SECTION PCS
POWER CONTROL SYSTEM

CONTENTS

PRECAUTION 3

PRECAUTIONS 3
Precautions for Removing Battery Terminal 3

PREPARATION 4

PREPARATION 4
Commercial Service Tools 4

SYSTEM DESCRIPTION 5

COMPONENT PARTS 5
Component Parts Location 5
Electronic Ignition Switch Control Unit 6

SYSTEM 7
System Description 7

DIAGNOSIS SYSTEM (ELECTRONIC IGNITION SWITCH CONTROL UNIT) 8
CONSULT Function 8

ECU DIAGNOSIS INFORMATION 10

ELECTRONIC IGNITION SWITCH CONTROL UNIT 10
Reference Value 10
Fail-safe 12
DTC Index 12

WIRING DIAGRAM 13

POWER DISTRIBUTION SYSTEM 13
Wiring Diagram 13

BASIC INSPECTION 23

ADDITIONAL SERVICE WHEN REPLACING (ELECTRONIC IGNITION SWITCH CONTROL UNIT) 23
Description 23
Work Procedure 23

CONFIGURATION (ELECTRONIC IGNITION SWITCH CONTROL UNIT) 24
Description 24
Work Procedure 24

DTC/CIRCUIT DIAGNOSIS 25

U0122 CAN COMMUNICATION 25
DTC Description 25
Diagnosis Procedure 25

U0141 CAN COMMUNICATION 27
DTC Description 27
Diagnosis Procedure 27

U1198 CAN COMMUNICATION 29
DTC Description 29
Diagnosis Procedure 29

U140F CAN COMMUNICATION 31
DTC Description 31
Diagnosis Procedure 31

P172C ELECTRONIC IGNITION SWITCH CONTROL UNIT 33
DTC Description 33
Diagnosis Procedure 33

B1A39 ELECTRONIC IGNITION SWITCH CONTROL UNIT 35
DTC Description 35
Diagnosis Procedure 35

B210A ELECTRONIC IGNITION SWITCH CONTROL UNIT 36
DTC Description 36
Diagnosis Procedure 36

B210B ELECTRONIC IGNITION SWITCH CONTROL UNIT 38
DTC Description 38
Diagnosis Procedure 38

B210D ELECTRONIC IGNITION SWITCH CONTROL UNIT 40
DTC Description 40
Diagnosis Procedure 40

B210E ELECTRONIC IGNITION SWITCH CONTROL UNIT 42
DTC Description 42
Diagnosis Procedure 42

B21DC ELECTRONIC IGNITION SWITCH CONTROL UNIT 44
DTC Description 44
Diagnosis Procedure 44

B2201 ELECTRONIC IGNITION SWITCH CONTROL UNIT 45
DTC Description 45
Diagnosis Procedure 45

B2224 ELECTRONIC IGNITION SWITCH CONTROL UNIT 46
DTC Description 46
Diagnosis Procedure 46

REMOVAL AND INSTALLATION 47

ELECTRONIC IGNITION SWITCH CONTROL UNIT 47
Removal and Installation 47

PRECAUTION

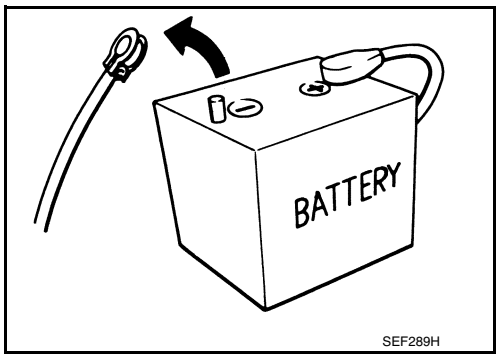
PRECAUTIONS

Precautions for Removing Battery Terminal

INFOID:0000000013624072

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.

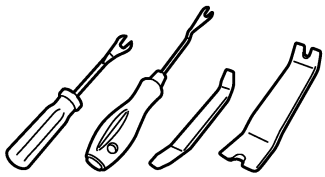
NOTE:
The removal of 12V battery may cause a DTC detection error.

PREPARATION

PREPARATION

Commercial Service Tools

INFOID:0000000013530083

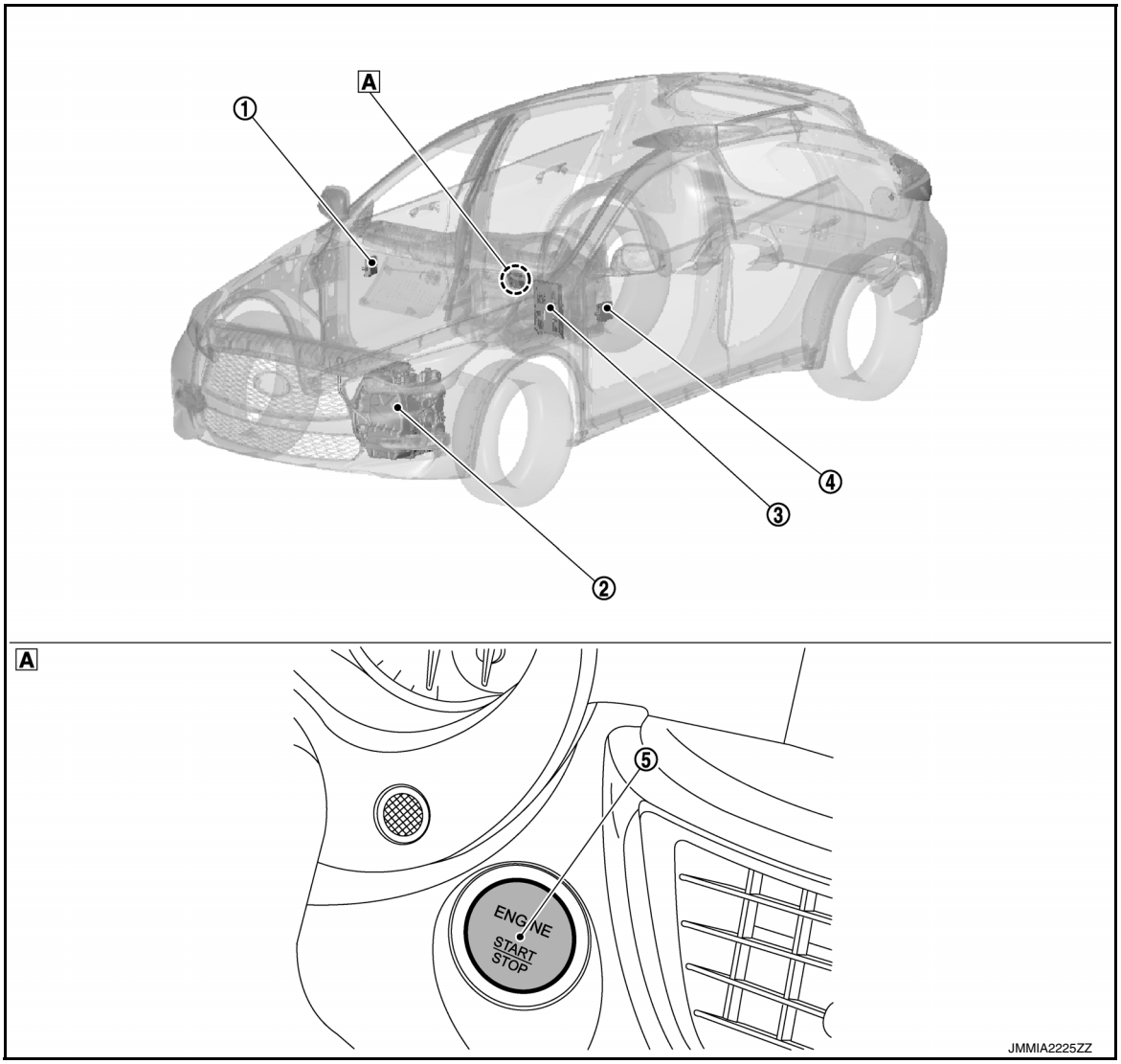
Tool name	Description
Remover tool  JMKIA3050ZZ	Removes the clips, pawls and metal clips

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:0000000013530084



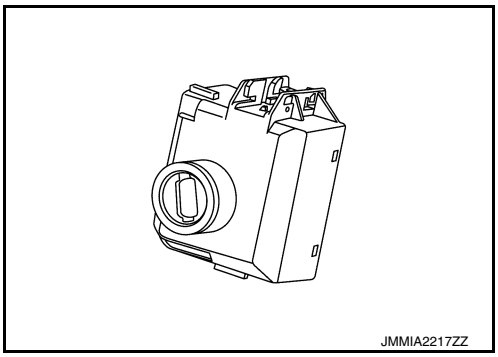
A View with instrument panel

No.	Component	Description
①	Left front door control unit	Refer to DLK-10, "DOOR LOCK SYSTEM : Component Parts Location".
②	TCM	Refer to TM-17, "Component Parts Location".
③	BCM	Refer to BCS-8, "BODY CONTROL SYSTEM : Component Parts Location".
④	Right front door control unit	Refer to DLK-10, "DOOR LOCK SYSTEM : Component Parts Location".
⑤	Electronic ignition switch control unit	Refer to PCS-6, "Electronic Ignition Switch Control Unit".

Electronic Ignition Switch Control Unit

INFOID:0000000013530085

Push-button ignition switch is pressed, and transmits the status signal to each unit.

