SECTION WCS
WARNING CHIME SYSTEM

CONTENTS

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000005256286

DETAILED FLOW

1.OBTAIN INFORMATION ABOUT SYMPTOM

Interview the customer to obtain as much information as possible about the conditions and environment under which the malfunction occurred.

>> GO TO 2

2.CHECK SYMPTOM

- Check the symptom based on the information obtained from the customer.
- Check to see if any other malfunctions are present.

>> GO TO 3

3.CHECK CONSULT-III SELF-DIAGNOSIS RESULTS

Connect CONSULT-III and perform “SELF-DIAGNOSIS”. Refer to MWI-24, "CONSULT-III Function (METER/M&A)".

Are self-diagnosis results normal?

YES >> GO TO 4
NO >> Repair or replace the malfunctioning parts, GO TO 5

4.NARROW DOWN MALFUNCTIONING PARTS THROUGH SYMPTOM DIAGNOSIS

Perform symptom diagnosis and repair or replace the identified malfunctioning parts.

>> GO TO 5

5.FINAL CHECK

Check that the warning buzzer in the combination meter operates normally.

Does it operate normally?

YES >> Inspection End.
NO >> GO TO 1

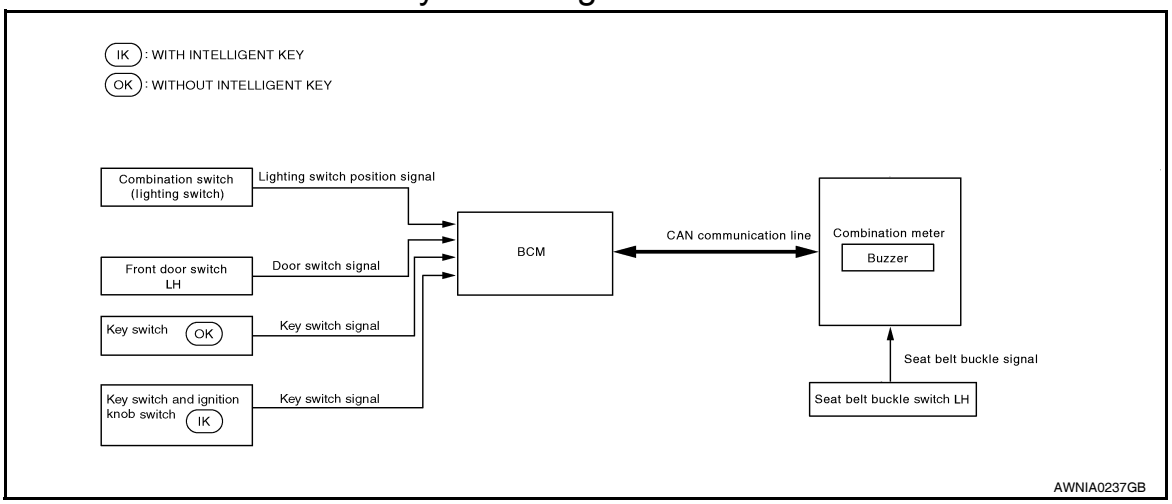
FUNCTION DIAGNOSIS

WARNING CHIME SYSTEM

WARNING CHIME SYSTEM

WARNING CHIME SYSTEM : System Diagram

INFOID:0000000005256287



WARNING CHIME SYSTEM : System Description

INFOID:0000000005256288

COMBINATION METER

- The buzzer for warning chime system is installed in the combination meter.
- The buzzer sounds when the combination meter receives a buzzer output signal from each unit.

BCM

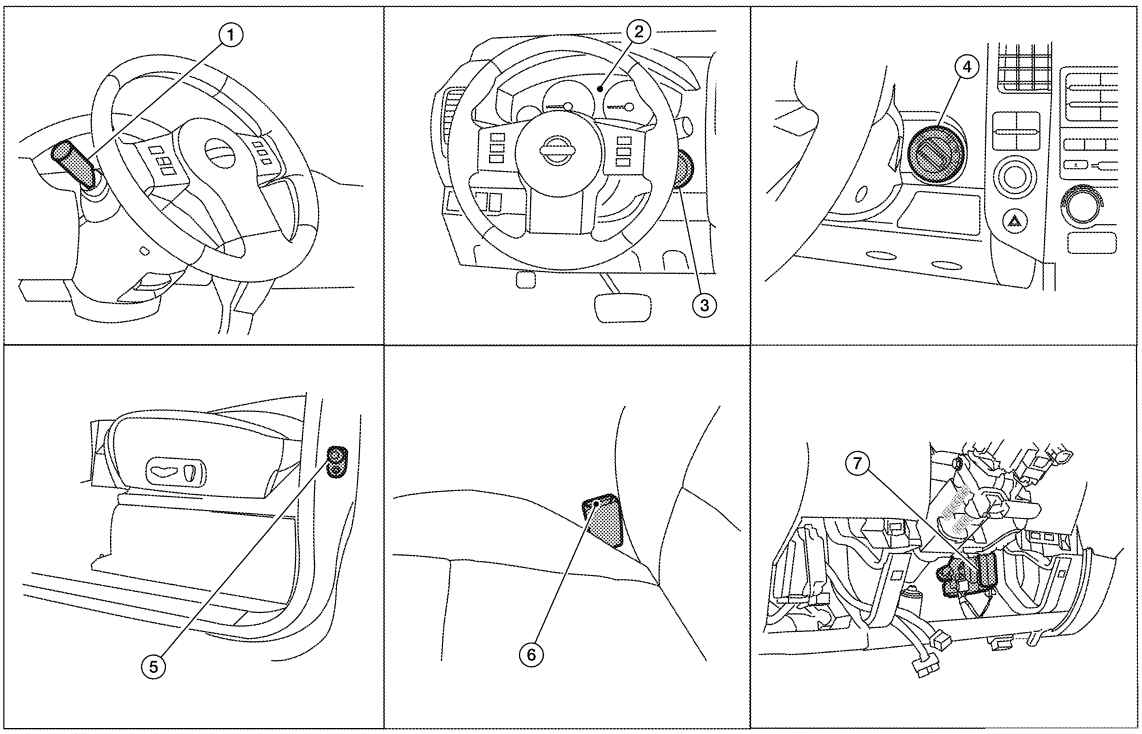
BCM receives signals from various units and transmits a buzzer output signal to the combination meter with CAN communication line if it judges that the warning buzzer should be activated.

BCM warning function list

Warning functions	Signal name
Light reminder warning chime	• Lighting switch position signal • Door switch signal
Seat belt warning chime	Seat belt buckle switch signal
Key warning chime	• Key switch signal • Door switch signal

WARNING CHIME SYSTEM : Component Parts Location

INFOID:0000000005256289



AWNIA0238ZZ

1. Combination switch (lighting switch) M28
2. Combination meter M24
3. Key switch M27 (without Intelligent Key)
4. Key switch and ignition knob switch M66 (with Intelligent Key)
5. Front door switch LH B8
6. Seat belt buckle switch LH B12
7. BCM M18, M19, M20 (view with instrument lower panel LH removed)

WARNING CHIME SYSTEM : Component Description

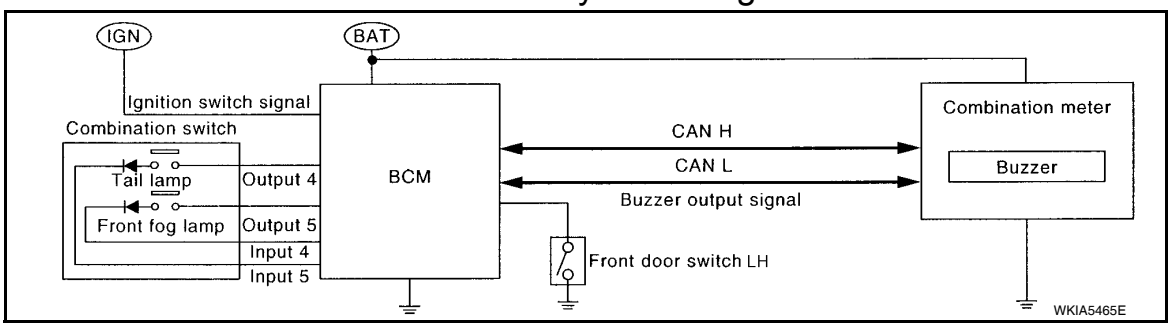
INFOID:0000000005256290

Unit	Description
Combination meter	• Receives the seat belt buckle switch signal from the seat belt buckle switch LH and transmits it to BCM with CAN communication line. • Receives a buzzer output signal from BCM with CAN communication line.
BCM	Transmits signals provided by various units to the combination meter with CAN communication line.
Key switch and ignition knob switch (with Intelligent Key)	Transmits key switch signal to BCM.
Key switch (without Intelligent Key)	Transmits key switch signal to BCM.
Seat belt buckle switch LH	Transmits a seat belt buckle switch signal to the combination meter.
Combination switch (Lighting switch)	Transmits the lighting switch position signal to BCM.
Front door switch LH	Transmits the door switch signal to BCM.

LIGHT REMINDER WARNING CHIME

LIGHT REMINDER WARNING CHIME : System Diagram

INFOID:0000000005256291



LIGHT REMINDER WARNING CHIME : System Description

INFOID:0000000005256292

DESCRIPTION

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

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

WARNING OPERATION CONDITIONS

If all of the following conditions are fulfilled

- Lighting switch is at 1st or 2nd position
- Ignition switch is at OFF or ACC
- Front door switch LH is ON

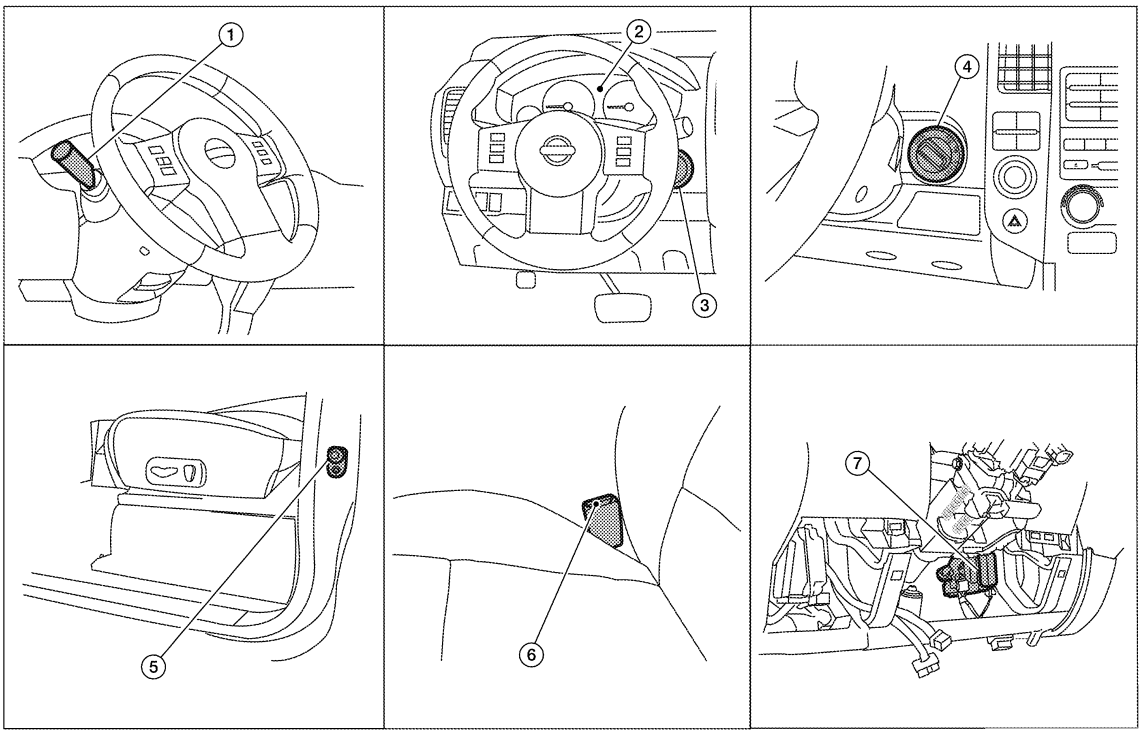
WARNING CANCEL CONDITIONS

Warning is canceled if any of the following conditions is fulfilled.

- Lighting switch OFF
- Ignition switch ON
- Front door switch LH is OFF

LIGHT REMINDER WARNING CHIME : Component Parts Location

INFOID:0000000005256293



AWNIA0238ZZ

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6. Seat belt buckle switch LH B12
7. BCM M18, M19, M20 (view with instrument lower panel LH removed)

LIGHT REMINDER WARNING CHIME : Component Description

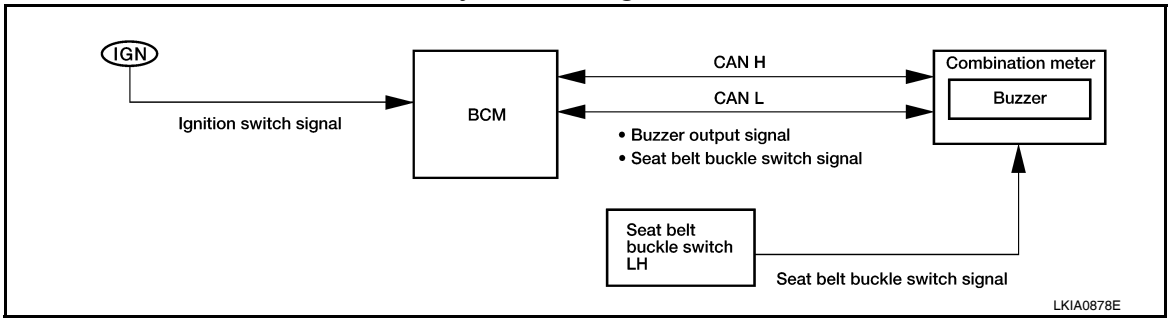
INFOID:0000000005256294

Unit	Description
Combination meter	Receives a buzzer output signal from BCM via CAN communication line and sounds the buzzer.
BCM	Judges the light warning conditions from the signals provided by various switches and transmits a buzzer output signal to the combination meter via CAN communication line if necessary.
Combination switch (Lighting switch)	Transmits the lighting switch position signal to BCM.
Front door switch LH	Transmits the door switch signal to BCM.

SEAT BELT WARNING CHIME

SEAT BELT WARNING CHIME : System Diagram

INFOID:0000000005256295



SEAT BELT WARNING CHIME : System Description

INFOID:0000000005256296

DESCRIPTION

With ignition switch turned ON and driver seat belt unfastened, seat belt warning chime will sound for approximately 6 seconds.

- BCM receives seat belt buckle switch signal from combination meter with CAN communication line.
- BCM detects ignition switch turned ON and seat belt buckle switch LH ON. And then transmits buzzer output signal (seat belt warning chime) to combination meter with CAN communication line.
- When combination meter receives buzzer output signal (seat belt warning chime), it sounds the buzzer.

WARNING OPERATION CONDITIONS

If all of the following conditions are fulfilled

- Ignition switch OFF→ON
- Seat belt buckle switch LH is ON (driver seat belt not fastened)

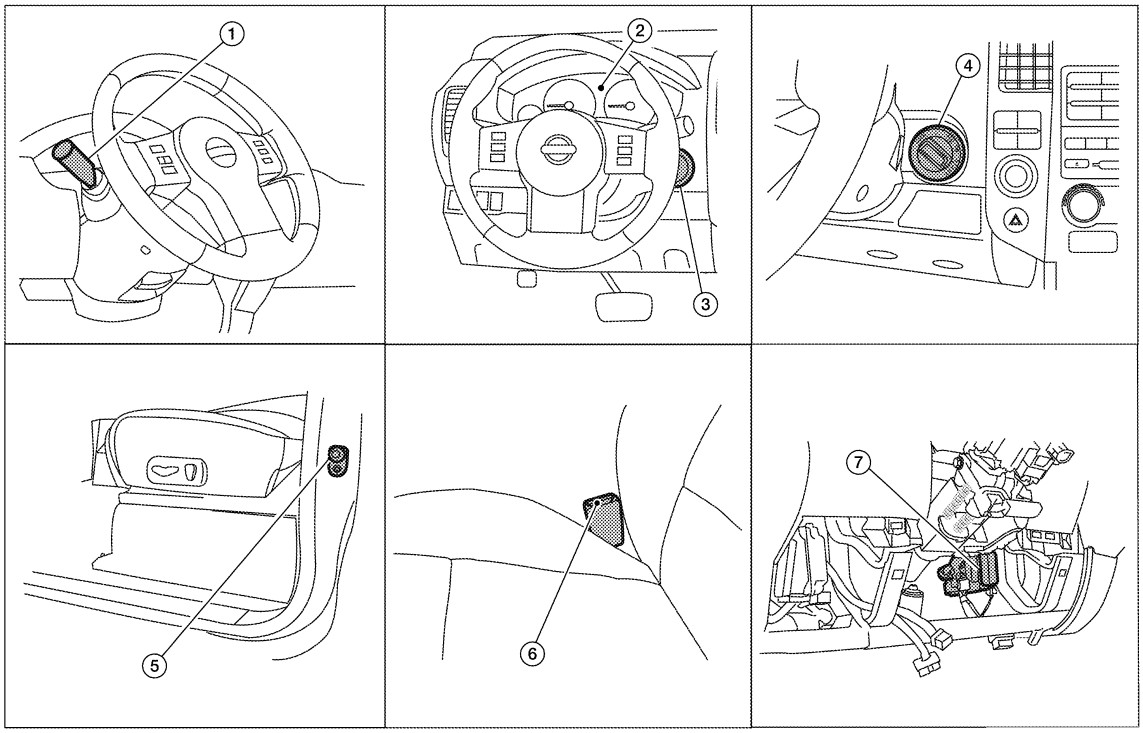
WARNING CANCEL CONDITIONS

Cancels the warning if any of the following conditions is fulfilled.

- Ignition switch OFF
- Seat belt buckle switch LH is OFF (driver seat belt fastened)

SEAT BELT WARNING CHIME : Component Parts Location

INFOID:0000000005256297



AWNIA0238ZZ

1. Combination switch (lighting switch) M28
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4. Key switch and ignition knob switch M66 (with Intelligent Key)
5. Front door switch LH B8
6. Seat belt buckle switch LH B12
7. BCM M18, M19, M20 (view with instrument lower panel LH removed)

SEAT BELT WARNING CHIME : Component Description

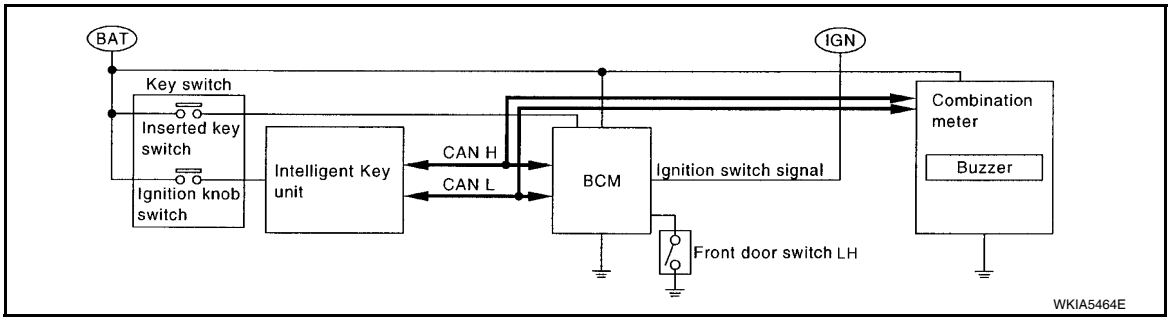
INFOID:0000000005256298

Unit	Description
Combination meter	• Receives the seat belt buckle switch signal from the seat belt buckle switch and transmits it to BCM via CAN communication line. • Receives a buzzer output signal from BCM via CAN communication line and sounds the buzzer.
BCM	Judges the seat belt warning condition from the seat belt buckle switch signal received from the combination meter and transmits a buzzer output signal to the combination meter via CAN communication line if necessary.
Seat belt buckle switch LH	Transmits seat belt buckle switch signal to combination meter.

