
Perform “SYSTEM ON LAMP DRIVE” when LDW system ON indicator turns OFF.



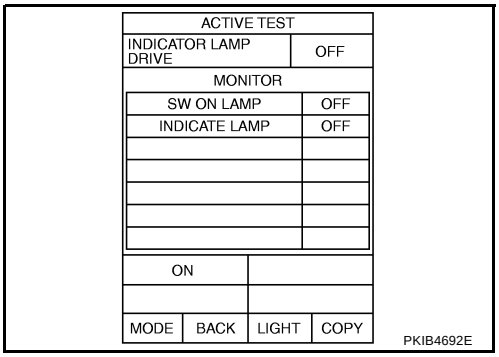
INDICATOR LAMP DRIVE

Touch “ON” and “OFF” to check that LDW indicator lamp operates as follows.

“INDICATOR LAMP DRIVE”

Touch “ON” : LDW indicator lamp illuminates.

Touch “OFF” : LDW indicator lamp OFF.



Trouble Diagnosis

AKS00C7O

HOW TO PERFORM TROUBLE DIAGNOSIS

1. Check the symptom and customer complaint.
2. Understand the outline of system. Refer to DI-82, "System Description" .
3. Perform the preliminary inspection. Refer to DI-103, "Preliminary Inspection" .
4. Referring to symptom chart, repair or replace the cause of the malfunction. Refer to DI-102, "SYMPTOM CHART" .
5. Erase DTC and perform self-diagnosis of LDW system again. Then perform LDW system running test. Refer to DI-98, "CONSULT-II Function (LDW)" and DI-85, "LDW SYSTEM RUNNING TEST" .
6. Does LDW system operate normally? If it operates normally, GO TO 7. If not, GO TO 4.
7. INSPECTION END

SYMPTOM CHART

Symptom	Diagnoses/Service procedure
LDW system is not activated. (LDW system ON indicator turns ON/OFF.)	Perform the following inspections. 1. DI-106, "LDW Chime Circuit Inspection" 2. DI-109, "LDW Indicator Lamp Circuit Inspection" Replace LDW camera unit, check function in the above inspections.
LDW system does not turn ON/OFF. (LDW system ON indicator does not turn ON/OFF.)	Perform DI-107, "LDW Switch Circuit Inspection" . Replace LDW camera unit, check function in the above inspection.
Warning functions are untimely. (Example) ● Warning does not function when driving on lane markers. ● Warning functions when driving in a lane. ● Different position from actual condition functions.	Perform DI-86, "Camera Aiming Adjustment" .
Functions when changing the course to the turn signal direction.	Perform DI-110, "Turn Signal Input Inspection" . Replace LDW camera unit, check function in the above inspection.
LDW indicator lamp does not illuminate with ignition switch ON.	Perform DI-109, "LDW Indicator Lamp Circuit Inspection" . Replace LDW camera unit, check function in the above inspection.

Preliminary Inspection

AKS00C9K

1. CHECK CAMERA LENS AND WINDSHIELD

Are camera lens and windshield contaminated with foreign materials?

YES >> Clean camera lens and windshield.
NO >> GO TO 2.

2. CHECK CAMERA UNIT INSTALLATION CONDITION

Check camera unit installation condition (installation position, properly tightened, a bent bracket).

OK or NG

OK >> GO TO 3.
NG >> Install camera unit properly, and adjust camera aiming. Refer to DI-86, "Camera Aiming Adjustment" .

3. CHECK VEHICLE HEIGHT

Check vehicle height. Refer to FSU-18, "SERVICE DATA" .

Is vehicle height appropriate?

OK >> GO TO 4.
NG >> Repair vehicle to appropriate height.

4. CHECK LDW CAMERA UNIT SELF-DIAGNOSIS

Perform the LDW camera unit self-diagnosis. Refer to DI-98, "CONSULT-II Function (LDW)" .

Self-diagnostic results content

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

5. CHECK COMBINATION METER

Check combination meter function.

Do speedometer and turn signal indicator normal function?

YES >> INSPECTION END
NO >> Check combination meter. Refer to DI-15, "Trouble Diagnosis" .

Power Supply and Ground Circuit Inspection

AKS00C82

1. CHECK FUSE

Check for blown LDW camera unit fuse.

Unit	Power source	Fuse No.
LDW camera unit	Ignition switch (ON)	12

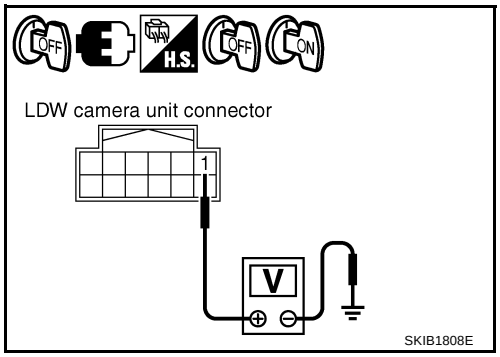
OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-82, "FUSE BLOCK - JUNCTION BOX (J/B)" .

2. CHECK POWER SUPPLY CIRCUIT

Check voltage between LDW camera unit and ground.

Terminals			Ignition switch position	
(+)		(–)	OFF	ON
Connector	Terminal (Wire color)			
R9	1 (B/R)	Ground	0 V	Battery voltage



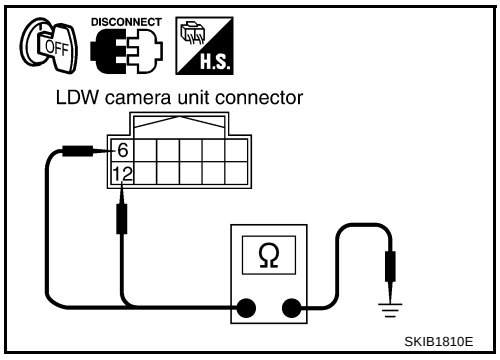
OK or NG

OK >> GO TO 3.
NG >> Check harness between LDW camera unit and fuse.

3. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect LDW camera unit connector.
3. Check continuity between LDW camera unit harness connector R9 terminals 6 (B), 12 (B) and ground.

6 (B) – Ground
12 (B) – Ground **: Continuity should exist.**



OK or NG

OK >> Power supply and ground circuit are OK.
NG >> Repair ground harness.

DTC [C1B00] CAMERA UNIT MALF

AKS00C7Z

1. CHECK SELF-DIAGNOSIS

1. Perform self-diagnosis.
2. Check if any item other than “[C1B00] CAMERA UNIT” is displayed on self-diagnosis display.

Is any displayed?

YES >> Repair or replace applicable item.
NO >> Replace LDW camera unit.

DTC [C1B01] CAM AIMING INCMP

AKS00C80

1. PREFORM CAMERA AIMING ADJUSTMENT

1. Preform camera aiming adjustment. Refer toDI-86, "Camera Aiming Adjustment" .
2. Erase DTC and perform the LDW camera unit self-diagnosis.

Self-diagnostic results content

No malfunction detected>>INSPECTION END
Malfunction detected>>Replace LDW camera unit.

DTC [C1B02] VHCL SPD DATA MALF

AKS00C7Y

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

Perform the ABS actuator and electric unit (control unit) self-diagnosis. Refer toBRC-25, "CONSULT-II Functions" .

Self-diagnostic results content

No malfunction detected>>GO TO 2.
Malfunction detected>>Check applicable parts, and repair or replace corresponding parts.

2. TCM SELF-DIAGNOSIS

Perform the TCM self-diagnosis. Refer to AT-90, "CONSULT-II Function (A/T)" .

Self-diagnostic results content

No malfunction detected>>Replace LDW camera unit.
Malfunction detected>>Check applicable parts, and repair or replace corresponding parts.

DTC [C1B03] ABNRML TEMP DETECT

AKS00C81

1. COOLING CAMERA UNIT

1. Cooling camera unit.
2. Erase DTC and perform the LDW camera unit self-diagnosis.

Self-diagnostic results content

No malfunction detected>>INSPECTION END
Malfunction detected>>Replace LDW camera unit.

DTC [U1000] CAN COMM CIRCUIT

AKS00C7X

1. CHECK CAN COMMUNICATION

1. Select “SELF-DIAG RESULTS” mode for “LDW” with CONSULT-II.
2. Print out CONSULT-II screen.

>> Go to “LAN SYSTEM”. Refer to LAN-5, "Precautions When Using CONSULT-II" .

DTC [U1010] CONTROL UNIT (CAN)

AKS00C9I

Replace LDW camera unit, when “[U1010] CONTROL UNIT (CAN)” is displayed on self-diagnosis display.

LDW Chime Circuit Inspection

AKS00C83

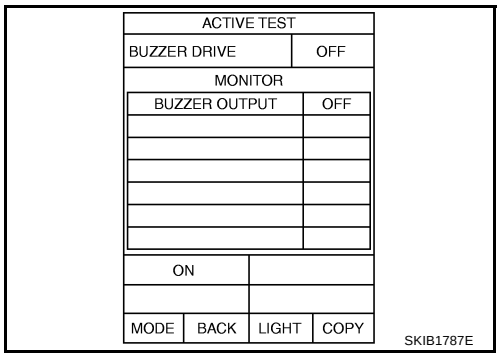
1. CHECK LDW CHIME OPERATION

Check LDW chime operation “BUZZER DRIVE” in “ACTIVE TEST” mode with CONSULT-II.

“BUZZER DRIVE”

Touch “ON” : LDW chime is activated.

Touch “OFF” : LDW chime is not activated.



OK or NG

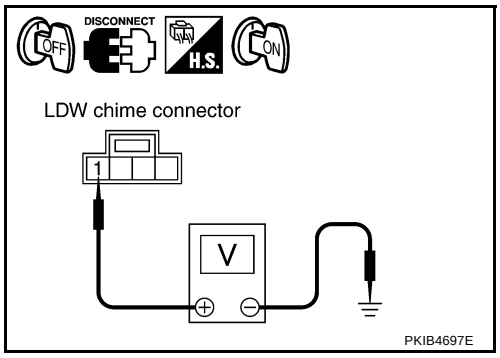
OK >> LDW chime is OK. Return to DI-102, "SYMPTOM CHART" .

NG >> GO TO 2.

2. CHECK LDW CHIME POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect LDW chime connector.
3. Turn ignition switch ON.
4. Check voltage between warning chime harness connector M97 terminal 1 (G/R) and ground.

1 (G/R) – Ground : Battery voltage



OK or NG

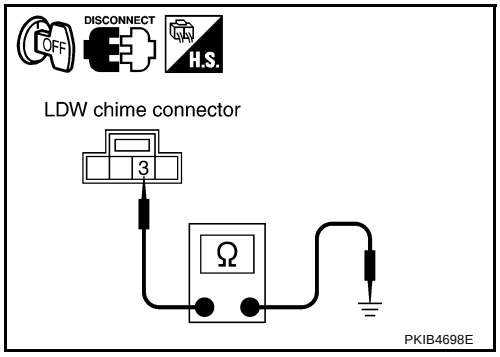
OK >> GO TO 3.

NG >> Check harness between fuse and LDW chime.