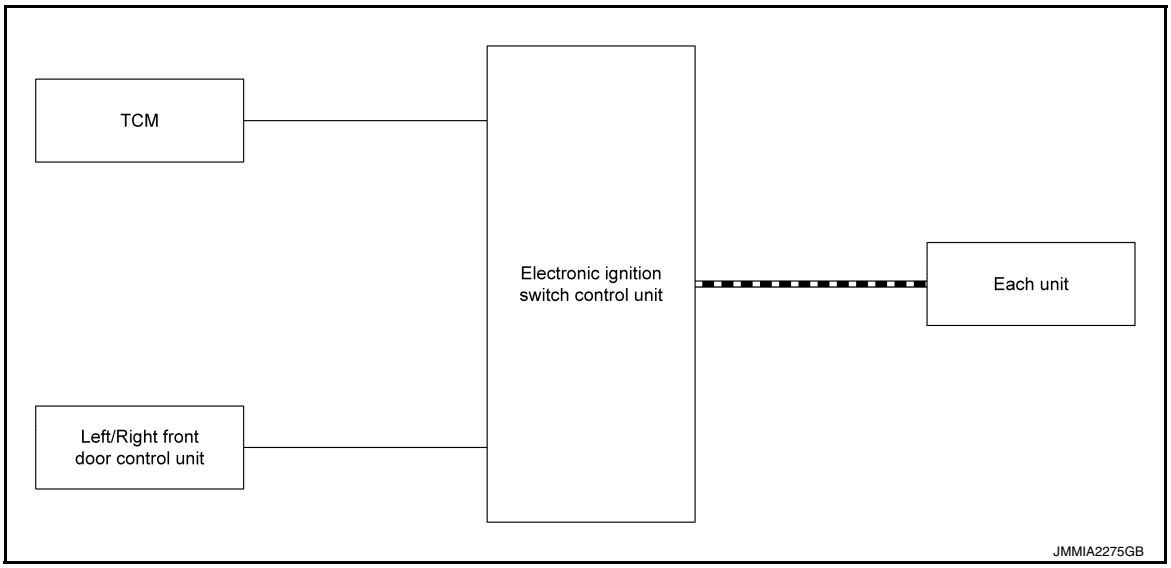


SYSTEM

System Description

INFOID:0000000013530086

SYSTEM DIAGRAM



SYSTEM DESCRIPTION

The electronic ignition switch control unit is equipped with the following systems.

- CAN gateway
- Signal reception
- Signal transmission

CAN GATEWAY

The electronic ignition switch control unit is the central interface for the vehicle electronics and is connected to the following CAN communication line.

- Front end CAN communication
- Body CAN communication 1
- Chassis CAN communication
- Diagnostic CAN communication

READING IN OF SIGNALS

The input factors are received via the following connections.

- Hard wire
- Front end CAN communication
- Body CAN communication 1
- Chassis CAN communication
- Diagnostic CAN communication

The input factors that have been received are evaluated by the integrated microprocessor and the relevant components are then actuated.

OUTPUT OF SIGNALS

The signals are issued over the following connections.

- Hard wire
- Front end CAN communication
- Body CAN communication 1
- Chassis CAN communication
- Diagnostic CAN communication

The signals are transmitted to the each unit.

DIAGNOSIS SYSTEM (ELECTRONIC IGNITION SWITCH CONTROL UNIT)

CONSULT Function

INFOID:0000000013530087

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with electronic ignition switch control unit.

Diagnosis mode	Function Description
Work Support	Changes the setting for each system function.
Self Diagnostic Result	Displays the diagnosis results judged by electronic ignition switch control unit.
Data Monitor	The electronic ignition switch control unit input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from electronic ignition switch control unit.
Ecu Identification	The electronic ignition switch control unit part number is displayed.
Configuration	• Read and save the vehicle specification. • Write the vehicle specification when replacing electronic ignition switch control unit.

FREEZE FRAME DATA (FFD)

The electronic ignition switch control unit records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

CONSULT screen item	Indication/Unit	Description
Original Odometer Value	km	Odometer value stored when the respective DTC is detected for the first time.
Most Recent Odometer Value	km	Odometer value stored or updated when the DTC was detected the last time.
Frequency Counter	—	The frequency counter is defined as the total number of times the DTC status has transitioned from “stored - not active” to “active”.
Ignition cycle counter	—	Indicates the number of consecutive operation cycles recorded since a DTC first became stored - not active and is no longer an active DTC. This information is needed for Self-healing functionality.

DATA MONITOR

NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item [Unit]	Description
CIRCUIT 15C [NOT ACT/ACTIVE]	—
CIRCUIT 15R [NOT ACT/ACTIVE]	—
CIRCUIT 15 [NOT ACT/ACTIVE]	—
CIRCUIT 50 [NOT ACT/ACTIVE]	—
CIRCUIT 15X [NOT ACT/ACTIVE]	—
POWER SUPPLY [V]	Displays the status of the battery voltage judged by electronic ignition switch control unit.
BAT VOLT: ADDITIONAL BAT [V]	Displays the status of the sub battery voltage judged by electronic ignition switch control unit.
LAST STORE MAIN ODO READ [km]	Displays the odometer value of the moment a DTC is detected.

Monitor Item [Unit]	Description
COMBUSTION ENGINE [G ENG A/G ENG B/G ENG C/G ENG D/G ENG E/G ENG F/D ENG A/D ENG B/D ENG C/D ENG D/D ENG E/D ENG F/D ENG G/D ENG H]	Displays the type of engine.
Writing of the VIN is already inhibited. [UNLOCKED/LOCKED]	—

WORK SUPPORT

Test item	Description
VIN REGISTRATION	Input VIN of the vehicle.

ACTIVE TEST

Test item	Description
Check electric steering lock control unit	This function allows electric steering lock control unit self-diagnosis.
Vehicle data	—

ECU DIAGNOSIS INFORMATION

ELECTRONIC IGNITION SWITCH CONTROL UNIT

Reference Value

INFOID:0000000013530088

VALUES ON THE DIAGNOSIS TOOL

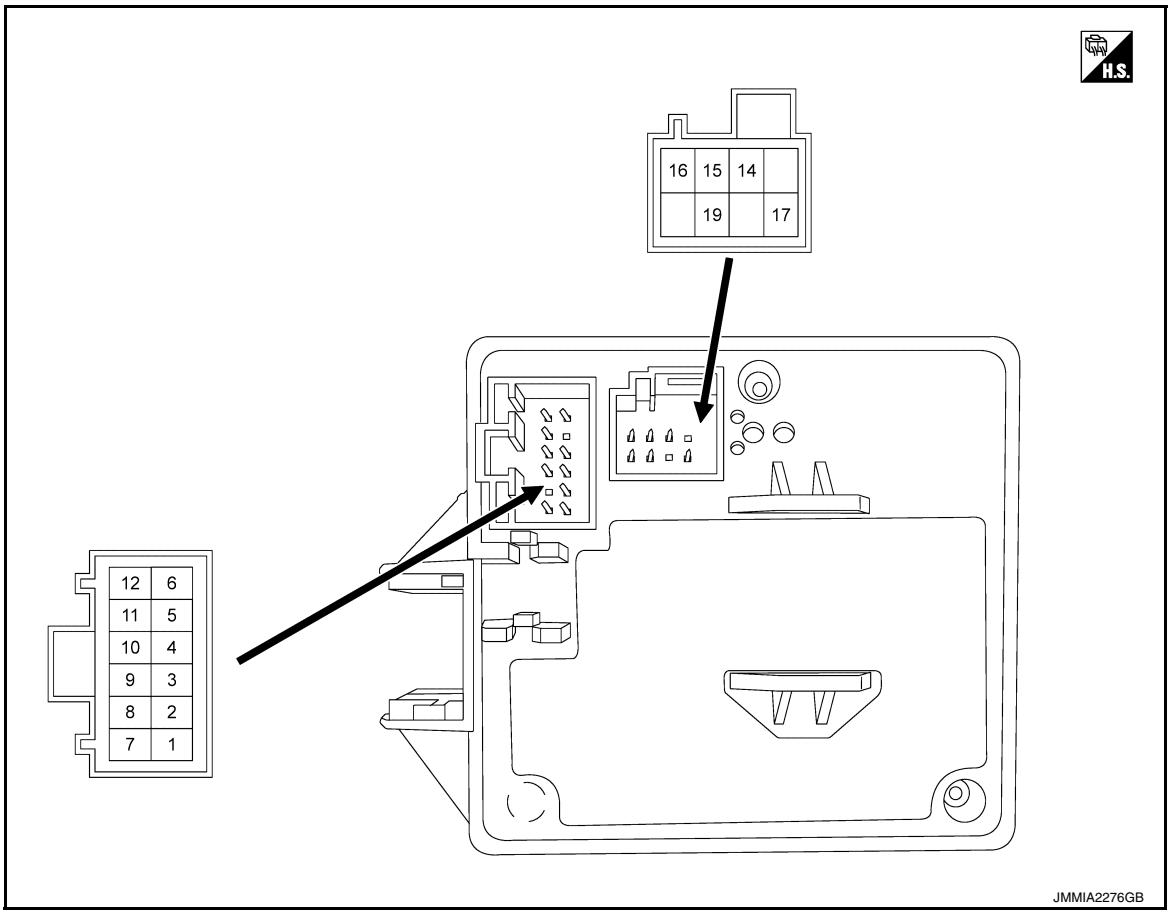
NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

CONSULT MONITOR ITEM

Monitor Item	Condition	Value/Status
CIRCUIT 15C	—	NOT ACT
		ACTIVE
CIRCUIT 15R	—	NOT ACT
		ACTIVE
CIRCUIT 15	—	NOT ACT
		ACTIVE
CIRCUIT 50	—	NOT ACT
		ACTIVE
CIRCUIT 15X	—	NOT ACT
		ACTIVE
POWER SUPPLY	Ignition switch ON	11 V – 14 V
BAT VOLT: ADDITIONAL BAT	—	—
LAST STORE MAIN ODO READ	DTC detected	Odometer value displayed
COMBUSTION ENGINE	—	G ENG A
		G ENG B
		G ENG C
		G ENG D
		G ENG E
		G ENG F
		D ENG A
		D ENG B
		D ENG C
		D ENG D
		D ENG E
		D ENG F
		D ENG G
		D ENG H
Writing of the VIN is already inhibited.	—	UNLOCKED
		LOCKED

TERMINAL LAYOUT



PHYSICAL VALUES

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	–	Signal name	Input/ Output		
1 (G)	Ground	Chassis CAN-L	Input/ Output	—	—
2 (W)	Ground	Chassis CAN-H	Input/ Output	—	—
3 (R)	Ground	Body CAN 1-H	Input/ Output	—	—
4 (BR)	Ground	Body CAN 1-L	Input/ Output	—	—
6 (W)	Ground	Front end CAN-H	Input/ Output	—	—
7 (O)	Ground	Remote keyless entry receiver	Input	Ignition switch ON	12 V
9 (GR)	Ground	Diagnostic CAN-L	Input/ Output	—	—
10 (W)	Ground	Diagnostic CAN-H	Input/ Output	—	—
11 (BR)	Ground	Ground	Output	Ignition switch OFF	0 V
12 (L)	Ground	Front end CAN-L	Input/ Output	—	—

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	–	Signal name	Input/ Output			
14 (R)	Ground	Power supply	Input	Ignition switch ON		12 V
15 (B)	Ground	Ground	Output	Ignition switch OFF		0 V
16 (L)	Ground	Rotary catch	Input	Driver door	Open	1.5 V
					Close	12 V
17 (P)	Ground	Not P	Input	Ignition switch ON		12 V
19 (V)	Ground	Power supply	Input	Ignition switch ON		12 V

Fail-safe

INFOID:0000000013530089

FAIL-SAFE CONTROL BY DTC

Electronic ignition switch control unit performs fail-safe control when any DTC are detected.