KEY WARNING CHIME (WITH INTELLIGENT KEY)

KEY WARNING CHIME (WITH INTELLIGENT KEY) : System Diagram

INFOID:0000000005256299



KEY WARNING CHIME (WITH INTELLIGENT KEY) : System Description

INFOID:0000000005256300

WHEN MECHANICAL KEY IS USED

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

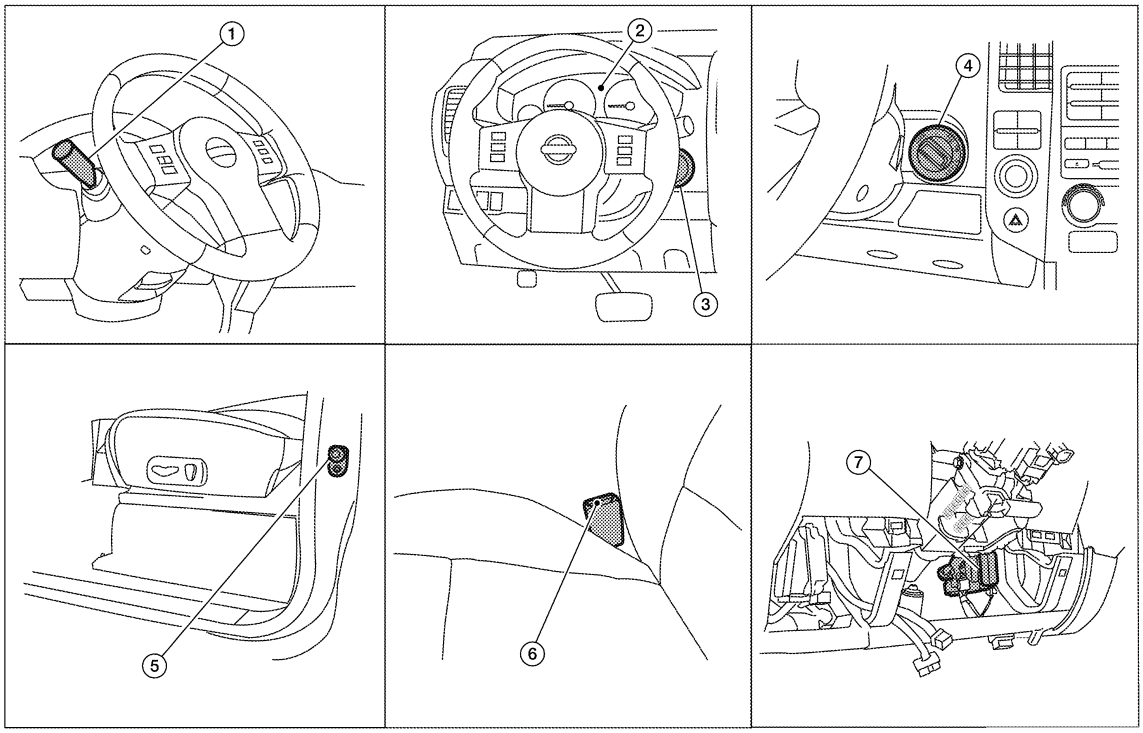
- BCM detects key inserted into the ignition switch, and sends key warning signal to combination meter with CAN communication line.
- When combination meter receives key warning signal, it sounds the warning chime.

WHEN INTELLIGENT KEY IS CARRIED WITH THE DRIVER

Refer to DLK-7, "Work Flow".

KEY WARNING CHIME (WITH INTELLIGENT KEY) : Component Parts Location

INFOID:0000000005256301



AWNIA0238ZZ

1. Combination switch (lighting switch) M28
2. Combination meter M24
3. Key switch M27 (without Intelligent Key)
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5. Front door switch LH B8
6. Seat belt buckle switch LH B12
7. BCM M18, M19, M20 (view with instrument lower panel LH removed)

KEY WARNING CHIME (WITH INTELLIGENT KEY) : Component Description

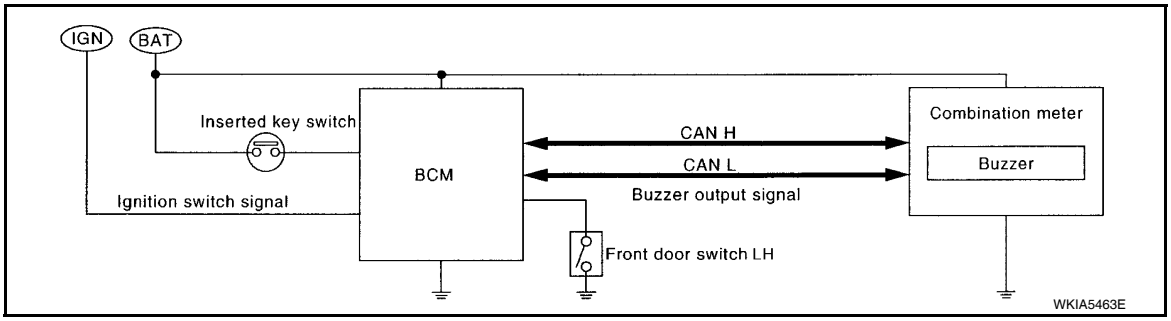
INFOID:0000000005256302

Unit	Description
Combination meter	Receives key warning signal from BCM via CAN communication line and sounds the buzzer.
BCM	Judges the key warning condition using the door switch signal received from the front door switch LH, and the key switch signal received from the key switch and ignition knob switch. It then transmits a buzzer output signal to the combination meter via CAN communication line if necessary.
Front door switch LH	Transmits door switch signal to BCM.
Key switch and ignition knob switch	Transmits key switch signal to BCM.

KEY WARNING CHIME (WITHOUT INTELLIGENT KEY)

KEY WARNING CHIME (WITHOUT INTELLIGENT KEY) : System Diagram

INFOID:0000000005256303



KEY WARNING CHIME (WITHOUT INTELLIGENT KEY) : System Description

INFOID:0000000005256304

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

- BCM detects key inserted into the ignition switch, and sends key warning signal to combination meter with CAN communication line.
- When combination meter receives key warning signal, it sounds warning chime.

KEY WARNING CHIME (WITHOUT INTELLIGENT KEY) : System Description

INFOID:0000000005256305

COMBINATION METER

- The buzzer for warning chime system is installed in the combination meter.
- The buzzer sounds when the combination meter receives a buzzer output signal from each unit.

BCM

BCM receives signals from various units and transmits a buzzer output signal to the combination meter with CAN communication line if it judges that the warning buzzer should be activated.

BCM warning function list

Warning functions	Signal name
Light reminder warning chime	• Lighting switch position signal • Door switch signal
Seat belt warning chime	Seat belt buckle switch signal
Key warning chime	• Key switch signal • Door switch signal

KEY WARNING CHIME (WITHOUT INTELLIGENT KEY) : Component Description

INFOID:0000000005256306

Unit	Description
Combination meter	Receives key warning signal from BCM via CAN communication line and sounds the buzzer.
BCM	Judges the key warning condition from the door switch signal received from the front door switch LH, and the key switch signal received from the key switch. It then transmits a buzzer output signal to the combination meter via CAN communication line if necessary.
Front door switch LH	Transmits door switch signal to BCM.
Key switch	Transmits key switch signal to BCM.

DIAGNOSIS SYSTEM (METER)

Diagnosis Description

INFOID:0000000005511852

SELF-DIAGNOSIS MODE

The following items can be checked during Combination Meter Self-Diagnosis Mode.

- Gauge sweep and present gauge values.
- Illuminates all odometer/trip meters and A/T indicator segments.
- Illuminates all micro controlled lamps/LEDs regardless of switch position.
- Displays estimated present battery voltage.
- Displays seat belt buckle switch LH status.

OPERATION PROCEDURE

NOTE:

- Once entered, combination meter self-diagnosis mode will function with the ignition switch in ON or START. Combination meter self-diagnosis mode will exit upon turning the ignition switch to OFF or ACC.
- If the diagnosis function is activated with trip A displayed, the mileage on trip A is reset to 0000.0. (Trip B operates the same way.)

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

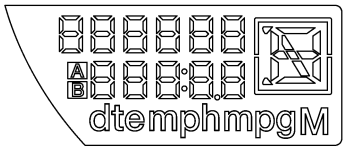
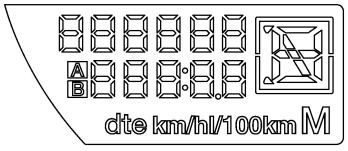
1. Turn the ignition switch ON, while pressing the odometer/trip meter switch for 5 - 8 seconds. When the diagnosis function is activated, the odometer/trip meter will display tESt.

NOTE:

Check combination meter power supply and ground circuit when self-diagnosis mode of combination meter does not start. Refer to MWI-29, "COMBINATION METER : Diagnosis Procedure". Replace combination meter if normal. Refer to MWI-96, "Removal and Installation".

COMBINATION METER SELF-DIAGNOSIS MODE FUNCTIONS

To interpret combination meter self-diagnosis mode functions, refer to the following table.

Event	Odometer Display	Description of Test/Data	Notes:
Odometer/trip meter A/B switch held from 5 to 8 seconds (or until released)	tESt		Initiating self-diagnosis mode
Switch released	GAGE	Performs sweep of all gauges, then displays present gauge values.	Gauges sweep within 10 seconds
Switch pressed	(All segments illuminated)	Lights all LCD segments. Compare with picture.	USA  AWNIA0219ZZ Canada  AWNIA0220ZZ
Switch pressed	bulb	Illuminates all micro-controlled lamps/LEDs.	Part may not be configured for all lamps (functions) that turn on during test. This is normal.
Switch pressed	r XXXX, FAIL	Return to normal operation of all lamps/LEDs and displays “r XXXX”.	If a malfunction exists, “FAIL” will flash.

Event	Odometer Display	Description of Test/Data	Notes:
Switch pressed	nrXXXX	Displays Hex ROM rev as stored in NVM.	
Switch pressed	EE XX, FAIL	Displays “EE XX”.	If a malfunction exists, “FAIL” will flash.
Switch pressed	dtXXXX	Hex coding of final manufacturing test date.	
Switch pressed (3 times)	Sc1 XX through Epr XX	Displays 8 bit software configuration value in Hex format	
Switch pressed	1nF XX	Displays 8-bit market info value in Hex format.	$31 = USA $2A = Canada
Switch pressed (3 times)	cYL XX through tF	N/A	
Switch pressed	ot1 XX	Displays oil pressure telltale “” in Hex format.	
Switch pressed	ot0 XX	Displays oil pressure telltale “” in Hex format.	
Switch pressed	XXXXX	“Corrected” speed value in hundredths of MPH. Gauge indication may be slightly higher. This is normal.	Will display “-----” if message is not received. Will display “99999” if data received is invalid.
Switch pressed	XXXXX	“Corrected” speed value in hundredths of KPH. Gauge indication may be slightly different. This is normal.	Will display “-----” if message is not received. Will display “99999” if data received is invalid.
Switch pressed	t XXXX	Tachometer value in RPM. Gauge indication may be higher at higher RPM. This is normal.	Will display “-----” if message is not received.
Switch pressed	F1XXXX	Present fuel level A/D input. This input represents fuel sender input.	000-009 = Short circuit 010-254 = Normal range 255 = Open circuit
Switch pressed	XXXC	Last temperature gauge input value in degrees C. Temperature gauge indicates present temperature per indication standard.	Will display “---”C if message is not received. Will display “999” if data received is invalid. High = 130 deg C Normal = 70 - 105 deg C Low = less than 50 deg C
Switch pressed	BAtXX.X	Estimated present battery voltage.	
Switch pressed	rES -X	Seat belt buckle switch LH status.	1= Buckled 0 = Unbuckled
Switch pressed (30 times)	PA -XX through PA1-XX	N/A	
Switch pressed	GAGE		Return to beginning of self-diagnosis cycle.

CONSULT-III Function (METER/M&A)

INFOID:0000000005484857

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

METER/M&A diagnosis mode	Description
SELF-DIAG RESULTS	Displays combination meter self-diagnosis results.
DATA MONITOR	Displays combination meter input/output data in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.

SELF-DIAG RESULTS

Display Item List
Refer to WCS-51, "DTC Index".

DATA MONITOR

Display Item List

X: Applicable

Display item [Unit]	MAIN SIGNALS	SELECTION FROM MENU	Description
SPEED METER [km/h] or [mph]	X	X	Displays the value of vehicle speed signal.
SPEED OUTPUT [km/h] or [mph]	X	X	Displays the value of vehicle speed signal, which is transmitted to each unit with CAN communication.
TACHO METER [rpm]	X	X	Displays the value of engine speed signal, which is input from ECM.
FUEL METER [lit.]	X	X	Displays the value, which processes a resistance signal from fuel gauge.
W TEMP METER [°C] or [°F]	X	X	Displays the value of engine coolant temperature signal, which is input from ECM.
ABS W/L [ON/OFF]		X	Displays [ON/OFF] condition of ABS warning lamp.
VDC/TCS IND [ON/OFF]		X	Displays [ON/OFF] condition of VDC OFF indicator lamp.
SLIP IND [ON/OFF]		X	Displays [ON/OFF] condition of SLIP indicator lamp.
BRAKE W/L [ON/OFF]		X	Displays [ON/OFF] condition of brake warning lamp.*
DOOR W/L [ON/OFF]		X	Displays [ON/OFF] condition of door ajar warning lamp.
HI-BEAM IND [ON/OFF]		X	Displays [ON/OFF] condition of high beam indicator.
TURN IND [ON/OFF]		X	Displays [ON/OFF] condition of turn indicator.
OIL W/L [ON/OFF]		X	Displays [ON/OFF] condition of oil pressure warning lamp.
C-ENG W/L [ON/OFF]		X	Displays [ON/OFF] condition of malfunction indicator lamp.
CRUISE IND [ON/OFF]		X	Displays [ON/OFF] condition of CRUISE indicator.
SET IND [ON/OFF]		X	Displays [ON/OFF] condition of SET indicator.
O/D OFF W/L [ON/OFF]		X	Displays [ON/OFF] condition of AT CHECK (with manual mode) or O/D OFF (without manual mode) warning lamp.
FUEL W/L [ON/OFF]	X	X	Displays [ON/OFF] condition of low-fuel warning lamp.
AIR PRES W/L [ON/OFF]		X	Displays [ON/OFF] condition of tire pressure warning lamp.
KEY G/Y W/L [ON/OFF]		X	Displays [ON/OFF] condition of key green warning lamp.
KEY R W/L [ON/OFF]		X	Displays [ON/OFF] condition of key red warning lamp.
KEY KNOB W/L [ON/OFF]		X	Displays [ON/OFF] condition of key knob warning lamp.
M RANGE SW [ON/OFF]	X	X	Displays [ON/OFF] condition of manual mode range switch.
NM RANGE SW [ON/OFF]	X	X	Displays [ON/OFF] condition of except for manual mode range switch.
AT SFT UP SW [ON/OFF]	X	X	Displays [ON/OFF] condition of A/T shift-up switch.
AT SFT DWN SW [ON/OFF]	X	X	Displays [ON/OFF] condition of A/T shift-down switch.
DISTANCE [km] or [mile]	X	X	Displays the value, which is calculated by vehicle speed signal, fuel gauge and fuel consumption from ECM.
BUZZER [ON/OFF]	X	X	Displays [ON/OFF] condition of buzzer.
BRAKE SW [ON/OFF]		X	Indicates [ON/OFF] condition of parking brake switch.

Display item [Unit]	MAIN SIGNALS	SELECTION FROM MENU	Description
AT-M IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T manual mode indicator.
AT-M GEAR [1, 2, 3, 4]	X	X	Indicates [1, 2, 3, 4] condition of A/T manual mode gear position.
P RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift P range indicator.
R RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift R range indicator.
N RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift N range indicator.
D RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift D range indicator.
4 RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift 4 range indicator.
3 RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift 3 range indicator.
2 RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift 2 range indicator.
1 RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift 1range indicator.
4WD LOCK SW [ON/OFF]		X	Indicates [ON/OFF] condition of 4WD lock switch.
4WD LOCK IND [ON/OFF]		X	Indicates [ON/OFF] condition of 4WD lock indicator.
SEAT BELT W/L [ON/OFF]		X	Indicates [ON/OFF] condition of seat belt warning lamp.
O/D OFF SWITCH [ON/OFF]		X	Indicates [ON/OFF] condition of O/D OFF switch.

NOTE:

Some items are not available due to vehicle specification.

*: The monitor will indicate “OFF” even though the brake warning lamp is on if either of the following conditions exist.

- The parking brake is engaged
- The brake fluid level is low

DIAGNOSIS SYSTEM (BCM)
BUZZER
BUZZER : CONSULT-III Function (BCM - BUZZER)

INFOID:0000000005484858

DATA MONITOR

Monitor Item [Unit]	Description
DOOR SW -DR [ON/OFF]	Front door switch (driver side) status judged by BCM
IGN ON SW [ON/OFF]	Ignition switch (ON) status judged by ignition power supply input
KEY ON SW [ON/OFF]	Key switch status
LIGHT SW 1ST [ON/OFF]	Lighting switch status judged by the lighting switch signal read with combination switch reading function
BUCKLE SW [ON/OFF]	Seat belt buckle switch status

ACTIVE TEST

Test Item	Description
SEAT BELT WARN TEST	The seat belt warning operation can be checked by operating the relevant function (On/Off).
LIGHT WARN ALM	The light reminder warning operation can be checked by operating the relevant function (On/Off).
IGN KEY WARN ALM	The key reminder warning operation can be checked by operating the relevant function (On/Off).

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT
COMBINATION METER

COMBINATION METER : Diagnosis Procedure

INFOID:0000000005484859

Regarding Wiring Diagram information, refer to MWI-42, "Wiring Diagram".

1.CHECK FUSES

Check for blown combination meter fuses.

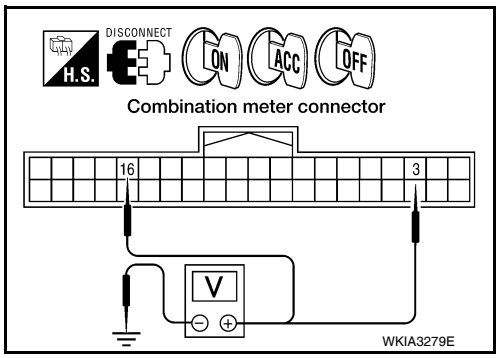
Unit	Power source	Fuse No.
Combination meter	Battery	19
	Ignition switch ON or START	14

Is the inspection result normal?

YES >> GO TO 2
NO >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse.

2.POWER SUPPLY CIRCUIT CHECK

1. Disconnect combination meter connector M24.
2. Check voltage between combination meter harness connector M24 terminals 3, 16 and ground.



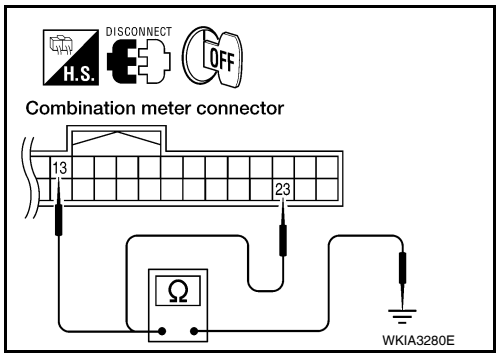
Terminals			Ignition switch position		
(+)		(–)	OFF	ACC	ON
Connector	Terminal				
M24	3	Ground	Battery voltage	Battery voltage	Battery voltage
	16		0V	0V	Battery voltage

Is the inspection result normal?

YES >> GO TO 3
NO >> Check harness for open between combination meter and fuse.

3.GROUND CIRCUIT CHECK

1. Turn ignition switch OFF.
2. Check continuity between combination meter harness connector M24 terminals 13, 23 and ground.