3. CHECK LDW CHIME GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Check continuity between LDW chime harness connector M97 terminal 3 (B) and ground.

3 (B) – Ground : Continuity should exist.



OK or NG

OK >> GO TO 4.

NG >> Repair harness or connector.

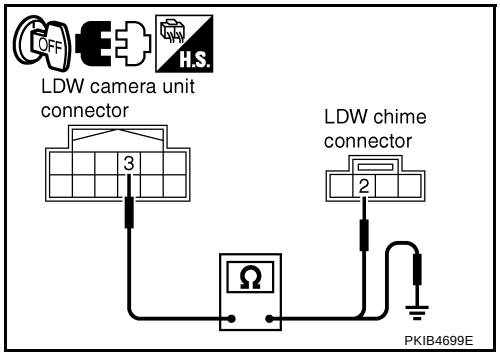
4. CHECK LDW CHIME SIGNAL CIRCUIT

1. Disconnect LDW camera unit connector.
2. Check continuity between LDW camera unit harness connector R9 terminal 3 (R/W) and LDW chime harness connector M97 terminal 2 (R/W).

3 (R/W) – 2 (R/W) : Continuity should exist.

3. Check continuity between LDW camera unit harness connector R9 terminal 3 (R/W) and ground.

3 (R/W) – Ground : Continuity should not exist.



OK or NG

OK >> GO TO 5.

NG >> Repair harness or connector.

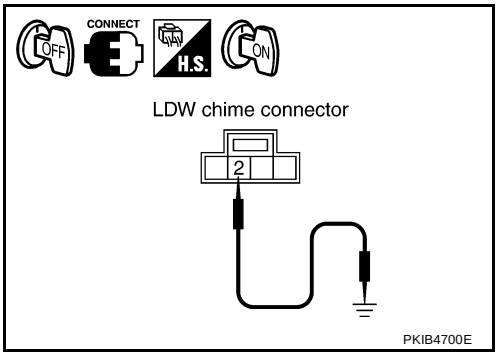
5. CHECK LDW CHIME OPERATION

1. Connect LDW chime connector.
2. Turn ignition switch ON.
3. Ground LDW chime harness connector M97 terminal 2 (R/W).

2 (R/W) – Ground : LDW chime should operate.

OK or NG

OK >> Replace LDW camera unit.
NG >> Replace LDW chime.



LDW Switch Circuit Inspection

AKS00C84

1. CHECK LDW SYSTEM ON INDICATOR OPERATION

Check LDW system ON indicator operation when LDW switch is ON/OFF.

OK or NG

OK >> LDW system ON indicator is OK. Return to DI-102, "SYMPTOM CHART" .
NG >> GO TO 2.

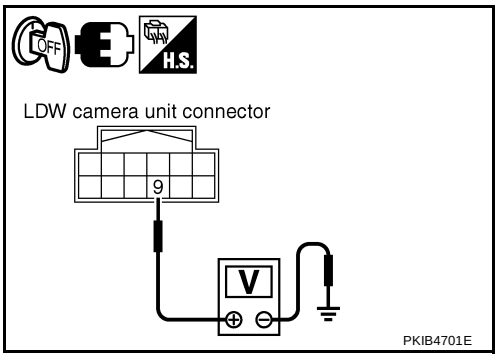
2. CHECK LDW SWITCH SIGNAL INPUT

Check voltage between LDW camera unit harness connector R9 terminal 9 (G) and ground.

9 (G) – Ground
When LDW switch is pushed : Approx. 0 V
When LDW switch is released : Approx. 5 V

OK or NG

OK >> GO TO 6.
NG >> GO TO 3.



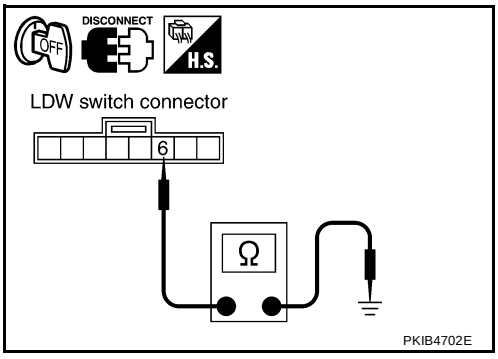
3. CHECK LDW SWITCH GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect LDW switch connector.
3. Check continuity between LDW switch connector M96 terminal 6 (B) and ground.

6 (B) – Ground : Continuity should exist.

OK or NG

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



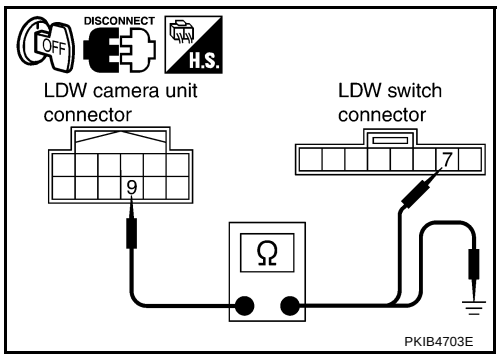
4. CHECK LDW SWITCH SIGNAL INPUT CIRCUIT

1. Disconnect LDW camera unit connector.
2. Check continuity between LDW camera unit harness connector R9 terminal 9 (G) and LDW switch harness connector M96 terminal 7 (G).

9 (G) – 7 (G) : Continuity should exist.

3. Check continuity between LDW camera unit harness connector R9 terminal 9 (G) and ground.

9 (G) – Ground : Continuity should not exist.



OK or NG

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

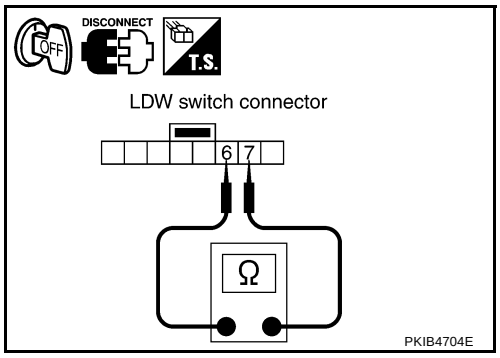
5. CHECK LDW SWITCH

Check LDW switch.

6 – 7

When LDW switch is pushed : Continuity should exist.

When LDW switch is released : Continuity should not exist.



OK or NG

OK >> Replace LDW camera unit.
NG >> Replace LDW switch.

6. CHECK LDW SYSTEM ON INDICATOR OPERATION

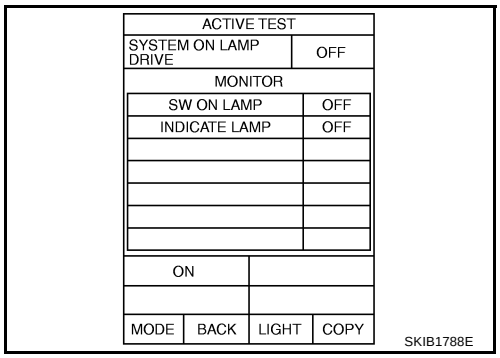
Check LDW system ON indicator operation “SYSTEM ON LAMP DRIVE” in “ACTIVE TEST” mode with CONSULT-II.

“SYSTEM ON LAMP DRIVE”

Touch “ON” : LDW system ON indicator illuminates.

Touch “OFF” : LDW system ON indicator turns OFF.

NOTE:
Perform “SYSTEM ON LAMP DRIVE” when LDW system ON indicator turns OFF.



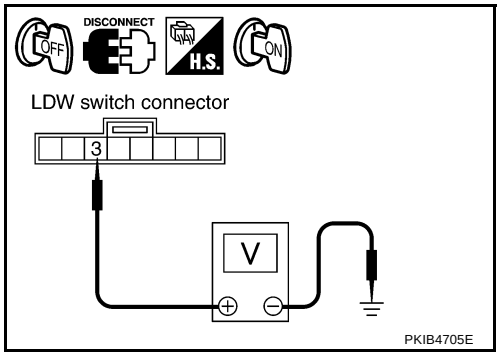
OK or NG

OK >> Replace LDW camera unit.
NG >> GO TO 7.

7. CHECK LDW SYSTEM ON INDICATOR POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect LDW switch connector.
3. Turn ignition switch ON.
4. Check voltage between LDW switch harness connector M96 terminal 3 (G/R) and ground.

3 (G/R) – Ground : Battery voltage



OK or NG

OK >> GO TO 8.
NG >> Check harness between fuse and LDW switch.

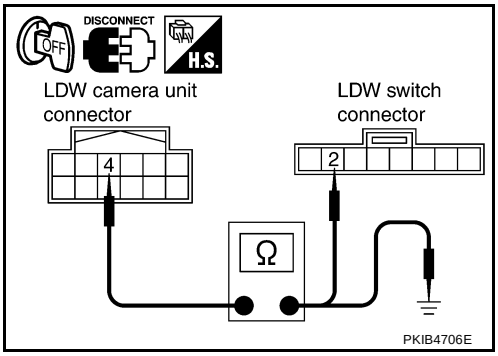
8. CHECK LDW SYSTEM ON INDICATOR SIGNAL CIRCUIT

1. Disconnect LDW camera unit connector.
2. Check continuity between LDW camera unit harness connector R9 terminal 4 (Y) and LDW switch harness connector M96 terminal 2 (Y).

4 (Y) – 2 (Y) : Continuity should exist.

3. Check continuity between LDW camera unit harness connector R9 terminal 4 (Y) and ground.

4 (Y) – Ground : Continuity should not exist.



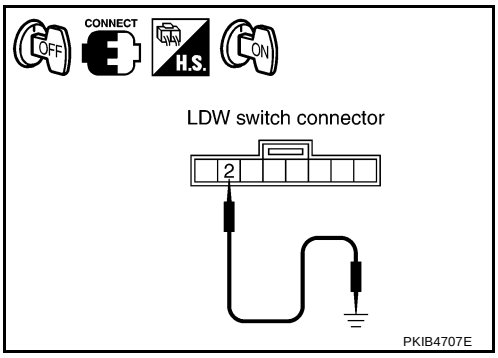
OK or NG

OK >> GO TO 9.
NG >> Repair harness or connector.

9. CHECK LDW SYSTEM ON INDICATOR

1. Connect LDW switch connector.
2. Turn ignition switch ON.
3. Ground LDW switch harness connector M96 terminal 2 (Y).

2 (Y) – Ground : LDW system ON indicator should illuminate.



OK or NG

OK >> Replace LDW camera unit.
NG >> Replace LDW switch.

LDW Indicator Lamp Circuit Inspection

AKS00C85

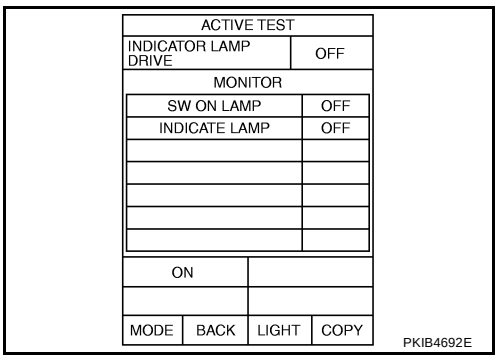
1. CHECK LDW INDICATOR LAMP OPERATION

Check LDW indicator operation “INDICATOR LAMP DRIVE” in “ACTIVE TEST” mode with CONSULT-II.