Display contents of CONSULT				Fail-safe
U0122	08	Communication error	[BUS SIGNAL/MESSAGE FAILURES]	Inhibit engine cranking
U0141	00	Communication error	[NO SUBTYPE INFO]	Inhibit engine cranking
U1198	00	Communication error	[NO SUBTYPE INFO]	Inhibit shift lever change
U140F	00	Engine variant	[NO SUBTYPE INFO]	Inhibit engine cranking
B1A39	11	Two-way radio receiver	[CIRC SHORT TO GRND]	Inhibit central locking system
B21DC	01	Electronic ignition lock	[ELECTRICAL MALFUNCTION]	Inhibit stop/start system

DTC Index

INFOID:0000000013530090

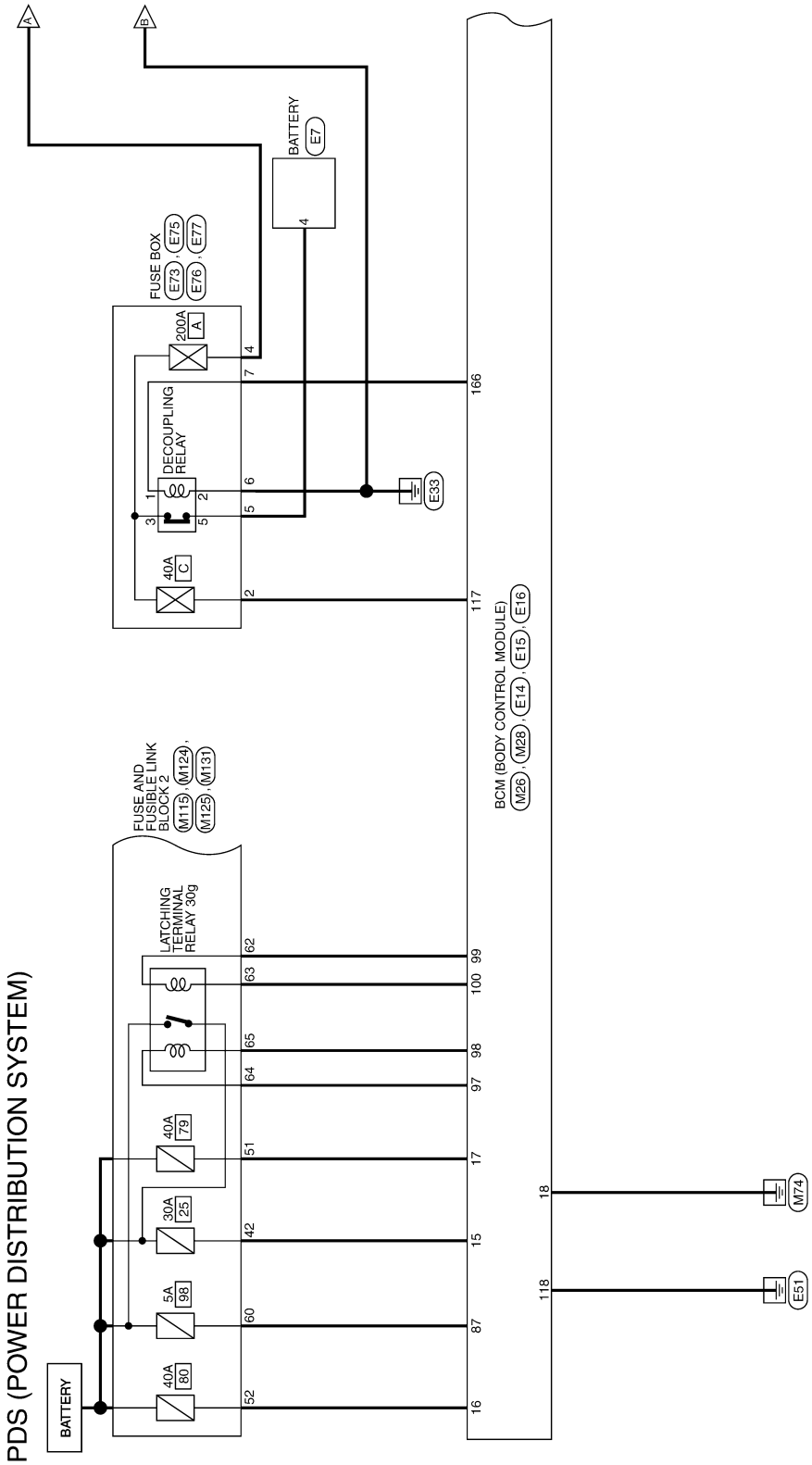
DTC		CONSULT screen items		Fail-safe	Reference
		(Trouble diagnosis content)	[Malfunction type]		
U0122	08	Communication error	[BUS SIGNAL/MESSAGE FAILURES]	×	PCS-25
U0141	00	Communication error	[NO SUBTYPE INFO]	×	PCS-27
U1198	00	Communication error	[NO SUBTYPE INFO]	×	PCS-29
U140F	00	Engine variant	[NO SUBTYPE INFO]	×	PCS-31
P172C	13	Park position output signal	[CIRC OPEN]	—	PCS-33
B1A39	11	Two-way radio receiver	[CIRC SHORT TO GRND]	×	PCS-35
B210A	00	Power Supply circuit	[NO SUBTYPE INFO]	—	PCS-36
B210B	00	Power Supply circuit	[NO SUBTYPE INFO]	—	PCS-38
B210D	00	Power Supply	[NO SUBTYPE INFO]	—	PCS-40
B210E	00	Power Supply	[NO SUBTYPE INFO]	—	PCS-42
B21DC	01	Electronic ignition lock	[ELECTRICAL MALFUNCTION]	×	PCS-44
B2201	00	Additional memory of ECU	[NO SUBTYPE INFO]	—	PCS-45
B2224	49	Electronic ignition lock	[INTERNAL ELECTRONIC FAILURE]	—	PCS-46

