

SECTION WCS

WARNING CHIME SYSTEM

A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

CONTENTS

BASIC INSPECTION	3	KEY WARNING CHIME : Component Parts Location	10
DIAGNOSIS AND REPAIR WORKFLOW	3	KEY WARNING CHIME : Component Description...	10
Work Flow	3	DIAGNOSIS SYSTEM (METER)	11
FUNCTION DIAGNOSIS	4	Diagnosis Description	11
WARNING CHIME SYSTEM	4	CONSULT-III Function (METER/M&A)	12
WARNING CHIME SYSTEM	4	DIAGNOSIS SYSTEM (BCM)	15
WARNING CHIME SYSTEM : System Diagram	4	BUZZER	15
WARNING CHIME SYSTEM : System Description	4	BUZZER : CONSULT-III Function (BCM - BUZZER)	15
WARNING CHIME SYSTEM : Component Parts Location	5	COMPONENT DIAGNOSIS	16
WARNING CHIME SYSTEM : Component Description	5	POWER SUPPLY AND GROUND CIRCUIT	16
LIGHT REMINDER WARNING CHIME	5	COMBINATION METER	16
LIGHT REMINDER WARNING CHIME : System Diagram	6	COMBINATION METER : Diagnosis Procedure	16
LIGHT REMINDER WARNING CHIME : System Description	6	BCM (BODY CONTROL MODULE)	16
LIGHT REMINDER WARNING CHIME : Component Parts Location	7	BCM (BODY CONTROL MODULE) : Diagnosis Procedure	16
LIGHT REMINDER WARNING CHIME : Component Description	7	METER BUZZER CIRCUIT	18
SEAT BELT WARNING CHIME	7	Description	18
SEAT BELT WARNING CHIME : System Diagram	7	Component Function Check	18
SEAT BELT WARNING CHIME : System Description	8	Diagnosis Procedure	18
SEAT BELT WARNING CHIME : Component Parts Location	8	SEAT BELT BUCKLE SWITCH SIGNAL CIRCUIT	19
SEAT BELT WARNING CHIME : Component Description	9	Description	19
KEY WARNING CHIME	9	Component Function Check	19
KEY WARNING CHIME : System Diagram	9	Diagnosis Procedure	19
KEY WARNING CHIME : System Description	9	Component Inspection	20
		KEY SWITCH SIGNAL CIRCUIT	21
		Description	21
		Component Function Check	21
		Diagnosis Procedure	21
		Component Inspection	22

WCS

WARNING CHIME SYSTEM	23	SYMPTOM DIAGNOSIS	65
Wiring Diagram	23	THE LIGHT REMINDER WARNING DOES	
ECU DIAGNOSIS	29	NOT SOUND	65
COMBINATION METER	29	Description	65
Reference Value	29	Diagnosis Procedure	65
Wiring Diagram	31	THE SEAT BELT WARNING CONTINUES	
Fail Safe	47	SOUNDING, OR DOES NOT SOUND	66
DTC Index	49	Description	66
BCM (BODY CONTROL MODULE)	50	Diagnosis Procedure	66
Reference Value	50	THE KEY WARNING DOES NOT SOUND	67
Terminal Layout	53	Description	67
Physical Values	53	Diagnosis Procedure	67
Wiring Diagram	59	PRECAUTION	68
Fail Safe	62	PRECAUTIONS	68
DTC Inspection Priority Chart	63	Supplemental Restraint System (SRS) "AIR BAG"	
DTC Index	63	and "SEAT BELT PRE-TENSIONER"	68

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000004056966

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

A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

WCS

WARNING CHIME SYSTEM

< FUNCTION DIAGNOSIS >

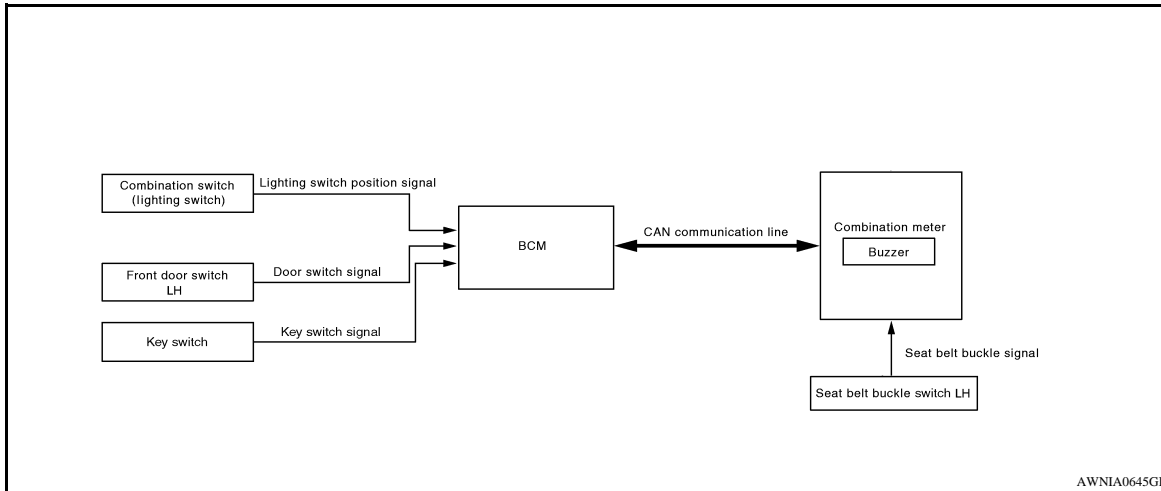
FUNCTION DIAGNOSIS

WARNING CHIME SYSTEM

WARNING CHIME SYSTEM

WARNING CHIME SYSTEM : System Diagram

INFOID:000000004056967



WARNING CHIME SYSTEM : System Description

INFOID:000000004056968

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

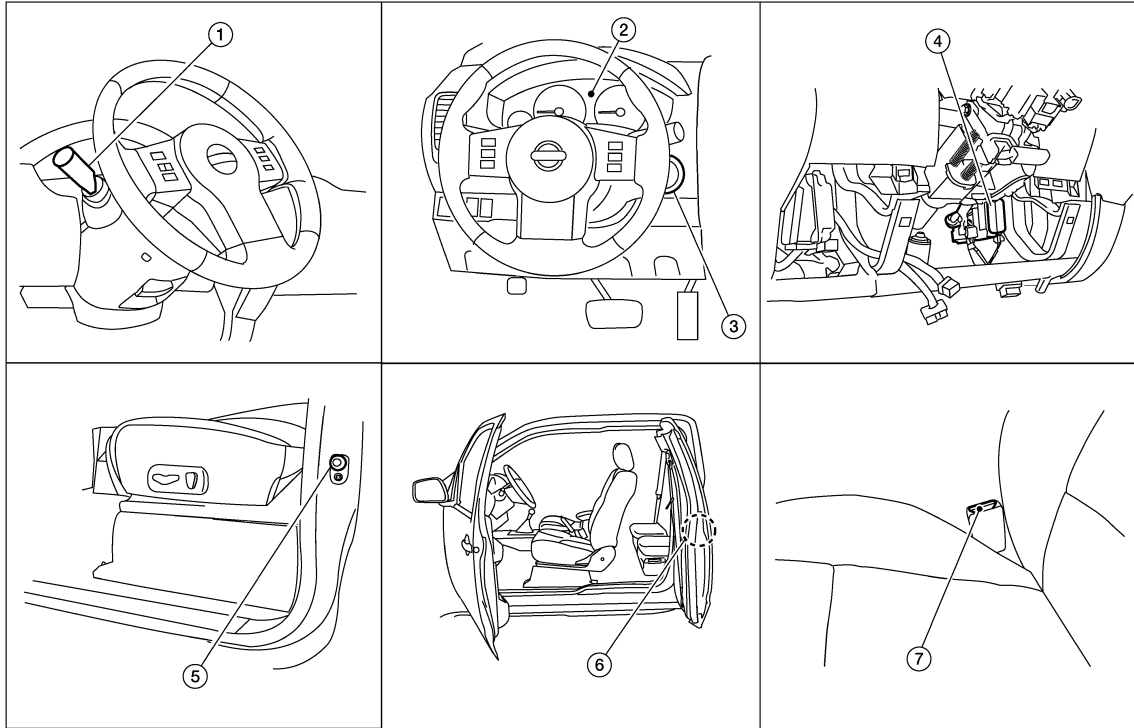
Warning functions	Signal name
Light reminder warning chime	<ul style="list-style-type: none"> • Lighting switch position signal • Door switch signal
Seat belt warning chime	Seat belt buckle switch signal
Key warning chime	<ul style="list-style-type: none"> • Key switch signal • Door switch signal

WARNING CHIME SYSTEM

< FUNCTION DIAGNOSIS >

WARNING CHIME SYSTEM : Component Parts Location

INFOID:000000004056969



WKIA4988E

- | | | |
|--|---------------------------------------|---|
| 1. Combination switch (lighting switch) M28 | 2. Combination meter M24 | 3. Key switch M27 |
| 4. BCM M18, M19, M20 (view with instrument lower panel LH removed) | 5. Front door switch LH B8 (crew cab) | 6. Front door switch LH D213 (king cab) |
| 7. Seat belt buckle switch LH B12 | | |

WARNING CHIME SYSTEM : Component Description

INFOID:000000004056970

Unit	Description
Combination meter	<ul style="list-style-type: none"> 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	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

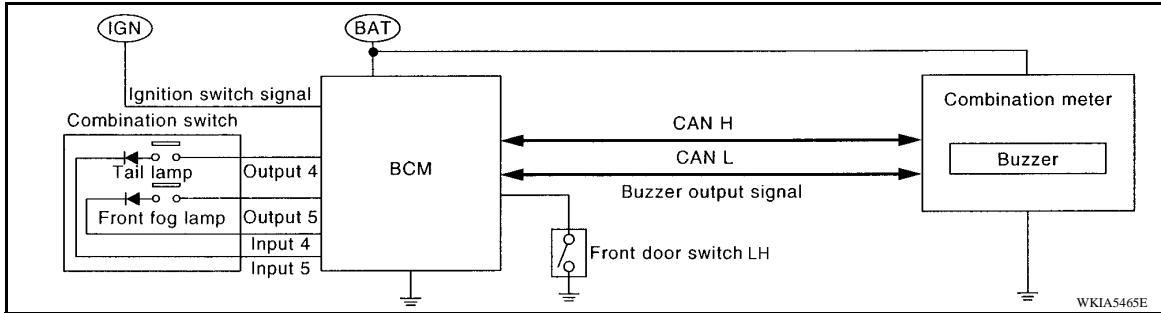
A
B
C
D
E
F
G
H
I
J
K
L
M
WCS
O
P

WARNING CHIME SYSTEM

< FUNCTION DIAGNOSIS >

LIGHT REMINDER WARNING CHIME : System Diagram

INFOID:000000004056971



LIGHT REMINDER WARNING CHIME : System Description

INFOID:000000004056972

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.

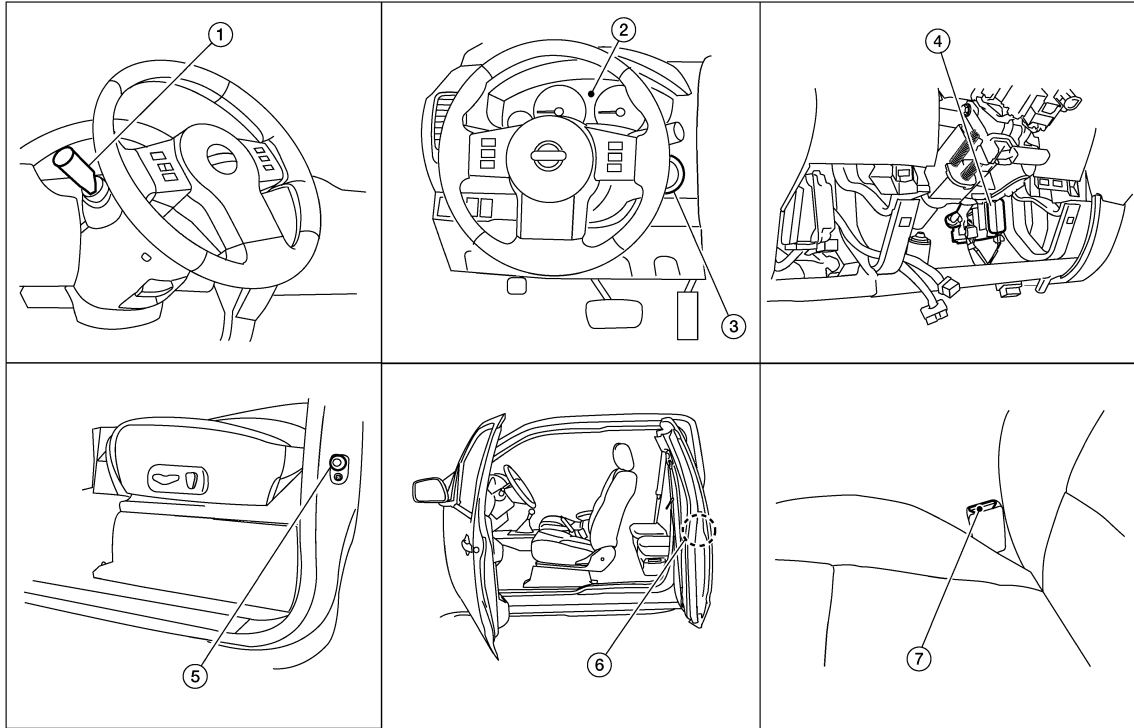
- Lighting switch OFF
- Ignition switch ON
- Front door switch LH is OFF

WARNING CHIME SYSTEM

< FUNCTION DIAGNOSIS >

LIGHT REMINDER WARNING CHIME : Component Parts Location

INFOID:000000004448857



WKIA4988E

- | | | |
|--|---------------------------------------|---|
| 1. Combination switch (lighting switch) M28 | 2. Combination meter M24 | 3. Key switch M27 |
| 4. BCM M18, M19, M20 (view with instrument lower panel LH removed) | 5. Front door switch LH B8 (crew cab) | 6. Front door switch LH D213 (king cab) |
| 7. Seat belt buckle switch LH B12 | | |