“INDICATOR LAMP DRIVE”

Touch “ON” : LDW indicator lamp illuminates.

Touch “OFF” : LDW indicator lamp OFF.



OK or NG

OK >> LDW indicator is OK. Return to DI-102, "SYMPTOM CHART" .
NG >> GO TO 2.

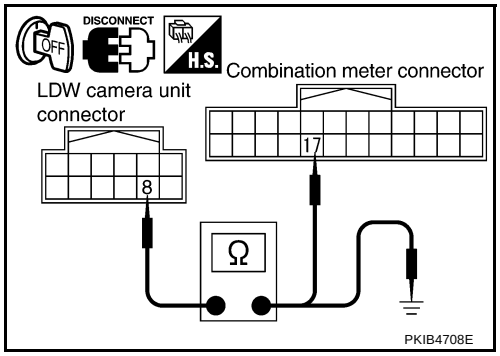
2. CHECK LDW INDICATOR LAMP SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect LDW camera unit connector and combination meter connector.
3. Check continuity between LDW camera unit harness connector R9 terminal 8 (G/W) and combination meter harness connector M20 terminal 17 (G/W).

8 (G/W) – 17 (G/W) : Continuity should exist.

4. Check continuity between LDW camera unit harness connector R9 terminal 8 (G/W) and ground.

8 (G/W) – Ground : Continuity should not exist.



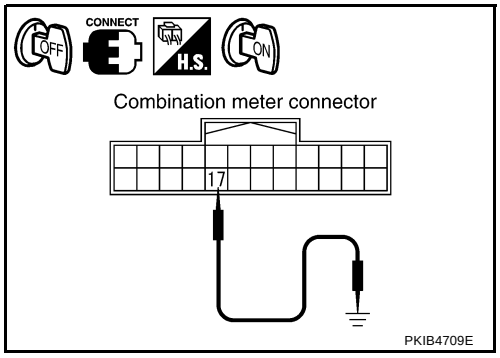
OK or NG

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

3. CHECK LDW INDICATOR LAMP OPERATION

1. Connect combination meter connector.
2. Turn ignition switch ON.
3. Ground combination meter harness connector M20 terminal 17 (G/W).

17 (G/W) – Ground : LDW indicator should illuminate.



OK or NG

OK >> Replace LDW camera unit.
NG >> Replace combination meter.

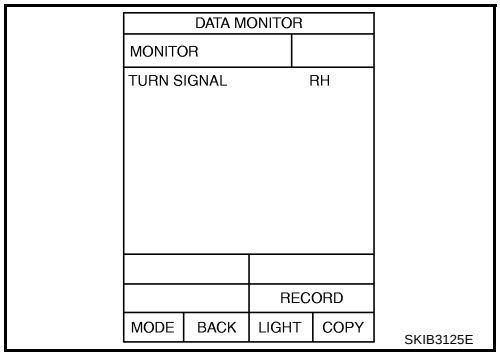
Turn Signal Input Inspection

AKS00C9J

1. CHECK TURN SIGNAL INPUT

Check turn signal input “TURN SIGNAL” in “DATA MONITOR” mode with CONSULT-II.

“TURN SIGNAL”
When lighting switch is in TURN RH position : RH
When lighting switch is in TURN LH position : LH
When hazard switch is turned ON : RH/LH



OK or NG

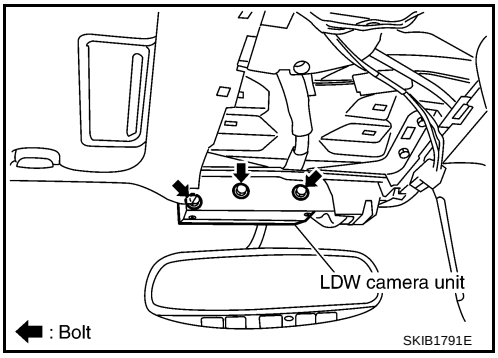
OK >> Turn signal input is OK. Return to DI-102, "SYMPTOM CHART" .
NG >> Check turn signal and hazard warning lamps system, and repair or replace corresponding parts. Refer to LT-100, "How to Proceed With Trouble Diagnosis" .

Removal and Installation for LDW Camera Unit

AKS00C7S

REMOVAL

1. Remove roof console. Refer to EI-41, "HEADLINING" .
2. Disconnect LDW camera unit connector.
3. Remove the bolts (3), and remove LDW camera unit.



INSTALLATION

Installation is the reverse order of removal.

CAUTION:

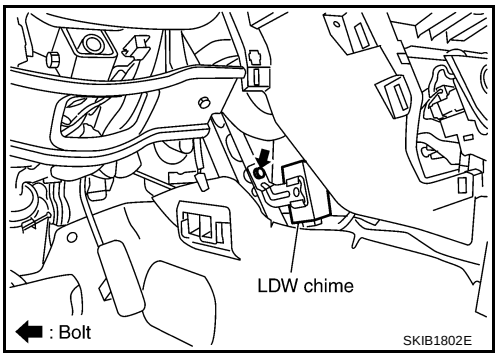
- **Remove the camera lens cap for replacement.**
- **Never give an impact to the LDW camera unit.**
- **Adjust the camera aiming every time the LDW camera unit is removed or installed. Refer to DI-86, "Camera Aiming Adjustment" .**

Removal and Installation for LDW Chime

AKS00C7W

REMOVAL

1. Remove instrument side panel (LH). Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove the bolt (1).
3. Disconnect LDW chime connector and remove LDW chime.



INSTALLATION

Installation is the reverse order of removal.

Removal and Installation for LDW Switch

AKS00C7V

Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .

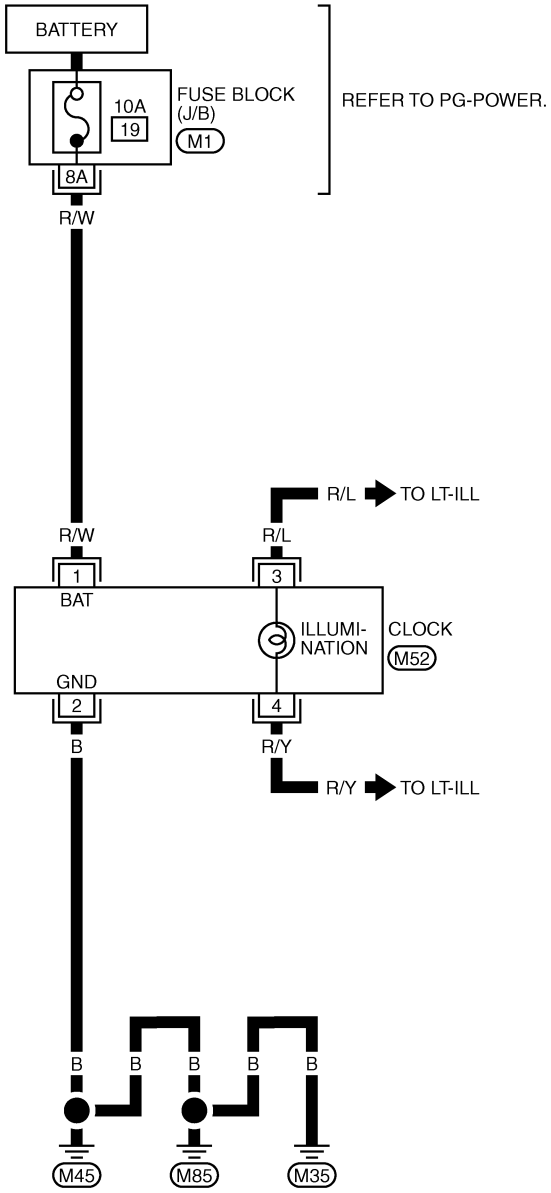
CLOCK

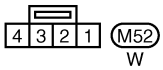
PFP:25820

Wiring Diagram — CLOCK —

AKS0056I

DI-CLOCK-01





REFER TO THE FOLLOWING.
M1 -FUSE BLOCK-JUNCTION BOX (J/B)

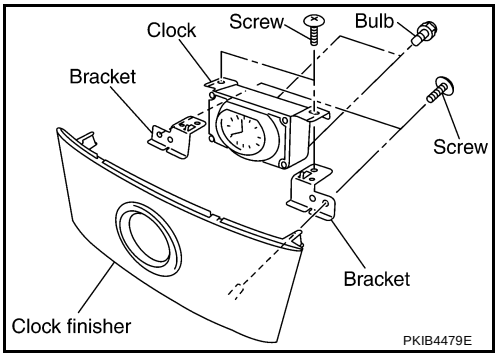
TKWM0699E

Removal and Installation of Clock

AKS007G3

REMOVAL

1. Remove instrument clock finisher. Refer to IP-12, "(E) Instrument Clock Finisher" .
2. Remove screws (2), and remove clock from instrument clock finisher.
3. Remove screws (2), and remove bracket.
4. Remove bulbs.



INSTALLATION

Installation is the reverse order of removal.

REAR VIEW MONITOR

PFP:28260

System Description

AKS0068D

- The rear view monitor is equipped to check the rearward of the vehicle with display when A/T selector lever is in reverse position.
- The lines of vehicle sides and the distance from the rear end of the vehicle are provided on display as a guide. It allows the driver to know the distance between the vehicle and a rearward object, and the width of the vehicle much easier.

POWER SUPPLY AND GROUND

Power is supplied at all time

- through 10A fuse [No. 19, located in fuse block (J/B)]
- to rear view camera control unit terminal 1.

When ignition switch is in ACC or ON position, power is supplied

- through 10A fuse [No. 6, located in fuse block (J/B)]
- to rear view camera control unit terminal 2.

When ignition switch is in ON or START position, power is supplied

- through 10A fuse (No. 83, located in IPDM E/R)
- to back-up lamp relay terminals 2 and 3.

Ground is supplied

- to rear view camera control unit terminal 3
- through grounds M35, M45 and M85.

AV COMMUNICATION LINE

Rear view camera control unit is connected to the following units with AV communication line. Each unit transmits/receives data with AV communication line.

- NAVI control unit
- Display
- Display control unit
- A/C and AV switch

REAR VIEW CAMERA OPERATION

When A/T selector lever is reverse position, power is supplied

- through back-up lamp relay terminal 1
- to TCM terminal 7.

Then back-up lamp relay is energized,

- from back-up lamp relay terminal 5
- to rear view camera control unit terminal 4.

Then, rear view camera control unit is sent camera ON signal

- through rear view camera control unit terminal 8
- to rear view camera terminal 1.

An image taken by rear view camera is sent

- through rear view camera terminals 3 and 4
- to rear view camera control unit terminals 10 and 9.

Then an image is sent

- through rear view camera control unit terminals 12 and 14
- to the display terminals 15 and 16.

An image of rear view will be projected on the display.

