SECTION SBC
SEAT BELT CONTROL SYSTEM

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PRECAUTION

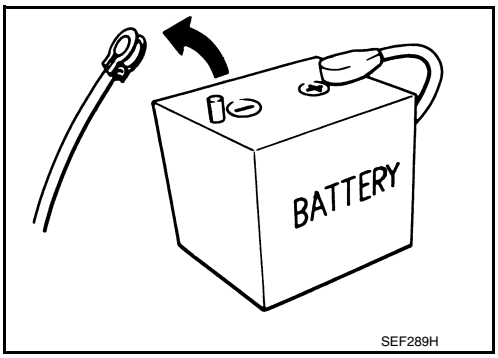
PRECAUTIONS

Precautions for Removing Battery Terminal

INFOID:0000000013560017

When disconnecting the battery terminal, pay attention to the following.

- Always use a 12V battery as power source.
- Never disconnect battery terminal while engine is running.
- When removing the 12V battery terminal, turn OFF the ignition switch and wait at least 30 seconds.
- For vehicles with the engine listed below, remove the battery terminal after a lapse of the specified time:



BR08DE	: 4 minutes	YD25DDTi	: 2 minutes
D4D engine	: 20 minutes	YS23DDT	: 4 minutes
HRA2DDT	: 12 minutes	YS23DDTT	: 4 minutes
K9K engine	: 4 minutes	ZD30DDTi	: 60 seconds
M9R engine	: 4 minutes	ZD30DDTT	: 60 seconds
R9M engine	: 4 minutes		
V9X engine	: 4 minutes		

NOTE:
ECU may be active for several tens of seconds after the ignition switch is turned OFF. If the battery terminal is removed before ECU stops, then a DTC detection error or ECU data corruption may occur.

- After high-load driving, if the vehicle is equipped with the V9X engine, turn the ignition switch OFF and wait for at least 15 minutes to remove the battery terminal.

NOTE:
- Turbocharger cooling pump may operate in a few minutes after the ignition switch is turned OFF.
- Example of high-load driving
  - Driving for 30 minutes or more at 140 km/h (86 MPH) or more.
  - Driving for 30 minutes or more on a steep slope.

- For vehicles with the 2-batteries, be sure to connect the main battery and the sub battery before turning ON the ignition switch.

NOTE:
If the ignition switch is turned ON with any one of the terminals of main battery and sub battery disconnected, then DTC may be detected.

- After installing the 12V battery, always check "Self Diagnosis Result" of all ECUs and erase DTC.

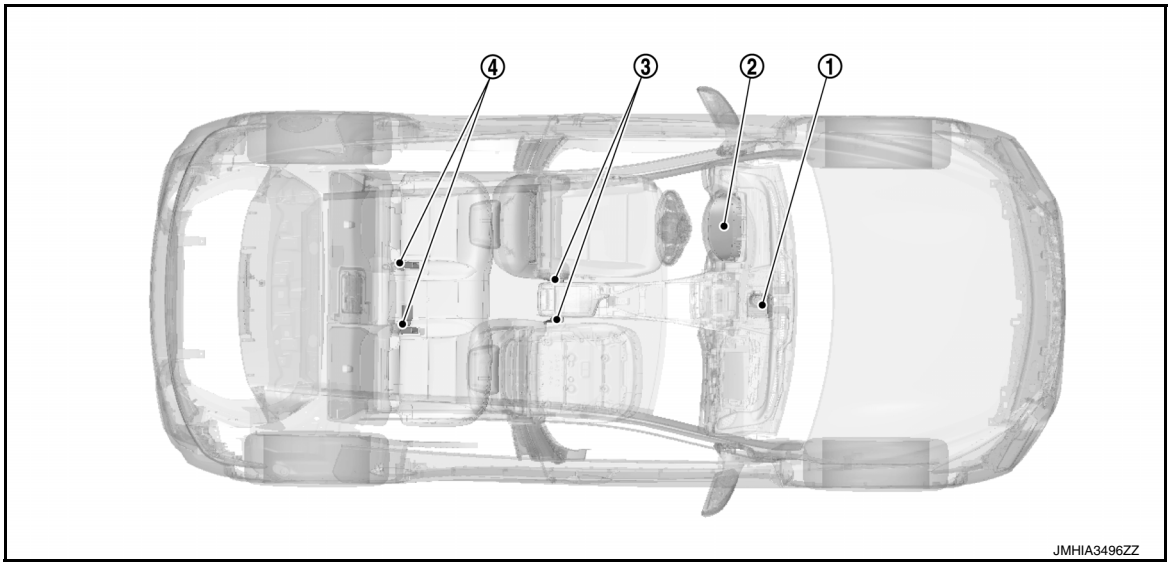
NOTE:
The removal of 12V battery may cause a DTC detection error.