Terminals			Continuity
(+)		(–)	
Connector	Terminal		
M24	13	Ground	Yes
	23		

Is the inspection result normal?

YES >> Inspection End.
NO >> Check ground harness.

BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE) : Diagnosis Procedure

INFOID:0000000005484860

Regarding Wiring Diagram information, refer to BCS-50, "Wiring Diagram".

1. CHECK FUSES AND FUSIBLE LINK

Check that the following fuses and fusible link are not blown.

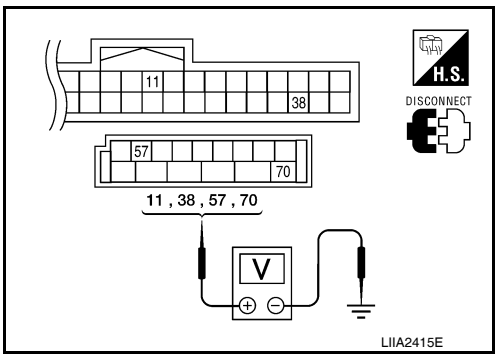
Terminal No.	Signal name	Fuses and fusible link No.
57	Battery power supply	18 (10A)
70		G (50A)
11	Ignition ACC or ON	4 (10A)
38	Ignition ON or START	1 (10A)

Is the fuse blown?

YES >> Replace the blown fuse or fusible link after repairing the affected circuit.
NO >> GO TO 2

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM.
3. Check voltage between BCM harness connector and ground.



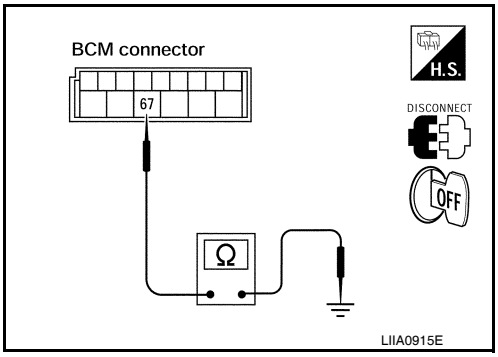
Connector	Terminals (+)	Terminals (-)	Power source	Condition	Voltage (V) (Approx.)
M18	11	Ground	ACC power supply	Ignition switch ACC or ON	Battery voltage
	38	Ground	Ignition power supply	Ignition switch ON or START	Battery voltage
M20	57	Ground	Battery power supply	Ignition switch OFF	Battery voltage
	70	Ground	Battery power supply	Ignition switch OFF	Battery voltage

Is the measurement value normal?

YES >> GO TO 3
NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.



BCM		Ground	Continuity
Connector	Terminal		
M20	67		Yes

Does continuity exist?

YES >> Inspection End.
NO >> Repair or replace harness.

METER BUZZER CIRCUIT

Description

INFOID:0000000005256312

- The buzzer for warning chime system is installed in the combination meter.
- The combination meter sounds the alarm buzzer based on the signals transmitted from various units.

Component Function Check

INFOID:0000000005256313

1.CHECK OPERATION OF METER BUZZER

1. Select “BUZZER” of “BCM” on CONSULT-III.
2. Perform “LIGHT WARN ALM” of “ACTIVE TEST”.

Does meter buzzer activate?

YES >> Inspection End.
NO >> Replace combination meter. Refer to MWI-96, "Removal and Installation".

Diagnosis Procedure

INFOID:0000000005256314

1.CHECK POWER SUPPLY OF COMBINATION METER

Check power supply of combination meter. Refer to MWI-29, "COMBINATION METER : Diagnosis Procedure".

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair power supply circuit of combination meter.

SEAT BELT BUCKLE SWITCH SIGNAL CIRCUIT

Description

INFOID:0000000005256315

Transmits a seat belt buckle switch signal to the combination meter.

Component Function Check

INFOID:0000000005256316

1.CHECK COMBINATION METER INPUT SIGNAL

Select “DATA MONITOR” for “METER/M&A” and check the “SEAT BELT W/L” monitor value.

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

>> Inspection End.

Diagnosis Procedure

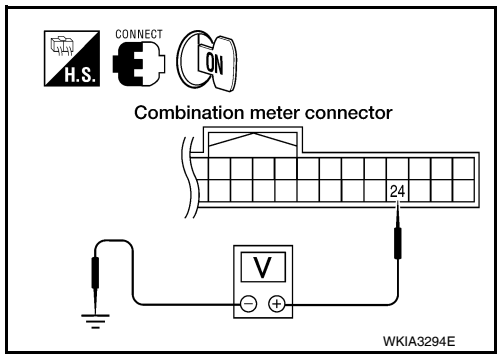
INFOID:0000000005256317

Regarding Wiring Diagram information, refer to WCS-26, "Wiring Diagram".

1.CHECK COMBINATION METER INPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between combination meter harness connector M24 terminal 24 and ground.

24 - Ground
When driver seat belt is fastened : Approx. 12V
When driver seat belt is unfastened : Approx. 0V



Is the inspection result normal?

YES >> Replace combination meter. Refer to MWI-96, "Removal and Installation".
NO >> GO TO 2

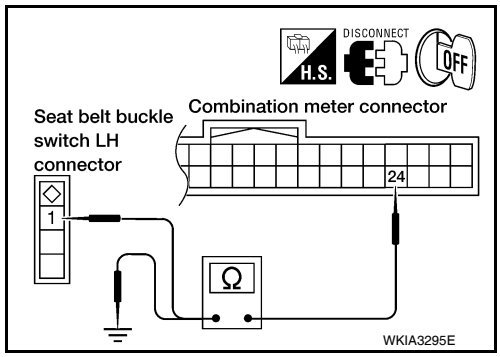
2.CHECK SEAT BELT BUCKLE SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter connector and seat belt buckle switch LH connector.
3. Check continuity between combination meter harness connector M24 terminal 24 and seat belt buckle switch LH harness connector B12 terminal 1.

24 - 1 : Continuity should exist.

4. Check continuity between combination meter harness connector M24 terminal 24 and ground.

24 - Ground : Continuity should not exist.



Is the inspection result normal?

YES >> GO TO 3
NO >> Repair harness or connector.

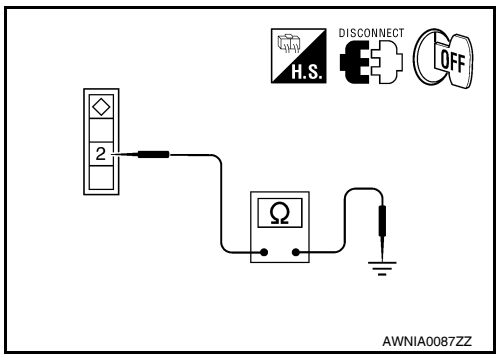
3.CHECK SEAT BELT BUCKLE SWITCH GROUND CIRCUIT

Check continuity between seat belt buckle switch LH harness connector B12 terminal 2 and ground.

2 - Ground : Continuity should exist.

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair harness or connector.



Component Inspection

INFOID:0000000005256318

1.CHECK SEAT BELT BUCKLE SWITCH

1. Turn ignition switch OFF.
2. Disconnect the seat belt buckle switch LH connector.
3. Check continuity between terminals 1 and 2.

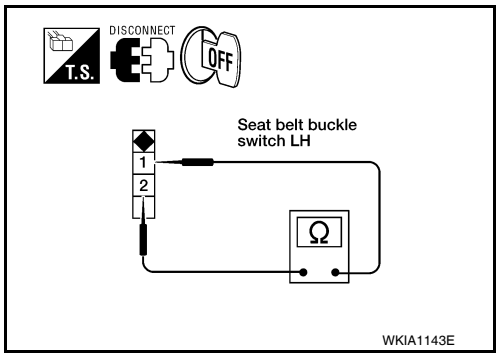
1– 2

When seat belt is fastened : Continuity should not exist.

When seat belt is unfastened : Continuity should exist.

Is the inspection result normal?

YES >> Inspection End.
NO >> Replace the seat belt buckle switch LH.



KEY SWITCH SIGNAL CIRCUIT (WITH INTELLIGENT KEY)

Description

INFOID:0000000005256319

Transmits a key switch signal to the BCM.

Component Function Check

INFOID:0000000005256320

1.CHECK BCM INPUT SIGNAL

Select “DATA MONITOR” for “BCM” and check the “KEY ON SW” monitor value.

KEY ON SW
When key is inserted into key cylinder : ON
When key is removed from key cylinder : OFF

>> Inspection End.

Diagnosis Procedure

INFOID:0000000005256321

Regarding Wiring Diagram information, refer to WCS-26, "Wiring Diagram".

1.CHECK FUSE

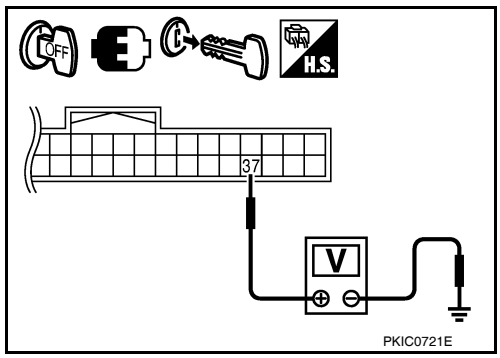
Check if the key switch and ignition knob switch 10A fuse (No. 31, located in the fuse and fusible link box) is blown.

Is the fuse blown?

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

2.CHECK BCM INPUT SIGNAL

Check voltage between BCM harness connector and ground.



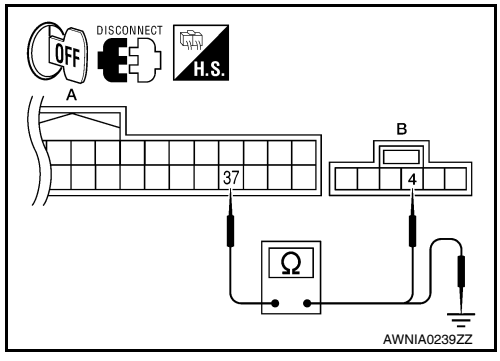
Terminals			Condition	Voltage (Approx.)
(+)		(−)		
BCM connector	Terminal			
M18	37	Ground	Key is inserted	Battery voltage
			Key is removed	0

Is the inspection result normal?

YES >> Inspection End.
NO >> GO TO 3

3.CHECK KEY SWITCH CIRCUIT

1. Disconnect BCM and key switch and ignition knob switch connectors.
2. Check continuity between BCM harness connector M18 (A) and key switch and ignition knob switch harness connector M66 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M18	37	M66	4	Yes

3. Check continuity between BCM harness connector M18 (A) and ground.

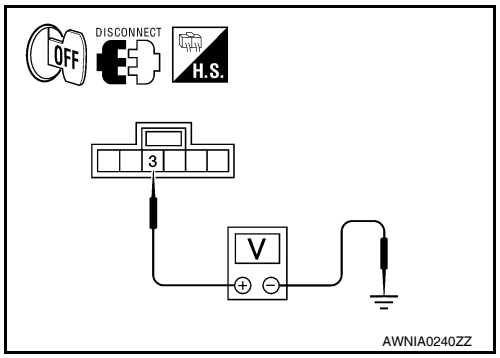
A		Ground	Continuity
Connector	Terminal		
M18	37		No

Is the inspection result normal?

YES >> GO TO 4
NO >> Repair harness or connector.

4. CHECK KEY SWITCH POWER SUPPLY CIRCUIT

Check voltage between key switch and ignition knob switch harness connector and ground.



Terminals			Voltage (Approx.)
(+)		(−)	
Key switch and ignition knob switch connector	Terminal		
M66	3	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace key switch and ignition knob switch.
NO >> Repair harness or connector.

Component Inspection

INFOID:0000000005256322

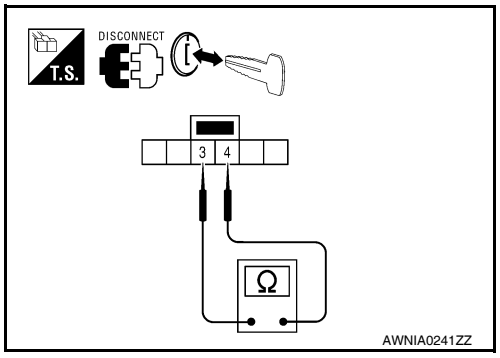
1. CHECK KEY SWITCH

1. Turn ignition switch OFF.
2. Disconnect key switch and ignition knob switch connector.
3. Check continuity between key switch and ignition knob switch terminals 3 and 4.

3 – 4

When key is inserted into key cylinder : Continuity should exist.

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



Is the inspection result normal?

YES >> Inspection End.
NO >> Replace key switch and ignition knob switch.

KEY SWITCH SIGNAL CIRCUIT (WITHOUT INTELLIGENT KEY)

Description

INFOID:0000000005256323

Transmits a key switch signal to the BCM.

Component Function Check

INFOID:0000000005256324

1.CHECK BCM INPUT SIGNAL

Select “DATA MONITOR” for “BCM” and check the “KEY ON SW” monitor value.

KEY ON SW
When key is inserted into key cylinder : ON
When key is removed from key cylinder : OFF

>> Inspection End.

Diagnosis Procedure

INFOID:0000000005256325

Regarding Wiring Diagram information, refer to WCS-26, "Wiring Diagram".

1.CHECK FUSE

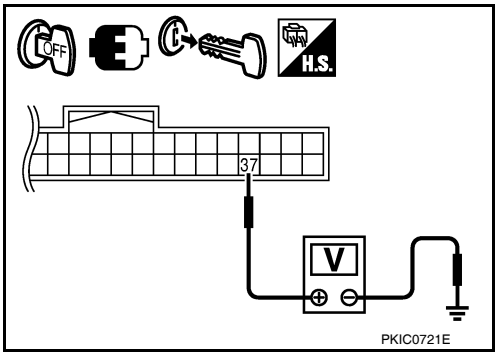
Check if the key switch 10A fuse (No. 25, located in the fuse and fusible link box) is blown.

Is the fuse blown?

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

2.CHECK BCM INPUT SIGNAL

Check voltage between BCM harness connector and ground.



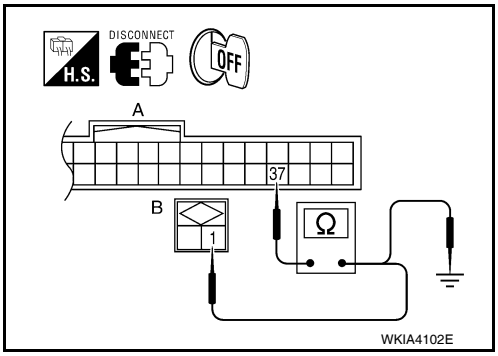
Terminals			Condition	Voltage (Approx.)
(+)		(−)		
BCM connector	Terminal			
M18	37	Ground	Key is inserted	Battery voltage
			Key is removed	0

Is the inspection result normal?

YES >> Inspection End.
NO >> GO TO 3

3.CHECK KEY SWITCH CIRCUIT

1. Disconnect BCM and key switch connectors.
2. Check continuity between BCM harness connector M18 (A) and key switch harness connector M27 (B).



A		B		Continuity
Connector	Terminal	Connector	Terminal	
M18	37	M27	1	Yes

3. Check continuity between BCM harness connector M18 (A) and ground.

A		Ground	Continuity
Connector	Terminal		
M18	37		No

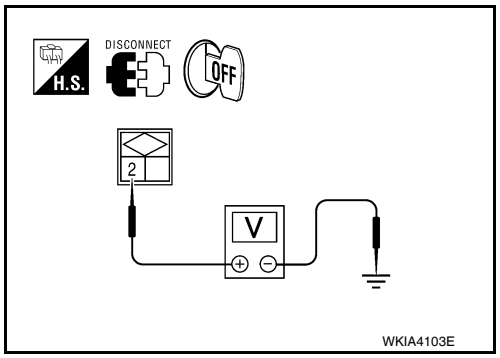
Is the inspection result normal?

YES >> GO TO 4
NO >> Repair harness or connector.

4. CHECK KEY SWITCH POWER SUPPLY CIRCUIT

Check voltage between key switch harness connector and ground.

Terminals			Voltage (Approx.)
(+)		(−)	
Key switch	Terminal		
M27	3	Ground	Battery voltage



Is the inspection result normal?

YES >> Replace key switch.
NO >> Repair harness or connector.

Component Inspection

INFOID:0000000005256326

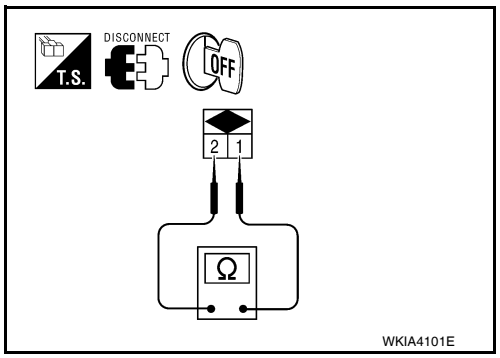
1. CHECK KEY SWITCH

1. Turn ignition switch OFF.
2. Disconnect key switch connector.
3. Check continuity between key switch terminals 1 and 2.

1 – 2

When key is inserted into key cylinder : Continuity should exist.

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



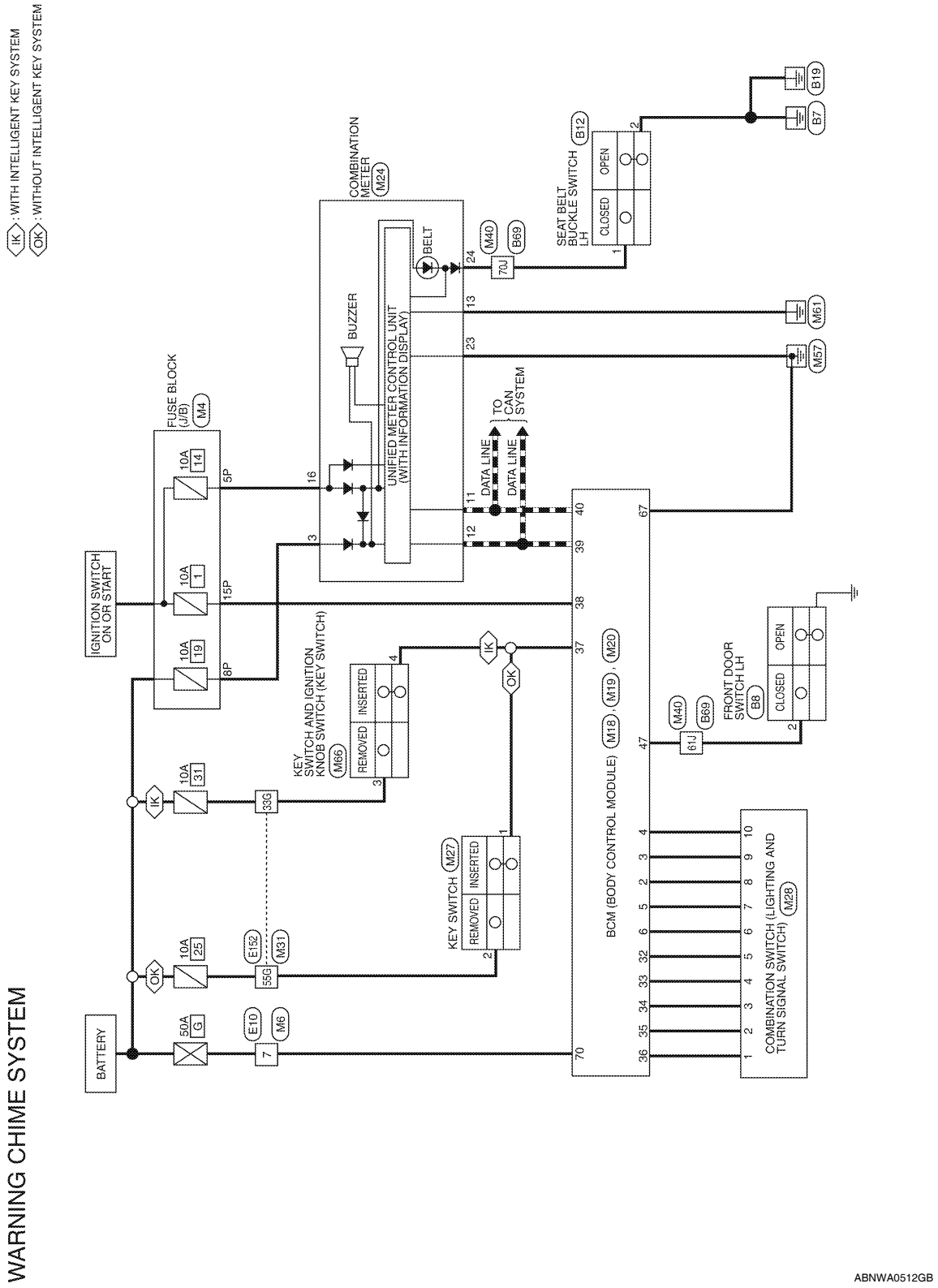
Is the inspection result normal?

