SECTION **U** DRIVER INFORMATION SYSTEM

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PRECAUTION

PRECAUTION

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

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.

Precautions for Battery Service

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

Wiring Diagrams and Trouble Diagnosis

When you read wiring diagrams, refer to the following:

- Refer to <u>GI-15, "How to Read Wiring Diagrams"</u>
- Refer to <u>PG-4, "POWER SUPPLY ROUTING CIRCUIT"</u> for power distribution circuit

When you perform trouble diagnosis, refer to the following:

- Refer to <u>GI-11, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES"</u>
- Refer to <u>GI-27, "How to Perform Efficient Diagnosis for an Electrical Incident"</u>

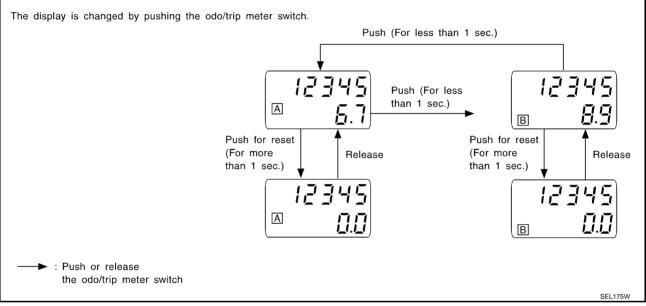
COMBINATION METERS

System Description UNIFIED CONTROL METER

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

HOW TO CHANGE THE DISPLAY FOR ODO/TRIP METER

- The vehicle speed signal and the memory signals from the meter memory circuit are processed by the combination meter and the mileage is displayed.
- Depressing the odo/trip meter switch toggles the mode in the following order.



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

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 43.

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 terminals 41 and 42.

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

- through 10A fuse [No. 6, located in the fuse block (J/B)]
- to combination meter terminals 40.

Ground is supplied

- to combination meter terminals 45 and 47
- through body grounds M30 and M66.

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WATER TEMPERATURE GAUGE

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

TACHOMETER

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

FUEL GAUGE

The fuel gauge indicates the approximate fuel level in the fuel tank.

The fuel gauge is regulated by a variable resistance signal supplied

- through body grounds M30 and M66, and
- through terminals 2 and 5 of the fuel level sensor unit and fuel pump (main) and
- through terminals 1 and 2 of the fuel level sensor unit (sub)
- to combination meter terminal 17 for the fuel gauge.

SPEEDOMETER

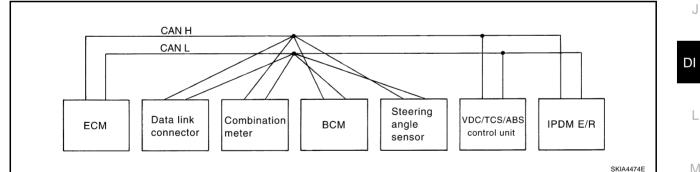
VDC/TCS/ABS control unit provides a vehicle speed signal to the combination meter for the speedometer with CAN communication line.

CAN Communication

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 Н 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.

M/T MODELS





Input/output signal chart

					i. mansm	IL R. Receive
Signals	ECM	Combina- tion meter	BCM	Steering angle sen- sor	VDC/TCS/ ABS con- trol unit	IPDM E/R
Engine speed signal	Т	R			R	
Engine coolant temperature signal	Т	R				
Accelerator pedal position signal	Т				R	
Fuel consumption monitor signal	Т	R				
Air conditioner switch signal	R		Т			
A/C compressor request signal	Т					R
A/C compressor feedback signal	Т	R				
Blower fan motor switch signal	R		Т			
Cooling fan motor operation signal	Т					R

Revision; 2004 April



T: Transmit R: Receive

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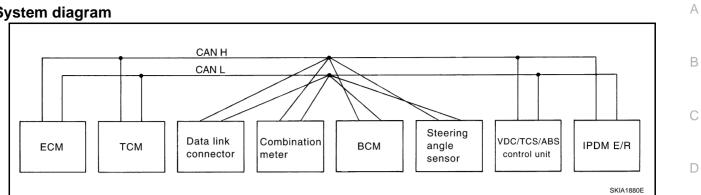
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Signals	ECM	Combina- tion meter	BCM	Steering angle sen- sor	VDC/TCS/ ABS con- trol unit	IPDM E/R
Position lights request signal		R	Т			R
Low beam request signal			Т			R
Low beam status signal	R		R			Т
High beam request signal		R	Т			R
High beam status signal	R		R			Т
Front fog lights request signal			Т			R
Vehicle speed signal		R			Т	
	R	Т	R			
Sleep request 1 signal		R	Т			
Sleep request 2 signal			Т			R
Wake up request 1 signal		R	Т			
Wake up request 2 signal		R	Т			
Door switch signal (without navigation system)		R	Т			R
Door switch signal (with navigation system)		Т	R			
Turn indicator signal		R	Т			
Seat belt buckle switch signal		Т	R			
Oil pressure switch signal		R				Т
Buzzer output signal		R	Т			
Trunk switch signal		R	Т			
Malfunction indicator lamp signal	Т	R				
ASCD SET lamp signal	Т	R				
ASCD CRUISE lamp signal	Т	R				
Fuel level sensor signal	R	Т				
Front wiper request signal			Т			R
Front wiper stop position signal			R			Т
Rear window defogger switch signal			Т			R
Rear window defogger control signal	R		R			Т
Hood switch signal			R			Т
Theft warning horn request signal			Т			R
Horn chirp signal			Т			R
Steering angle sensor signal				Т	R	

A/T MODELS System diagram



Input/output signal chart

						T: Transmit	R: Receive	
Signals	ECM	ТСМ	Combina- tion meter	BCM	Steering angle sensor	VDC/TCS/ ABS con- trol unit	IPDM E/R	F
Engine speed signal	Т	R	R			R		
Engine coolant temperature signal	Т	R	R					0
Accelerator pedal position signal	Т	R				R		G
Closed throttle position signal	Т	R						
Wide open throttle position signal	Т	R						Н
Battery voltage signal	Т	R						
Stop lamp switch		R	Т					
Fuel consumption monitor signal	Т		R					
A/T self-diagnosis signal	R	Т						
A/T CHECK indicator lamp signal		Т	R					J
A/T position indicator signal		Т	R			R		0
ABS operation signal		R				Т		
A/T shift schedule change demand signal		R				Т		DI
Air conditioner switch signal	R			Т				
A/C compressor request signal	Т						R	L
A/C compressor feedback signal	Т		R					
Blower fan motor switch signal	R			Т				M
Cooling fan motor operation signal	Т						R	
Position lights request signal			R	Т			R	
Low beam request signal				Т			R	
Low beam status signal	R			R			Т	
High beam request signal			R	Т			R	
High beam status signal	R			R			Т	
Front fog lights request signal				Т			R	
			R			Т		
Vehicle speed signal	R	R	Т	R				
Sleep request 1 signal			R	Т				
Sleep request 2 signal				Т			R	
Wake up request 1 signal			R	Т				
Wake up request 2 signal			R	Т				

T: Transmit R: Receive

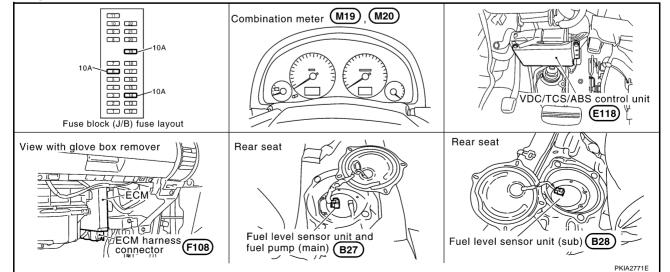
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Revision; 2004 April

Signals	ECM	ТСМ	Combina- tion meter	BCM	Steering angle sensor	VDC/TCS/ ABS con- trol unit	IPDM E/R
Door switch signal (without naviga- tion system)			R	т			R
Door switch signal (with navigation system)			Т	R			
Turn indicator signal			R	Т			
Seat belt buckle switch signal			Т	R			
Oil pressure switch signal			R				Т
Buzzer output signal			R	Т			
Trunk switch signal			R	Т			
Malfunction indicator lamp signal	Т		R				
ASCD SET lamp signal	Т		R				
ASCD CRUISE lamp signal	Т		R				
Fuel level sensor signal	R		Т				
Output shaft revolution signal	R	Т					
Turbine revolution signal	R	Т					
Front wiper request signal				Т			R
Front wiper stop position signal				R			Т
Rear window defogger switch signal				Т			R
Rear window defogger control sig- nal	R			R			Т
Manual mode signal		R	Т				
Not manual mode signal		R	Т				
Manual mode shift up signal		R	Т				
Manual mode shift down signal		R	Т				
Manual mode indicator signal		Т	R				
Hood switch signal				R			Т
Theft warning horn request signal				Т			R
Horn chirp signal				Т			R
Steering angle sensor signal					Т	R	

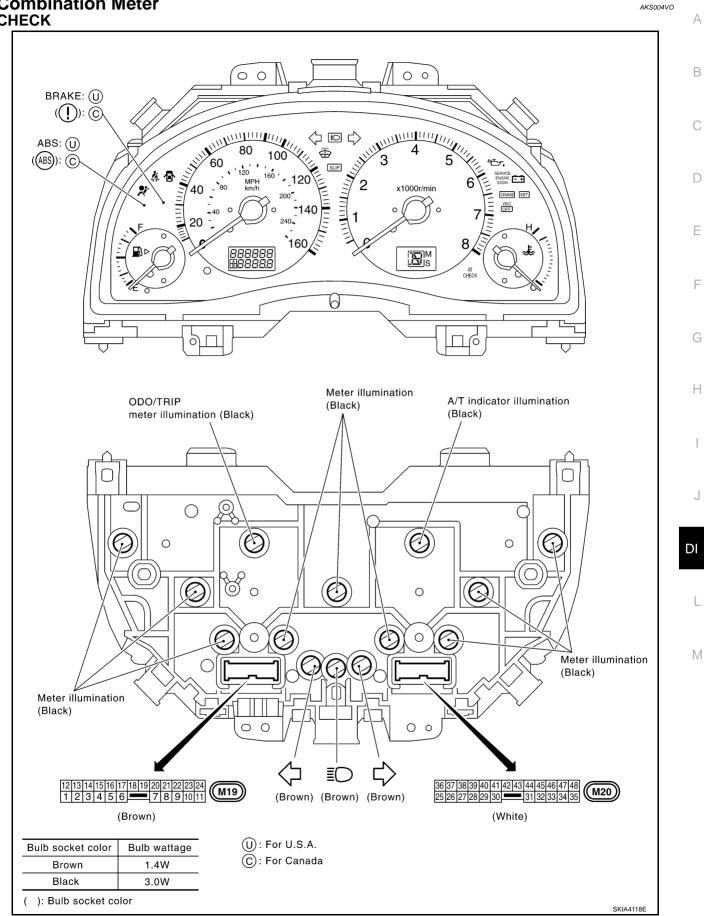
Component Parts and Harness Connector Location