Side Distance Guideline

When A/T selector lever is in reverse position, rear view camera control unit is sent rear view camera guideline image

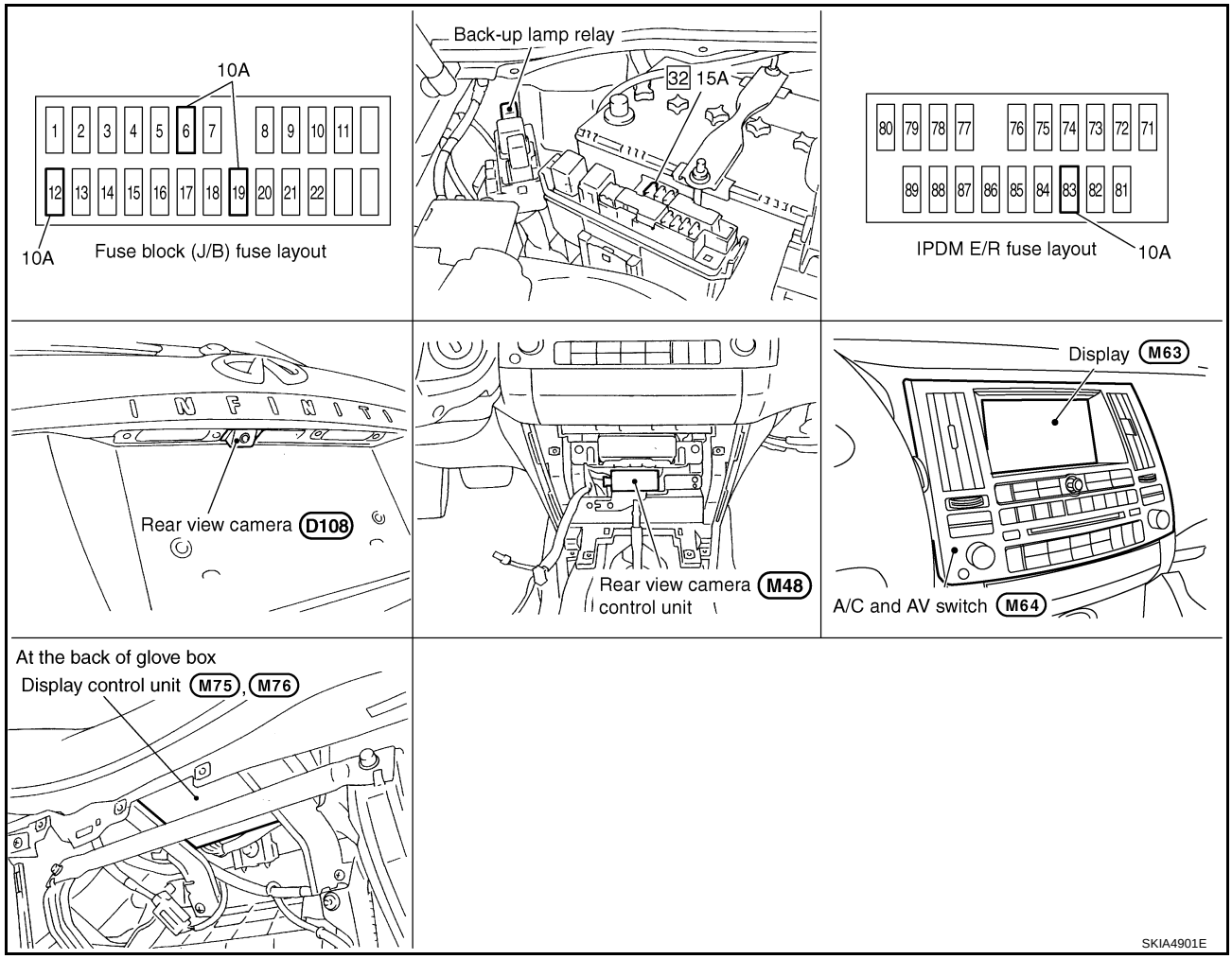
- through rear view camera control unit terminals 12 and 14

- to the display terminals 15 and 16.

Rear view camera guideline will be projected on the display.
Display shows image from rear view camera image and rear view camera guideline.

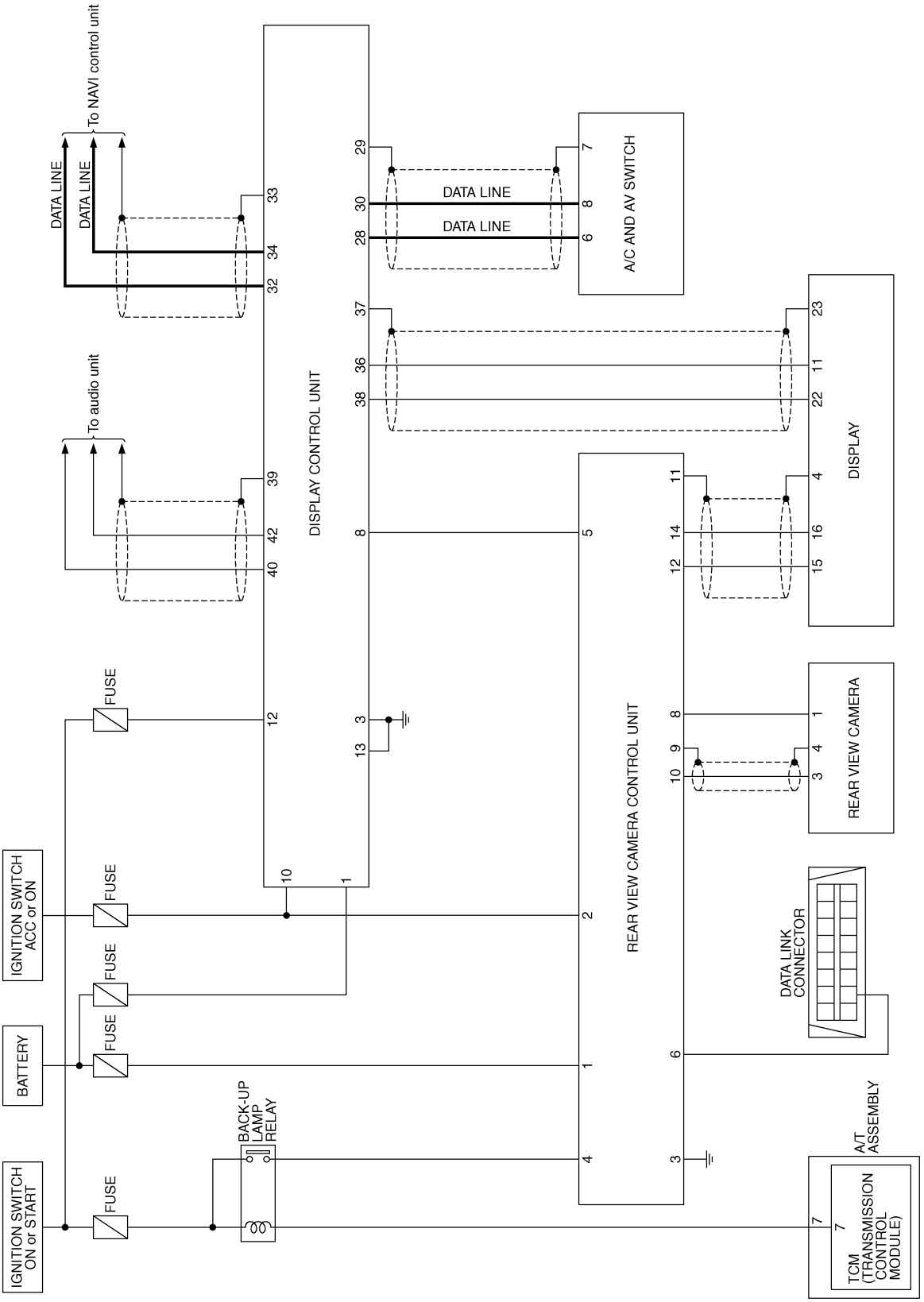
Component Parts and Harness Connector Location