LIGHT REMINDER WARNING CHIME : Component Description

INFOID:000000004056974

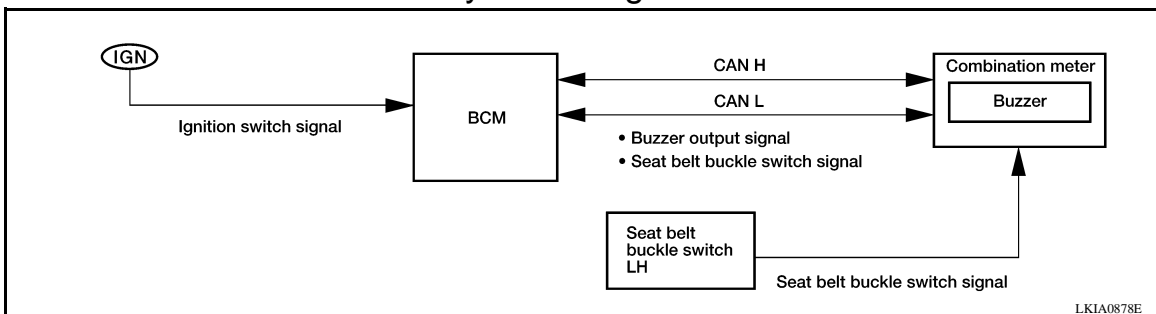
Unit	Description
Combination meter	Receives a buzzer output signal from BCM via CAN communication line and sounds the buzzer.
BCM	Judges the light warning conditions from the signals provided by various switches and transmits a buzzer output signal to the combination meter via CAN communication line 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

WCS

SEAT BELT WARNING CHIME : System Diagram

INFOID:000000004056975



LKIA0878E

WARNING CHIME SYSTEM

< FUNCTION DIAGNOSIS >

SEAT BELT WARNING CHIME : System Description

INFOID:000000004056976

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)

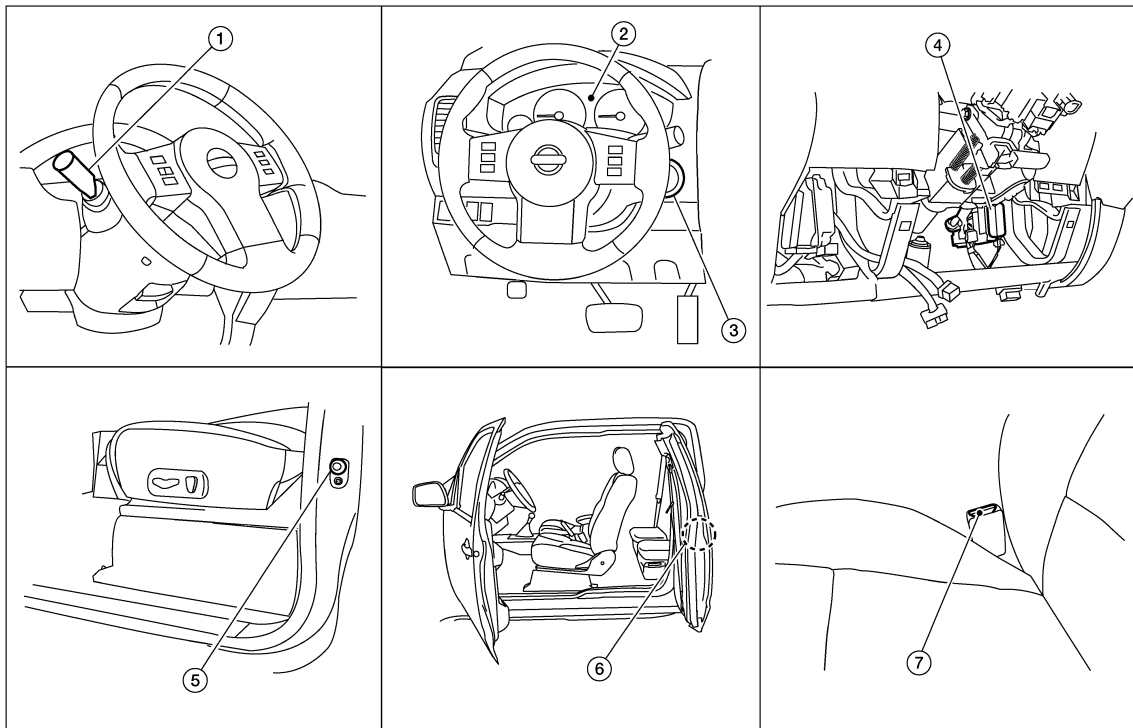
WARNING CANCEL CONDITIONS

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:000000004448858



WKIA4988E

- | | | |
|--|---------------------------------------|---|
| 1. Combination switch (lighting switch) M28 | 2. Combination meter M24 | 3. Key switch M27 |
| 4. BCM M18, M19, M20 (view with instrument lower panel LH removed) | 5. Front door switch LH B8 (crew cab) | 6. Front door switch LH D213 (king cab) |
| 7. Seat belt buckle switch LH B12 | | |

WARNING CHIME SYSTEM

< FUNCTION DIAGNOSIS >

SEAT BELT WARNING CHIME : Component Description

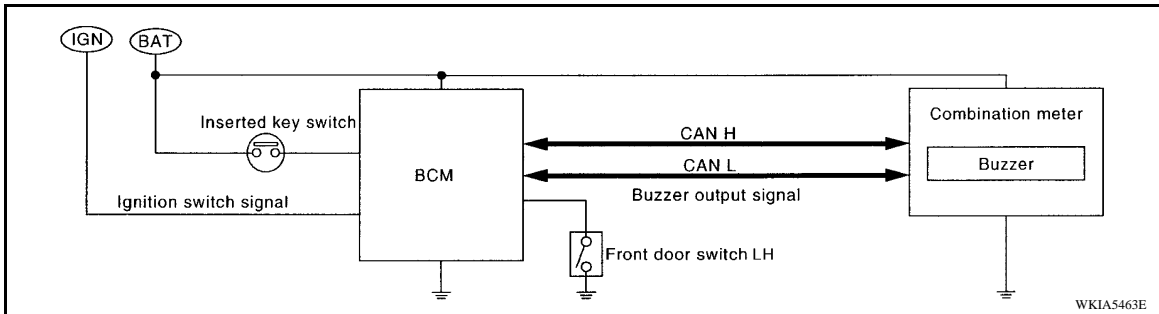
INFOID:000000004056978

Unit	Description
Combination meter	<ul style="list-style-type: none"> 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

KEY WARNING CHIME : System Diagram

INFOID:000000004056979



KEY WARNING CHIME : System Description

INFOID:000000004056980

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.

A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

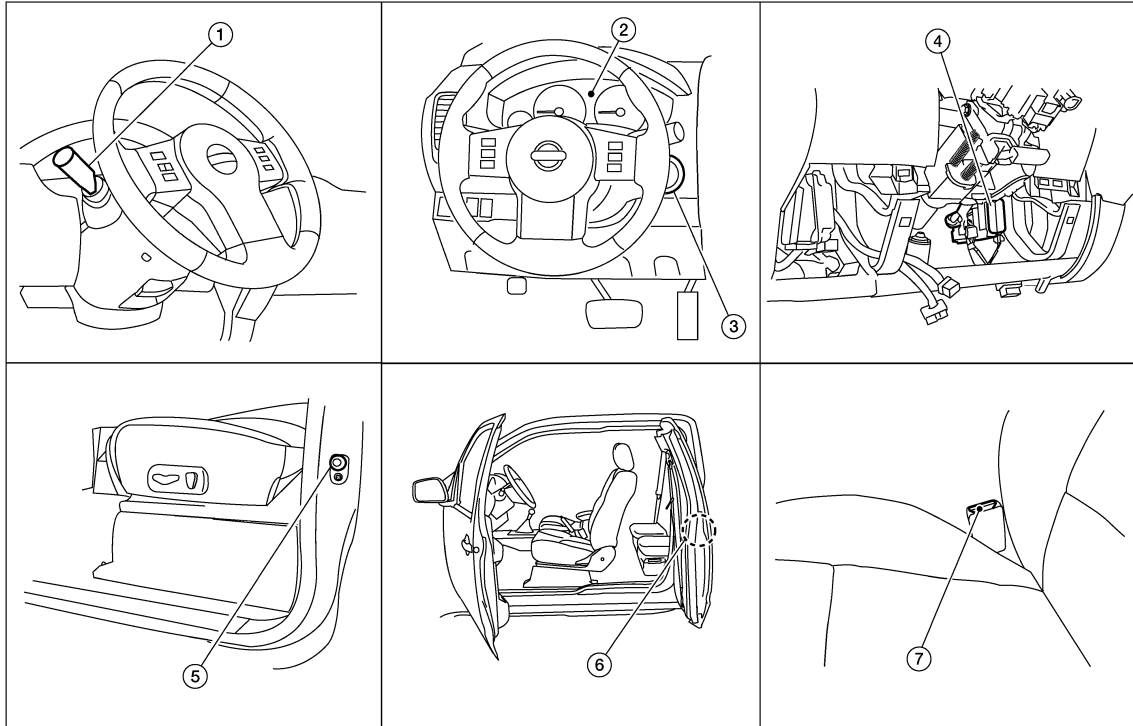
WCS

WARNING CHIME SYSTEM

< FUNCTION DIAGNOSIS >

KEY WARNING CHIME : Component Parts Location

INFOID:000000004448859



WKIA4988E

- | | | |
|--|---------------------------------------|---|
| 1. Combination switch (lighting switch) M28 | 2. Combination meter M24 | 3. Key switch M27 |
| 4. BCM M18, M19, M20 (view with instrument lower panel LH removed) | 5. Front door switch LH B8 (crew cab) | 6. Front door switch LH D213 (king cab) |
| 7. Seat belt buckle switch LH B12 | | |

KEY WARNING CHIME : Component Description

INFOID:000000004056982

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)

< FUNCTION DIAGNOSIS >

DIAGNOSIS SYSTEM (METER)

Diagnosis Description

INFOID:000000004448860

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.

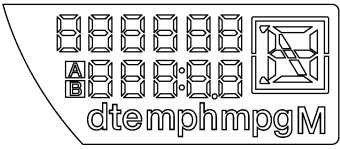
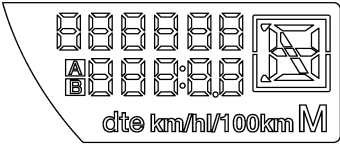
1. Turn the ignition switch ON, while pressing the odometer/trip meter switch for 5 - 8 seconds. When the diagnosis function is activated, the odometer/trip meter will display tEst.

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-93, "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.	<p>USA</p>  <p>Canada</p> 
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.

DIAGNOSIS SYSTEM (METER)

< FUNCTION DIAGNOSIS >

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 tell-tale "" in Hex format.	
Switch pressed	ot0 XX	Displays oil pressure tell-tale "" 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	XXXXC	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:000000004448861

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

DIAGNOSIS SYSTEM (METER)

< FUNCTION DIAGNOSIS >

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 [MWI-58, "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 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	This item is not used for this model. "OFF" is always displayed.
KEY R W/L [ON/OFF]		X	
KEY KNOB W/L [ON/OFF]		X	
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.

DIAGNOSIS SYSTEM (METER)

< FUNCTION DIAGNOSIS >

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, 5]	X	X	Indicates [1, 2, 3, 4, 5] condition of A/T manual mode gear position.
P RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift P range indicator.
R RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift R range indicator.
N RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift N range indicator.
D RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift D range indicator.
4 RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift 4 range indicator.
3 RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift 3 range indicator.
2 RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift 2 range indicator.
1 RANGE IND [ON/OFF]	X	X	Indicates [ON/OFF] condition of A/T shift 1 range indicator.
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.
FR FOG IND [ON/OFF]		X	This item is not used for this model. "OFF" is always displayed.
RR FOG IND [ON/OFF]		X	

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)

< FUNCTION DIAGNOSIS >

DIAGNOSIS SYSTEM (BCM)

BUZZER

BUZZER : CONSULT-III Function (BCM - BUZZER)

INFOID:000000004448862

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).

A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

WCS

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

COMPONENT DIAGNOSIS

POWER SUPPLY AND GROUND CIRCUIT COMBINATION METER

COMBINATION METER : Diagnosis Procedure

INFOID:000000004448869

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?

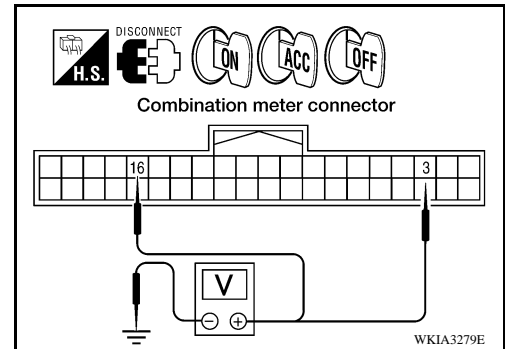
YES >> GO TO 2

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	Ground	Battery voltage	Battery voltage	Battery voltage
	M24		3	0V	0V
	16				Battery voltage



Is the inspection result normal?

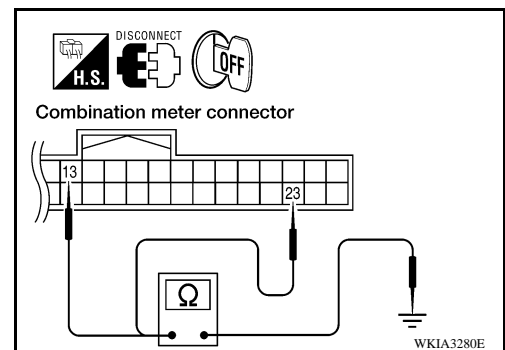
YES >> GO TO 3

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	Ground	Yes
	M24		
	23		



Is the inspection result normal?

YES >> Inspection End.

NO >> Check ground harness.

BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE) : Diagnosis Procedure

INFOID:000000004448870

1. CHECK FUSES AND FUSIBLE LINK

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

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

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)

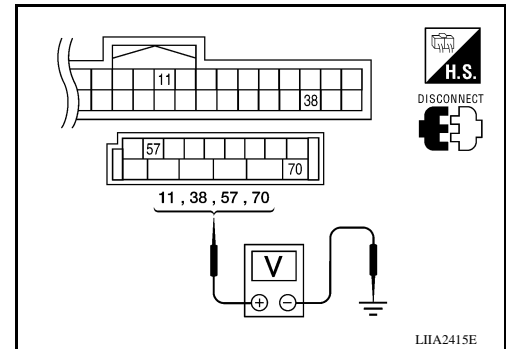
Is the fuse blown?

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

2. CHECK POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- Disconnect BCM.
- Check voltage between BCM harness connector and ground.

Connector	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.

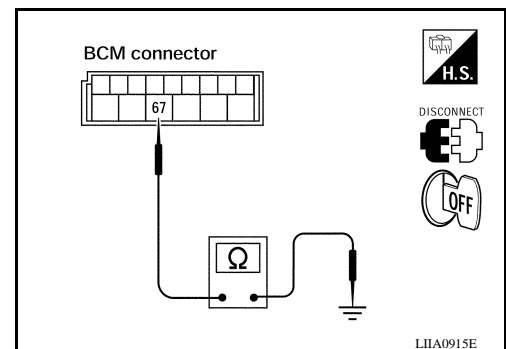
3. CHECK GROUND CIRCUIT

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.



A
B
C
D
E
F
G
H
I
J
K
L
M
WCS
O
P

METER BUZZER CIRCUIT

< COMPONENT DIAGNOSIS >

METER BUZZER CIRCUIT

Description

INFOID:000000004056988

- 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:000000004056989

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-93, "Removal and Installation"](#).

Diagnosis Procedure

INFOID:000000004056990

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 or replace harness.

SEAT BELT BUCKLE SWITCH SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

SEAT BELT BUCKLE SWITCH SIGNAL CIRCUIT

Description

INFOID:000000004056991

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

Component Function Check

INFOID:000000004056992

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:000000004056993

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-93, "Removal and Installation"](#).

NO >> GO TO 2

2. CHECK SEAT BELT BUCKLE SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect combination meter and seat belt buckle switch LH.
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.

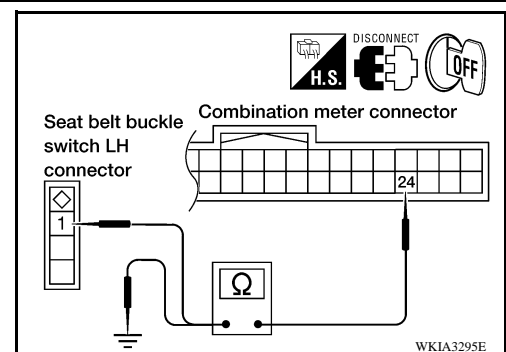
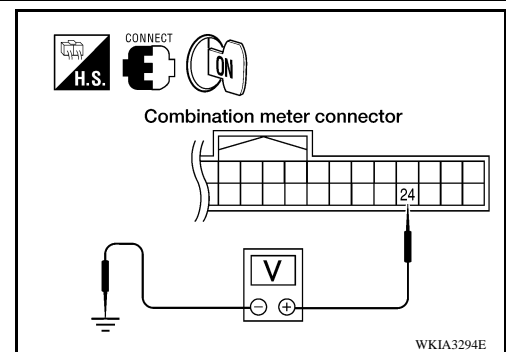
24 - Ground : Continuity should not exist.

Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness.

3. CHECK SEAT BELT BUCKLE SWITCH GROUND CIRCUIT



A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

WCS

SEAT BELT BUCKLE SWITCH SIGNAL CIRCUIT

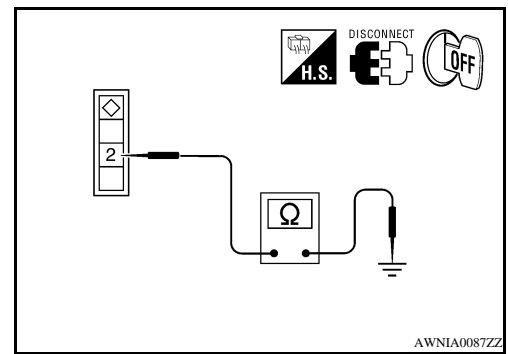
< COMPONENT DIAGNOSIS >

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 or replace harness.



INFOID:000000004056994

Component Inspection

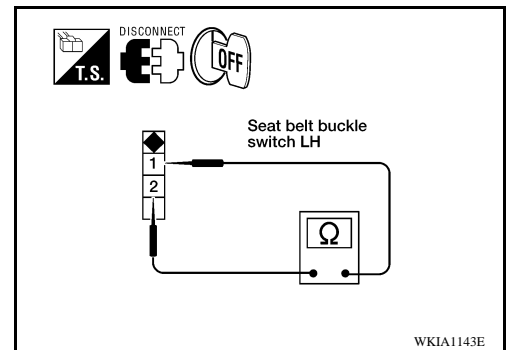
1. CHECK SEAT BELT BUCKLE SWITCH

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

< COMPONENT DIAGNOSIS >

KEY SWITCH SIGNAL CIRCUIT

Description

INFOID:000000004056995

Transmits a key switch signal to the BCM.

Component Function Check

INFOID:000000004056996

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:000000004056997

1. CHECK FUSE

Check if the key switch 10A fuse [No. 25, located in the fuse block (J/B)] is blown.

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.

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

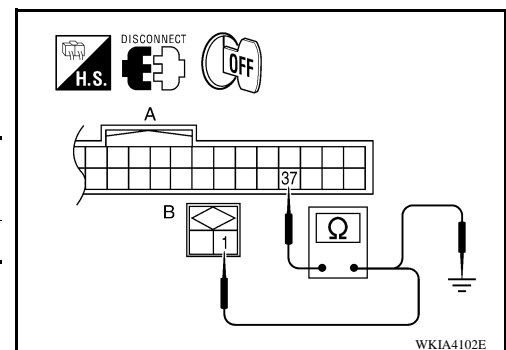
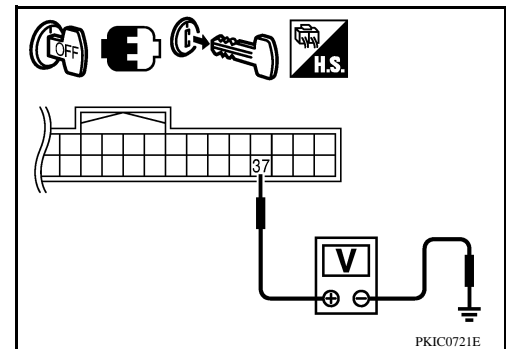
3. CHECK KEY SWITCH CIRCUIT

1. Disconnect BCM and key switch.
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



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

WCS

O
P

KEY SWITCH SIGNAL CIRCUIT

< COMPONENT DIAGNOSIS >

Is the inspection result normal?

- YES >> GO TO 4
- NO >> Repair or replace harness.

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 or replace harness.

Component Inspection

1. CHECK KEY SWITCH

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

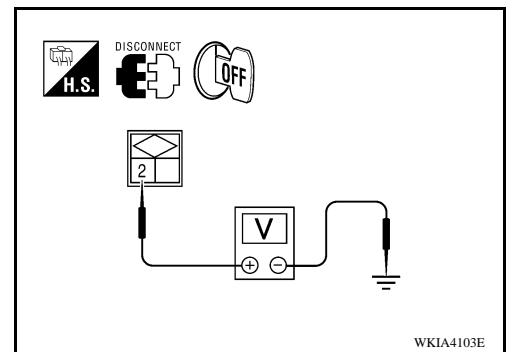
1 – 2

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

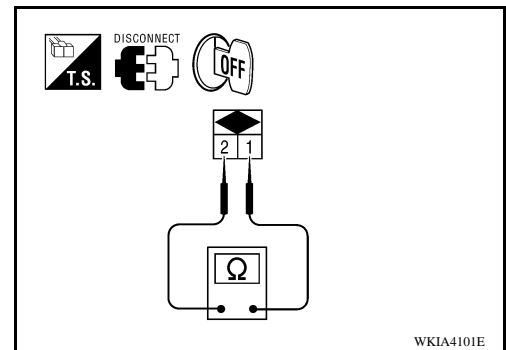
When key is removed from key cylinder : Continuity should not exist.

Is the inspection result normal?

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



INFOID:000000004056998



WARNING CHIME SYSTEM

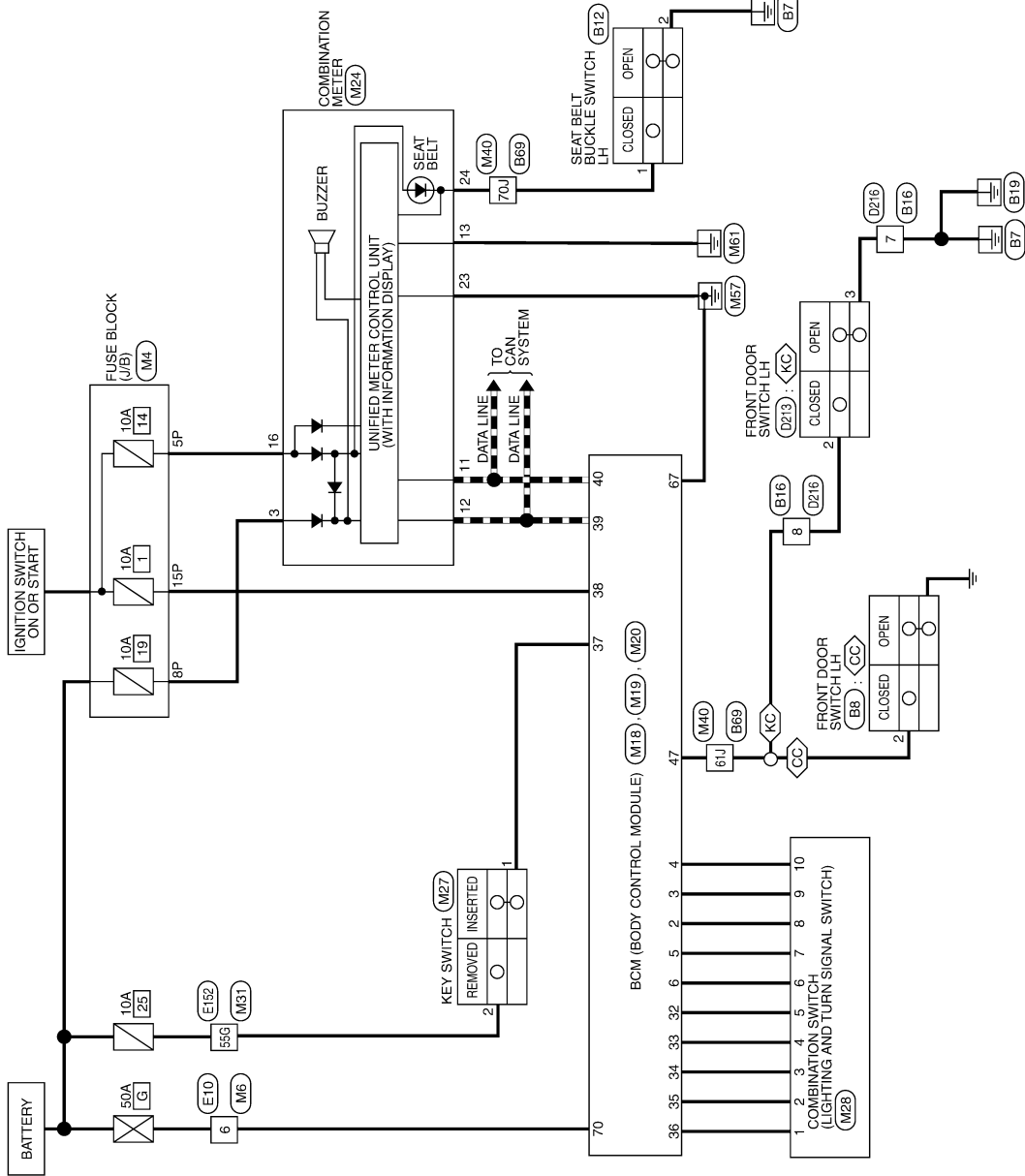
< COMPONENT DIAGNOSIS >

WARNING CHIME SYSTEM

Wiring Diagram

INFOID:000000004056999

 : DATA LINE
CC : CREW CAB
KC : KING CAB



WARNING CHIME

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

WCS

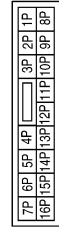
ABNWA0171GE

WARNING CHIME SYSTEM

< COMPONENT DIAGNOSIS >

WARNING CHIME CONNECTORS

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



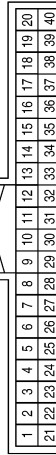
Terminal No.	Color of Wire	Signal Name
5P	W/G	-
8P	R/Y	-
15P	W/R	-

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



Terminal No.	Color of Wire	Signal Name
6	W	-

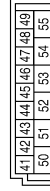
Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	P	INPUT 5
3	SB	INPUT 4

Terminal No.	Color of Wire	Signal Name
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



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

WARNING CHIME SYSTEM

< COMPONENT DIAGNOSIS >

Connector No.	M27
Connector Name	KEY SWITCH
Connector Color	WHITE



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

Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



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.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



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

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

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE



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

Terminal No.	Color of Wire	Signal Name
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

