

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

DI

SECTION

DRIVER INFORMATION SYSTEM

CONTENTS

PRECAUTION	3	Odo/Trip Meter and Illumination Control Switch Inspection	25
Precautions for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	3	Fuel Gauge Pointer Fluctuates, Indicator Wrong Value or Varies	25
Wiring Diagrams and Trouble Diagnosis	3	Fuel Gauge Does Not Move to FULL Position	26
COMBINATION METERS	4	Electrical Components Inspection	26
System Description	4	CHECK FUEL LEVEL SENSOR UNIT	26
UNIFIED METER CONTROL UNIT	4	Removal and Installation of Combination Meter	27
UNIFIED METER AND A/C AMP.	4	Disassembly and Assembly of Combination Meter..	27
HOW TO CHANGE THE DISPLAY FOR ODO/TRIP METER	5	DISASSEMBLY	27
POWER SUPPLY AND GROUND CIRCUIT	5	ASSEMBLY	28
WATER TEMPERATURE GAUGE	6	Removal and Installation of Odo/Trip Meter and Illumination Control Switch	28
TACHOMETER	6	REMOVAL	28
FUEL GAUGE	6	INSTALLATION	28
SPEEDOMETER	6	UNIFIED METER AND A/C AMP	29
Component Parts and Harness Connector Location...	6	System Description	29
Combination Meter	7	INPUT/OUTPUT SIGNALS	29
CHECK	7	FAIL-SAFE	30
Circuit Diagram	8	CAN Communication System Description	30
Wiring Diagram — METER —	9	CAN Communication Unit	30
Terminals and Reference Value for Combination Meter	11	Schematic	31
Terminals and Reference Value for Unified Meter and A/C Amp.	12	CONSULT-II Function	32
Meter/Gauge Operation and Odo/Trip Meter	13	CONSULT-II BASIC OPERATION	32
SELF-DIAGNOSIS FUNCTION	13	SELF-DIAGNOSTIC RESULTS	33
HOW TO ALTERNATE DIAGNOSIS MODE	13	DATA MONITOR	33
CONSULT-II Function	13	Removal and Installation of Unified Meter and A/C Amp.	35
How to Proceed With Trouble Diagnosis	14	REMOVAL	35
Diagnosis Flow	14	INSTALLATION	35
Power Supply and Ground Circuit Inspection	15	COMPASS	36
Symptom Chart 1	17	System Description	36
Symptom Chart 2	17	DIRECTION DISPLAY	36
Vehicle Speed Signal Inspection	18	Wiring Diagram — COMPAS —	38
Engine Speed Signal Inspection	19	Removal and Installation of Compass	39
Engine Coolant Temperature Signal Inspection	20	WARNING LAMPS	40
Fuel Level Sensor Signal Inspection	21	Schematic	40
CAN Communication System Inspection	22	Wiring Diagram — WARN —	41
Communication Line Inspection	22	Oil Pressure Warning Lamp Stays Off (Ignition Switch ON)	49

Oil Pressure Warning Lamp Does Not Turn Off (Oil Pressure Is Normal)	50	Intelligent Key)	71
Component Inspection	51	Key Warning Chime Does Not Operate (With Intelligent Key, When Mechanical Key Is Used)	73
OIL PRESSURE SWITCH	51	Key Warning Chime Does Not Operate (With Intelligent Key, When Intelligent Key Is Carried With The Driver)	75
A/T INDICATOR	52	Light Warning Chime Does Not Operate	77
Wiring Diagram — AT/IND —	52	Seat Belt Warning Chime Does Not Operate	78
A/T Indicator Is Malfunction	54	CLOCK	80
WARNING CHIME	56	Wiring Diagram — CLOCK —	80
Component Parts and Harness Connector Location ..	56	Removal and Installation of Clock	81
System Description	56	REMOVAL	81
FUNCTION	56	INSTALLATION	81
IGNITION KEY WARNING CHIME (WITHOUT INTELLIGENT KEY)	57	REAR VIEW MONITOR	82
IGNITION KEY WARNING CHIME (WITH INTELLIGENT KEY)	57	System Description	82
LIGHT WARNING CHIME	58	POWER SUPPLY AND GROUND	82
SEAT BELT WARNING CHIME	58	AV COMMUNICATION LINE	82
CAN Communication System Description	58	REAR VIEW CAMERA OPERATION	82
CAN Communication Unit	58	Component Parts and Harness Connector Location ..	83
Schematic	59	Schematic	84
Wiring Diagram — CHIME —	60	Wiring Diagram — R/VIEW —	85
Terminals and Reference Value for BCM	63	Terminals and Reference Value for Rear View Camera Control Unit	88
Terminals and Reference Value for Unified Meter and A/C Amp.	64	CONSULT-II Function	89
Terminals and Reference Value for Combination Meter	65	CONSULT-II BASIC OPERATION	89
How to Proceed With Trouble Diagnosis	65	WORK SUPPORT	90
Preliminary Check	65	DATA MONITOR	90
CHECK POWER SUPPLY AND GROUND CIRCUIT	65	Side Distance Guideline Correction	91
CONSULT-II Function	67	SIDE DISTANCE GUIDELINE CORRECTION PROCEDURE	91
DIAGNOSTIC ITEMS DESCRIPTION	67	Power Supply and Ground Circuit Inspection	93
CONSULT-II BASIC OPERATION PROCEDURE	67	Rear View Is Not Displayed With The A/T Selector Lever In R-position	94
DATA MONITOR	68	The Rear View Image Is Distorted	98
ACTIVE TEST	68	Removal and Installation of Rear View Camera Control Unit	99
SELF-DIAGNOSTIC RESULTS	68	REMOVAL	99
All Warnings Are Not Operated	69	INSTALLATION	99
Key Warning Chime and Light Warning Chime Does Not Operate (Seat Belt Warning Chime Does Operate)	70	Removal and Installation of Rear View Camera	99
Key Warning Chime Does Not Operate (Without		REMOVAL	99
		INSTALLATION	100

PRECAUTION

PRECAUTION

PPF:00011

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

AKS0054B

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.

Wiring Diagrams and Trouble Diagnosis

AKS0054D

When you read wiring diagrams, refer to the following:

- Refer to [GI-15, "How to Read Wiring Diagrams"](#) .
- Refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#) for power distribution circuit.

When you perform trouble diagnosis, refer to the following:

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

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COMBINATION METERS

COMBINATION METERS

PFP:24814

System Description

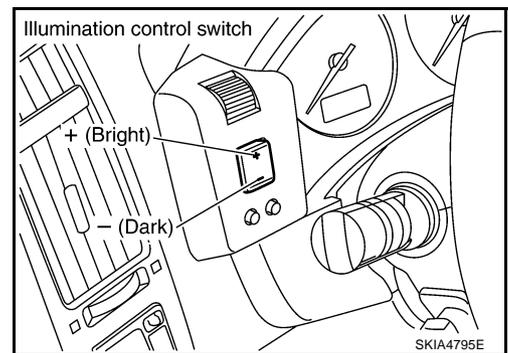
AKS005MH

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 key switch is in the START position, the combination meter dial lighting and illumination control switch lighting are turned off.



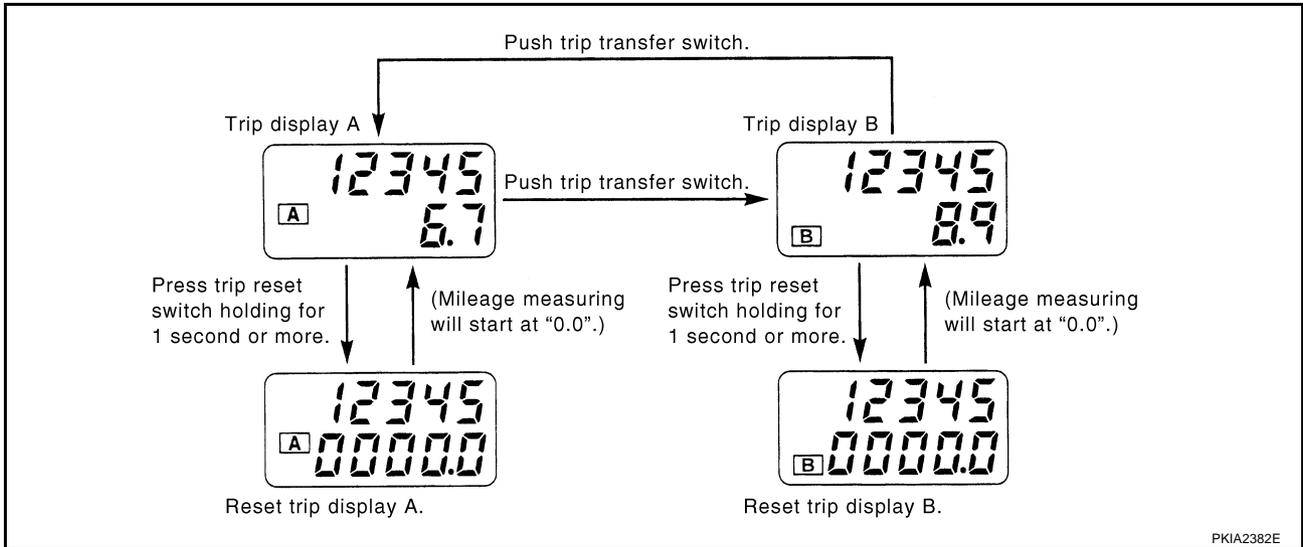
UNIFIED METER AND A/C AMP.

Refer to [DI-29, "System Description"](#) in "UNIFIED METER AND A/C AMP".

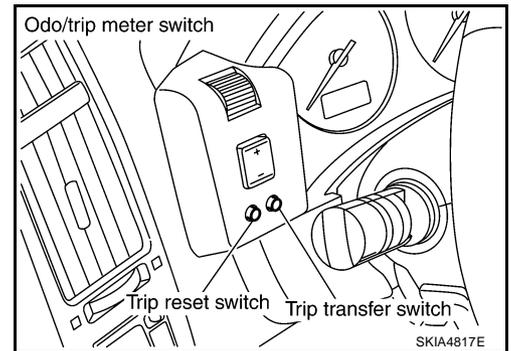
COMBINATION METERS

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. (Same with trip B.)
- 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 body grounds M35, M45 and M85
- to unified meter and A/C amp. terminals 29 and 30
- through body grounds M35, M45 and M85.

COMBINATION METERS

WATER TEMPERATURE GAUGE

The water temperature gauge indicates the engine coolant temperature.

ECM provides a 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.

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.

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.

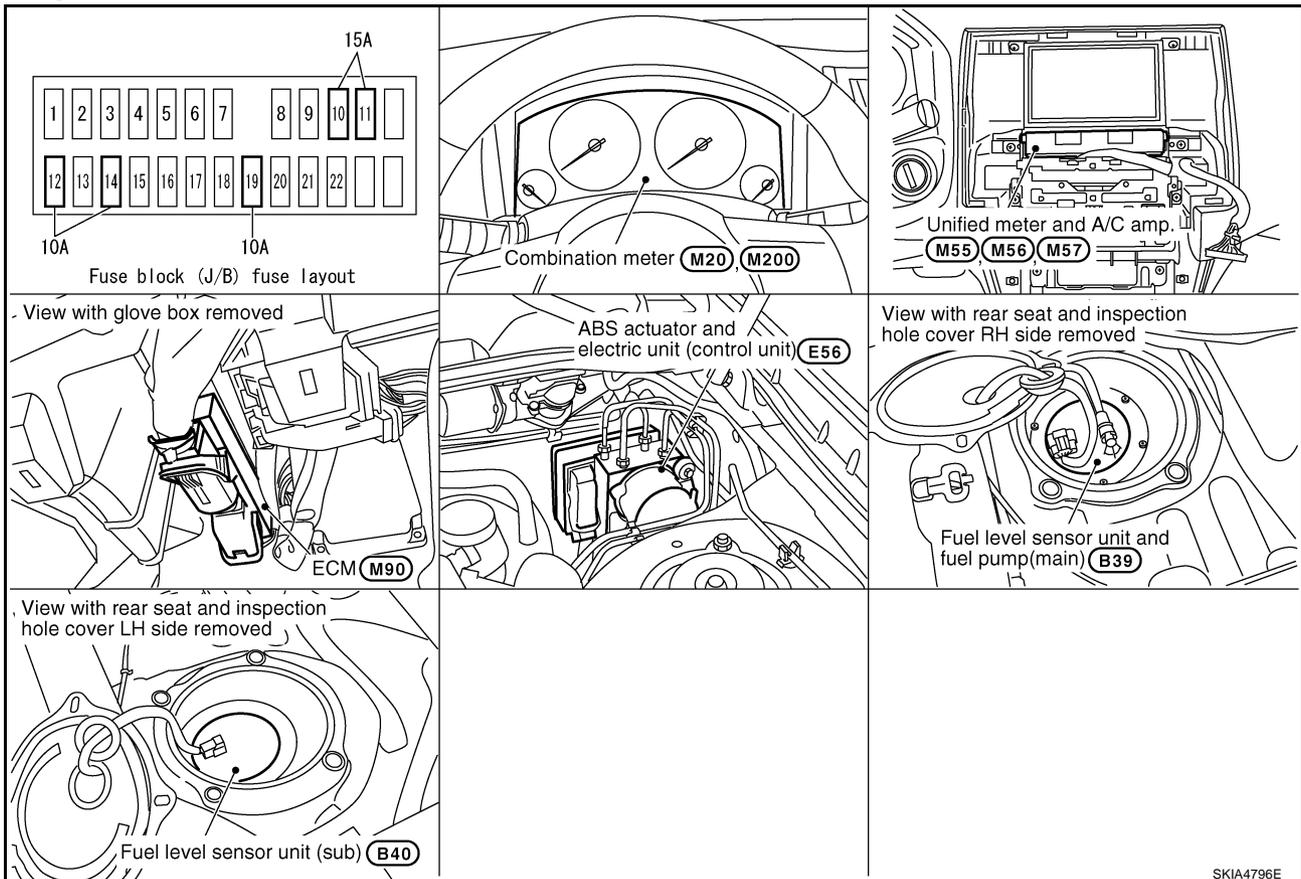
Unified meter and A/C amp. provides an fuel level signal to combination meter for fuel gauge with communication line between unified meter and A/C amp. and combination meter.

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.

Component Parts and Harness Connector Location

AKS005MI

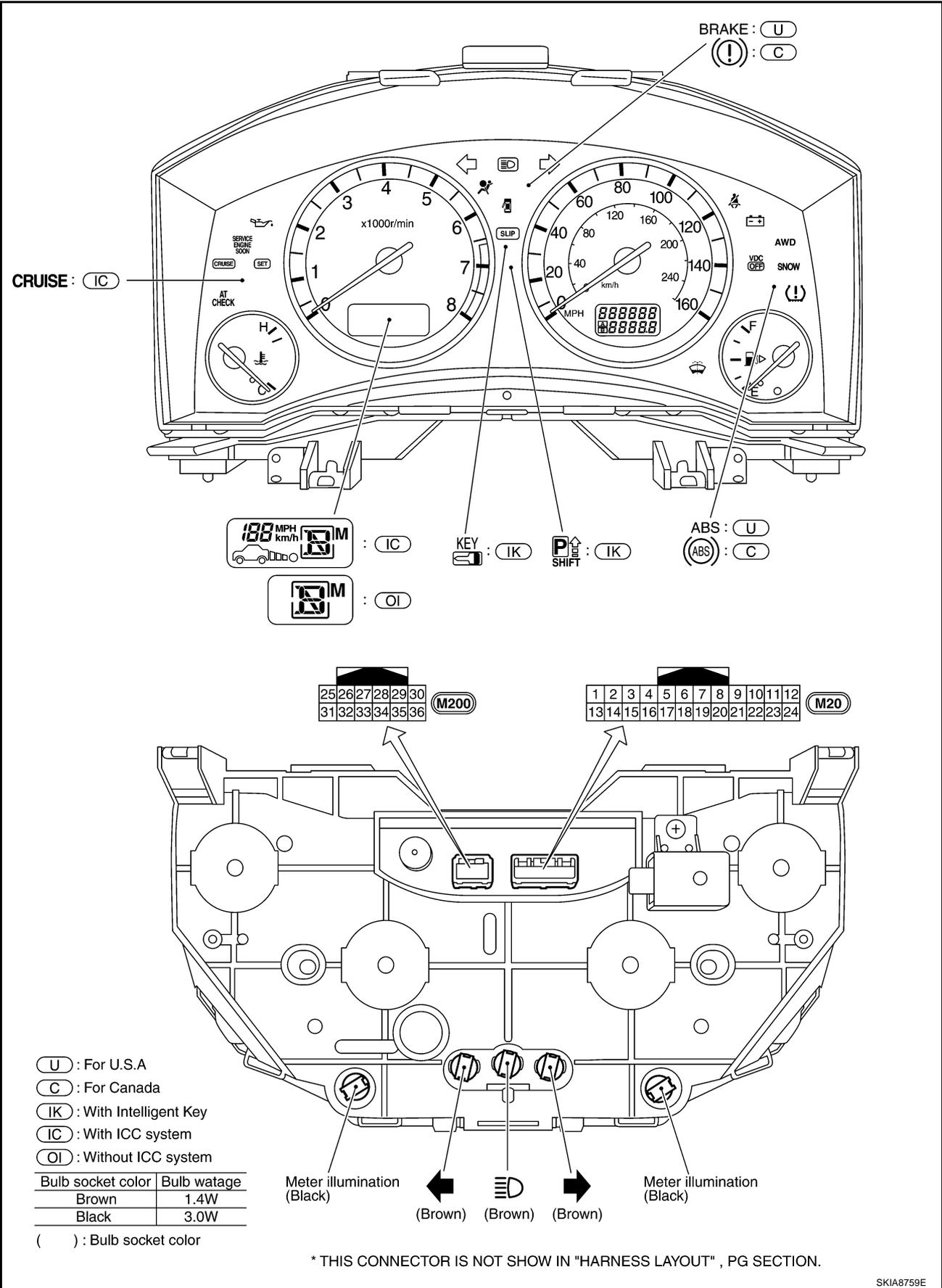


COMBINATION METERS

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Combination Meter CHECK

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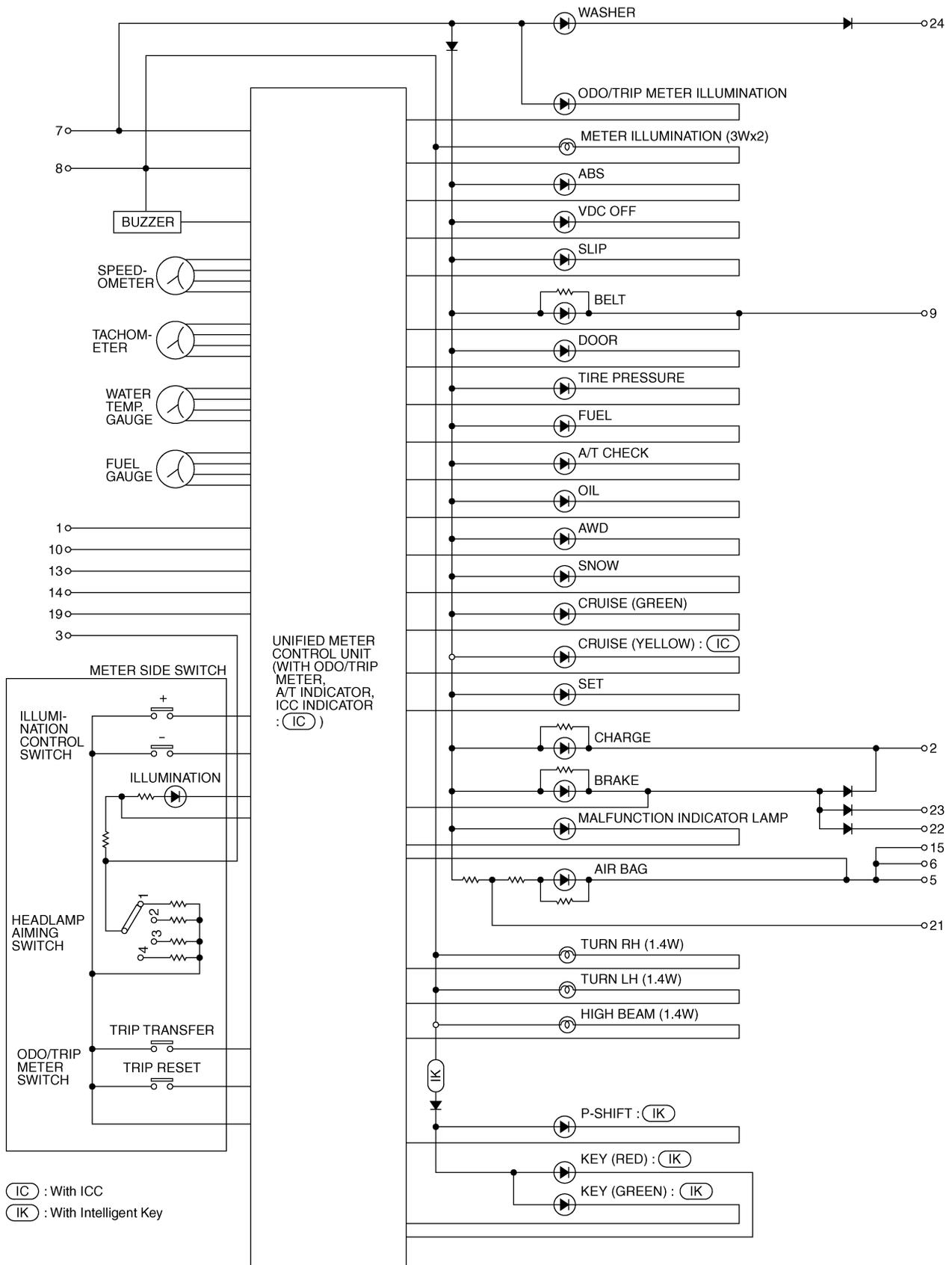


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COMBINATION METERS

Circuit Diagram

AKS005MK



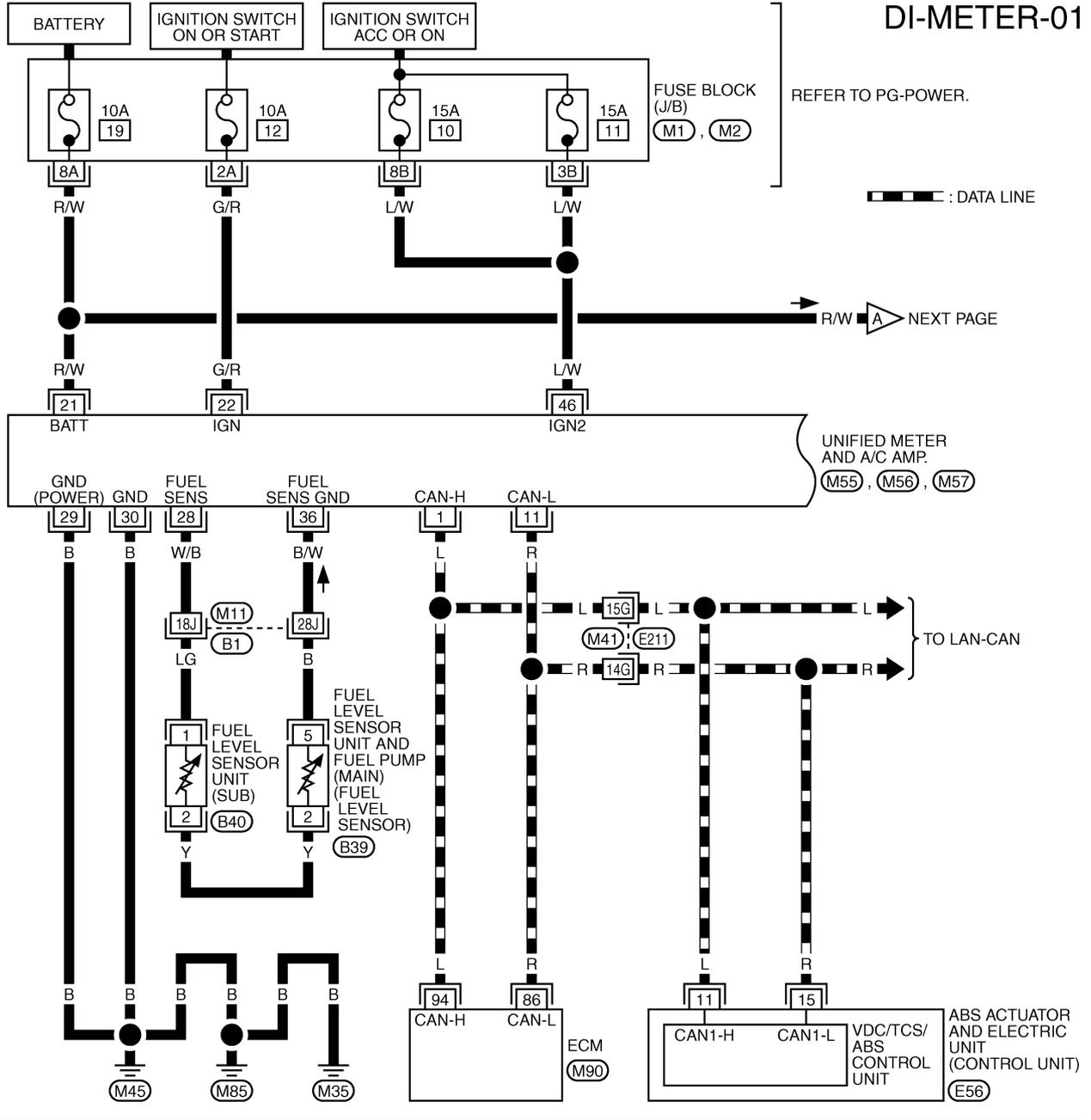
TKWM1052E

COMBINATION METERS

Wiring Diagram — METER —

AKS005ML

DI-METER-01



REFER TO PG-POWER.

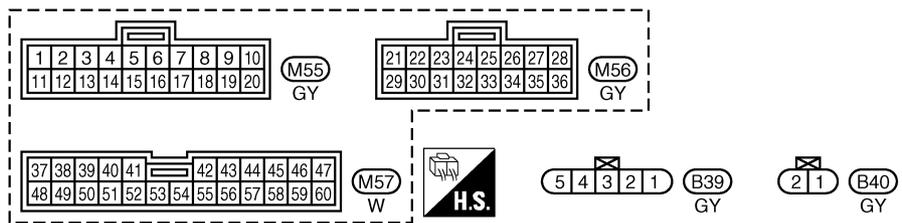
DATA LINE

R/W → NEXT PAGE

UNIFIED METER AND A/C AMP. (M55, M56, M57)

TO LAN-CAN

ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) (E56)

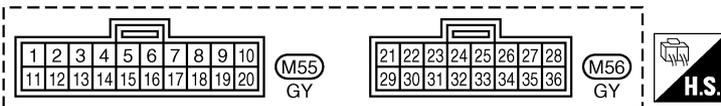
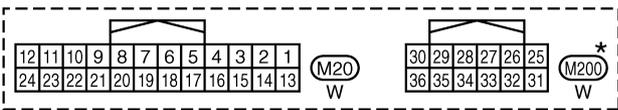
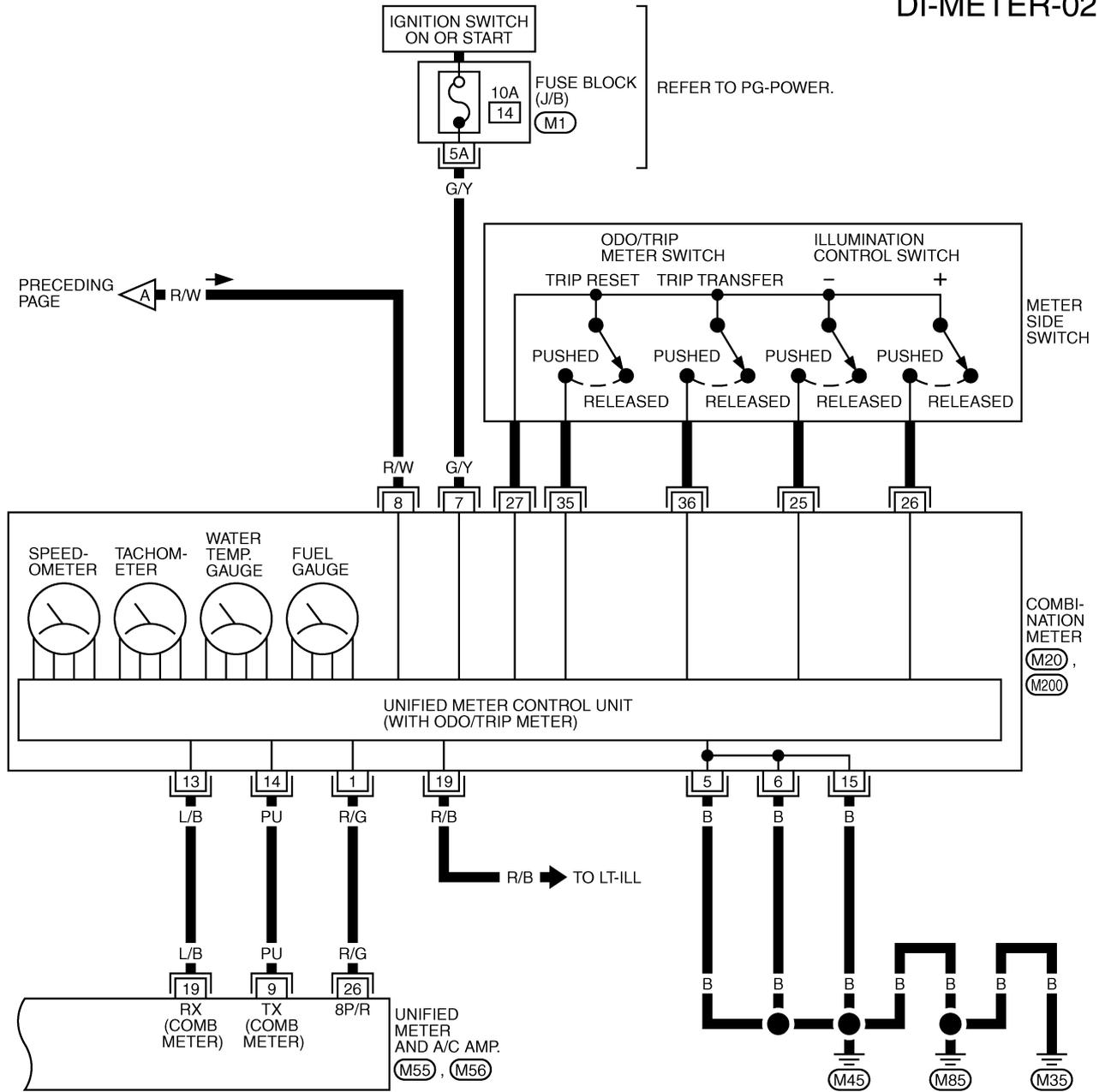


REFER TO THE FOLLOWING.
 (E21), (B1) -SUPER MULTIPLE JUNCTION (SMJ)
 (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
 (M90), (E56) -ELECTRICAL UNITS

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COMBINATION METERS

DI-METER-02



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

REFER TO THE FOLLOWING.