AKS0068E



Schematic

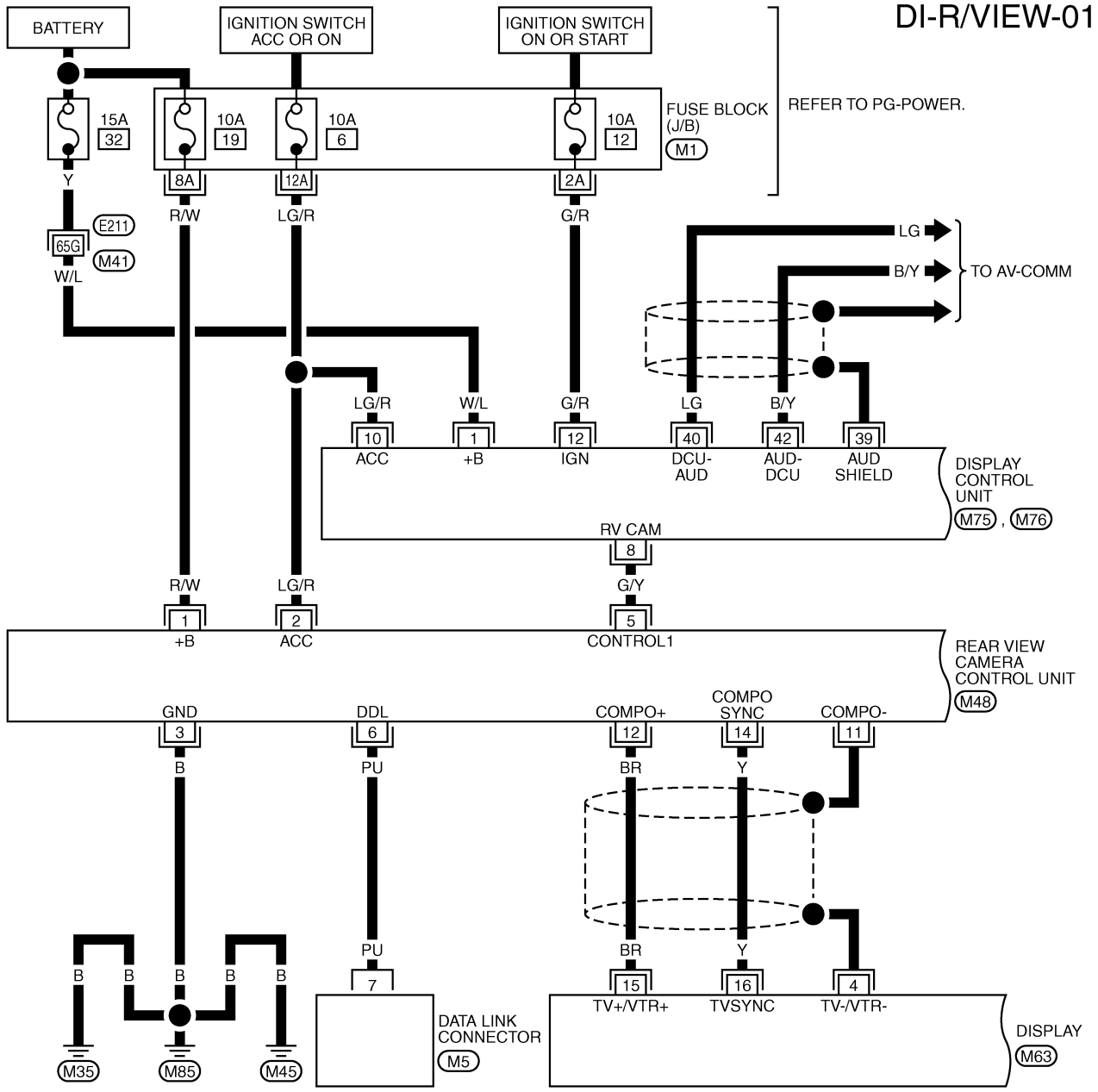
AKS0068F

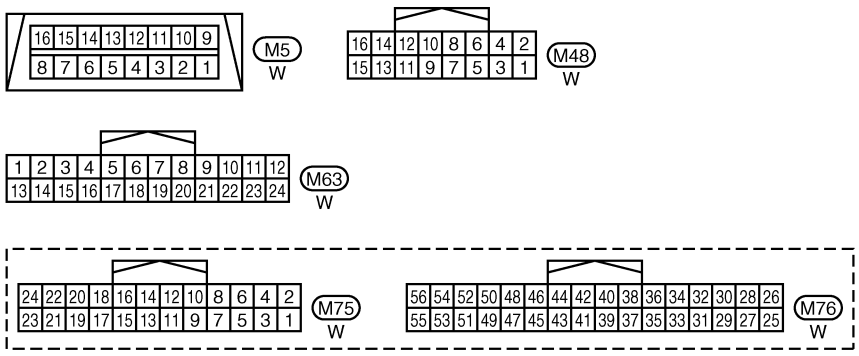


TKWM1283E

Wiring Diagram — R/VIEW —

AKS0068G





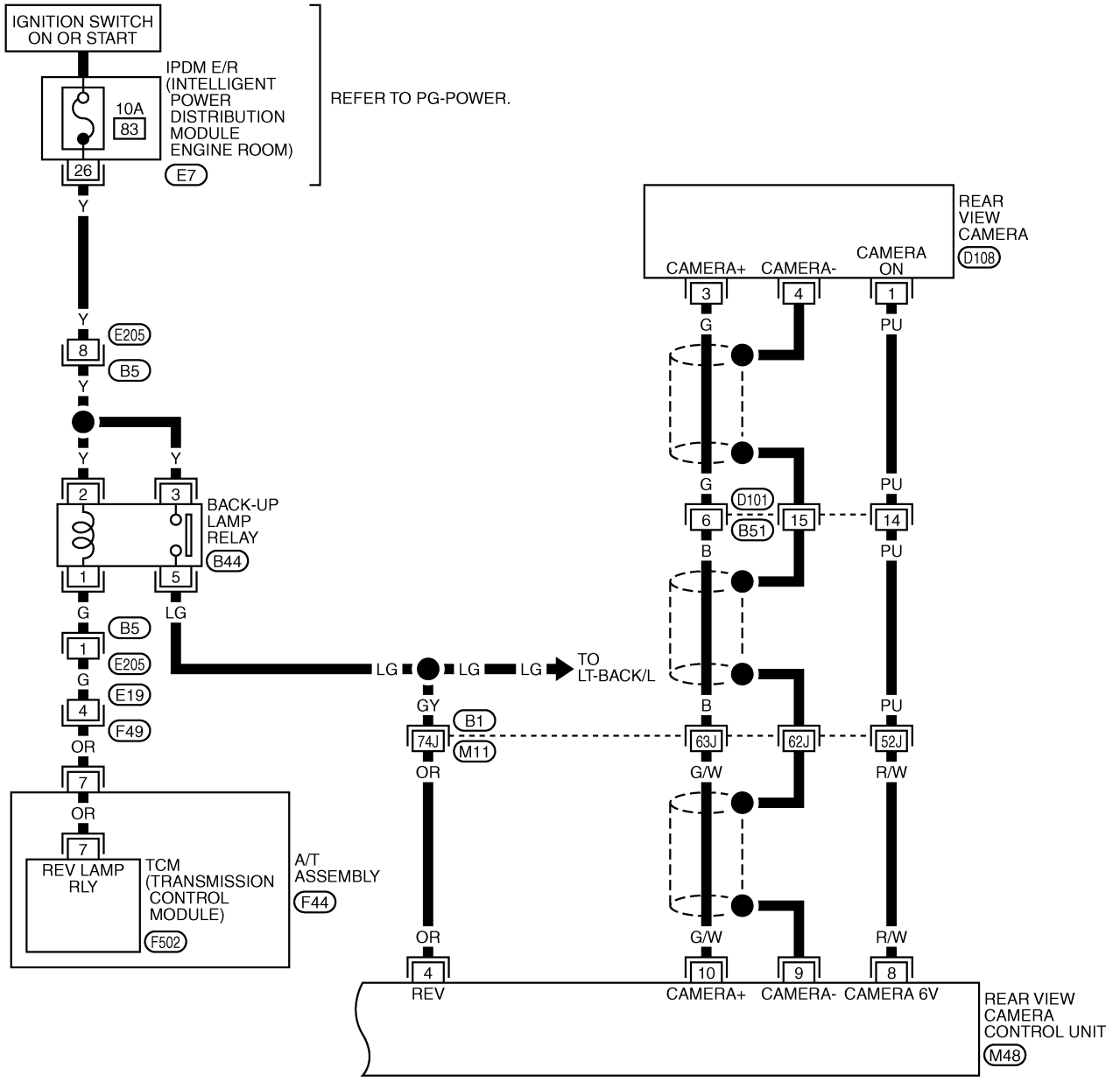
REFER TO THE FOLLOWING.

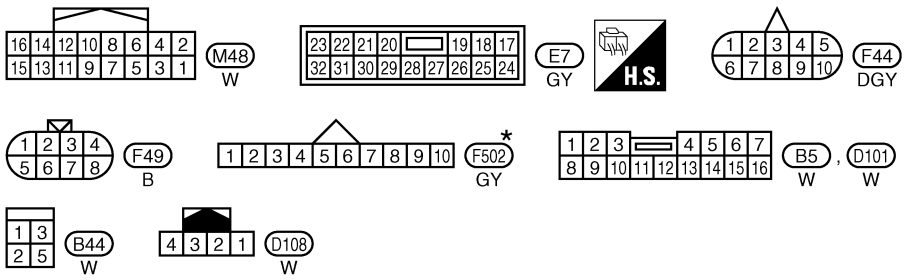
E211 -SUPER MULTIPLE JUNCTION (SMJ)

M1 -FUSE BLOCK-JUNCTION BOX (J/B)

TKWM0701E

DI-R/VIEW-02



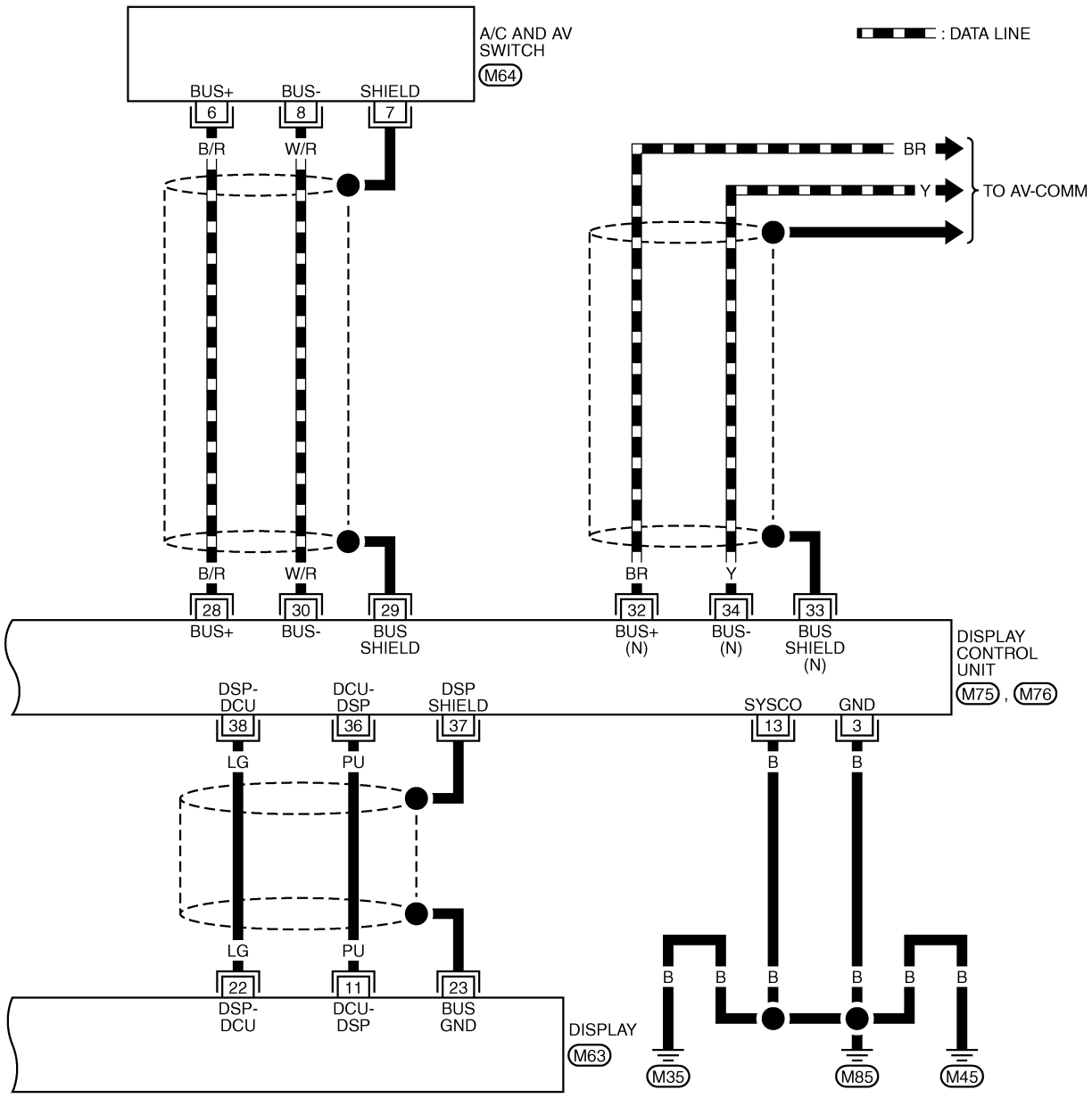


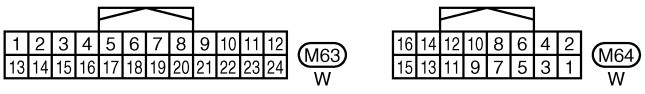
REFER TO THE FOLLOWING.
B1 -SUPER MULTIPLE JUNCTION (SMJ)

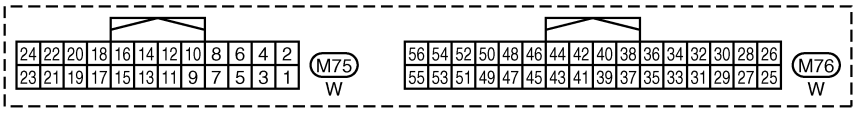
★: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWM1371E