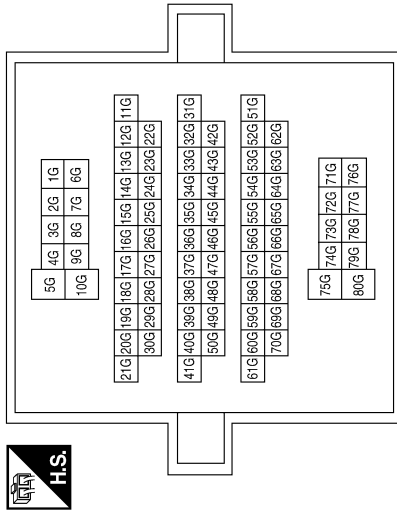
ABNIA0536GB

WARNING CHIME SYSTEM

< COMPONENT DIAGNOSIS >

Terminal No.	Color of Wire	Signal Name
55G	Y	-

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



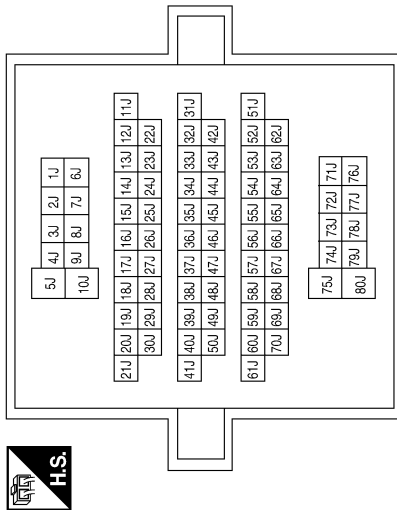
Connector No.	E10
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
6	W	-

Terminal No.	Color of Wire	Signal Name
61J	GR	-
70J	V	-

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

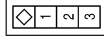


ABNIA0537GB

WARNING CHIME SYSTEM

< COMPONENT DIAGNOSIS >

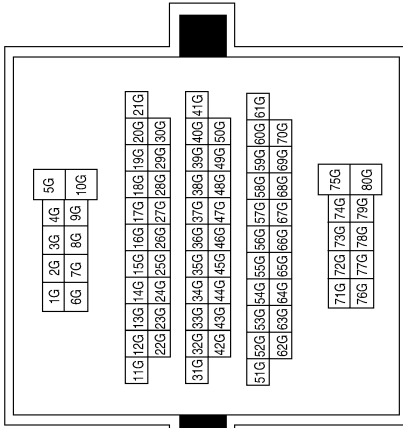
Connector No.	B8
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE



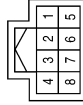
Terminal No.	Color of Wire	Signal Name
2	GR	-

Terminal No.	Color of Wire	Signal Name
55G	Y	-

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

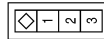


Connector No.	B16
Connector Name	WIRE TO WIRE (KING CAB)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	B	-
8	GR	-

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



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

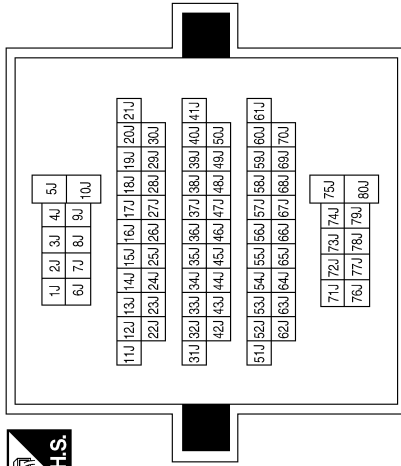
ABNIA0538GB

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

WARNING CHIME SYSTEM

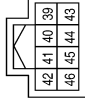
< COMPONENT DIAGNOSIS >

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



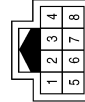
Terminal No.	Color of Wire	Signal Name
61J	GR	-
70J	V	-

Connector No.	D213
Connector Name	WIRE TO WIRE
Connector Color	WHITE



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

Connector No.	D216
Connector Name	WIRE TO WIRE (KING CAB)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	B	-
8	LG	-

ABNIA0539GB

COMBINATION METER

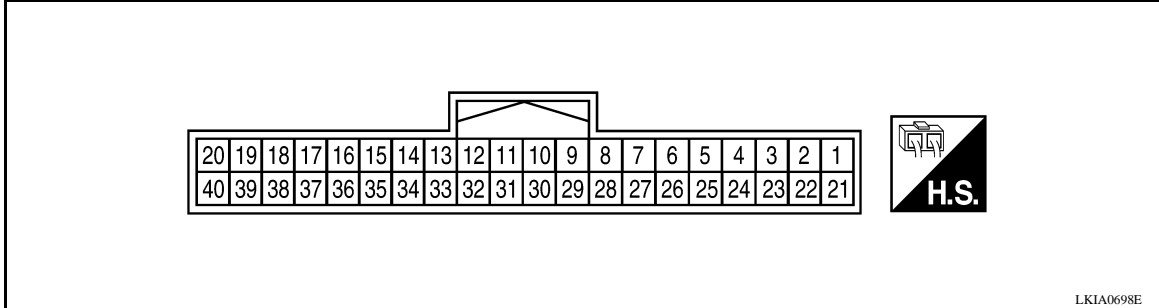
< ECU DIAGNOSIS >

ECU DIAGNOSIS COMBINATION METER

Reference Value

INFOID:000000004448873

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 (2-pulse)	ON	Speedometer operated [When vehicle speed is approx. 20 km/h (12 MPH)]	240 Hz
6	SB	Vehicle speed signal output (8-pulse)	ON	Speedometer operated [When vehicle speed is approx. 40 km/h (25 MPH)]	<p>NOTE: Maximum voltage may be 12V due to specifications (connected units).</p> <p style="text-align: right;"><small>PKIC0643E</small></p>
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
24	V	Seat belt buckle switch LH	ON	Unfastened (ON)	0
				Fastened (OFF)	Battery voltage
25	SB	DIFF LOCK indicator input	ON	DIFF LOCK indicator ON	0
				DIFF LOCK indicator OFF	Battery voltage

COMBINATION METER

< ECU DIAGNOSIS >

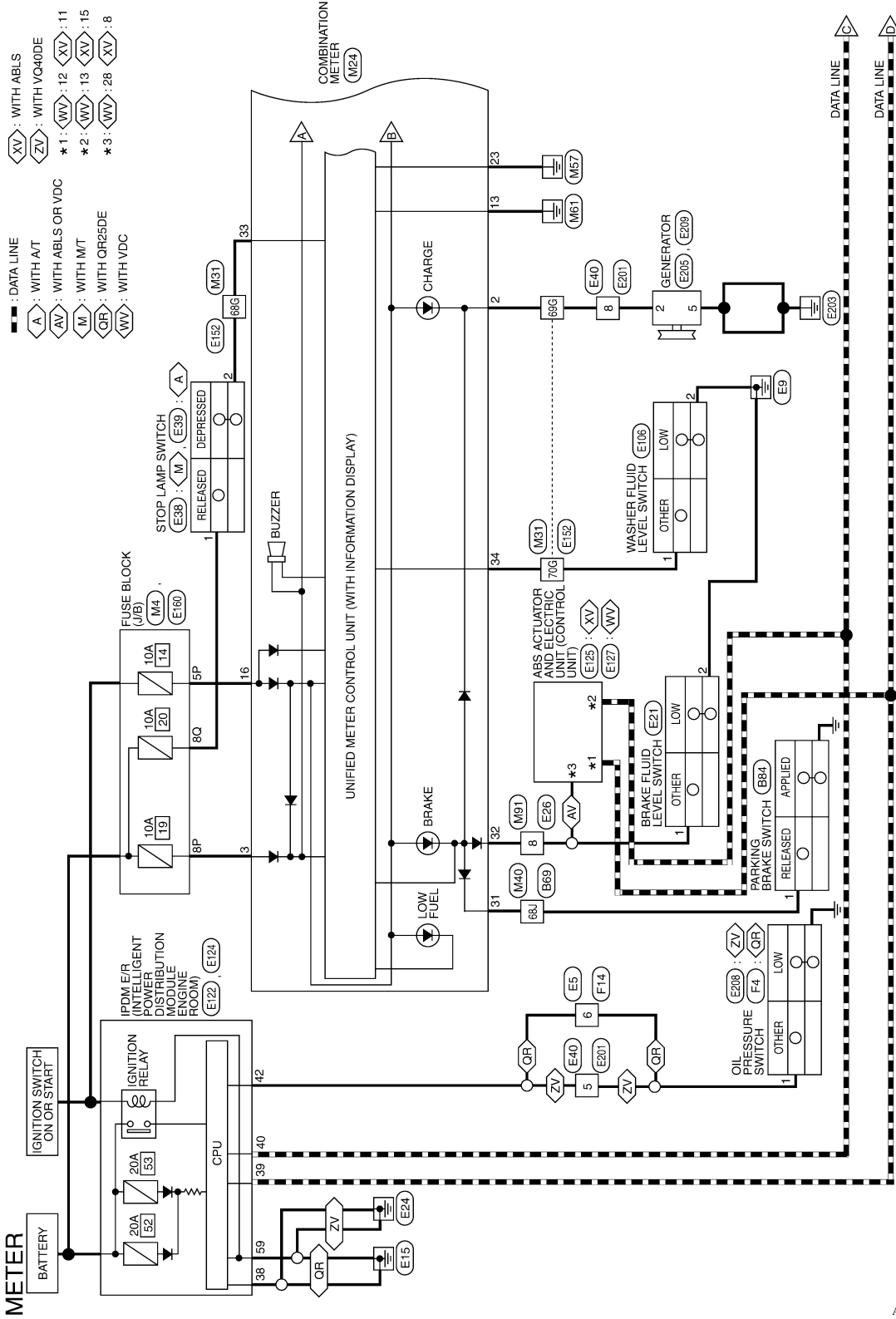
Terminal	Wire color	Item	Condition		Reference value (V) (Approx.)
			Ignition switch	Operation or condition	
31	G	Parking brake switch	ON	Parking brake applied	0
				Parking brake released	Battery voltage
32	SB	Brake fluid level switch	ON	Brake fluid level low	0
				Brake fluid level normal	Battery voltage
33	LG	Stop lamp switch	—	Brake pedal depressed	Battery voltage
				Brake pedal released	0
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

COMBINATION METER

< ECU DIAGNOSIS >

Wiring Diagram

INFOID:000000004448874



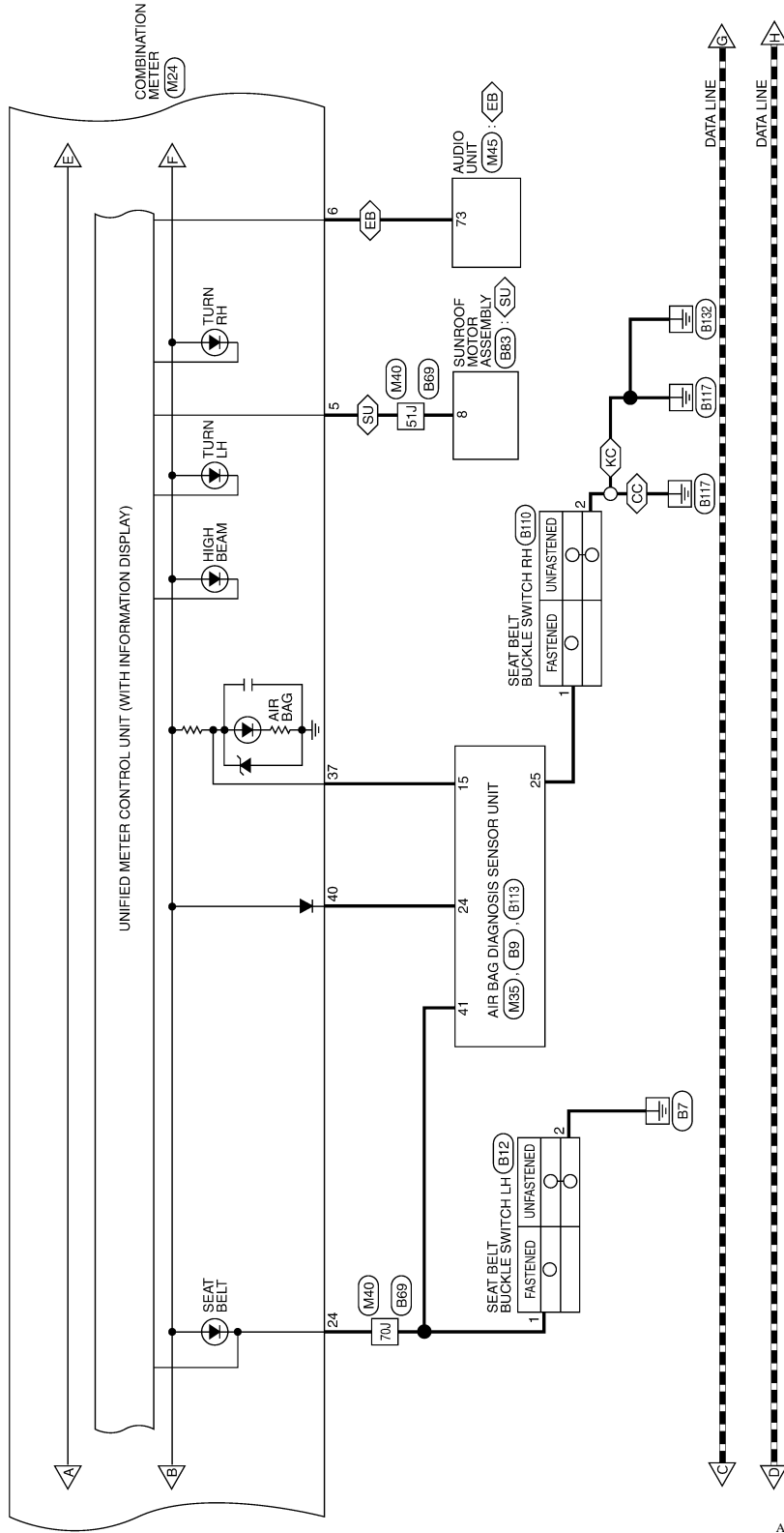
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