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000013560018

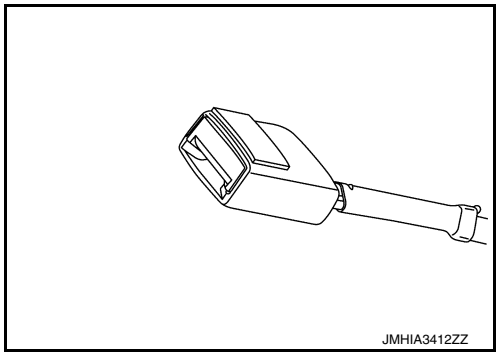


No.	Component	Function
①	Air bag diagnosis sensor unit	Transmits seat belt buckle switch signal to combination meter via CAN communication. Refer to SRC-8, "Component Parts Location" for detailed installation location.
②	Combination meter	• Receives seat belt buckle switch signal from air bag diagnosis sensor unit via CAN communication. • Turns the seat belt warning lamp ON when the seat belt is unfastened. • Transmits vehicle speed signal to air bag diagnosis sensor unit via CAN communication.
③	Front seat belt buckle switch	Refer to SBC-3, "Seat Belt Buckle Switch".
④	Rear seat belt buckle switch	Refer to SBC-3, "Seat Belt Buckle Switch".

Seat Belt Buckle Switch

INFOID:0000000013560019

- Detects each seat belt status and transmits seat belt buckle switch signal to air bag diagnosis sensor unit.