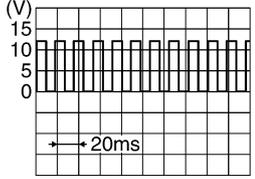
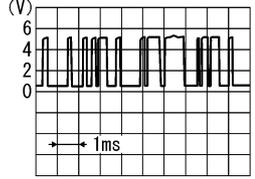
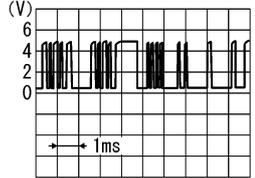
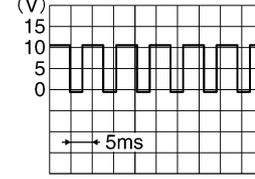
(M1) - FUSE BLOCK-JUNCTION BOX (J/B)

TKWM0682E

COMBINATION METERS

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)]	<p>NOTE: Maximum voltage may be 5V due to specifications (connected units).</p>  <p style="text-align: right; font-size: small;">PKIA1935E</p>
5	B	Ground	ON	—	Approx. 0V
6	B	Ground	ON	—	Approx. 0V
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	—	 <p style="text-align: right; font-size: small;">SKIA3361E</p>
14	PU	RX communication line (From unified meter and A/C amp.)	ON	—	 <p style="text-align: right; font-size: small;">SKIA3362E</p>
15	B	Ground	ON	—	Approx. 0V
19	R/B	Illumination signal	ON	Lighting switch ON, then operate the illumination control switch.	<p><e.g.>When brightness level is midway.</p>  <p style="text-align: right; font-size: small;">SKIA8970E</p>
				Lighting switch OFF	Approx. 0V
25	—	Illumination control switch (-)	OFF	Illumination control switch (-) is pushed.	Approx. 0V
				Illumination control switch (-) is released.	Approx. 5V
26	—	Illumination control switch (+)	OFF	Illumination control switch (+) is pushed.	Approx. 0V
				Illumination control switch (+) is released.	Approx. 5V
27	—	Odo/trip meter and illumination control switch ground	OFF	—	Approx. 0V

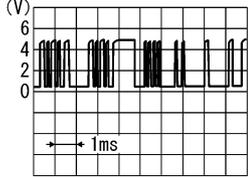
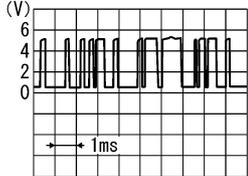
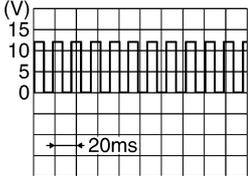
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COMBINATION METERS

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

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	—	 <p style="text-align: right; font-size: small;">SKIA3362E</p>
11	R	CAN L	—	—	—
19	L/B	RX communication line (From combination meter)	ON	—	 <p style="text-align: right; font-size: small;">SKIA3361E</p>
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)]	<p>NOTE: Maximum voltage may be 5V due to specifications (connected units).</p>  <p style="text-align: right; font-size: small;">PKIA1935E</p>
28	W/B	Fuel level sensor signal	—	—	Refer to DI-26, "CHECK FUEL LEVEL SENSOR UNIT" .
29	B	Ground (for power)	ON	—	Approx. 0V
30	B	Ground	ON	—	Approx. 0V
36	B/W	Fuel level sensor ground	ON	—	Approx. 0V
46	L/W	Ignition switch ACC or ON	ACC	—	Battery voltage

COMBINATION METERS

AKS005MO

Meter/Gauge Operation and Odo/Trip Meter 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.

HOW TO ALTERNATE DIAGNOSIS MODE

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

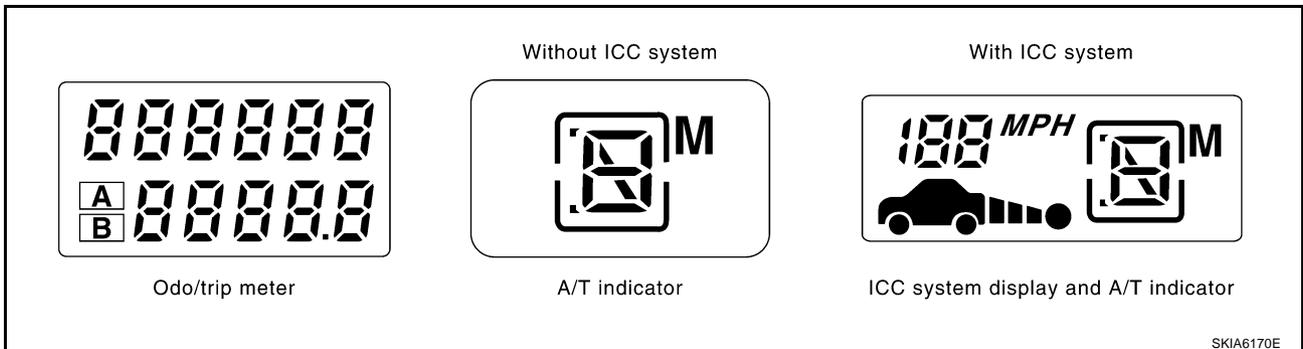
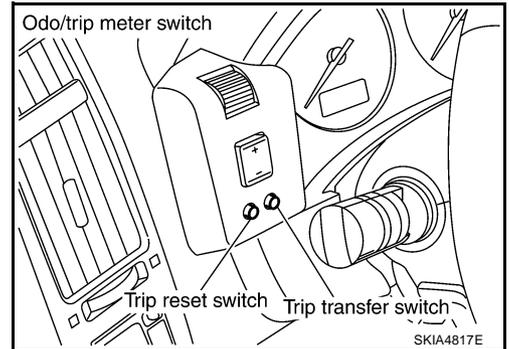
NOTE:

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.)

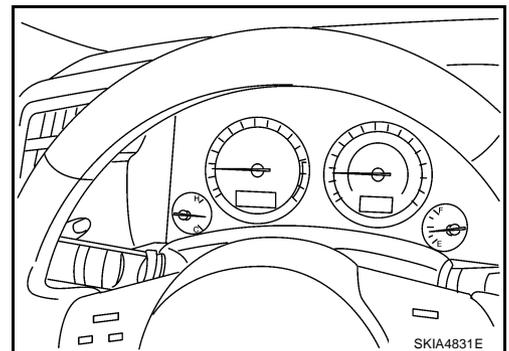
2. Turn ignition switch OFF.
3. Turn ignition switch ON while pressing trip transfer switch and trip reset switch at the same time.
4. After ignition switch is turned ON, release trip transfer switch and trip reset switch. (With 7 seconds after the ignition switch is turned ON.)
5. All the segments on 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 odo/trip meter switch. Each meter/gauge should indicate as shown in the figure while pushing odo/trip meter switch. (At this time, the low-fuel warning lamp goes off.)



CONSULT-II Function

AKS005MP

Refer to [DI-32, "CONSULT-II Function"](#) in “UNIFIED METER AND A/C AMP”.

COMBINATION METERS

AKS005MQ

How to Proceed With Trouble Diagnosis

1. Confirm the symptom or customer complaint.
2. Perform diagnosis according to diagnosis flow. Refer to [DI-14, "Diagnosis Flow"](#) .
3. According to the symptom chart, repair or replace the cause of the symptom.
4. Does the meter operate normally? If so, go to 5. If not, go to 2.
5. INSPECTION END

Diagnosis Flow

AKS005MR

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-32, "CONSULT-II Function"](#) .

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 ignition power supply system of combination meter. Refer to [DI-15, "Power Supply and Ground Circuit Inspection"](#) .

3. CHECK SELF-DIAGNOSIS OPERATION OF COMBINATION METER

Perform combination meter self-diagnosis. Refer to [DI-13, "SELF-DIAGNOSIS FUNCTION"](#) .

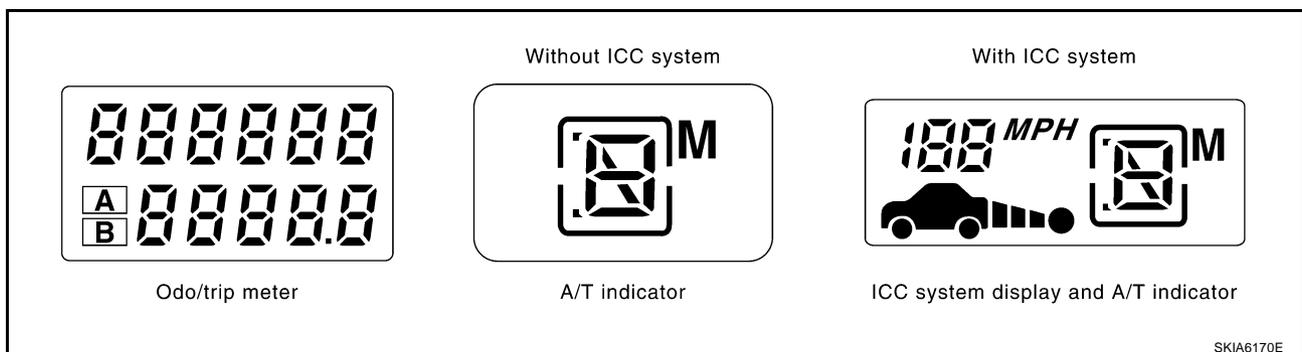
Does self-diagnosis function operate?

YES >> GO TO 4.

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

4. 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 5.

NO >> Replace combination meter.

COMBINATION METERS

5. 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

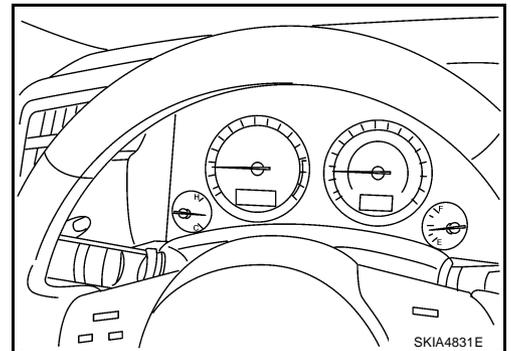
- OK >> GO TO 6.
- NG >> Replace combination meter.

6. 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.



AKS005MS

Power Supply and Ground Circuit Inspection

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

Refer to [DI-9. "Wiring Diagram — METER —"](#).

OK or NG

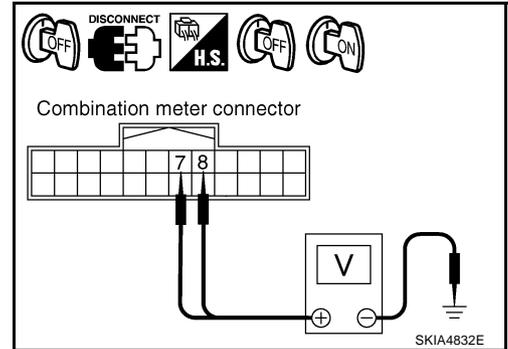
- OK >> GO TO 2.
- NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-3. "POWER SUPPLY ROUTING CIRCUIT"](#).

COMBINATION METERS

2. CHECK POWER SUPPLY CIRCUIT

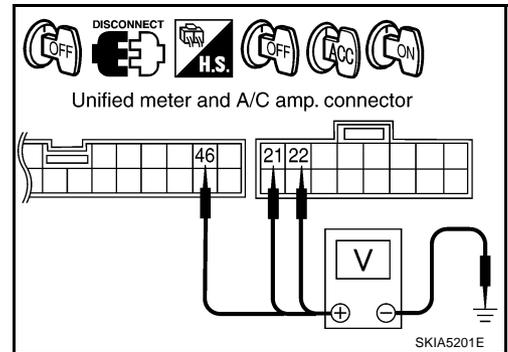
1. Disconnect the combination meter connector and the unified meter and A/C amp. connector.
2. Check voltage between combination meter harness connector terminals and ground.

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



3. 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)		OFF	ACC	ON
M56	21 (R/W)	Ground	Battery voltage	Battery voltage	Battery voltage
	22 (G/R)		0V	0V	Battery voltage
M57	46 (L/W)		0V	Battery voltage	Battery voltage



OK or NG

OK >> GO TO 3.

NG >> Check the following.

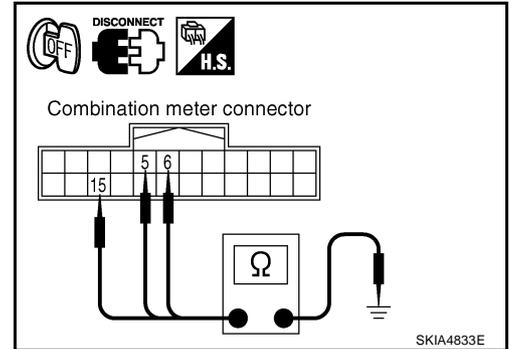
- Harness for open between combination meter and fuse
- Harness for open between unified meter and A/C amp. and fuse

COMBINATION METERS

3. CHECK GROUND CIRCUIT

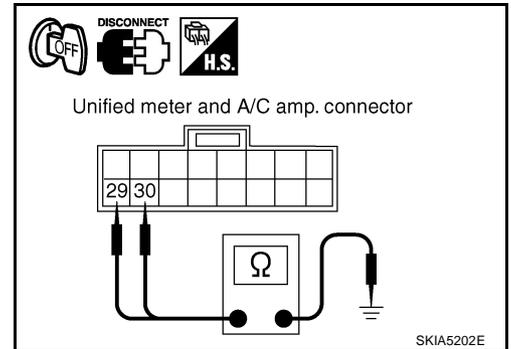
1. Turn ignition switch OFF.
2. Check continuity between combination meter harness connector terminals and ground.

Terminals		(-)	Continuity
(+) Connector			
Connector	Terminal (Wire color)		
M20	5 (B)	Ground	Yes
	6 (B)		
	15 (B)		



3. Check continuity between unified meter and A/C amp. harness connector terminals and ground.

Terminals		(-)	Continuity
(+) Connector			
Connector	Terminal (Wire color)		
M56	29 (B)	Ground	Yes
	30 (B)		



OK or NG

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

Symptom Chart 1

AKS005MT

Trouble phenomenon	Possible cause
Indication is irregular for the speedometer and odo/trip meter.	Refer to DI-18, "Vehicle Speed Signal Inspection" .
Tachometer indication is malfunction.	Refer to DI-19, "Engine Speed Signal Inspection" .
Water temperature gauge indication is malfunction.	Refer to DI-20, "Engine Coolant Temperature Signal Inspection" .
Fuel gauge indication is malfunction.	Refer to DI-21, "Fuel Level Sensor Signal Inspection" .
Low-fuel warning lamp indication is irregular.	
Indications are irregular for more than one gauge.	Replace combination meter.
A/T position indicator is malfunction.	Refer to DI-54, "A/T Indicator Is Malfunction" .
Illumination control does not operate.	Refer to DI-25, "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-22, "CAN Communication System Inspection" . CAUTION: Even when there is no malfunction on CAN communication system, malfunction may be misinterpreted when battery has low voltage (when maintaining 7-8V for about 2 seconds) or 10A fuse [No. 19, located in the fuse block (J/B)] is disconnected.

COMBINATION METERS

Displayed item [Code]	Inspection contents	Possible cause
METER COMM CIRC [B2202]	Inspect the communication line between combination meter and unified meter and A/C amp.	Refer to DI-22, "Communication Line Inspection" .
VEHICLE SPEED CIRC [B2205]	Inspect the vehicle speed input signal.	<ul style="list-style-type: none"> Perform the ABS actuator and electric unit (control unit) self-diagnosis. Refer to BRC-25, "CONSULT-II Functions" . Replace unified meter and A/C amp. if the above system is normal. CAUTION: Even when there is no malfunction on speed signal system, malfunction may be misinterpreted when battery has low voltage (when maintaining 7-8V for about 2 seconds).

Vehicle Speed Signal Inspection

AKS005MV

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

Perform 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.

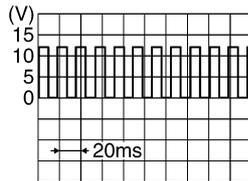
Malfunction detected>>Check applicable parts, and repair or replace corresponding parts.

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

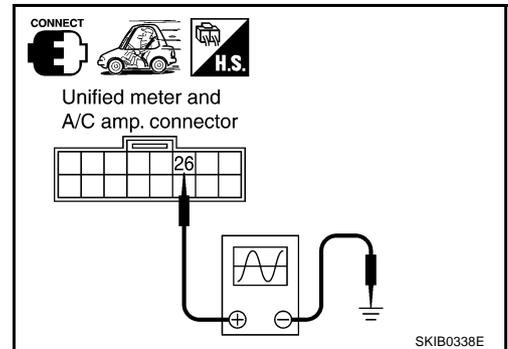
- Start engine and drive vehicle at approximately 40km/h (25MPH).
- Check voltage signal between unified meter and A/C amp. harness connector M56 terminal 26 (R/G) and ground with simple oscilloscope of CONSULT-II.

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

26 (R/G) - Ground:



PKIA1935E



SKIB0338E

OK or NG

OK >> GO TO 3.

NG >> ● If monitor indicates "0V" constantly, repair harness or connector.

- If monitor indicates "5V" or "12V" constantly, replace unified meter and A/C amp. Refer to [DI-35, "Removal and Installation of Unified Meter and A/C Amp."](#) .

COMBINATION METERS

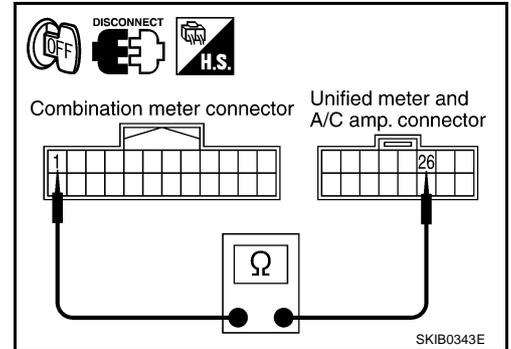
3. CHECK CONTINUITY BETWEEN COMBINATION METER AND UNIFIED METER AND A/C AMP.

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).

Continuity should exist.

OK or NG

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



AKS005MW

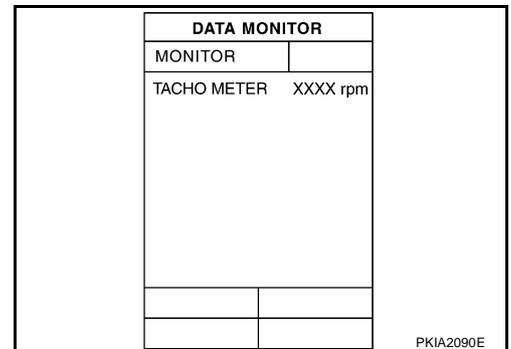
Engine Speed Signal Inspection

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.

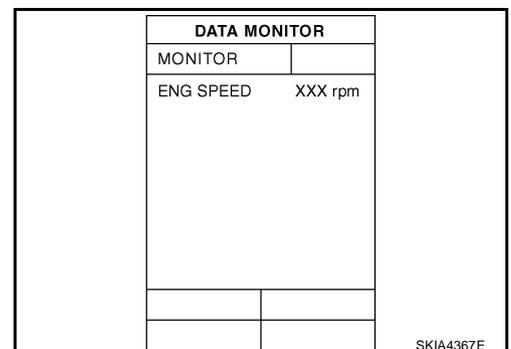


2. CHECK UNIFIED METER AND A/C AMP. INPUT SIGNAL

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-109, "CONSULT-II Function"](#) (for VQ35DE) or [EC-781, "CONSULT-II Function"](#) (for VK45DE).
 NG >> Replace unified meter and A/C amp. Refer to [DI-35, "Removal and Installation of Unified Meter and A/C Amp."](#)



COMBINATION METERS

Engine Coolant Temperature Signal Inspection

AKS005MX

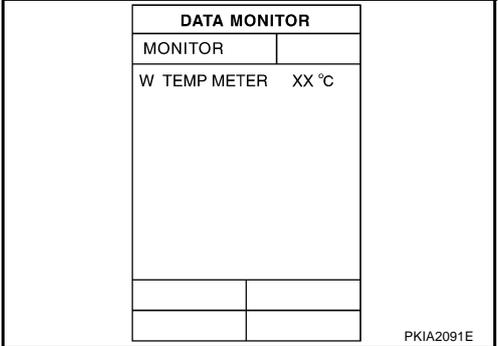
1. CHECK UNIFIED METER AND A/C AMP. INPUT SIGNAL

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.



DATA MONITOR	
MONITOR	
W TEMP METER	XX °C

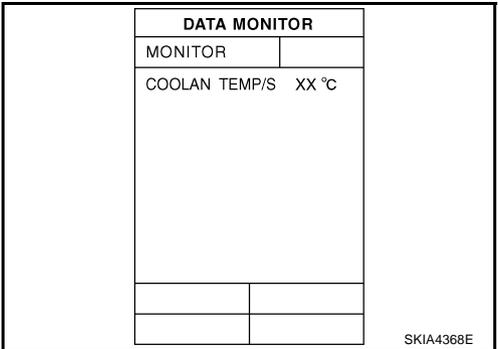
PKIA2091E

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-109. "CONSULT-II Function"](#) (for VQ35DE) or [EC-781. "CONSULT-II Function"](#) (for VK45DE).
- NG >> Replace unified meter and A/C amp. Refer to [DI-35. "Removal and Installation of Unified Meter and A/C Amp."](#)



DATA MONITOR	
MONITOR	
COOLAN TEMP/S	XX °C

SKIA4368E

COMBINATION METERS

AKS005MY

Fuel Level Sensor Signal Inspection

The following symptoms do not indicate a malfunction.

FUEL GAUGE

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

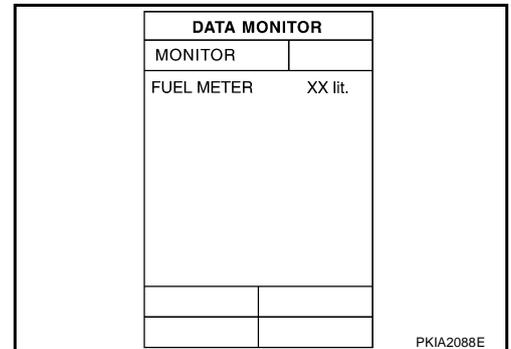
LOW-FUEL WARNING LAMP

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

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

1. Select "METER A/C AMP" on CONSULT-II.
2. Using "FUEL METER" on "DATA MONIOR", 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	Applox. 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-26, "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).

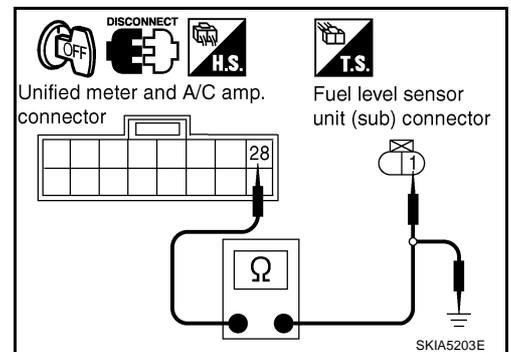
Continuity should exist.

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

Continuity should not exist.

OK or NG

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



COMBINATION METERS

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).

Continuity should exist.

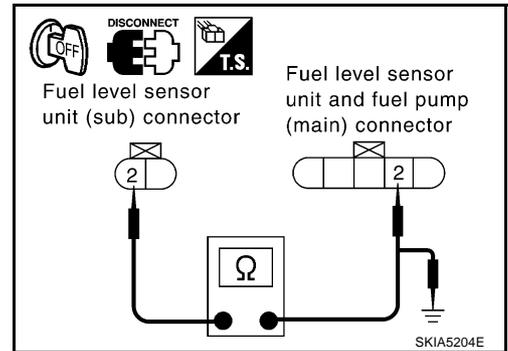
3. Check continuity between fuel level sensor unit (sub) harness connector B40 terminal 2 (Y) and ground.

Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness or connector.



5. CHECK FUEL LEVEL SENSOR (MAIN) CIRCUIT

1. Check continuity 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).

Continuity should exist.

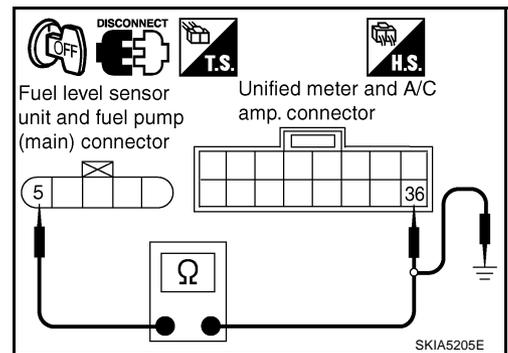
2. Check continuity between fuel level sensor unit and fuel pump (main) harness connector B39 terminal 5 (B) and ground.

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-35, "Removal and Installation of Unified Meter and A/C Amp."](#)

NG >> Install the fuel level sensor unit properly.

CAN Communication System Inspection

AKS00BRB

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-4, "Precautions When Using CONSULT-II"](#).

Communication Line Inspection

AKS005N1

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.

COMBINATION METERS

2. CHECK METER/GAUGES VISUALLY

Does 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 the 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).

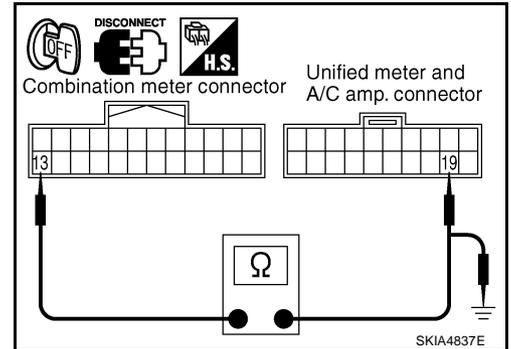
Continuity should exist.

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

Continuity should not exist.

OK or NG

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



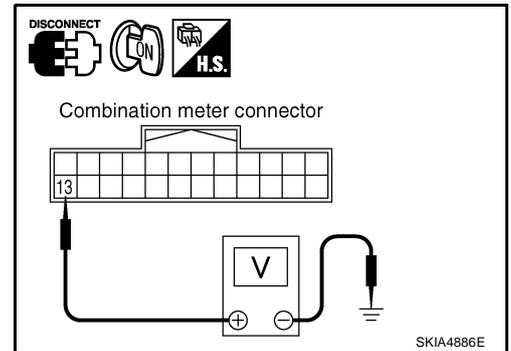
4. CHECK VOLTAGE OF UNIFIED METER AND A/C AMP.

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.

Approx. 5V

OK or NG

- OK >> GO TO 5.
- NG >> Replace unified meter and A/C amp. Refer to [DI-35, "Removal and Installation of Unified Meter and A/C Amp."](#)

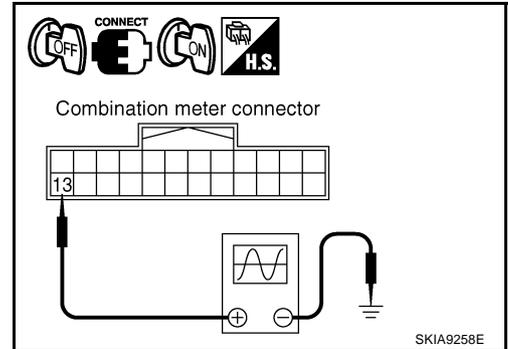
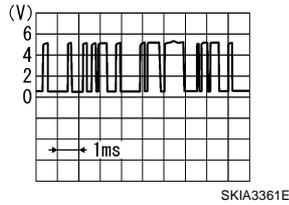


COMBINATION METERS

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 with simple oscilloscope of CONSULT-II.