WCS

COMBINATION METER

< ECU DIAGNOSIS >

- : DATA LINE
- ◊ : CREW / CAB
- ◊ : EXCEPT BASE AUDIO SYSTEM
- ◊ : KING CAB
- ◊ : WITH SUNROOF

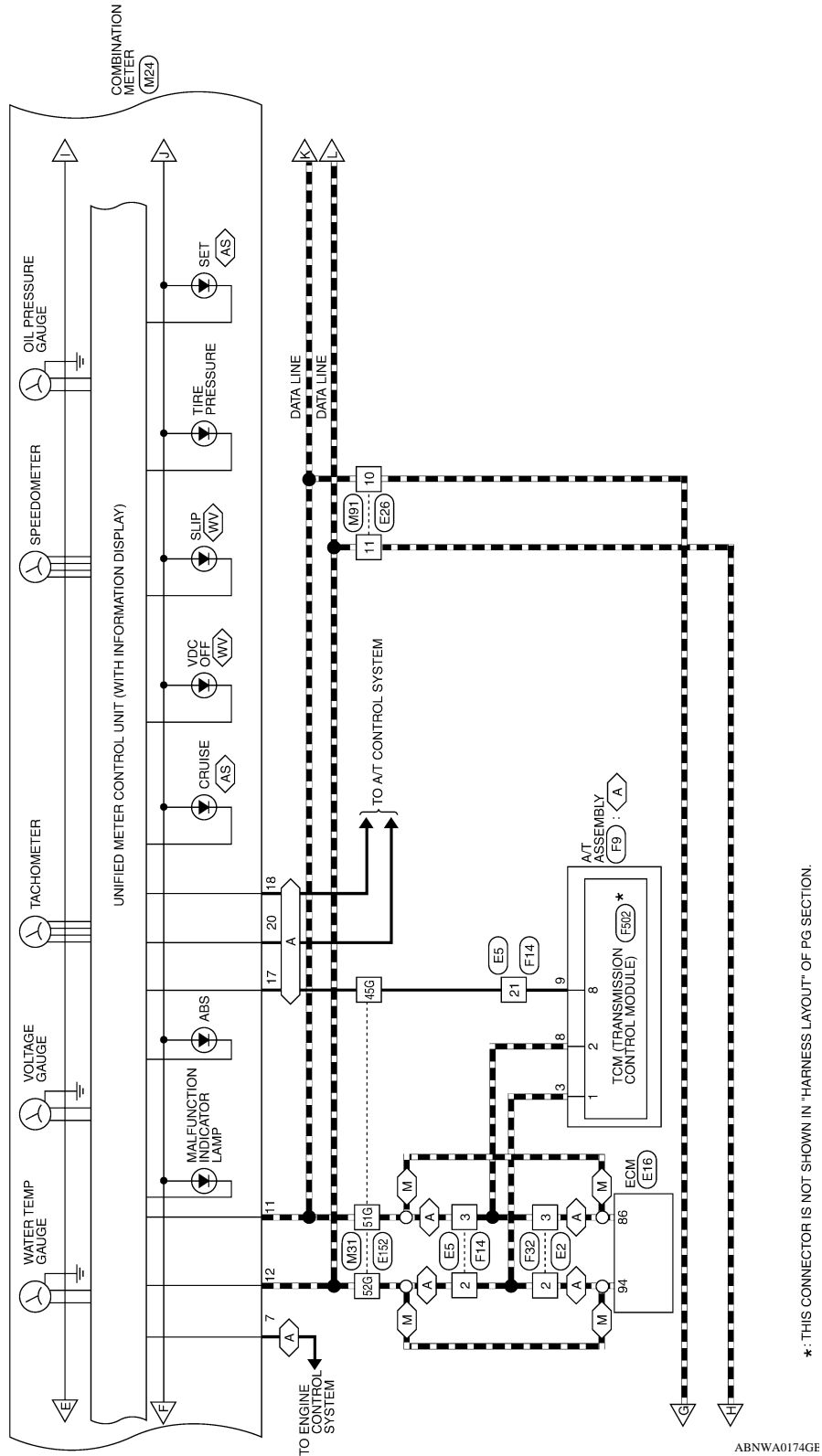


ABNWA0173GE

COMBINATION METER

< ECU DIAGNOSIS >

- : DATA LINE
- A : WITH A/T
- AS : WITH ASCD
- M : WITH M/T



*: THIS CONNECTOR IS NOT SHOWN IN "HARNES LAYOUT" OF PG SECTION.

ABNWA0174GE

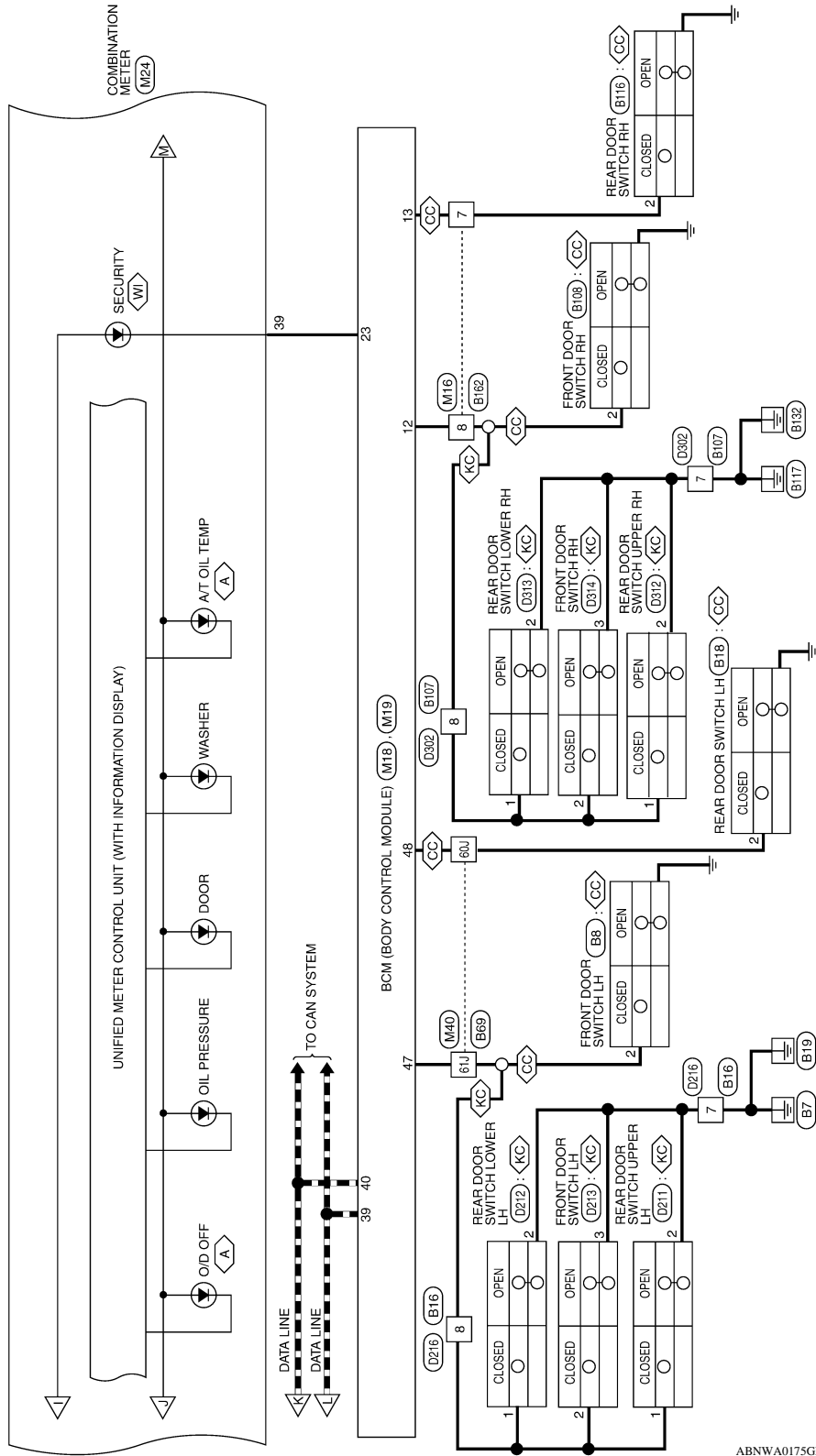
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

WCS

COMBINATION METER

< ECU DIAGNOSIS >

- : DATA LINE
- ◁ A ▷ : WITH A/T
- ◁ CC ▷ : CREW CAB
- ◁ KC ▷ : KING CAB
- ◁ W ▷ : WITH IMMOBILIZER

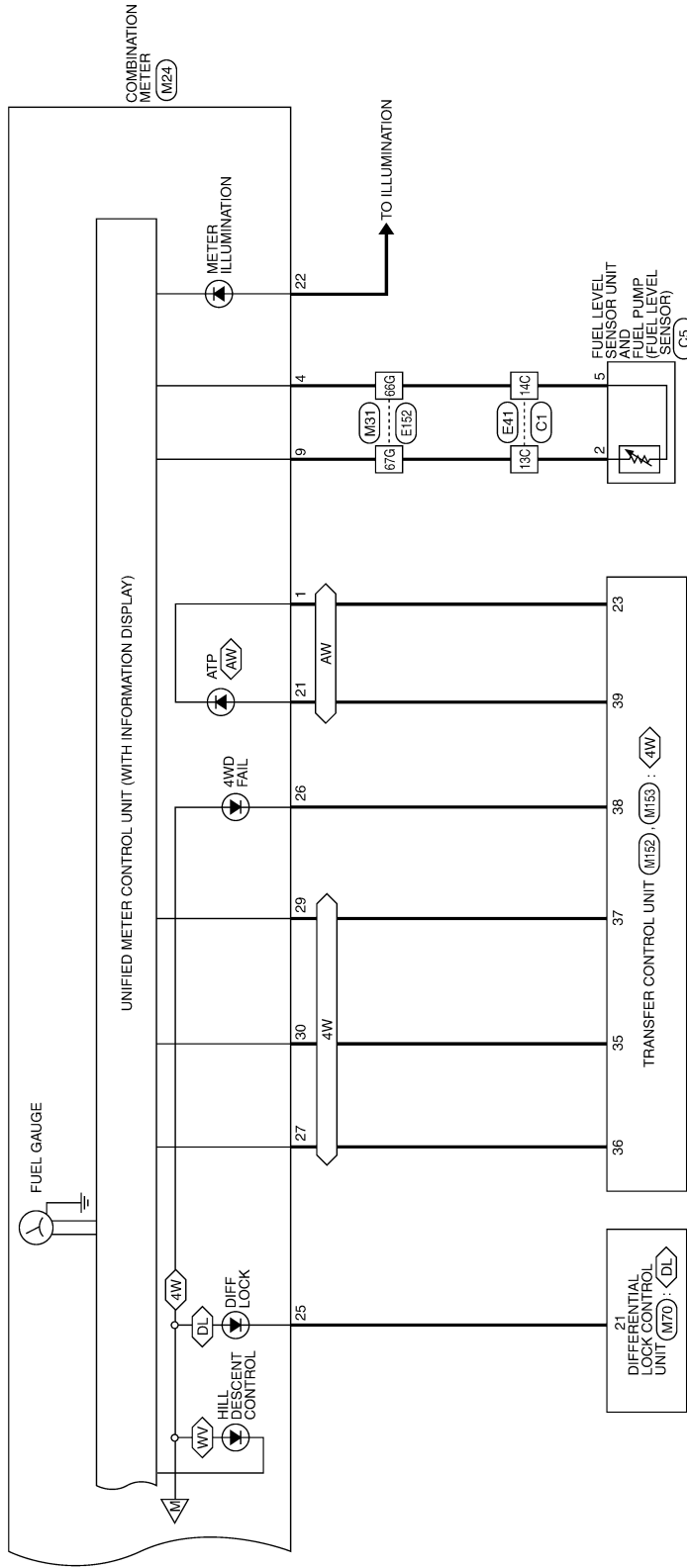


ABNWA0175GE

COMBINATION METER

< ECU DIAGNOSIS >

- <4W> : WITH 4-WHEEL DRIVE
- <AW> : WITH A/T AND 4-WHEEL DRIVE
- <DL> : WITH ELECTRONIC LOCKING REAR DIFFERENTIAL
- <WV> : WITH VDC



A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

WCS

ABNWA0176GE

COMBINATION METER

< ECU DIAGNOSIS >

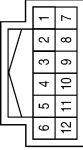
METER CONNECTORS

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



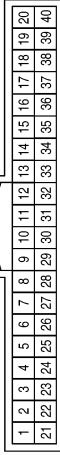
Terminal No.	Color of Wire	Signal Name
5P	W/G	-
8P	R/Y	-

Connector No.	M16
Connector Name	WIRE TO WIRE
Connector Color	WHITE



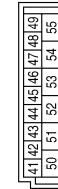
Terminal No.	Color of Wire	Signal Name
7	L	-
8	LG	-

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



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



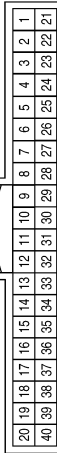
Terminal No.	Color of Wire	Signal Name
47	GR	DOOR SW (DR)
48	P	DOOR SW (RL)

ABNIA0540GB

COMBINATION METER

< ECU DIAGNOSIS >

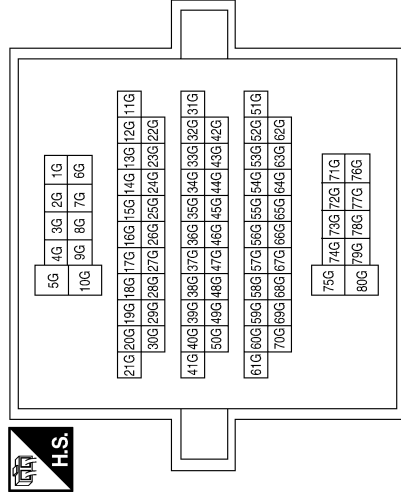
Connector No.	M24
Connector Name	COMBINATION METER
Connector Color	WHITE



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	SB	SPEED OUT 8
7	G	AT-PN ECM
8	-	-
9	BR	FUEL SENDER INPUT
10	-	-
11	P	CAN-L
12	L	CAN-H
13	GR	GROUND
14	-	-
15	-	-
16	W/G	RUN START
17	B	AT-PN SWITCH
18	L	AT 1 RANGE SWITCH
19	-	-
20	Y	O/D OFF SWITCH

Terminal No.	Color of Wire	Signal Name
21	LG	ATP+
22	BR	ILLUMINATION CONTROL
23	B	POWER GND
24	V	BUCKLE (SEATBELT) SW
25	SB	DIFF LOCK
26	GR	4WD FAIL
27	BR	4WD (LOCK) INPUT
28	-	-
29	O	4WD (4LO) INPUT
30	V	4WD (2WD) 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