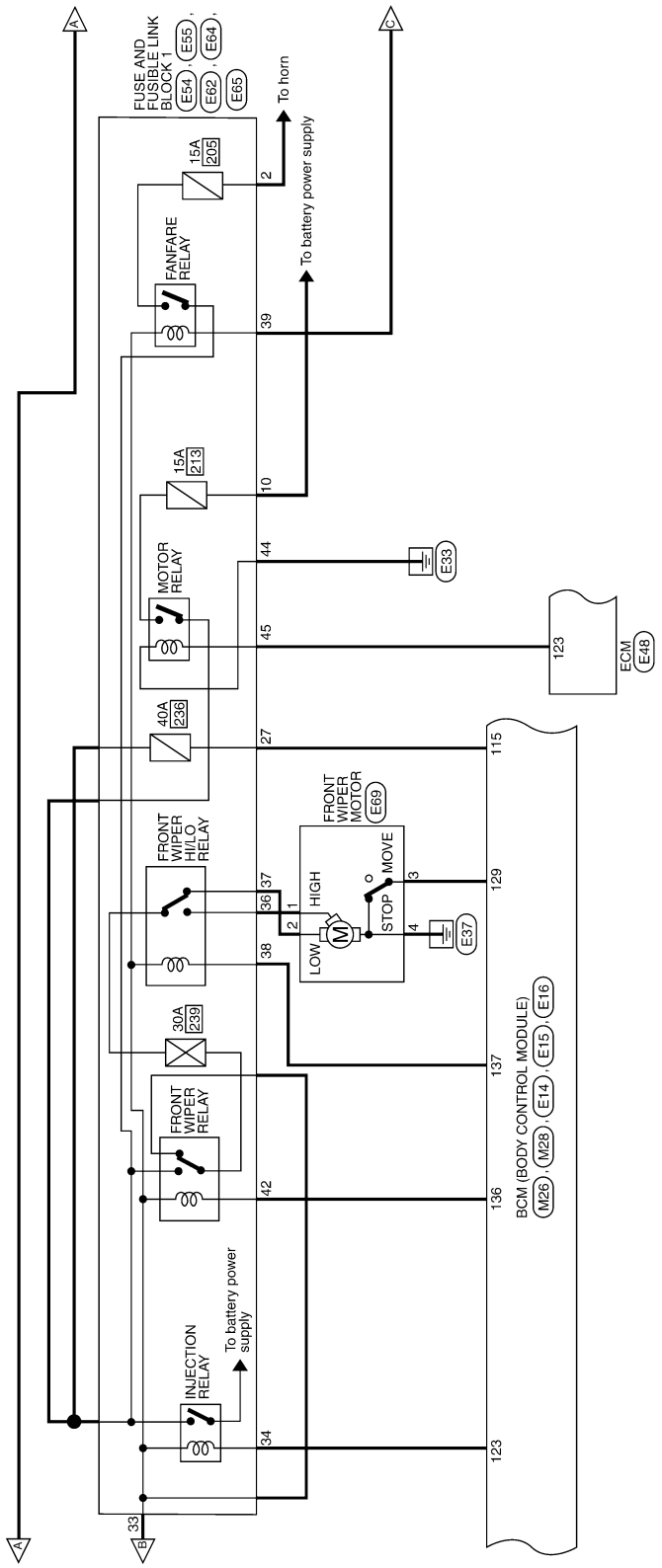
WIRING DIAGRAM

POWER DISTRIBUTION SYSTEM

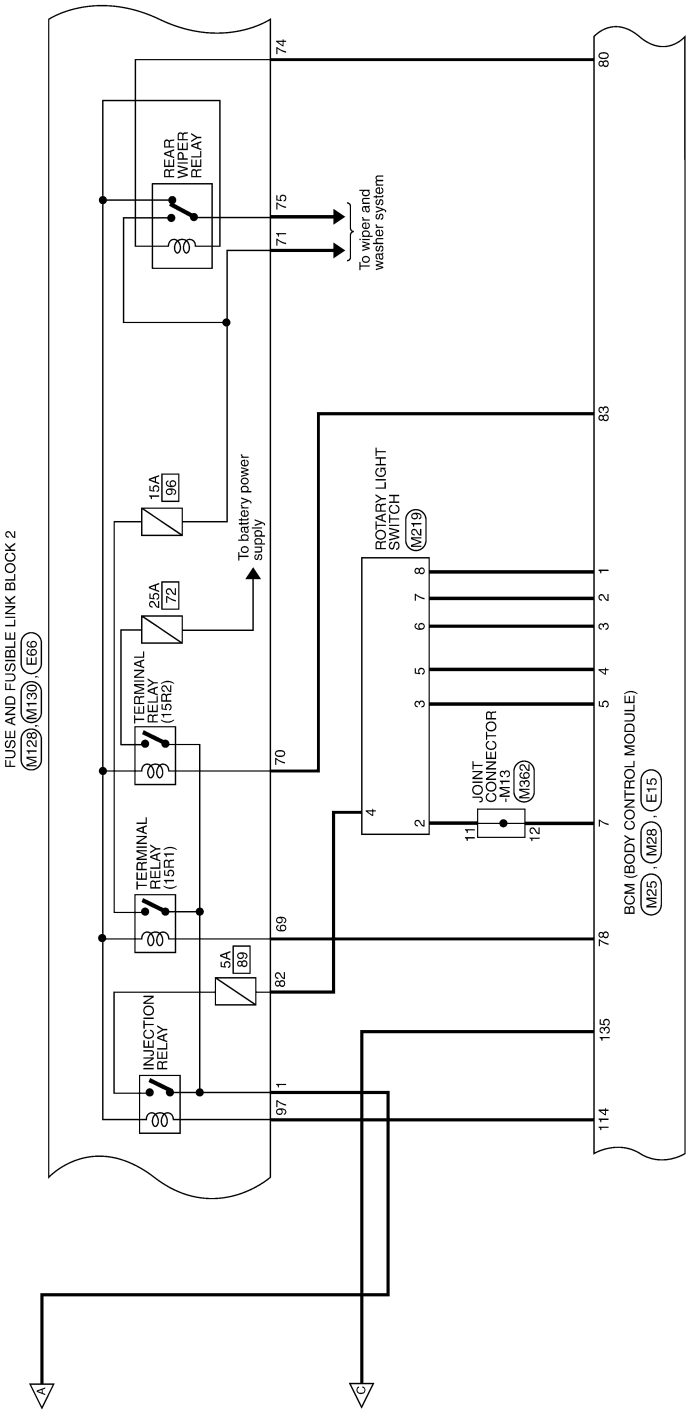
Wiring Diagram

INFOID:0000000013530091

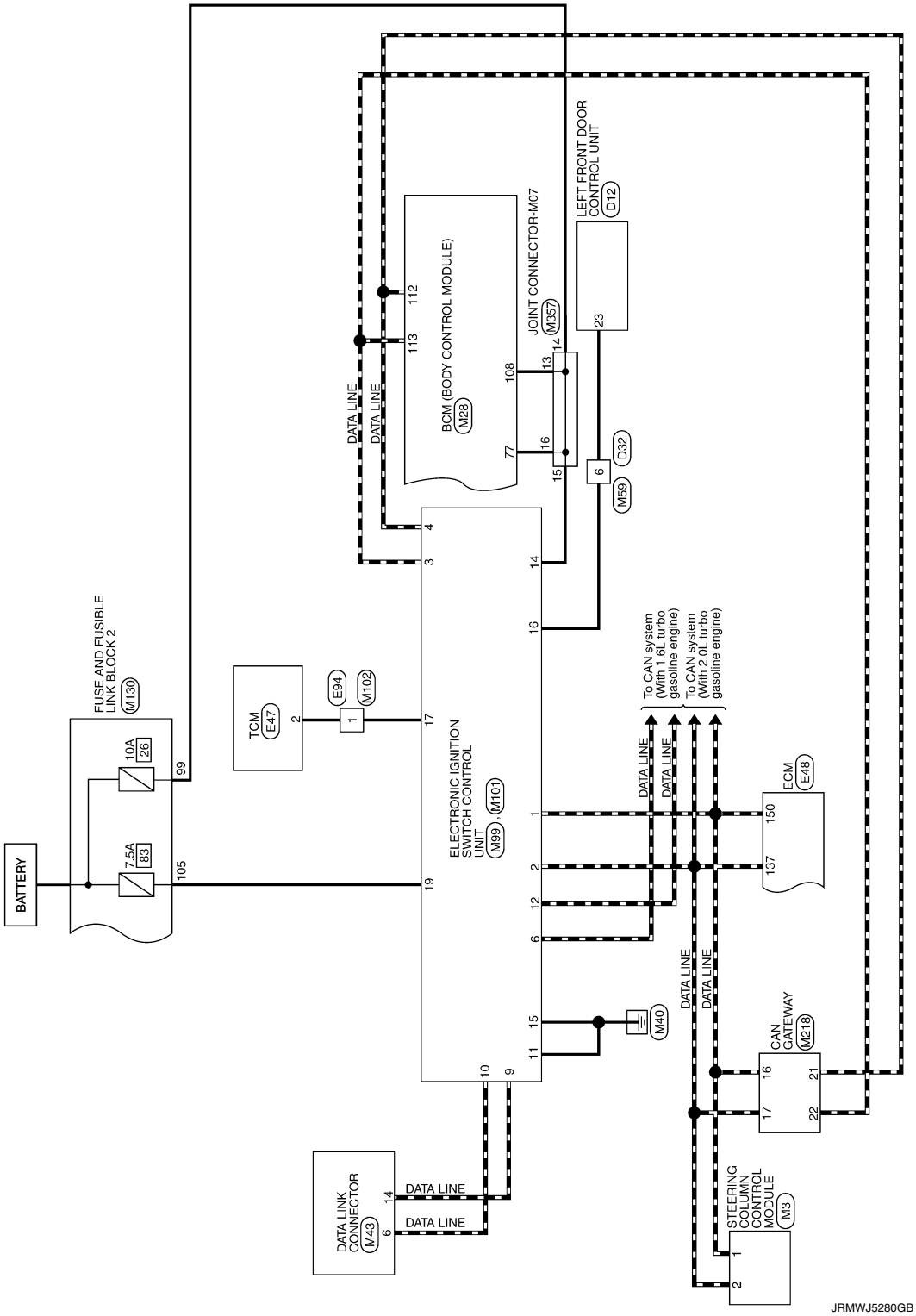




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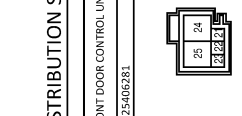


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BATTERY
FUSE AND FUSIBLE LINK BLOCK 2 (M130)
10A 26
7.5A 83
99
105
TCM (E47)
E94
M102
ELECTRONIC IGNITION SWITCH CONTROL UNIT (M99), (M101)
BCM (BODY CONTROL MODULE) (M28)
JOINT CONNECTOR-M07 (M357)
LEFT FRONT DOOR CONTROL UNIT (D12)
D32
M59
DATA LINE
To CAN system (With 1.6L turbo gasoline engine)
To CAN system (With 2.0L turbo gasoline engine)
ECM (E48)
M40
CAN GATEWAY (M218)
STEERING COLUMN CONTROL MODULE (M3)
DATA LINK CONNECTOR (M43)
JRMWJ5280GB

PDS (POWER DISTRIBUTION SYSTEM)

Connector No.	D12
Connector Name	LEFT FRONT DOOR CONTROL UNIT
Connector Type	MB_A0025406281



Terminal No.	Color Of Wire	Signal Name [Specification]
21	BR	BODY CAN 2-L
22	R	BODY CAN 2-H
23	L	ROTARY CATCH SIGNAL
24	BR	GROUND
25	R	BATTERY POWER SUPPLY

Connector No.	D32
Connector Name	WIRE TO WIRE
Connector Type	AMP_953892-1

Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	BR	-
3	P	-
4	GR	- [Without BOSE audio]
4	V	- [With BOSE audio]
5	P	-
6	L	-
7	R	-
8	W	-
9	B	-
10	R	-
11	G	-
12	BR	- [Without BOSE audio]
12	P	- [With BOSE audio]

13	B	-
15	B	-
16	SHIELD	-

Connector No.	E7
Connector Name	BATTERY
Connector Type	MB_A2469820102



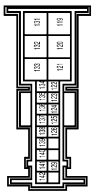
Terminal No.	Color Of Wire	Signal Name [Specification]
4	B	-

Connector No.	E14
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MB_A0235458926



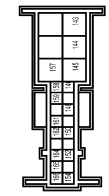
Terminal No.	Color Of Wire	Signal Name [Specification]
115	R	BAT (VIA DECOUPLING RELAY)
117	R	BAT (VIA DECOUPLING RELAY)
118	BR	GND

Connector No.	E15
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MB_A1665400081



Terminal No.	Color Of Wire	Signal Name [Specification]
119	V	RR WASHER CONT
120	GR	FR WASHER CONT
121	W	BRAKE PEDAL
122	Y	SPARY NOZZLE HOSE HEATER POWER SUPPLY
123	G	INJECTION RELAY CONT
124	BR	HOOD SWITCH STATUS 1
125	B	K-LINE MOTORST
126	GR	PARKING LAMP LH
129	G	FRONT WIPER STOP POSITION
131	Y	FRONT FOG LAMP LH
132	O	HIGH BEAM LH
133	L	LOW BEAM RH [With halogen lamp]
133	Y	LOW BEAM RH [With LED lamp]
134	BR	WASHER LEVEL SW GND
135	P	HORN CONT
136	R	FR WIPER RELAY CONT
137	V	FR WIPER HI/LO RELAY CONT
138	G	BRAKE FLUID LEVEL SW SIG
139	L	WASHER LEVEL SW SIG
140	Y	HOOD SWITCH STATUS 2
141	R	WARM START
142	V	FRONT TURN SIGNAL LH

Connector No.	E16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MB_A1665400181



Terminal No.	Color Of Wire	Signal Name [Specification]
143	Y	FRONT FOG LAMP RH
144	W	HIGH BEAM RH
145	GR	LOW BEAM LH
146	P	FRONT TURN SIGNAL RH
148	V	FR BRAKE WEAR SENSOR RH
150	GR	PARKING LAMP RH
152	L	LIN (BAT SENSOR)
154	Y	HEADLAMP AIMING RH
157	O	SSK STAT
158	R	COOLANT LEVEL SW SIG
159	BR	COOLANT LEVEL SW GND
161	P	AMBIENT SENSOR GND
162	G	AMBIENT SENSOR SIG
164	O	BRAKE FLUID LEVEL SW GND
165	V	HEADLAMP AIMING LH
166	R	DECOUPLING RELAY CONT