13 (L/B) - Ground:



OK or NG

- OK >> Replace unified meter and A/C amp. Refer to [DI-35, "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).

Continuity should exist.

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

Continuity should not exist.

OK or NG

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

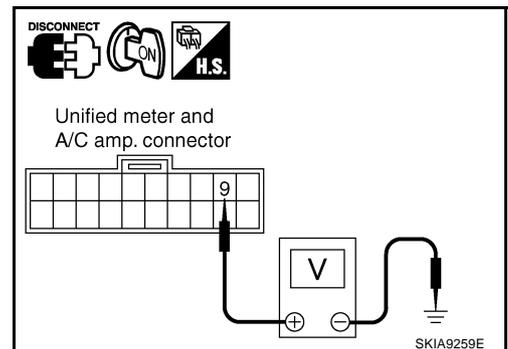
7. CHECK VOLTAGE OF COMBINATION METER

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.

Approx. 5V

OK or NG

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

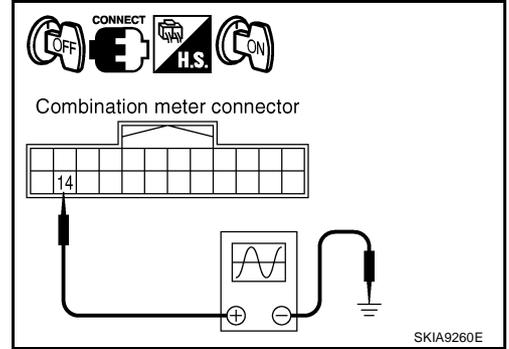
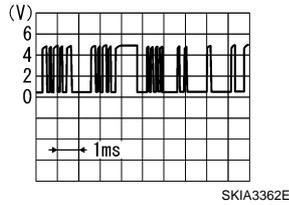


COMBINATION METERS

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 with simple oscilloscope of CONSULT-II.

14 (PU) - Ground:



OK or NG

- OK >> Replace combination meter.
 NG >> Replace unified meter and A/C amp. Refer to [DI-35, "Removal and Installation of Unified Meter and A/C Amp."](#)

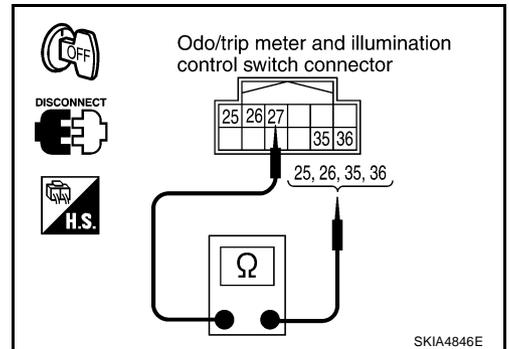
Odo/Trip Meter and Illumination Control Switch Inspection

AKS005N2

1. CHECK ODO/TRIP METER AND ILLUMINATION CONTROL SWITCH

1. Remove odo/trip meter and illumination control switch. Refer to [DI-28, "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
26	Illumination control switch (+) is pushed.	Yes
	Illumination control switch (+) is released.	No
25	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 before or after stopping.

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

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

COMBINATION METERS

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-26, "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 CHECK FUEL LEVEL SENSOR UNIT

AKS005N5

For removal, refer to [FL-4, "FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY"](#).

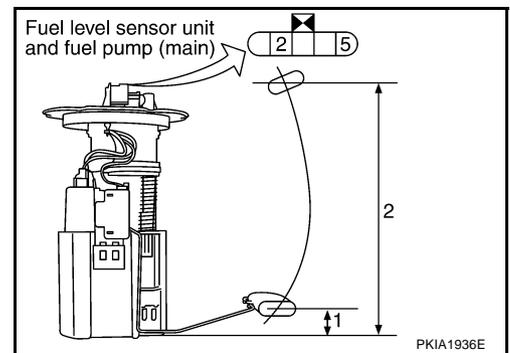
Check fuel level sensor unit and fuel pump (main)

1. Check the resistance between terminals 2 and 5.

Terminal		Float position		mm (in)	Resistance value Ω
(+)	(-)	*1	*2		
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.

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

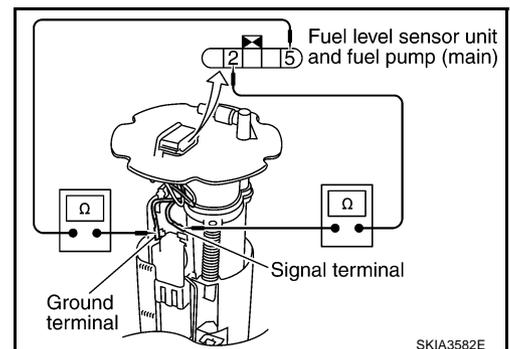


Check fuel level sensor unit and pump (main) harness

1. Check continuity at following terminals.

Terminal	Continuity
2 - Signal terminal	Yes
5 - Ground terminal	

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



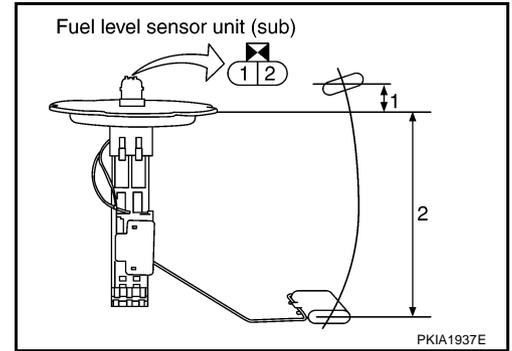
COMBINATION METERS

Check fuel level sensor unit (sub)

Check resistance between terminals 1 and 2.

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

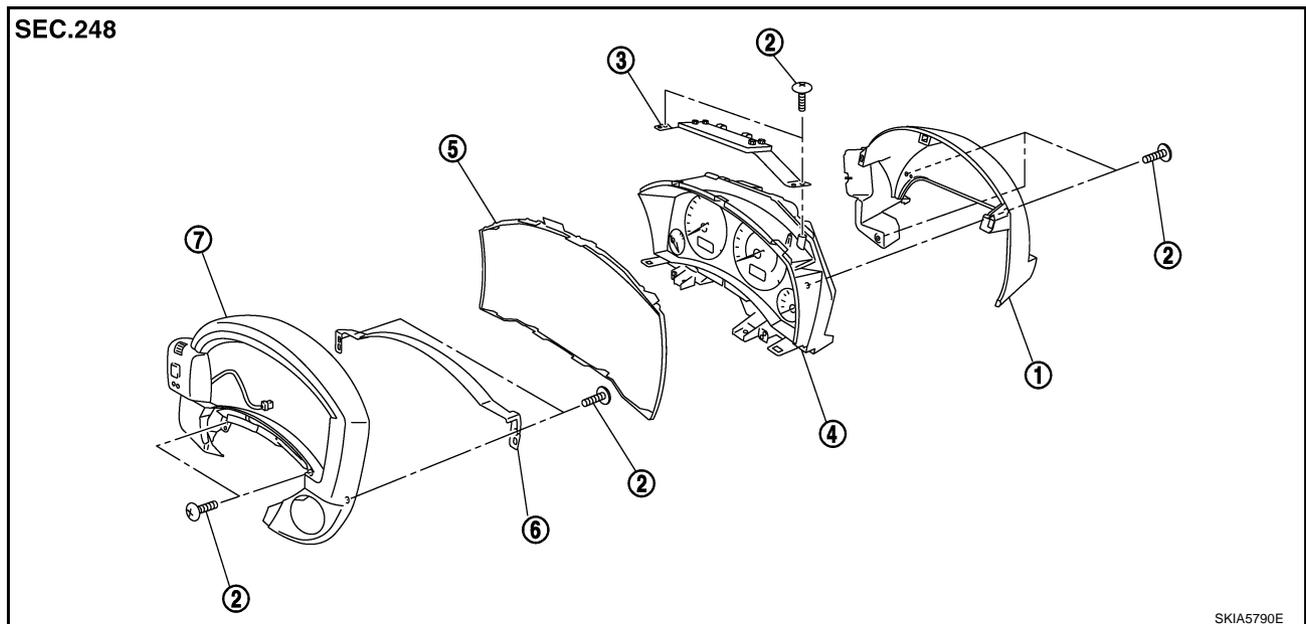
*1 and *2: When float rod is in contact with stopper.



Removal and Installation of Combination Meter

Refer to [IP-10, "INSTRUMENT PANEL ASSEMBLY"](#).

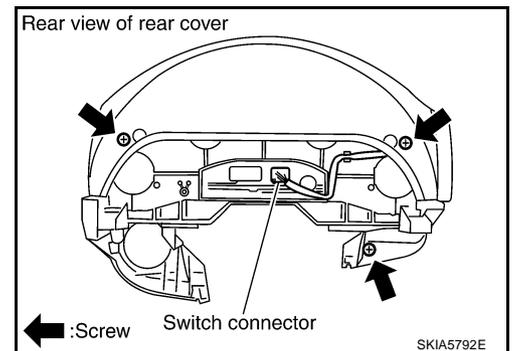
Disassembly and Assembly of Combination Meter



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

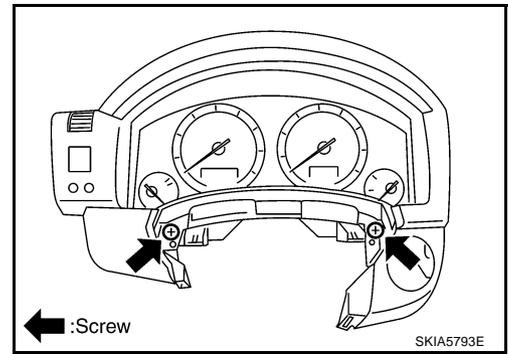
DISASSEMBLY

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

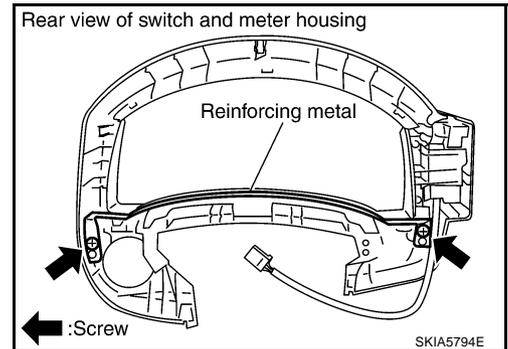


COMBINATION METERS

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 plate.

ASSEMBLY

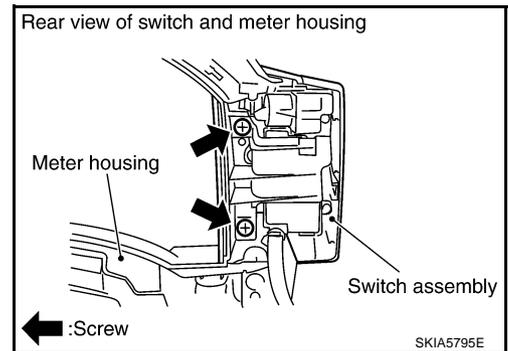
Assemble in the reverse order of disassembly.

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

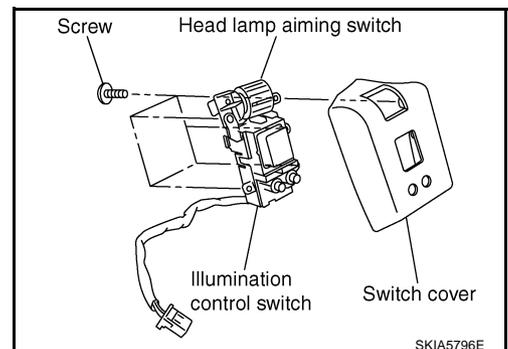
AKS007G2

REMOVAL

1. Remove combination meter. Refer to [IP-10, "INSTRUMENT PANEL ASSEMBLY"](#).
2. Remove switch and meter housing. Refer to [DI-27, "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

Install in the reverse order of removal.

UNIFIED METER AND A/C AMP

UNIFIED METER AND A/C AMP

PF2:27760

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.	<ul style="list-style-type: none"> ● 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 	<ul style="list-style-type: none"> ● Vehicle speed signal (8-pulse) ● Engine speed signal ● Engine coolant temperature signal ● Fuel level sensor signal (resistance value) ● Malfunction indicator lamp signal ● ABS warning lamp signal ● 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 ● ASCD CRUISE indicator lamp signal ● ASCD 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

UNIFIED METER AND A/C AMP

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	
	Low tire pressure warning lamp	The lamp turns off by suspending communication.
	ASCD SET indicator lamp	
	ASCD 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

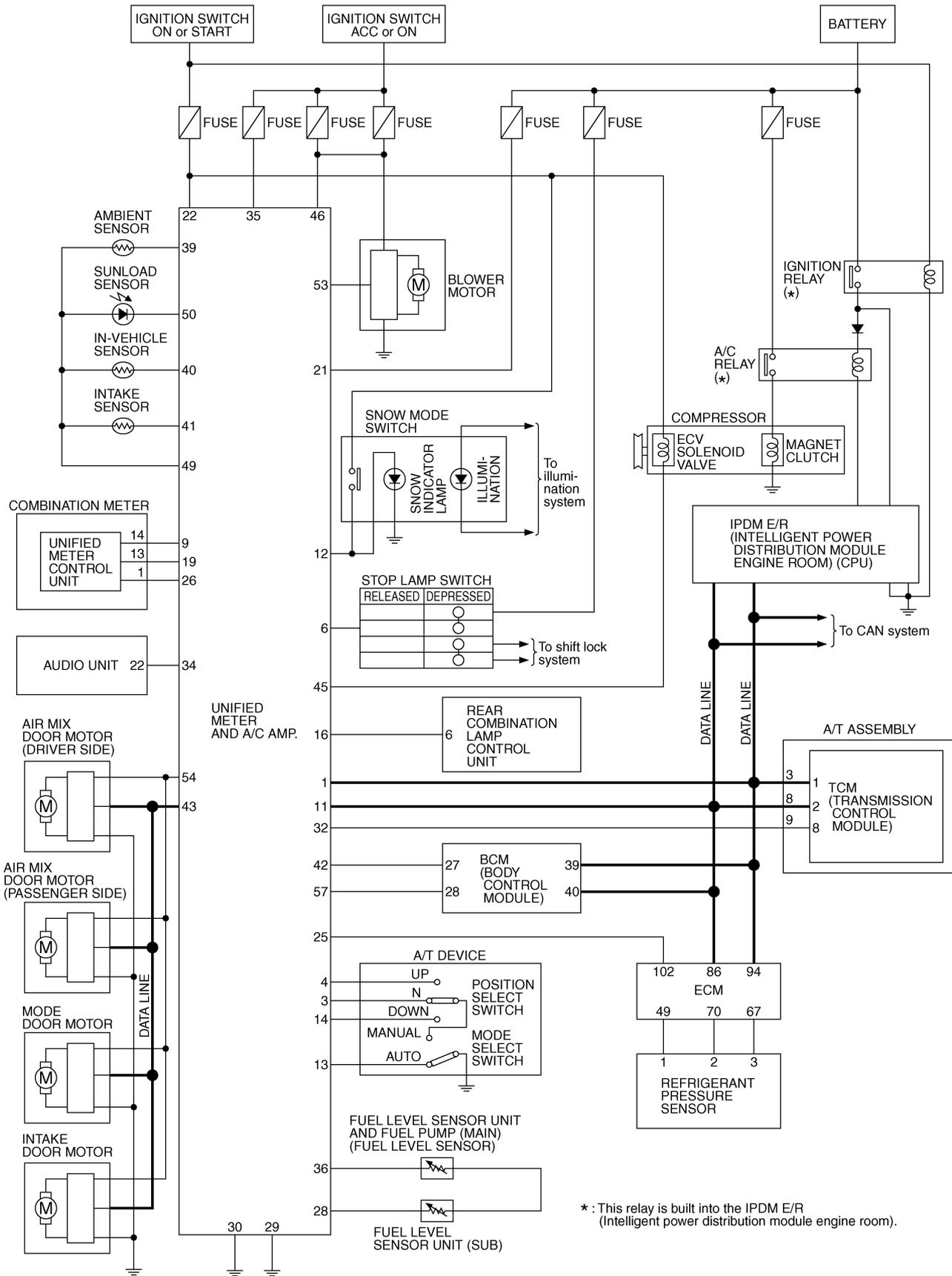
Refer to [LAN-6. "CAN Communication Unit"](#) in "LAN SYSTEM".

UNIFIED METER AND A/C AMP

Schematic

AKS005NA

A
B
C
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H
I
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K
L
M



* : This relay is built into the IPDM E/R (Intelligent power distribution module engine room).

TKWM1285E

UNIFIED METER AND A/C AMP

AKS005NB

CONSULT-II Function

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

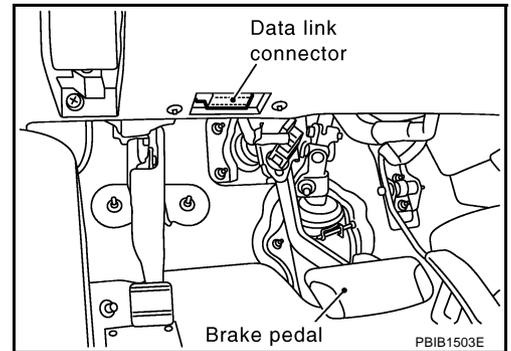
System part	Check item, diagnosis mode	Description
METER A/C AMP	Self-diagnostic results	Unified meter and A/C amp. check the conditions and indicates any error that unified meter and A/C amp. memorized.
	CAN diagnostic support monitor	The results of transmit/receive diagnosis of CAN communication can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

CONSULT-II BASIC OPERATION

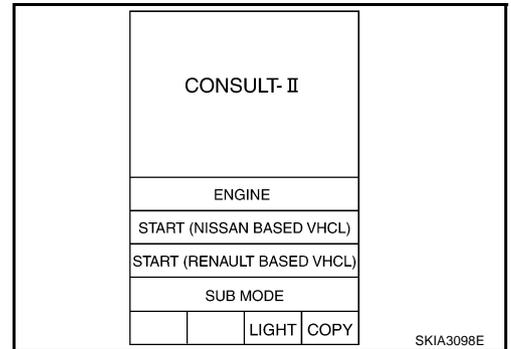
CAUTION:

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

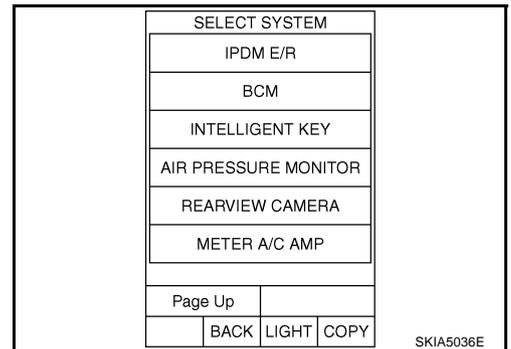
1. With the ignition switch OFF, connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector, then turn ignition switch ON.



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



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

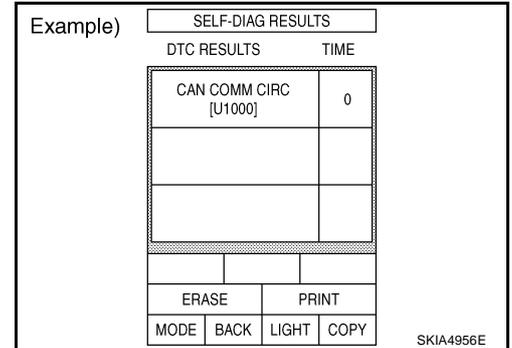


UNIFIED METER AND A/C AMP

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...
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 7-8V for about 2 seconds) or 10A fuse [No. 19, located in the fuse block (J/B)] is disconnected.
METER COMM CIRC [B2202]	Malfunction is detected in communication of between combination meter and unified meter and A/C amp.
VEHICLE SPEED CIRC [B2205]	When an erroneous speed signal is input for 1 seconds. CAUTION: Even when there is no malfunction on speed signal system, malfunction may be misinterpreted when battery has low voltage (when maintaining 7-8V for about 2 seconds).

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

- Normal: In case of operating properly at the present in spite of having 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.

UNIFIED METER AND A/C AMP

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

Example)

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

SKIA4957E

Display Item List

Display item [Unit]	MAIN SIGNALS	SELECTION FROM MENU	Contents
SPEED METER [km/h] or [mph]	X	X	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.

UNIFIED METER AND A/C AMP

Display item [Unit]	MAIN SIGNALS	SELECTION FROM MENU	Contents
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.
AT S MODE SW [ON/OFF]		X	Indicates [ON/OFF] condition of snow mode switch.
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 ASCD CRUISE indicator lamp.
SET IND [ON/OFF]		X	Indicates [ON/OFF] condition of ASCD SET indicator lamp.
CRUISE W/L [ON/OFF]		X	Indicates [ON/OFF] condition of ICC warning lamp.
4WD W/L [ON/OFF]		X	Indicates [ON/OFF] condition of AWD warning lamp.

NOTE:

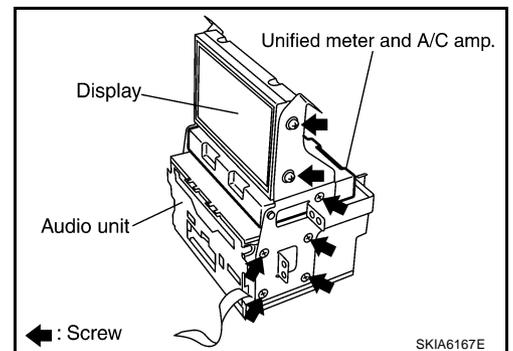
Any monitored item that does not match the vehicle being diagnosed is deleted from the display automatically.
 *: Monitor keeps indicating "OFF" when brake warning lamp is on by the parking brake operation or low brake fluid level.

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

AKS005NC

REMOVAL

1. Remove the audio unit. Refer to [AV-45, "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

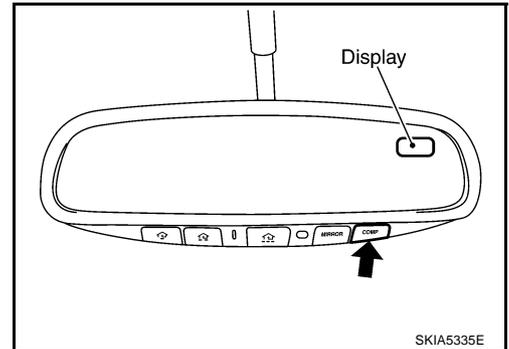
COMPASS

PFP:24835

System Description

AKS007A0

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.

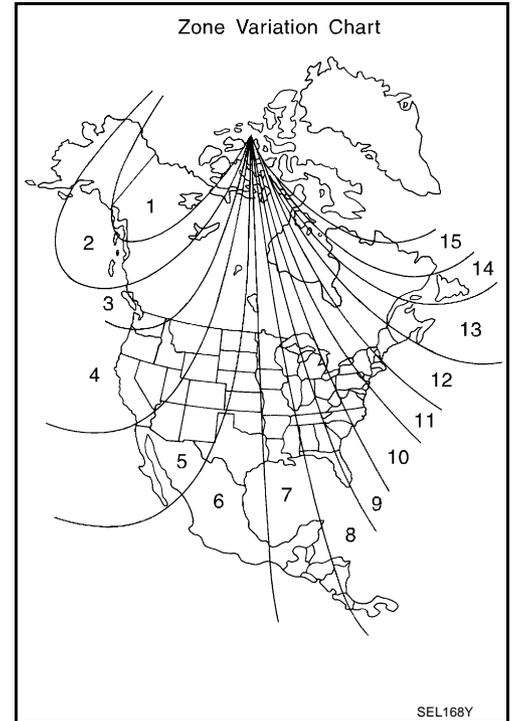
NOTE:

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.

COMPASS

“C” is displayed in the compass window.

The compass needs to be calibrated. Drive the vehicle in 3 circles at 8km/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.

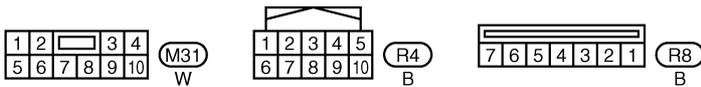
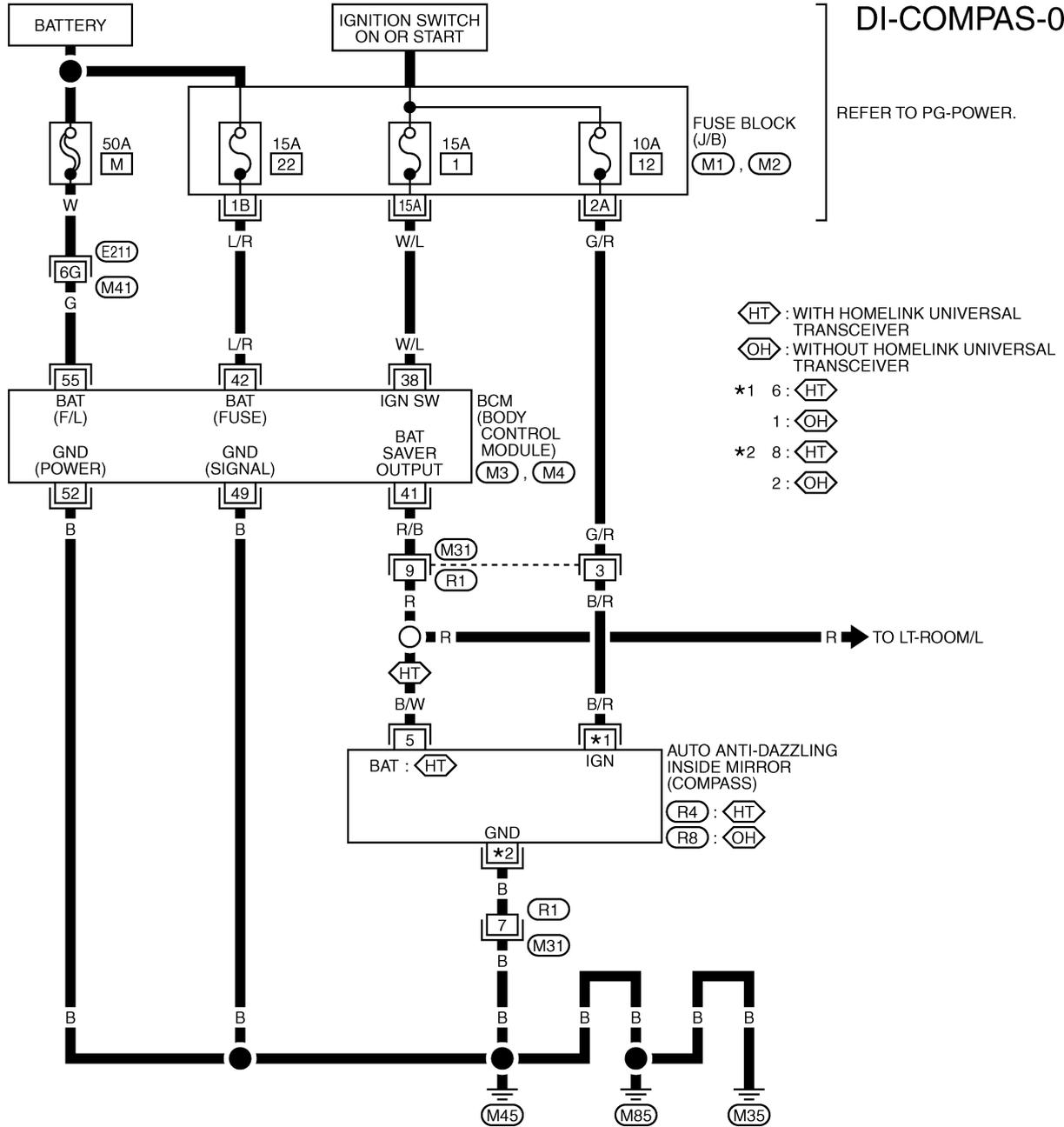
A
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COMPASS

AKS007AP

Wiring Diagram – COMPAS –

DI-COMPAS-01



REFER TO THE FOLLOWING.

- (E211) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4) -ELECTRICAL UNITS

TKWM0683E

Removal and Installation of Compass

AKS007AQ

Refer to [GW-85, "Removal and Installation"](#) .