YES >> Inspection End.
NO >> Replace key switch.

WARNING CHIME SYSTEM

Wiring Diagram

INFOID:0000000005256327



WARNING CHIME SYSTEM CONNECTORS

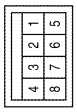
Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
5P	W/G	–
8P	R/Y	–
15P	W/R	–

Connector No.	M6
Connector Name	WIRE TO WIRE
Connector Color	WHITE

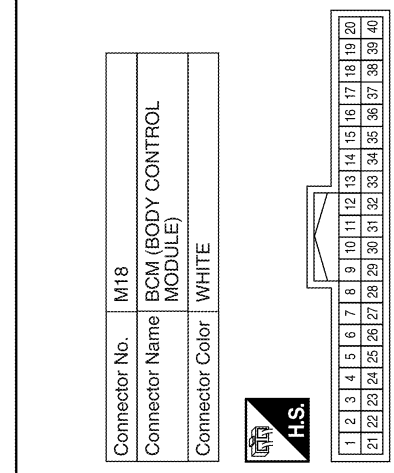
H.S.



Terminal No.	Color of Wire	Signal Name
7	W	–

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

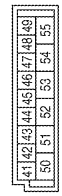
H.S.



Terminal No.	Color of Wire	Signal Name
2	P	INPUT 5
3	SB	INPUT 4
4	V	INPUT 3
5	L	INPUT 2
6	R	INPUT 1
32	O	OUTPUT 5
33	GR	OUTPUT 4
34	G	OUTPUT 3
35	BR	OUTPUT 2
36	LG	OUTPUT 1
37	B	KEY SW
38	W/R	IGN SW
39	L	CAN-H
40	P	CAN-L

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
47	GR	DOOR SW (DR)

ABNIA1558GB

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK

H.S.

56	57	58	59	60	61	62	63	64
65	66	67	68	69	70	71		

Terminal No.	Color of Wire	Signal Name
67	B	GND (POWER)
70	W	BAT (F/L)

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Terminal No.	Color of Wire	Signal Name
3	R/Y	BATTERY
11	P	CAN-L
12	L	CAN-H
13	GR	GROUND
16	W/G	RUN/START
23	B	POWER GND
24	V	BUCKLE (SEATBELT) SW

Connector No.	M27
Connector Name	KEY SWITCH
Connector Color	WHITE

H.S.

2	1

Terminal No.	Color of Wire	Signal Name
1	B	–
2	Y	–

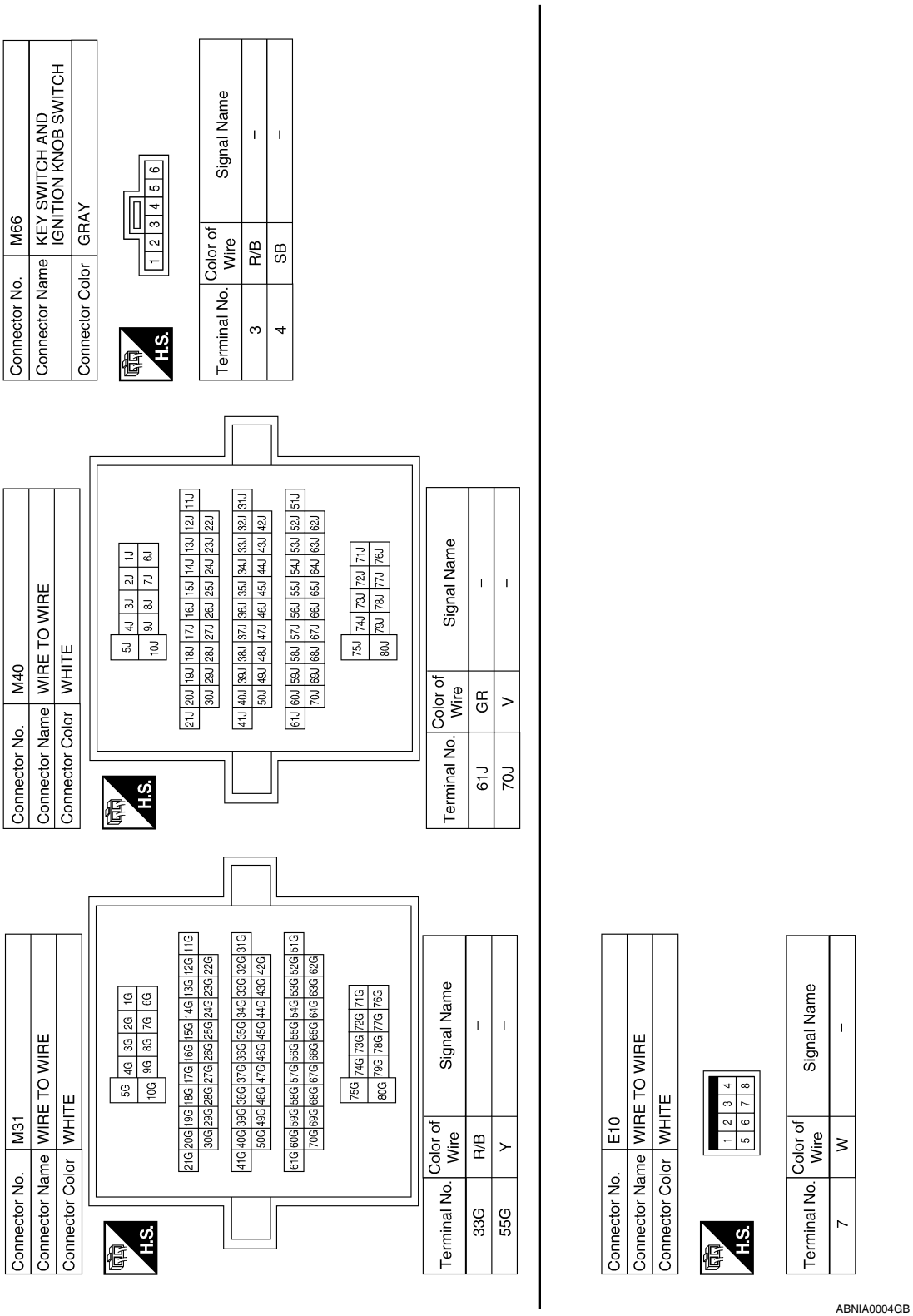
Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

H.S.

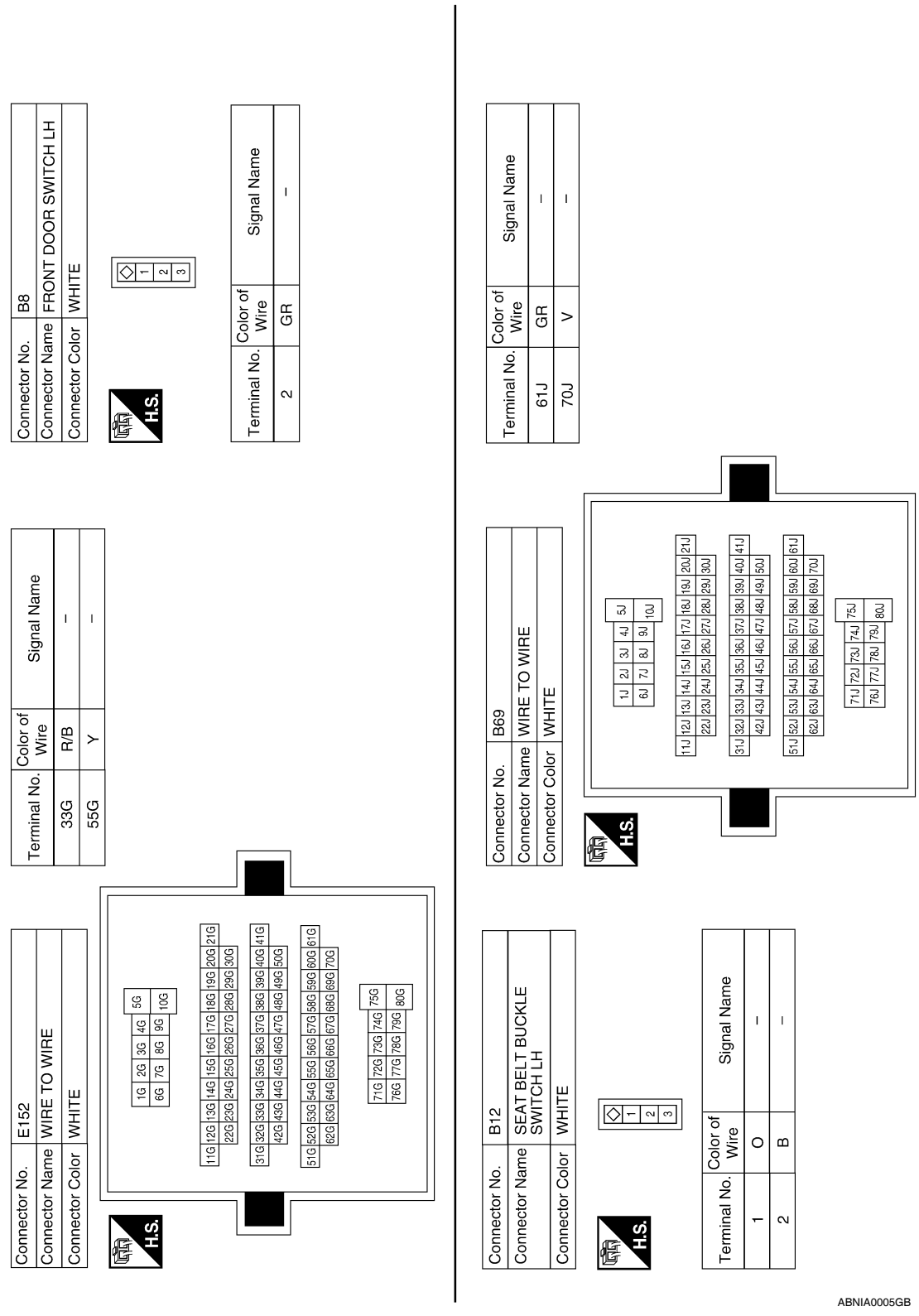
12	13		10				9	8	7
14	11		1	2	3	4	5	6	

Terminal No.	Color of Wire	Signal Name
1	LG	INPUT 1
2	BR	INPUT 2
3	G	INPUT 3
4	GR	INPUT 4
5	O	INPUT 5
6	R	OUTPUT 1
7	L	OUTPUT 2
8	P	OUTPUT 5
9	SB	OUTPUT 4
10	V	OUTPUT 3

ABNIA0003GB



ABNIA0004GB


Connector No. E152
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1G 2G 3G 4G 5G
6G 7G 8G 9G 10G
11G 12G 13G 14G 15G 16G 17G 18G 19G 20G 21G
22G 23G 24G 25G 26G 27G 28G 29G 30G
31G 32G 33G 34G 35G 36G 37G 38G 39G 40G 41G
42G 43G 44G 45G 46G 47G 48G 49G 50G
51G 52G 53G 54G 55G 56G 57G 58G 59G 60G 61G
62G 63G 64G 65G 66G 67G 68G 69G 70G
71G 72G 73G 74G 75G
76G 77G 78G 79G 80G
Terminal No. Color of Wire Signal Name
33G R/B –
55G Y –
Connector No. B8
Connector Name FRONT DOOR SWITCH LH
Connector Color WHITE
H.S.
1 2 3
Terminal No. Color of Wire Signal Name
2 GR –
Connector No. B69
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
1J 2J 3J 4J 5J
6J 7J 8J 9J 10J
11J 12J 13J 14J 15J 16J 17J 18J 19J 20J 21J
22J 23J 24J 25J 26J 27J 28J 29J 30J
31J 32J 33J 34J 35J 36J 37J 38J 39J 40J 41J
42J 43J 44J 45J 46J 47J 48J 49J 50J
51J 52J 53J 54J 55J 56J 57J 58J 59J 60J 61J
62J 63J 64J 65J 66J 67J 68J 69J 70J
71J 72J 73J 74J 75J
76J 77J 78J 79J 80J
Terminal No. Color of Wire Signal Name
61J GR –
70J V –
Connector No. B12
Connector Name SEAT BELT BUCKLE SWITCH LH
Connector Color WHITE
H.S.
1 2 3
Terminal No. Color of Wire Signal Name
1 O –
2 B –
ABNIA0005GB

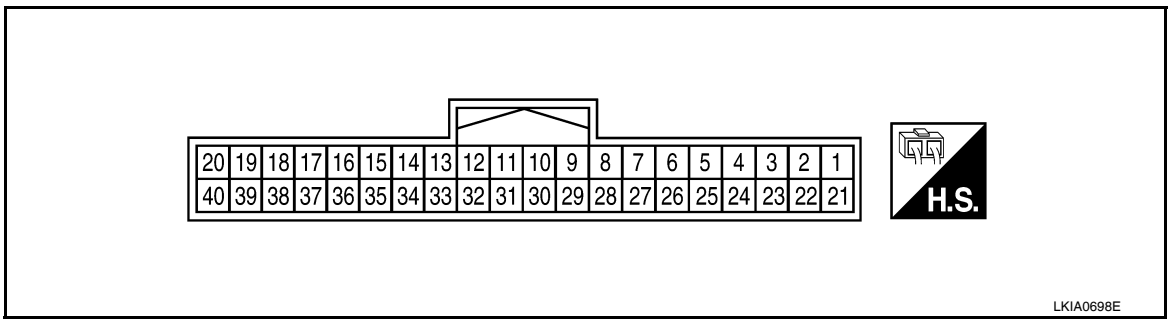
ECU DIAGNOSIS

COMBINATION METER

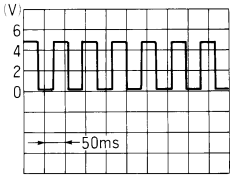
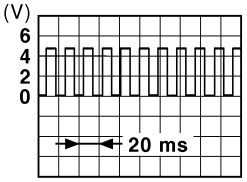
Reference Value