Connector No.	E47
Connector Name	TCM
Connector Type	MB_A2465450026



Terminal No.	Color Of Wire	Signal Name [Specification]
1	L	CAN-L
2	V	NOT P
3	GR	CAN-H

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PDS (POWER DISTRIBUTION SYSTEM)

5	W	BATTERY POWER SUPPLY

Connector No.	E48
Connector Name	ECM
Connector Type	MB_A0075406981

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
97	R	POWER SUPPLY (ECM)
98	BR	ECM GROUND
99	V	POWER SUPPLY (ECM)
100	BR	ECM GROUND
101	R	POWER SUPPLY (ECM)
102	B	ECM GROUND
103	L	COOLING FAN CONTROL SIGNAL
104	R	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
105	G	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2)
106	BR	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR1)
111	B	IGNITION SIGNAL
112	Y	POWER SUPPLY (BATTERY)
116	W	STARTER RELAY-L
119	GR	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)
120	O	SENSOR GROUND
122	R	HOT START SIGNAL
123	GR	MOTOR RELAY CONTROL SIGNAL
127	O	FUEL PUMP ON SIGNAL
132	G	ACCELERATOR PEDAL POSITION SENSOR 1
136	Y	POWERTRAIN SENSOR CAN-H
137	W	CAN-H
138	GR	POWERTRAIN CAN-H
141	B	WATER PUMP RELAY CONTROL SIGNAL
145	W	ACCELERATOR PEDAL POSITION SENSOR 2
146	G	FUEL TANK PRESSURE SENSOR
147	L	CRASH SIGNAL
148	W	STARTER RELAY-H
149	B	POWERTRAIN SENSOR CAN-L
150	G	CAN-L
151	L	POWERTRAIN CAN-L
152	V	EVAP CANISTER VENT CONTROL VALVE
153	BR	EVAP PURGE CONTROL VALVE

Connector No.	E54
Connector Name	FUSE AND FUSIBLE LINK BLOCK 1
Connector Type	MB_A0055459701

H.S.

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

Connector No.	E55
Connector Name	FUSE AND FUSIBLE LINK BLOCK 1
Connector Type	MB_A0055459901

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
9	G	-
10	L	-
11	V	-
13	Y	-
14	W	-

Connector No.	E62
Connector Name	FUSE AND FUSIBLE LINK BLOCK 1
Connector Type	MB_A0065452901

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
27	R	-

Connector No.	E64
Connector Name	FUSE AND FUSIBLE LINK BLOCK 1
Connector Type	MB_A0315459626

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
33	BR	-
34	G	-
35	V	-
36	P	-
37	R	-
38	V	-
39	P	-
41	W	-
42	R	-

Connector No.	E65
Connector Name	FUSE AND FUSIBLE LINK BLOCK 1
Connector Type	MB_A0315459926

H.S.

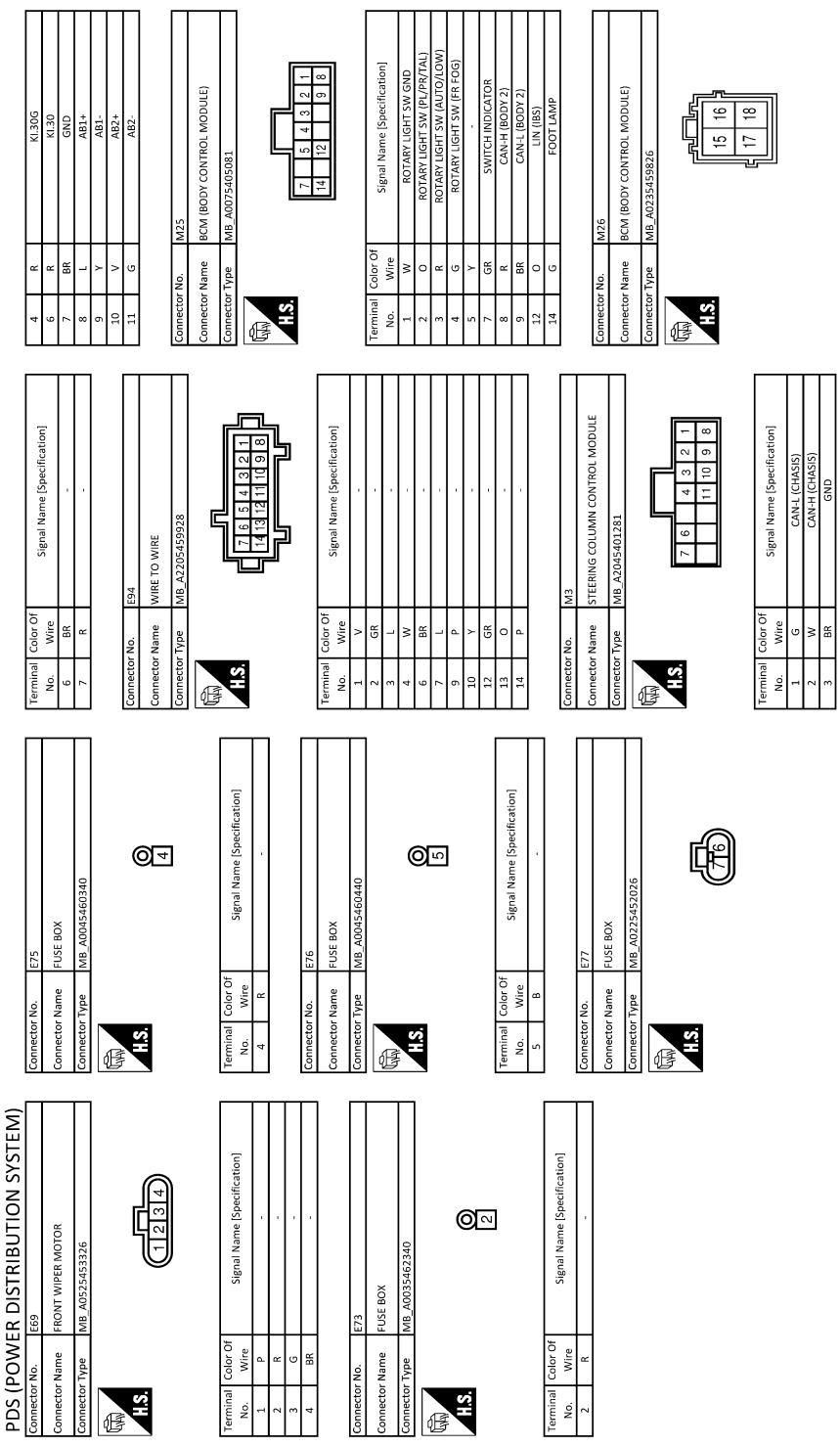
Terminal No.	Color Of Wire	Signal Name [Specification]
43	B	-
44	BR	-
45	GR	-
49	W	-
51	R	-

Connector No.	E66
Connector Name	FUSE AND FUSIBLE LINK BLOCK 2
Connector Type	MB_A0035462640

H.S.

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

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PDS (POWER DISTRIBUTION SYSTEM)

Terminal No.	Color Of Wire	Signal Name [Specification]
15	W	BAT (FUSE)
16	BR	BAT (FUSE)
17	R	BAT (FUSE)
18	B	GND

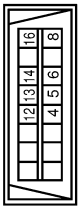
Connector No.	M28
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	MB_A1665400481



Terminal No.	Color Of Wire	Signal Name [Specification]
67	V	BACK DOOR UNLOCK
69	GR	STOP LAMP (BODY RH)
70	B	REAR TURN SIGNAL LH
71	GR	BACK-UP LAMP RH
72	Y	LICENSE PLATE LAMP RH
73	L	RR POWER WINDOW SW RH UP
74	B	RR POWER WINDOW SW RH DOWN
75	L	RR POWER WINDOW SW RH GND
76	GR	HALL SENSOR RH POWER SUPPLY
77	R	SUB BAT-
78	B	TERMINAL RELAY 15R1 CONT
80	B	REAR WIPER RELAY CONT
82	GR	TAIL LAMP (BODY LH)
83	P	TERMINAL RELAY 15R2 CONT
85	B	TAIL LAMP (BK LH)
87	R	BAT (VIA LATCHING TERMINAL RELAY 30G)
89	O	HALL SENSOR RH GND
90	V	HALL SENSOR RH SIGNAL
91	P	FUEL LEVEL SENSOR GND
92	L	FUEL LEVEL SENSOR
93	GR	FUEL LEVEL SENSOR
94	Y	FUEL FILLER LID STATUS
97	G	LATCHING TERMINAL RELAY 30G CONT 1
98	B	LATCHING TERMINAL RELAY 30G GND 1
99	W	LATCHING TERMINAL RELAY 30G GND 2
100	V	LATCHING TERMINAL RELAY 30G CONT 2
101	Y	REAR DOOR INSIDE HANDLE LAMP CONT
102	GR	AMBIENT LAMP CONT

103	V	SUB BAT RELAY CONT
105	G	RR DOOR LH UNLOCK
106	W	FUEL FILLER LID UNLOCK
107	L	RR DOOR LH LOCK
108	R	SUB BAT+
109	O	LIN (ROOF)
112	BR	CAN-L (BODY 1)
113	R	CAN-H (BODY 1)
114	B	INJECTION RELAY CONT

Connector No.	M43
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW

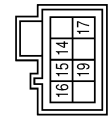


Terminal No.	Color Of Wire	Signal Name [Specification]
4	B	CHASSIS_GND
5	B	ELECTRONICS_GND
6	GR	DIAGNOSTICS-CAN_H_DAI
8	W	IGN_SW
12	L	DIAGNOSTIC-CAN-L_NIS
13	V	DIAGNOSTIC-CAN_H_NIS
14	GR	DIAGNOSTICS-CAN_L_DAI
16	R	BATTERY