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



Terminal No.	Color of Wire	Signal Name
45G	B	-
51G	P	-
52G	L	-
66G	B/Y	-
67G	BR	-
68G	LG	-
69G	P	-
70G	L	-

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

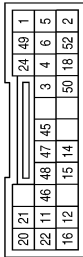
WCS

ABNIA0541GB

COMBINATION METER

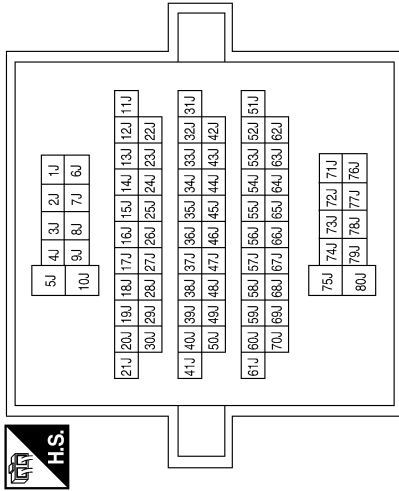
< ECU DIAGNOSIS >

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



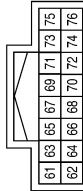
Terminal No.	Color of Wire	Signal Name
15	SB	WARN LP
24	LG	SEATBELT REMINDER

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



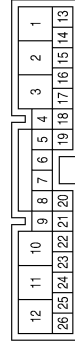
Terminal No.	Color of Wire	Signal Name
51J	W	-
60J	P	-
61J	GR	-
68J	G	-
70J	V	-

Connector No.	M45
Connector Name	AUDIO UNIT
Connector Color	WHITE



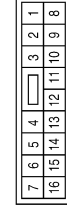
Terminal No.	Color of Wire	Signal Name
73	SB	SPEED SIGNAL

Connector No.	M70
Connector Name	DIFFERENTIAL LOCK CONTROL UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	SB	DIFF LOCK IND

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

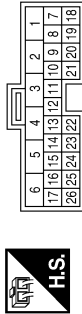


Terminal No.	Color of Wire	Signal Name
8	SB	-
10	P	-
11	L	-

COMBINATION METER

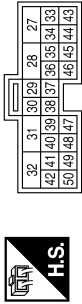
< ECU DIAGNOSIS >

Connector No.	M152
Connector Name	TRANSFER CONTROL UNIT
Connector Color	WHITE



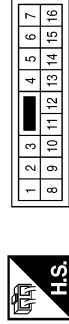
Terminal No.	Color of Wire	Signal Name
23	R	ATP SW

Connector No.	M153
Connector Name	TRANSFER CONTROL UNIT
Connector Color	WHITE



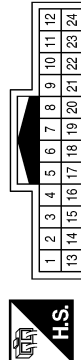
Terminal No.	Color of Wire	Signal Name
35	V	2WD IND
36	BR	LOCK IND
37	O	4LO IND
38	GR	4WD FAIL IND
39	LG	ATP IND

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



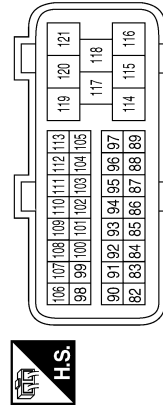
Terminal No.	Color of Wire	Signal Name
2	L	-
3	P	-

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



Terminal No.	Color of Wire	Signal Name
2	L	-
3	P	-
6	GR	-
21	R	-

Connector No.	E16
Connector Name	ECM
Connector Color	BLACK



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



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

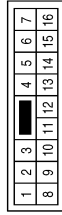
A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

WCS

COMBINATION METER

< ECU DIAGNOSIS >

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



Terminal No.	Color of Wire	Signal Name
8	SB	-
10	P	-
11	L	-

Connector No.	E38
Connector Name	STOP LAMP SWITCH (WITH M/T)
Connector Color	BLACK



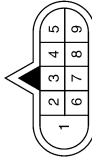
Terminal No.	Color of Wire	Signal Name
1	R/B	-
2	Y	-

Connector No.	E39
Connector Name	STOP LAMP SWITCH (WITH A/T)
Connector Color	WHITE



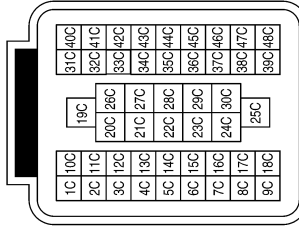
Terminal No.	Color of Wire	Signal Name
1	R/B	-
2	Y	-

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



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

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



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

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



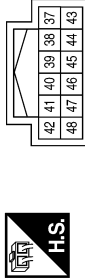
Terminal No.	Color of Wire	Signal Name
1	L	-
2	B	-

ABNIA0544GB

COMBINATION METER

< ECU DIAGNOSIS >

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



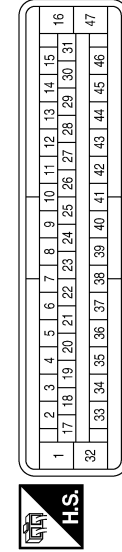
Terminal No.	Color of Wire	Signal Name
38	B	GND (SIGNAL)
39	L	CAN-H
40	P	CAN-L
42	GR	OIL PRESSURE SW

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



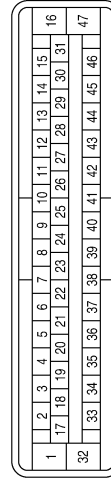
Terminal No.	Color of Wire	Signal Name
59	B	GND (POWER)

Connector No.	E125
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) (WITHOUT VDC)
Connector Color	BLACK



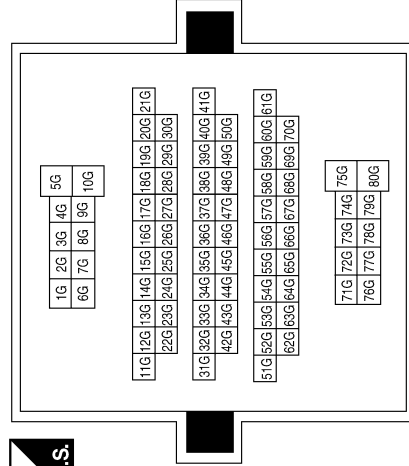
Terminal No.	Color of Wire	Signal Name
8	GR	BRAKE LEVEL SW (WITH ABL)
11	L	CAN-H
15	P	CAN-L

Connector No.	E127
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) (WITH VDC)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
12	L	CAN-H
13	P	CAN-L
28	GR	BRAKE LEVEL SW

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
45G	B	-
51G	P	-
52G	L	-
66G	B/Y	-
67G	BR	-
68G	LG	-
69G	P	-
70G	L	-

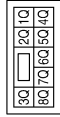
ABNIA0545GB

A B C D E F G H I J K L M O P

COMBINATION METER

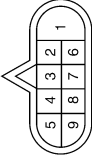
< ECU DIAGNOSIS >

Connector No.	E160
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	8Q	Color of Wire	R/B	Signal Name	-
--------------	----	---------------	-----	-------------	---

Connector No.	E201
Connector Name	WIRE TO WIRE
Connector Color	GRAY



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

Connector No.	E205
Connector Name	GENERATOR
Connector Color	BLACK



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

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



Terminal No.	1	Color of Wire	GR	Signal Name	-
--------------	---	---------------	----	-------------	---

Connector No.	E209
Connector Name	GENERATOR
Connector Color	-



Terminal No.	5	Color of Wire	B	Signal Name	E
--------------	---	---------------	---	-------------	---

Connector No.	F4
Connector Name	OIL PRESSURE SWITCH (WITH QR25DE)
Connector Color	GRAY



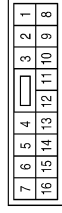
Terminal No.	1	Color of Wire	GR	Signal Name	-
--------------	---	---------------	----	-------------	---

ABNIA0546GB

COMBINATION METER

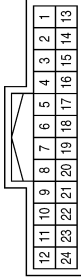
< ECU DIAGNOSIS >

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



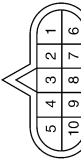
Terminal No.	Color of Wire	Signal Name
2	L	-
3	P	-

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



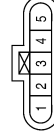
Terminal No.	Color of Wire	Signal Name
2	L	-
3	P	-
6	GR	-
21	R	-

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



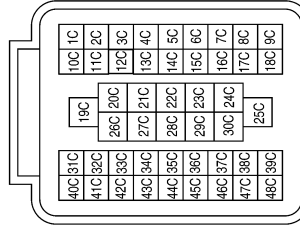
Terminal No.	Color of Wire	Signal Name
3	L	-
8	P	-
9	R	-

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



Terminal No.	Color of Wire	Signal Name
2	BR	-
5	B	-

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



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

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



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

ABNIA0547GB

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

COMBINATION METER

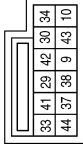
< ECU DIAGNOSIS >

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



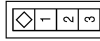
Terminal No.	Color of Wire	Signal Name
1	O	-
2	B	-

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



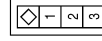
Terminal No.	Color of Wire	Signal Name
41	O	BUCKLE SW LH

Connector No.	B8
Connector Name	FRONT DOOR SWITCH LH (CREW CAB)
Connector Color	WHITE



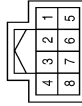
Terminal No.	Color of Wire	Signal Name
2	GR	-

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



Terminal No.	Color of Wire	Signal Name
2	P	-

Connector No.	B16
Connector Name	WIRE TO WIRE
Connector Color	WHITE



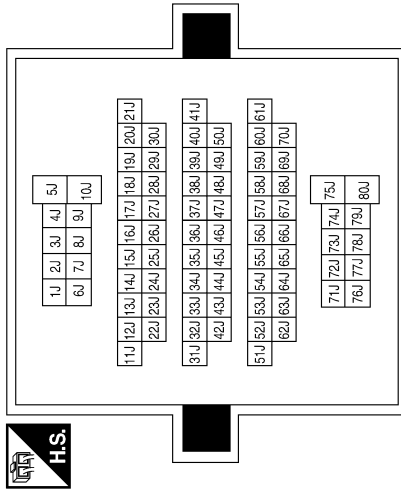
Terminal No.	Color of Wire	Signal Name
7	B	-
8	GR	-

ABNIA0548GB

COMBINATION METER

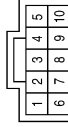
< ECU DIAGNOSIS >

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



Terminal No.	Color of Wire	Signal Name
51J	W	-
60J	P	-
61J	GR	-
68J	G	-
70J	V	-

Connector No.	B83
Connector Name	SUNROOF MOTOR ASSEMBLY
Connector Color	BLACK



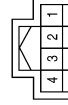
Terminal No.	Color of Wire	Signal Name
8	W	-

Connector No.	B84
Connector Name	PARKING BRAKE SWITCH
Connector Color	BLACK



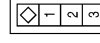
Terminal No.	Color of Wire	Signal Name
1	G	-

Connector No.	B107
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	B	-
8	LG	-

Connector No.	B108
Connector Name	FRONT DOOR SWITCH RH (CREW CAB)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
2	LG	-

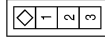
ABNIA0549GB

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

COMBINATION METER

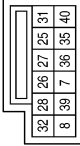
< ECU DIAGNOSIS >

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



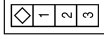
Terminal No.	Color of Wire	Signal Name
1	L	-
2	B	-

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



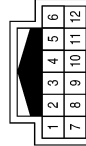
Terminal No.	Color of Wire	Signal Name
25	L	BUCKLE SW RH

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



Terminal No.	Color of Wire	Signal Name
2	L	-

Connector No.	B162
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	L	-
8	LG	-

Connector No.	D211
Connector Name	REAR DOOR SWITCH UPPER LH
Connector Color	BLACK



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

Connector No.	D212
Connector Name	REAR DOOR SWITCH LOWER LH
Connector Color	BLACK



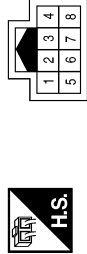
Terminal No.	Color of Wire	Signal Name
1	L	-
2	B	-

ABNIA0550GB

COMBINATION METER

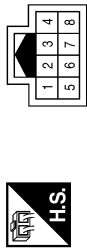
< ECU DIAGNOSIS >

Connector No.	D302
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	B	-
8	LG	-

Connector No.	D216
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	B	-
8	LG	-

Connector No.	D213
Connector Name	FRONT DOOR SWITCH LH (KING CAB)
Connector Color	WHITE



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

Connector No.	D314
Connector Name	FRONT DOOR SWITCH RH (KING CAB)
Connector Color	WHITE



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

Connector No.	D313
Connector Name	REAR DOOR SWITCH LOWER RH
Connector Color	BLACK



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

Connector No.	D312
Connector Name	REAR DOOR SWITCH UPPER RH
Connector Color	BLACK



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

Fail Safe

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

ABNIA0551GB

INFOID:000000004448875

A
B
C
D
E
F
G
H
I
J
K
L
M
O
P



COMBINATION METER

< ECU DIAGNOSIS >

Function		Specifications
Speedometer		Zero indication.
Tachometer		
Fuel gauge		
Engine coolant temperature gauge		
Engine oil pressure gauge (with VQ40DE)		
Voltage gauge (with VQ40DE)		
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	
	SLIP indicator lamp	
	AT oil temp warning lamp	Lamp turns off when communication is lost.
	Low washer fluid warning lamp	
	Hill descent control indicator lamp	
	Door open warning lamp	
	CRUISE indicator lamp	
	SET indicator lamp	
	O/D OFF indicator lamp	
	Oil pressure warning lamp	
	Malfunction indicator lamp	
	Air bag warning lamp	
	High beam indicator	
	Turn signal indicator 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		
Differential lock indicator lamp		
Low tire pressure warning lamp	Lamp will flash every second for 1 minute and then stay on continuously thereafter.	

COMBINATION METER

< ECU DIAGNOSIS >

DTC Index

INFOID:000000004448876

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.)