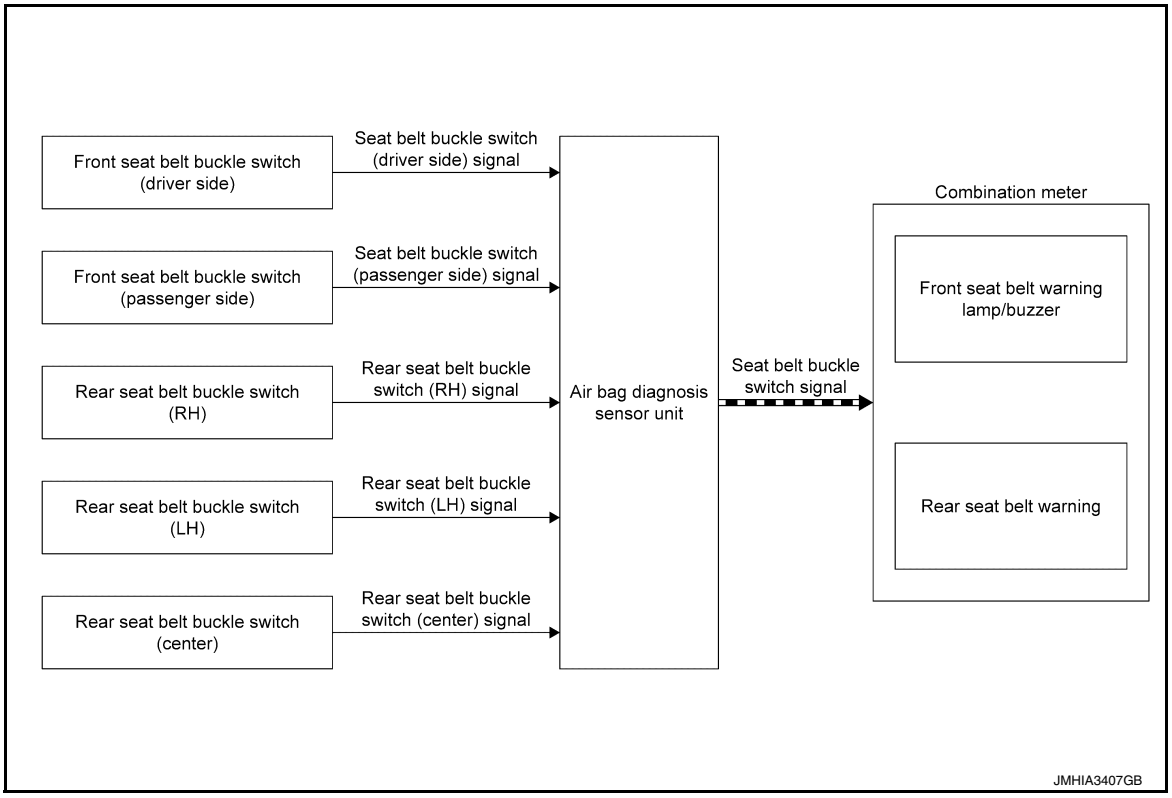
SYSTEM

SEAT BELT WARNING LAMP CONTROL SYSTEM

SEAT BELT WARNING LAMP CONTROL SYSTEM : System Description

INFOID:0000000013560020

SYSTEM DIAGRAM



SEAT BELT WARNING LAMP OPERATION

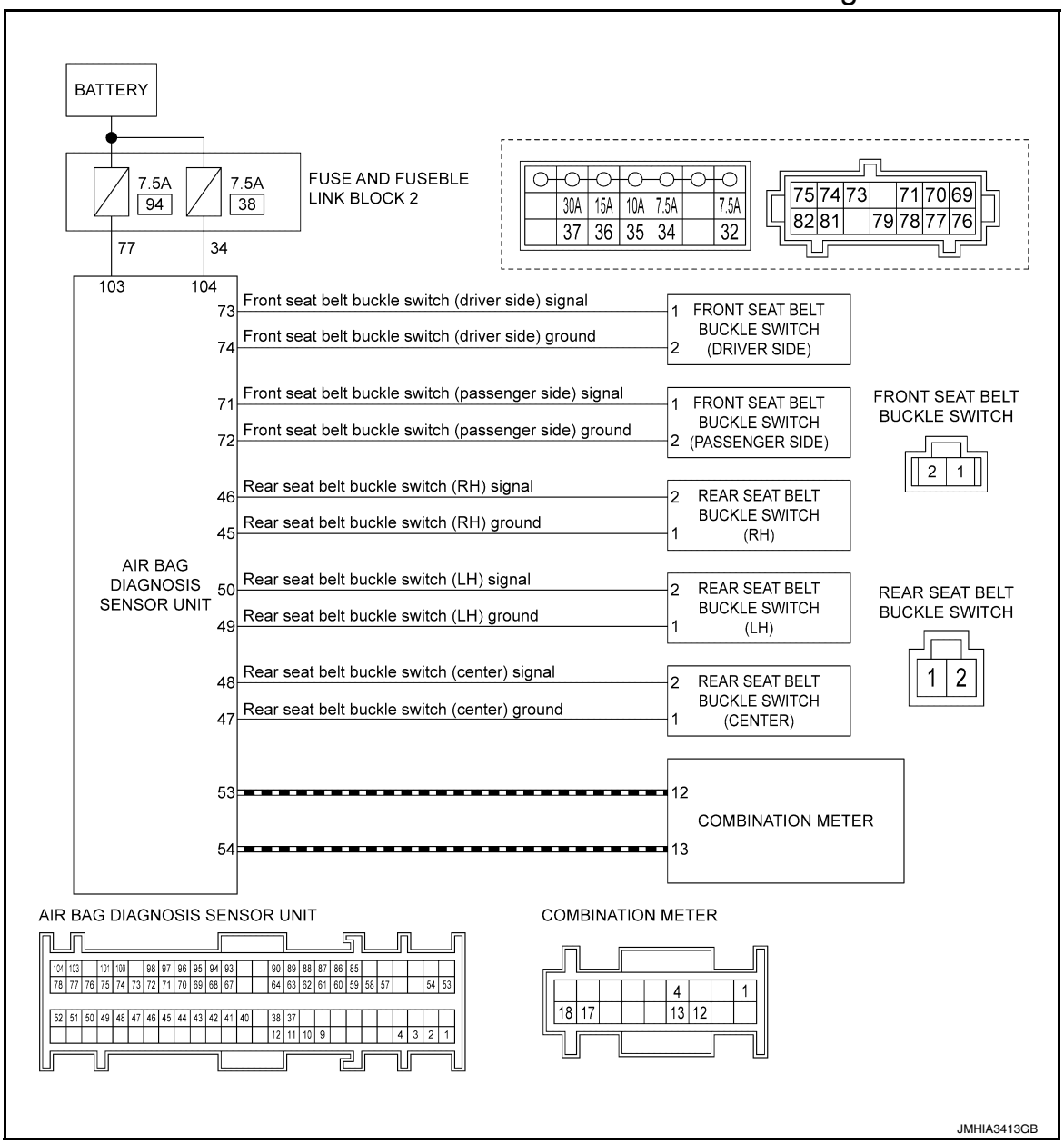
Seat belt warning lamp on combination meter turns ON during a period when ignition switch is turns ON until seat belts are fastened. Seat belt warning lamp turns OFF when seat belt is fastened. Seat belt warning lamp turns ON again when seat belt is unfastened. For details, refer to MWI-30, "WARNING LAMPS/INDICATOR LAMPS : Seat Belt Warning Lamp" (front) or SBC-5, "INFORMATION DISPLAY (COMBINATION METER) : Rear Seat Belt Warning" (rear).