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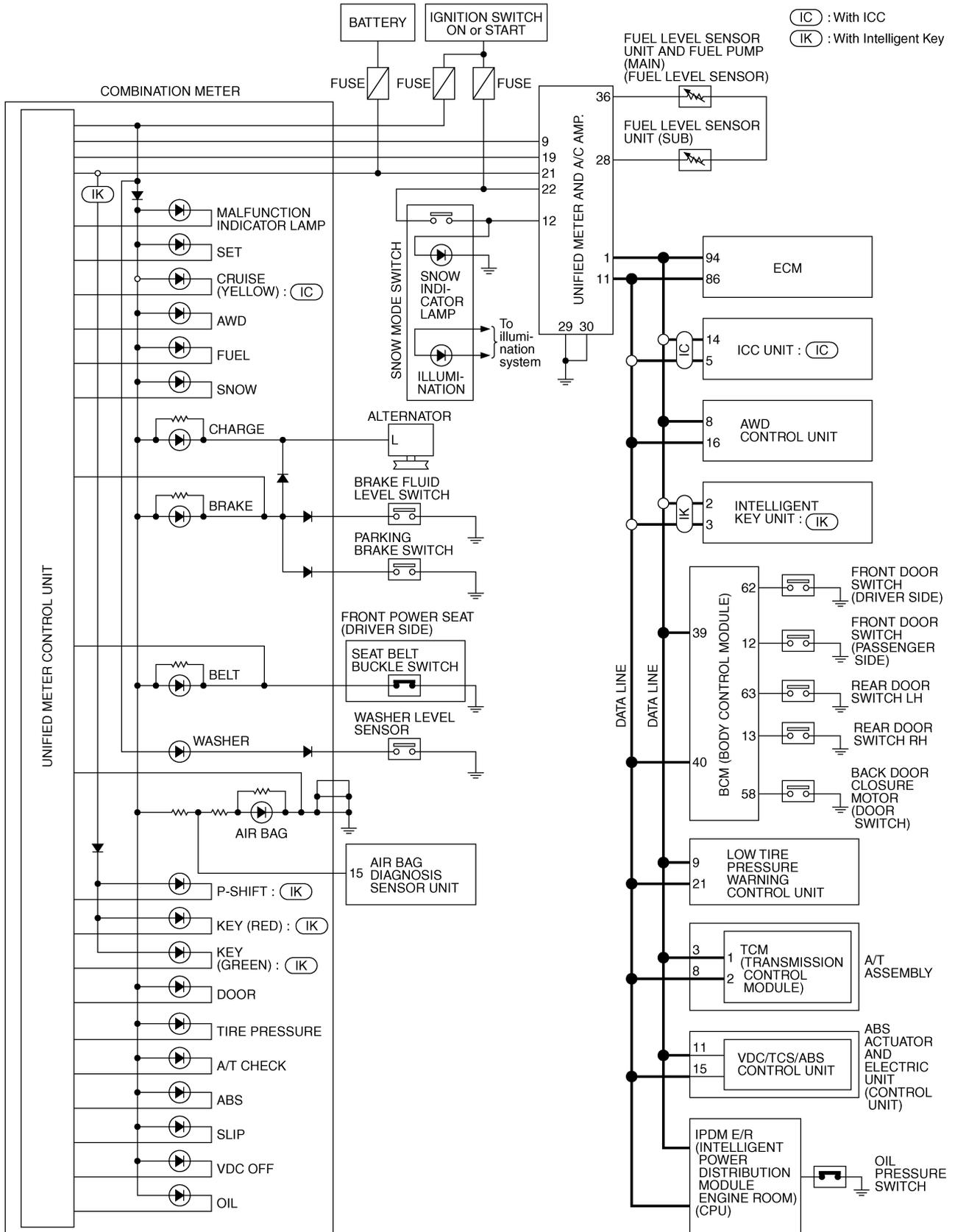
WARNING LAMPS

PFP:24814

WARNING LAMPS

Schematic

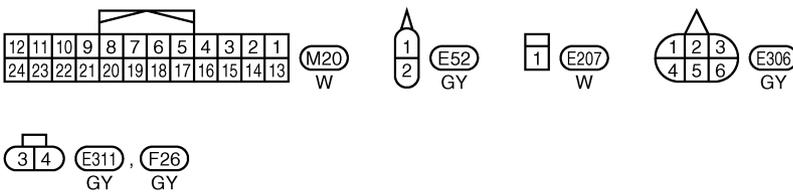
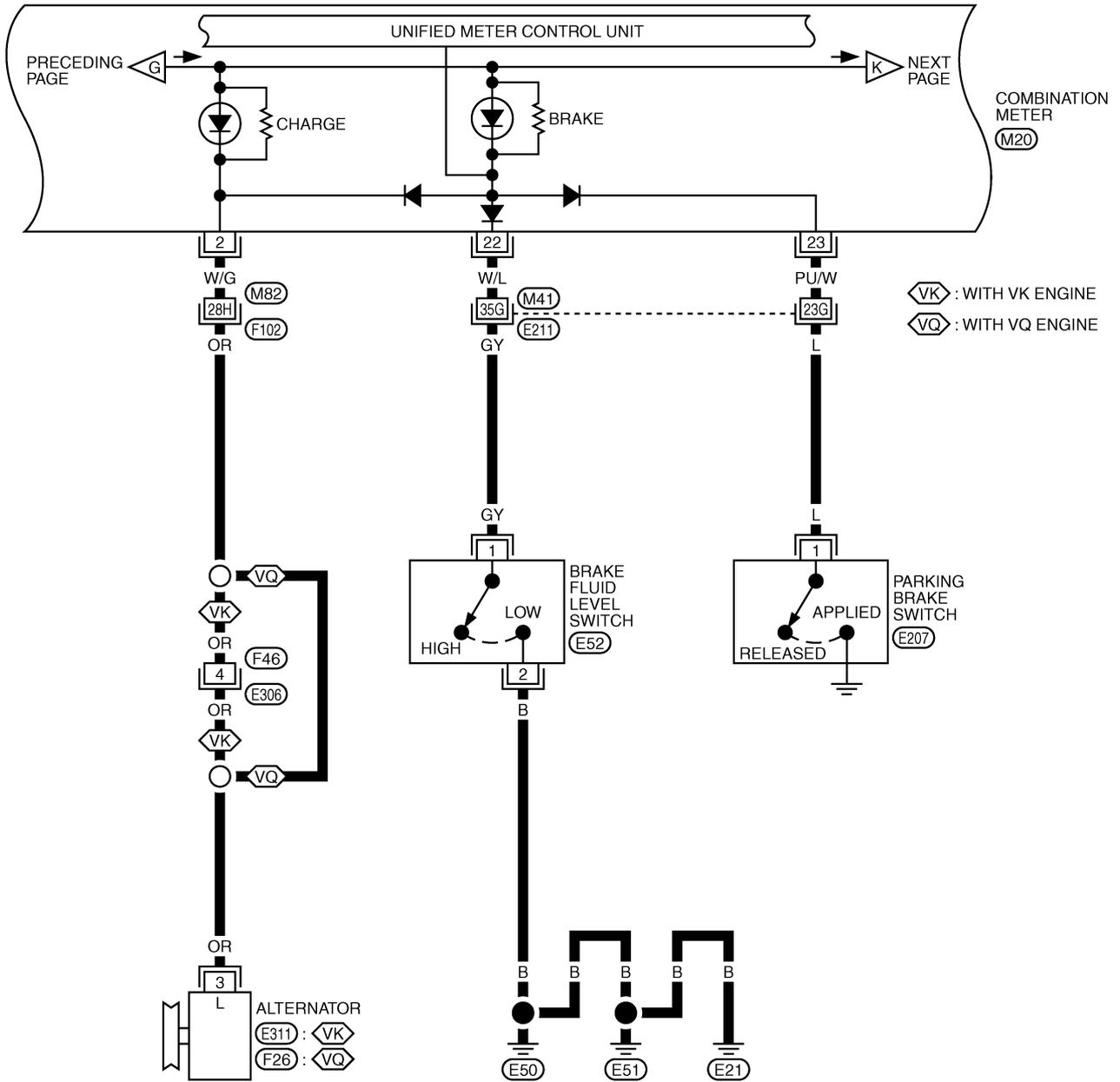
AKS005ND



TKWM1280E

WARNING LAMPS

DI-WARN-03

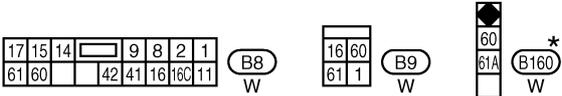
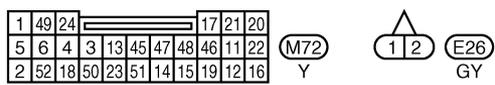
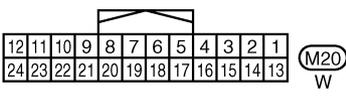
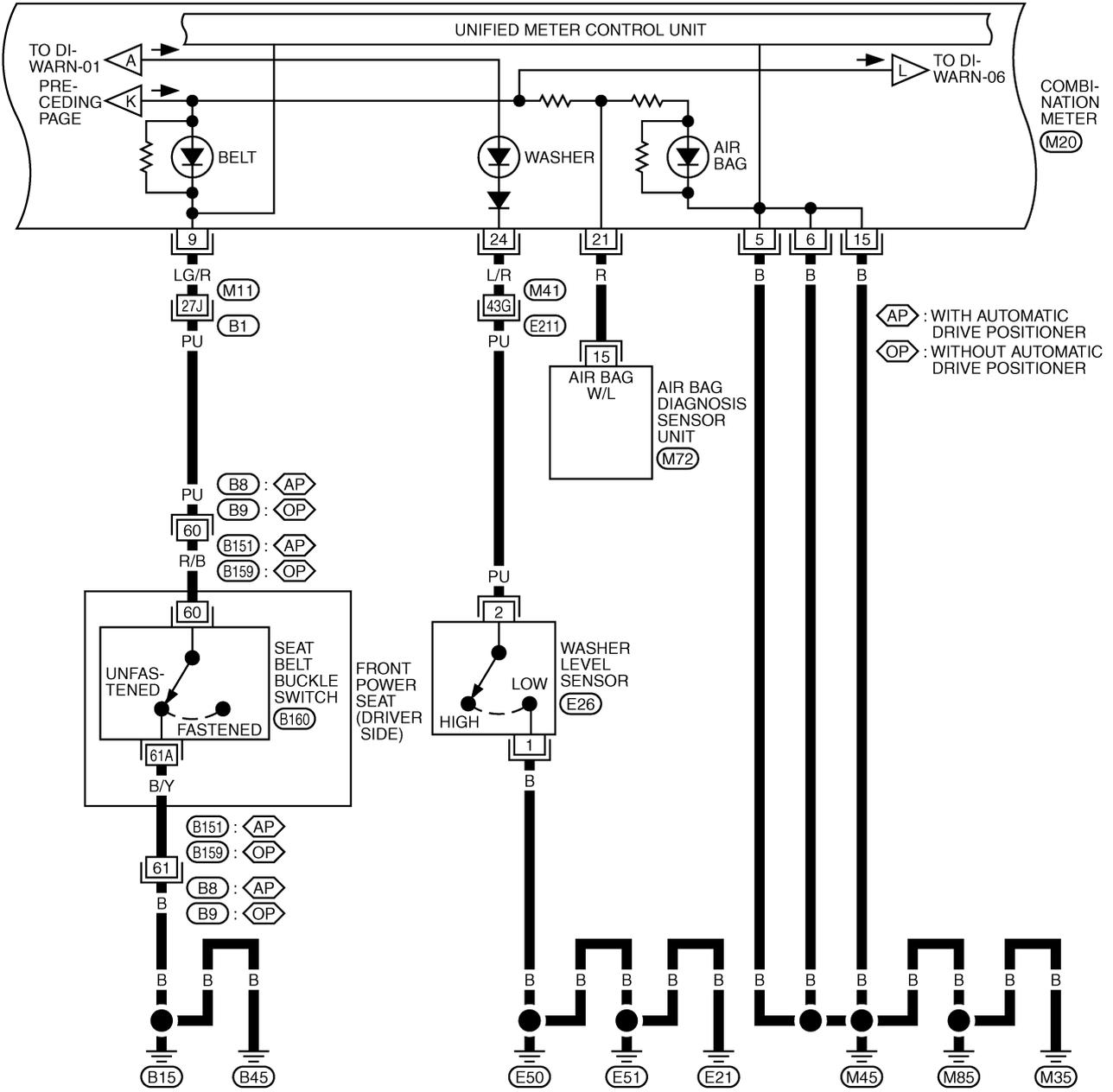


REFER TO THE FOLLOWING.
 (E211), (F102) -SUPER MULTIPLE JUNCTION (SMJ)

TKWM1084E

WARNING LAMPS

DI-WARN-04



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

REFER TO THE FOLLOWING.
(E21), (B1) -SUPER MULTIPLE JUNCTION (SMJ)

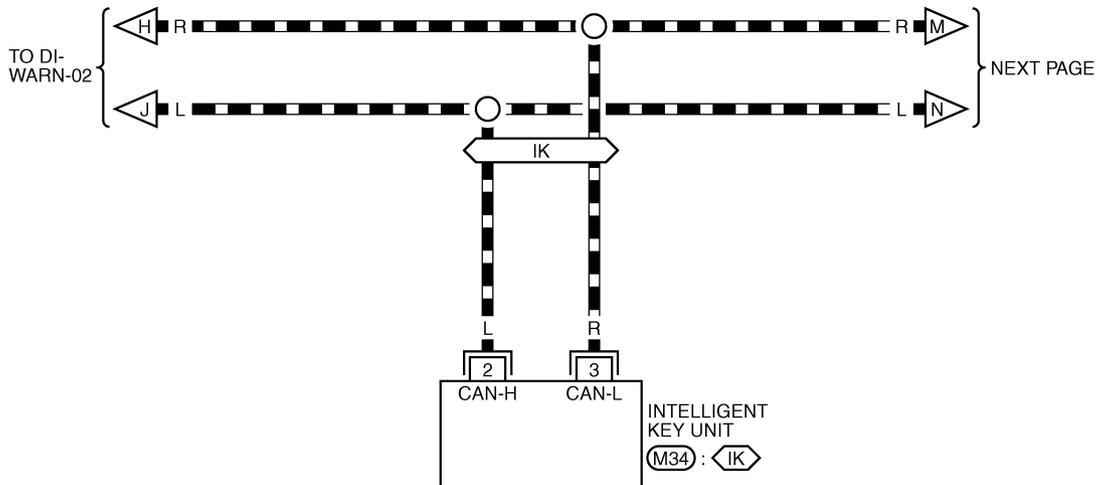
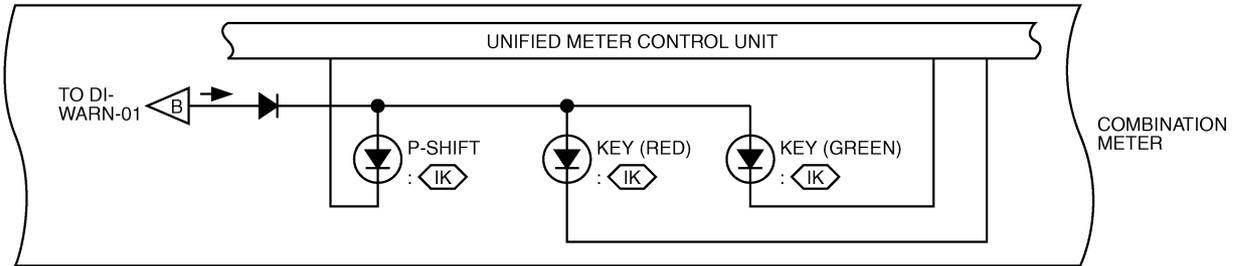
TKWM1085E

WARNING LAMPS

DI-WARN-05

▬ : DATA LINE

◊IK◊ : WITH INTELLIGENT KEY



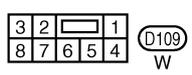
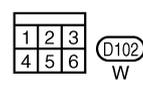
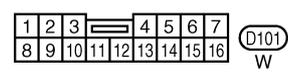
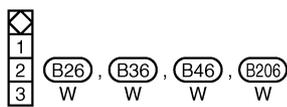
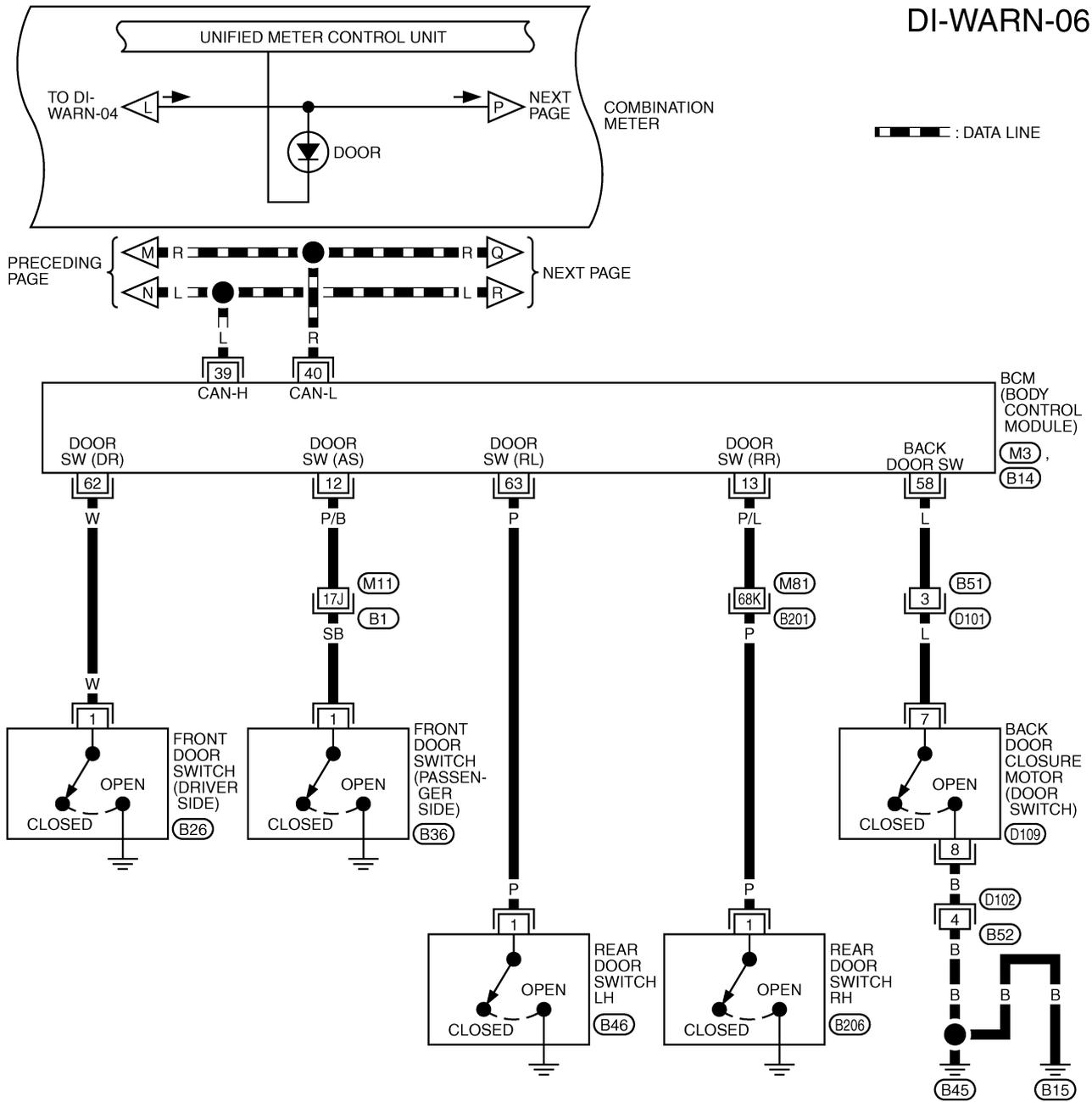
REFER TO THE FOLLOWING.

(M34) -ELECTRICAL UNITS

TKWM1056E

WARNING LAMPS

DI-WARN-06



REFER TO THE FOLLOWING.

(B1), (B201) -SUPER MULTIPLE JUNCTION (SMJ)

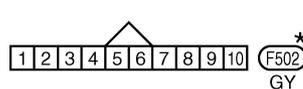
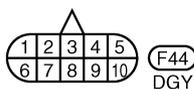
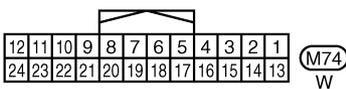
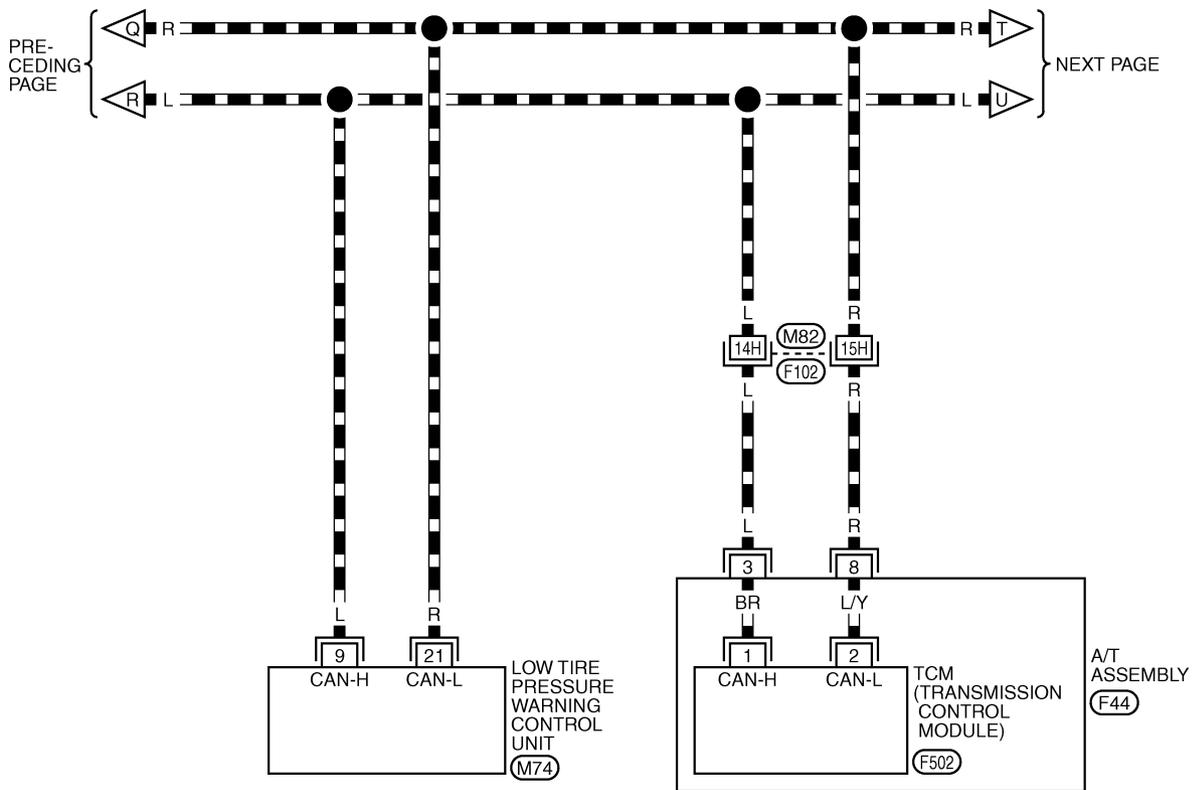
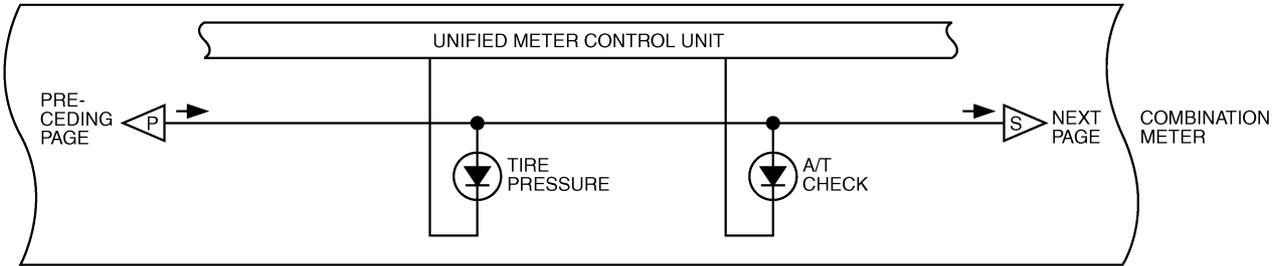
(M3), (B14) -ELECTRICAL UNITS

TKWM1086E

WARNING LAMPS

DI-WARN-07

▬ : DATA LINE



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

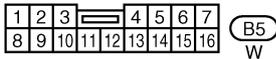
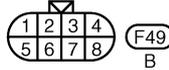
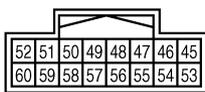
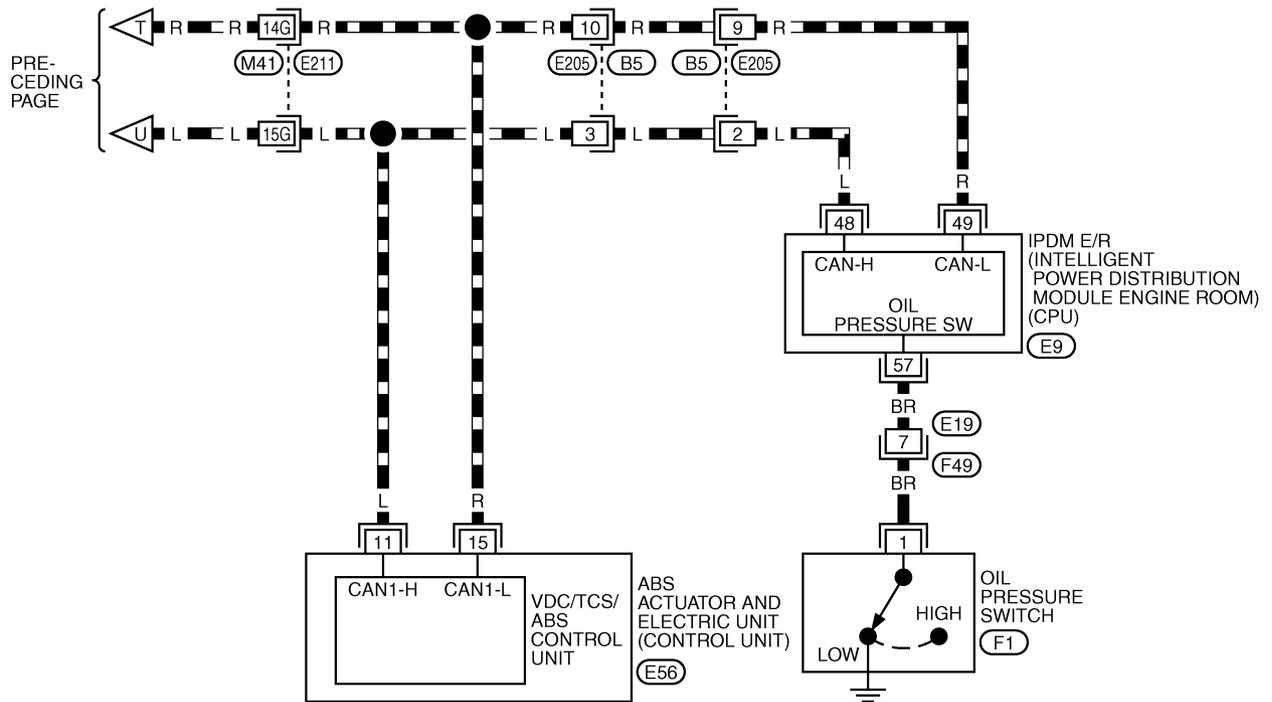
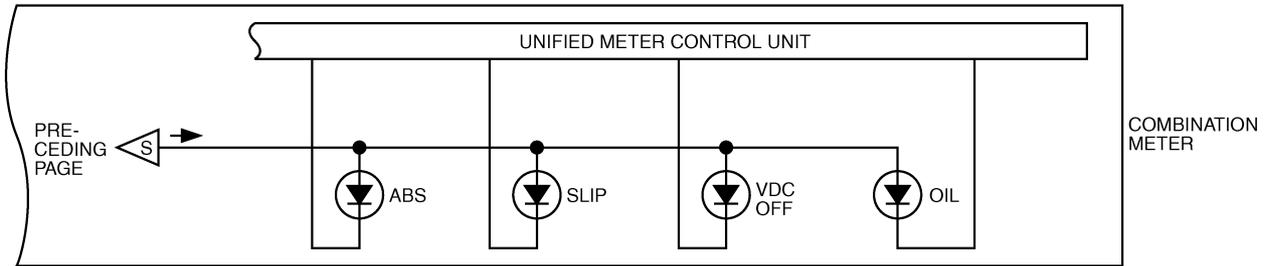
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

TKWM1281E

WARNING LAMPS

DI-WARN-08

▬ : DATA LINE



REFER TO THE FOLLOWING.

(E21) -SUPER MULTIPLE JUNCTION (SMJ)

(E56) -ELECTRICAL UNITS

TKWM1058E

WARNING LAMPS

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-32, "CONSULT-II Function"](#).

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-12, "CONSULT-II"](#). Operate ignition switch with "OIL PRESS SW" of "DATA MONITOR" and check operate status.

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

When engine running : OIL PRESS SW OFF

OK or NG

OK >> GO TO 4.

NG >> Replace IPDM E/R. Refer to [PG-30, "Removal and Installation of IPDM E/R"](#).

DATA MONITOR	
MONITOR	
OIL PRESS SW	ON

SKIA8709E

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.

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

When engine running : OIL W/L OFF

OK or NG

OK >> Replace combination meter.