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

WCS

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000004448881

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
IGN ON SW	Ignition switch OFF or ACC	OFF
	Ignition switch ON	ON
KEY ON SW	Mechanical key is removed from key cylinder	OFF
	Mechanical key is inserted to key cylinder	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-DR	Driver's door closed	OFF
	Driver's door opened	ON
DOOR SW-AS	Passenger door closed	OFF
	Passenger door opened	ON
DOOR SW-RR	Rear RH door closed	OFF
	Rear RH door opened	ON
DOOR SW-RL	Rear LH door closed	OFF
	Rear LH door opened	ON
BACK DOOR SW	NOTE: The item is indicated, but not monitored.	—
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	OFF
	Driver door key cylinder LOCK position	ON
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	OFF
	Driver door key cylinder UNLOCK position	ON
KEYLESS LOCK	"LOCK" button of key fob is not pressed	OFF
	"LOCK" button of key fob is pressed	ON
KEYLESS UNLOCK	"UNLOCK" button of key fob is not pressed	OFF
	"UNLOCK" button of key fob is pressed	ON
ACC ON SW	Ignition switch OFF	OFF
	Ignition switch ACC or ON	ON
REAR DEF SW	Rear window defogger switch OFF	OFF
	Rear window defogger switch ON	ON
LIGHT SW 1ST	Lighting switch OFF	OFF
	Lighting switch 1ST	ON
BUCKLE SW	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) OFF]	OFF
	The seat belt (driver side) is fastened. [Seat belt switch (driver side) ON]	ON
KEYLESS PANIC	PANIC button of key fob is not pressed	OFF
	PANIC button of key fob is pressed	ON
KEYLESS TRUNK	NOTE: The item is indicated, but not monitored.	OFF

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status	
TRNK OPN MNTR	NOTE: The item is indicated, but not monitored.	OFF	A
RKE LCK-UNLCK	LOCK/UNLOCK button of key fob is not pressed and held simultaneously	OFF	B
	LOCK/UNLOCK button of key fob is pressed and held simultaneously	ON	
RKE KEEP UNLK	UNLOCK button of key fob is not pressed	OFF	C
	UNLOCK button of key fob is pressed and held	ON	
HI BEAM SW	Lighting switch OFF	OFF	D
	Lighting switch HI	ON	
HEAD LAMP SW 1	Lighting switch OFF	OFF	E
	Lighting switch 2ND	ON	
HEAD LAMP SW 2	Lighting switch OFF	OFF	F
	Lighting switch 2ND	ON	
AUTO LIGHT SW	Lighting switch OFF	OFF	G
	Lighting switch AUTO	ON	
PASSING SW	Other than lighting switch PASS	OFF	H
	Lighting switch PASS	ON	
FR FOG SW	Front fog lamp switch OFF	OFF	I
	Front fog lamp switch ON	ON	
RR FOG SW	NOTE: The item is indicated, but not monitored.	OFF	J
TURN SIGNAL R	Turn signal switch OFF	OFF	K
	Turn signal switch RH	ON	
TURN SIGNAL L	Turn signal switch OFF	OFF	L
	Turn signal switch LH	ON	
CARGO LAMP SW	Cargo lamp switch OFF	OFF	M
	Cargo lamp switch ON	ON	
OPTICAL SENSOR	Bright outside vehicle	5V	WCS
	Dark outside vehicle	0V	
IGN SW CAN	Ignition switch OFF or ACC	OFF	O
	Ignition switch ON	ON	
FR WIPER HI	Front wiper switch OFF	OFF	P
	Front wiper switch HI	ON	
FR WIPER LOW	Front wiper switch OFF	OFF	
	Front wiper switch LO	ON	
FR WIPER INT	Front wiper switch OFF	OFF	
	Front wiper switch INT	ON	
FR WASHER SW	Front washer switch OFF	OFF	
	Front washer switch ON	ON	
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7	
FR WIPER STOP	Any position other than front wiper stop position	OFF	
	Front wiper stop position	ON	
VEHICLE SPEED	While driving	Equivalent to speedometer reading	
RR WIPER ON	NOTE: The item is indicated, but not monitored.	OFF	

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

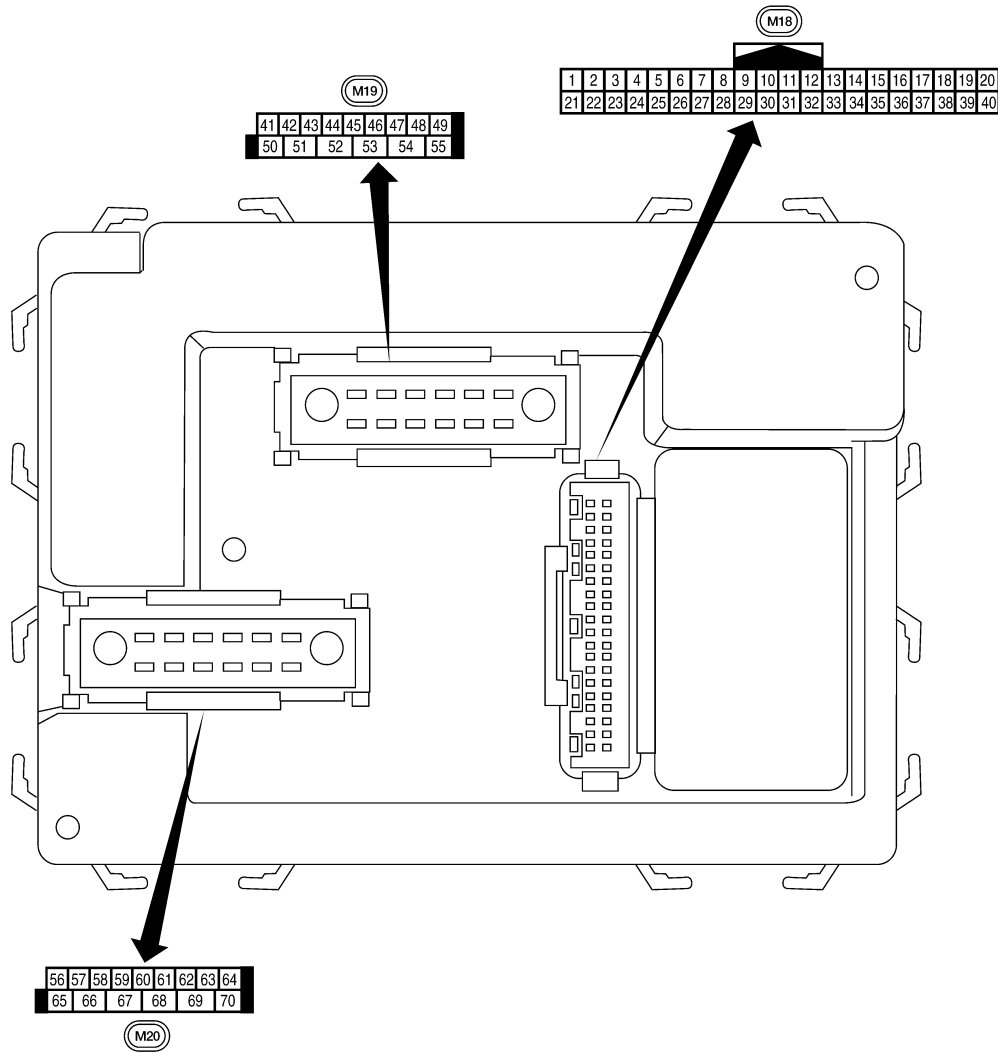
Monitor Item	Condition	Value/Status
RR WIPER INT	NOTE: The item is indicated, but not monitored.	OFF
RR WASHER SW	NOTE: The item is indicated, but not monitored.	OFF
RR WIPER STOP	NOTE: The item is indicated, but not monitored.	OFF
RR WIPER STP2	NOTE: The item is indicated, but not monitored.	OFF
H/L WASH SW	NOTE: The item is indicated, but not monitored.	OFF
HAZARD SW	Hazard switch OFF	OFF
	Hazard switch ON	ON
BRAKE SW	Brake pedal is not depressed	OFF
	Brake pedal is depressed	ON
FAN ON SIG	Blower fan motor switch OFF	OFF
	Blower fan motor switch ON (other than OFF)	ON
AIR COND SW	Compressor ON is not requested from auto amp. (A/C indicator OFF, blower fan motor switch OFF or etc.)	OFF
	Compressor ON is requested from auto amp. (A/C indicator ON and blower fan motor switch ON).	ON
TRNK OPNR SW	NOTE: The item is indicated, but not monitored.	OFF
TRUNK CYL SW	NOTE: The item is indicated, but not monitored.	OFF
HOOD SW	NOTE: The item is indicated, but not monitored.	OFF
OIL PRESS SW	<ul style="list-style-type: none"> • Ignition switch OFF or ACC • Engine running 	OFF
	Ignition switch ON	ON
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID REGST FL1	ID of front LH tire transmitter is registered	DONE
	ID of front LH tire transmitter is not registered	YET
ID REGST FR1	ID of front RH tire transmitter is registered	DONE
	ID of front RH tire transmitter is not registered	YET
ID REGST RR1	ID of rear RH tire transmitter is registered	DONE
	ID of rear RH tire transmitter is not registered	YET
ID REGST RL1	ID of rear LH tire transmitter is registered	DONE
	ID of rear LH tire transmitter is not registered	YET
WARNING LAMP	Tire pressure indicator OFF	OFF
	Tire pressure indicator ON	ON
BUZZER	Tire pressure warning alarm is not sounding	OFF
	Tire pressure warning alarm is sounding	ON

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal Layout

INFOID:000000004448882



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

WCS


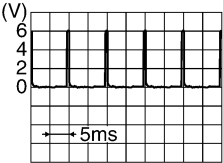

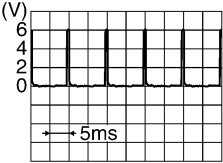
Physical Values

L1IA2443E

INFOID:000000004448883

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal	Wire color	Item	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	 <p style="text-align: right; font-size: small;">SKIA5291E</p>
3	SB	Combination switch input 4	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
4	V	Combination switch input 3	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>
5	L	Combination switch input 2	Input	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
6	R	Combination switch input 1				
7	GR	Front door lock assembly LH (key cylinder switch) unlock	Input	OFF	ON (open, 2nd turn)	Momentary 1.5V
8	SB	Front door lock assembly LH (key cylinder switch) lock			OFF (closed)	0V
			On (open)	Momentary 1.5V		
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 (All)	Input	OFF	ON (open)	0V
		Rear door switch upper RH (King Cab)			OFF (closed)	Battery voltage
		Rear door switch lower RH (King Cab)				

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

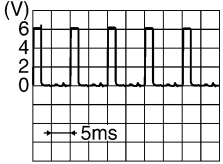
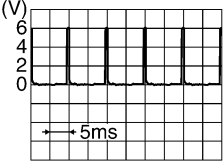
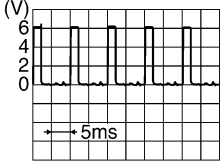
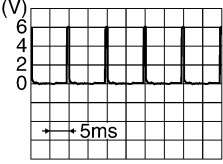
Terminal	Wire color	Item	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
13	L	Rear door switch RH (Crew Cab)	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
15	W	Tire pressure warning check connector	Input	OFF	—	5V
18	BR	Remote keyless entry receiver (Ground)	Output	OFF	—	0V
19	V	Remote keyless entry receiver (power supply)	Output	OFF	Ignition switch OFF	
20	G	Remote keyless entry receiver signal (Signal)	Input	OFF	Stand-by (keyfob buttons released)	
					When remote keyless entry receiver receives signal from keyfob (keyfob buttons pressed)	
21	GR	NATS antenna amp.	Input	OFF → ON	Ignition switch (OFF → ON)	Just after turning ignition switch ON: Pointer of tester should move.
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.
27	W	Compressor ON signal	Input	ON	A/C switch OFF	5V
					A/C switch ON	0V
28	R	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
31	GR	Cargo lamp switch	Input	OFF	ON	0V
					OFF	Battery voltage

A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

WCS

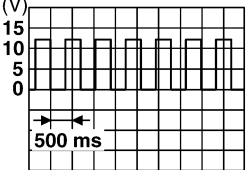
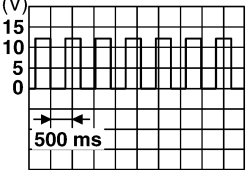
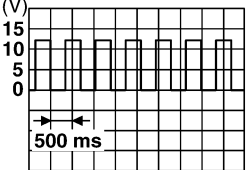
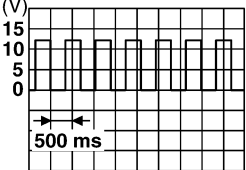
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal	Wire color	Item	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	 <p style="text-align: right; font-size: small;">SKIA5291E</p>
33	GR	Combination switch output 4	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
34	G	Combination switch output 3	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5291E</p>
35	BR	Combination switch output 2	Output	ON	Lighting, turn, wiper OFF Wiper dial position 4	 <p style="text-align: right; font-size: small;">SKIA5292E</p>
36	LG	Combination switch output 1				
37	B	Key switch	Input	OFF	Key inserted	Battery voltage
					Key removed	0V
38	W/R	Ignition switch (ON)	Input	ON	—	Battery voltage
39	L	CAN-H	—	—	—	—
40	P	CAN-L	—	—	—	—
45	V	Lock switch	Input	OFF	ON (lock)	0V
					OFF	Battery voltage
46	LG	Unlock switch	Input	OFF	ON (unlock)	0V
					OFF	Battery voltage
47	GR	Front door switch LH (All)	Input	OFF	ON (open)	0V
		Rear door switch upper LH (King Cab)			OFF (closed)	Battery voltage
		Rear door switch lower LH (King Cab)				
48	P	Rear door switch LH (Crew Cab)	Input	OFF	ON (open)	0V
					OFF (closed)	Battery voltage
50	P	Cargo lamp	Output	OFF	Any door open (ON)	0V
					All doors closed (OFF)	Battery voltage