Connector No.	M59
Connector Name	WIRE TO WIRE
Connector Type	AMP_953893-1

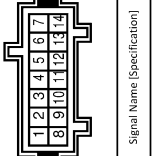
Terminal No.	Color Of Wire	Signal Name [Specification]
1	BR	-
2	BR	-
3	O	-
4	V	- [With BOSE audio]
4	W	- [Without BOSE audio]
5	P	-
6	L	-
7	R	-
8	W	-
9	B	-
10	R	-
11	G	-
12	L	- [Without BOSE audio]
12	P	- [With BOSE audio]
13	B	-
15	B	-
16	SHIELD	-

Connector No.	M99
Connector Name	ELECTRONIC IGNITION SWITCH CONTROL UNIT
Connector Type	MB_A0255459026



Terminal No.	Color Of Wire	Signal Name [Specification]
14	R	POWER SUPPLY
15	B	GND
16	L	ROTARY CATCH
17	P	NOT P
19	V	POWER SUPPLY

Connector No.	M101
Connector Name	ELECTRONIC IGNITION SWITCH CONTROL UNIT
Connector Type	MB_A0265458426



Terminal No.	Color Of Wire	Signal Name [Specification]
1	G	CHASSIS CAN-L
2	W	CHASSIS CAN-H
3	R	BODY CAN 1-H
4	BR	BODY CAN 1-L
6	W	STEERING LOCK OPERATION
9	GR	REMOTE KEYLESS
10	W	POWER SUPPLY
11	BR	DIAGNOSTIC CAN-L
12	L	DIAGNOSTIC CAN-H

Connector No.	M102
Connector Name	WIRE TO WIRE
Connector Type	MB_A0365458728

Terminal No.	Color Of Wire	Signal Name [Specification]
1	P	-
2	V	-
3	Y	-
4	BR	-
6	BR	-
7	W	-
9	W	-
10	L	-
12	GR	-
13	L	-
14	P	-

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PDS (POWER DISTRIBUTION SYSTEM)

Connector No.	M115
Connector Name	FUSE AND FUSIBLE LINK BLOCK 2
Connector Type	MB_A0065450901

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
42	W	-

Connector No.	M124
Connector Name	FUSE AND FUSIBLE LINK BLOCK 2
Connector Type	MB_A0065452901

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
51	R	-

Connector No.	M125
Connector Name	FUSE AND FUSIBLE LINK BLOCK 2
Connector Type	MB_A0065453101

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
52	BR	-

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.	M130
Connector Name	FUSE AND FUSIBLE LINK BLOCK 2
Connector Type	MB_A2205453728

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
95	R	-
96	R	-
97	B	-

99	R	-
102	P	-
104	GR	-
105	V	-
106	W	-

Connector No.	M131
Connector Name	FUSE AND FUSIBLE LINK BLOCK 2
Connector Type	MB_A2205459928

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
57	R	-
58	P	-
59	O	-
60	R	-
62	W	-
63	V	-
64	G	-
65	B	-
67	Y	-

Connector No.	M218
Connector Name	CAN GATEWAY
Connector Type	MB_A0225400581

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
13	B	GROUND
14	G	AV COMMUNICATION-L
15	L	AV COMMUNICATION-H
16	G	CHASSIS CAN-L

17	W	CHASSIS CAN-H
18	O	BATTERY POWER SUPPLY
19	P	MULTIFUNCTION MEDIA CAN-L
20	L	MULTIFUNCTION MEDIA CAN-H
21	BR	BODY CAN 1-L
22	R	BODY CAN 1-H
23	L	DIAGNOSTIC CAN-L
24	V	DIAGNOSTIC CAN-H

Connector No.	M219
Connector Name	ROTARY LIGHT SWITCH
Connector Type	MB_A0255458826

H.S.

Terminal No.	Color Of Wire	Signal Name [Specification]
2	GR	-
3	Y	-
4	B	-
5	G	-
6	R	-
7	O	-
8	W	-

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	-

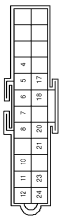
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PDS (POWER DISTRIBUTION SYSTEM)

10	O	-
11	Y	-
12	Y	-
13	R	-
14	R	-
15	R	-
16	R	-

Connector No.	M362
Connector Name	JOINT CONNECTOR-M13
Connector Type	FEA24BR

H.S.



Terminal No.	Color Of Wire	Signal Name [Specification]
4	V	-
5	V	-
6	G	-
7	GR	-
8	GR	-
10	GR	-
11	GR	-
12	GR	-
17	B	-
18	B	-
20	L	-
21	L	-
23	B	-
24	B	-

JRMWJ5286GB

BASIC INSPECTION

ADDITIONAL SERVICE WHEN REPLACING (ELECTRONIC IGNITION SWITCH CONTROL UNIT)

Description

INFOID:0000000013530092

When replacing electronic ignition switch control unit, the procedures of AFTER REPLACEMENT must be performed. For work procedure, refer to PCS-23, "Work Procedure".

AFTER REPLACEMENT

After replacing Intelligent Key unit, the following items must be performed:

- Configuration
- Registration for immobilizer system

Work Procedure

INFOID:0000000013530093

1.ELECTRONIC IGNITION SWITCH CONTROL UNIT CONFIGURATION

With CONSULT

Perform the electronic ignition switch control unit configuration with CONSULT. Refer to PCS-24, "Description".

NOTE:

Log in the network according to CONSULT screen.

>> GO TO 2

2.PERFORM REGISTRATION

With CONSULT

For registration of immobilizer system, perform procedure according to the instructions displayed on the CONSULT monitor.

NOTE:

Log in the network according to CONSULT screen.

>> END

CONFIGURATION (ELECTRONIC IGNITION SWITCH CONTROL UNIT)

Description

INFOID:0000000013530094

Vehicle specification needs to be written with CONSULT because it is not written after replacing the electronic ignition switch control unit.
The configuration requires network connection. CONSULT connects to network and then it downloads the configuration data from the server. Then CONSULT writes the vehicle specification to the electronic ignition switch control unit.
Refer to PCS-24, "Work Procedure".
NOTE:
For details the network connection and operation, refer to “CONSULT Operation Manual”.
The configuration no need to “save” configuration data from the electronic ignition switch control unit. The configuration data is always generated freshly at the server and then downloaded to the CONSULT.
CAUTION:
- **Complete the procedure of “Read / Write Configuration” in order.**
- **If incorrect “Read / Write Configuration”, incidents might occur.**
- **Never perform “Read / Write Configuration” except for new Intelligent Key unit.**

Work Procedure

INFOID:0000000013530095

1.WRITING VEHICLE SPECIFICATION

CONSULT Configuration
Perform “WRITE CONFIGURATION” for CONTROL UNIT according to “CONSULT Operation Manual”.
NOTE:
- Log in the network according to CONSULT screen.
- For details the network connection and operation, refer to “CONSULT Operation Manual”.

>> END

DTC/CIRCUIT DIAGNOSIS

U0122 CAN COMMUNICATION

DTC Description

INFOID:0000000013530096

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0122	08	Communication error	[BUS SIGNAL/ MESSAGE FAILURES]	Diagnosis condition	When ignition is ON
				Signal (terminal)	Chassis CAN communication
				Threshold	Transmission error or reception error
				Diagnosis delay time	Less than 1 second

POSSIBLE CAUSE

- Chassis CAN communication line between electronic ignition switch control unit and EPS control unit
- Chassis CAN communication line open or shorted
- Electronic ignition switch control unit
- EPS control unit

FAIL-SAFE

Inhibit engine cranking

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn ignition switch ON.
2. Perform “Self Diagnostic Result” mode of “Electronic ign switch cont unit” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-25, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013530097

1.CHECK HARNESS CONNECTOR

1. Turn ignition switch OFF.
2. Check the harness connector for disconnection, looseness or damage.

Is the inspection result normal?

YES >> GO TO 2.
NO–1 >> Damage: Replace malfunctioning harness and connector.
NO–2 >> Disconnection or looseness: Securely lock the connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect electronic ignition switch control unit connector and EPS control unit connector.
2. Check continuity between electronic ignition switch control unit harness connector and ESP control unit harness connector.

Electronic ignition switch control unit		EPS control unit		Continuity
Connector	Terminal	Connector	Terminal	
M101	1	E44	2	Existed
	2		1	

Is the inspection result normal?

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

3. REPLACE EPS CONTROL UNIT

1. Replace EPS control unit. Refer to STC-57, "Removal and Installation".
2. Perform DTC confirmation procedure. Refer to PCS-25, "DTC Description".

Is DTC detected?

YES >> Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
NO >> INSPECTION END

U0141 CAN COMMUNICATION

DTC Description

INFOID:0000000013530098

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U0141	00	Communication error	[NO SUBTYPE INFO]	Diagnosis condition	When ignition is ON
				Signal (terminal)	Body CAN communication 1
				Threshold	Transmission error or reception error
				Diagnosis delay time	Less than 1 second

POSSIBLE CAUSE

- Body CAN communication 1 line between electronic ignition switch control unit and BCM
- Body CAN communication 1 line open or shorted
- Electronic ignition switch control unit
- BCM

FAIL-SAFE

Inhibit engine cranking

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Perform “Self Diagnostic Result” mode of “Electronic ign switch cont unit” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-27, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013530099

1.CHECK HARNESS CONNECTOR

1. Turn ignition switch OFF.
2. Check the harness connector for disconnection, looseness or damage.

Is the inspection result normal?

YES >> GO TO 2.
NO–1 >> Damage: Replace malfunctioning harness and connector.
NO–2 >> Disconnection or looseness: Securely lock the connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect electronic ignition switch control unit connector and BCM connector.
2. Check continuity between electronic ignition switch control unit harness connector and BCM harness connector.

Electronic ignition switch control unit		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M101	3	M28	113	Existed
	4		112	

Is the inspection result normal?

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

3. REPLACE BCM

1. Replace BCM. Refer to BCS-248, "Removal and Installation".
2. Perform DTC confirmation procedure. Refer to PCS-27, "DTC Description".

Is DTC detected?

YES >> Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
NO >> INSPECTION END

U1198 CAN COMMUNICATION

DTC Description

INFOID:0000000013530100

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
U1198	00	Communication error	[NO SUBTYPE INFO]	Diagnosis condition	When ignition is ON
				Signal (terminal)	Chassis CAN communication
				Threshold	Transmission error or reception error
				Diagnosis delay time	3 seconds or more

POSSIBLE CAUSE

- Chassis CAN communication line between electronic ignition switch control unit, ECM and TCM
- Chassis CAN communication line open or shorted
- Electronic ignition switch control unit
- TCM
- ECM

FAIL-SAFE

Inhibit shift lever change

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON and wait for 3 seconds or more.
2. Perform “Self Diagnostic Result” mode of “Electronic ign switch cont unit” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-29, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013530101

1.CHECK DTC OF TCM

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnosis Result” mode of “TRANSMISSION” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to TM-45, "DTC Index".
NO >> GO TO 2.