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

DATA MONITOR	
MONITOR	
OIL W/L	ON

PKIA2064E

WARNING LAMPS

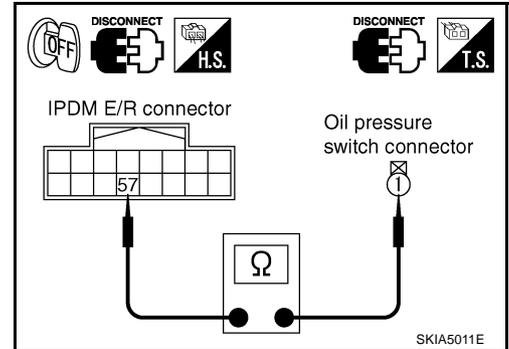
5. CHECK OIL PRESSURE SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect the IPDM E/R connector and the 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).

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-51, "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)

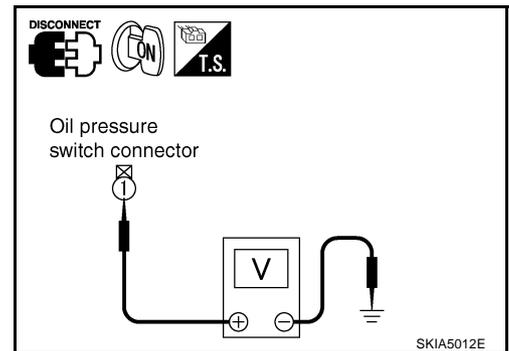
1. CHECK IPDM E/R OUTPUT SIGNAL

1. Disconnect the oil pressure switch connector.
2. Turn ignition switch ON.
3. Check voltage between oil pressure switch harness connector F1 terminal 1 (BR) and ground.

Approx. 12V

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-51, "OIL PRESSURE SWITCH"](#) .

OK or NG

- OK >> Replace IPDM E/R.
NG >> Replace oil pressure switch.

WARNING LAMPS

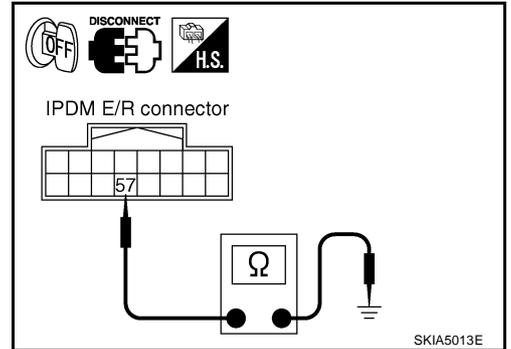
3. CHECK OIL PRESSURE SWITCH CIRCUIT

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

Continuity should not exist.

OK or NG

- OK >> Replace IPDM E/R.
 NG >> Repair harness or connector.

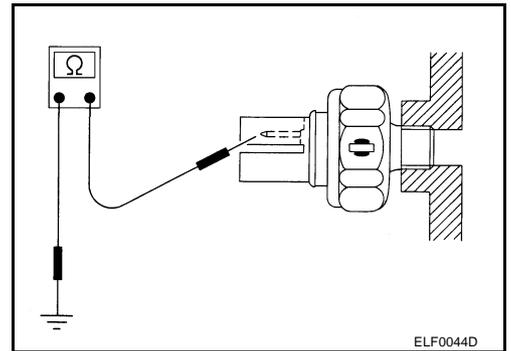


AKS005NH

Component Inspection OIL PRESSURE SWITCH

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



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A/T INDICATOR

PFP:24814

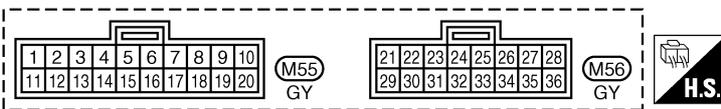
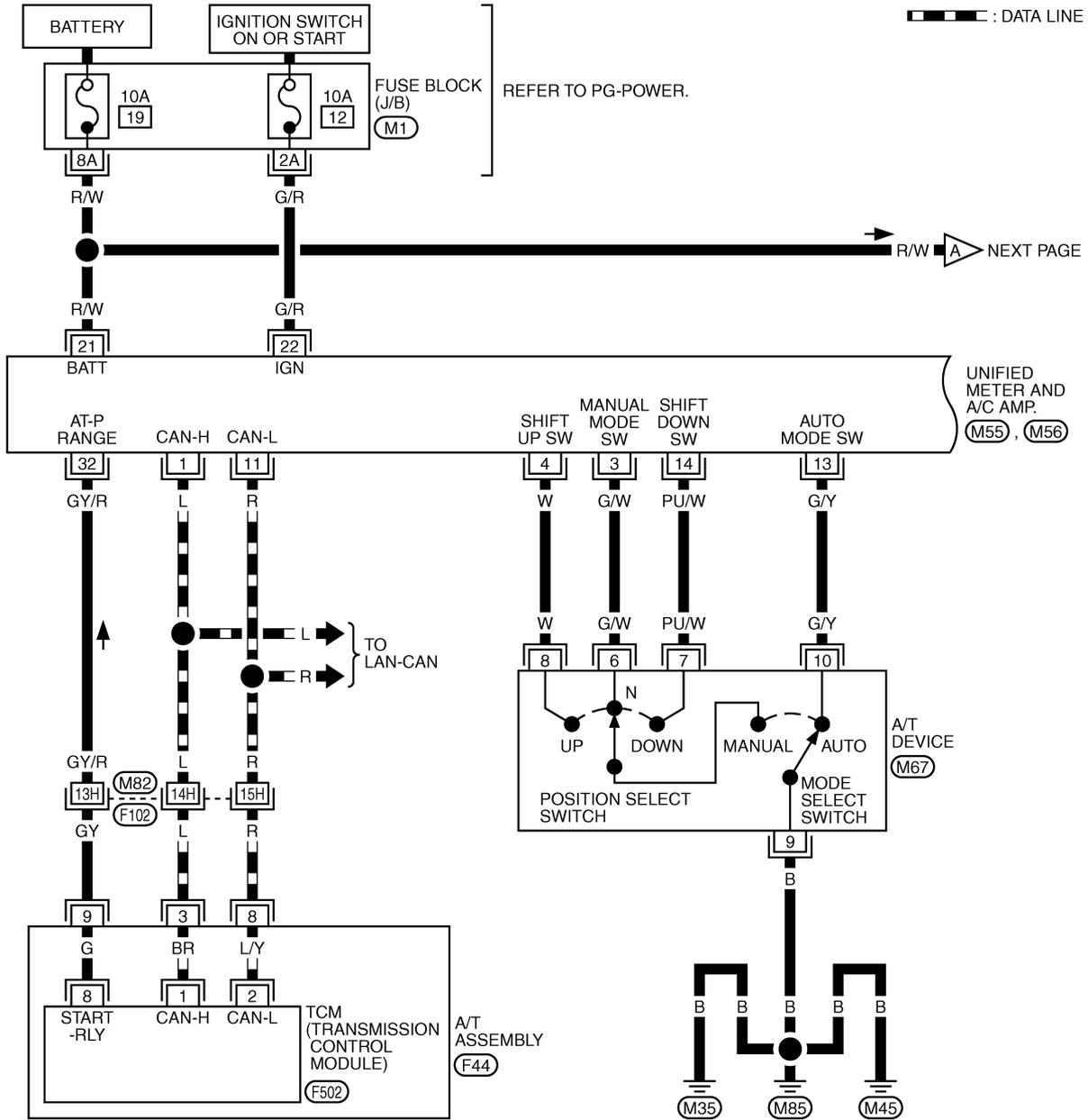
AKS005NI

A/T INDICATOR

Wiring Diagram — AT/IND —

DI-AT/IND-01

▬ : DATA LINE



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

REFER TO THE FOLLOWING.

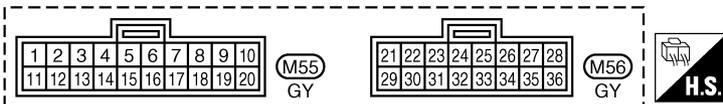
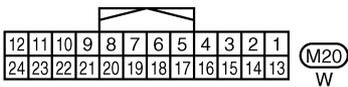
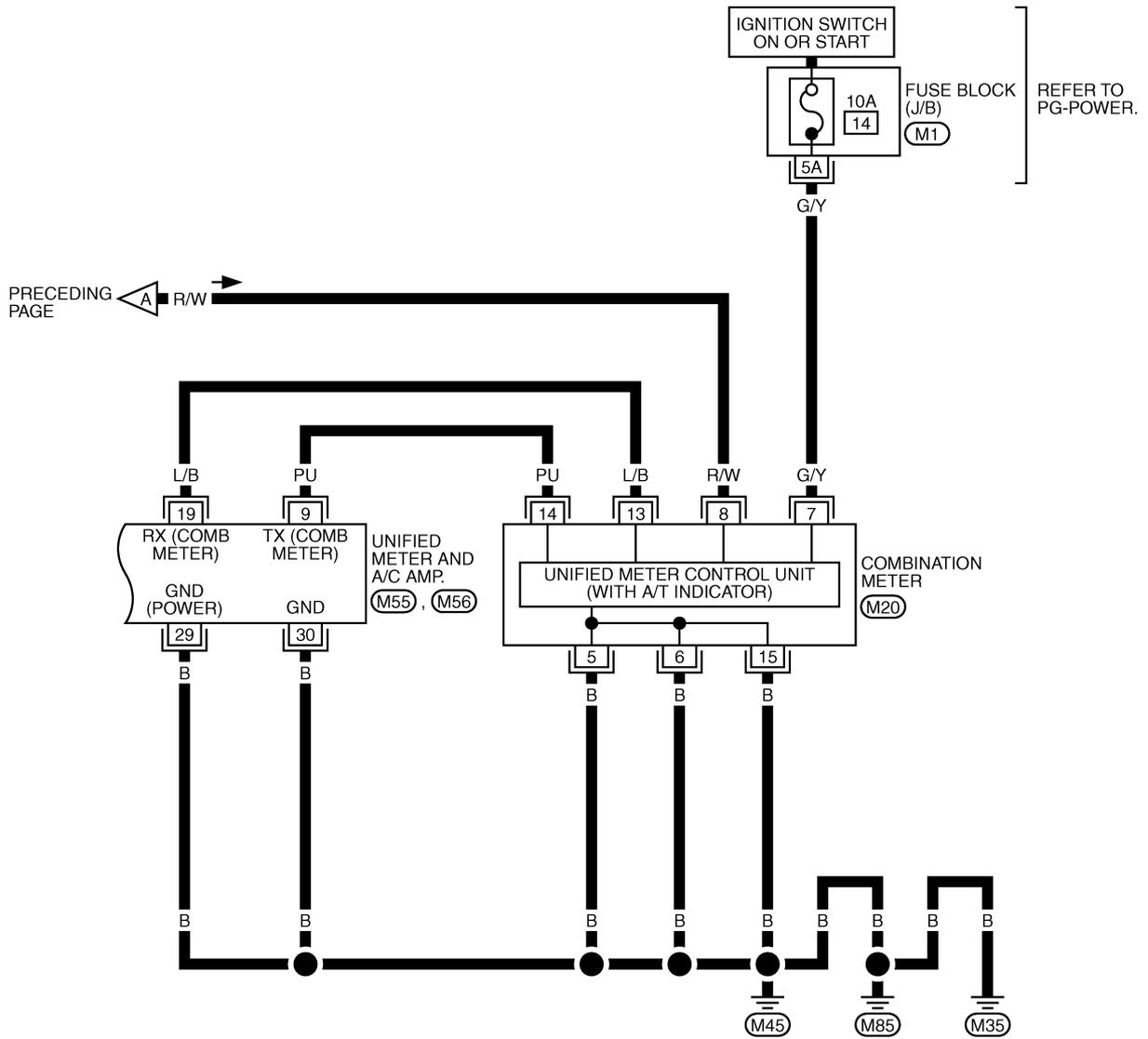
- (F102) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1) -FUSE BLOCK-JUNCTION BOX (J/B)

TKWM1282E

A/T INDICATOR

DI-AT/IND-02

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

TKWM0694E

A/T INDICATOR

AKS005NJ

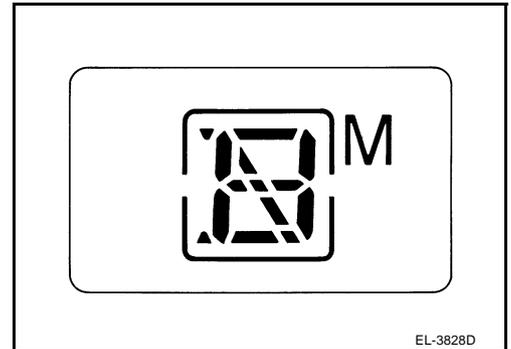
A/T Indicator Is Malfunction

1. CHECK SELF-DIAGNOSIS OF COMBINATION METER

Perform combination meter self-diagnosis. Refer to [DI-13, "HOW TO ALTERNATE DIAGNOSIS MODE"](#).

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-32, "CONSULT-II Function"](#).

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

DATA MONITOR	
MONITOR	
AT-M IND	OFF
AT-M GEAR	1
P RANGE IND	ON
R RANGE IND	OFF
N RANGE IND	OFF
D RANGE IND	OFF

SKIA6259E

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"](#) in AT section.

OK or NG

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

A/T INDICATOR

5. CHECK TCM

Check TCM input/output signal. Refer to [AT-90, "TCM Input/Output Signal Reference Values"](#) in AT section.

OK or NG

- OK >> Replace unified meter and A/C amp. Refer to [DI-35, "Removal and Installation of Unified Meter and A/C Amp."](#)
- NG >> Check applicable part, and repair or replace corresponding parts.

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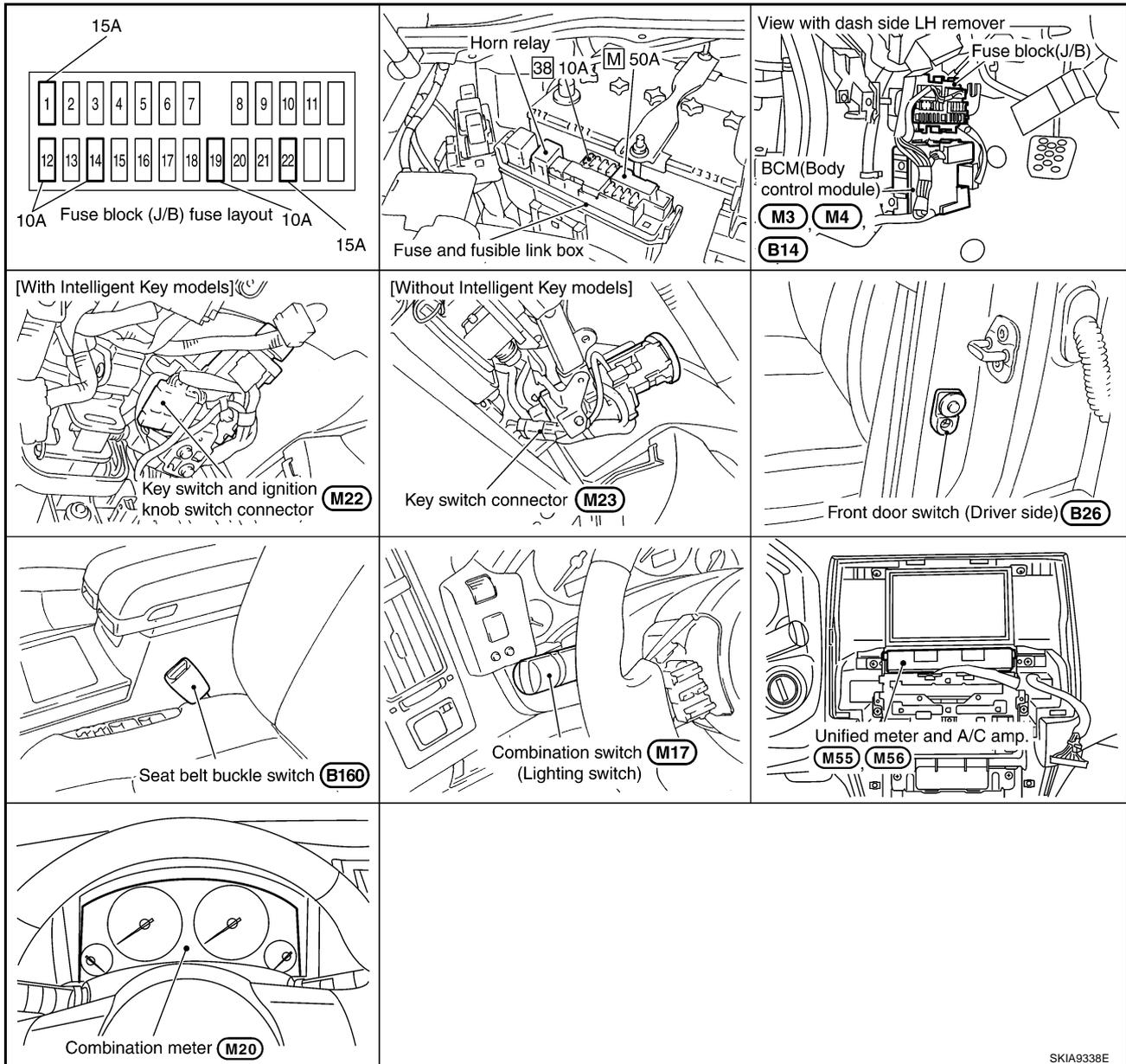
WARNING CHIME

PFP:24814

WARNING CHIME

Component Parts and Harness Connector Location

AKS005NK



SKIA9338E

System Description

FUNCTION

AKS005NL

Power is supplied at all times

- through 50A fusible link (letter **M** , located in the fuse and fusible link box)
- to BCM terminal 55
- through 15A fuse [No. 22, located in the fuse block (J/B)]
- 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 box (with Intelligent Key)]
- to key switch and ignition knob switch terminals 1 and 3
- 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 ON or START position, power is supplied

WARNING CHIME

- through 15A fuse [No. 1, located in the fuse block (J/B)]
- to BCM terminal 38, and
- 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, and
- to unified meter and A/C amp. terminals 29 and 30, and
- to combination meter terminals 5, 6 and 15
- through body 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 open, 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 open, 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

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

Power is supplied

- through key switch and ignition knob switch terminal 2

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WARNING CHIME

- 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 with the ignition knob is in LOCK (push switch OFF) [with Intelligent Key], the driver's door open, and the lighting switch 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

AKS007ZZ

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

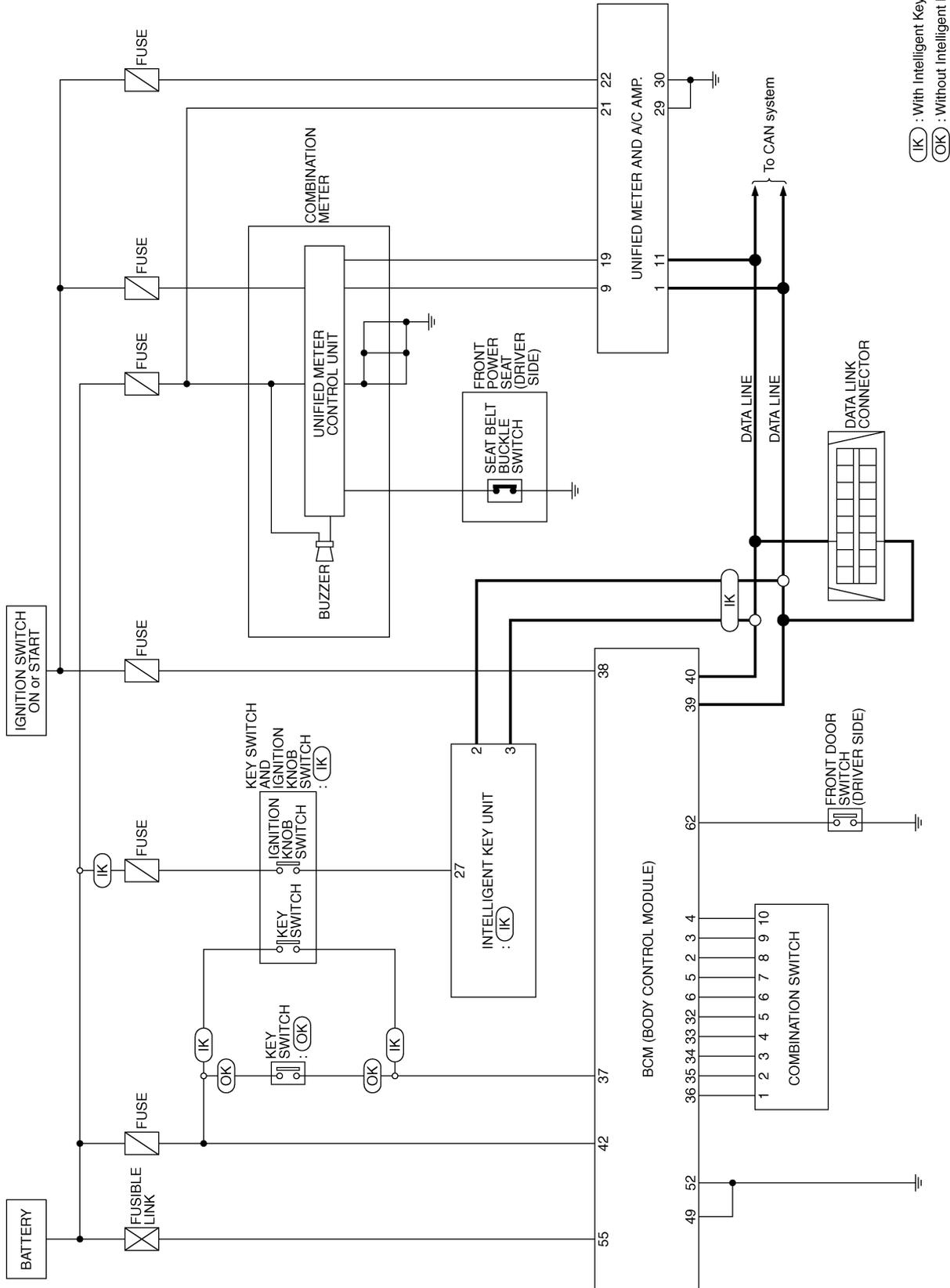
AKS007YY

Refer to [LAN-6, "CAN Communication Unit"](#) in "LAN SYSTEM".

WARNING CHIME

Schematic

AKS0069H



(IK) : With Intelligent Key
 (OK) : Without Intelligent Key

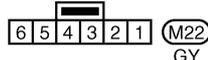
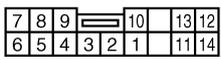
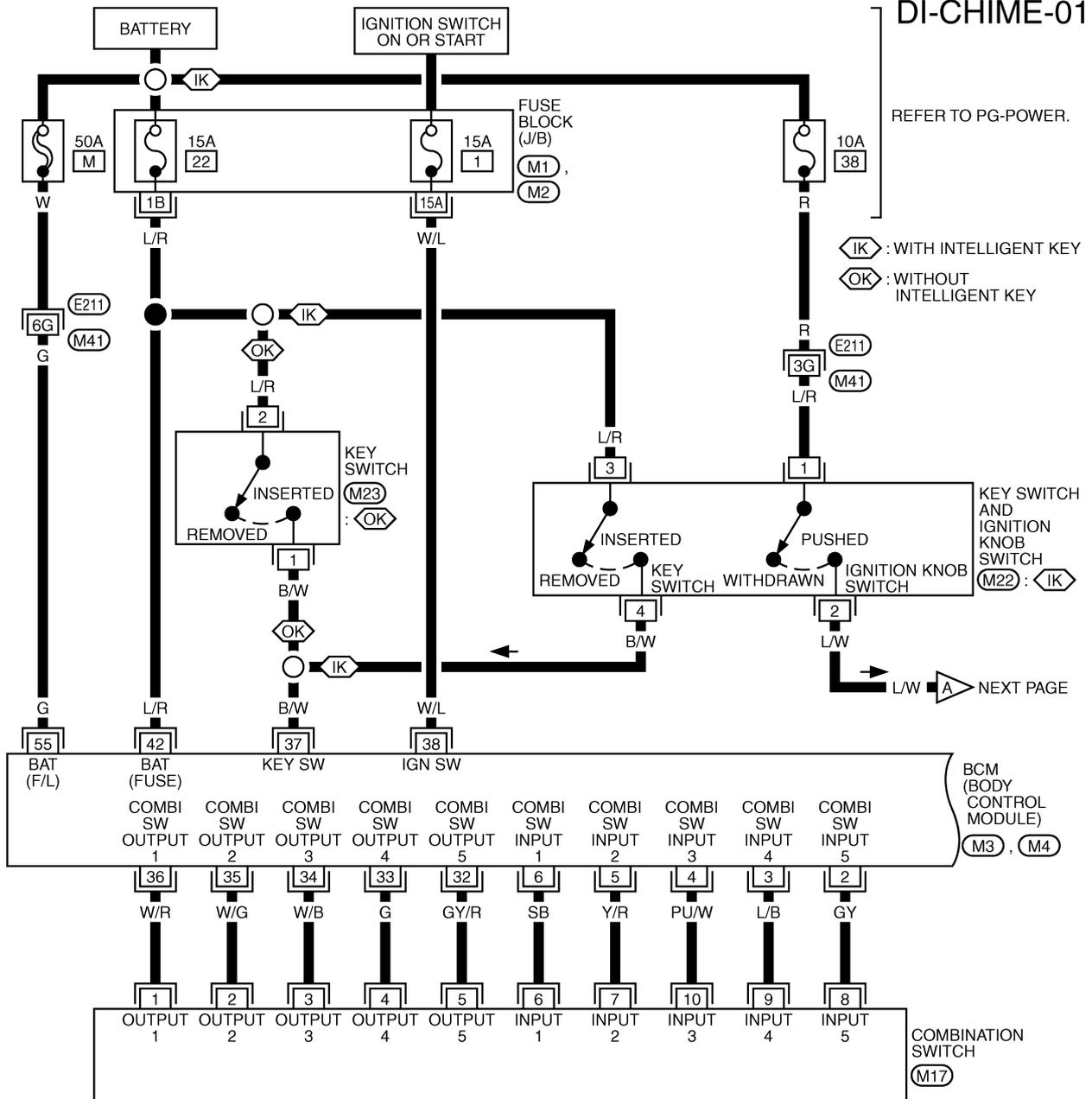
TKWM0812E

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WARNING CHIME

Wiring Diagram — CHIME —

AKS005NN



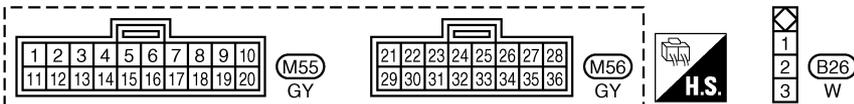
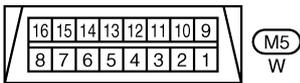
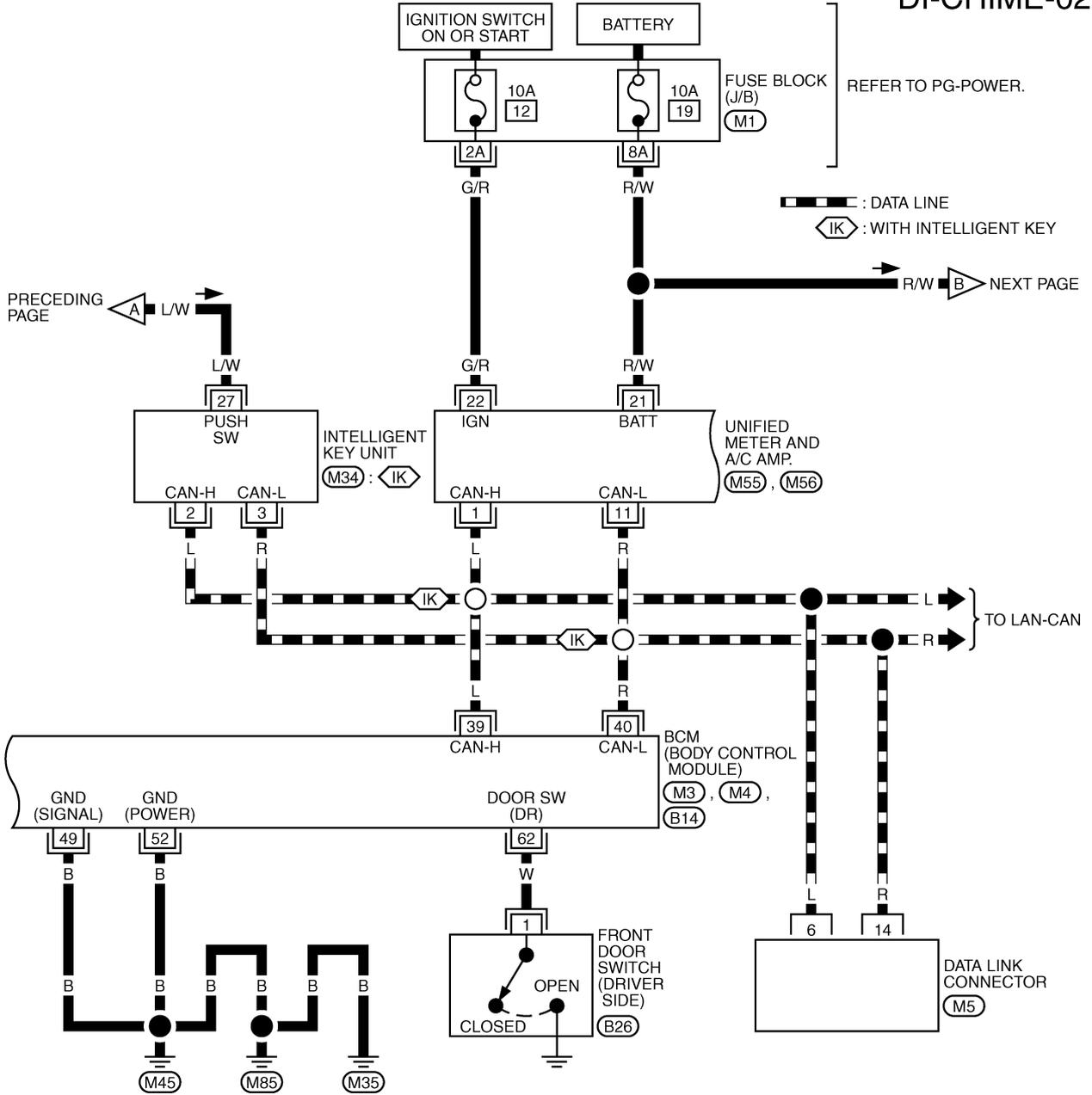
REFER TO THE FOLLOWING.