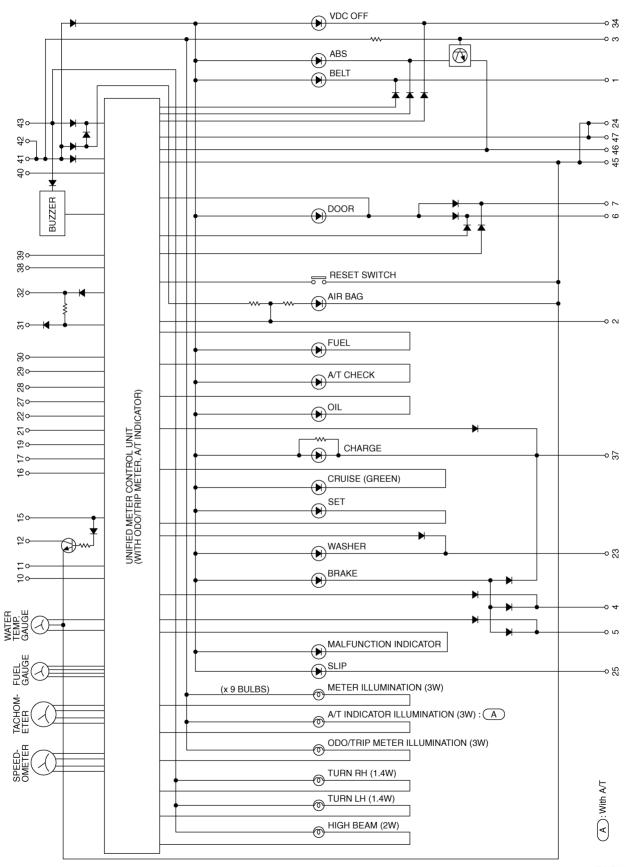
DI-8

Combination Meter CHECK

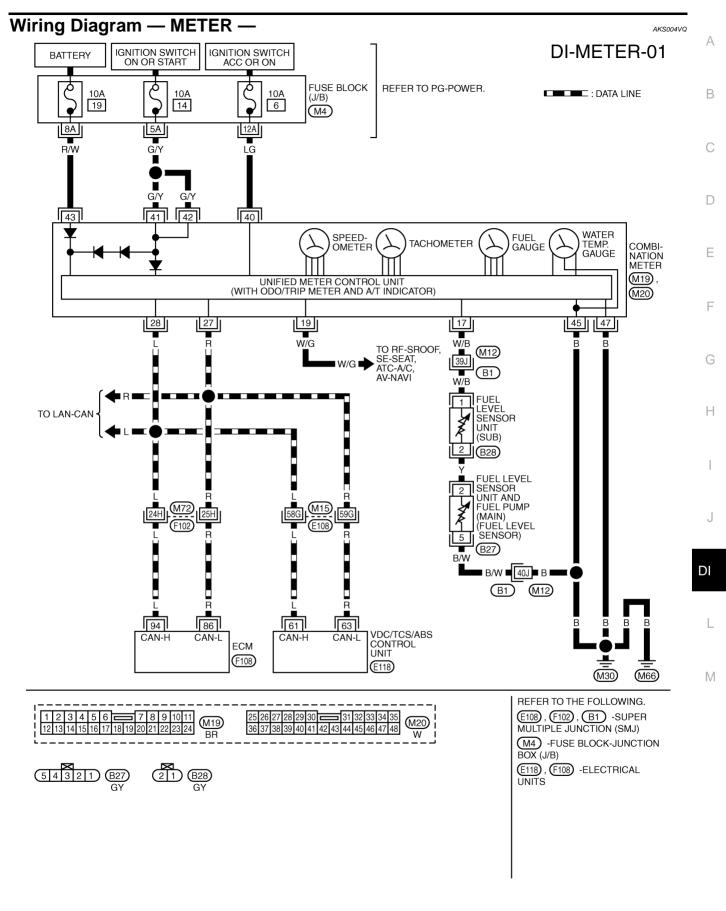


Schematic

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TKWT0546E



TKWT0547E

Terminals and Reference Value for Combination Meter

Termi-	Wire			Condition	
nal	Color	Item	Ignition switch	Operation or condition	Reference Value
17	W/B	Fuel level sensor signal	_	_	Refer to <u>DI-22, "FUEL LEVEL SENSOR</u> <u>UNIT CHECK"</u> .
19	W/G	Vehicle speed signal (2-pulse)	ON	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	(V) 6 2 0
27	R	CAN-L	_	—	—
28	L	CAN-H	_	—	—
40	LG	Ignition switch (ACC)	ACC	—	Battery voltage
41	G/Y	Ignition switch (ON)	ON	—	Battery voltage
42	G/Y	Ignition switch (ON)	ON	—	Battery voltage
43	R/W	Battery power supply	OFF	—	Battery voltage
45	В	Ground	ON	—	Approx. 0V
47	В	Ground	ON	—	Approx. 0V

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

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

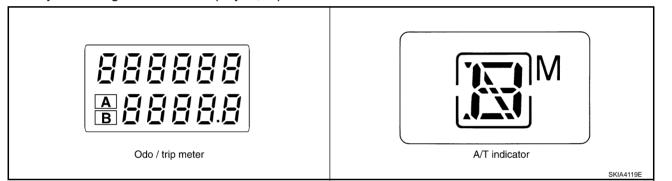
HOW TO ALTERNATE DIAGNOSIS MODE

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

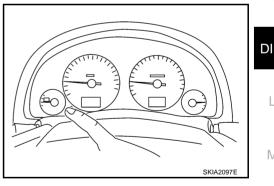
If the diagnosis function is activated with the trip meter A displayed, the mileage on the trip meter A will indicate 0000.0 miles, but the actual trip mileage will be retained. (Trip B operates the same way).

- 2. Turn the ignition switch OFF.
- 3. While pushing the odo/trip meter switch, turn the ignition switch ON again.
- Check that the trip meter displays "0000.0". 4.
- 5. Push the odo/trip meter switch at least 3 times. (Within 7 seconds after the ignition switch is turned ON.
- All the segments on the odo/trip meter and A/T indicator illuminate, and simultaneously the low-fuel warn-6. ing lamp indicator illuminates. At this time, the unified meter control unit is turned to diagnosis mode. NOTE:

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



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



How to Proceed With Trouble Diagnosis

- 1. Confirm the symptom or customer complaint.
- 2. Perform diagnosis according to diagnosis flow. Refer to DI-14, "Diagnosis Flow" .
- According to the trouble diagnosis chart, repair or replace the cause of the trouble symptom. Refer to DI-3. 16, "Trouble Diagnosis Chart by Symptom" .
- 4. Does the meter operate normally? If so, go to 5. If not, go to 2.
- 5. INSPECTION END

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Diagnosis Flow

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1. CHECK WARNING LAMP ILLUMINATION

- 1. Turn ignition switch ON.
- 2. Check that warning lamps (such as MIL and oil pressure warning lamp) illuminate.
- Do warning lamps illuminate?
- YES >> GO TO 2.
- NO >> Check ignition power supply system of combination meter. Refer to <u>DI-15, "Power Supply and</u> <u>Ground Circuit Check"</u>.

2. PERFORM SELF-DIAGNOSIS OPERATION

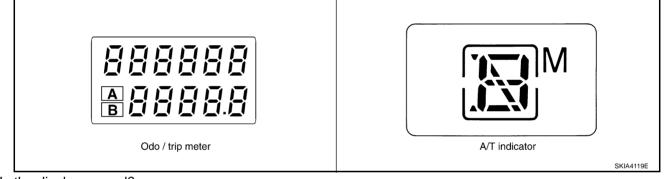
Perform combination meter self-diagnosis. Refer to DI-13, "SELF-DIAGNOSIS FUNCTION" .

Does self-diagnosis function operate?

- YES >> GO TO 3.
- NO >> Check battery power supply of combination meter and ground system. Refer to <u>DI-15, "Power</u> <u>Supply and Ground Circuit Check"</u>.

3. CHECK ODO/TRIP METER OPERATION

Check segment display status of odo/trip meter.



Is the display normal?

YES >> GO TO 4.

NO >> Replace combination meter.

4. FUEL WARNING LAMP ILLUMINATION CONFIRMATION

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

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

OK or NG

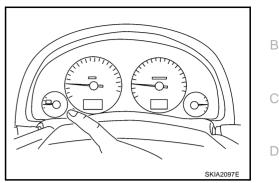
OK >> GO TO 5.

NG >> Replace combination meter.

5. CHECK METER CIRCUIT

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

- YES >> GO TO diagnosis results. Refer to <u>DI-16, "DIAGNOSIS</u> <u>RESULTS"</u>.
- NO >> Replace combination meter.



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Power Supply and Ground Circuit Check

1. CHECK FUSE

Check for blown combination meter fuses.

Unit	Power source	Fuse No.	F
	Battery	19	
Combination meter	Ignition switch (ON)	14	G
	Ignition switch (ACC)	6	

OK or NG

NG

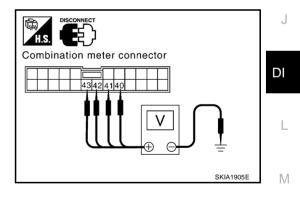
OK >> GO TO 2.

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

2. CHECK POWER SUPPLY CIRCUIT

- 1. Disconnect combination meter connector.
- 2. Check voltage between combination meter and ground.

Terminals			Ignition switch position			
	(+)					
Connector	Terminal (Wire color)	()	OFF	ACC	ON	
	40 (LG)	Ground -	0V	Battery voltage	Battery voltage	
M20	41 (G/Y)		0V	0V	Battery voltage	
WIZ0	42 (G/Y)		0V	0V	Battery voltage	
	43 (R/W)		Battery voltage	Battery voltage	Battery voltage	



OK or NG

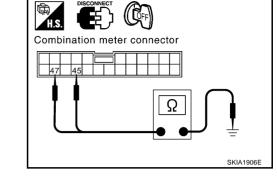
OK >> GO TO 3.

NG >> Check harness for open or short between combination meter and fuse.

3. CHECK GROUND CIRCUIT

Terminals				
(+))		Continuity	
Connector	Terminal (Wire color)	(-)		
M20	45 (B) 47 (B)	Ground	Yes	

Check continuity between combination meter and ground.



OK or NG

OK >> INSPECTION END

NG >> Repair harness or connector.

Trouble Diagnosis Chart by Symptom DIAGNOSIS RESULTS

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Trouble phenomenon	Possible cause	
Tachometer indication is malfunction.	Refer to <u>DI-19</u> , "Inspection/Engine Speed Signal".	
Fuel warning lamp indication is irregular.	Refer to <u>DI-17, "Inspection/Fuel Level Sensor"</u> .	
Fuel gauge indication is malfunction.		
Water temperature gauge indication is malfunction.	Refer to <u>DI-19</u> , "Inspection/Water Temperature Signal".	
Indication is irregular for the speedometer and odo/trip meter.	Refer to DI-19, "Inspection/Vehicle Speed Signal".	
Indications are irregular for more than one gauge.	Replace combination meter.	
A/T position indicator is malfunction.	Refer to DI-42, "A/T Indicator Does Not Illuminate" .	

Ins	spection/Fuel Level Sensor	
The	e following symptoms do not indicate a malfunction.	A
FU	EL GAUGE	
•	Depending on vehicle position or driving circumstance, the fuel in the tank flows and the pointer may fluc- tuate.	В
•	If the vehicle is fueled with the ignition switch ON, the pointer will move slowly.	
De	W-FUEL WARNING LAMP pending on vehicle position or driving circumstance, the fuel in the tank flows and the warning lamp ON tim- may change.	C
1.	CONNECTOR INSPECTION	
1.	Turn ignition switch OFF.	E
2.	Check meter, fuel level sensor unit and terminals (meter-side, unit-side harness-side) for looseness or bent terminals.	F
-		I
O N		G
2.	CHECK COMBINATION METER CIRCUIT	
1.	Disconnect combination meter connector and fuel level sensor unit (sub) connector.	Η
2.	Check continuity between combination meter harness connector M19 terminal 17 (W/B) and fuel level sensor unit (sub) harness connector B28 terminal 1(W/B).	
	Continuity should exist.	
3.	Check continuity between combination meter harness connector M19 terminal 17 (W/B) and ground.	J
	Continuity should not exist.	DI
<u> </u>	or NG	
O N		L
3.	CHECK FUEL LEVEL SENSOR CIRCUIT	
1.	Disconnect fuel level sensor unit and fuel pump (main) connection	N
2.	Check continuity between fuel level sensor unit (sub) harness connector B28 terminal 2 (Y) and fuel level sensor unit and fuel pump (main) harness connector B27 terminal 2 (Y).	
	Continuity should exist.	
3.	Check continuity between fuel level sensor unit (sub) harness connector B28 terminal 2 (Y) and ground.	
	Continuity should not exist.	
<u>OK</u> 0 N	<u>cor NG</u> K >> GO TO 4.	

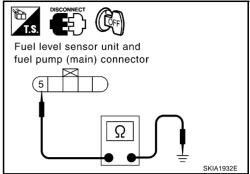
4. CHECK GROUND CIRCUIT

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

Continuity should exist.

OK or NG

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



5. CHECK FUEL LEVEL SENSOR

Check fuel level sensor units. Refer to <u>DI-22, "FUEL LEVEL SENSOR UNIT CHECK"</u>.

- OK or NG
- OK >> GO TO 6.
- NG >> Replace fuel level sensor unit and fuel pump (main) or fuel level sensor unit (sub).

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 combination meter.
- NG >> Install fuel level sensor unit properly.