SEAT BELT WARNING BUZZER OPERATION

Seat belt warning chime sounds for approximately 90 seconds when the vehicle speed is approximately 15 km/h (9.3 MPH) or more while front seat belts are not fastened. Front seat belt warning chime stops when front seat belt is fastened. For details, refer to SBC-6, "WARNING CHIME : Seat Belt Warning Buzzer".

SEAT BELT WARNING LAMP CONTROL SYSTEM : Circuit Diagram

INFOID:0000000013560021



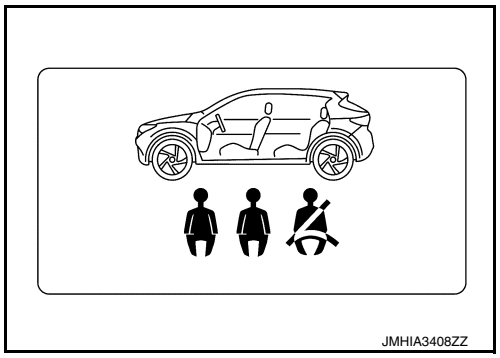
INFORMATION DISPLAY (COMBINATION METER)

INFORMATION DISPLAY (COMBINATION METER) : Rear Seat Belt Warning

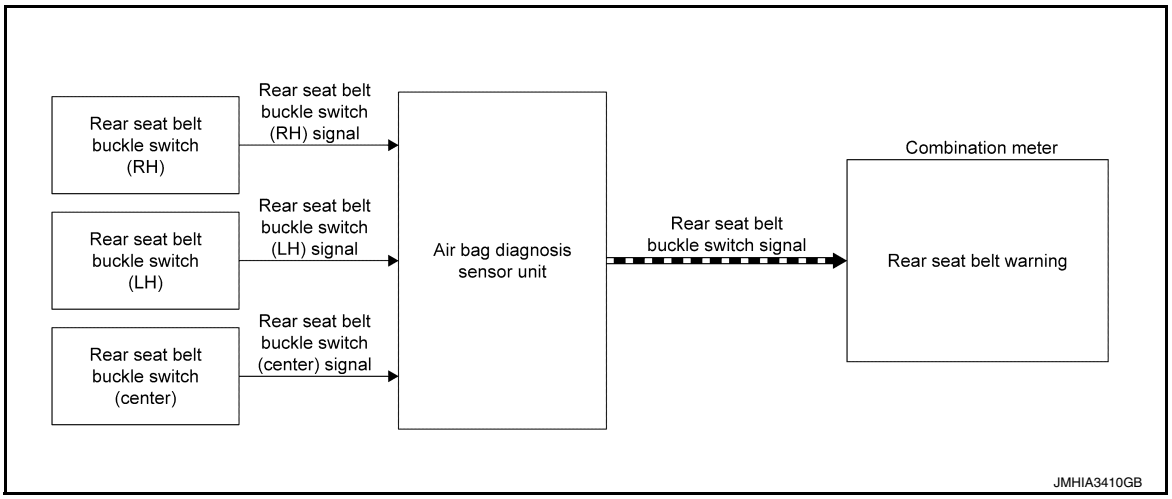
INFOID:0000000013560022

DESIGN/PURPOSE

Rear seat belt warning warns the driver that rear seat belt is not fastened.

