SECURITY CONTROL SYSTEM

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CONTENTS

INTELLIGENT KEY SYSTEM	I
BASIC INSPECTION5	
DIAGNOSIS AND REPAIR WORKFLOW 5 Work Flow	٦
INSPECTION AND ADJUSTMENT8	
ECM RE-COMMUNICATING FUNCTION	I
scription8 ECM RE-COMMUNICATING FUNCTION : Spe- cial Repair Requirement8	(
FUNCTION DIAGNOSIS9	
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION	l I
NVIS (NISSAN VEHICLE IMMOBILIZER SYS- TEM-NATS)14	
System Diagram 14 System Description 14 Component Parts Location 15 Component Description 16	I
VEHICLE SECURITY SYSTEM18System Diagram18System Description18Component Parts Location19Component Description20	I
DIAGNOSIS SYSTEM (BCM)22	I
COMMON ITEM22 COMMON ITEM : Diagnosis Description22	

COMMON ITEM : CONSULT-III Function22

INTELLIGENT KEY	F
THEFT ALM	G
IMMU27 IMMU : CONSULT-III Function (BCM - IMMU)27	Н
COMPONENT DIAGNOSIS28	
U1000 CAN COMM CIRCUIT28 Description	J
U1010 CONTROL UNIT (CAN)29 DTC Logic29 Diagnosis Procedure29	SEC
B2190, P1610 NATS ANTENNA AMP	L
B2191, P1615 DIFFERENCE OF KEY	Ν
B2192, P1611 ID DISCORD, IMMU-ECM34 Description	O P
B2193, P1612 CHAIN OF ECM-IMMU	
D2013 ID DISCORD, IWIWIO-STRG	

Description DTC Logic Diagnosis Procedure	36
B2014 CHAIN OF STRG-IMMU Description DTC Logic Diagnosis Procedure	37 37
B2555 STOP LAMP Description DTC Logic Diagnosis Procedure Component Inspection	40 40 40
B2556 PUSH-BUTTON IGNITION SWITCH Description DTC Logic Diagnosis Procedure Component Inspection	42 42 42
B2557 VEHICLE SPEED Description DTC Logic Diagnosis Procedure	44 44
B2560 STARTER CONTROL RELAY Description DTC Logic Diagnosis Procedure	45 45
B2601 SHIFT POSITION Description DTC Logic Diagnosis Procedure Component Inspection	46 46 46
B2602 SHIFT POSITION Description DTC Logic Diagnosis Procedure	49 49
B2603 SHIFT POSITION STATUS Description DTC Logic Diagnosis Procedure	51 51
B2604 PNP SWITCH Description DTC Logic Diagnosis Procedure	54 54
B2605 PNP SWITCH Description DTC Logic Diagnosis Procedure	56 56
B2606 STEERING LOCK RELAY	

B2607 STEERING LOCK RELAY 59 Description 59 DTC Logic 59 Diagnosis Procedure 59 B2608 STARTER RELAY 61 Description 61 DTC Logic 61 Dagnosis Procedure 61 B2609 STEERING STATUS 63 Description 63 Description 63 Diagnosis Procedure 63 B2608 STEERING LOCK UNIT 67 DEC Logic 67 Diagnosis Procedure 67 B260C STEERING LOCK UNIT 68 Description 68 DTC Logic 67 Diagnosis Procedure 68 Dagnosis Procedure 68 Dagnosis Procedure 69 DTC Logic 69 DTC Logic 70 Description 70 Description 70 Description 70 Description 70 Diagnosis Procedure 70 Diagnosis Pr
-
Description61
Ū
Description63
-
Description67
-
-
DTC Logic 69
-
DTC Logic70
Diagnosis Procedure70
DTC Logic
-
Description 59 DTC Logic 59 Diagnosis Procedure 59 B2608 STARTER RELAY 61 Description 61 DTC Logic 61 DTC Logic 63 Description 63 DTC Logic 67 Description 67 DTC Logic 67 Description 68 DTC Logic 68 DTC Logic 68 DTC Logic 68 DTC Logic 69 DTC Logic 69 DTC Logic 70 Description 70 DESCIPTION 69 DTC Logic 70 Description 70 DESCIPTION OF ENGINE STA- 70 Description 71 Description 72
ů –
Diagnosis Procedure76
B261E VEHICLE TYPE81