Inspection/Engine Speed Signal 1. CHECK ECM SELF-DIAGNOSIS	AKS004VY
Perform ECM self-diagnosis. Refer to <u>EC-51, "Emission-Related Diagnostic Information"</u> . <u>OK or NG</u> OK >> Replace combination meter.	
NG >> Perform "Diagnostic Procedure" in displayed DTC.	
Inspection/Water Temperature Signal 1. CHECK ECM SELF-DIAGNOSIS	AKS004VZ
Preform the ECM self-diagnosis. Refer to EC-51, "Emission-Related Diagnostic Information".	
OK or NG	
 OK >> Replace combination meter. NG >> Perform "Diagnostic Procedure" in displayed DTC. 	
Inspection/Vehicle Speed Signal 1. CHECK VDC/TCS/ABS CONTROL UNIT SELF-DIAGNOSIS	AKS004W0
Preform VDC/TCS/ABS control unit self-diagnosis. Refer to BRC-29, "CONSULT-II Functions".	
OK or NG	
 OK >> Replace combination meter. NG >> Perform "Diagnostic Procedure" in displayed self-diagnosis results. 	

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The Fuel Gauge Pointer Fluctuates, Indicator Wrong Value or Varies

1. CHECK FUEL GAUGE FLUCTUATION

Test drive vehicle to see if gauge fluctuates only during driving or before or after stopping. Does the indication value vary only during driving or before or after stopping?

YES >> The pointer fluctuation may be caused by fuel level change in the fuel tank. Condition is normal.

NO >> Ask the customer about the situation when the symptom occurs in detail, and perform the trouble diagnosis.

The Fuel Gauge Does Not Move to FULL Position 1. OUESTION 1

AKS004W2

AKS004W1

Does it take a long time for the pointer to move to FULL position? YES or NO

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

2. QUESTION 2

Was the vehicle fueled with the ignition switch ON?

YES or NO

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

3. QUESTION 3

Is the vehicle parked on an incline?

YES or NO

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

4. QUESTION 4

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

YES or NO

- YES >> Check fuel level sensor unit. Refer to <u>DI-22, "FUEL LEVEL SENSOR UNIT CHECK"</u>.
- NO >> The float arm may interfere or bind with any of the components in the fuel tank.

The Fuel Gauge Does Not Work AKS004W3 1. CHECK HARNESS CONNECTOR AKS004W3
 Turn ignition switch OFF. Check combination meter, fuel level sensor unit, and terminals (meter-side, unit side and harness-side) for poor connection and bend.
<u>OK or NG</u> OK >> GO TO 2. NG >> Repair terminal or connector.
2. CHECK INSTALLATION CONDITION
Check fuel level sensor unit installation (refer to <u>FL-5</u> , <u>"FUEL LEVEL SENSOR UNIT, FUEL FILTER AND</u> <u>FUEL PUMP ASSEMBLY"</u> , and check whether the float arm interferes or binds with any components inside the fuel tank. <u>OK or NG</u> OK >> Fuel level sensor unit is OK.
NG >> Check fuel level sensor. Refer to <u>DI-17, "Inspection/Fuel Level Sensor"</u> . Low Fuel Warning Lamp Illuminates at All Times or Does Not Illuminate 1. CHECK SELF-DIAGNOSIS
Perform combination meter self-diagnosis. Refer to DI-13, "Meter/Gauges Operation and Odo/Trip Meter". OK or NG
OK >> Check fuel level sensor unit. Refer to <u>DI-22, "FUEL LEVEL SENSOR UNIT CHECK"</u> . NG >> Replace combination meter.

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Electrical Components Inspection FUEL LEVEL SENSOR UNIT CHECK

For removal, refer to FL-5, "FUEL LEVEL SENSOR UNIT, FUEL FILTER AND FUEL PUMP ASSEMBLY" .

Check Fuel Level Sensor Unit and Fuel Pump (Main)

1. Check the resistance between terminals 2 and 5.

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

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

• If the results of check is NG, perform as following "Check the fuel level sensor unit and fuel pump (main) harness".

Check Fuel Level Sensor Unit and Pump (Main) Harness

1. Check the continuity following terminals.

Terminal	Continuity	
2 - Signal terminal	Yes	
5 - Ground terminal	163	

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

NOTE:

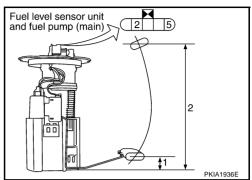
When replace fuel level sensor unit, refer to FL-9, "Disassembly and Assembly" in FE section.

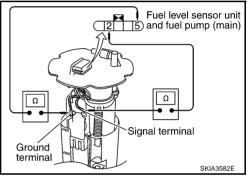
Check Fuel Level Sensor Unit (Sub)

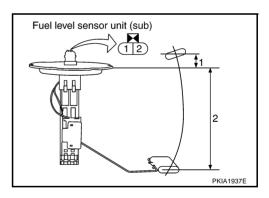
Check the resistance between terminals 1 and 2.

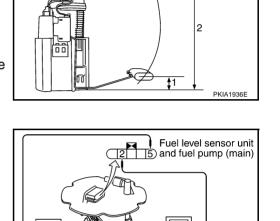
Ohm	meter		Float position mm (in)		Elect position mm (in) Resistance value	
(+)	(-)				Ω	
1	2	*1	Full	8 (0.31)	Approx. 3	
	Z	*2	Empty	175 (6.89)	Approx. 43	

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



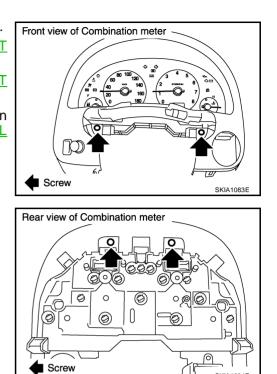






Removal and Installation for Combination Meter REMOVAL

- 1. Remove column cover. Refer to PS-9, "STEERING COLUMN" .
- 2. Remove combination switch. Refer to <u>IP-10, "INSTRUMENT</u> <u>PANEL ASSEMBLY"</u>.
- 3. Remove instrument lower cover. Refer to <u>IP-10, "INSTRUMENT</u> <u>PANEL ASSEMBLY"</u>.
- 4. Remove the screw (4) and remove cluster lid A and combination meter assembly. Refer to <u>IP-10, "INSTRUMENT PANEL ASSEMBLY"</u>.
- 5. Disconnect connectors and remove combination meter.
- 6. Disassembly cluster lid A and combination meter.



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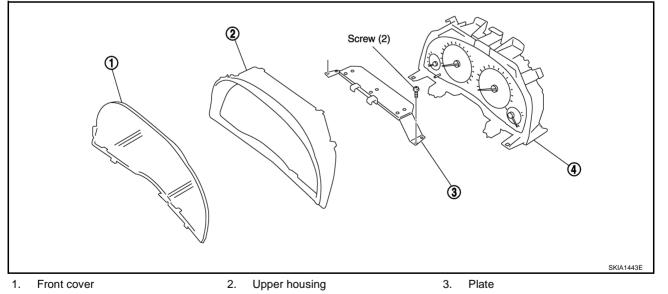
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AKS004W7

INSTALLATION

Install in the reverse order of removal.

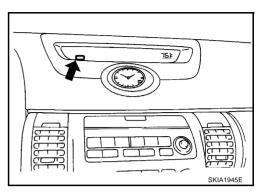
Disassembly and Assembly for Combination Meter



- 4. Unified meter control unit assembly
- 1. Disengaged the tabs (8) to separate front cover.
- 2. Remove screw (2) and remove plate.
- 3. Disengaged the tabs (8) to separate upper housing.
- 4. Remove bulbs.

COMPASS

This unit displays earth magnetism and heading direction of vehicle.

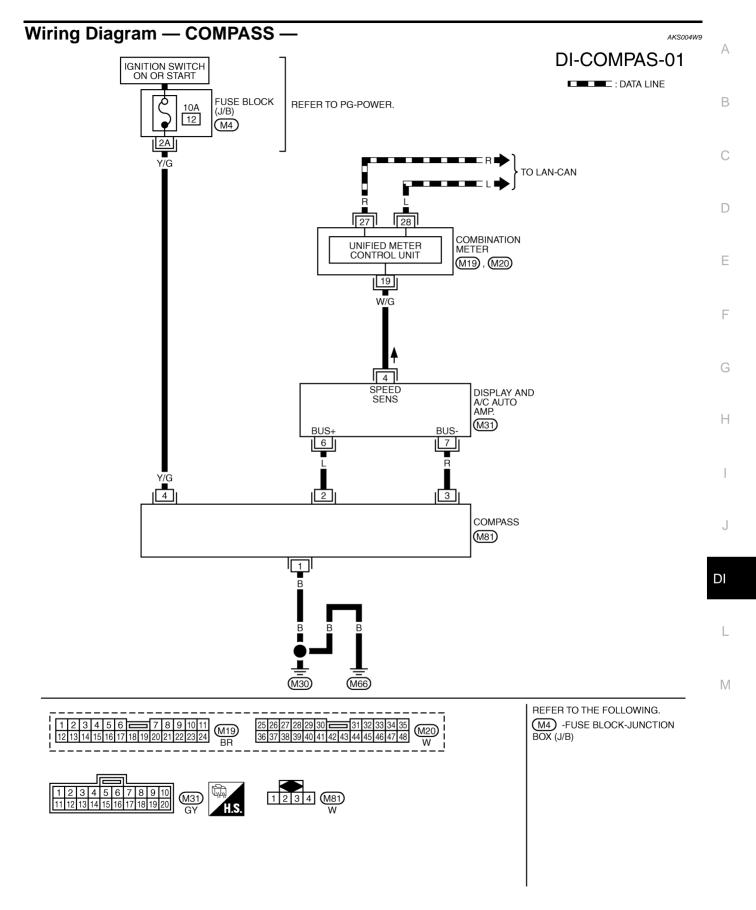


DIRECTION DISPLAY

Push the switch when the ignition key is in the "ON" or "START" position. The direction will be displayed.

PFP:24835

COMPASS



TKWT0548E

Power Supply and Ground Circuit Check for Compass

1. CHECK FUSE

Check 10A fuse [No. 12, located in fuse block (J/B)]. OK or NG

OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate case of problem before installing new fuse. Refer to <u>PG-4</u>, <u>"POWER SUPPLY ROUTING CIRCUIT"</u>.

2. CHECK POWER SUPPLY CIRCUIT

- 1. Disconnect compass connector.
- Check voltage between compass harness connector M81 terminal 4 (Y/G) and ground.

Battery voltage should exist.

OK or NG

- OK >> GO TO 3.
- NG >> Check harness for open or short between compass and fuse.

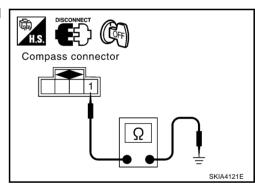
3. CHECK GROUND CIRCUIT

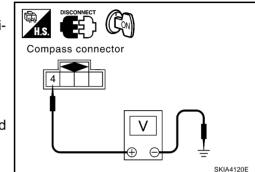
Check continuity between compass harness connector M81 terminal 1 (B) and ground.

Continuity should exist.

OK or NG

- OK >> INSPECTION END
- NG >> Repair or replace harness for ground circuit.





AKS004WA

COMPASS

	Safe System
	there is no response from display and A/C auto amp., previous display is kept for 10 minutes. After 10 ninutes, "" is displayed. (Only when there is no response continuously for 10 minutes.)
• If	display and A/C auto amp. receives normal data within 10 minutes, normal operation will be recovered. display and A/C auto amp. receives normal data while "" is being displayed, normal operation will be ecovered.
● If s\	ignition switch is turned OFF within 10 minutes: Previously retained data is displayed when ignition witch is turned ON again. Then after 10 minutes, "" is displayed.
	response is never received after battery is turned ON, no data is retained. Therefore nothing is dis- layed for 10 minutes.
Com	pass Does not Display AKS004WC
1. о	ISPLAY AND A/C AUTO AMP. SELF-DIAGNOSIS CHECK
Check DURE	k display and A/C auto amp. self-diagnosis. Refer to <u>ATC-57, "FUNCTION CONFIRMATION PROCE-</u>
Does	display and A/C auto amp. segments all displayed?
YES NO	 >> Check fail safe system. refer to <u>DI-27, "Fail-Safe System"</u>. >> Replace the display and A/C auto amp.
Com	npass Display ""
1. ғ/	AIL-SAFE MODE CHECK
Check	k that fail-safe mode is not activated. Refer to <u>DI-27, "Fail-Safe System"</u> .
Does	be activated fail-safe mode?
YES NO	>> GO TO 3. >> GO TO 2.
2. р	ISPLAY AND A/C AUTO AMP. SELF-DIAGNOSIS CHECK
Perfor DURE	rm display and A/C auto amp. self-diagnosis. Refer to <u>ATC-57, "FUNCTION CONFIRMATION PROCE-</u>
Does	display and A/C auto amp. segments all displayed?
YES NO	 >> INSPECTION END >> Replace the display and A/C auto amp.
З. р	OWER AND GROUND CIRCUIT CHECK
OK or	

OK >> GO TO 4.