- (E211) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4) -ELECTRICAL UNITS

TKWM0813E

WARNING CHIME

DI-CHIME-02



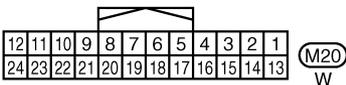
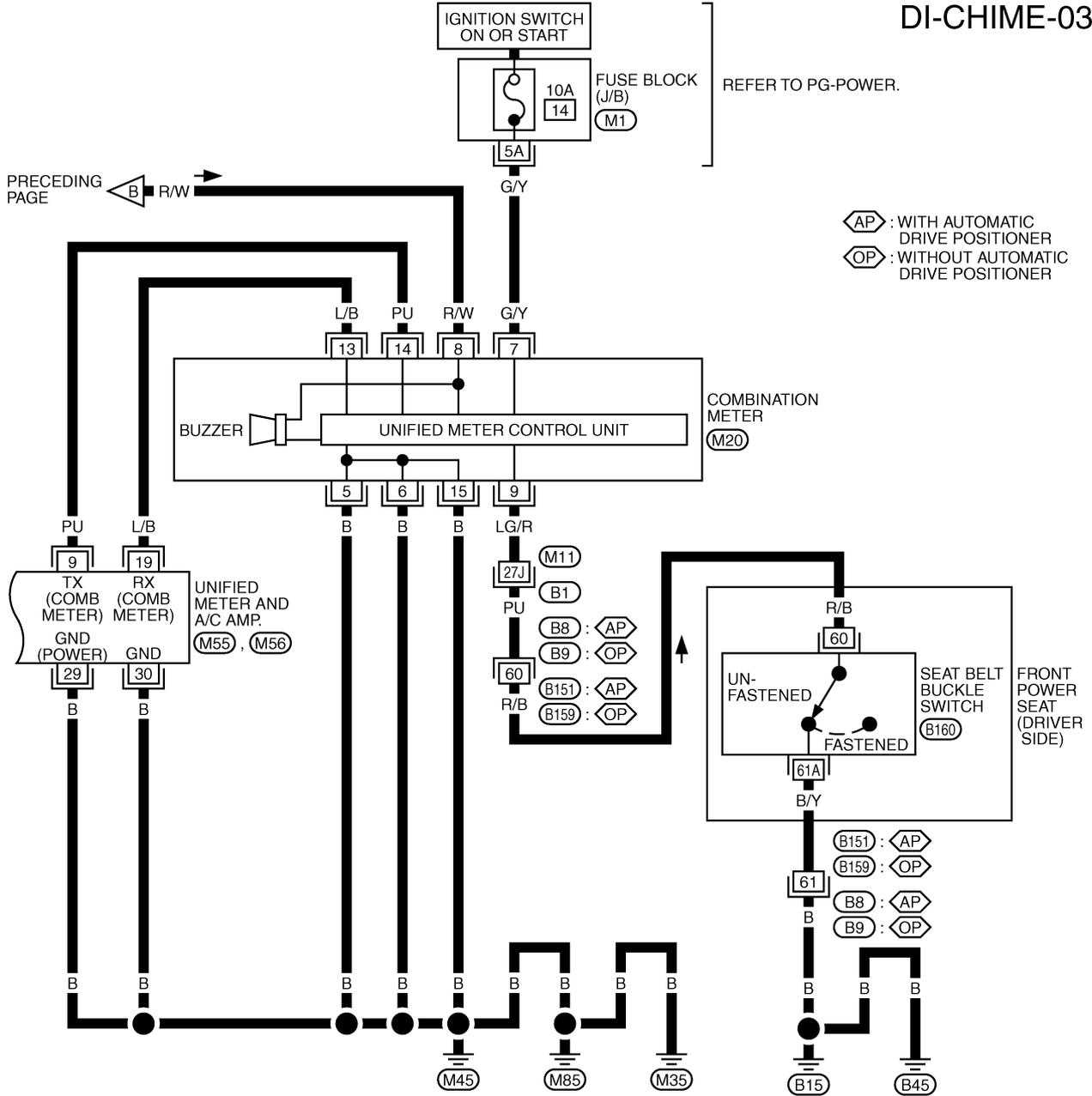
REFER TO THE FOLLOWING.

- (M1) - FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4), (M34), (B14) - ELECTRICAL UNITS

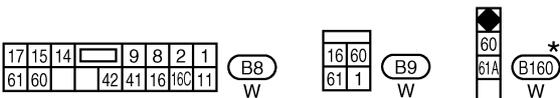
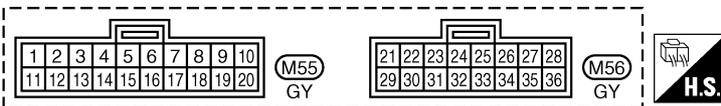
TKWM0697E

WARNING CHIME

DI-CHIME-03



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



REFER TO THE FOLLOWING.

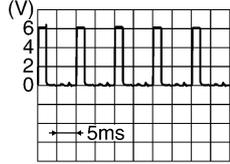
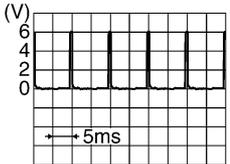
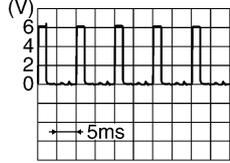
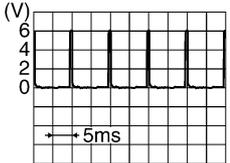
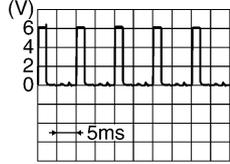
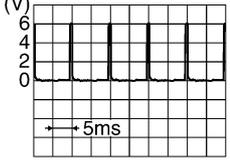
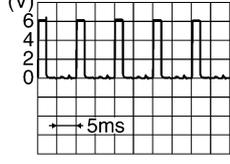
- (B1) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1) -FUSE BLOCK-JUNCTION BOX (J/B)

TKWM1087E

WARNING CHIME

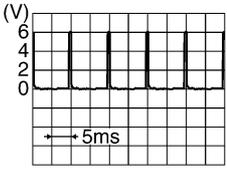
Terminals and Reference Value for BCM

AKS005NO

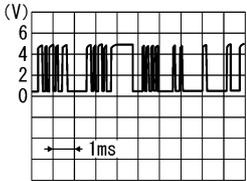
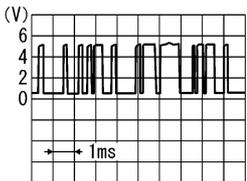
Terminal No.	Wire color	Item	Measuring condition		Reference value
			Ignition switch	Operation or condition	
2	GY	Combination switch input 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
3	L/B	Combination switch input 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
4	PU/W	Combination switch input 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
5	Y/R	Combination switch input 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
6	SB	Combination switch input 1			
32	GY/R	Combination switch output 5	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>
33	G	Combination switch output 4	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5292E</p>
34	W/B	Combination switch output 3	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right;">SKIA5291E</p>

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WARNING CHIME

Terminal No.	Wire color	Item	Measuring condition		Reference value
			Ignition switch	Operation or condition	
35	W/G	Combination switch output 2	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <small>SKIA5292E</small>
36	W/R	Combination switch output 1			
37	B/W	Key switch signal	OFF	Key is removed	Approx. 0V
				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. 0V
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. 0V
				When driver side door is closed (Door switch OFF)	Approx. 12V

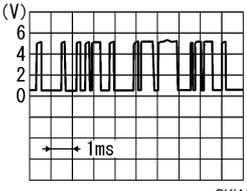
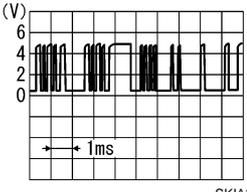
Terminals and Reference Value for Unified Meter and A/C Amp. AKS005NP

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	—	 <small>SKIA3362E</small>
11	R	CAN L	OFF	—	—
19	L/B	RX communication line (From combination meter)	ON	—	 <small>SKIA3361E</small>
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. 0V
30	B	Ground			

WARNING CHIME

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. 0V
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. 0V
				Fastened (OFF)	Approx. 12V
13	L/B	TX communication line (To unified meter and A/C amp.)	ON	—	
14	PU	RX communication line (From unified meter and A/C amp.)	ON	—	
15	B	Ground	ON	—	Approx. 0V

How to Proceed With Trouble Diagnosis

AKS005NR

1. Confirm the malfunction symptom or customer complaint.
2. Understand operation description and function description. Refer to [DI-56, "System Description"](#) .
3. Perform the Preliminary Check. Refer to [DI-65, "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-32, "CONSULT-II Function"](#) . 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

AKS005NS

CHECK 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

Refer to [DI-60, "Wiring Diagram — CHIME —"](#) .

OK or NG

OK >> GO TO 2.

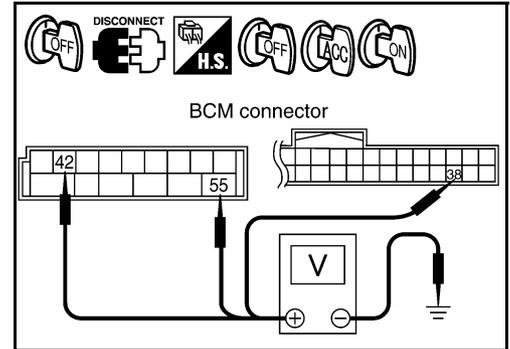
NG >> If fuse or fusible link is blown, be sure to eliminate cause of malfunction before installing new fuse or fusible link. Refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#) .

WARNING CHIME

2. CHECK POWER SUPPLY CIRCUIT

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

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



OK or NG

OK >> GO TO 3.

NG >> Check harness for open between BCM and fuse or fusible link.

3. CHECK GROUND CIRCUIT

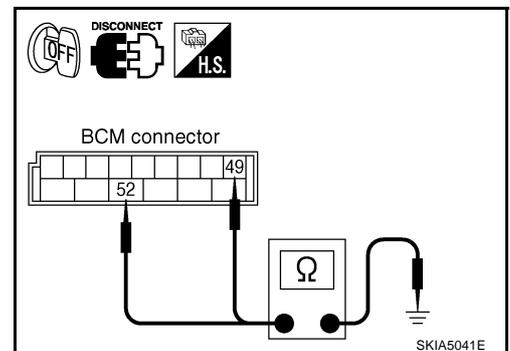
1. Turn ignition switch OFF.
2. Check continuity between BCM harness connector M4 terminals 49 (B), 52 (B) and ground.

Continuity should exist.

OK or NG

OK >> INSPECTION END

NG >> Repair harness or connector.



WARNING CHIME

AKS005NT

CONSULT-II Function

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

DIAGNOSTIC ITEMS DESCRIPTION

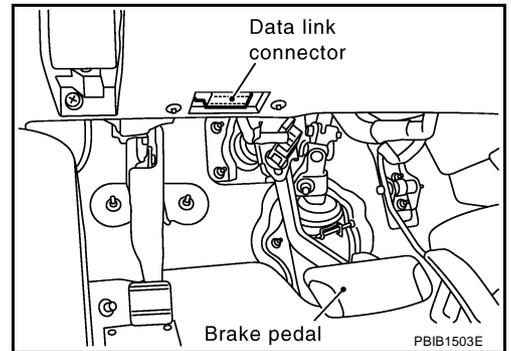
BCM diagnosis position	Diagnosis mode	Description
BUZZER	Data monitor	The input data to the BCM control unit is displayed in real time.
	Active test	Operation of electrical loads can be checked by sending driving signal to them.
BCM	Self-diagnostic	BCM performs self-diagnosis of CAN communication.

CONSULT-II BASIC OPERATION PROCEDURE

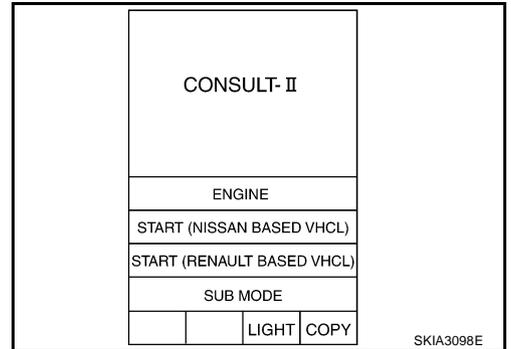
CAUTION:

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.

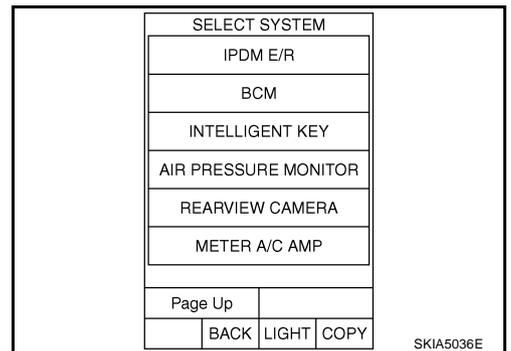
1. With the ignition switch OFF, connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector, and turn the ignition switch ON.



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

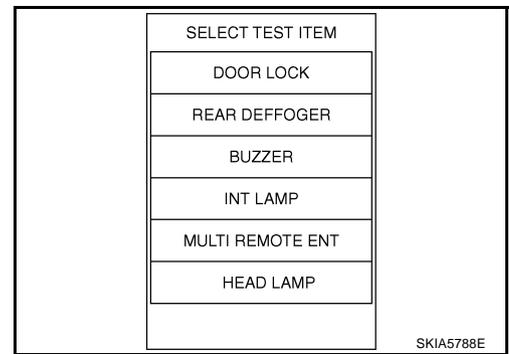


3. Touch "BCM" on "SELECT SYSTEM" screen. If "BCM" is not indicated, go to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



WARNING CHIME

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.

Data monitor item

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

ACTIVE TEST

Operation procedure

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

Active test item

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-diagnostic results are displayed.

WARNING CHIME

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-4, "Precautions When Using CONSULT-II"](#) .

All Warnings Are Not Operated

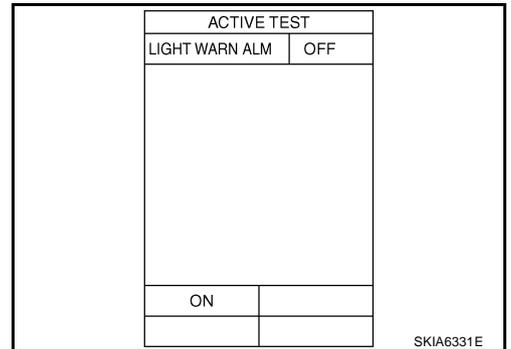
AKS005NU

1. CHECK CHIME OPERATION

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

Does chime sound?

- YES >> Replace BCM. Refer to [BCS-15, "Removal and Installation of BCM"](#) .
- NO >> GO TO 2.



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

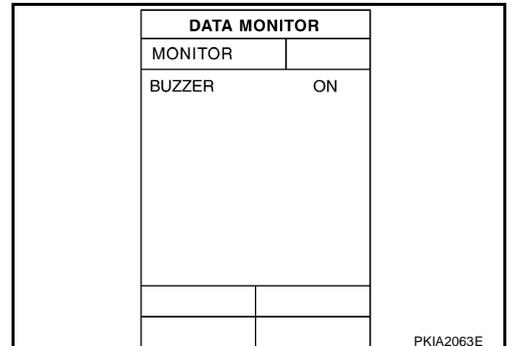
Select "METER A/C AMP" on CONSULT-II. Operate switches meet the requirements to sounds warning chime with "BUZZER" of "DATA MONITOR" and check operation status.

When meet the requirements to sounds warning chime : BUZZER ON

Except above : BUZZER OFF

OK or NG

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



WARNING CHIME

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

AKS005NV

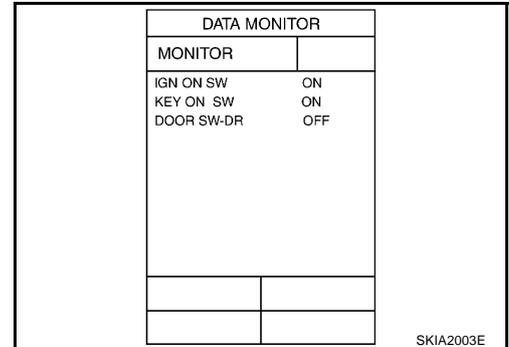
1. CHECK BCM INPUT SIGNAL

Ⓟ With CONSULT-II

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

When driver side door : DOOR SW-DR ON is opened

When driver side door : DOOR SW-DR OFF is closed



ⓧ Without CONSULT-II

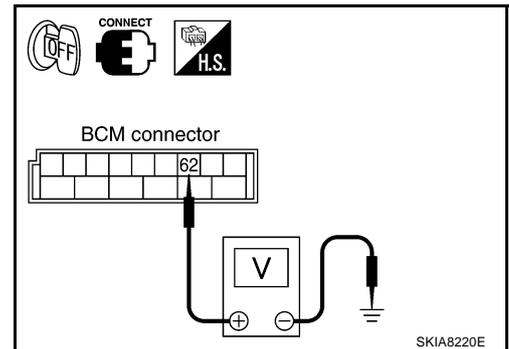
Check voltage between BCM harness connector B14 terminal 62 (W) and ground.

When driver side door is opened : Approx. 0V

When driver side door is closed : Approx. 12V

OK or NG

- OK >> Replace BCM. Refer to [BCS-15, "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).

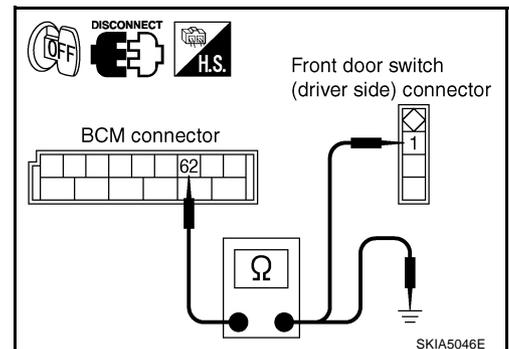
Continuity should exist.

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

Continuity should not exist.

OK or NG

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



WARNING CHIME

3. CHECK FRONT DOOR SWITCH (DRIVER SIDE)

Check front door switch (driver side).

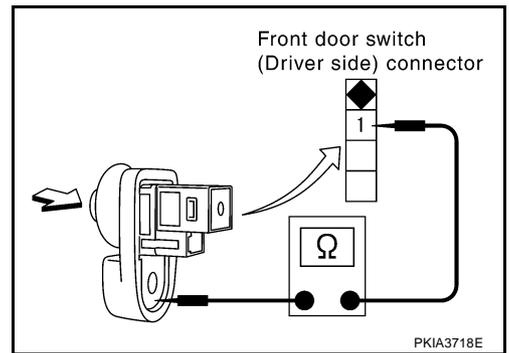
When driver side door switch is released : Continuity should exist.

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

OK or NG

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

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



Key Warning Chime Does Not Operate (Without Intelligent Key)

1. CHECK FUSE

Check if the key switch 15A fuse [No. 22, located in the fuse block (J/B)] is blown. Refer to [DI-60, "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-69, "All Warnings Are Not Operated"](#) or [DI-70, "Key Warning Chime and Light Warning Chime Does Not Operate \(Seat Belt Warning Chime Does Operate\)"](#).

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WARNING CHIME

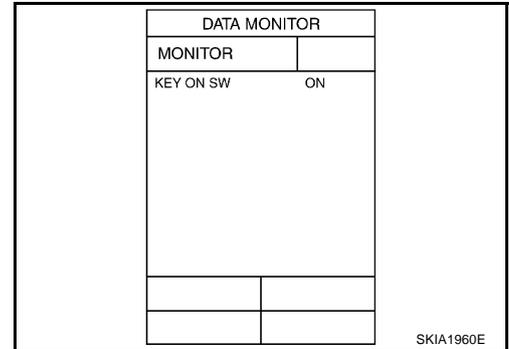
3. CHECK BCM INPUT SIGNAL

With CONSULT-II

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

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

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

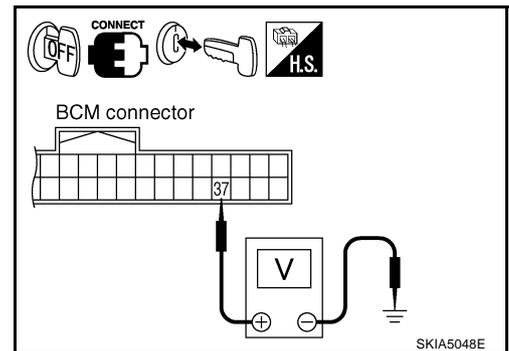


Without CONSULT-II

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

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

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



OK or NG

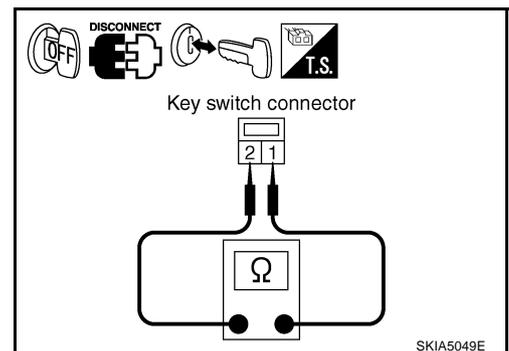
- OK >> Replace BCM. Refer to [BCS-15, "Removal and Installation of BCM"](#).
- NG >> GO TO 4.

4. CHECK KEY SWITCH

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

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

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



OK or NG

- OK >> GO TO 5.
- NG >> Replace key switch.

WARNING CHIME

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).

Continuity should exist.

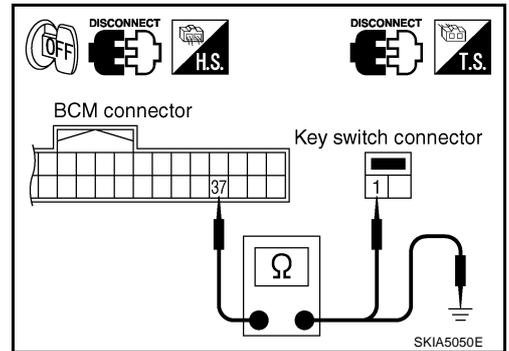
3. Check continuity between BCM harness connector M3 terminal 37 (B/W) and ground.

Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness or connector.



6. CHECK KEY SWITCH POWER SUPPLY CIRCUIT

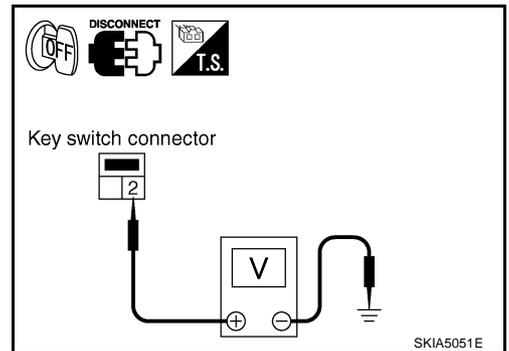
Check voltage between key switch harness connector M23 terminal 2 (L/R) and ground.

Battery voltage should exist.

OK or NG

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

NG >> Check harness for open or short 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-60, "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-69, "All Warnings Are Not Operated"](#) or [DI-70, "Key Warning Chime and Light Warning Chime Does Not Operate \(Seat Belt Warning Chime Does Operate\)"](#).

WARNING CHIME

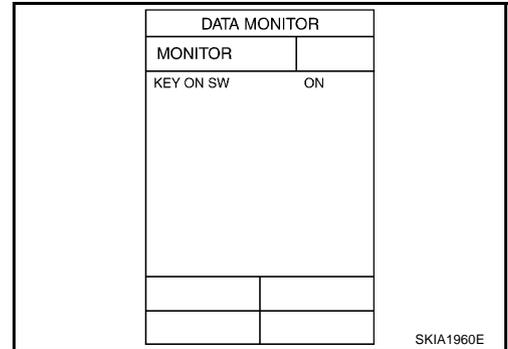
3. CHECK BCM INPUT SIGNAL

With CONSULT-II

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

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

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

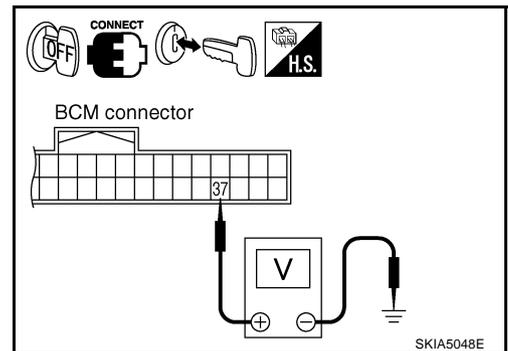


Without CONSULT-II

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

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

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



OK or NG

- OK >> Replace BCM. Refer to [BCS-15, "Removal and Installation of BCM"](#).
- NG >> GO TO 4.

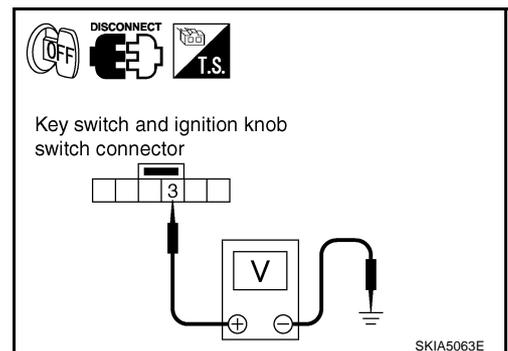
4. CHECK KEY SWITCH POWER SUPPLY CIRCUIT

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

Battery voltage should exist.

OK or NG

- OK >> GO TO 5.
- NG >> Check harness for open or short between key switch and ignition knob switch and fuse.



5. CHECK KEY SWITCH

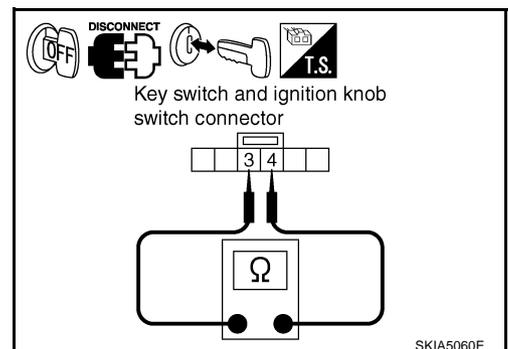
Check continuity between key switch and ignition knob switch connector M22 terminals 3 and 4.

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

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

OK or NG

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



WARNING CHIME

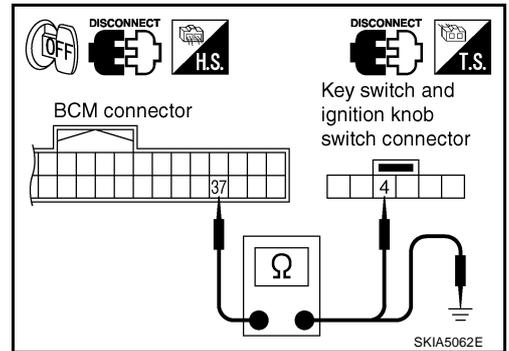
6. CHECK KEY SWITCH CIRCUIT

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).

Continuity should exist.

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

Continuity should not exist.



OK or NG

- OK >> Replace BCM. Refer to [BCS-15, "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-69, "All Warnings Are Not Operated"](#) or [DI-70, "Key Warning Chime and Light Warning Chime Does Not Operate \(Seat Belt Warning Chime Does Operate\)"](#).

2. CHECK INTELLIGENT KEY UNIT SELF-DIAGNOSTIC

Perform the Intelligent Key unit self-diagnosis. Refer to [BL-115, "CONSULT-II Functions"](#).

OK or NG

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

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WARNING CHIME

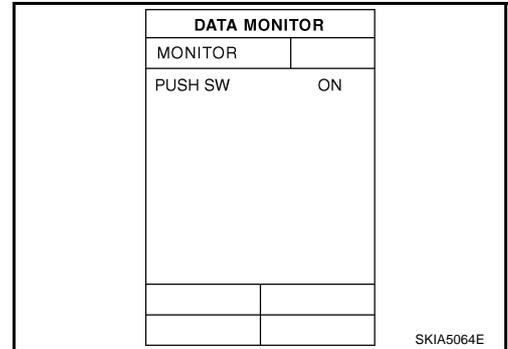
3. CHECK INTELLIGENT KEY UNIT INPUT SIGNAL

With CONSULT-II

1. Select "INTELLIGENT KEY".
2. With "DATA MONITOR", confirm "PUSH SW" when the ignition knob switch is operated. Refer to [BL-115, "CONSULT-II Functions"](#).