2.CHECK DTC OF ECM

1. Turn ignition switch ON.
2. Check DTC in “Self Diagnosis Result” mode of “ENGINE” using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to EC-142, "DTC Index".
NO >> GO TO 3.

3.CHECK HARNESS CONNECTOR

1. Turn ignition switch OFF.
2. Check the harness connector for disconnection, looseness or damage.

Is the inspection result normal?

YES >> GO TO 4.
NO–1 >> Damage: Replace malfunctioning harness and connector.
NO–2 >> Disconnection or looseness: Securely lock the connector.

4. CHECK WIRING HARNESS

Check the wiring harness externals.

Is the inspection result normal?

YES >> GO TO 5.
NO >> Replace malfunctioning harness and connector.

5. REPLACE TCM

1. Replace TCM. Refer to TM-232, "Disassembly and Assembly".
2. Perform DTC confirmation procedure. Refer to PCS-29, "DTC Description".

Is DTC detected?

YES >> Except K9K engine models: GO TO 6.
NO >> INSPECTION END

6. REPLACE ECM

1. Replace ECM. Refer to EC-963, "Removal and Installation".
2. Perform DTC confirmation procedure. Refer to PCS-29, "DTC Description".

Is DTC detected?

YES >> Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
NO >> INSPECTION END

U140F CAN COMMUNICATION

DTC Description

INFOID:0000000013530102

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B140F	00	Engine variant	[NO SUBTYPE INFO]	Diagnosis condition	When ignition is ON
				Signal (terminal)	Chassis CAN communication
				Threshold	Transmission error or reception error
				Diagnosis delay time	Less than 1 second

POSSIBLE CAUSE

- Chassis CAN communication line between electronic ignition switch control unit and ECM
- Chassis CAN communication line open or shorted
- Electronic ignition switch control unit
- ECM

FAIL-SAFE

Inhibit engine cranking

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Perform “Self Diagnostic Result” mode of “Electronic ign switch cont unit” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-31, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013530103

1.CHECK HARNESS CONNECTOR

1. Turn ignition switch OFF.
2. Check the harness connector for disconnection, looseness or damage.

Is the inspection result normal?

YES >> GO TO 2.
NO–1 >> Damage: Replace malfunctioning harness and connector.
NO–2 >> Disconnection or looseness: Securely lock the connector.

2.CHECK HARNESS FOR OPEN CIRCUIT

1. Disconnect electronic ignition switch control unit connector and ECM control unit connector.
2. Check continuity between electronic ignition switch control unit harness connector and ECM control unit harness connector.

Electronic ignition switch control unit		ECM		Continuity
Connector	Terminal	Connector	Terminal	
M101	1	E48	150	Existed
	2		137	

Is the inspection result normal?

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

3. REPLACE ECM

1. Replace ECM. Refer to EC-963, "Removal and Installation".
2. Perform DTC confirmation procedure. Refer to PCS-31, "DTC Description".

Is DTC detected?

YES >> Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
NO >> INSPECTION END

P172C ELECTRONIC IGNITION SWITCH CONTROL UNIT

DTC Description

INFOID:0000000013530104

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
P172C	13	Park position output signal	[CIRC OPEN]	Diagnosis condition	When ignition is ON
				Signal (terminal)	Not P
				Threshold	Less than 3.0 V
				Diagnosis delay time	Less than 1 second

POSSIBLE CAUSE

- Harness connector between electronic ignition switch control unit and TCM
- Electronic ignition switch control unit
- TCM

FAIL-SAFE

–

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn ignition switch ON.
2. Perform “Self Diagnostic Result” mode of “Electronic ign switch cont unit” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-33, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013530105

1.CHECK BATTERY VOLTAGE

Check battery voltage. Refer to PG-102, "MAIN BATTERY : How to Handle Battery" (main battery) and PG-103, "SUB BATTERY : How to Handle Battery" (sub battery).

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning part.

2.CHECK ELECTRONIC IGNITION SWITCH CONTROL UNIT OUTPUT SIGNAL CIRCUIT

1. Turn ignition switch ON.
2. Check voltage between electronic ignition switch control unit harness connector and ground.

(+)		(–)	Voltage (Approx.)
Electronic ignition switch control unit			
Connector	Terminal		
M99	17	Ground	12 V

Is the inspection result normal?

YES >> GO TO 3.
NO >> GO TO 4.

3. CHECK ELECTRONIC IGNITION SWITCH CONTROL UNIT CIRCUIT (OPEN AND SHORT)

1. Turn ignition switch OFF.
2. Disconnect electronic ignition switch control unit harness connector and TCM harness connector.
3. Check continuity between electronic ignition switch control unit harness connector and TCM harness connector.

Electronic ignition switch control unit		TCM		Continuity
Connector	Terminal	Connector	Terminal	
M99	17	E47	2	Existed

4. Check continuity between electronic ignition switch control unit harness connector and ground.

Electronic ignition switch control unit		Ground	Continuity
Connector	Terminal		
M99	17		Not existed

Is the inspection result normal?

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

4. REPLACE ELECTRONIC IGNITION SWITCH CONTROL UNIT

1. Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
2. Perform DTC confirmation procedure. Refer to PCS-33, "DTC Description".

Is DTC detected?

YES >> Replace TCM. Refer to TM-232, "Disassembly and Assembly".
NO >> INSPECTION END

B1A39 ELECTRONIC IGNITION SWITCH CONTROL UNIT

DTC Description

INFOID:0000000013530106

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B1A39	11	Two-way radio receiver	[CIRC SHORT TO GRND]	Diagnosis condition	When ignition is ON
				Signal (terminal)	Remote keyless
				Threshold	Inactive communication between electronic ignition switch control unit and remote keyless entry receiver
				Diagnosis delay time	Less than 1 second

POSSIBLE CAUSE

- Harness connector between electronic ignition switch control unit and remote keyless entry receiver
- Electronic ignition switch control unit
- Remote keyless entry receiver

FAIL-SAFE

Inhibit central locking system

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn ignition switch ON.
2. Perform “Self Diagnostic Result” mode of “Electronic ign switch cont unit” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-35, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013530107

1.CHECK REMOTE KEYLESS ENTRY RECEIVER CIRCUIT (SHRTO)

1. Turn ignition switch OFF.
2. Disconnect electronic ignition switch control unit connector and remote keyless entry receiver connector.
3. Check continuity between electronic ignition switch control unit harness connector and ground.

Electronic ignition switch control unit		Ground	Continuity
Connector	Terminal		
M101	7		Not existed

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness.

2.REPLACE REMOTE KEYLESS ENTRY RECEIVER

1. Replace remote keyless entry receiver. Refer to DLK-284, "Removal and Installation".
2. Perform DTC confirmation procedure. Refer to PCS-35, "DTC Description".

Is DTC detected?

YES >> Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
NO >> INSPECTION END

B210A ELECTRONIC IGNITION SWITCH CONTROL UNIT

DTC Description

INFOID:0000000013530108

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B210A	00	Power Supply circuit	[NO SUBTYPE INFO]	Diagnosis condition	When ignition is START
				Signal (terminal)	Power supply
				Threshold	Less than 10 V
				Diagnosis delay time	15 seconds or more

POSSIBLE CAUSE

- Harness connector between electronic ignition switch control unit and fuse and fusible link block 2
- Electronic ignition switch control unit
- Fuse
- Fuse and fusible link block 2
- Malfunction of battery voltage (less than 10 V)

FAIL-SAFE

—

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn ignition switch ON.
2. Perform “Self Diagnostic Result” mode of “Electronic ign switch cont unit” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-36, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013530109

1.CHECK BATTERY VOLTAGE

Check battery voltage. Refer to PG-102, "MAIN BATTERY : How to Handle Battery" (main battery) and PG-103, "SUB BATTERY : How to Handle Battery" (sub battery).

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning part.

2.CHECK CHAGING SYSTEM

Check changing system. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK FUSE

1. Turn ignition switch OFF.
2. Check that the following fuses are not blown (open).

Signal name	Fuse No.
Battery power supply	83 (7.5 A)
	26 (10 A) (A/T models)

Is the fuse blown (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse link is blown (open).
NO >> GO TO 4.

4. CHECK POWER SUPPLY CIRCUIT

1. Disconnect electronic ignition switch control unit connector.
2. Check voltage between electronic ignition switch control unit harness connector and ground.

(+)		(–)	Voltage (Approx.)
Electronic ignition switch control unit			
Connector	Terminal		
M99	14	Ground	12 V
	19		

Is the inspection result normal?

YES >> Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
NO >> GO TO 5.

5. CHECK ELECTRONIC IGNITION SWITCH CONTROL UNIT CIRCUIT (OPEN AND SHORT)

1. Disconnect fuse and fusible link block 2 harness connector.
2. Check continuity between electronic ignition switch control unit harness connector and fuse and fusible link block 2 harness connector.

Electronic ignition switch control unit		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M99	14	M130	99	Existed
	19		105	

3. Check continuity between electronic ignition switch control unit harness connector and ground.

Electronic ignition switch control unit		Ground	Continuity
Connector	Terminal		
M99	14		Not existed
	19		

Is the inspection result normal?

YES >> Replace fuse and fusible link block 2.
NO >> Repair or replace harness.

B210B ELECTRONIC IGNITION SWITCH CONTROL UNIT

DTC Description

INFOID:0000000013530110

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B210B	00	Power Supply circuit	[NO SUBTYPE INFO]	Diagnosis condition	When ignition is START
				Signal (terminal)	Power supply
				Threshold	16 V or more
				Diagnosis delay time	15 seconds or more

POSSIBLE CAUSE

- Harness connector between electronic ignition switch control unit and fuse and fusible link block 2
- Electronic ignition switch control unit
- Fuse and fusible link block 2
- Malfunction of battery voltage (16 V or more)

FAIL-SAFE

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DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn ignition switch ON.
2. Perform “Self Diagnostic Result” mode of “Electronic ign switch cont unit” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-38, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013530111

1.CHECK BATTERY VOLTAGE

Check battery voltage. Refer to PG-102, "MAIN BATTERY : How to Handle Battery" (main battery) and PG-103, "SUB BATTERY : How to Handle Battery" (sub battery).