Symbol	Message
 JMHIA3408ZZ	–

SYSTEM DIAGRAM



SIGNAL PATH
- When combination meter detects ignition switch ON, rear seat belt warning displays.
- When combination meter judges according to received rear seat belt buckle switch signal that a rear seat belt is not fastened.

WARNING OPERATION CONDITION
When any of the following conditions is satisfied, rear seat belt warning illuminates for 30 seconds.
- Ignition switch ON.
- Vehicle speed reaches 10 km/h or higher and rear seat belt buckle switch is OFF (unfastened).

WARNING CANCEL CONDITION
When any of the following conditions are satisfied.
- Ignition switch: ON → OFF
- Approximately 30 seconds are passed since warning start.

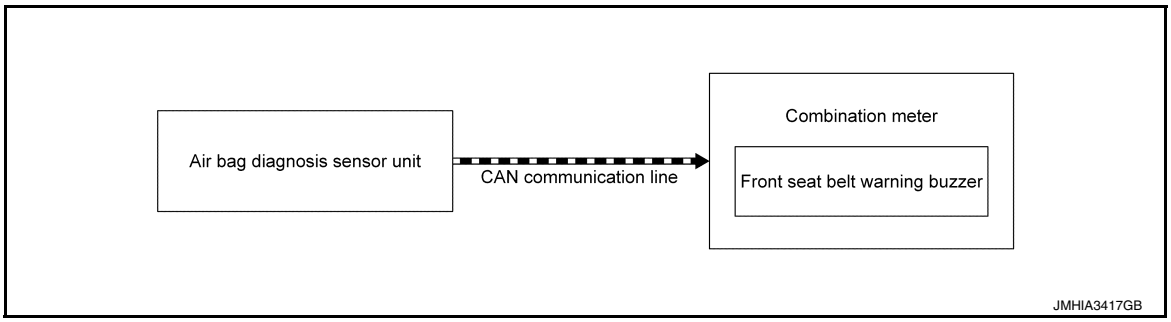
WARNING CHIME

WARNING CHIME : Seat Belt Warning Buzzer

INFOID:0000000013560023

PURPOSE
Seat belt warning buzzer warns the driver that driver seat belt and passenger seat belt is not fastened.

SYSTEM DIAGRAM



SIGNAL PATH

- Air bag diagnosis sensor unit transmits seat belt buckle switch signal to combination meter via CAN communication.
- When combination meter judges according to received seat belt buckle switch signal that a seat belt is not fastened, seat belt warning buzzer warns.