When ignition knob switch : PUSH SW ON is pushed

When ignition knob switch : PUSH SW OFF is withdrawn



Without CONSULT-II

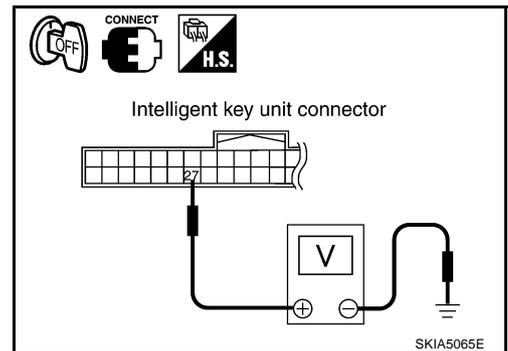
Check voltage between Intelligent Key unit harness connector M34 terminal 27 (L/W) and ground.

When ignition knob switch : Approx. 12V is pushed

When ignition knob switch : Approx. 0V is withdrawn

OK or NG

- OK >> Replace Intelligent Key unit. Refer to [BL-147, "Removal and Installation of Intelligent Key Unit"](#).
- NG >> GO TO 4.



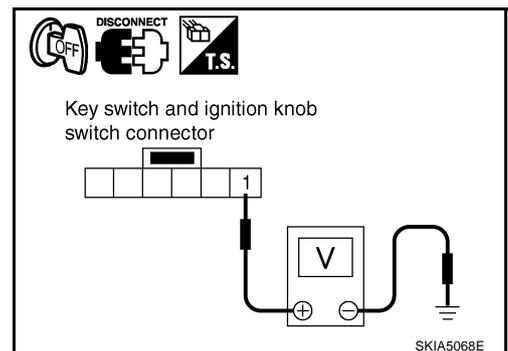
4. CHECK IGNITION KNOB SWITCH POWER SUPPLY CIRCUIT

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

Battery voltage should exist.

OK or NG

- OK >> GO TO 5.
- NG >> Check harness for open or short between key switch and ignition knob switch and fuse.



5. CHECK IGNITION KNOB SWITCH

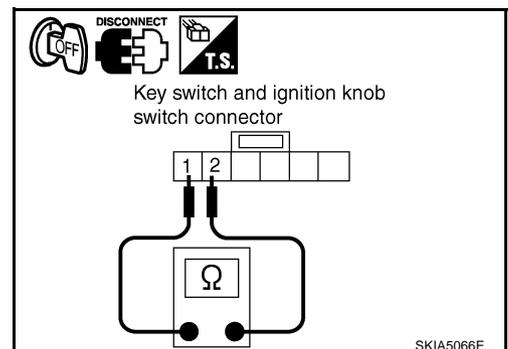
Check continuity between key switch and ignition knob switch connector M22 terminals 1 and 2.

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.



WARNING CHIME

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).

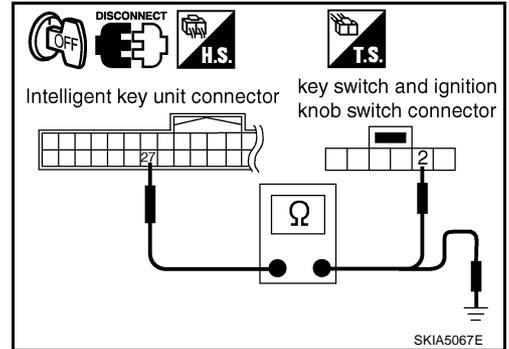
Continuity should exist.

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

Continuity should not exist.

OK or NG

- OK >> Replace Intelligent Key unit. Refer to [BL-147, "Removal and Installation of Intelligent Key Unit"](#) .
- NG >> Repair harness or connector.



Light Warning Chime Does Not Operate

AKS0070J

1. CHECK WARNING CHIME OPERATION

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

Dose warning chime sound?

- YES >> GO TO 2.
- NO >> Go to [DI-69, "All Warnings Are Not Operated"](#) .

2. CHECK BCM INPUT SIGNAL

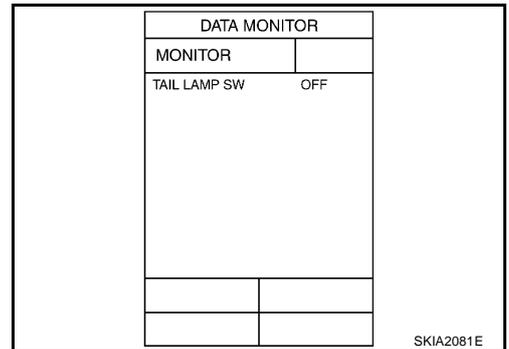
1. Select "BCM".
2. With "DATA MONITOR" of "BUZZER", confirm "TAIL LAMP SW" when the lighting switch is operated.

Lighting switch ON (1st position) : TAIL LAMP SW ON

Lighting switch OFF : TAIL LAMP SW OFF

OK or NG

- OK >> Replace BCM. Refer to [BCS-15, "Removal and Installation of BCM"](#) .
- NG >> Check the lighting switch. Refer to [LT-108, "Removal and Installation"](#) .



WARNING CHIME

AKS005NX

Seat Belt Warning Chime Does Not Operate

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-69, "All Warnings Are Not Operated"](#) .

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

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

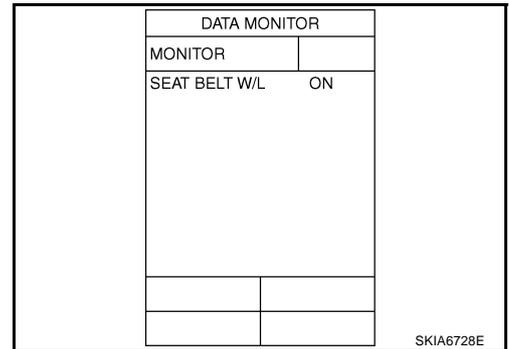
When seat belt is fastened : SEAT BELT W/L OFF

When seat belt is unfastened : SEAT BELT W/L ON

OK or NG

OK >> Replace BCM. Refer to [BCS-15, "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.

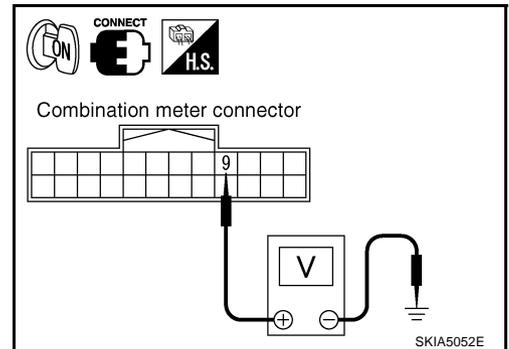
When seat belt is fastened : Approx. 12V

When seat belt is unfastened : Approx. 0V

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.

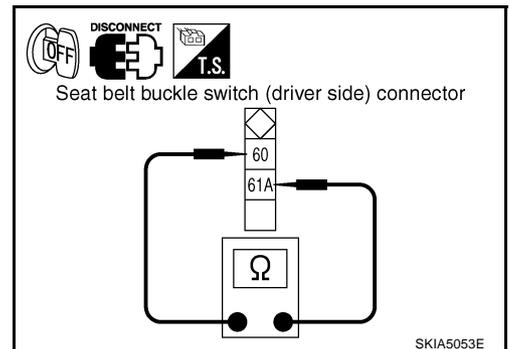
When seat belt is fastened : Continuity should not exist.

When seat belt is unfastened : Continuity should exist.

OK or NG

OK >> GO TO 5.

NG >> Replace seat belt buckle switch (driver side).



WARNING CHIME

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).

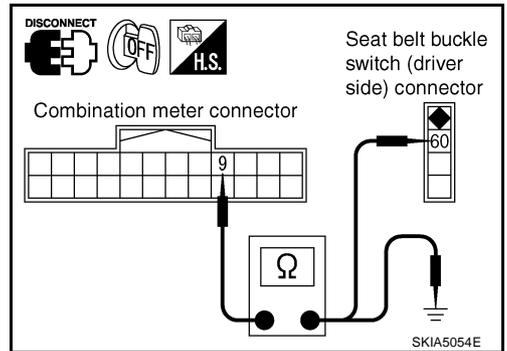
Continuity should exist.

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

Continuity should not exist.

OK or NG

- OK >> Check seat belt buckle switch (driver side) ground circuit.
- NG >> Repair harness or connector.



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CLOCK

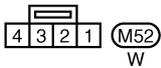
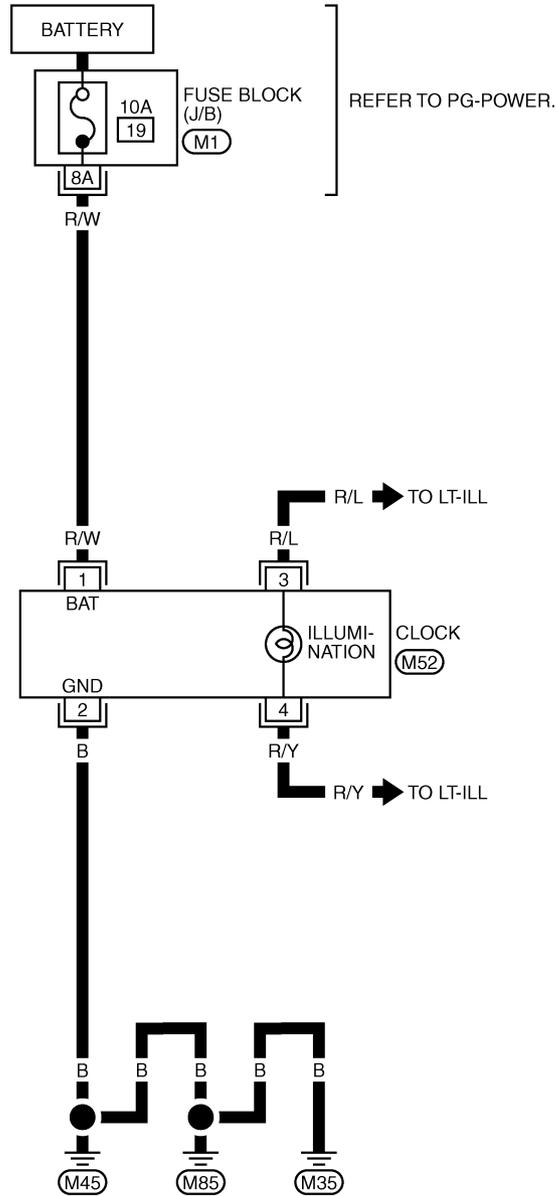
PFP:25820

CLOCK

Wiring Diagram — CLOCK —

AKS0056I

DI-CLOCK-01



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

TKWM0699E

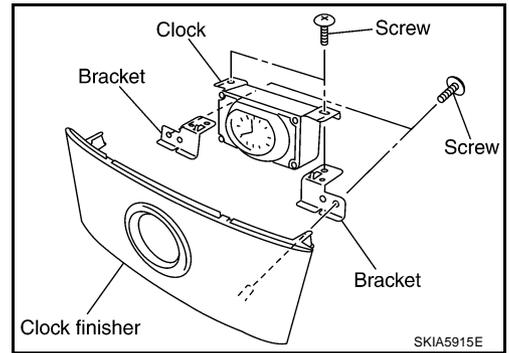
CLOCK

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.



INSTALLATION

Install in the reverse order of removal.

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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

REAR VIEW MONITOR

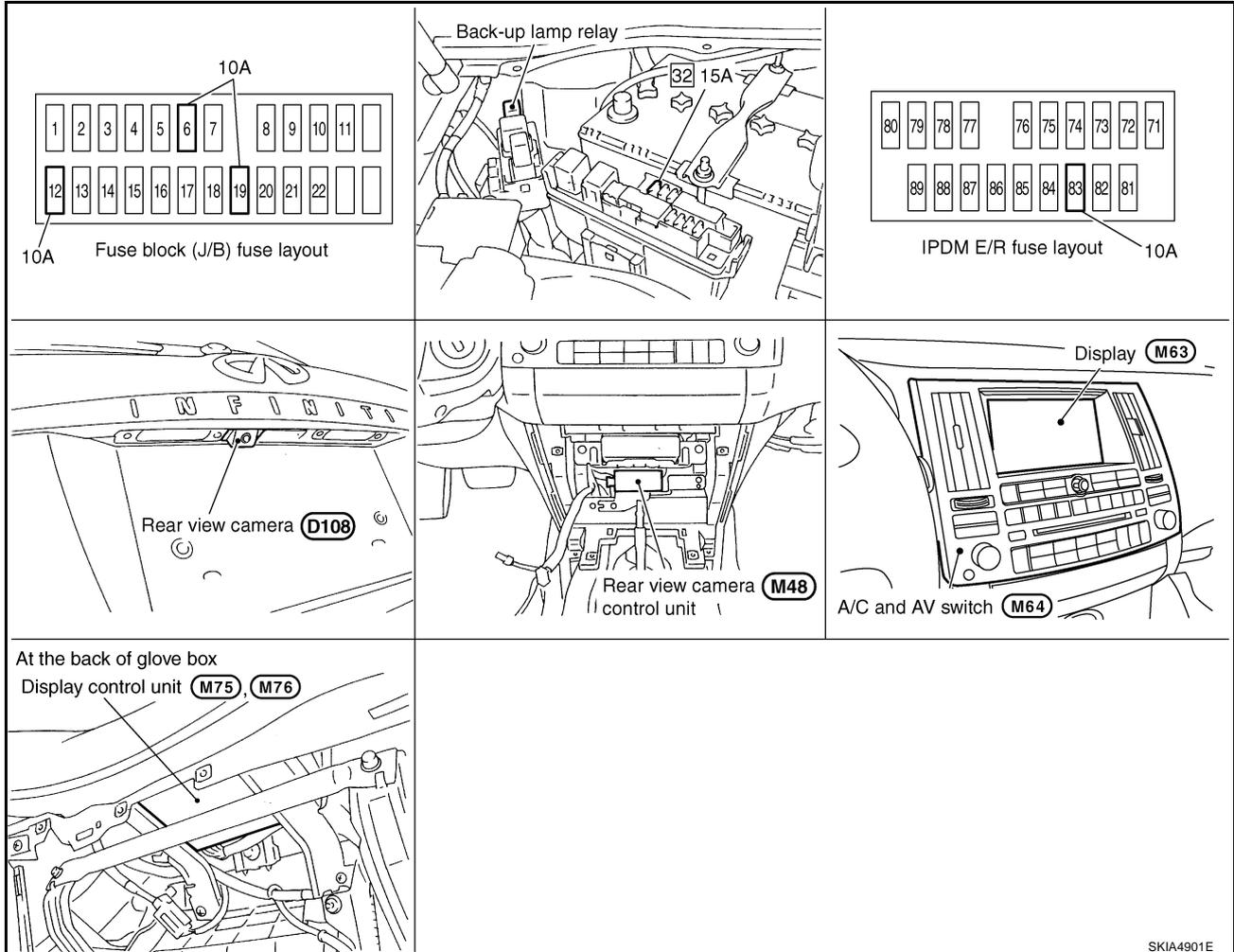
- to the display terminals 15 and 16.

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



SKIA4901E

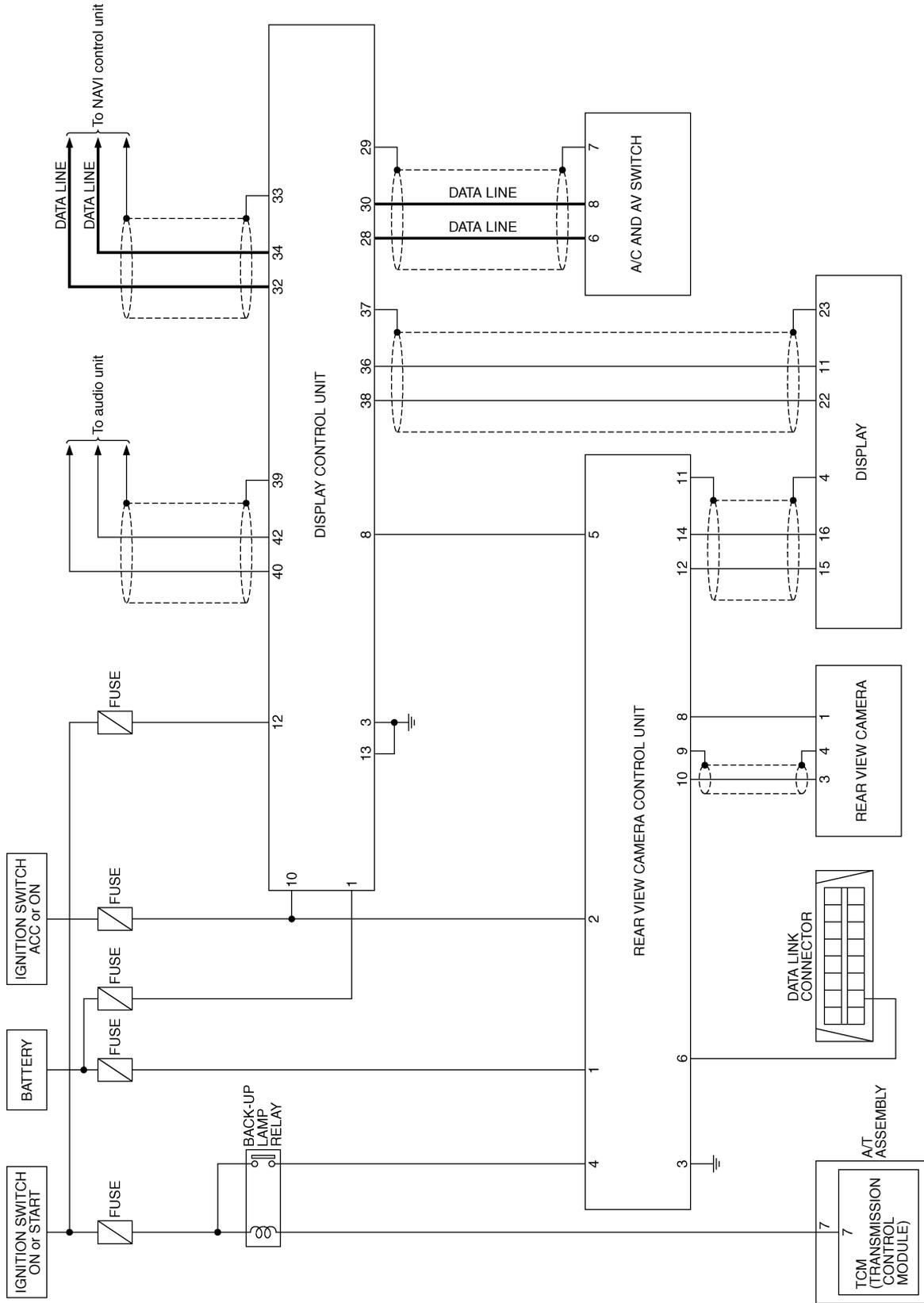
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DI

REAR VIEW MONITOR

Schematic

AKS0068F



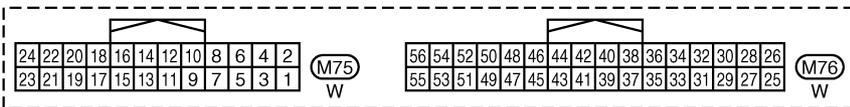
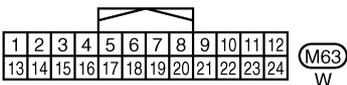
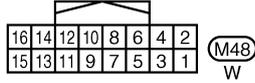
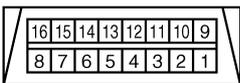
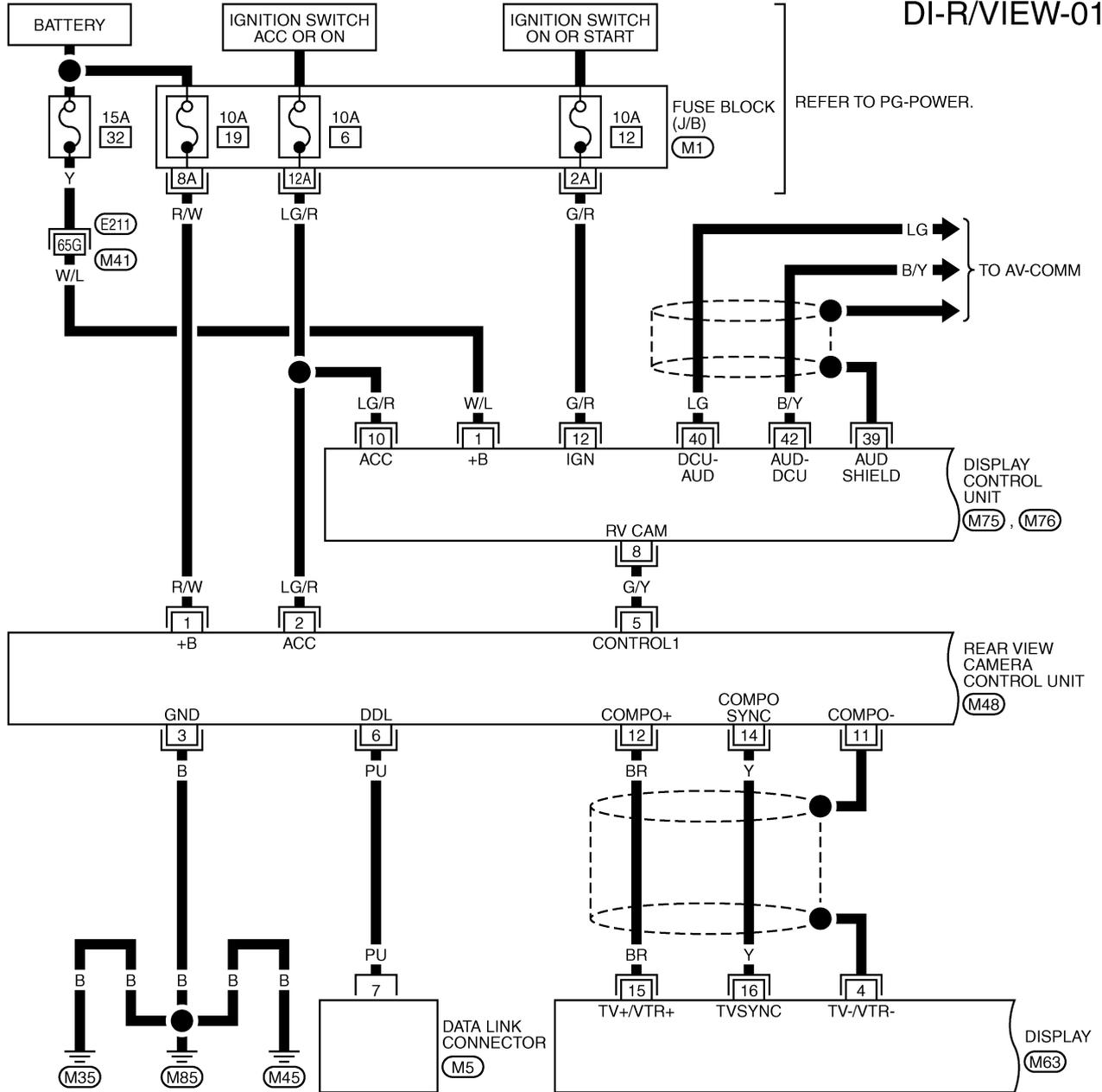
TKWM1283E

REAR VIEW MONITOR

Wiring Diagram — R/VIEW —

AKS0068G

DI-R/VIEW-01



REFER TO THE FOLLOWING.

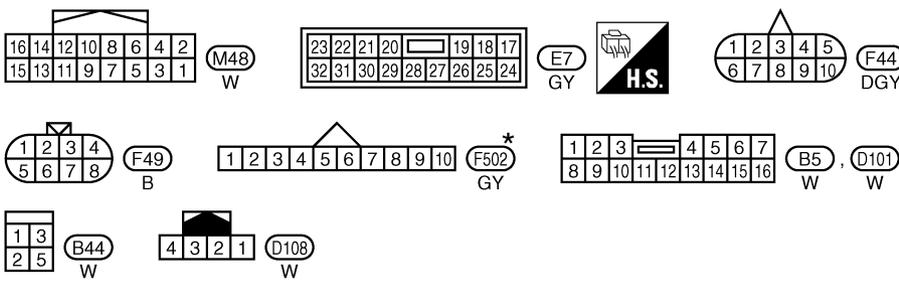
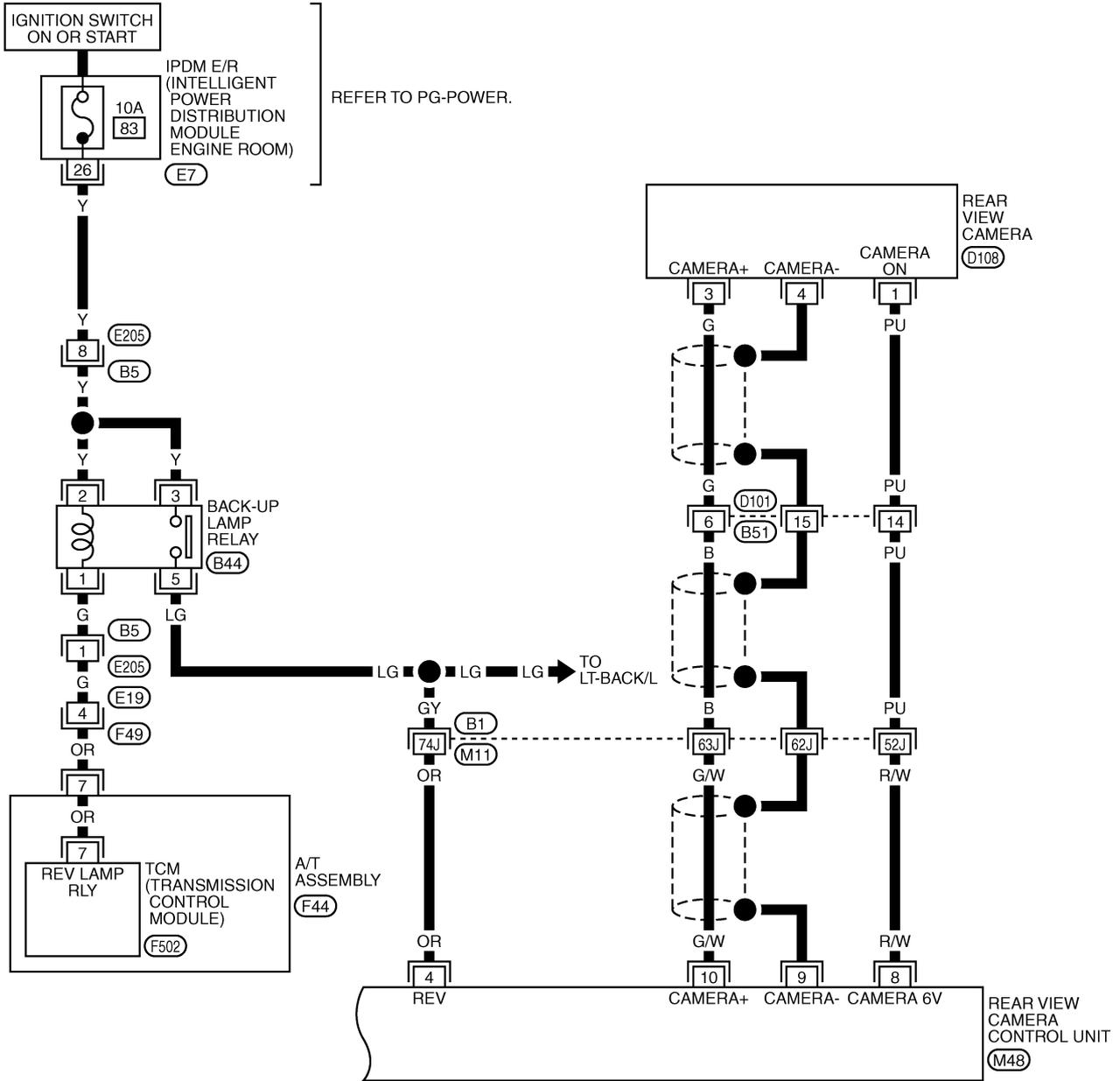
(E21) -SUPER MULTIPLE JUNCTION (SMJ)