INFOID:0000000005484869

TERMINAL LAYOUT



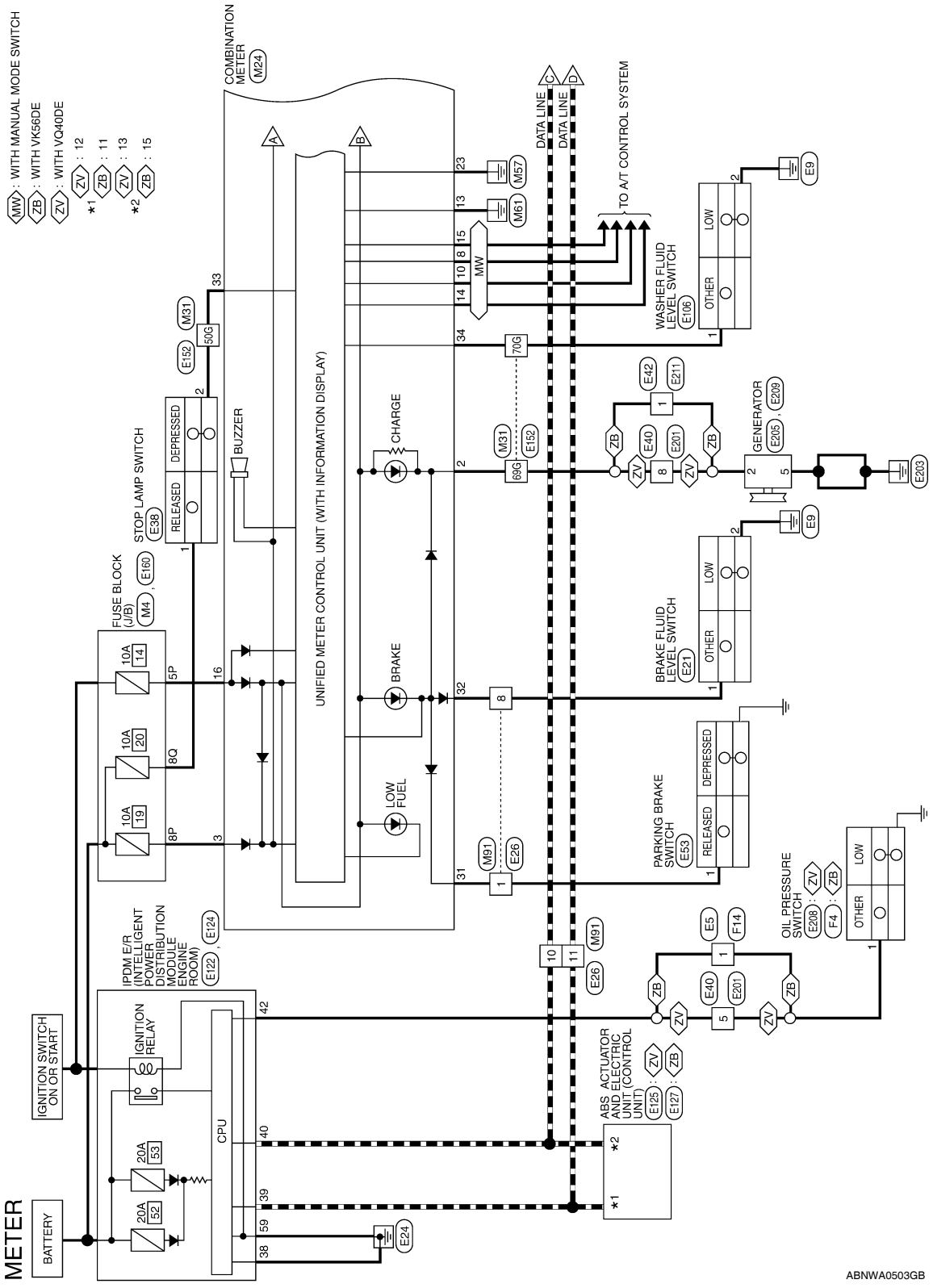
PHYSICAL VALUES

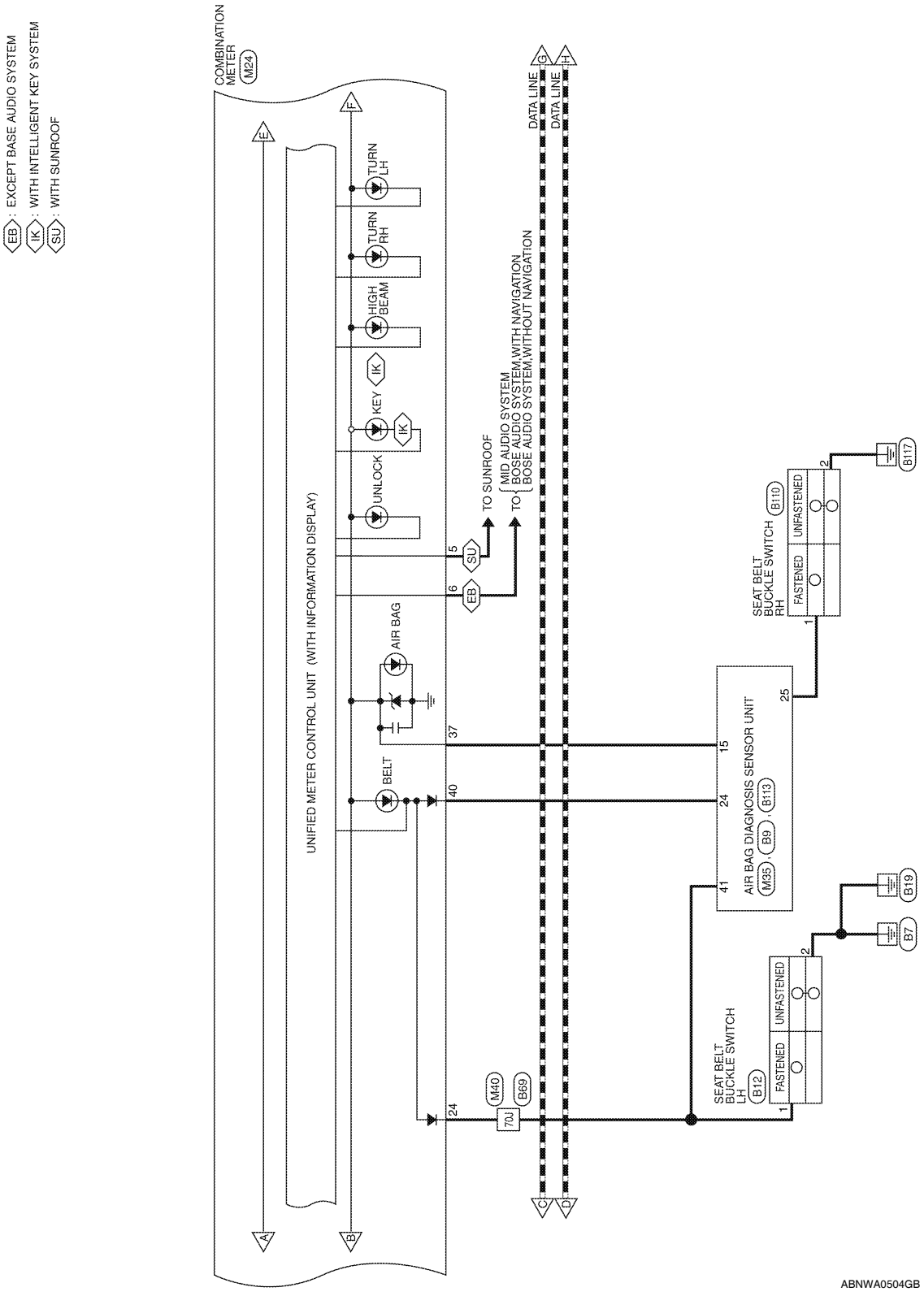
Terminal	Wire color	Item	Condition		Reference value (V) (Approx.)
			Ignition switch	Operation or condition	
2	P	Generator	ON	Generator voltage low	0
				Generator voltage normal	Battery voltage
3	R/Y	Battery power supply	—	—	Battery voltage
4	B/Y	Fuel level sensor ground	ON	—	0
5	W	Vehicle speed signal output	ON	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	 ELF1080D
6	LG	Vehicle speed signal output (8-pulse)	ON	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	**NOTE:** Maximum voltage may be 12V due to specifications (connected units).  PKIC0643E
9	BR	Fuel level sensor signal	—	—	Refer to MWI-11, "FUEL GAUGE : System Description".
11	P	CAN-L	—	—	—
12	L	CAN-H	—	—	—
13	GR	Ground	—	—	0
16	W/G	Ignition switch ON or START	ON	—	Battery voltage
22	BR	Illumination control switch	—	—	Refer to INL-9, "System Description".
23	B	Ground	—	—	0

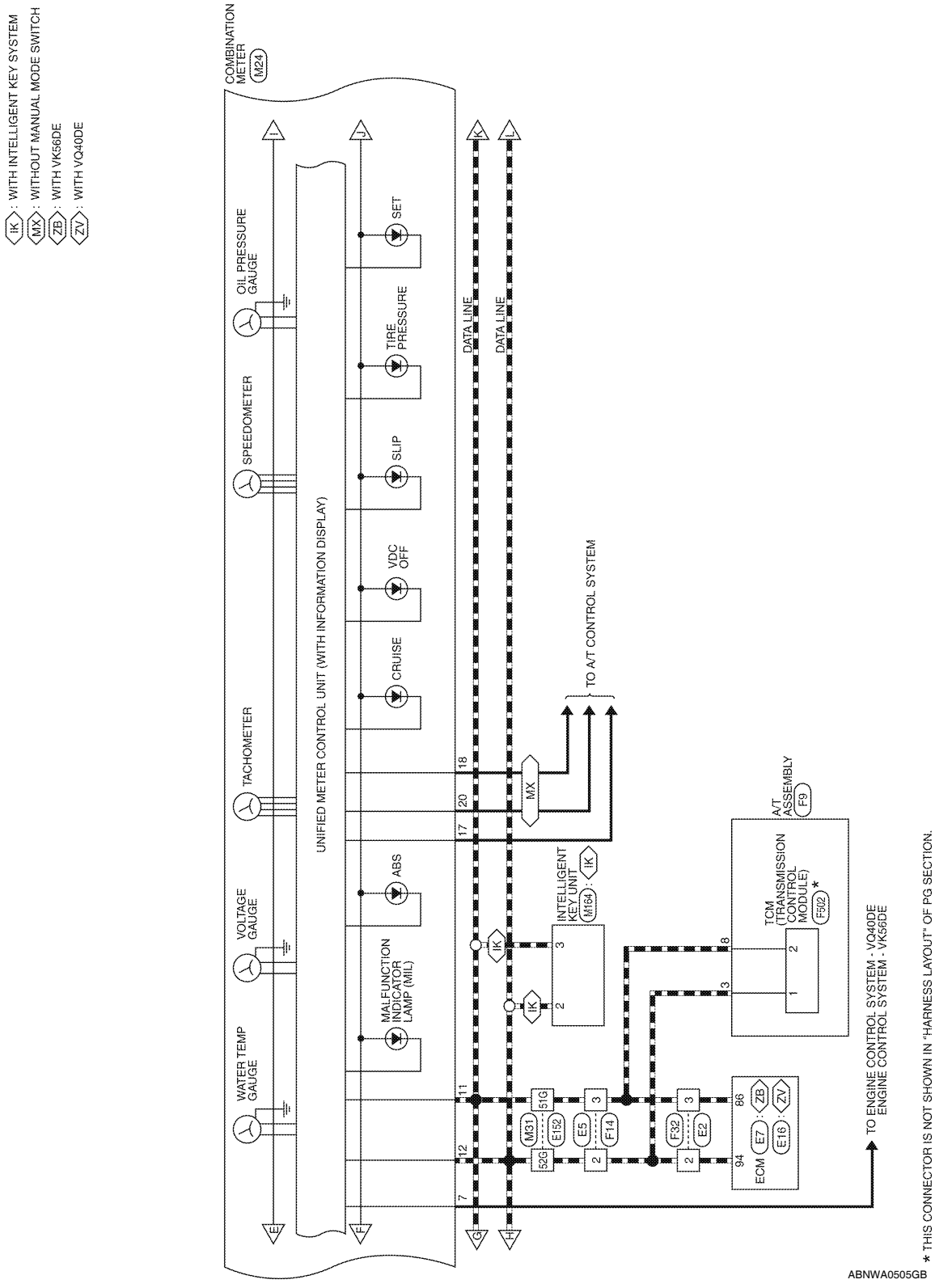
Terminal	Wire color	Item	Condition		Reference value (V) (Approx.)
			Ignition switch	Operation or condition	
24	V	Seat belt buckle switch LH	ON	Unfastened (ON)	0
				Fastened (OFF)	Battery voltage
31	G	Parking brake switch	ON	Parking brake depressed	0
				Parking brake released	Battery voltage
32	SB	Brake fluid level switch	ON	Brake fluid level low	0
				Brake fluid level normal	Battery voltage
34	L	Washer fluid level switch	ON	Washer fluid level low	0
				Washer fluid level normal	Battery voltage
37	SB	Air bag warning lamp input	ON	Air bag warning lamp ON	4
				Air bag warning lamp OFF	0
39	G	Security indicator input	OFF	Security indicator ON	0
				Security indicator OFF	Battery voltage
40	LG	Seat belt buckle switch RH	ON	Unfastened (ON)	0
				Fastened (OFF)	Battery voltage

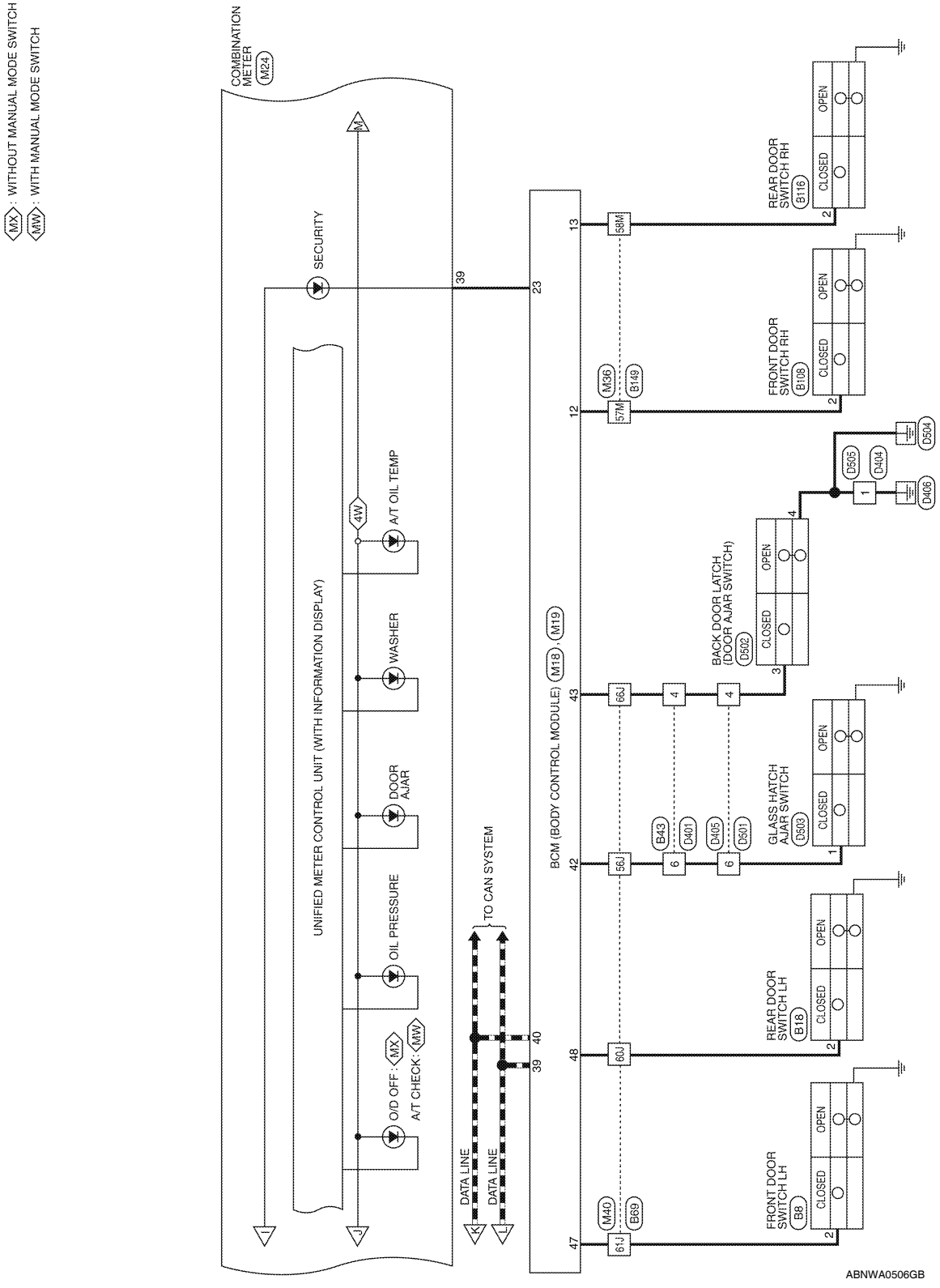
Wiring Diagram

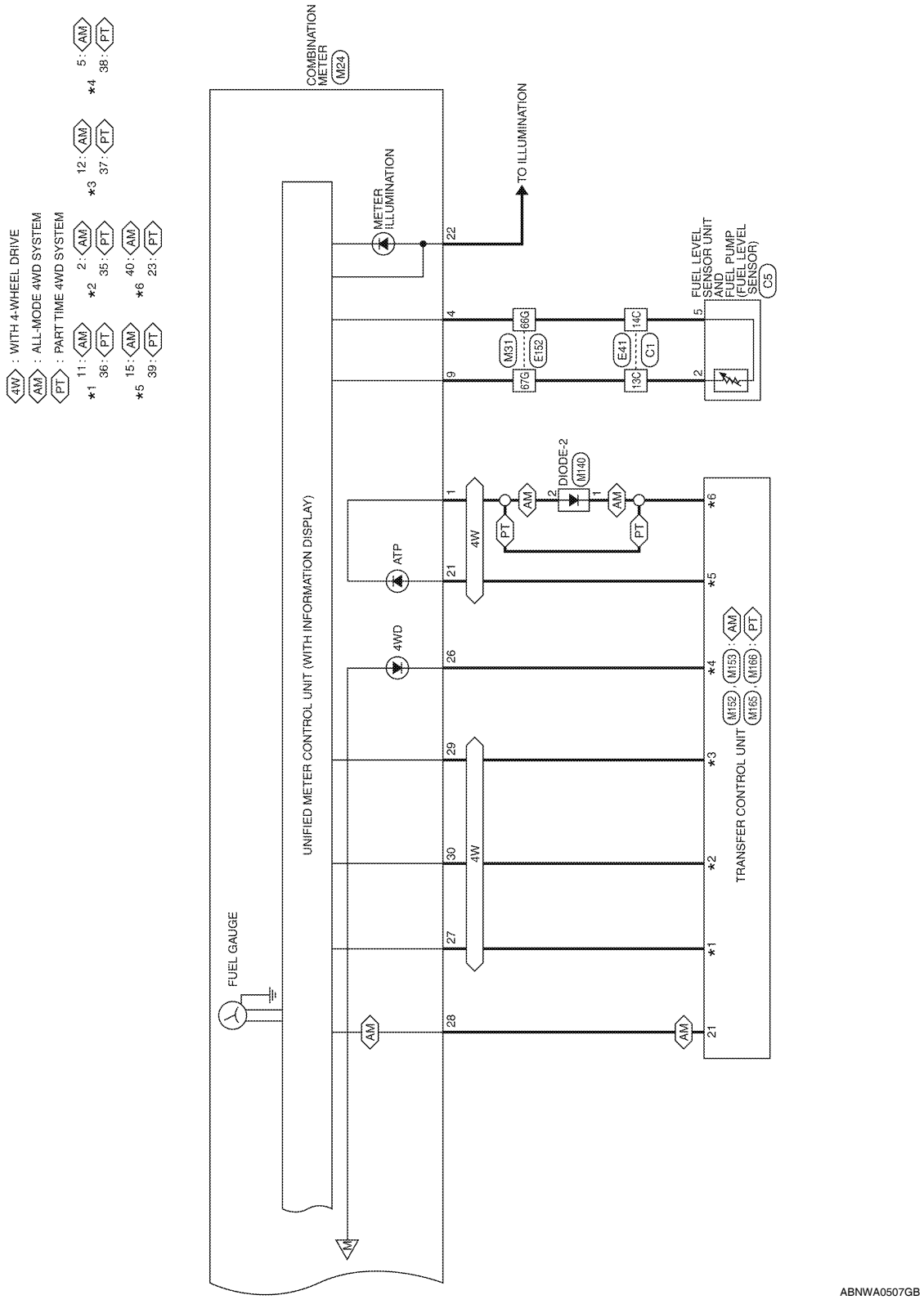
INFOID:0000000005484870




EB : EXCEPT BASE AUDIO SYSTEM
IK : WITH INTELLIGENT KEY SYSTEM
SU : WITH SUNROOF
COMBINATION METER
M24
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
TURN LH
TURN RH
HIGH BEAM
KEY
UNLOCK
AIR BAG
BELT
TO SUNROOF
TO MID AUDIO SYSTEM,WITH NAVIGATION
BOSE AUDIO SYSTEM,WITH NAVIGATION
BOSE AUDIO SYSTEM,WITHOUT NAVIGATION
DATA LINE
DATA LINE
SEAT BELT BUCKLE SWITCH RH
B110
FASTENED
UNFASTENED
B117
AIR BAG DIAGNOSIS SENSOR UNIT
M35 , B9 , B113
SEAT BELT BUCKLE SWITCH LH
B12
M40
B69
70J
B19
B7
ABNWA0504GB


IK : WITH INTELLIGENT KEY SYSTEM
MX : WITHOUT MANUAL MODE SWITCH
ZB : WITH VK56DE
ZV : WITH VQ40DE
COMBINATION METER (M24)
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
OIL PRESSURE GAUGE
SPEEDOMETER
TACHOMETER
VOLTAGE GAUGE
WATER TEMP GAUGE
MALFUNCTION INDICATOR LAMP (MIL)
ABS
CRUISE
VDC OFF
SLIP
TIRE PRESSURE
SET
DATA LINE
DATA LINE
TO A/T CONTROL SYSTEM
INTELLIGENT KEY UNIT (M194)
TCM (TRANSMISSION CONTROL MODULE) (F502) *
A/T ASSEMBLY (F9)
ECM
TO ENGINE CONTROL SYSTEM - VQ40DE
ENGINE CONTROL SYSTEM - VK56DE
* THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT" OF PG SECTION.
ABNWA0505GB


MX : WITHOUT MANUAL MODE SWITCH
MW : WITH MANUAL MODE SWITCH
COMBINATION METER
M24
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
SECURITY
A/T OIL TEMP
WASHER
DOOR AJAR
OIL PRESSURE
O/D OFF : MX
A/T CHECK : MW
4W
DATA LINE
TO CAN SYSTEM
BCM (BODY CONTROL MODULE) M18, M19
REAR DOOR SWITCH RH B116
FRONT DOOR SWITCH RH B108
BACK DOOR LATCH (DOOR AJAR SWITCH) D502
GLASS HATCH AJAR SWITCH D503
REAR DOOR SWITCH LH B18
FRONT DOOR SWITCH LH B8
OPEN
CLOSED
ABNWA0506GB


4W : WITH 4-WHEEL DRIVE
AM : ALL-MODE 4WD SYSTEM
PT : PART TIME 4WD SYSTEM
COMBINATION METER (M24)
METER ILLUMINATION
TO ILLUMINATION
FUEL LEVEL SENSOR UNIT AND FUEL PUMP (FUEL LEVEL SENSOR) C5
DIODE-2 M140
ATP
4WD
4W
UNIFIED METER CONTROL UNIT (WITH INFORMATION DISPLAY)
TRANSFER CONTROL UNIT M152, M165, M153, M166
FUEL GAUGE
M
ABNWA0507GB

METER CONNECTORS

Connector No.	M4
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE

H.S.

7P	6P	5P	4P		3P	2P	1P
16P	15P	14P	13P	12P	11P	10P	9P	8P

Terminal No.	Color of Wire	Signal Name
5P	W/G	–
8P	R/Y	–

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
12	LG	DOOR SW (AS)
13	L	DOOR SW (RR)
23	G	SECURITY INDICATOR OUTPUT
39	L	CAN-H
40	P	CAN-L

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

41	42	43	44	45	46	47	48	49
50	51	52	53	54	55			

Terminal No.	Color of Wire	Signal Name
42	LG	GLASS HATCH STATUS SW
43	P	BACK DOOR SW
47	GR	DOOR SW (DR)
48	P	DOOR SW (RL)

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE

H.S.