WARNING/INDICATOR/CHIME LIST

WARNING/INDICATOR/CHIME LIST : Warning Lamp/Indicator Lamp

INFOID:0000000013560024

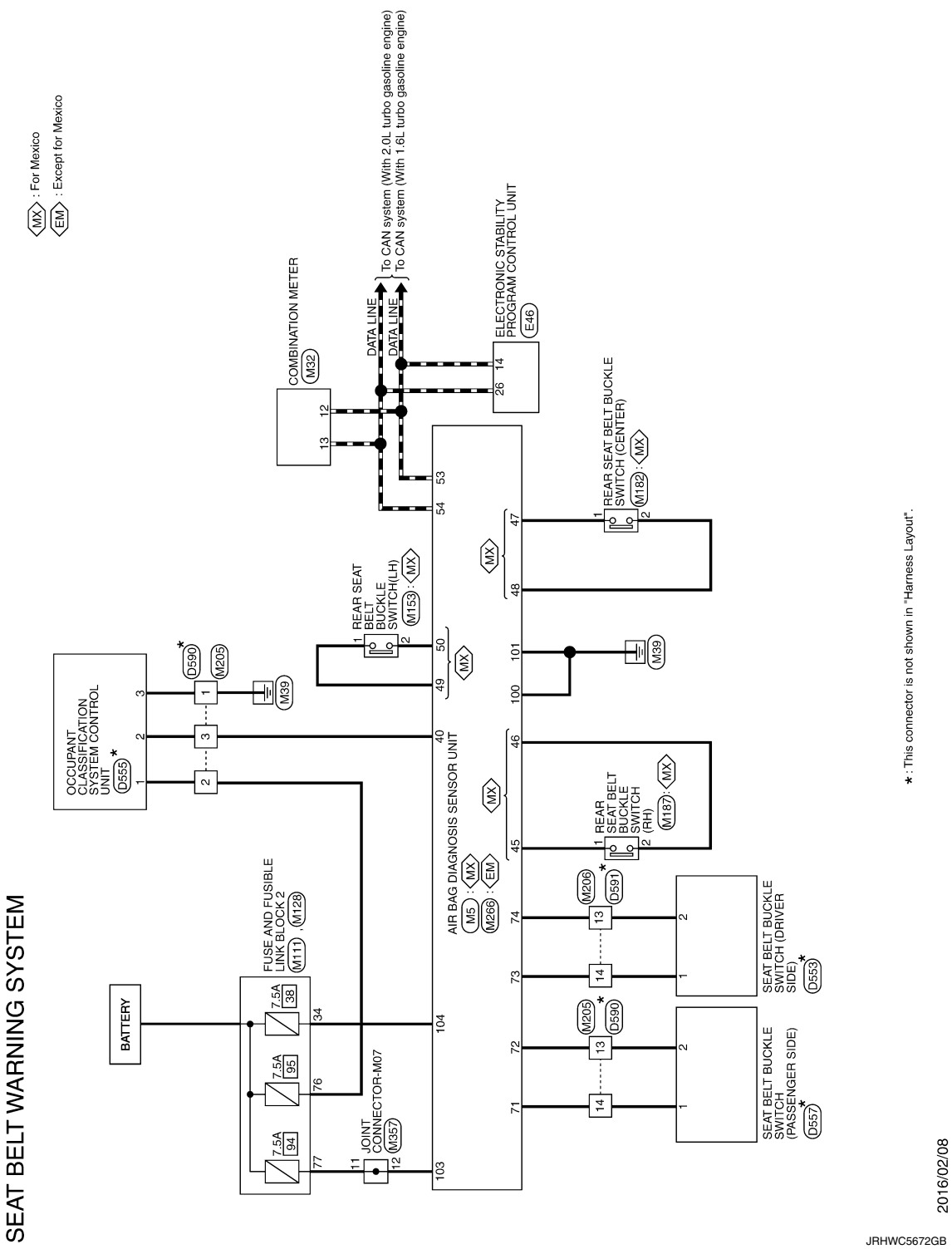
Item	Reference
Seat belt warning lamp	For layout, refer to MWI-8, "METER SYSTEM : Design".
	For function, refer to MWI-30, "WARNING LAMPS/INDICATOR LAMPS : Seat Belt Warning Lamp".

WIRING DIAGRAM

SEAT BELT WARNING LAMP CONTROL SYSTEM

Wiring Diagram

INFOID:0000000013560025



SEAT BELT WARNING SYSTEM

Connector No.	D555
Connector Name	OCCUPANT CLASSIFICATION SYSTEM CONTROL UNIT
Connector Type	RH03FB

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-
3	-	-

Connector No.	D557
Connector Name	SEAT BELT BUCKLE SWITCH (PASSENGER SIDE)
Connector Type	AC802FY

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	-	-

Connector No.	D590
Connector Name	WIRE TO WIRE
Connector Type	MB_A0035408281

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	-	-
2	R	-
3	Y	-
4	-	-
6	G	-
8	BR	-
9	O	-
10	BR	-
11	Y	-
12	GR	-
13	O	-
14	Y	-

Connector No.	D591
Connector Name	WIRE TO WIRE
Connector Type	MB_A0035408281

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
6	GR	-
8	BR	-
9	O	-
10	BR	-
11	Y	-
12	GR	-
13	O	-

14	Y	-

Connector No.	E46
Connector Name	ELECTRONIC STABILITY PROGRAM CONTROL UNIT
Connector Type	MB_A2465400581