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

TKWM0701E

REAR VIEW MONITOR

DI-R/VIEW-02



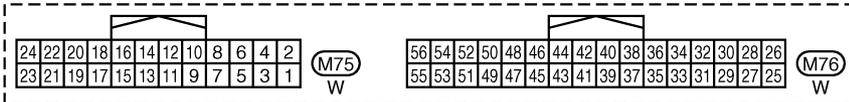
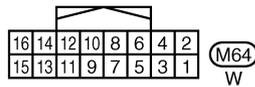
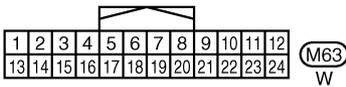
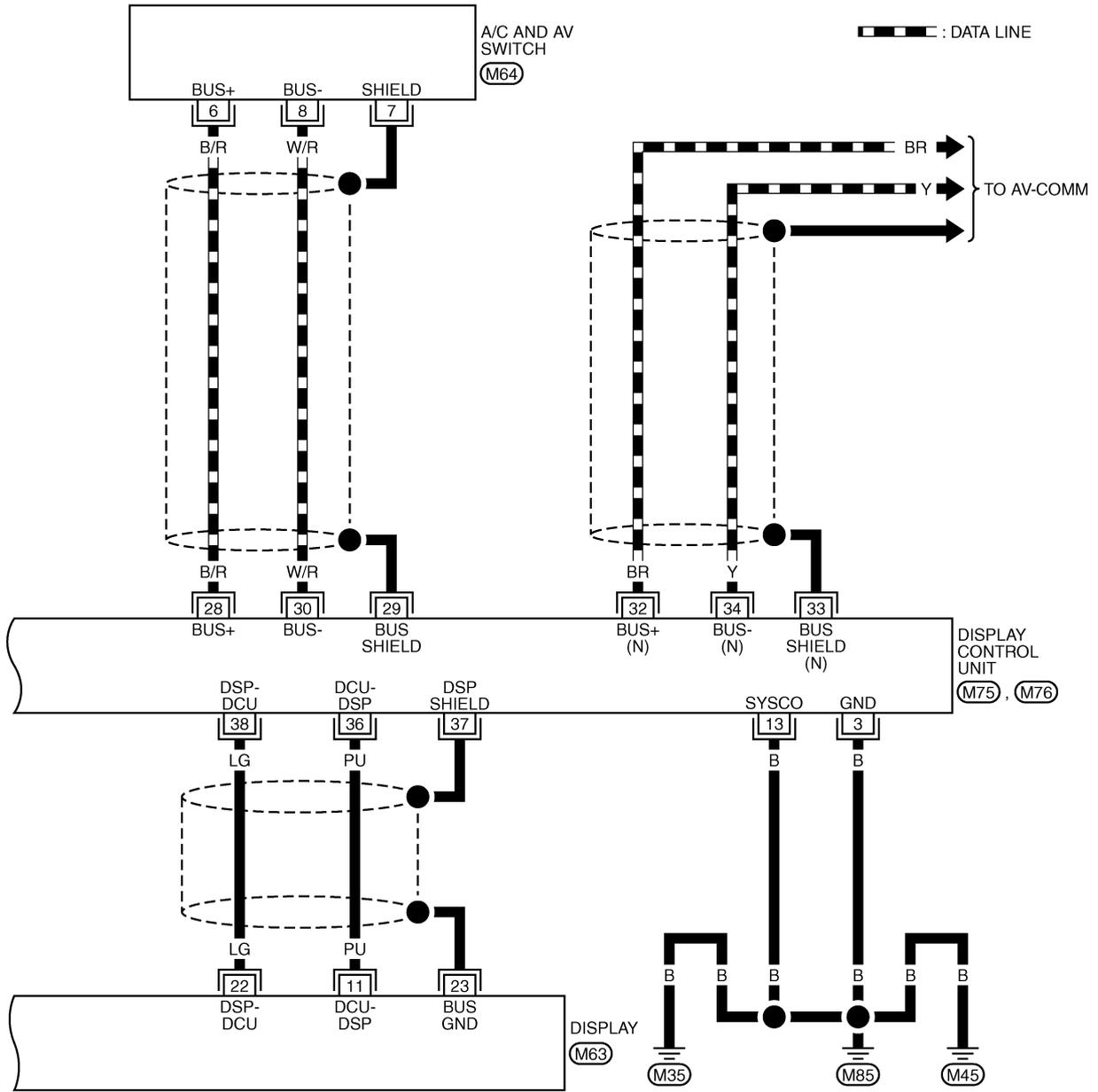
*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

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

TKWM1371E

REAR VIEW MONITOR

DI-R/VIEW-03

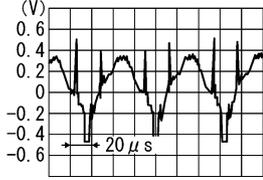
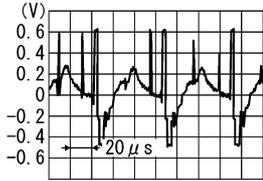
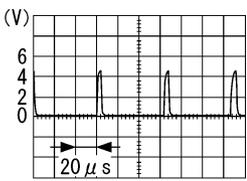


TKWM0703E

REAR VIEW MONITOR

Terminals and Reference Value for Rear View Camera Control Unit

AKS006BH

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. 0V
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. 0V
5	G/Y	CONTROL 1	ON	—	Approx. 0V
6	PU	DDL	—	—	—
8	R/W	Camera power output	ON	A/T selector lever R range position	Approx. 6V
9	—	Camera image input (-)	ON	—	Approx. 0V
10	G/W	Camera image input (+)	ON	A/T selector lever R range position	 <p style="text-align: right; font-size: small;">SKIA4894E</p>
11	—	Shield ground	—	—	—
12	BR	Composite image output	ON	A/T selector lever R range position	 <p style="text-align: right; font-size: small;">SKIA4896E</p>
14	Y	Composite image synchronization signal output	ON	A/T selector lever R range position	 <p style="text-align: right; font-size: small;">SKIA5896E</p>

REAR VIEW MONITOR

CONSULT-II Function

AKS007FM

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

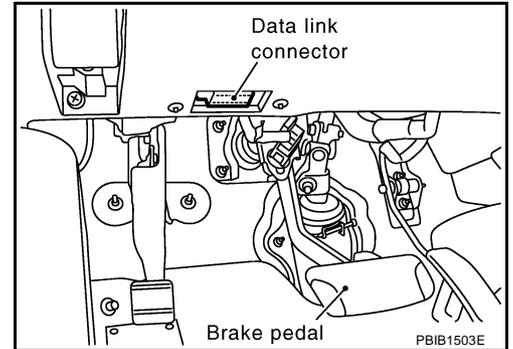
System part	Check item, diagnosis mode	Description
REARVIEW CAMERA	Work support	It can adjust the side distance guidelines which overlap the rear view monitor image.
	Data monitor	Displays rear view camera control unit input data in real time.
	ECU part number	Displays part number of rear view camera control unit.

CONSULT-II BASIC OPERATION

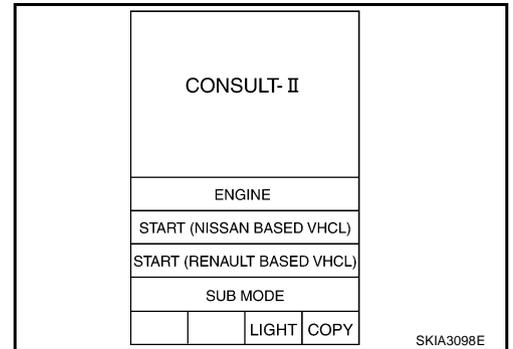
CAUTION:

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.

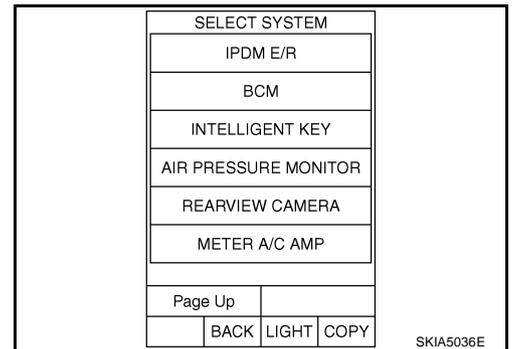
1. With the ignition switch OFF, connect "CONSULT-II" and "CONSULT-II CONVERTER" to the data link connector, then turn ignition switch ON.



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

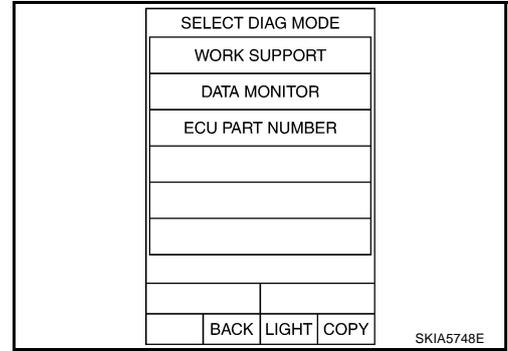


3. Touch "REARVIEW CAMERA" on "SELECT SYSTEM" screen. If "REARVIEW CAMERA" is not indicated, go to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



REAR VIEW MONITOR

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-91, "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.

REAR VIEW MONITOR

AKS0068L

Side Distance Guideline Correction

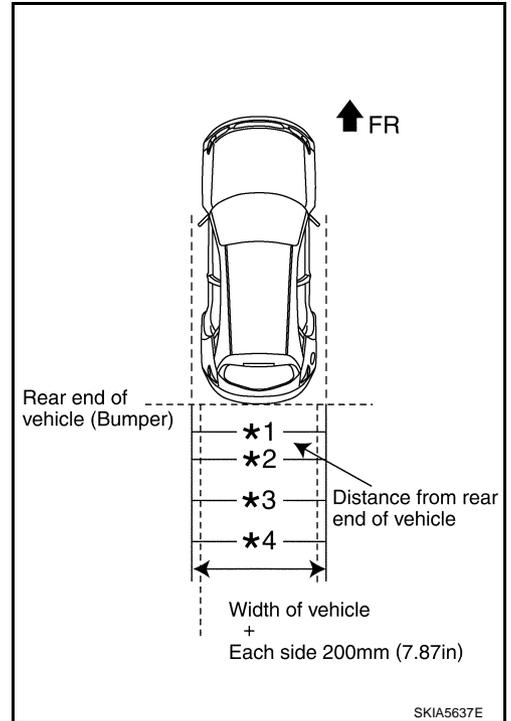
This mode is used to modify the side distance guidelines if they are dislocated from the rear view monitor image, because of variations of body/camera mounting conditions.

SIDE DISTANCE GUIDELINE CORRECTION PROCEDURE

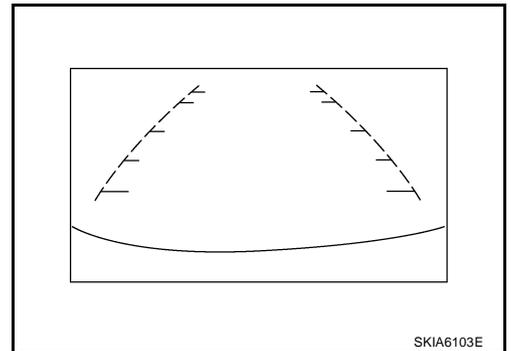
1. Create a correction line to modify the screen.
 Draw lines on the rearward of the vehicle passing through the following points: 0.2 m (7.87 inch) from both sides of the vehicle, and
 - *1: 0.5 m (1.5 feet)
 - *2: 1 m (3 feet)
 - *3: 2 m (7 feet)
 - *4: 3 m (10 feet)
 and from the rear end of the bumper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

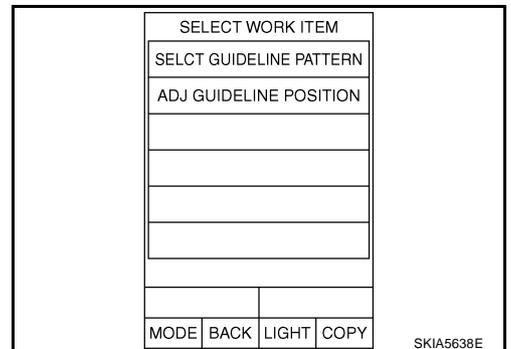
Stop engine for the safety when correcting side distance guideline.



3. Shift the A/T select lever is R range position.



4. Touch "SELCT GUIDELINE PATTERN" on "SELECT WORK ITEM" screen.



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REAR VIEW MONITOR

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".

SELECT GUIDELINE PATTERN			
CHANGE SHIFT IN R-POSITION			
ADJUST MONITOR			
PATTERN NO.		0	
		UP	
SAVE			
MODE	BACK	LIGHT	COPY

SKIA5639E

8. Touch "ADJ GUIDELINE POSITION" on "SELECT WORK ITEM" screen.

SELECT WORK ITEM			
SELECT GUIDELINE PATTERN			
ADJ GUIDELINE POSITION			
MODE	BACK	LIGHT	COPY

SKIA5638E

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.

ADJ GUIDELINE POSITION			
CHANGE SHIFT IN R-POSITION			
ADJUST MONITOR			
X VALUE ADJ		0	
Y VALUE ADJ		0	
X DOWN		X UP	
Y DOWN		Y UP	
SAVE			
MODE	BACK	LIGHT	COPY

SKIA5642E

REAR VIEW MONITOR

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

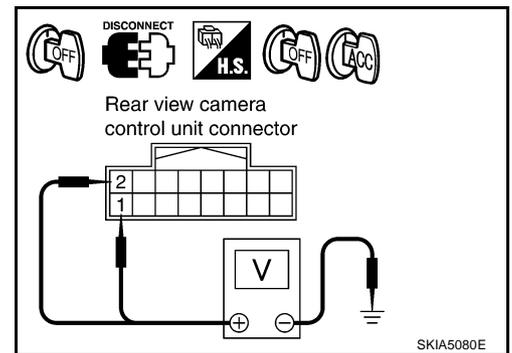
OK >> GO TO 2.

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

1. Disconnect rear view camera control unit connector.
2. Check voltage between rear view camera control unit and ground.

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



OK or NG

OK >> GO TO 3.

NG >> Check harness for open between rear view camera control unit and fuse.

3. CHECK REAR VIEW CAMERA CONTROL UNIT GROUND CIRCUIT

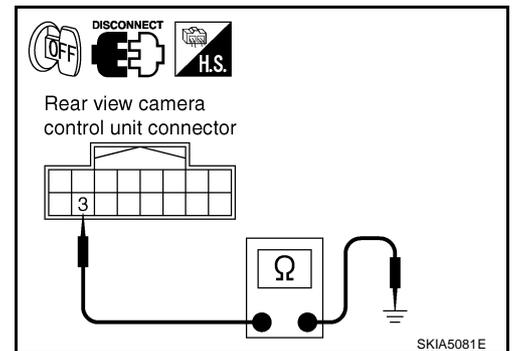
1. Turn ignition switch OFF.
2. Check continuity between rear view camera control unit harness connector M48 terminal 3 (B) and ground.

Continuity should exist.

OK or NG

OK >> INSPECTION END

NG >> Repair harness or connector.



REAR VIEW MONITOR

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.

Dose back-up lamp illuminate?

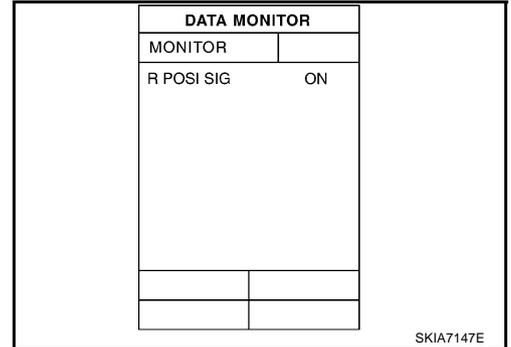
YES >> GO TO 2.

NO >> Check back-up lamp system. Refer to [LT-125, "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

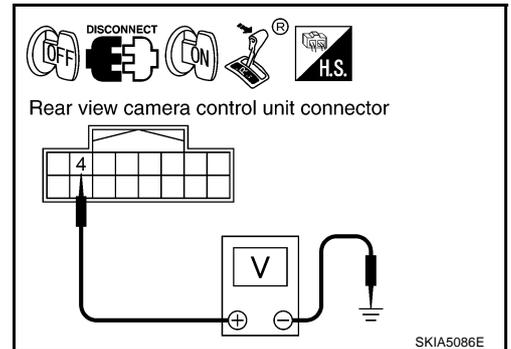
1. Turn ignition switch OFF.
2. Disconnect rear view camera control unit connector.
3. Turn ignition switch ON.
4. Shift A/T selector lever to R-position.
5. Check voltage between rear view camera control unit harness connector M48 terminal 4 (OR) and ground.

Battery voltage should exist.

OK or NG

OK >> GO TO 3.

NG >> Check harness for open or short between rear view camera control unit and back-up lamp relay.



3. CHECK DISPLAY CONTROL UNIT OUTPUT SIGNAL

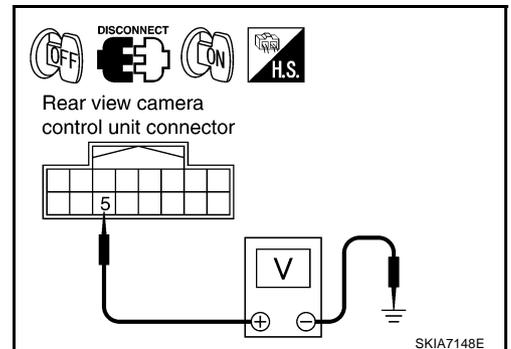
1. Turn ignition switch OFF.
2. Disconnect rear view camera control unit connector.
3. Turn ignition switch ON.
4. Check voltage between rear view camera control unit harness connector M48 terminal 5 (G/Y) and ground.

Approx. 5V

OK or NG

OK >> GO TO 5.

NG >> GO TO 4.



REAR VIEW MONITOR

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).

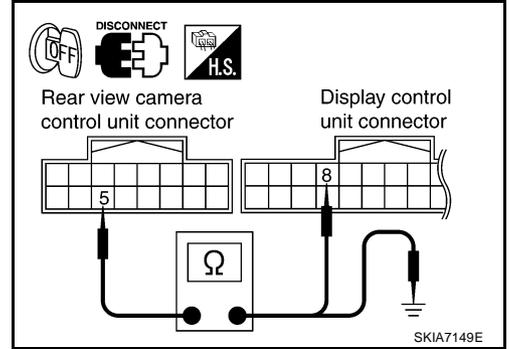
Continuity should exist.

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

Continuity should not exist.

OK or NG

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



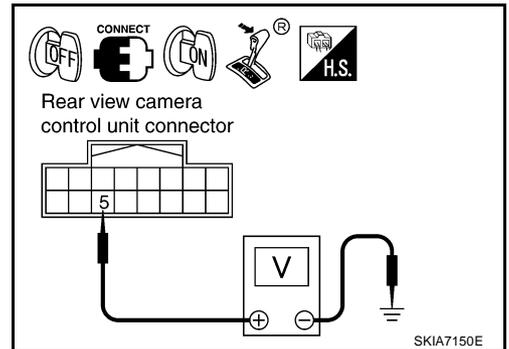
5. CHECK CONTROL 1 SIGNAL

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.

Approx. 0V

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 the following.
 - Continuity between rear view camera control unit harness connector M48 terminal 8 (R/W) and rear view camera harness connector D108 terminal 1 (PU)

Continuity should exist.

- Continuity between rear view camera control unit harness connector M48 terminal 9 and rear view camera harness connector D108 terminal 4

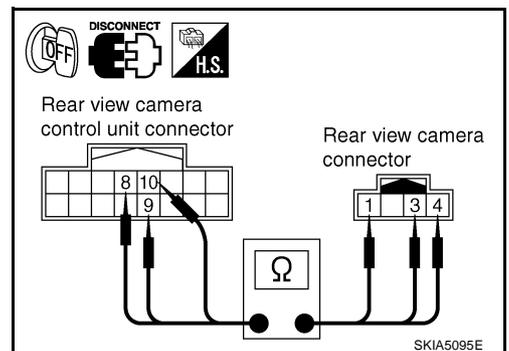
Continuity should exist.

- Continuity between rear view camera control unit harness connector M48 terminal 10 (G/W) and rear view camera harness connector D108 terminal 3 (G)

Continuity should exist.

OK or NG

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



REAR VIEW MONITOR

7. CHECK REAR VIEW CAMERA SHORT CIRCUIT

Check the following.

- Continuity between rear view camera control unit harness connector M48 terminal 8 (R/W) and ground

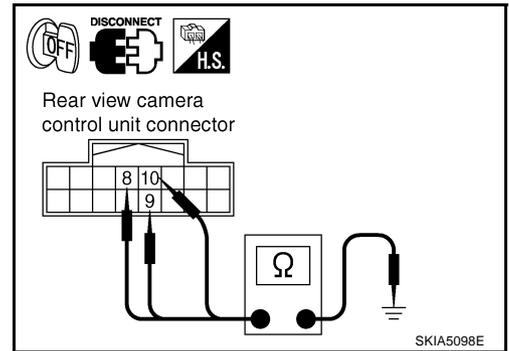
Continuity should not exist.

- Continuity between rear view camera control unit harness connector M48 terminal 9 and ground

Continuity should not exist.

- Continuity between rear view camera control unit harness connector M48 terminal 10 (G/W) and 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-93, "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

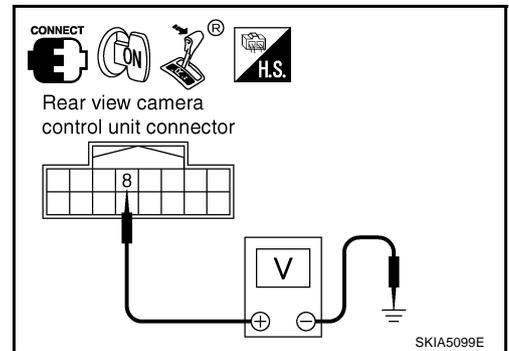
1. Connect rear view camera control unit connector.
2. Turn ignition switch ON.
3. Shift A/T selector lever to R-position.
4. Check voltage between rear view camera control unit harness connector M48 terminal 8 (R/W) and ground.

Approx. 6V

OK or NG

OK >> GO TO 10.

NG >> Replace rear view camera control unit.

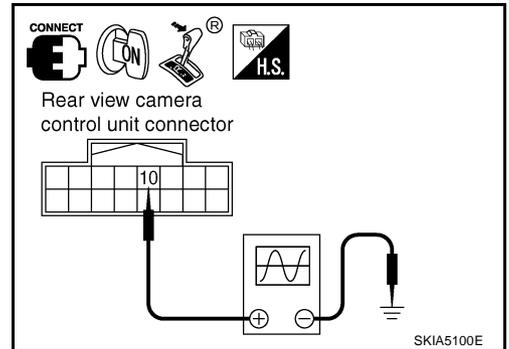
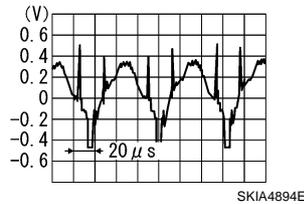


REAR VIEW MONITOR

10. CHECK REAR VIEW CAMERA SIGNAL

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

10 (G/W) - Ground:



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).

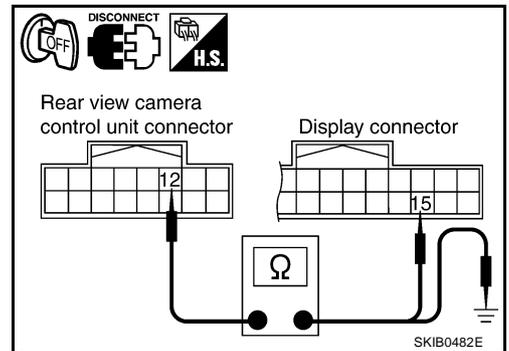
Continuity should exist.

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

Continuity should not exist.

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.

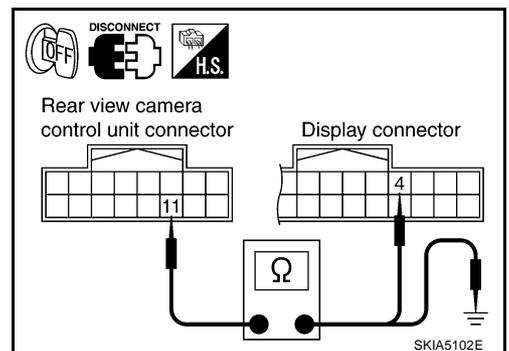
Continuity should exist.

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

Continuity should not exist.

OK or NG

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

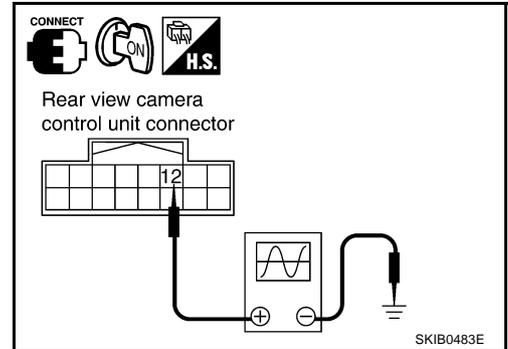
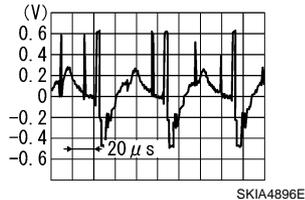


REAR VIEW MONITOR

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 the following.
 - Continuity between rear view camera control unit harness connector M48 terminal 14 (Y) and display harness connector M63 terminal 16 (Y)

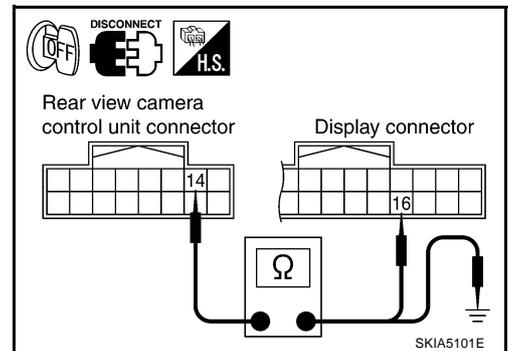
Continuity should exist.

- Continuity between rear view camera control unit harness connector M48 terminal 14 (Y) and 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.

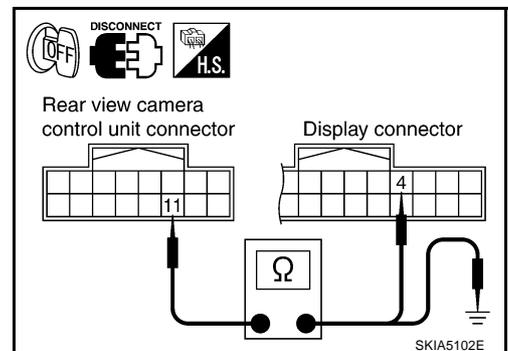
Continuity should exist.

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

Continuity should not exist.

OK or NG

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

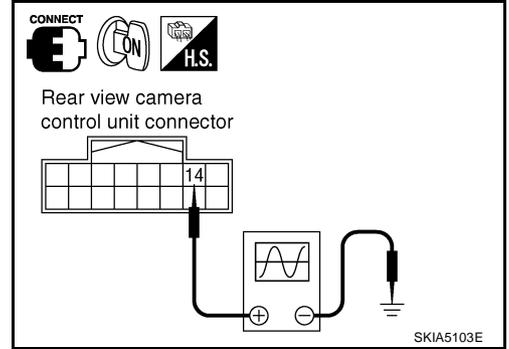
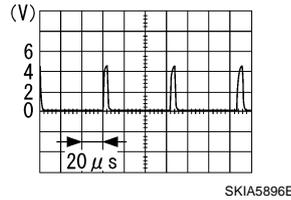


REAR VIEW MONITOR

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

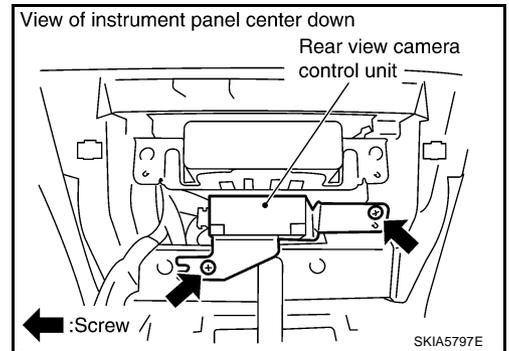
- OK >> Replace rear view camera control unit.
- NG >> Replace display.

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

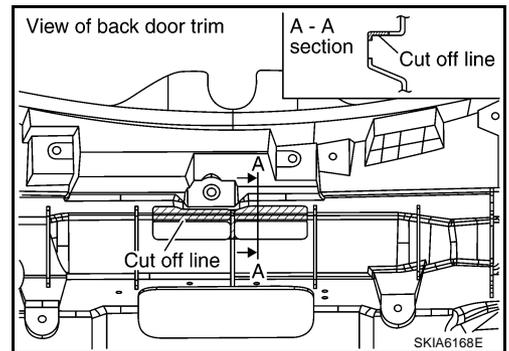
Install in the reverse order of removal.

Removal and Installation of Rear View Camera

AKS0068R

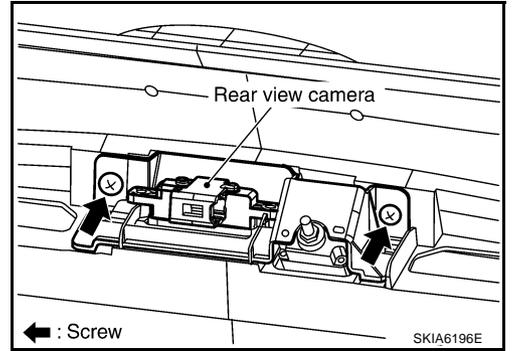
REMOVAL

1. Remove back door finisher lower. Refer to [EI-46, "Removal and Installation"](#).
2. Cut off back door module along the line.
3. Remove connector.



REAR VIEW MONITOR

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



INSTALLATION

Install in the reverse order of removal.