NG >> Repair power and ground circuit.

4. COMPASS CIRCUIT CHECK

- Turn ignition switch OFF. 1.
- 2. Disconnect compass connector and display and A/C auto amp. connector.
- 3. Check continuity between compass harness connector M81 terminal 2 (L) and display and A/C auto amp. harness connector M31 terminal 6 (L).

Continuity should exist.

4. Check continuity between compass harness connector M81 terminal 3 (R) and display and A/C auto amp. harness connector M31 terminal 7 (R).

Continuity should exist.

OK or NG

1.

2.

3.

OK >> GO TO 5.

connector.

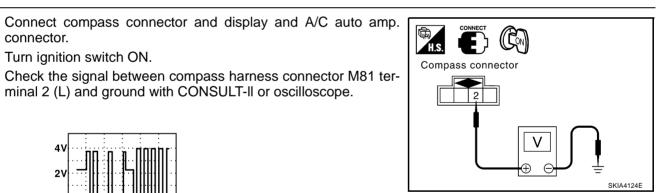
NG >> Repair harness or connector.

5. COMPASS SIGNAL CHECK

Turn ignition switch ON.

4١ 2

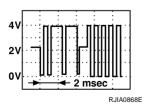
O



Check the signal between compass harness connector M81 ter-4. minal 3 (R) and ground with CONSULT-II or oscilloscope.

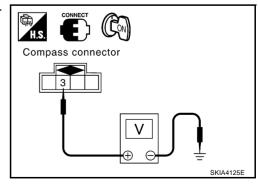
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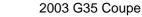
minal 2 (L) and ground with CONSULT-II or oscilloscope.

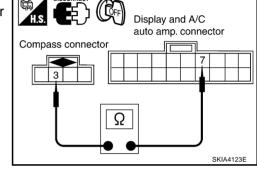


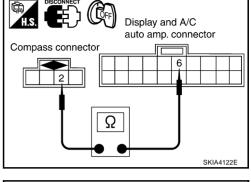
OK or NG

- OK >> Replace the display and A/C auto amp.
- NG >> Replace the compass









COMPASS

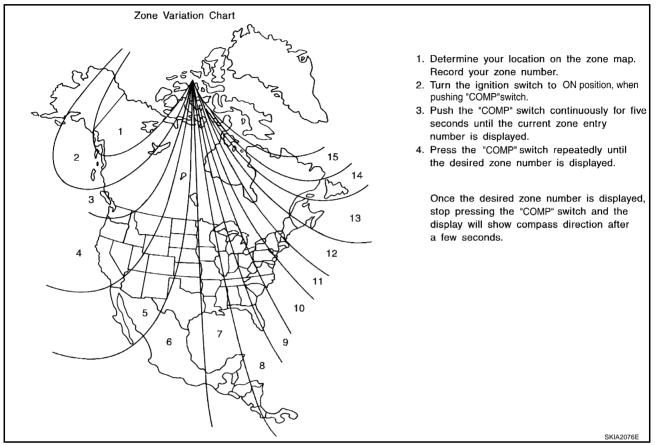
Forward Direction Indication Slips Off The Mark Or Incorrect 1. ZONE VARIATION CHANGE IS NOT DONE	AKS004WE
Perform the zone variation change. <u>OK or NG</u>	
OK>> INSPECTION ENDNG>> Replace the compass.	
Compass Reading Remains Unchanged 1. POWER AND GROUND CIRCUIT CHECK	AKS004WF
Check power and ground circuit. Refer to <u>DI-26, "Power Supply and Ground Circuit Check for b</u> DK or NG	<u>Compass"</u> .
OK >> Replace the compass. NG >> Repair power and ground circuit.	

Calibration Procedure for Compass

AKS004WG

The difference between magnetic North and geographical North can sometimes be great enough to cause false compass readings.

In order for the compass to operate accurately in a particular zone, it must be calibrated using the following procedure.



CORRECTION FUNCTIONS OF COMPASS

If the direction is not shown correctly, carry out initial correction.

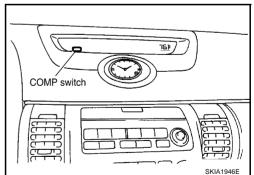
INITIAL CORRECTION PROCEDURE FOR COMPASS

- 1. Pushing the "COMP" switch for about 10 seconds will enter the initial correction mode. The direction bar starts blinking.
- Turn off all electrical equipment (turn signals, hazard signal, A/ C, lights, etc.). In a broad, flat, and safe location, drive the vehicle slowly [approximately 5 km/h (3 MPH) or less], and turn the vehicle 360° or more several times. When the direction appears on the display, correction is complete.

NOTE:

The correct direction may not be shown in locations where the earth's magnetic field is disrupted, such as those listed below.

- Elevated bridges
- Railroad crossings
- Streets lined with large buildings
- Iron bridges
- Tunnels
- Locations above subways
- Underground parking areas
- Near large vehicles
- Electric power substations



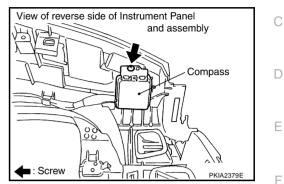
COMPASS

If display correction is performed in any of the above locations, accurate correction may not be possible.

 When heater or A/C fan speed is at maximum, the direction indicator display may move. This is not a malfunction. It will return to normal when the heater or A/C fan speed is reduced.

Removal and Installation of Compass REMOVAL

- 1. Remove instrument panel and pad. Refer to IP-11, "Removal and Installation" .
- 2. Remove screw (1), and remove compass.



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INSTALLATION

Install in the reverse order of removal.

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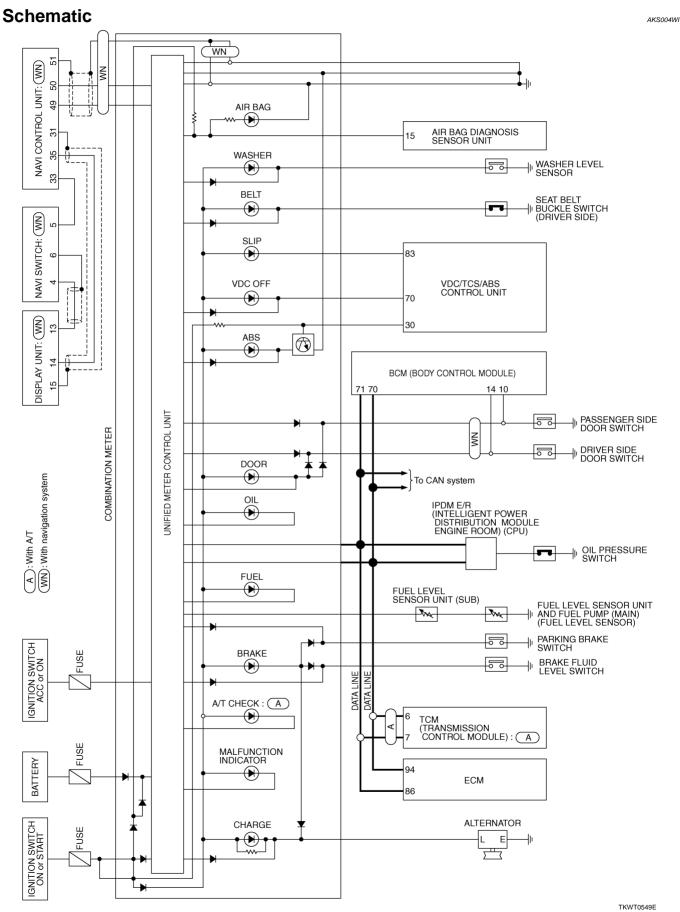
J

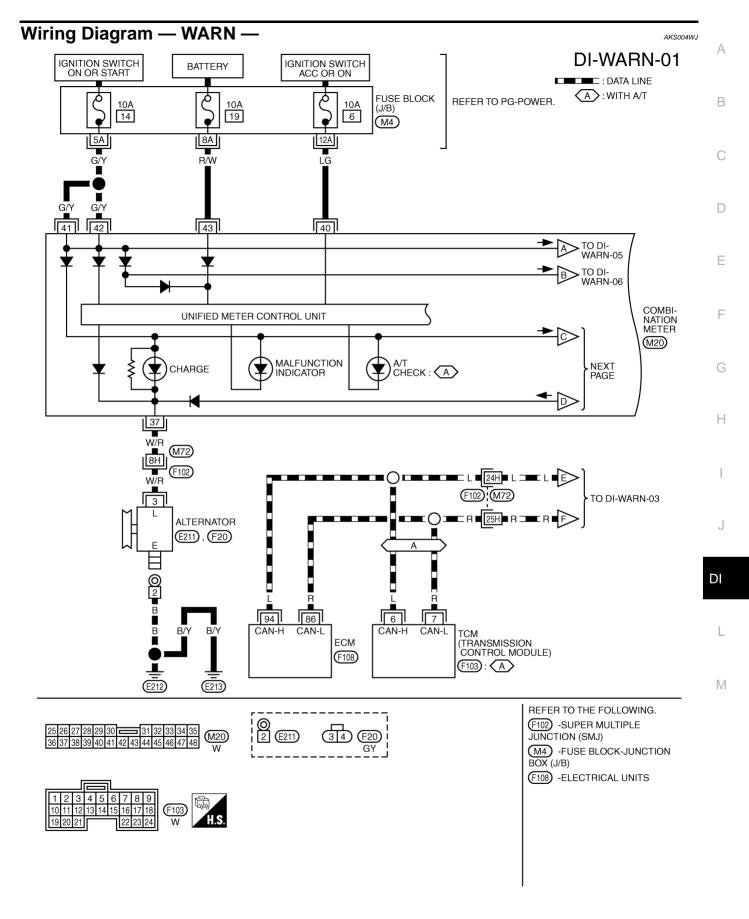
G

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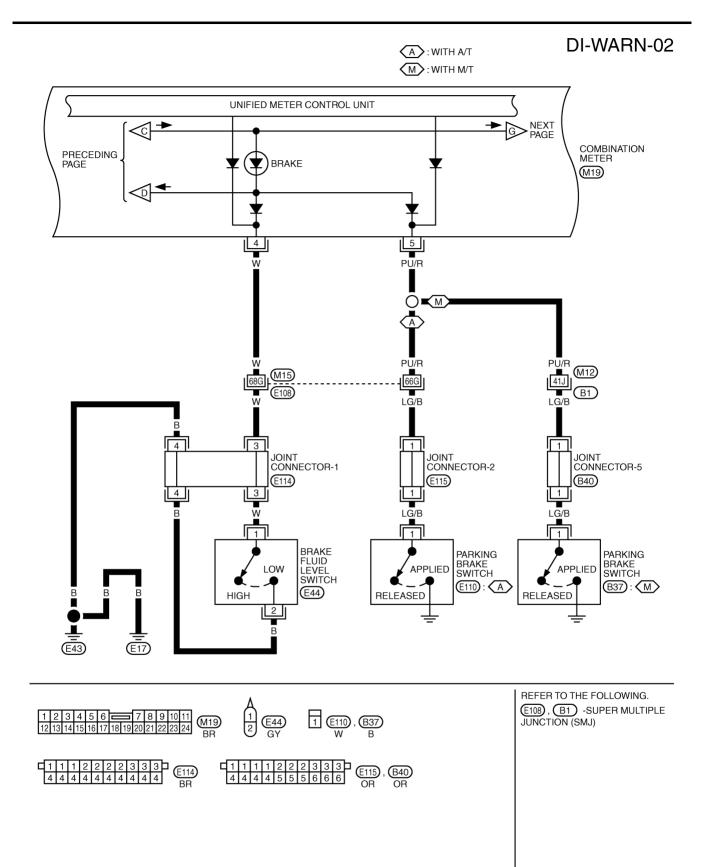
WARNING LAMPS