DI-R/VIEW-03



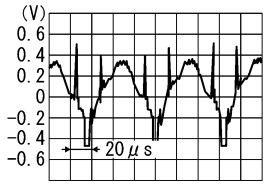
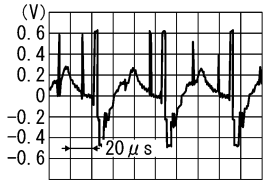
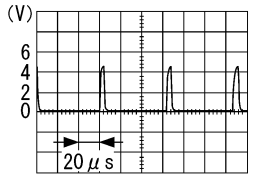




TKWM0703E

Terminals and Reference Value for Rear View Camera Control Unit

AKS0068H

Terminals		Item	Condition		Reference value
Terminal No.	Wire color		Ignition switch	Operation	
1	R/W	Battery power supply	OFF	—	Battery voltage
2	LG/R	Ignition switch ACC or ON	ACC	—	Battery voltage
3	B	Ground	ON	—	Approx. 0 V
4	OR	Reverse signal input	ON	A/T selector lever R range position	Battery voltage
				A/T selector lever in other than R range position	Approx. 0 V
5	G/Y	CONTROL 1	ON	—	Approx. 0 V
6	PU	DDL	—	—	—
8	R/W	Camera power output	ON	A/T selector lever R range position	Approx. 6 V
9	—	Camera image input (–)	ON	—	Approx. 0 V
10	G/W	Camera image input (+)	ON	A/T selector lever R range position	 SKIA4894E
11	—	Shield ground	—	—	—
12	BR	Composite image output	ON	A/T selector lever R range position	 SKIA4896E
14	Y	Composite image synchronization signal output	ON	A/T selector lever R range position	 SKIA5896E

CONSULT-II Function (REARVIEW CAMERA)

AKS007FM

CONSULT-II performs the following functions communicating with the rear view camera control unit.

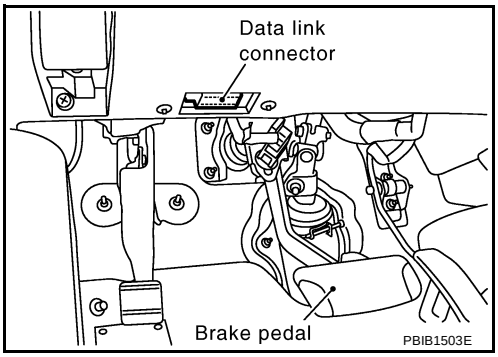
System	Diagnosis mode	Description	Reference page
REARVIEW CAMERA	Work support	It can adjust the side distance guidelines which overlap the rear view monitor image.	DI-122
	Data monitor	Displays rear view camera control unit input data in real time.	DI-122
	ECU part number	Displays part number of rear view camera control unit.	—

CONSULT-II BASIC OPERATION

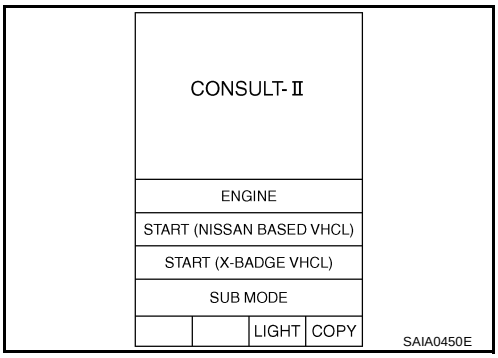
CAUTION:

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

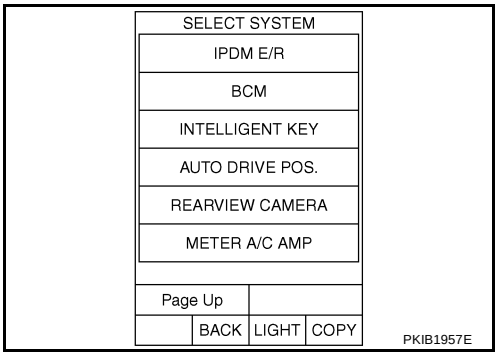
1. With the ignition switch OFF, connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector, then turn ignition switch ON.



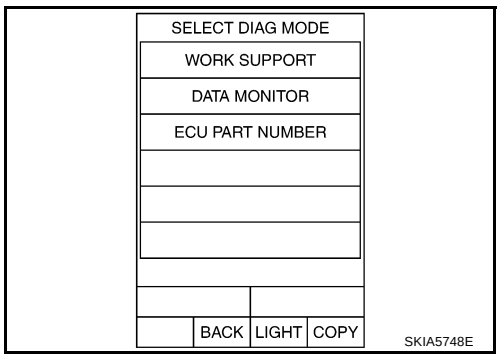
2. Touch “START (NISSAN BASED VHCL)”.



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



4. Select “WORK SUPPORT”, “DATA MONITOR” or “ECU PART NUMBER”.



WORK SUPPORT

Operation Procedure

1. Touch “DATA MONITOR” on “SELECT DIAG MODE” screen.
2. Touch either “SELCT GUIDELINE PATTERN” or “ADJ GUIDELINE POSITION” on the “WORK SUPPORT” screen.

SELCT GUIDELINE PATTERN	Side distance guideline is optional from two patterns.
ADJ GUIDELINE POSITION	Side distance guideline is adjustable toward up and down, right and left.

Refer to DI-123, "SIDE DISTANCE GUIDELINE CORRECTION PROCEDURE" for detail.

DATA MONITOR

Operation Procedure

1. Touch “DATA MONITOR” on “SELECT DIAG MODE” screen.
2. Touch either “ALL SIGNALS” or “SELECTION FROM MENU” on the “DATA MONITOR” screen.

ALL SIGNALS	Monitors all signals.
SELECTION FROM MENU	Selects and monitors individual signal.

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

Display Item List

Display item [Unit]	ALL SIGNALS	SELECTION FROM MENU	Contents
R POSI SIG [ON/OFF]	X	X	Indicates [ON/OFF] condition of R range position signal input.

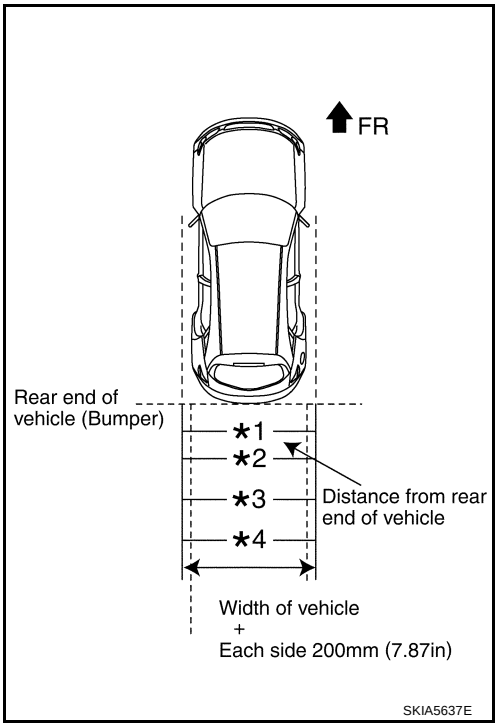
Side Distance Guideline Correction

AKS0068L

This mode is used to modify the side distance guidelines if they are dislocated from the rear view monitor image, because of variations of body/camera mounting conditions.

SIDE DISTANCE GUIDELINE CORRECTION PROCEDURE

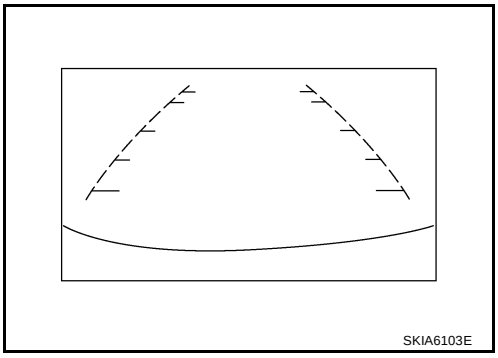
1. Create a correction line to modify the screen.
   Draw lines on the rearward of the vehicle passing through the following points: 0.2 m (7.87 in) from both sides of the vehicle, and
   - *1: 0.5 m (1.5 feet)
   - *2: 1 m (3 feet)
   - *3: 2 m (7 feet)
   - *4: 3 m (10 feet)
     and from the rear end of the bumper



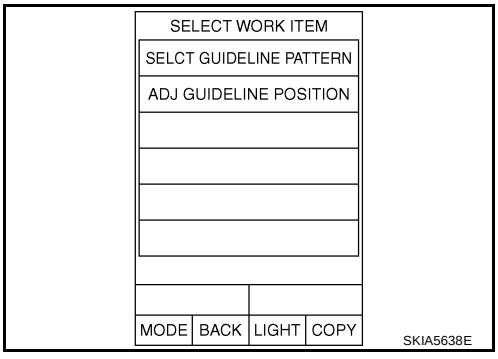
2. With the ignition switch OFF, connect “CONSULT-II” and “CONSULT-II CONVERTER” to the data link connector, then turn ignition switch ON. Touch “REARVIEW CAMERA” on CONSULT-II.

   CAUTION:
   Stop engine for the safety when correcting side distance guideline.

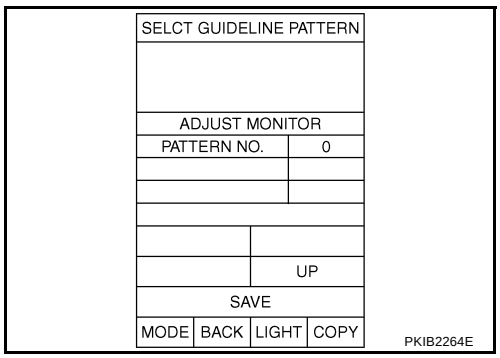
3. Shift A/T selector lever to R position.



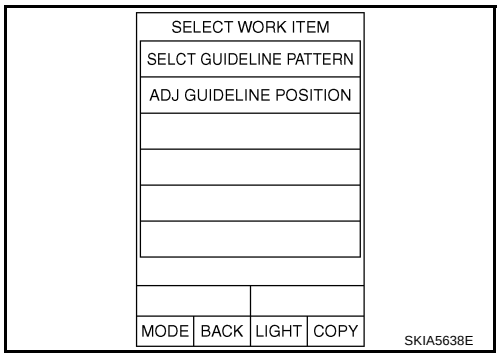
4. Touch “SELCT GUIDELINE PATTERN” on “SELECT WORK ITEM” screen.



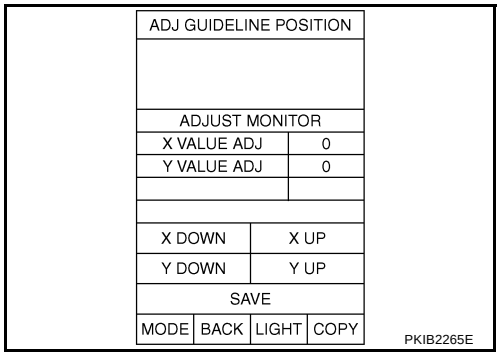
5. Touch “UP” or “DOWN”, and select the guide line, “PATTERN NO. 0” or “PATTERN NO. 1”, which is the closest to the corrected line.
6. Touch “SAVE”, and confirm the guide line.
7. Touch “END”.