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	R	MOTOR POWER SUPPLY
2	W	BRAKE PEDAL
4	P	RIGHT FRONT AXLE RPM SENSOR SIGNAL
5	GR	BRAKE VACUUM SENSOR POWER SUPPLY
6	B	BRAKE LIGHT SWITCH-L
7	R	BATTERY POWER SUPPLY
8	Y	LFET FRONT AXLE RPM SENSOR SIGNAL
10	O	STANDSTILL CONTROL (SSC) STATUS
12	P	BRAKE VACUUM SENSOR SIGNAL
13	BR	GROUND (MOTOR)
14	G	CAN-L
16	B	RIGHT FRONT AXLE RPM SENSOR POWER SUPPLY
17	Y	RIGHT REAR AXLE RPM SENSOR POWER SUPPLY
18	BR	LFET REAR AXLE RPM SENSOR SIGNAL
19	W	LFET FRONT AXLE RPM SENSOR POWER SUPPLY
23	B	BRAKE VACUUM SENSOR GROUND
25	P	VALVE RELAY POWER SUPPLY
26	W	CAN-H
28	R	BATTERY POWER SUPPLY
29	P	RIGHT REAR AXLE RPM SENSOR SIGNAL
30	V	BRAKE LIGHT SWITCH-H
31	GR	LFET REAR AXLE RPM SENSOR POWER SUPPLY
32	L	BRAKE LIGHT SWITCH GROUND
35	R	BRAKE LIGHT SWITCH POWER SUPPLY
38	B	GROUND (VALVE)

Connector No.	M5
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	MB_A0095405681

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
1	Y	BUMPER SENSOR RH GROUND
2	W	BUMPER SENSOR RH SIGNAL
3	B	BUMPER SENSOR LH SIGNAL
4	W	BUMPER SENSOR LH GROUND
9	L/G	POP-UP ENGINE HOOD ACTUATOR RH (-)
10	BR/B	POP-UP ENGINE HOOD ACTUATOR RH (+)
11	O	POP-UP ENGINE HOOD ACTUATOR LH (+)
12	BR/W	POP-UP ENGINE HOOD ACTUATOR LH (-)
37	V	FUSE(-)
38	W	FUSE(+)
40	Y	OCCUPANT LIN SIGNAL
41	V/G	RPRH(+)
42	BR/Y	RPRH(-)
43	BR/Y	RPLH(-)
44	V/G	RPLH(+)
45	B	REAR BUCKLE SWITCH RH(-)
46	G	REAR BUCKLE SWITCH RH(+)
47	B	REAR BUCKLE SWITCH CENTER(-)
48	G	REAR BUCKLE SWITCH CENTER(+)
49	B	REAR BUCKLE SWITCH RH(-)
50	G	REAR BUCKLE SWITCH RH(+)
51	Y	AIR BAG SIGNAL
52	P	AIR BAG SIGNAL
53	G	CAN-L
54	W	CAN-H
57	R	B-SATELITE LH(+)
58	B	B-SATELITE LH(-)
59	BR	B-SATELITE RH(-)
60	L	B-SATELITE RH(+)
61	BR	FRONT DOOR SATELLITE RH(-)
62	G	FRONT DOOR SATELLITE RH(+)
63	B	FRONT DOOR SATELLITE LH(+)
64	BR	FRONT DOOR SATELLITE LH(-)
67	W	REAR DOOR SATELLITE RH(-)
68	B	REAR DOOR SATELLITE RH(+)

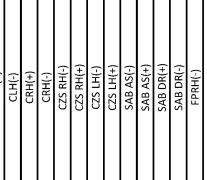
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SEAT BELT WARNING SYSTEM

69	R	REAR DOOR SATELLITE LH(+)
70	W	REAR DOOR SATELLITE LH(-)
71	Y	BUCKLE SWITCH AS(+)
72	O	BUCKLE SWITCH AS(-)
73	Y	BUCKLE SWITCH DR(+)
74	O	BUCKLE SWITCH DR(-)
75	V/G	CLH(+)
76	BR/Y	CLH(-)
77	W/BR	CRH(+)
78	R/V	CRH(-)
85	P	CZS RH(-)
86	W	CZS RH(+)
87	BR	CZS LH(-)
88	L	CZS LH(+)
89	O	SAB AS(-)
90	Y	SAB AS(+)
93	Y	SAB DR(+)
94	O	SAB DR(-)
95	BR	FPRH(-)
96	L/W	FPRH(+)
97	G	FPLH(+)
98	V	FPLH(-)
100	BR	GND
101	BR	GND
103	Y	KL15R
104	G	KL30

Connector No.	M32
Connector Name	COMBINATION METER
Connector Type	MB_A0523452726

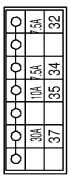
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	GROUND
4	R	BATTERY POWER SUPPLY
12	GR	CAN-L
13	W	CAN-H
17	BR	CAN-L
18	R	CAN-H