PFP:24814

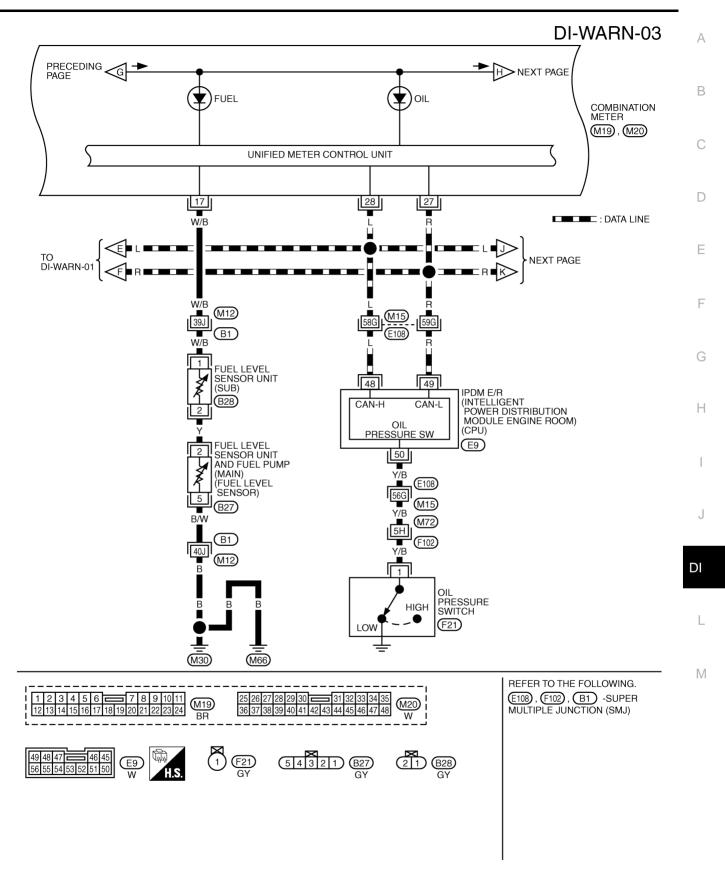




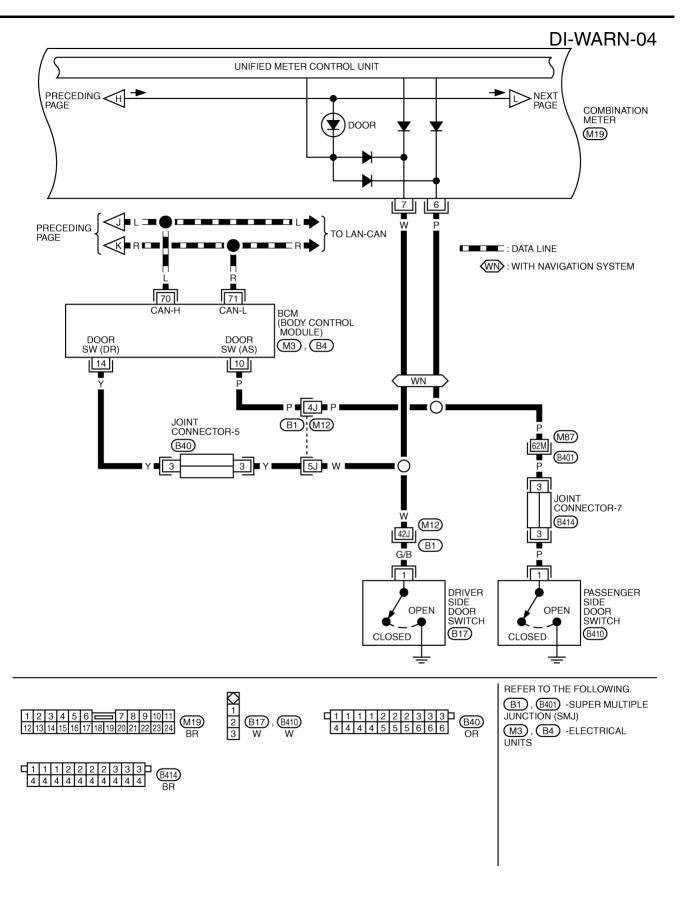
TKWT0550E



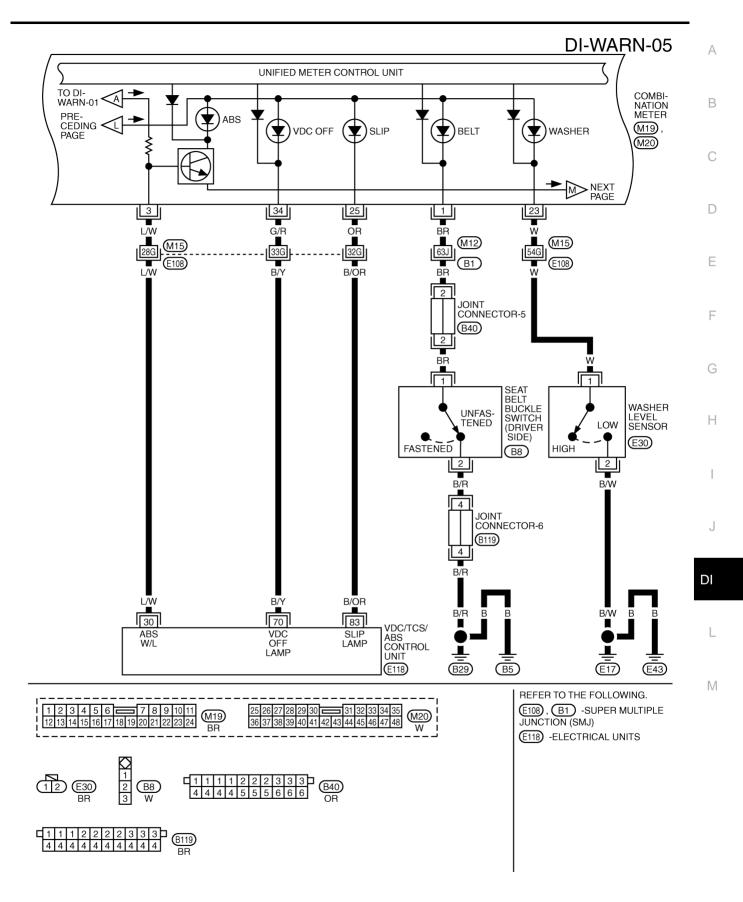
TKWT0551E



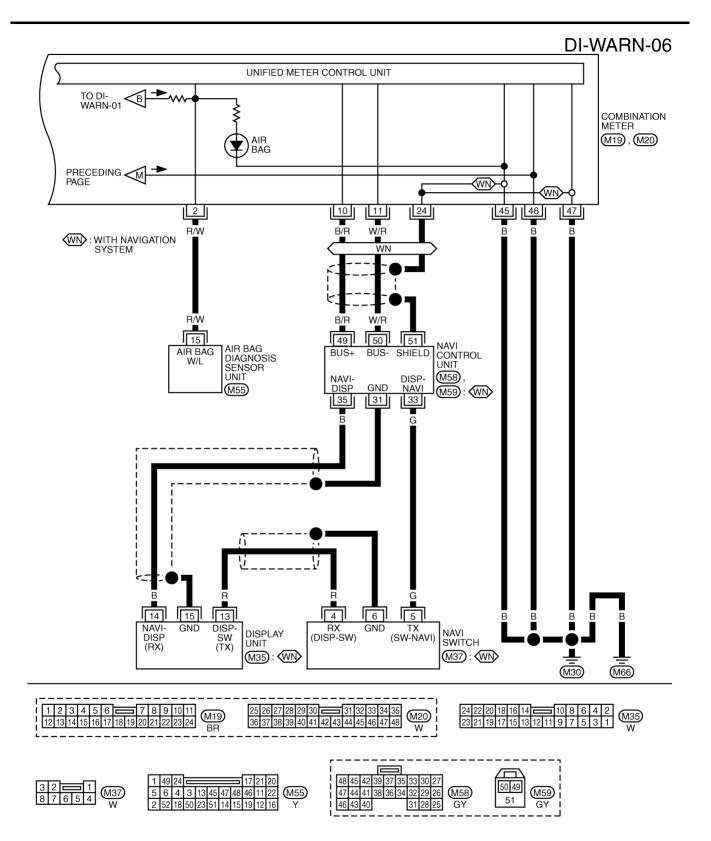
TKWT0552E



TKWT0553E

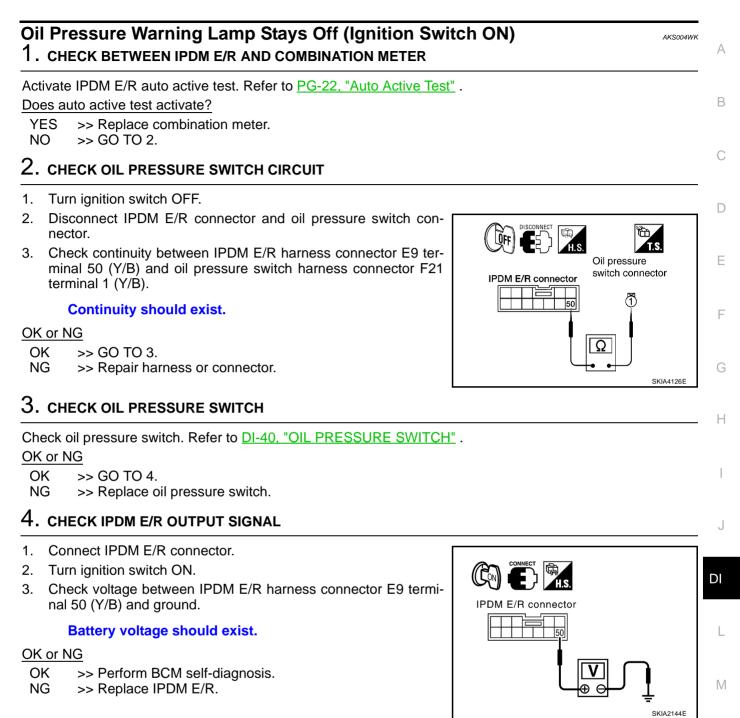


TKWT0554E



TKWT0555E

WARNING LAMPS



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

NOTE:

For oil pressure inspection, refer to LU-6, "OIL PRESSURE CHECK" .

1. CHECK OIL PRESSURE SWITCH CIRCUIT

- Disconnect IPDM E/R connector and oil pressure switch con-1. nector.
- 2. Check continuity between IPDM E/R harness connector E9 terminal 50 (Y/B) and ground.

Continuity should not exist.

OK or NG

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

2. CHECK IPDM E/R OUTPUT SIGNAL

- 1. Connect IPDM E/R connector.
- 2. Turn ignition switch ON.
- 3. Check voltage between IPDM E/R harness connector E9 terminal 50 (Y/B) and ground.

Battery voltage should exist.

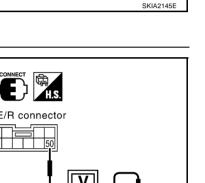
OK or NG

- OK >> Check oil pressure switch. Refer to DI-40, "OIL PRES-SURE SWITCH" .
- NG >> Replace IPDM E/R.

Component Inspection OIL PRESSURE SWITCH

Check continuity between the oil pressure switch and body ground.