Description
Diagnosis Procedure81
B2108 STEERING LOCK RELAY
Description
Diagnosis Procedure
B2109 STEERING LOCK RELAY83
Description
DTC Logic83 Diagnosis Procedure83
-
B210A STEERING LOCK CONDITION SWITCH84
Description
DTC Logic
Diagnosis Procedure84
B210B STARTER CONTROL RELAY
Description
Diagnosis Procedure88
B210C STARTER CONTROL RELAY89
Description89
DTC Logic
-
B210D STARTER RELAY
Description
Diagnosis Procedure90
B210E STARTER RELAY91
Description
DTC Logic91 Diagnosis Procedure91
B210F PNP/CLUTCH INTERLOCK SWITCH93
Description
DTC Logic93
Diagnosis Procedure
B2110 PNP/CLUTCH INTERLOCK SWITCH97
Description
DTC Logic97
Diagnosis Procedure
POWER SUPPLY AND GROUND CIRCUIT 100
BCM : Diagnosis Procedure 100
BCM : Diagnosis Procedure
IPDM E/R (INTELLIGENT POWER DISTRIBU-
TION MODULE ENGINE ROOM)

IPDM E/R (INTELLIGENT POWER DISTRIBU- TION MODULE ENGINE ROOM) : Diagnosis Pro- cedure	А
KEY SLOT 102 Diagnosis Procedure 102	В
KEY SLOT ILLUMINATION103Description103Component Function Check103Diagnosis Procedure103	С
KEY CYLINDER SWITCH105Description105Component Function Check105Diagnosis Procedure105Component Inspection106	D
HORN107Description107Component Function Check107Diagnosis Procedure107	F
HEADLAMP109Description109Component Function Check109Diagnosis Procedure109	G
WARNING LAMP110Description110Component Function Check110Diagnosis Procedure110	I
VEHICLE SECURITY INDICATOR	J SEC
ECU DIAGNOSIS 112	
BCM (BODY CONTROL MODULE)112 Reference Value112	L
Terminal Layout	M
	0
IPDM E/R (INTELLIGENT POWER DISTRI- BUTION MODULE ENGINE ROOM) 175 Reference Value 175 Wiring Diagram — INTELLIGENT KEY SYSTEM/ ENGINE START FUNCTION — 183 Wiring Diagram — VEHICLE SECURITY SYS- TEM — 197 Wiring Diagram — NVIS — 210	Ρ

DTC Index	

VEHICLE SECU	RITY SYSTEM SYMPTOMS.	223
Symptom Table		.223

NISSAN VEHICLE IMMOBILIZER SYSTEM-

Symptom Table	

ON-VEHICLE MAINTENANCE	225
PRE-INSPECTION FOR DIAGNOSTIC	225
ON-VEHICLE REPAIR	227
KEY SLOT	
PUSH BUTTON IGNITION SWITCH	-