20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Terminal No.	Color of Wire	Signal Name
1	R	ATP-
2	P	CHARGE (ALT) INPUT
3	R/Y	BATTERY
4	B/Y	FUEL SENDER RETURN
5	W	SPEED OUT 2
6	LG	SPEED OUT 8
7	G	AT-PN ECM
8	SB	AT SHIFT UP
9	BR	FUEL SENDER INPUT
10	LG	AT SHIFT DN
11	P	CAN-L
12	L	CAN-H

Terminal No.	Color of Wire	Signal Name
13	GR	GROUND
14	O	M RANGE
15	W	NOT M RANGE
16	W/G	RUN START
17	B	AT-PN SWITCH
18	L	AT 1 RANGE SWITCH (WITHOUT MANUAL MODE SWITCH)
19	–	–
20	Y	O/D OFF SWITCH (WITHOUT MANUAL MODE SWITCH)
21	LG	ATP+
22	BR	ILLUMINATION CONTROL
23	B	POWER GND
24	V	BUCKLE (SEATBELT) SW

Terminal No.	Color of Wire	Signal Name
25	–	–
26	GR	4WD FAIL
27	BR	4WD (LOCK) INPUT
28	B	4WD (AUTO) INPUT
29	O	4WD (4 LO) INPUT
30	V	4WD (2 WD) INPUT
31	G	PARK BRAKE SW
32	SB	BRAKE OIL SWITCH
33	LG	BRAKE PEDAL SW
34	L	WASHER FLUID SW
35	–	–
36	–	–
37	SB	AIRBAG CONT
38	–	–
39	G	SECURITY
40	LG	PASS SEATBELT

ABNIA1552GB

Connector No.	M35
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Color	YELLOW

H.S.

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

Terminal No.	Color of Wire	Signal Name
15	SB	WARN LP
24	LG	SEATBELT REMIND AS

Terminal No.	Color of Wire	Signal Name
50G	L	--
51G	P	--
52G	L	--
66G	B/Y	--
67G	BR	--
69G	P	--
70G	L	--

Terminal No.	Color of Wire	Signal Name
57M	LG	--
58M	L	--

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

			5G	4G	3G	2G	1G				
				10G	9G	8G	7G	6G			
21G	20G	19G	18G	17G	16G	15G	14G	13G	12G	11G	
	30G	29G	28G	27G	26G	25G	24G	23G	22G		
41G	40G	39G	38G	37G	36G	35G	34G	33G	32G	31G	
	50G	49G	48G	47G	46G	45G	44G	43G	42G		
61G	60G	59G	58G	57G	56G	55G	54G	53G	52G	51G	
	70G	69G	68G	67G	66G	65G	64G	63G	62G		
			75G	74G	73G	72G	71G				
				80G	79G	78G	77G	76G			

Connector No.	M36
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

			5M	4M	3M	2M	1M				
				10M	9M	8M	7M	6M			
21M	20M	19M	18M	17M	16M	15M	14M	13M	12M	11M	
	30M	29M	28M	27M	26M	25M	24M	23M	22M		
41M	40M	39M	38M	37M	36M	35M	34M	33M	32M	31M	
	50M	49M	48M	47M	46M	45M	44M	43M	42M		
61M	60M	59M	58M	57M	56M	55M	54M	53M	52M	51M	
	70M	69M	68M	67M	66M	65M	64M	63M	62M		
			75M	74M	73M	72M	71M				
				80M	79M	78M	77M	76M			

ABNIA1553GB

Connector No.	M91
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	G	–
8	SB	–
10	P	–
11	L	–

Connector No.	M153
Connector Name	TRANSFER CONTROL UNIT (ALL-MODE 4WD SYSTEM)
Connector Color	GRAY

H.S.

25	26	27	28	29	30	31	32	33
34	35	36	37	38	39	40	41	42
43	44	45			46	47	48	

Terminal No.	Color of Wire	Signal Name
40	R	ATP-SW

Connector No.	M40
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

			5J	4J	3J	2J	1J				
				10J	9J	8J	7J	6J			
21J	20J	19J	18J	17J	16J	15J	14J	13J	12J	11J	
	30J	29J	28J	27J	26J	25J	24J	23J	22J		
41J	40J	39J	38J	37J	36J	35J	34J	33J	32J	31J	
	50J	49J	48J	47J	46J	45J	44J	43J	42J		
61J	60J	59J	58J	57J	56J	55J	54J	53J	52J	51J	
	70J	69J	68J	67J	66J	65J	64J	63J	62J		
			75J	74J	73J	72J	71J				
				80J	79J	78J	77J	76J			

Terminal No.	Color of Wire	Signal Name
56J	LG	–
60J	P	–
61J	GR	–
66J	P	–
70J	V	–

Connector No.	M152
Connector Name	TRANSFER CONTROL UNIT (ALL-MODE 4WD SYSTEM)
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	V	2WD IND
5	GR	ETS FAIL
11	BR	LOCK IND
12	O	4LO IND
15	LG	ATP-IND
21	B	AUTO IND

Connector No.	M140
Connector Name	DIODE-2
Connector Color	BLACK

H.S.

1	2

Terminal No.	Color of Wire	Signal Name
1	V	–
2	R	–

ABNIA1554GB

Connector No.	M166
Connector Name	TRANSFER CONTROL UNIT (PART TIME 4WD SYSTEM)
Connector Color	WHITE

H.S.

32	31		29	28	27
42	41	40	39	38	37	36	35	34	33
50	49	48	47				46	45	44	43

Terminal No.	Color of Wire	Signal Name
35	V	2WD IND
36	BR	4H IND
37	O	4LO IND
38	GR	4WD FAIL
39	LG	ATP IND

Connector No.	M165
Connector Name	TRANSFER CONTROL UNIT (PART TIME 4WD SYSTEM)
Connector Color	WHITE

H.S.

6	5	4	3	2	1
17	16	15	14	13	12	11	10	9	8	7
26	25	24	23	22			21	20	19	18

Terminal No.	Color of Wire	Signal Name
23	R	ATP-SW

Connector No.	M164
Connector Name	INTELLIGENT KEY UNIT
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
2	L	CAN-H
3	P	CAN-L

Connector No.	E7
Connector Name	ECM (WITH VK56DE)
Connector Color	BLACK

H.S.

106	107	108	109	110	111	112	113		119	120	121
98	99	100	101	102	103	104	105	117	118		
90	91	92	93	94	95	96	97		114	115	116
82	83	84	85	86	87	88	89				

Terminal No.	Color of Wire	Signal Name
86	P	CAN-L
94	L	CAN-H

Connector No.	E5
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	GR	–
2	L	–
3	P	–

Connector No.	E2
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–

ABNIA1555GB

Connector No.	E16
Connector Name	ECM (WITH VQ40DE)
Connector Color	BLACK

H.S.

106	107	108	109	110	111	112	113		119		120		121
98	99	100	101	102	103	104	105			117		118	
90	91	92	93	94	95	96	97		114		115		116
82	83	84	85	86	87	88	89						

Terminal No.	Color of Wire	Signal Name
86	P	CAN-L
94	L	CAN-H

Connector No.	E21
Connector Name	BRAKE FLUID LEVEL SWITCH
Connector Color	GRAY

H.S.

1
2

Terminal No.	Color of Wire	Signal Name
1	SB	—
2	B	—

Connector No.	E26
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

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

Terminal No.	Color of Wire	Signal Name
1	G	—
8	SB	—
10	P	—
11	L	—

Connector No.	E38
Connector Name	STOP LAMP SWITCH
Connector Color	WHITE

H.S.

3	4
1	2

Terminal No.	Color of Wire	Signal Name
1	R/B	—
2	Y	—

Connector No.	E40
Connector Name	WIRE TO WIRE
Connector Color	GRAY

H.S.

1	2	3	4	5
	6	7	8	9

Terminal No.	Color of Wire	Signal Name
5	GR	—
8	P	—

Connector No.	E41
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

1C	10C				19C			31C	40C
2C	11C			20C	26C			32C	41C
3C	12C			33C	42C				
4C	13C			21C	27C			34C	43C
5C	14C			22C	28C			35C	44C
6C	15C			23C	29C			36C	45C
7C	16C			24C	30C			37C	46C
8C	17C				25C			38C	47C
9C	18C							39C	48C

Terminal No.	Color of Wire	Signal Name
13C	BR	—
14C	B/Y	—

ABNIA1666GB

Connector No.	E106
Connector Name	WASHER FLUID LEVEL SWITCH
Connector Color	BROWN

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	B	–

Connector No.	E53
Connector Name	PARKING BRAKE SWITCH
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	G	–

Connector No.	E42
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	P	–

Connector No.	E125
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) (WITH VQ40DE)
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
12	L	CAN-H
13	P	CAN-L

Connector No.	E124
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

H.S.

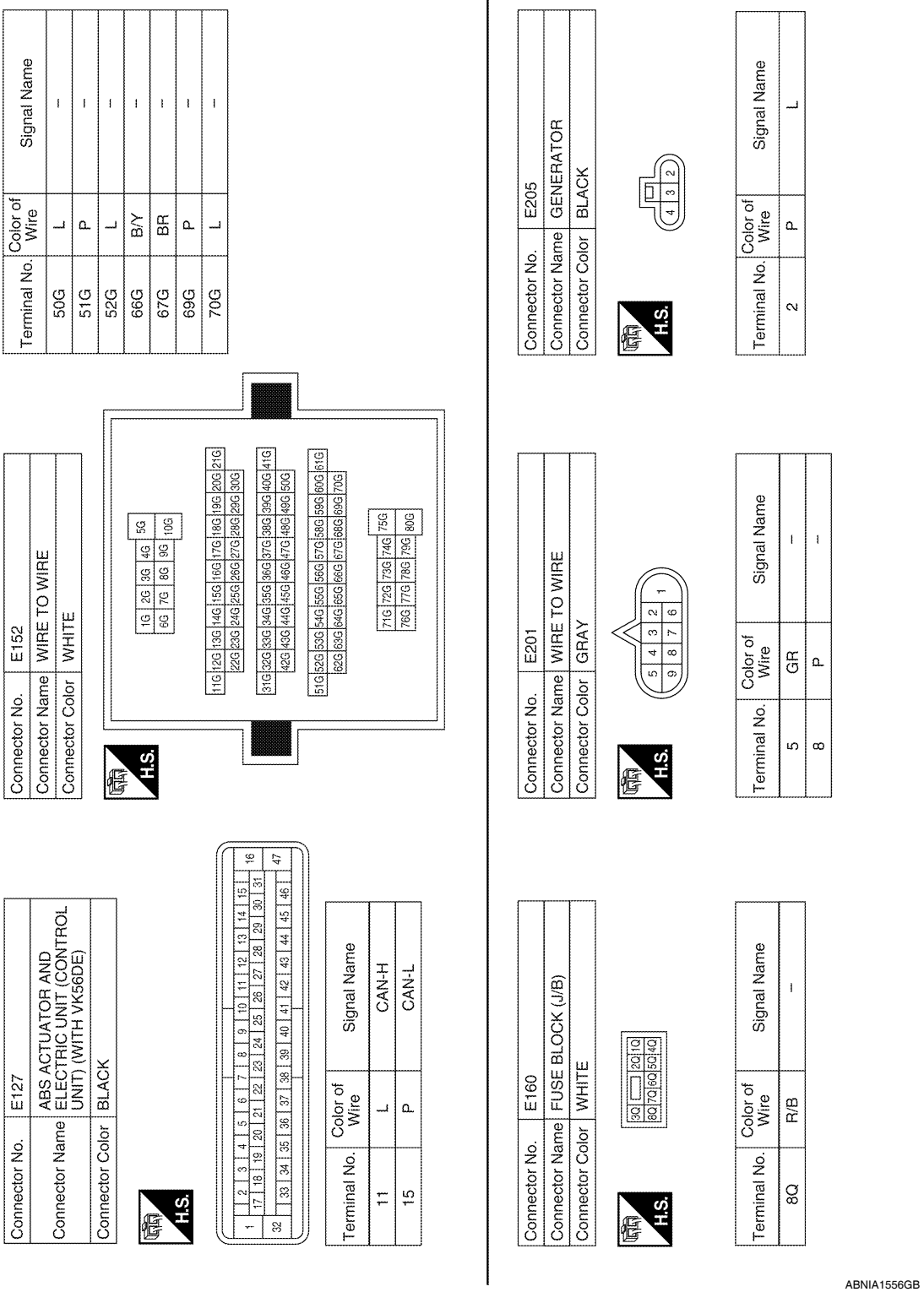
Terminal No.	Color of Wire	Signal Name
59	B	GND (POWER)

Connector No.	E122
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L
42	GR	OIL PRESSURE SW

ABNIA1619GB


Connector No. E127
Connector Name ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) (WITH VK56DE)
Connector Color BLACK
H.S.
Terminal No. Color of Wire Signal Name
11 L CAN-H
15 P CAN-L
Connector No. E160
Connector Name FUSE BLOCK (J/B)
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
8Q R/B –
Connector No. E152
Connector Name WIRE TO WIRE
Connector Color WHITE
H.S.
Terminal No. Color of Wire Signal Name
50G L –
51G P –
52G L –
66G B/Y –
67G BR –
69G P –
70G L –
Connector No. E201
Connector Name WIRE TO WIRE
Connector Color GRAY
H.S.
Terminal No. Color of Wire Signal Name
5 GR –
8 P –
Connector No. E205
Connector Name GENERATOR
Connector Color BLACK
H.S.
Terminal No. Color of Wire Signal Name
2 P L
ABNIA1556GB

Connector No.	E208
Connector Name	OIL PRESSURE SWITCH (WITH VQ40DE)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	GR	—

Connector No.	E209
Connector Name	GENERATOR
Connector Color	—

H.S.

Terminal No.	Color of Wire	Signal Name
5	B	E

Connector No.	E211
Connector Name	WIRE TO WIRE
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	P	—

Connector No.	F4
Connector Name	OIL PRESSURE SWITCH (WITH VK56DE)
Connector Color	GRAY

H.S.

Terminal No.	Color of Wire	Signal Name
1	GR	—

Connector No.	F9
Connector Name	A/T ASSEMBLY
Connector Color	GREEN

H.S.

Terminal No.	Color of Wire	Signal Name
3	L	—
8	P	—

Connector No.	F14
Connector Name	WIRE TO WIRE
Connector Color	WHITE

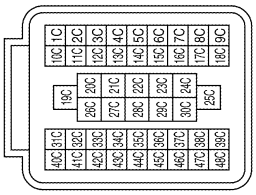
H.S.

Terminal No.	Color of Wire	Signal Name
1	GR	—
2	L	—
3	P	—

ABNIA1620GB

Connector No.	C1
Connector Name	WIRE TO WIRE
Connector Color	BLACK

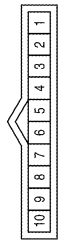
H.S.



Terminal No.	Color of Wire	Signal Name
13C	BR	–
14C	B/Y	–

Connector No.	F502
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	GRAY

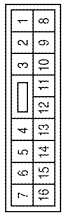
H.S.



Terminal No.	Color of Wire	Signal Name
1	BR	CAN-H
2	L/Y	CAN-L

Connector No.	F32
Connector Name	WIRE TO WIRE
Connector Color	WHITE

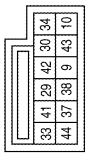
H.S.



Terminal No.	Color of Wire	Signal Name
2	L	–
3	P	–

Connector No.	B9
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Color	YELLOW

H.S.



Terminal No.	Color of Wire	Signal Name
41	O	BUCKLE SW LH

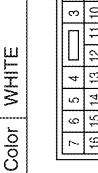
Connector No.	B8
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	GR	–

Connector No.	C5
Connector Name	FUEL LEVEL SENSOR UNIT AND FUEL PUMP
Connector Color	GRAY

H.S.

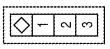


Terminal No.	Color of Wire	Signal Name
2	BR	–
5	B/Y	–

ABNIA1621GB

Connector No.	B12
Connector Name	SEAT BELT BUCKLE SWITCH LH
Connector Color	WHITE

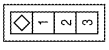
H.S.



Terminal No.	Color of Wire	Signal Name
1	O	--
2	B	--

Connector No.	B18
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE

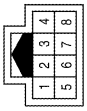
H.S.



Terminal No.	Color of Wire	Signal Name
2	P	--

Connector No.	B43
Connector Name	WIRE TO WIRE
Connector Color	WHITE

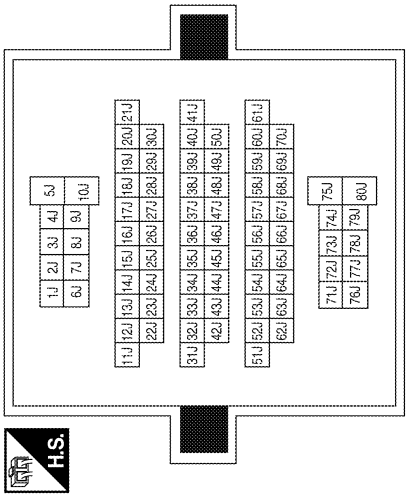
H.S.



Terminal No.	Color of Wire	Signal Name
4	P	--
6	LG	--

Connector No.	B69
Connector Name	WIRE TO WIRE
Connector Color	WHITE

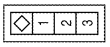
H.S.



Terminal No.	Color of Wire	Signal Name
56J	LG	--
60J	P	--
61J	GR	--
66J	P	--
70J	V	--

Connector No.	B108
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
2	LG	--

ABNIA1622GB

Connector No.	B110
Connector Name	SEAT BELT BUCKLE SWITCH RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	L	–
2	B	–

Connector No.	B113
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Color	YELLOW

H.S.

Terminal No.	Color of Wire	Signal Name
25	L	BUCKLE SW AS

Connector No.	B116
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
2	L	–

Connector No.	B149
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
57M	LG	–
58M	L	–

Connector No.	D401
Connector Name	WIRE TO WIRE
Connector Color	WHITE

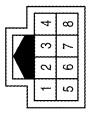
H.S.

Terminal No.	Color of Wire	Signal Name
4	P	–
6	LG	–

ABNIA1623GB

Connector No.	D501
Connector Name	WIRE TO WIRE
Connector Color	WHITE

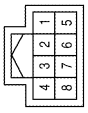
H.S.



Terminal No.	Color of Wire	Signal Name
4	P	—
6	LG	—

Connector No.	D405
Connector Name	WIRE TO WIRE
Connector Color	WHITE

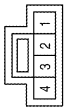
H.S.



Terminal No.	Color of Wire	Signal Name
4	P	—
6	LG	—

Connector No.	D404
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1	B	—

Connector No.	D505
Connector Name	WIRE TO WIRE
Connector Color	WHITE

H.S.

Terminal No.	Color of Wire	Signal Name
1	B	—

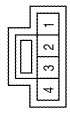
Connector No.	D503
Connector Name	GLASS HATCH AJAR SWITCH
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	LG	—

Connector No.	D502
Connector Name	BACK DOOR LATCH
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
3	P	—
4	BR	—

ABNIA1557GB

Fail Safe

INFOID:0000000005484871

The combination meter performs a fail-safe operation for the functions listed below when communication is lost.

Function		Specifications
Speedometer		Zero indication.
Tachometer		
Fuel gauge		
Engine coolant temperature gauge		
Engine oil pressure gauge		
Voltage gauge		
Illumination control	Meter illumination	Change to nighttime mode when communication is lost.
Segment LCD	Odometer	Freeze current indication.
	A/T position	Display turns off.
Buzzer		Buzzer turns off.
Warning lamp/indicator lamp	ABS warning lamp	Lamp turns on when communication is lost.
	Brake warning lamp	
	VDC OFF indicator lamp	
	Malfunction indicator lamp	
	SLIP indicator lamp	
	Shift P warning lamp	Lamp turns off when communication is lost.
	AT oil temp warning lamp	
	Low washer fluid warning lamp	
	Door ajar warning lamp	
	CRUISE indicator lamp	
	SET indicator lamp	
	A/T CHECK warning lamp (with manual mode)	
	O/D OFF indicator lamp (without manual mode)	
	Oil pressure warning lamp	
	Air bag warning lamp	
	High beam indicator	
	Turn signal indicator lamp	
	Intelligent Key system warning lamp	
	Driver and passenger seat belt warning lamp	Lamp turns off when disconnected.
	Charge warning lamp	
	Security indicator lamp	
	4WD indicator lamp	
	ATP indicator lamp	
	Low tire pressure warning lamp	Lamp will flash every second for 1 minute and then stay on continuously thereafter.