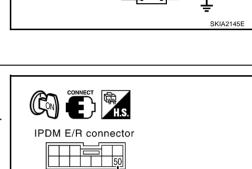
Condition	Oil pressure kPa (kg/cm ² , psi)	Continuity
Engine stopped	Less than 29 (0.3, 4)	Yes
Engine running	More than 29 (0.3, 4)	No



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AKS004WM

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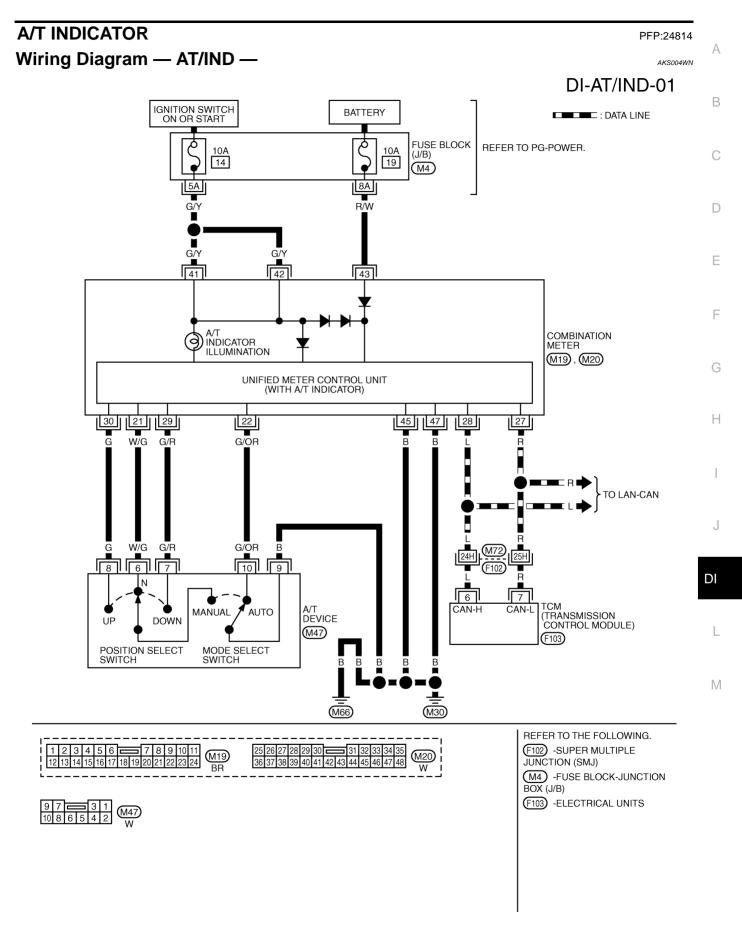


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IPDM E/R connector

AKS004WL

A/T INDICATOR



TKWT0556E

A/T Indicator Does Not Illuminate

1. CHECK COMBINATION METER SELF-DIAGNOSIS

Perform combination meter self-diagnosis. Refer to DI-13, "Meter/Gauges Operation and Odo/Trip Meter" .

Does all segments displayed?

YES or NO

YES >> GO TO 2.

NO >> Replace combination meter.

2. CHECK TCM SELF-DIAGNOSIS

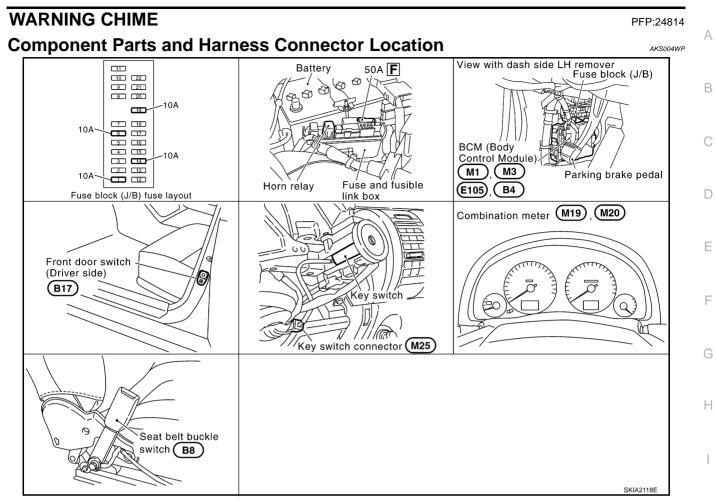
Perform TCM self-diagnosis. Refer to AT-41, "TROUBLE DIAGNOSIS" .

OK or NG

OK >> Replace combination meter.

NG >> Go to TCM trouble diagnosis.

AKS004WO



System Description

The warning chime is controlled by the BCM.

The warning chime is located in the combination meter.

Combination meter is received buzzer signal from BCM with CAN communication line, the warning chime will sound.

FUNCTION

Power is supplied at all times

- through 50A fuse (letter F, located in the fuse and fusible link box)
- to BCM terminal 7,
- through 10A fuse [No. 21, located in the fuse block (J/B)]
- to key switch terminal 2 and
- through 10A fuse [No. 19, located in the fuse block (J/B)]
- to combination meter terminal 43.

When ignition switch ON or START position, power is supplied

- through 10A fuse [No. 1, located in the fuse block (J/B)]
- to BCM terminal 35,
- through 10A fuse [No. 14, located in the fuse block (J/B)]
- to combination meter terminal 41 and 42.

Ground is supplied

- to BCM terminal 8
- through body grounds E17 and E43 and
- to combination meter terminals 45
- through body grounds M30 and M66.

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IGNITION KEY WARNING CHIME

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

- through key switch terminal 1
- to BCM terminal 62, and

Ground is supplied (with navigation system)

- to combination meter terminal 7
- through driver side door switch terminal 1.

Driver side door switch is case grounded.

Combination meter send door open signal to BCM with CAN communication system.

Ground is supplied (without navigation system)

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

Driver side door switch is case grounded.

BCM detects key inserted into the ignition switch, and sends buzzer output signal (key warning signal) to combination meter with CAN communication line.

When combination meter receives buzzer output signal (key warning signal), it sounds warning chime.

LIGHT WARNING CHIME

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

- from combination switch (lighting switch) terminals 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10
- to BCM terminals 40, 41, 42, 43, 47, 48, 49, 50, 51 and 52.
 NOTE:

BCM detected lighting switch in 1st or 2nd position, refer to <u>LT-122</u>, "Combination Switch Reading Function".

Ground is supplied (with navigation system)

- to combination meter terminal 7
- through driver side door switch terminal 1.

Driver side door switch is case grounded.

Combination meter send door open signal to BCM with CAN communication system. Ground is supplied (without navigation system)

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

BCM detects headlamps are illuminated, and sends buzzer output signal (light warning signal) to combination meter with CAN communication line.

When combination meter receives buzzer output signal (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

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

Seat belt buckle switch (driver side) terminal 2 is grounded through body grounds B5 and B29.

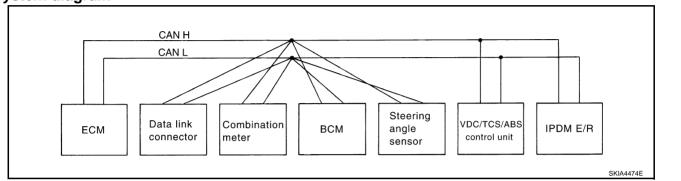
BCM receives seat belt buckle switch signal (seat belt unfastened) from combination meter over CAN communication line, and then BCM sends buzzer output signal (seat belt warning signal) to combination meter with CAN communication line.

When combination meter receives buzzer output signal (seat belt warning signal), it sounds warning chime.

CAN Communication

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.

M/T MODELS System diagram



Input/output signal chart

Signals	ECM	Combina-	BCM	Steering angle sen-	VDC/TCS/ ABS con-	IPDM E/R
		tion meter		sor	trol unit	
Engine speed signal	Т	R			R	
Engine coolant temperature signal	Т	R				
Accelerator pedal position signal	Т				R	
Fuel consumption monitor signal	Т	R				
Air conditioner switch signal	R		Т			
A/C compressor request signal	Т					R
A/C compressor feedback signal	Т	R				
Blower fan motor switch signal	R		Т			
Cooling fan motor operation signal	Т					R
Position lights request signal		R	Т			R
Low beam request signal			Т			R
Low beam status signal	R		R			Т
High beam request signal		R	Т			R
High beam status signal	R		R			Т
Front fog lights request signal			Т			R
		R			Т	
Vehicle speed signal	R	Т	R			
Sleep request 1 signal		R	Т			
Sleep request 2 signal			Т			R
Wake up request 1 signal		R	Т			
Wake up request 2 signal		R	Т			
Door switch signal (without navigation system)		R	Т			R
Door switch signal (with navigation system)		Т	R			
Turn indicator signal		R	Т			
Seat belt buckle switch signal		т	R			

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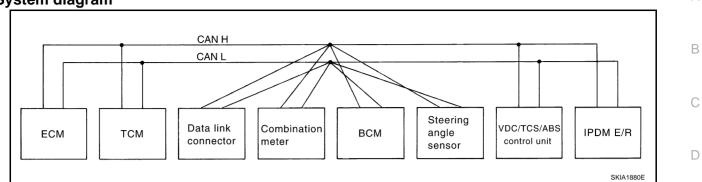
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Signals	ECM	Combina- tion meter	BCM	Steering angle sen- sor	VDC/TCS/ ABS con- trol unit	IPDM E/R
Oil pressure switch signal		R				Т
Buzzer output signal		R	Т			
Trunk switch signal		R	Т			
Malfunction indicator lamp signal	Т	R				
ASCD SET lamp signal	Т	R				
ASCD CRUISE lamp signal	Т	R				
Fuel level sensor signal	R	Т				
Front wiper request signal			Т			R
Front wiper stop position signal			R			Т
Rear window defogger switch signal			Т			R
Rear window defogger control signal	R		R			Т
Hood switch signal			R			Т
Theft warning horn request signal			Т			R
Horn chirp signal			Т			R
Steering angle sensor signal				Т	R	

A/T MODELS System diagram



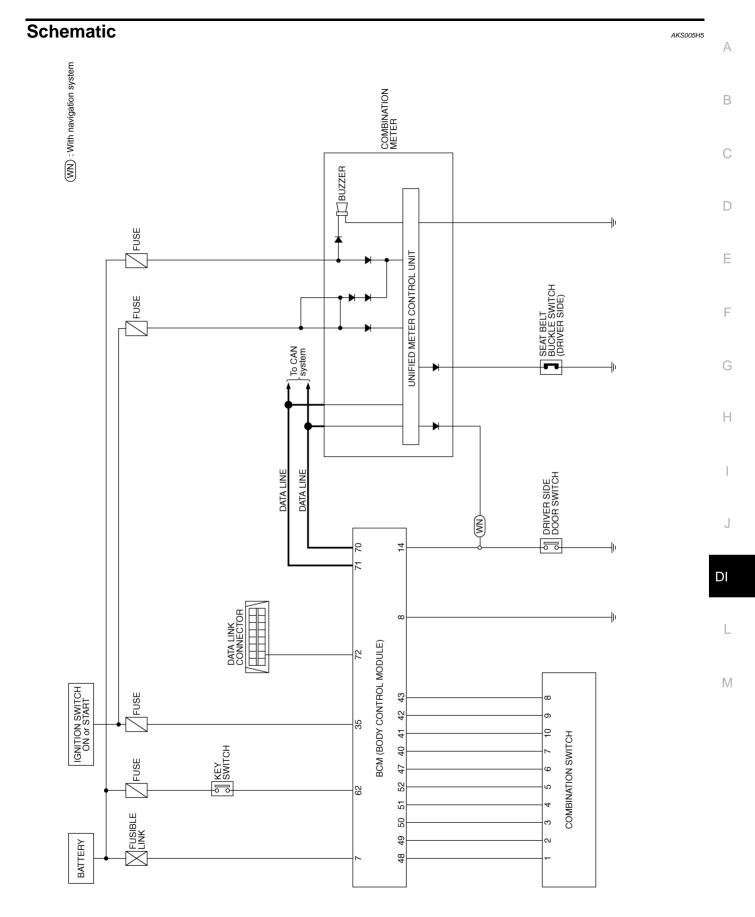
Input/output signal chart

Signals	ECM	ТСМ	Combina- tion meter	BCM	Steering angle sensor	VDC/TCS/ ABS con- trol unit	IPDM E/R
Engine speed signal	Т	R	R			R	
Engine coolant temperature signal	Т	R	R				
Accelerator pedal position signal	Т	R				R	
Closed throttle position signal	Т	R					
Wide open throttle position signal	Т	R					
Battery voltage signal	Т	R					
Stop lamp switch		R	Т				
Fuel consumption monitor signal	Т		R		_		
A/T self-diagnosis signal	R	Т			_		
A/T CHECK indicator lamp signal		Т	R		_		
A/T position indicator signal		Т	R			R	
ABS operation signal		R				Т	
A/T shift schedule change demand signal		R				Т	
Air conditioner switch signal	R			Т			
A/C compressor request signal	Т						R
A/C compressor feedback signal	Т		R				
Blower fan motor switch signal	R			Т			
Cooling fan motor operation signal	Т						R
Position lights request signal			R	Т			R
Low beam request signal				Т			R
Low beam status signal	R			R			Т
High beam request signal			R	Т			R
High beam status signal	R			R			Т
Front fog lights request signal				Т			R
Vohiolo speed signal			R			Т	
Vehicle speed signal	R	R	Т	R			
Sleep request 1 signal			R	Т			
Sleep request 2 signal				Т			R
Wake up request 1 signal			R	Т			
Wake up request 2 signal			R	Т			