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning part.

2.CHECK CHAGING SYSTEM

Check changing system. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK POWER SUPPLY CIRCUIT

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

(+)		(–)	Voltage (Approx.)
Electronic ignition switch control unit			
Connector	Terminal		
M99	14	Ground	12 V
	19		

Is the inspection result normal?

YES >> Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
NO >> Replace fuse and fusible link block 2.

B210D ELECTRONIC IGNITION SWITCH CONTROL UNIT

DTC Description

INFOID:0000000013530112

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B210D	00	Power supply	[NO SUBTYPE INFO]	Diagnosis condition	When ignition is ON
				Signal (terminal)	Power supply
				Threshold	Less than 10 V
				Diagnosis delay time	15 seconds or more

POSSIBLE CAUSE

- Harness connector between electronic ignition switch control unit and fuse and fusible link block 2
- Electronic ignition switch control unit
- Fuse
- Fuse and fusible link block 2
- Malfunction of battery voltage (less than 10 V)

FAIL-SAFE

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DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn ignition switch ON.
2. Perform “Self Diagnostic Result” mode of “Electronic ign switch cont unit” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-40, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013530113

1.CHECK BATTERY VOLTAGE

Check battery voltage. Refer to PG-102, "MAIN BATTERY : How to Handle Battery" (main battery) and PG-103, "SUB BATTERY : How to Handle Battery" (sub battery).

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning part.

2.CHECK CHAGING SYSTEM

Check changing system. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK FUSE

1. Turn ignition switch OFF.
2. Check that the following fuses are not blown (open).

Signal name	Fuse No.
Battery power supply	83 (7.5 A)
	26 (10 A)

Is the fuse blown (open)?

YES >> Replace the blown (open) fuse after repairing the affected circuit if a fuse link is blown (open).
NO >> GO TO 4.

4. CHECK POWER SUPPLY CIRCUIT

1. Disconnect electronic ignition switch control unit connector.
2. Check voltage between electronic ignition switch control unit harness connector and ground.

(+)		(–)	Voltage (Approx.)
Electronic ignition switch control unit			
Connector	Terminal		
M99	14	Ground	12 V
	19		

Is the inspection result normal?

YES >> Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
NO >> GO TO 5.

5. CHECK ELECTRONIC IGNITION SWITCH CONTROL UNIT CIRCUIT (OPEN AND SHORT)

1. Disconnect fuse and fusible link block 2 harness connector.
2. Check continuity between electronic ignition switch control unit harness connector and fuse and fusible link block 2 harness connector.

Electronic ignition switch control unit		Fuse and fusible link block 2		Continuity
Connector	Terminal	Connector	Terminal	
M99	14	M130	99	Existed
	19		105	

3. Check continuity between electronic ignition switch control unit harness connector and ground.

Electronic ignition switch control unit		Ground	Continuity
Connector	Terminal		
M99	14		Not existed
	19		

Is the inspection result normal?

YES >> Replace fuse and fusible link block 2.
NO >> Repair or replace harness.

B210E ELECTRONIC IGNITION SWITCH CONTROL UNIT

DTC Description

INFOID:0000000013530114

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B210E	00	Power supply	[NO SUBTYPE INFO]	Diagnosis condition	When ignition is START
				Signal (terminal)	Power supply
				Threshold	16 V or more
				Diagnosis delay time	15 seconds or more

POSSIBLE CAUSE

- Harness connector between electronic ignition switch control unit and fuse and fusible link block 2
- Electronic ignition switch control unit
- Fuse and fusible link block 2
- Malfunction of battery voltage (16 V or more)

FAIL-SAFE

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DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Perform “Self Diagnostic Result” mode of “Electronic ign switch cont unit” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-42, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013530115

1.CHECK BATTERY VOLTAGE

Check battery voltage. Refer to PG-102, "MAIN BATTERY : How to Handle Battery" (main battery) and PG-103, "SUB BATTERY : How to Handle Battery" (sub battery).

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning part.

2.CHECK CHAGING SYSTEM

Check changing system. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the malfunctioning part.

3.CHECK POWER SUPPLY CIRCUIT

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

(+)		(–)	Voltage (Approx.)
Electronic ignition switch control unit			
Connector	Terminal		
M99	14	Ground	12 V
	19		

Is the inspection result normal?

YES >> Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
NO >> Replace fuse and fusible link block 2.

B21DC ELECTRONIC IGNITION SWITCH CONTROL UNIT

DTC Description

INFOID:0000000013530116

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B21DC	01	Electronic ignition lock	[ELECTRICAL MALFUNCTION]	Diagnosis condition	When ignition is ON
				Signal (terminal)	Power supply
				Threshold	Less than 7 V (sub battery)
				Diagnosis delay time	Less than 1 second

POSSIBLE CAUSE

- Electronic ignition switch control unit
- Malfunction of sub battery voltage (less than 7 V)

FAIL-SAFE

Inhibit stop/start system

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT

1. Turn ignition switch ON.
2. Perform “Self Diagnostic Result” mode of “Electronic ign switch cont unit” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-44, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013530117

1.CHECK BATTERY VOLTAGE

Check battery voltage. Refer to PG-102, "MAIN BATTERY : How to Handle Battery" (main battery) and PG-103, "SUB BATTERY : How to Handle Battery" (sub battery).

Is the inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace the malfunctioning part.

2.CHECK CHAGING SYSTEM

Check changing system. Refer to CHG-21, "Work Flow (With EXP-800 NI or GR8-1200 NI)" or CHG-25, "Work Flow (Without EXP-800 NI or GR8-1200 NI)".

Is the inspection result normal?

YES >> Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".
NO >> Repair or replace the malfunctioning part.

B2201 ELECTRONIC IGNITION SWITCH CONTROL UNIT

DTC Description

INFOID:0000000013530118

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B2201	00	Additional memory of ECU	[NO SUBTYPE INFO]	Diagnosis condition	When ignition is ON
				Signal (terminal)	Electronic ignition switch control unit
				Threshold	Electronic ignition switch control unit is malfunctioning
				Diagnosis delay time	Less than 1 second

POSSIBLE CAUSE

Electronic ignition switch control unit

FAIL-SAFE

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DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn ignition switch ON.
2. Perform “Self Diagnostic Result” mode of “Electronic ign switch cont unit” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-45, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013530119

1.REPLACE ELECTRONIC IGNITION SWITCH CONTROL UNIT

Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".

>> INSPECTION END

B2224 ELECTRONIC IGNITION SWITCH CONTROL UNIT

DTC Description

INFOID:0000000013530120

DTC DETECTION LOGIC

DTC		CONSULT screen items (Trouble diagnosis content)	CONSULT screen items [Malfunction type]	DTC detecting condition	
B2224	49	Electronic ignition lock	[INTERNAL ELECTRONIC FAILURE]	Diagnosis condition	When ignition is ON
				Signal (terminal)	Electronic ignition switch control unit
				Threshold	Electronic ignition switch control unit is malfunctioning
				Diagnosis delay time	Less than 1 second

POSSIBLE CAUSE

Electronic ignition switch control unit

FAIL-SAFE

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DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

With CONSULT
1. Turn ignition switch ON.
2. Perform “Self Diagnostic Result” mode of “Electronic ign switch cont unit” using CONSULT.

Is DTC detected?

YES >> Refer to PCS-46, "Diagnosis Procedure".
NO-1 >> To check malfunction symptom before repair: Refer to GI-56, "Intermittent Incident".
NO-2 >> Confirmation after repair: INSPECTION END

Diagnosis Procedure

INFOID:0000000013530121

1.REPLACE ELECTRONIC IGNITION SWITCH CONTROL UNIT

Replace electronic ignition switch control unit. Refer to PCS-47, "Removal and Installation".

>> INSPECTION END

REMOVAL AND INSTALLATION

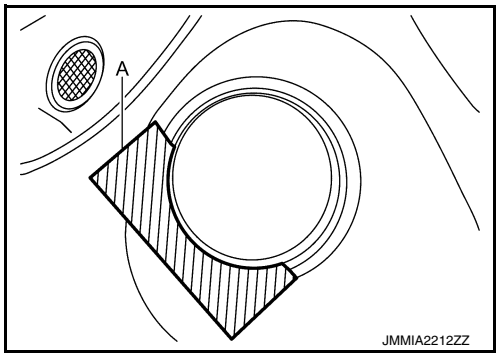
ELECTRONIC IGNITION SWITCH CONTROL UNIT

Removal and Installation

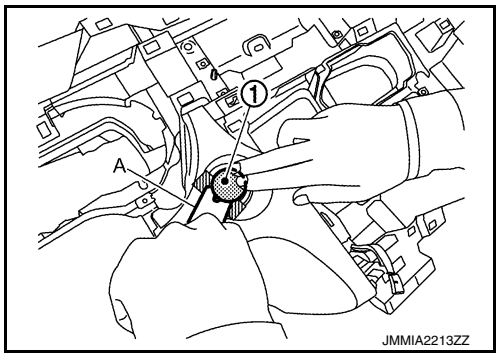
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REMOVAL

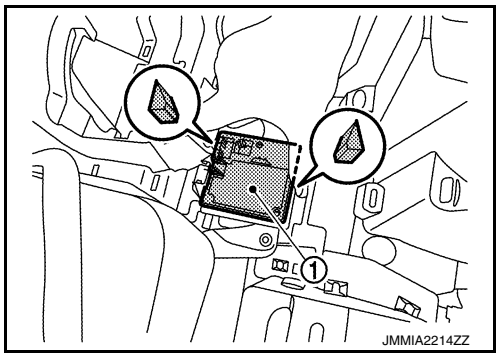
1. Remove instrument panel. Refer to IP-13, "Removal and Installation".
2. Apply protective tape (A) to instrument panel around push-button for preventing damage.



3. Disengage push-button ① using a remover tool (A)



4. Disengage the electronic ignition switch control unit ① fixing pawls, and then remove the electronic ignition switch control unit.



INSTALLATION

Install in the reverse order of removal.

CAUTION:

Be sure to perform "After Replace ECU" of "Read / Write Configuration" when replacing electronic ignition switch control unit. Refer to PCS-23, "Description".

NOTE:

Be sure to perform the system initialization (immobilizer system) when replacing electronic ignition switch control unit.