8. Touch “ADJ GUIDELINE POSITION” on “SELECT WORK ITEM” screen.



9. Adjust the guide line touching “X UP”, “X DOWN”, “Y UP” or “Y DOWN” so that the corrected line can fit the guide line.
10. Touch “SAVE”, and confirm the guide line.
11. Touch “END” to finish correcting.



Power Supply and Ground Circuit Inspection

AKS0068M

1. CHECK FUSE

Make sure the fuses for rear view camera control unit is blown.

Unit	Power source	Fuse No.
Rear view camera control unit	Battery	19
	Ignition switch ACC or ON	6

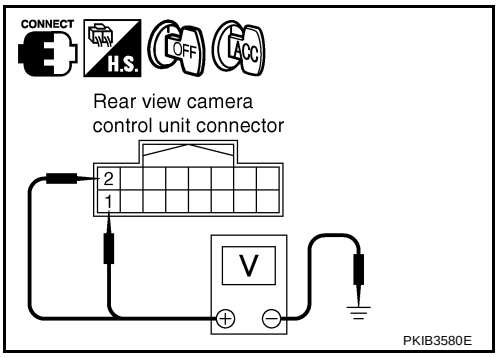
OK or NG

OK >> GO TO 2.
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to PG-3, "POWER SUPPLY ROUTING CIRCUIT" .

2. CHECK POWER SUPPLY CIRCUIT

Check voltage between rear view camera control harness connector M48 terminals 1 (R/W), 2 (LG/R) unit and ground.

Terminals			OFF	ACC
(+)		(–)		
Connector	Terminal (Wire color)			
M48	1 (R/W)	Ground	Battery voltage	Battery voltage
	2 (LG/R)	Ground	0 V	Battery voltage



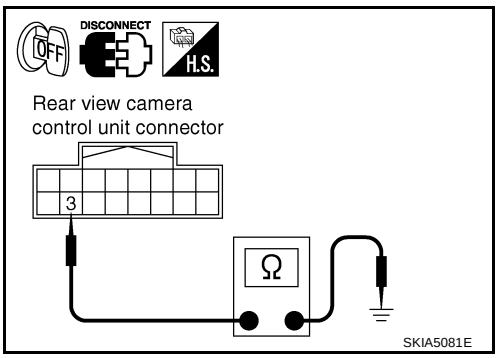
OK or NG

OK >> GO TO 3.
NG >> Check harness between rear view camera control unit and fuse.

3. CHECK REAR VIEW CAMERA CONTROL UNIT GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear view camera control unit connector.
3. Check continuity between rear view camera control unit harness connector M48 terminal 3 (B) and ground.

3 (B) – Ground : Continuity should exist.



OK or NG

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

Rear View Is Not Displayed With The A/T Selector Lever In R-Position

AKS0068N

1. BACK-UP LAMP INSPECTION

1. Turn ignition switch ON.
2. Shift A/T selector lever to R position.

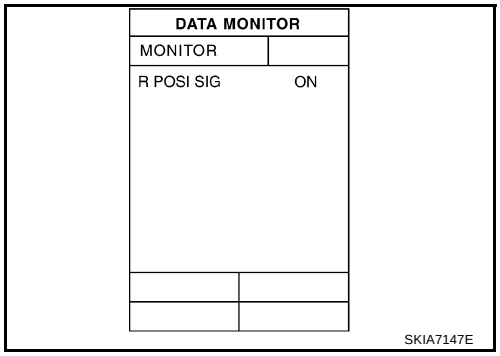
Does back-up lamp illuminate?

YES >> GO TO 2.
NO >> Check back-up lamp system. Refer to LT-127, "BACK-UP LAMP" in LT section.

2. CHECK REVERSE POSITION INPUT SIGNAL

With CONSULT-II

Select “DATA MONITOR” of “REARVIEW CAMERA”. Operate ignition switch with “R POSI SIG” of “DATA MONITOR” and check operate status.



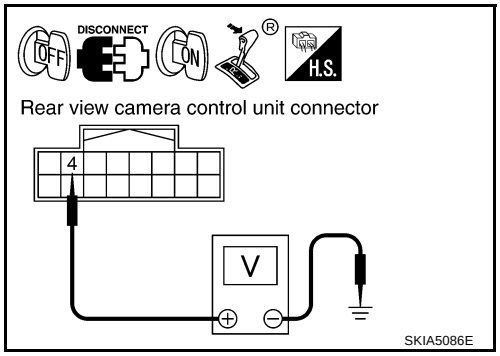
Without CONSULT-II

1. Turn ignition switch OFF.
2. Disconnect rear view camera control unit connector.
3. Turn ignition switch ON.
4. Shift A/T selector lever to R position.
5. Check voltage between rear view camera control unit harness connector M48 terminal 4 (OR) and ground.

4 (OR) – Ground : Battery voltage

OK or NG

OK >> GO TO 3.
NG >> Check harness between rear view camera control unit and back-up lamp relay.



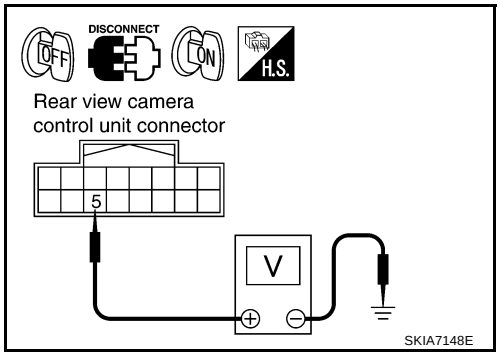
3. CHECK DISPLAY CONTROL UNIT OUTPUT SIGNAL

1. Turn ignition switch OFF.
2. Disconnect rear view camera control unit connector.
3. Turn ignition switch ON.
4. Check voltage between rear view camera control unit harness connector M48 terminal 5 (G/Y) and ground.

5 (G/Y) – Ground : Approx. 5 V

OK or NG

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



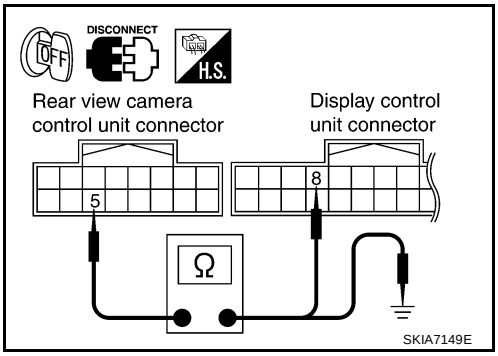
4. CHECK DISPLAY CONTROL UNIT CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect display control unit connector.
3. Check continuity between rear view camera control unit harness connector M48 terminal 5 (G/Y) and display control unit harness connector M75 terminal 8 (G/Y).

5 (G/Y) – 8 (G/Y) : Continuity should exist.

4. Check continuity between rear view camera control unit harness connector M48 terminal 5 (G/Y) and ground.

5 (G/Y) – Ground : Continuity should not exist.



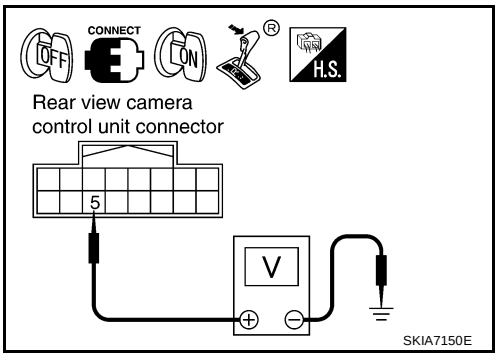
OK or NG

OK >> Replace display control unit.
NG >> Repair harness or connector.

5. CHECK CONTROL 1 SIGNAL

1. Turn ignition switch OFF.
2. Connect rear view camera control unit connector.
3. Shift A/T selector lever to R position.
4. Check voltage between rear view camera control unit harness connector M48 terminal 5 (G/Y) and ground.

5 (G/Y) – Ground : Approx. 0 V



OK or NG

OK >> GO TO 6.
NG >> Replace rear view camera control unit.

6. CHECK REAR VIEW CAMERA OPEN CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear view camera connector.
3. Check continuity between rear view camera control unit harness connector M48 terminal 8 (R/W) and rear view camera harness connector D108 terminal 1 (PU)

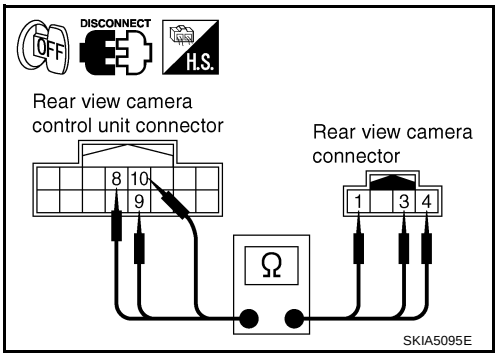
8 (R/W) – 1 (PU) : Continuity should exist.

4. Check continuity between rear view camera control unit harness connector M48 terminal 9 and rear view camera harness connector D108 terminal 4

9 – 4 : Continuity should exist.

5. Check continuity between rear view camera control unit harness connector M48 terminal 10 (G/W) and rear view camera harness connector D108 terminal 3 (G)

10 (G/W) – 3 (G) : Continuity should exist.



OK or NG

OK >> GO TO 7.
NG >> Repair harness or connector.

7. CHECK REAR VIEW CAMERA SHORT CIRCUIT

1. Check continuity between rear view camera control unit harness connector M48 terminal 8 (R/W) and ground

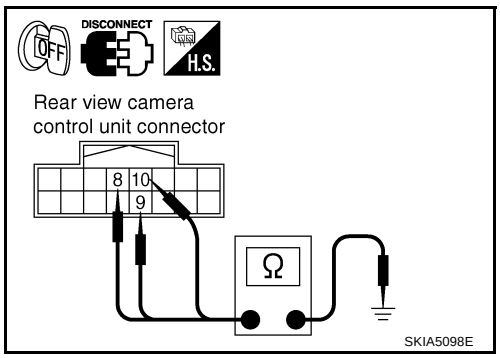
   8 (R/W) – Ground : Continuity should not exist.

2. Check continuity between rear view camera control unit harness connector M48 terminal 9 and ground

   9 – Ground : Continuity should not exist.

3. Check continuity between rear view camera control unit harness connector M48 terminal 10 (G/W) and ground

   10 (G/W) – Ground : Continuity should not exist.



OK or NG

OK >> GO TO 8.
NG >> Repair harness on connector.

8. CHECK POWER SUPPLY AND GROUND CIRCUIT

Check power supply and ground circuit. Refer to DI-125, "Power Supply and Ground Circuit Inspection" .

OK or NG

OK >> GO TO 9.
NG >> Repair or replace power supply and ground circuit.