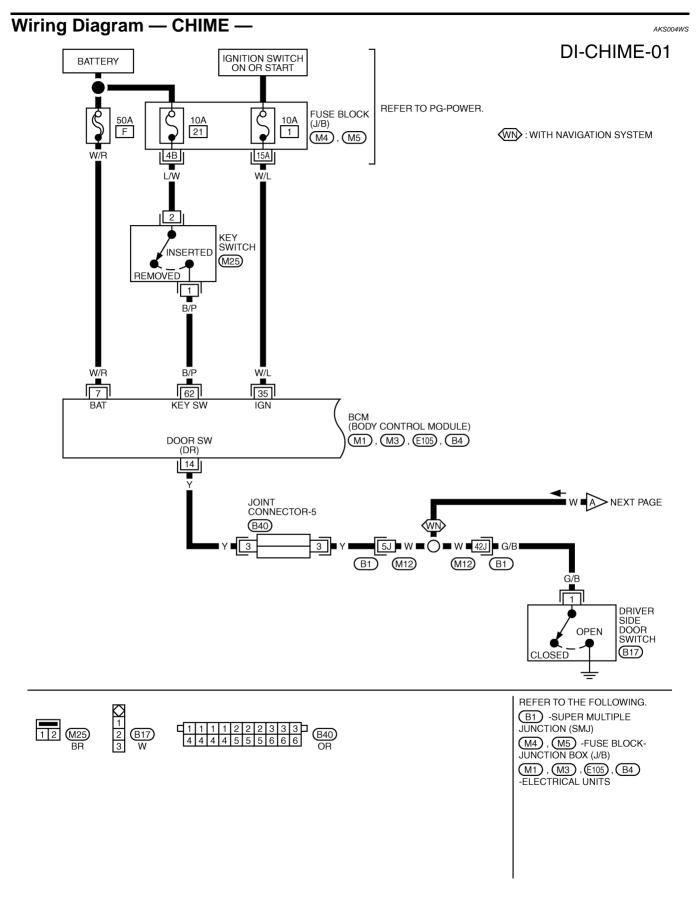
Revision; 2004 April

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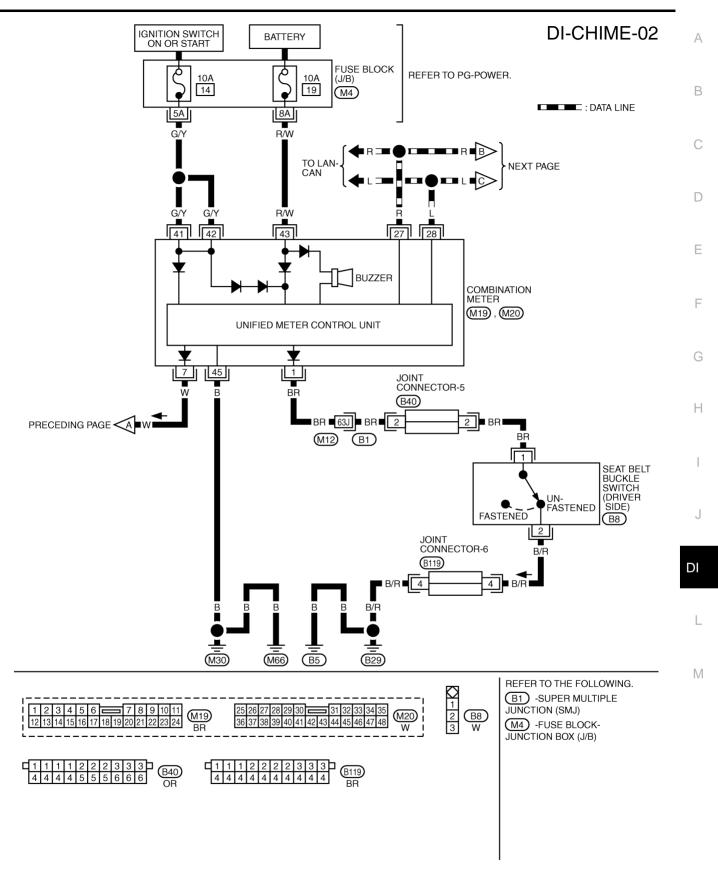
Signals	ECM	TCM	Combina- tion meter	BCM	Steering angle sensor	VDC/TCS/ ABS con- trol unit	IPDM E/R
Door switch signal (without naviga- tion system)			R	Т			R
Door switch signal (with navigation system)			Т	R			
Turn indicator signal			R	Т			
Seat belt buckle switch signal			Т	R			
Oil pressure switch signal			R				Т
Buzzer output signal			R	Т			
Trunk switch signal			R	Т			
Malfunction indicator lamp signal	Т		R				
ASCD SET lamp signal	Т		R				
ASCD CRUISE lamp signal	Т		R				
Fuel level sensor signal	R		Т				
Output shaft revolution signal	R	Т					
Turbine revolution signal	R	Т					
Front wiper request signal				Т			R
Front wiper stop position signal				R			Т
Rear window defogger switch signal				Т			R
Rear window defogger control sig- nal	R			R			Т
Manual mode signal		R	Т				
Not manual mode signal		R	Т				
Manual mode shift up signal		R	Т				
Manual mode shift down signal		R	Т				
Manual mode indicator signal		Т	R				
Hood switch signal				R			Т
Theft warning horn request signal				Т			R
Horn chirp signal				Т			R
Steering angle sensor signal					Т	R	



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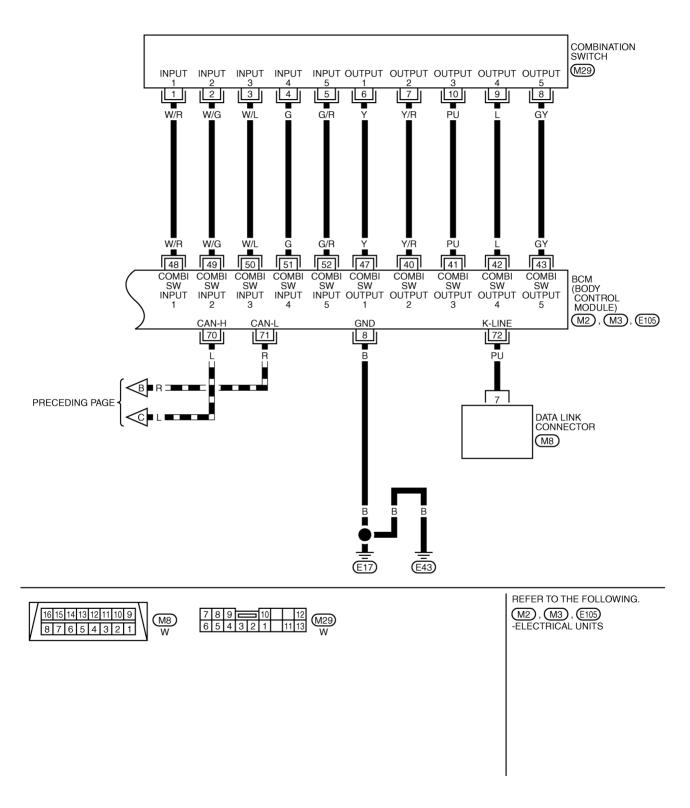
TKWT0558E



TKWT0559E

DI-CHIME-03

: DATA LINE



TKWT0560E

Terminals and Reference Value for BCM

Tarmainal	Wire			Condition	า	
Terminal No.	color	ltem	Ignition switch	Measurem	ent method	Reference value
7	W/R	Battery power supply	OFF	_		Battery voltage
8	В	Ground	ON	-	_	Approx. 0V
14	Y	Driver side door switch signal	OFF	Driver's door	ON (open) OFF (closed)	Approx. 0V Approx. 5V
35	W/L	Ignition switch (ON)	ON	-		Battery voltage
40	Y/R	Combination switch output 2				(V)
41	PU	Combination switch output 3		_		
42	L	Combination switch output 4	ON			
43	GY	Combination switch output 5				
47	Y	Combination switch output 1				5 ms
48	W/R	Combination switch input 1				
49	W/G	Combination switch input 2				
50	W/L	Combination switch input 3	ON	Lighting switch switch are OFF	•	4.5 or more
51	G	Combination switch input 4				
52	G/R	Combination switch input 5				
62	B/P	Key switch signal	OFF	Key is remove	d	Approx. 0V
02	0,1		0.1	Key is inserted		Battery voltage
70	L	CAN H	OFF	-		_
71	R	CAN L	OFF	-		

How to Proceed With Trouble Diagnosis

- 1. Confirm the symptom or customer complaint.
- 2. Understand operation description and function description. Refer to DI-43, "System Description" .
- Perform the preliminary check. Refer to DI-54, "Preliminary Check" . 3.
- 4. Check symptom and repair or replace the cause of malfunction.
- Does the warning chime operate normally? If so, go to 6. If not, go to 4. 5.
- 6. INSPECTION END

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Preliminary Check INSPECTION FOR POWER SUPPLY AND GROUND CIRCUIT

1. CHECK FUSE

Check for blown BCM fuses.

Unit	Power source	Fuse No.
BCM	Battery	F
	Ignition switch (ON)	1

Refer to DI-50, "Wiring Diagram — CHIME —".

OK or NG

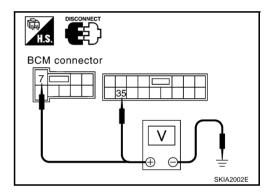
OK >> GO TO 2.

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

2. CHECK POWER SUPPLY CIRCUIT

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

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



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OK or NG

OK >> GO TO 3.

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

3. CHECK GROUND CIRCUIT

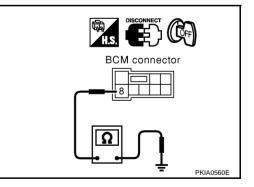
- 1. Turn ignition switch OFF.
- 2. Check continuity between BCM and ground.

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

OK or NG

OK >> INSPECTION END

NG >> Repair harness or connector.



CONSULT-II Function

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

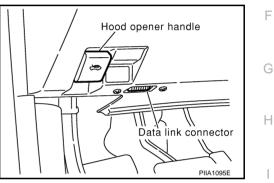
DIAGNOSTIC ITEMS DESCRIPTION

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

CONSULT-II BASIC OPERATION PROCEDURE

Touch "START (NISSAN BASED VHCL)".

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



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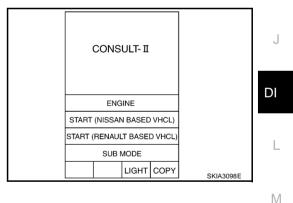
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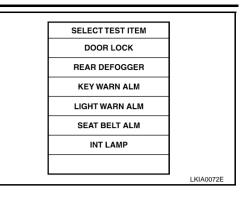


3. Touch "BCM" on "SELECT SYSTEM" screen. If "BCM" is not indicated, go to GI-39, "CONSULT-II Data Link Connector (DLC) Circuit" .

SELECT SYSTEM	
ENGINE	
A/T	
ABS	
AIR BAG	
ВСМ	
	LKIA0071E

2.

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



DATA MONITOR

Operation Procedure

- 1. Touch "KEY WARN ALM", "LIGHT WARN ALM" or "SEAT BELT ALM" on "SELECT TEST ITEM" screen.
- 2. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
- 3. Touch "ALL SIGNALS" or "SELECTION FROM MENU" on "DATA MONITOR" screen.

ALL SIGNALS	Monitors the main items.	
SELECTION FROM MENU	Selects and monitors the items.	

4. Touch "START".

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

Data Monitor Item (Key Warning Chime)

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

Data Monitor Item (Light Warning Chime)

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

Data Monitor Item (Seat Belt Warning Chime)

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

ACTIVE TEST

Operation Procedure

- 1. Touch "KEY WARN ALM", "LIGHT WARN ALM" or "SEAT BELT ALM" on "SELECT TEST ITEM" screen.
- 2. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
- 3. Touch the item to be tested, and check the operation.
- 4. During the operation check, touching "OFF" deactivates the operation.

Active Test Item (Key Warning Chime)

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

Active Test Item (Light Warning Chime)

Test item	Malfunction detecting condition	E
CHIME	This test is able to check light warning chime operation. Light warning chime sounds for 2 sec- onds after touching "ON" on CONSULT-II screen.	

Active Test Item (Seat Belt Warning Chime)

Test item	Malfunction detecting condition	
CHIME	This test is able to check seat belt warning chime operation. Seat belt warning chime sounds for 2 seconds after touching "ON" on CONSULT-II screen.	(

SELF-DIAGNOSTIC RESULTS

Operation Procedure

- 1. Touch "BCM C/U" on "DIAGNOSIS ITEM SELECTION" screen.
- 2. Touch "SELF-DIAG RESULTS" on "SELECT DIAG MODE" screen.
- 3. Self-diagnostic results are displayed.