DTC Index

INFOID:0000000005484872

CONSULT-III display	Malfunction	Reference page
CAN COMM CIRC [U1000]	Malfunction is detected in CAN communication. **CAUTION:** **Even when there is no malfunction on CAN communication system, malfunction may be misinterpreted when battery has low voltage (when maintaining 7 - 8 V for about 2 seconds) or 10A fuse [No. 19, located in the fuse block (J/B)] is disconnected.**	MWI-27
VEHICLE SPEED CIRC [B2205]	Malfunction is detected when an erroneous speed signal is input. **CAUTION:** **Even when there is no malfunction on speed signal system, malfunction may be misinterpreted when battery has low voltage (when maintaining 7 - 8 V for about 2 seconds).**	MWI-28

NOTE:
"TIME" indicates the following.
- 0: Indicates that a malfunction is detected at present.
- 1-63: Indicates that a malfunction was detected in the past. (Displays number of ignition switch OFF → ON cycles after malfunction is detected. Self-diagnosis result is erased when "63" is exceeded.)

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:0000000005484861

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
AIR COND SW	A/C switch OFF	OFF
	A/C switch ON	ON
AUT LIGHT SYS	Outside of the room is dark	OFF
	Outside of the room is bright	ON
AUTO LIGHT SW	Lighting switch OFF	OFF
	Lighting switch AUTO	ON
BACK DOOR SW	Back door closed	OFF
	Back door opened	ON
CDL LOCK SW	Door lock/unlock switch does not operate	OFF
	Press door lock/unlock switch to the LOCK side	ON
CDL UNLOCK SW	Door lock/unlock switch does not operate	OFF
	Press door lock/unlock switch to the UNLOCK side	ON
DOOR SW-AS	Front door RH closed	OFF
	Front door RH opened	ON
DOOR SW-DR	Front door LH closed	OFF
	Front door LH opened	ON
DOOR SW-RL	Rear door LH closed	OFF
	Rear door LH opened	ON
DOOR SW-RR	Rear door RH closed	OFF
	Rear door RH opened	ON
ENGINE RUN	Engine stopped	OFF
	Engine running	ON
FR FOG SW	Front fog lamp switch OFF	OFF
	Front fog lamp switch ON	ON
FR WASHER SW	Front washer switch OFF	OFF
	Front washer switch ON	ON
FR WIPER LOW	Front wiper switch OFF	OFF
	Front wiper switch LO	ON
FR WIPER HI	Front wiper switch OFF	OFF
	Front wiper switch HI	ON
FR WIPER INT	Front wiper switch OFF	OFF
	Front wiper switch INT	ON
FR WIPER STOP	Any position other than front wiper stop position	OFF
	Front wiper stop position	ON
HAZARD SW	When hazard switch is not pressed	OFF
	When hazard switch is pressed	ON
LIGHT SW 1ST	Lighting switch OFF	OFF
	Lighting switch 1st	ON

Monitor Item	Condition	Value/Status
HEAD LAMP SW1	Headlamp switch OFF	OFF
	Headlamp switch 1st	ON
HEAD LAMP SW2	Headlamp switch OFF	OFF
	Headlamp switch 1st	ON
HI BEAM SW	High beam switch OFF	OFF
	High beam switch HI	ON
IGN ON SW	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
IGN SW CAN	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
I-KEY LOCK[1]	LOCK button of Intelligent Key is not pressed	OFF
	LOCK button of Intelligent Key is pressed	ON
I-KEY UNLOCK[1]	UNLOCK button of Intelligent Key is not pressed	OFF
	UNLOCK button of Intelligent Key is pressed	ON
KEY ON SW	Mechanical key is removed from key cylinder	OFF
	Mechanical key is inserted to key cylinder	ON
KEYLESS LOCK[2]	LOCK button of key fob is not pressed	OFF
	LOCK button of key fob is pressed	ON
KEYLESS UNLOCK[2]	UNLOCK button of key fob is not pressed	OFF
	UNLOCK button of key fob is pressed	ON
OIL PRESS SW	• Ignition switch OFF or ACC • Engine running	OFF
	Ignition switch ON	ON
PASSING SW	Other than lighting switch PASS	OFF
	Lighting switch PASS	ON
PUSH SW[1]	Return to ignition switch to LOCK position	OFF
	Press ignition switch	ON
REAR DEF SW	Rear window defogger switch OFF	OFF
	Rear window defogger switch ON	ON
RR WASHER SW	Rear washer switch OFF	OFF
	Rear washer switch ON	ON
RR WIPER INT	Rear wiper switch OFF	OFF
	Rear wiper switch INT	ON
RR WIPER ON	Rear wiper switch OFF	OFF
	Rear wiper switch ON	ON
RR WIPER STOP	Rear wiper stop position	OFF
	Other than rear wiper stop position	ON
TAIL LAMP SW	Lighting switch OFF	OFF
	Lighting switch 1ST	ON
TRNK OPNR SW	When back door opener switch is not pressed	OFF
	When back door opener switch is pressed	ON
TURN SIGNAL L	Turn signal switch OFF	OFF
	Turn signal switch LH	ON

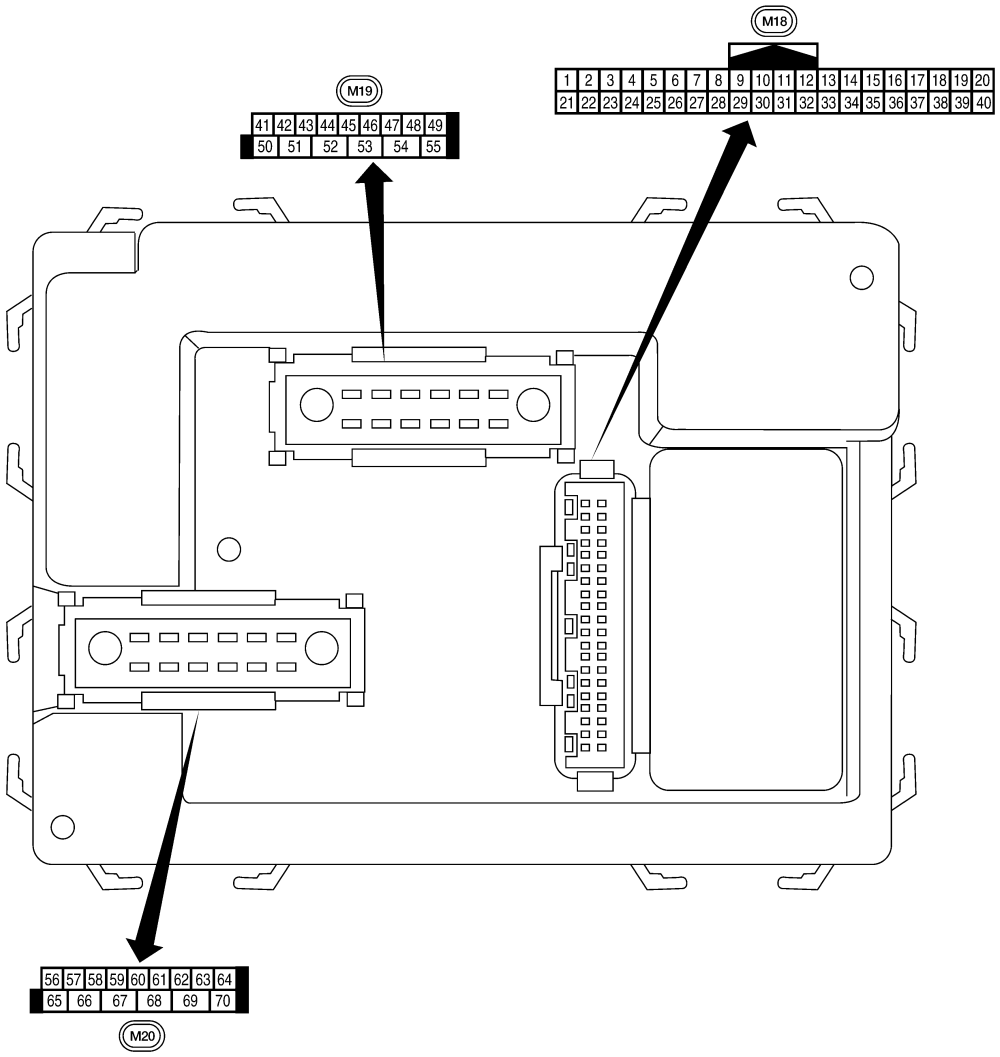
Monitor Item	Condition	Value/Status
TURN SIGNAL R	Turn signal switch OFF	OFF
	Turn signal switch RH	ON
VEHICLE SPEED	While driving	Equivalent to speedometer reading

1: With Intelligent Key

2: With remote keyless entry system

Terminal Layout

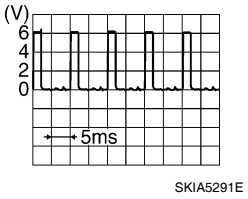
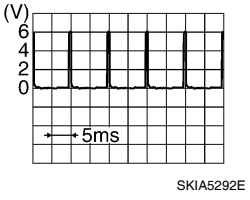
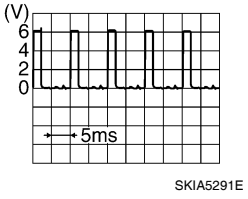
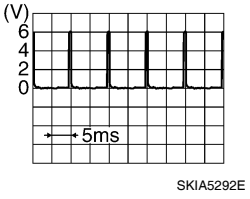
INFOID:0000000005484862

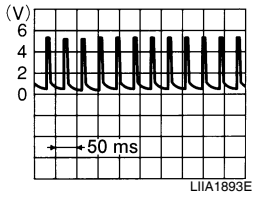
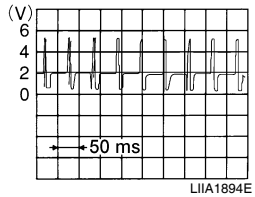
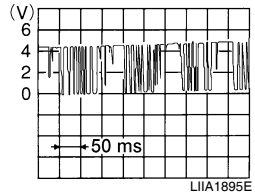
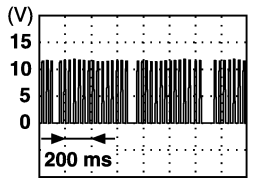


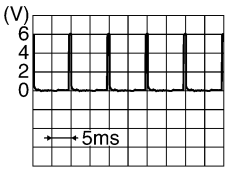
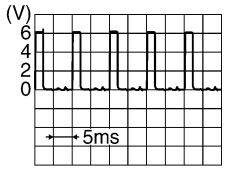
LIIA2443E

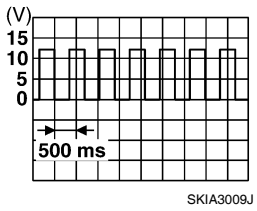
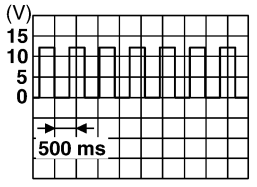
Physical Values

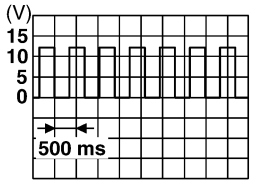
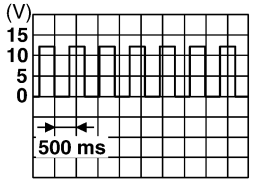
INFOID:0000000005484863

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
1	BR	Ignition keyhole illumination	Output	OFF	Door is locked (SW OFF)	Battery voltage
					Door is unlocked (SW ON)	0V
2	P	Combination switch input 5	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
3	SB	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
4	V	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
5	L	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
6	R	Combination switch input 1				
9	Y	Rear window defogger switch	Input	ON	Rear window defogger switch ON	0V
					Rear window defogger switch OFF	5V
11	G/B	Ignition switch (ACC or ON)	Input	ACC or ON	Ignition switch ACC or ON	Battery voltage
12	LG	Front door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
13	L	Rear door switch RH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
15	W	Tire pressure warning check connector	Input	OFF	—	5V
18	BR	Remote keyless entry receiver and optical sensor (ground)	Output	OFF	—	0V

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
19	V	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	 LIIA1893E
20	G	Remote keyless entry receiver (signal)	Input	OFF	Stand-by (keyfob buttons released)	 LIIA1894E
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	 LIIA1895E
21	GR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
22	V	BUS	—	—	Ignition switch ON or power window timer operates	 PIIA2344E
23	G	Security indicator lamp	Output	OFF	Goes OFF → illuminates (Every 2.4 seconds)	Battery voltage → 0V
25	BR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move for approx. 1 second, then return to battery voltage.
27	W	Compressor ON signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
28	LG	Front blower monitor	Input	ON	Front blower motor OFF	Battery voltage
					Front blower motor ON	0V
29	G	Hazard switch	Input	OFF	ON	0V
					OFF	5V
30[1]	G	Back door opener switch	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
30[2]	SB	Back door opener switch	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
32	O	Combination switch output 5	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
33	GR	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
34	G	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5291E
35	BR	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 SKIA5292E
36	LG	Combination switch output 1				
37[1]	B	Key switch and key lock solenoid	Input	OFF	Key inserted	Battery voltage
					Key inserted	0V
37[2]	B	Key switch and ignition knob switch	Input	OFF	Intelligent Key inserted	Battery voltage
					Intelligent Key inserted	0V
38	W/R	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
42	LG	Glass hatch ajar switch	Input	ON	Glass hatch open	0V
					Glass hatch closed	Battery voltage
43	P	Back door latch switch	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage

Terminal	Wire color	Signal name	Signal input/ output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
44	O	Rear wiper auto stop switch	Input	ON	Rise up position (rear wiper arm on stopper)	0V
					A Position (full clockwise stop position)	Battery voltage
					Forward sweep (counterclockwise direction)	Fluctuating
					B Position (full counterclockwise stop position)	0V
					Reverse sweep (clockwise direction)	Fluctuating
47	GR	Front door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
48	P	Rear door switch LH	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
49	L	Cargo lamp	Output	OFF	Any door open (ON)	0V
					All doors closed (OFF)	Battery voltage
51	O	Trailer turn signal (right)	Output	ON	Turn right ON	 SKIA3009J
52	LG	Trailer turn signal (left)	Output	ON	Turn left ON	 SKIA3009J
53	L	Back door latch actuator	Output	OFF	OFF	0
					ON	Battery voltage
55	W	Rear wiper output circuit 1	Output	ON	OFF	0
					ON	Battery voltage
56	R/Y	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V
				ON	—	Battery voltage
57	R/Y	Battery power supply	Input	OFF	—	Battery voltage
58	W	Optical sensor	Input	ON	When optical sensor is illuminated	3.1V or more
					When optical sensor is not illuminated	0.6V or less
59	GR	Front door lock assembly LH actuator (unlock)	Output	OFF	OFF (neutral)	0V
					ON (unlock)	Battery voltage

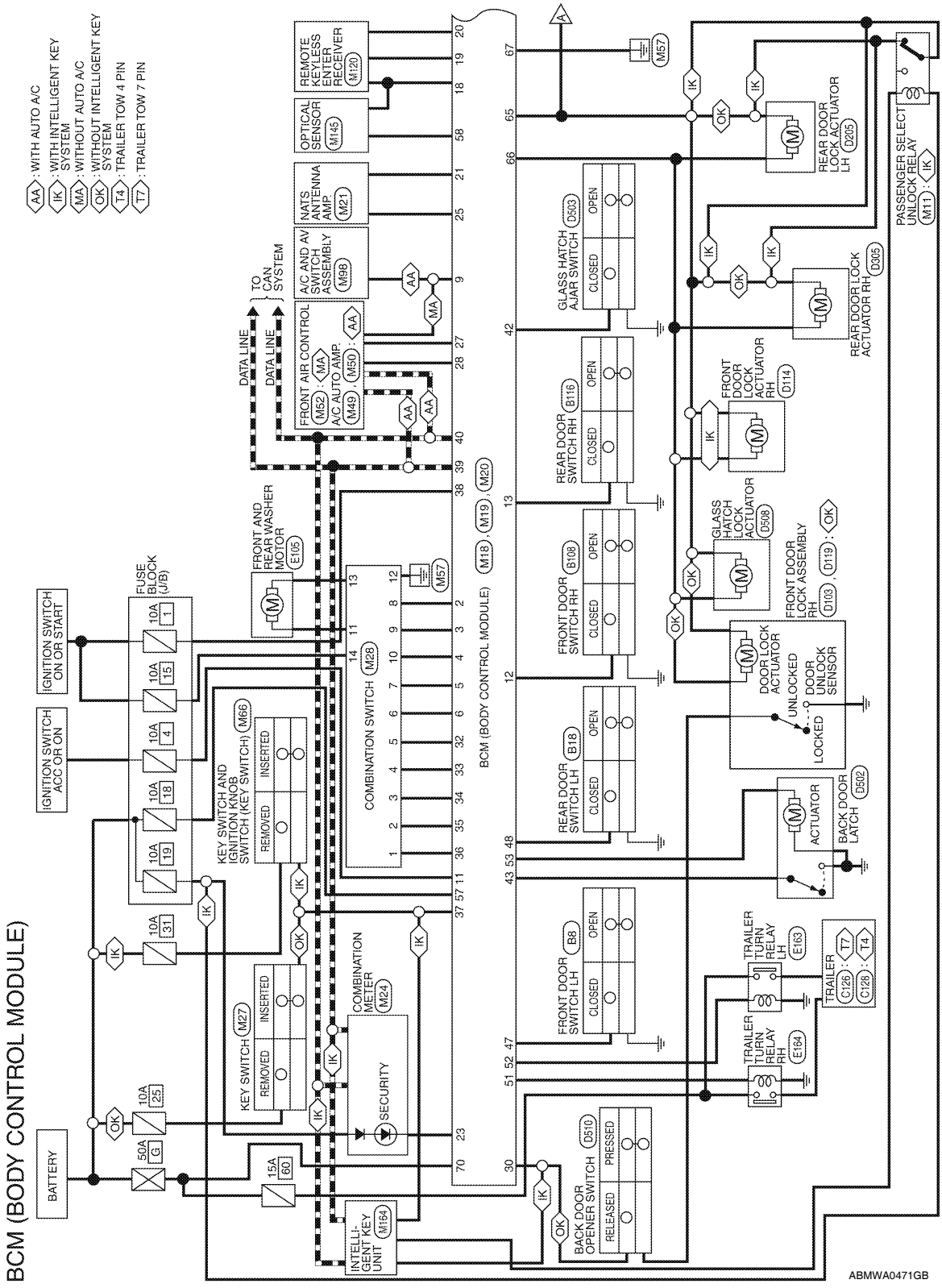
Terminal	Wire color	Signal name	Signal input/ output	Measuring condition			Reference value or waveform (Approx.)
				Ignition switch	Operation or condition		
60	LG	Turn signal (left)	Output	ON	Turn left ON		 SKIA3009J
61	G	Turn signal (right)	Output	ON	Turn right ON		 SKIA3009J
63	BR	Interior room/map lamp	Output	OFF	Any door switch	ON (open)	0V
						OFF (closed)	Battery voltage
65	V	All door lock actuators (lock)	Output	OFF	OFF (neutral)		0V
					ON (lock)		Battery voltage
66	L	Front door lock actuator RH, rear door lock actuators LH/RH and glass hatch lock actuator (unlock)	Output	OFF	OFF (neutral)		0V
					ON (unlock)		Battery voltage
67	B	Ground	Input	ON	—		0V
68	O	Power window power supply (RAP)	Output	—	Ignition switch ON		Battery voltage
					Within 45 seconds after ignition switch OFF		Battery voltage
					More than 45 seconds after ignition switch OFF		0V
					When front door LH or RH is open or power window timer operates		0V
69	L	Power window power supply	Output	—	—		Battery voltage
70	W	Battery power supply	Input	OFF	—		Battery voltage