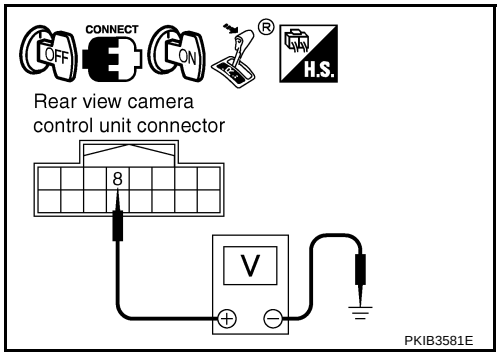
9. CHECK REAR VIEW CAMERA CONTROL UNIT OUTPUT SIGNAL

1. Connect rear view camera control unit connector.
2. Turn ignition switch ON.
3. Shift A/T selector lever to R position.
4. Check voltage between rear view camera control unit harness connector M48 terminal 8 (R/W) and ground.

   8 (R/W) – Ground : Approx. 6 V

OK or NG

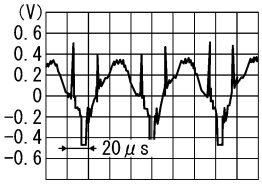
OK >> GO TO 10.
NG >> Replace rear view camera control unit.



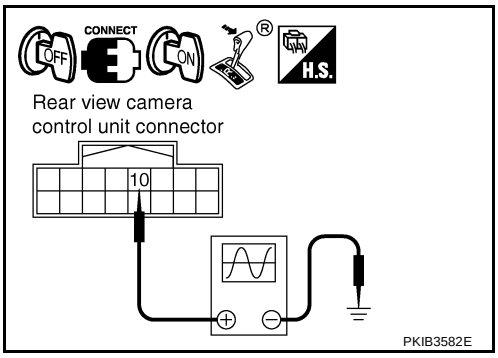
10. CHECK REAR VIEW CAMERA SIGNAL

1. Turn ignition switch OFF.
2. Connect rear view camera connector.
3. Turn ignition switch ON.
4. Shift A/T selector lever to R position.
5. Check voltage signal between rear view camera control unit harness connector M48 terminal 10 (G/W) and ground.

10 (G/W) – Ground:



SKIA4894E



PKIB3582E

OK or NG

OK >> GO TO 11.
NG >> Replace rear view camera.

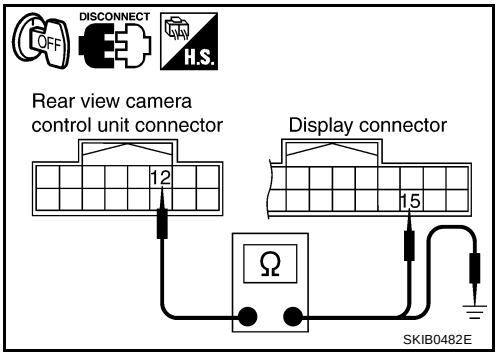
11. CHECK COMPOSITE SIGNAL CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear view camera control unit connector and display connector.
3. Check continuity between rear view camera control unit harness connector M48 terminal 12 (BR) and display harness connector M63 terminal 15 (BR).

12 (BR) – 15 (BR) : Continuity should exist.

4. Check continuity between rear view camera control unit harness connector M48 terminal 12 (BR) and ground.

12 (BR) – Ground : Continuity should not exist.



SKIB0482E

OK or NG

OK >> GO TO 12.
NG >> Repair harness or connector.

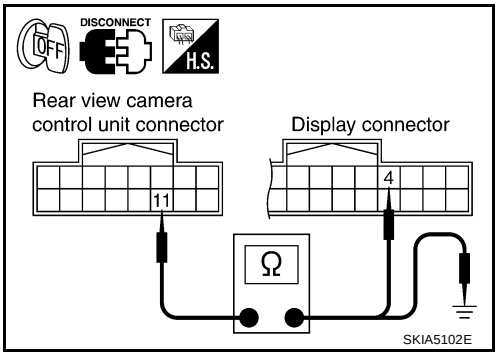
12. CHECK COMPOSITE SIGNAL GROUND CIRCUIT

1. Check continuity between rear view camera control unit harness connector M48 terminal 11 and display harness connector M63 terminal 4.

11 – 4 : Continuity should exist.

2. Check continuity between rear view camera control unit harness connector M48 terminal 11 and ground.

11 – Ground : Continuity should not exist.



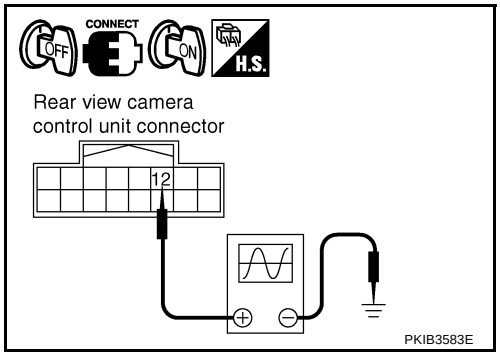
SKIA5102E

OK or NG

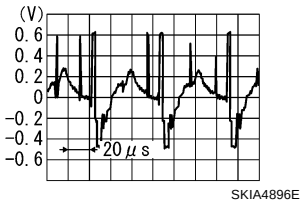
OK >> GO TO 13.
NG >> Repair harness or connector.

13. CHECK COMPOSITE SIGNAL

1. Connect rear view camera control unit connector and display connector.
2. Turn ignition switch ON.
3. Check voltage signal between rear view camera control unit harness connector M48 terminal 12 (BR) and ground.



12 (BR) – Ground:



OK or NG

OK >> Replace display.
NG >> Replace rear view camera control unit.

The Rear View Image Is Distorted

AKS0068P

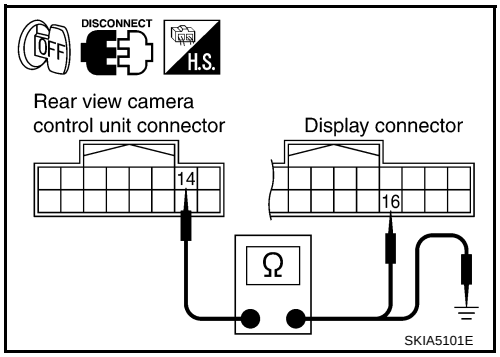
1. CHECK SYNCHRO SIGNAL OPEN OR SHORT CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear view camera control unit connector and display connector.
3. Check continuity between rear view camera control unit harness connector M48 terminal 14 (Y) and display harness connector M63 terminal 16 (Y)

14 (Y) – 16 (Y) : Continuity should exist.

4. Check continuity between rear view camera control unit harness connector M48 terminal 14 (Y) and ground

14 (Y) – Ground : Continuity should not exist.



OK or NG

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

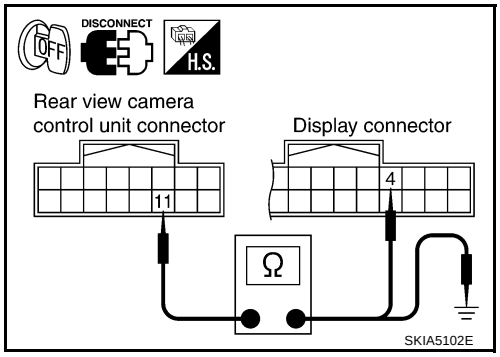
2. CHECK COMPOSITE SIGNAL GROUND CIRCUIT

1. Check continuity between rear view camera control unit harness connector M48 terminal 11 and display harness connector M63 terminal 4.

11 – 4 : Continuity should exist.

2. Check continuity between rear view camera control unit harness connector M48 terminal 11 and ground.

11 – Ground : Continuity should not exist.

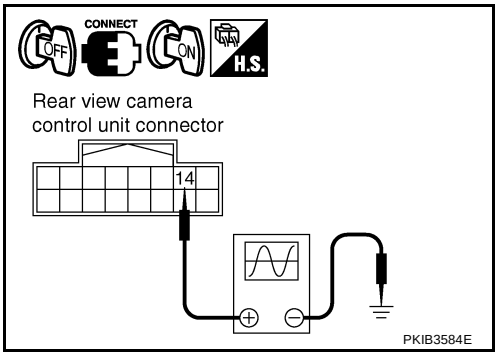


OK or NG

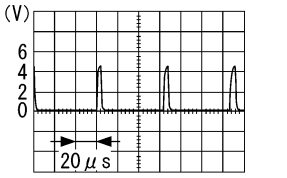
OK >> GO TO 3.
NG >> Repair harness or connector.

3. CHECK REAR VIEW CONTROL UNIT SYNCHRO SIGNAL

1. Connect rear view camera control unit connector and display connector.
2. Turn ignition switch ON.
3. Check voltage signal between rear view camera control unit harness connector M48 terminal 14 (Y) and ground.



14 (Y) – Ground:



OK or NG

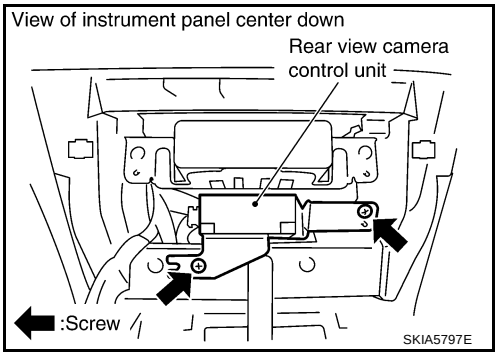
OK >> Replace rear view camera control unit.
NG >> Replace display.

Removal and Installation of Rear View Camera Control Unit

AKS0068Q

REMOVAL

1. Remove instrument clock finisher and A/T console finisher. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" .
2. Remove screws (2), and remove rear view camera control unit.



INSTALLATION

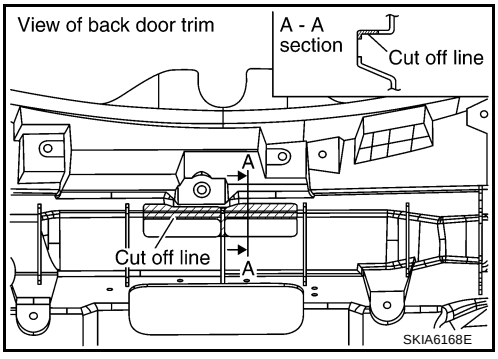
Installation is the reverse order of removal.

Removal and Installation of Rear View Camera

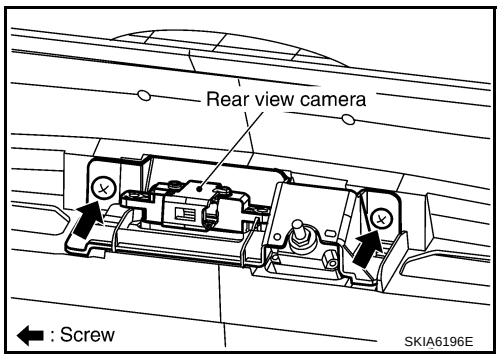
AKS0068R

REMOVAL

1. Remove back door finisher lower. Refer to EI-45, "Removal and Installation" .
2. Cut off back door module along the line.
3. Disconnect rear view camera connector.



4. Remove screws (2), and remove rear view camera.



INSTALLATION

Installation is the reverse order of removal.