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Terminal	Wire color	Item	Signal input/output	Measuring condition		Reference value or waveform (Approx.)	
				Ignition switch	Operation or condition		
51	G	Trailer turn signal (right)	Output	ON	Turn right ON	 <p style="text-align: right; font-size: small;">SKIA3009J</p>	
52	V	Trailer turn signal (left)	Output	ON	Turn left ON	 <p style="text-align: right; font-size: small;">SKIA3009J</p>	
56	V	Battery saver output	Output	OFF	30 minutes after ignition switch is turned OFF	0V	
				ON	—	Battery voltage	
57	R/Y	Battery power supply	Input	—	—	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 (unlock)	Output	OFF	OFF (neutral)	0V	
					ON (unlock)	Battery voltage	
60	LG	Turn signal (left)	Output	ON	Turn left ON	 <p style="text-align: right; font-size: small;">SKIA3009J</p>	
61	G	Turn signal (right)	Output	ON	Turn right ON	 <p style="text-align: right; font-size: small;">SKIA3009J</p>	
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 (unlock)	Output	OFF	OFF (neutral)	0V	
					ON (unlock)	Battery voltage	
67	B	Ground	Input	ON	—	0V	

A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

WCS

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

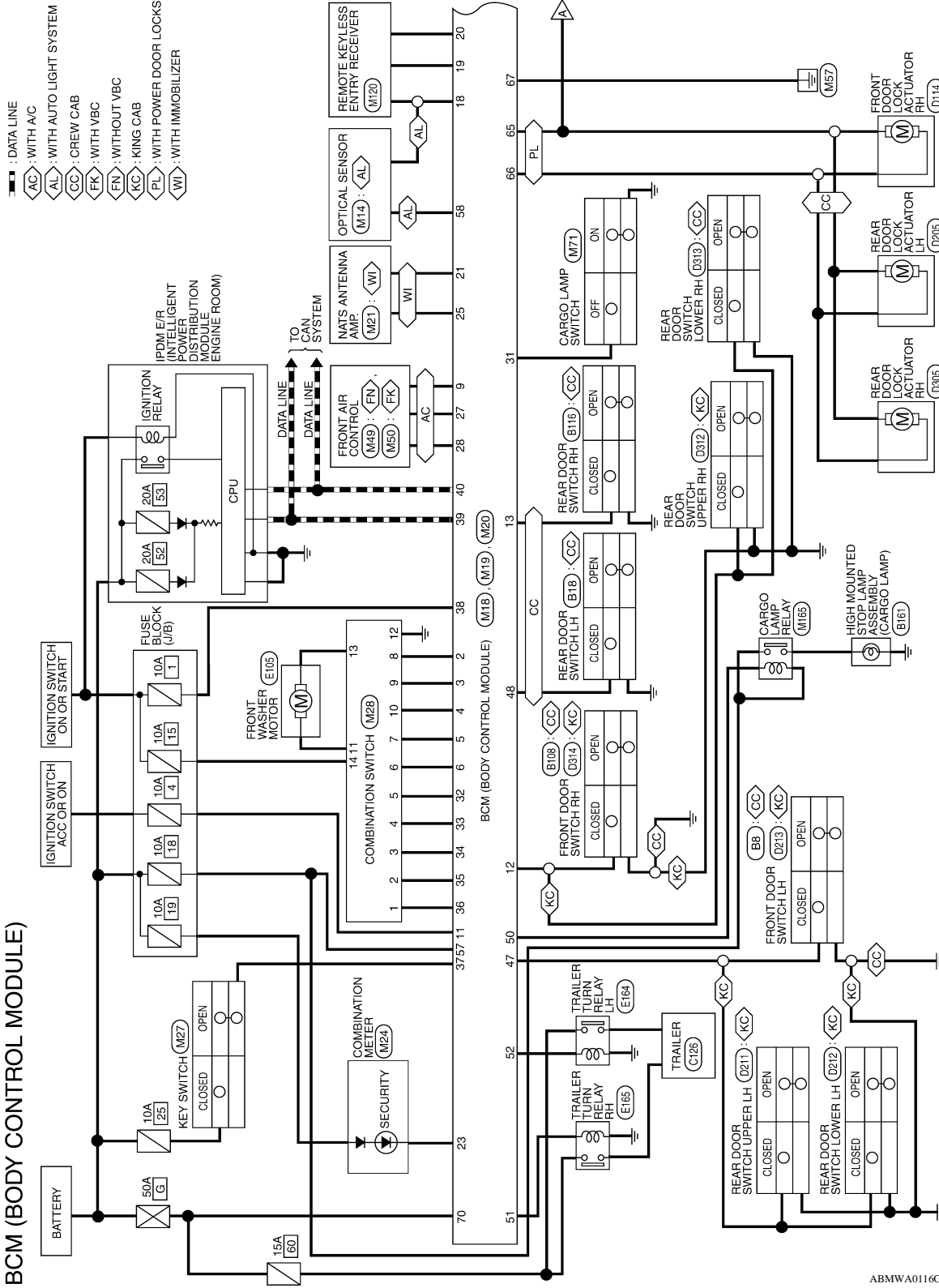
Terminal	Wire color	Item	Signal input/output	Measuring condition		Reference value or waveform (Approx.)
				Ignition switch	Operation or condition	
68	O	Power window power supply (RAP)	Output	—	Ignition switch ON	Battery voltage
					Within 45 seconds after ignition switch OFF	Battery voltage
					More than 45 seconds after ignition switch OFF	0V
					When front door LH or RH is open or power window timer operates	0V
69	P	Power window power supply (BAT)	Output	OFF	—	Battery voltage
70	W	Battery power supply	Input	OFF	—	Battery voltage

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Wiring Diagram

INFOID:00000000448884



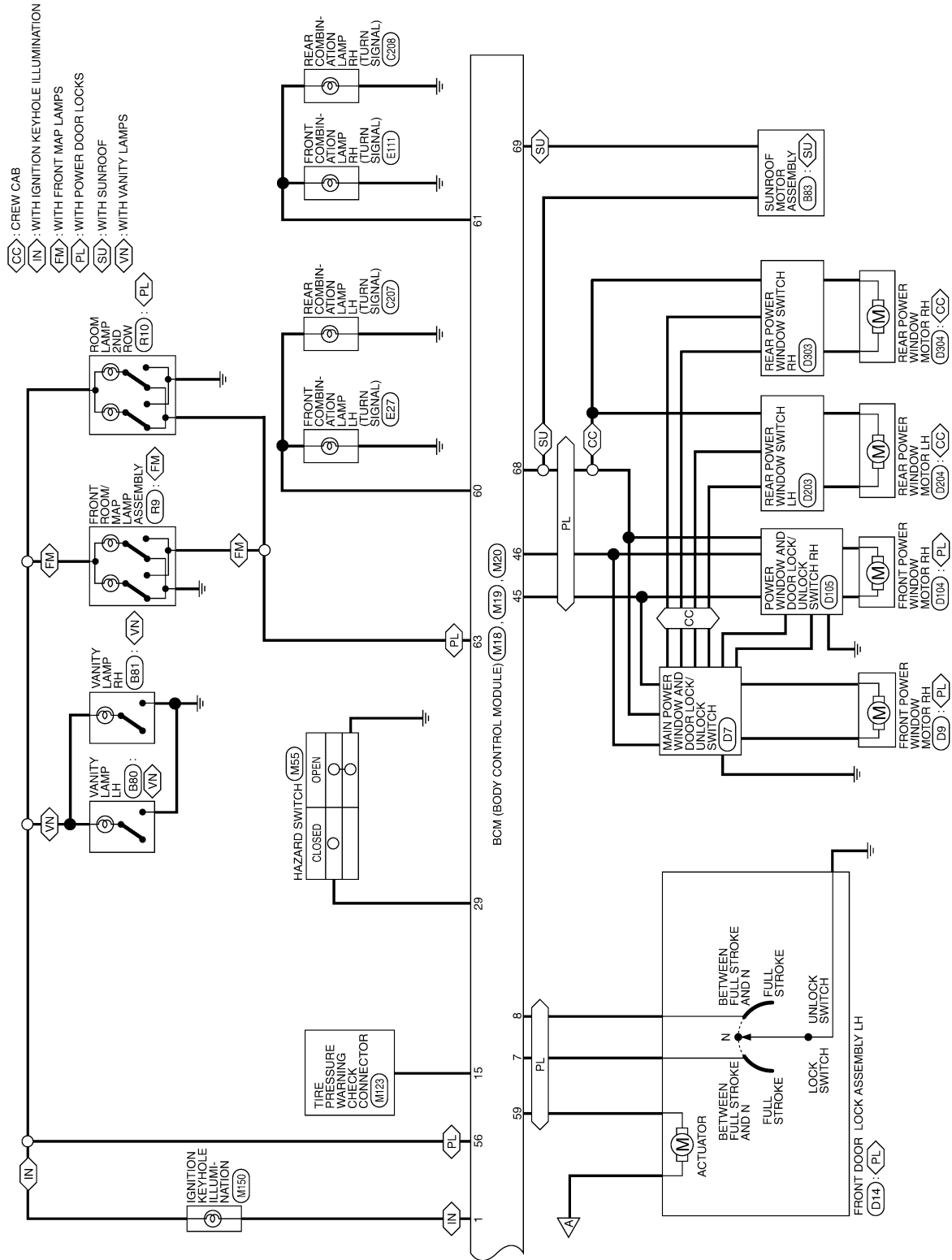
ABMWA0116GI

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

WCS

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >



ABMWA0117GI

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

BCM (BODY CONTROL MODULE) CONNECTORS

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



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	GR	KEY CYLINDER UNLOCK SW
8	SB	KEY CYLINDER LOCK SW
9	Y	RR 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 & AUTO LIGHT SENSOR GND
19	V	KEYLESS TUNER POWER SUPPLY OUTPUT

Terminal No.	Color of Wire	Signal Name
20	G	KEYLESS TUNER SIGNAL
21	GR	IMMOBILIZER ANTENNA SIGNAL (CLOCK)
22	-	-
23	G	SECURITY INDICATOR OUTPUT
24	-	-
25	BR	IMMOBILIZER ANTENNA SIGNAL (RX, TX)
26	-	-
27	W	AIRCON SW
28	R	BLOWER FAN SW
29	G	HAZARD SW
30	-	-
31	GR	CARGO LAMP SW
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



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

Terminal No.	Color of Wire	Signal Name
41	-	-
42	-	-
43	-	-
44	-	-
45	V	CDL LOCK SW
46	LG	CDL UNLOCK SW
47	GR	DOOR SW (DR)
48	P	DOOR SW (RL)
49	-	-
50	P	CARGO LAMP OUTPUT
51	G	TRAILER FLASHER OUTPUT (RIGHT)
52	V	TRAILER FLASHER OUTPUT (LEFT)
53	-	-
54	-	-
55	-	-

ABMIA0315GB

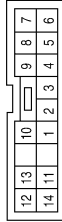
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P



BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

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	WASH FR (-) RR (+)
12	B	GND
13	L	WASH FR (-) RR (-)
14	W	IGN

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



Terminal No.	Color of Wire	Signal Name
56	V	BATTERY 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 OUTPUT
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	P	POWER WINDOW POWER SUPPLY OUTPUT (BAT)
70	W	BAT (F/L)

ABMIA0316GB

INFOID:000000004448889

Fail Safe

Fail-safe index

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

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

Display contents of CONSULT	Fail-safe	Cancellation
U1000: CAN COMM CIRCUIT	Inhibit engine cranking	When the BCM re-establishes communication with the other modules.
U1010: CONTROL UNIT (CAN)	Inhibit engine cranking	When the BCM re-start communicating with the other modules.

DTC Inspection Priority Chart

INFOID:000000004448885

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

Priority	DTC
1	<ul style="list-style-type: none"> • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
2	<ul style="list-style-type: none"> • B2190: NATS ANTENNA AMP • B2191: DIFFERENCE OF KEY • B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM
3	<ul style="list-style-type: none"> • C1729: VHCL SPEED SIG ERR • C1735: IGNITION SIGNAL
4	<ul style="list-style-type: none"> • 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:000000004448886

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.

A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

WCS

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS >

CONSULT display	Fail-safe	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	—	—	—
U1000: CAN COMM CIRCUIT	—	—	BCS-30
U1010: CONTROL UNIT (CAN)	—	—	BCS-31
B2190: NATS ANTENA AMP	—	—	SEC-18
B2191: DIFFERENCE OF KEY	—	—	SEC-21
B2192: ID DISCORD BCM-ECM	—	—	SEC-22
B2193: CHAIN OF BCM-ECM	—	—	SEC-24
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 SIGNAL	—	—	—

THE LIGHT REMINDER WARNING DOES NOT SOUND

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

THE LIGHT REMINDER WARNING DOES NOT SOUND

Description

INFOID:000000004057010

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

Diagnosis Procedure

INFOID:000000004057011

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 [DLK-29. "CREW CAB : Diagnosis Procedure"](#) or [DLK-29. "CREW CAB : Diagnosis Procedure"](#).

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 [DLK-29. "CREW CAB : Component Function Check"](#) or [DLK-27. "KING CAB : Component Function Check"](#).

Is the inspection result normal?

YES >> Replace the BCM. Refer to [BCS-56. "Removal and Installation"](#).

NO >> Replace the front door switch LH.

A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

WCS

THE SEAT BELT WARNING CONTINUES SOUNDING, OR DOES NOT SOUND

< SYMPTOM DIAGNOSIS >

THE SEAT BELT WARNING CONTINUES SOUNDING, OR DOES NOT SOUND

Description

INFOID:000000004057012

- 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:000000004057013

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-93, "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-56, "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-19, "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-20, "Component Inspection"](#).

Is the inspection result normal?

- YES >> Replace the combination meter. Refer to [MWI-93, "Removal and Installation"](#).
NO >> Replace the seat belt buckle switch LH.

THE KEY WARNING DOES NOT SOUND

< SYMPTOM DIAGNOSIS >

THE KEY WARNING DOES NOT SOUND

Description

INFOID:000000004057014

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

Diagnosis Procedure

INFOID:000000004057015

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-93, "Removal and Installation"](#).

2.CHECK KEY SWITCH CIRCUIT

Perform inspection of the key switch circuit. Refer to [WCS-21, "Diagnosis Procedure"](#).

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-22, "Component Inspection"](#).

Is the inspection result normal?

YES >> Replace the BCM. Refer to [BCS-56, "Removal and Installation"](#).

NO >> Replace the key switch.

A
B
C
D
E
F
G
H
I
J
K
L
M
O
P

WCS

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

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

INFOID:000000004057016

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.