Connector No.	M111
Connector Name	FUSE AND FUSIBLE LINK BLOCK 2
Connector Type	MB_A0065450101

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
32	R	-
34	G	-
35	O	-
37	R	-

Connector No.	M128
Connector Name	FUSE AND FUSIBLE LINK BLOCK 2
Connector Type	MB_A0395456128

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
69	B	-
70	P	-
71	B	-
73	BR	-
74	B	-
75	G	-
76	R	-
77	Y	-
78	P	-
79	GR	-
81	O	-
82	B	-

Connector No.	M153
Connector Name	REAR SEAT BELT BUCKLE SWITCH (LH)
Connector Type	MB_A0415450128

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	G	-

Connector No.	M182
Connector Name	REAR SEAT BELT BUCKLE SWITCH (CENTER)
Connector Type	MB_A0435459628

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	G	-

Connector No.	M187
Connector Name	REAR SEAT BELT BUCKLE SWITCH (RH)
Connector Type	MB_A0415450128

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	B	-
2	G	-

Connector No.	M205
Connector Name	WIRE TO WIRE
Connector Type	MB_A0465455228

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	R	-
3	Y	-
6	G	-
8	BR	-
9	O	-
10	BR	-
11	Y	-
12	GR	-
13	O	-
14	Y	-

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SEAT BELT WARNING SYSTEM

Connector No.	M206
Connector Name	WIRE TO WIRE
Connector Type	MB_A046545S228

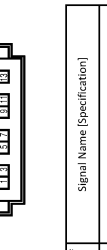
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
6	GR	-
8	BR	-
9	O	-
10	BR	-
11	Y	-
12	GR	-
13	O	-
14	Y	-

Connector No.	M266
Connector Name	AIR BAG DIAGNOSIS SENSOR UNIT
Connector Type	MB_A0105404681

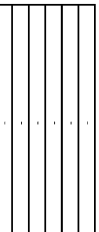
H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
5	B	ACTIVE VENT PS(-)
6	Y	ACTIVE VENT PS(+)
37	V	FUSE-
38	W	FUSE+
40	Y	OCCUPANT LIN SIGNAL
41	V/G	RPRH(+)
42	BR/Y	RPRH(-)
43	BR/Y	RPLH(-)
44	V/G	RPLH(+)
51	Y	AIR BAG SIGNAL
52	P	AIR BAG SIGNAL
53	G	CAN-L
54	W	CAN-H
57	R	B-SATELITE LH(+)
58	B	B-SATELITE LH(-)
59	BR	B-SATELITE RH(-)
60	L	B-SATELITE RH(+)
61	BR	FRONT DOOR SATELLITE RH(-)
62	G	FRONT DOOR SATELLITE RH(+)
63	B	FRONT DOOR SATELLITE LH(+)
64	BR	FRONT DOOR SATELLITE LH(-)
65	G	SEAT POS PS(+)
66	BR	SEAT POS PS(-)
67	W	REAR DOOR SATELLITE RH(-)
68	B	REAR DOOR SATELLITE RH(+)
69	R	REAR DOOR SATELLITE LH(+)
70	W	REAR DOOR SATELLITE LH(-)
71	Y	BUCKLE_SWITCH_PS+
72	O	BUCKLE_SWITCH_PS-
73	Y	BUCKLE_SWITCH_DR+
74	O	BUCKLE_SWITCH_DR-
75	V/G	CLH(+)
76	BR/Y	CLH(-)
77	W/BR	CRH(+)
78	R/V	CRH(-)
81	R	FORCE LIMITER PS(-)
82	B	FORCE LIMITER PS(+)
85	P	CZS RH(-)
86	W	CZS RH(+)
87	BR	CZS LH(-)
88	L	CZS LH(+)
89	O	SAB AS(-)
90	Y	SAB AS(+)
93	Y	SAB DR(+)
94	O	SAB DR(-)
95	BR	FPRH(-)
96	L/W	FPRH(+)
97	G	FPLH(+)
98	V	FPLH(-)
100	BR	GND
101	BR	GND
103	Y	KL15R
104	G	KL30

Connector No.	M357
Connector Name	JOINT CONNECTOR-M07
Connector Type	FEA24JOR

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
7	W	-
8	O	-
9	O	-
10	O	-
11	Y	-
12	Y	-
13	R	-
14	R	-
15	R	-
16	R	-

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