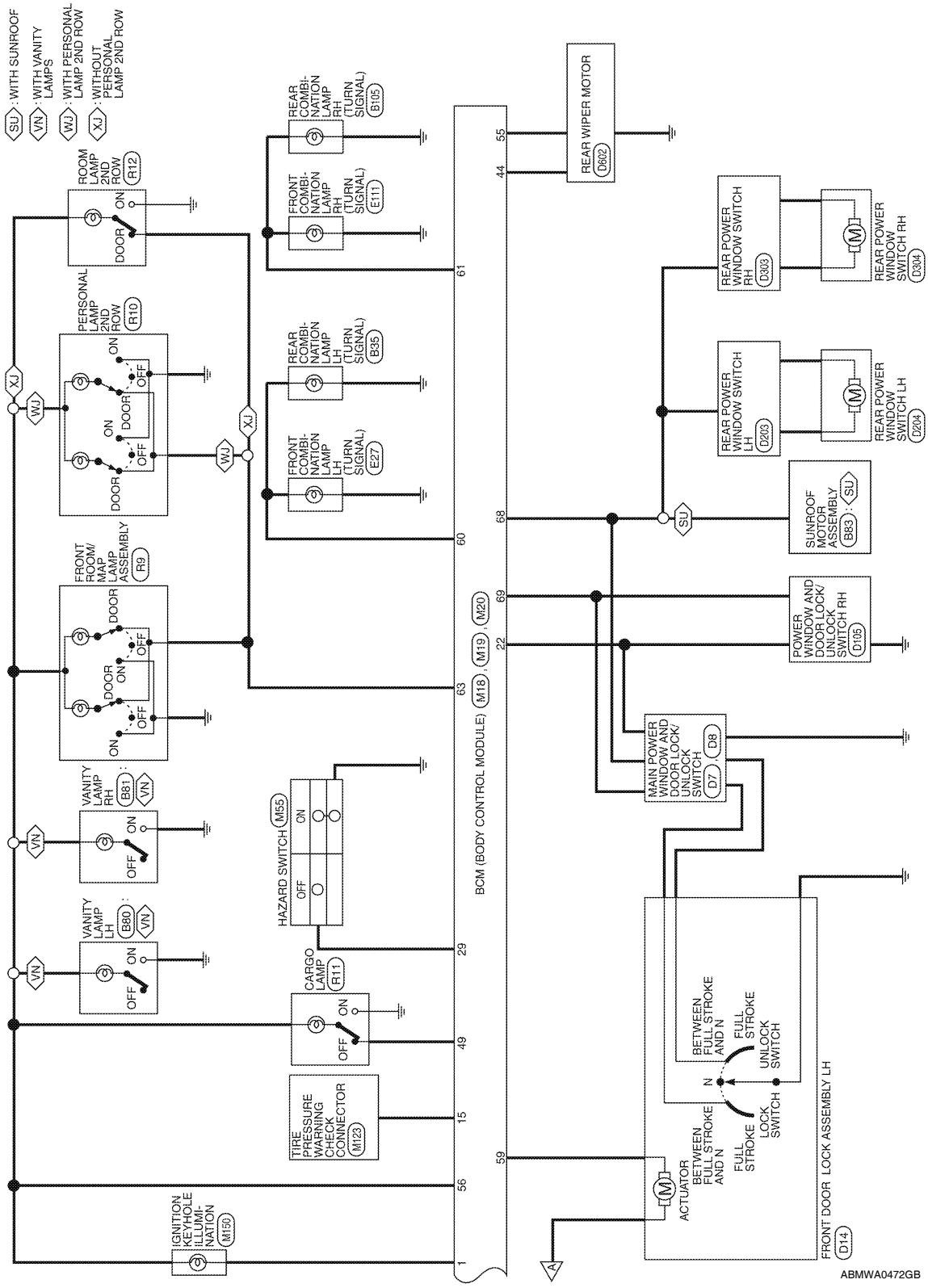
1: With remote keyless entry system

2: With Intelligent Key system

Wiring Diagram

INFOID:0000000005484864




SU : WITH SUNROOF
VN : WITH VANITY LAMPS
WJ : WITH PERSONAL LAMP 2ND ROW
XJ : WITHOUT PERSONAL LAMP 2ND ROW
ROOM LAMP 2ND ROW R12
PERSONAL LAMP 2ND ROW R10
FRONT ROOM/ MAP LAMP ASSEMBLY R9
VANITY LAMP RH B81
VANITY LAMP LH B80
CARGO LAMP R11
IGNITION KEYHOLE ILLUMINATION M150
TIRE PRESSURE WARNING CHECK CONNECTOR M123
HAZARD SWITCH M55
REAR COMBINATION LAMP RH (TURN SIGNAL) B105
FRONT COMBINATION LAMP RH (TURN SIGNAL) E111
REAR COMBINATION LAMP LH (TURN SIGNAL) B35
FRONT COMBINATION LAMP LH (TURN SIGNAL) E27
BCM (BODY CONTROL MODULE) M18, M19, M20
REAR WIPER MOTOR D602
REAR POWER WINDOW SWITCH RH D303
REAR POWER WINDOW SWITCH RH D304
REAR POWER WINDOW SWITCH LH D203
REAR POWER WINDOW SWITCH LH D204
SUNROOF MOTOR ASSEMBLY B83
POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH RH D105
MAIN POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH D7, D8
FRONT DOOR LOCK ASSEMBLY LH D14
ACTUATOR
BETWEEN FULL STROKE AND N
FULL STROKE
LOCK SWITCH
UNLOCK SWITCH
ABMWA0472GB

BCM (BODY CONTROL MODULE) CONNECTORS

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
1	BR	KEY RING OUTPUT
2	P	INPUT 5
3	SB	INPUT 4
4	V	INPUT 3
5	L	INPUT 2
6	R	INPUT 1
7	–	–
8	–	–
9	Y	REAR DEFOGGER SW
10	–	–
11	G/B	ACC SW
12	LG	DOOR SW (AS)
13	L	DOOR SW (RR)
14	–	–
15	W	TPMS MODE TRIGGER SW
16	–	–
17	–	–
18	BR	KEYLESS AND AUTOLIGHT SENSOR GND
19	V	KEYLESS TUNER POWER SUPPLY OUTPUT
20	G	KEYLESS TUNER SIGNAL
21	GR	IMMOBILIZER ANTENNA SIG (CLOCK)
22	V	ANTI-PINCH SERIAL LINK (RX,TX)
23	G	SECURITY INDICATOR OUTPUT

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE

H.S.

41	42	43	44	45	46	47	48	49
50	51	52	53	54	55			

Terminal No.	Color of Wire	Signal Name
41	–	–
42	LG	GLASS HATCH SW
43	P	BACK DOOR SW
44	O	REAR WIPER AUTO STOP SW1
45	–	–
46	–	–
47	GR	DOOR SW (DR)
48	P	DOOR SW (RL)
49	L	LUGGAGE LAMP OUTPUT
50	–	–
51	O	TRAILER FLASHER OUTPUT (RIGHT)
25	BR	IMMOBILIZER ANTENNA SIGNAL (TX,RX)
26	–	–
27	W	AIRCON SW
28	LG	BLOWER FAN SW
29	G	HAZARD SW
30	SB	BACK DOOR AUTO CLOSURE (WITH INTELLIGENT KEY SYSTEM)
30	G	LIFTGATE OPENER SW (WITHOUT INTELLIGENT KEY SYSTEM)
31	–	–
32	O	OUTPUT 5
33	GR	OUTPUT 4
34	G	OUTPUT 3
35	BR	OUTPUT 2
36	LG	OUTPUT 1
37	B	KEY SW
38	W/R	IGN SW
39	L	CAN-H
40	P	CAN-L
52	LG	TRAILER FLASHER OUTPUT (LEFT)
53	L	LIFTGATE OPENER OUTPUT
54	–	–
55	W	REAR WIPER MOTOR OUTPUT1

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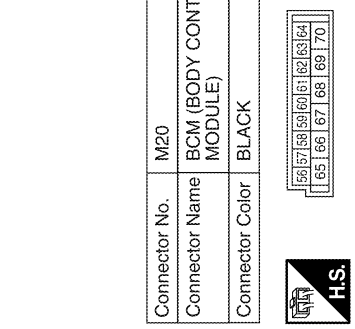
Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
56	R/Y	BAT SAVER OUTPUT
57	R/Y	BAT (FUSE)
58	W	AUTO LIGHT SENSOR INPUT 2
59	GR	DOOR UNLOCK OUTPUT (DR)
60	LG	FLASHER OUTPUT (LEFT)
61	G	FLASHER OUTPUT (RIGHT)
62	–	–
63	BR	ROOM LAMP
64	–	–
65	V	DOOR LOCK OUTPUT (ALL)
66	L	DOOR UNLOCK OUTPUT (OTHER)
67	B	GND (POWER)
68	O	POWER WINDOW POWER SUPPLY OUTPUT (LINKED TO RAP)
69	L	POWER WINDOW POWER SUPPLY OUTPUT (BAT)
70	W	BAT (F/L)

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE

Terminal No.	Color of Wire	Signal Name
1	LG	INPUT 1
2	BR	INPUT 2
3	G	INPUT 3
4	GR	INPUT 4
5	O	INPUT 5
6	R	OUTPUT 1
7	L	OUTPUT 2
8	P	OUTPUT 5
9	SB	OUTPUT 4
10	V	OUTPUT 3
11	O	WASHER MOTOR (RR+)
12	B	GND
13	L	WASHER MOTOR (RR-)
14	W/G	IGN

ABMIA1288GB

Fail Safe

INFOID:0000000005484865

Fail-safe index

BCM performs fail-safe control when any DTC listed below is detected.

Display contents of CONSULT	Fail-safe	Cancellation
U1000: CAN COMM CIRCUIT	Inhibit engine cranking	When the BCM re-establishes communication with the other modules.

DTC Inspection Priority Chart

INFOID:0000000005484866

If some DTCs are displayed at the same time, perform inspections one by one based on the following priority chart.

Priority	DTC
1	• U1000: CAN COMM CIRCUIT
2	• B2190: NATS ANTENNA AMP • B2191: DIFFERENCE OF KEY • B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM • B2013: STRG COMM 1 • B2552: INTELLIGENT KEY • B2590: NATS MALFUNCTION
3	• C1729: VHCL SPEED SIG ERR • C1735: IGNITION SIGNAL
4	• C1704: LOW PRESSURE FL • C1705: LOW PRESSURE FR • C1706: LOW PRESSURE RR • C1707: LOW PRESSURE RL • C1708: [NO DATA] FL • C1709: [NO DATA] FR • C1710: [NO DATA] RR • C1711: [NO DATA] RL • C1712: [CHECKSUM ERR] FL • C1713: [CHECKSUM ERR] FR • C1714: [CHECKSUM ERR] RR • C1715: [CHECKSUM ERR] RL • C1716: [PRESSDATA ERR] FL • C1717: [PRESSDATA ERR] FR • C1718: [PRESSDATA ERR] RR • C1719: [PRESSDATA ERR] RL • C1720: [CODE ERR] FL • C1721: [CODE ERR] FR • C1722: [CODE ERR] RR • C1723: [CODE ERR] RL • C1724: [BATT VOLT LOW] FL • C1725: [BATT VOLT LOW] FR • C1726: [BATT VOLT LOW] RR • C1727: [BATT VOLT LOW] RL

DTC Index

INFOID:0000000005484867

NOTE:

Details of time display

- CRNT: Displays when there is a malfunction now or after returning to the normal condition until turning ignition switch OFF → ON again.
- 1 - 39: Displayed if any previous malfunction is present when current condition is normal. It increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The counter remains at 39 even if the number of cycles exceeds it. It is counted from 1 again when turning ignition switch OFF → ON after returning to the normal condition if the malfunction is detected again.

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—	—
U1000: CAN COMM CIRCUIT	—	—	—	BCS-33
B2013: STRG COMM 1	—	—	—	SEC-29
B2190: NATS ANTENNA AMP	—	—	—	SEC-32 (with I-Key), SEC-136 (without I-Key)
B2191: DIFFERENCE OF KEY	—	—	—	SEC-35 (with I-Key), SEC-139 (without I-Key)
B2192: ID DISCORD BCM-ECM	—	—	—	SEC-36 (with I-Key), SEC-140 (without I-Key)
B2193: CHAIN OF BCM-ECM	—	—	—	SEC-38 (with I-Key), SEC-142 (without I-Key)
B2552: INTELLIGENT KEY	—	—	—	SEC-40
B2590: NATS MALFUNCTION	—	—	—	SEC-41
C1708: [NO DATA] FL	—	—	—	WT-14
C1709: [NO DATA] FR	—	—	—	WT-14
C1710: [NO DATA] RR	—	—	—	WT-14
C1711: [NO DATA] RL	—	—	—	WT-14
C1712: [CHECKSUM ERR] FL	—	—	—	WT-16
C1713: [CHECKSUM ERR] FR	—	—	—	WT-16
C1714: [CHECKSUM ERR] RR	—	—	—	WT-16
C1715: [CHECKSUM ERR] RL	—	—	—	WT-16
C1716: [PRESSDATA ERR] FL	—	—	—	WT-18
C1717: [PRESSDATA ERR] FR	—	—	—	WT-18
C1718: [PRESSDATA ERR] RR	—	—	—	WT-18
C1719: [PRESSDATA ERR] RL	—	—	—	WT-18
C1720: [CODE ERR] FL	—	—	—	WT-16
C1721: [CODE ERR] FR	—	—	—	WT-16
C1722: [CODE ERR] RR	—	—	—	WT-16
C1723: [CODE ERR] RL	—	—	—	WT-16
C1724: [BATT VOLT LOW] FL	—	—	—	WT-16
C1725: [BATT VOLT LOW] FR	—	—	—	WT-16
C1726: [BATT VOLT LOW] RR	—	—	—	WT-16
C1727: [BATT VOLT LOW] RL	—	—	—	WT-16
C1729: VHCL SPEED SIG ERR	—	—	—	WT-19
C1735: IGNITION SWITCH	—	—	—	—

SYMPTOM DIAGNOSIS

THE LIGHT REMINDER WARNING DOES NOT SOUND

Description

INFOID:0000000005256338

Light reminder warning does not sound even though headlamp is illuminated.

Diagnosis Procedure

INFOID:0000000005256339

1. CHECK COMBINATION SWITCH (LIGHTING SWITCH) OPERATION

Check that the headlamps operate normally by operating the combination switch (lighting switch).

Do they operate normally?

YES >> GO TO 2
NO >> Refer to EXL-4, "Work Flow".

2. CHECK FRONT DOOR SWITCH LH SIGNAL CIRCUIT

Perform inspection of the front door switch LH signal circuit. Refer to WCS-22, "Diagnosis Procedure" (with Intelligent Key) or WCS-24, "Diagnosis Procedure" (without Intelligent Key).

Is the inspection result normal?

YES >> GO TO 3
NO >> Repair harness or connector.

3. CHECK FRONT DOOR SWITCH LH

Perform a unit inspection for the front door switch LH. Refer to WCS-22, "Diagnosis Procedure" (with Intelligent Key) or WCS-24, "Diagnosis Procedure" (without Intelligent Key).

Is the inspection result normal?

YES >> Replace the BCM. Refer to BCS-59, "Removal and Installation".
NO >> Replace the front door switch LH.

THE SEAT BELT WARNING CONTINUES SOUNDING, OR DOES NOT SOUND

Description

INFOID:0000000005256340

- Seat belt warning does not sound even though driver seat belt is not fastened.
- Seat belt warning sounds even though driver seat belt is fastened.

Diagnosis Procedure

INFOID:0000000005256341

1.CHECK WARNING CHIME OPERATION

1. With key removed from key switch and the front door LH open, turn lighting switch to 1st or 2nd position.
2. Return lighting switch to off position, and insert key into key switch.

Does warning chime sound for both steps?

YES >> GO TO 2
NO >> Replace combination meter. Refer to MWI-96, "Removal and Installation".

2.CHECK SEAT BELT WARNING LAMP

1. Turn ignition switch ON.
2. Check the operation of the seat belt warning lamp in the combination meter.

Seat belt fastened : OFF
Seat belt not fastened : ON

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-59, "Removal and Installation".
NO >> GO TO 3

3.CHECK SEAT BELT BUCKLE SWITCH CIRCUIT

Perform inspection of the seat belt buckle switch circuit. Refer to WCS-20, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 4
NO >> Repair harness or connector.

4.CHECK SEAT BELT BUCKLE SWITCH UNIT

Perform a unit inspection for the seat belt buckle switch. Refer to WCS-21, "Component Inspection".

Is the inspection result normal?

YES >> Replace the combination meter. Refer to MWI-96, "Removal and Installation".
NO >> Replace the seat belt buckle switch LH.

THE KEY WARNING DOES NOT SOUND

Description

INFOID:0000000005256342

Key warning does not sound even though key is in ignition and front door LH is opened.

Diagnosis Procedure

INFOID:0000000005256343

1.CHECK WARNING CHIME OPERATION

With key removed from the ignition and the front door LH open, turn the lighting switch to 1st or 2nd position.

Does warning chime sound?

YES >> GO TO 2
NO >> Replace combination meter. Refer to MWI-96, "Removal and Installation".

2.CHECK KEY SWITCH CIRCUIT

Perform inspection of the key switch circuit. Refer to WCS-22, "Diagnosis Procedure" (with Intelligent Key) or WCS-24, "Diagnosis Procedure" (without Intelligent Key).

Is the inspection result normal?

YES >> GO TO 3
NO >> Repair harness or connector.

3.CHECK KEY SWITCH

Perform a unit inspection for the key switch. Refer to WCS-23, "Component Inspection" (with Intelligent Key) or WCS-25, "Component Inspection" (without Intelligent Key).

Is the inspection result normal?

YES >> Replace the BCM. Refer to BCS-59, "Removal and Installation".
NO >> Replace the key switch and ignition knob switch (with Intelligent Key) or key switch (without Intelligent Key).

PRECAUTION

PRECAUTIONS

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

INFOID:0000000005484876

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 SR 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 SR 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 WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

WARNING:

- **When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.**

Precaution Necessary for Steering Wheel Rotation After Battery Disconnect

INFOID:0000000005548824

NOTE:

- This Procedure is applied only to models with Intelligent Key system and NATS (NISSAN ANTI-THEFT SYSTEM).
- Remove and install all control units after disconnecting both battery cables with the ignition knob in the ″LOCK″ position.
- Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If DTC is detected, perform trouble diagnosis according to self-diagnostic results.

For models equipped with the Intelligent Key system and NATS, an electrically controlled steering lock mechanism is adopted on the key cylinder.
For this reason, if the battery is disconnected or if the battery is discharged, the steering wheel will lock and steering wheel rotation will become impossible.
If steering wheel rotation is required when battery power is interrupted, follow the procedure below before starting the repair operation.

OPERATION PROCEDURE

1. Connect both battery cables.
   NOTE:
   Supply power using jumper cables if battery is discharged.
2. Use the Intelligent Key or mechanical key to turn the ignition switch to the ″ACC″ position. At this time, the steering lock will be released.
3. Disconnect both battery cables. The steering lock will remain released and the steering wheel can be rotated.
4. Perform the necessary repair operation.

5. When the repair work is completed, return the ignition switch to the ″LOCK″ position before connecting the battery cables. (At this time, the steering lock mechanism will engage.)
6. Perform a self-diagnosis check of all control units using CONSULT-III.