Display Item List

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

NOTE:

If "CAN communication [U1000]" is indicated, after printing the monitor item, go to "CAN system". Refer to <u>LAN-4, "CAN Communication Unit"</u>.

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All Warnings Are Not Operated

1. CHIME OPERATION INSPECTION

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

Does chime sound?

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

SELECT TEST ITEM	7
СНІМЕ	
	WKIA0150E

2. BCM SELF-DIAGNOSIS

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

Self-diagnostic results content

No malfunction detected>> GO TO 3.

CAN communication [U1000]>>After printing the monitor item, go to "CAN system". Refer to <u>LAN-4, "CAN</u> <u>Communication Unit"</u>.

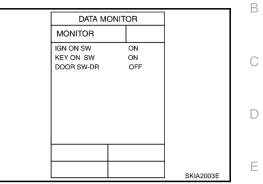
Diagnosis 1 - 5 systems open circuit>>Malfunction in combination switch system. Go to <u>LT-128, "Combina-</u> tion Switch Inspection According to Self-Diagnostic Results" according to self-diagnostic results.

3. DATA MONITOR INSPECTION

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

KEY WARNING ALM

Switch operation	CONSULT-II display	Operation status
Ignition switch (ON)	IGN ON SW	ON
Ignition switch (OFF)		OFF
Ignition switch (key in switch)	KEY ON SW	ON
Ignition switch (key out of switch)		OFF
Driver door (open) DOOR SW-DR		ON
Driver door (closed)	DOOR SW-DR	OFF



LIGHT WARNING ALM

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

DATA MONITOR MONITOR MONITOR ING ON SW ING ON SW-OR ON DOOR SW-DR ON TAIL LAMP SW OFF Image: Skia2004E Skia2004E

ON

ON

DATA MONITOR

MONITOR ING ON SW

SEAT BELT SW

SEAT BELT ALM

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

OK or NG

NG

OK >> Replace combination meter.

>> • GO TO 4 (With navigation system).

• GO TO 5 (Without navigation system).



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4. CHECK CONTINUITY DOOR SWITCH CIRCUIT (WITH NAVIGATION SYSTEM)

- 1. Disconnect combination meter connector and driver side door switch connector.
- 2. Check harness continuity between combination meter harness connector M19 terminal 7 (W) and driver side door switch harness connector B17 terminal 1 (G/B).

Continuity should exist.

 Check continuity between combination meter harness connector M19 terminal 7 (W) and ground.

Continuity should not exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness or connector.

5. CHECK DOOR SWITCH CIRCUIT (WITHOUT NAVIGATION SYSTEM)

- 1. Disconnect BCM connector and driver side door switch connector.
- Check harness continuity between BCM harness connector B4 terminal 14 (Y) and driver side door switch harness connector B17 terminal 1 (G/B).

Continuity should exist.

 Check continuity between BCM harness connector B4 terminal 14 (Y) and ground.

Continuity should not exist.

OK or NG

OK >> GO TO 6.

NG >> Repair harness or connector.

6. CHECK DOOR SWITCH

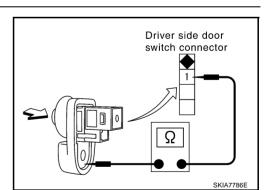
Check driver side door switch.

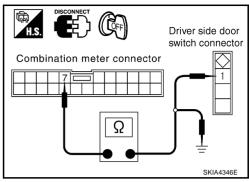
When driver side door: Continuity should exist.switch is releasedWhen driver side door: Continuity should not exist.

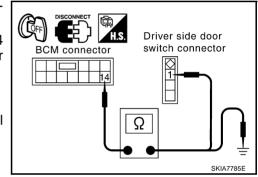
switch is pushed

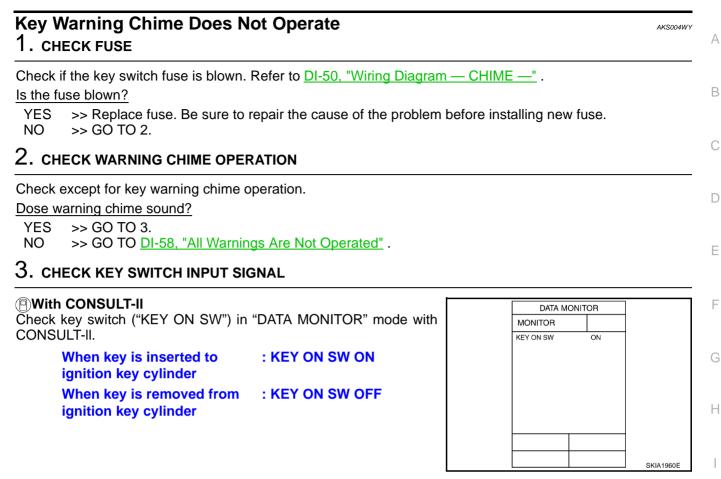
OK or NG

- OK >> Replace BCM.
- NG >> Replace driver side door switch.





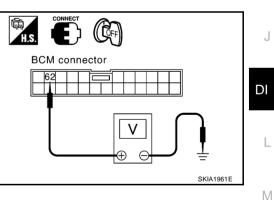




Without CONSULT-II

Check voltage between BCM and ground.

Terminals				
((+)		Condition	Voltage
Connector	Terminal (Wire color)	()		ge
M3	62 (B/P)	Ground	Key is inserted	Battery voltage
CIVI	02 (D/F)	Ground	Key is removed	0V



OK or NG

OK >> Key switch is OK. NG >> GO TO 4.

4. CHECK KEY SWITCH (INSERT)

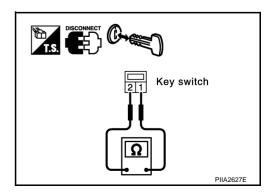
- 1. Disconnect key switch connector.
- 2. Check continuity between key switch terminal 1 and 2.

Terr	ninal	Condition	Continuity
1 2	Key is inserted	Yes	
	Key is removed	No	

OK or NG

OK >> GO TO 5.

NG >> Replace the key switch.



5. CHECK CONTINUITY BCM AND KEY SWITCH

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

Continuity should exist.

3. Check harness continuity between BCM harness connector M3 terminal 62 (B/P) and ground.

Continuity should not exist.

OK or NG

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

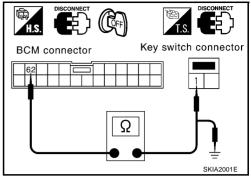
6. CHECK KEY SWITCH INPUT SIGNAL

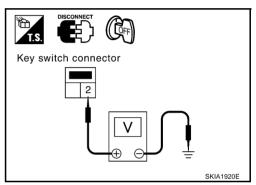
Check voltage between key switch harness connector M25 terminal 2 (L/W) and ground.

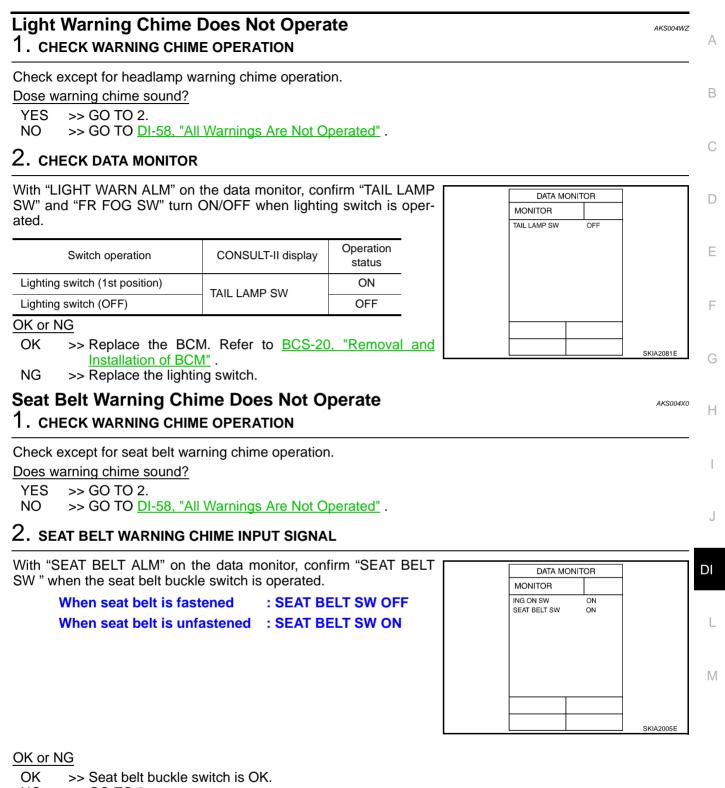
Battery voltage should exist.

OK or NG

- OK >> Replace the BCM. Refer to <u>BCS-20, "Removal and</u> <u>Installation of BCM"</u>.
- NG >> Check continuity open or short between key switch and fuse.







NG >> GO TO 3.

$\overline{\mathbf{3.}}$ combination meter input signal

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

Terminals				
(+)		Condition	Voltage [V]
Connec- tor	Terminal	()		
M19 1 (BR)	Ground	Seat belt is fastened	Battery voltage	
		Seat belt is unfastened	0	

OK or NG

OK >> Replace the combination meter.

NG >> GO TO 4.

4. SEAT BELT BUCKLE SWITCH CHECK

- 1. Disconnect seat belt buckle switch (driver side) connector
- 2. Check continuity seat belt buckle switch (driver side) terminals 1 and 2.

Terr	ninal	Condition	Continuity
1 2	Seat belt is fastened	No	
	Seat belt is unfastened	Yes	

Disconnect Seat belt buckle switch (Driver side) connector

OK or NG

OK >> GO TO 5. NG >> Replace th

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

5. CHECK SEAT BELT BUCKLE SWITCH CIRCUIT

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

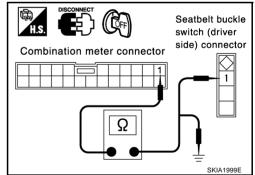
Continuity should exist.

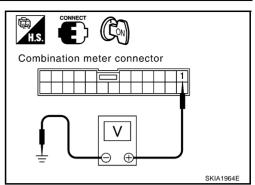
3. Check harness continuity between combination meter harness connector M19 terminal 1 (BR) and ground.

Continuity should not exist.

OK or NG

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





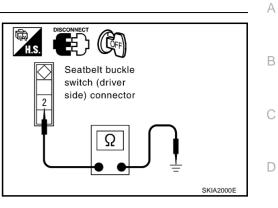
6. CHECK SEAT BELT BUCKLE SWITCH GROUND CIRCUIT

- 1. Disconnect BCM connector.
- 2. Check harness continuity between seat belt buckle switch (driver side) harness connector B8 terminal 2 (B/R) and ground.

Continuity should exist.

OK or NG

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



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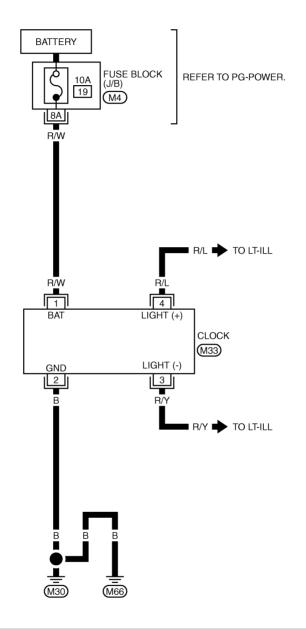
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CLOCK Wiring Diagram — CLOCK —

PFP:25820

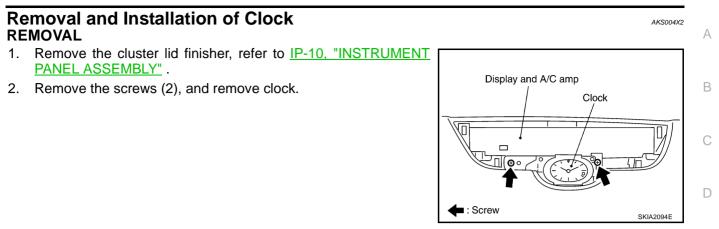
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DI-CLOCK-01



4321 (M33) W REFER TO THE FOLLOWING. (M4) -FUSE BLOCK-JUNCTION BOX (J/B)

TKWT0345E



INSTALLATION

Install in the reverse order of removal.

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