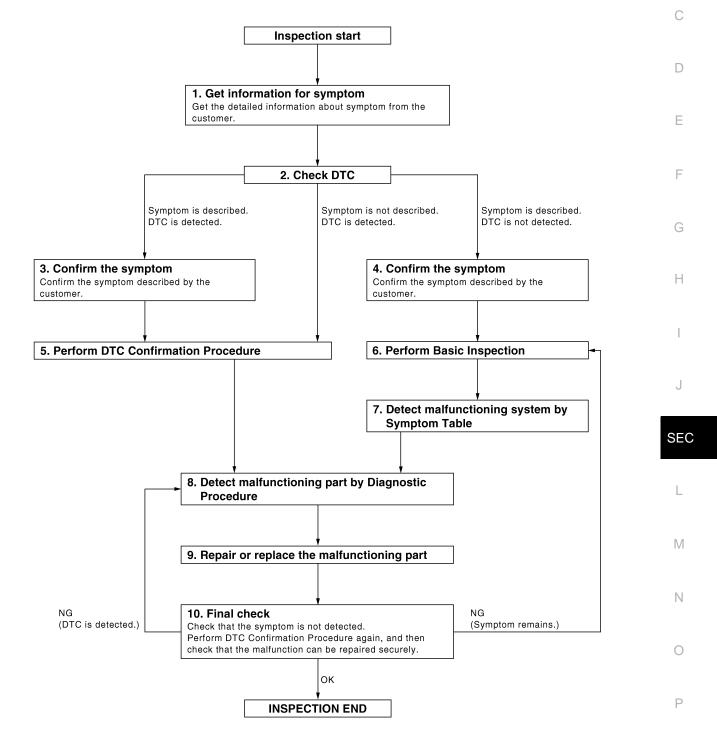
BASIC INSPECTION DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

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OVERALL SEQUENCE



< BASIC INSPECTION >

1.GET INFORMATION FOR SYMPTOM

Get the detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).

>> GO TO 2..

2.CHECK DTC WITH BCM AND IPDM E/R

- 1. Check "Self Diagnostic Result" with CONSULT-III.
- 2. Perform the following procedure if DTC is displayed.
- Record DTC and freeze frame data (Print them out with CONSULT-III.)
- Erase DTC.
- Study the relationship between the cause detected by DTC and the symptom described by the customer.
- 3. Check related service bulletins for information.

Is any symptom described and any DTC detected?

Symptom is described, DTC is displayed>>GO TO 3.. Symptom is described, DTC is not displayed>>GO TO 4.. Symptom is not described, DTC is displayed>>GO TO 5..

3.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT-III to the vehicle in "Data Monitor" mode and check real time diagnosis results. Verify relation ship between the symptom and the condition when the symptom is detected.

>> GO TO 5..

4.CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT-III to the vehicle in "Data Monitor" mode and check real time diagnosis results. Verify relation ship between the symptom and the condition when the symptom is detected.

>> GO TO 6..

5.PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC Confirmation Procedure for the displayed DTC, and then check that DTC is detected again. At this time, always keep CONSULT-III connected to the vehicle, and check diagnostic results in real time. If two or more DTCs are detected, refer to <u>SEC-171</u>, "<u>DTC Inspection Priority Chart</u>" and determine trouble diagnosis order.

NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC Confirmation Procedure is not included in Service Manual. This
 simplified check procedure is an effective alternative though DTC cannot be detected during this check.
 If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC Confirmation Procedure.

Is DTC detected?

Yes >> GO TO 8..

No >> Refer to <u>GI-39, "Intermittent Incident"</u>.

6.PERFORM BASIC INSPECTION

Perform SEC-225. "Basic Inspection".

Inspection End>>GO TO 7..

7. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

Detect malfunctioning system according to following symptom tables based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptoms.

- Intelligent Key system/engine start function: <u>SEC-222, "Symptom Table"</u>.
- Vehicle security system: <u>SEC-223, "Symptom Table"</u>.

SEC-6

DIAGNOSIS AND REPAIR WORKFLOW [INTELLIGENT KEY SYSTEM] < BASIC INSPECTION > Nissan vehicle immobilizer system-NATS: <u>SEC-224</u>, "Symptom Table". А >> GO TO 8.. 8. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE В Inspect according to Diagnostic Procedure of the system. NOTE: The Diagnostic Procedure described based on open circuit inspection. A short circuit inspection is also required for the circuit check in the Diagnostic Procedure. Is malfunctioning part detected? Yes >> GO TO 9.. D No >> Check voltage of related BCM terminals using CONSULT-III. 9.REPAIR OR REPLACE THE MALFUNCTIONING PART Е 1. Repair or replace the malfunctioning part. 2. Reconnect parts or connectors disconnected during Diagnostic Procedure again after repair or replacement. Check DTC. If DTC is displayed, erase it. 3. F >> GO TO 10.. 10.FINAL CHECK When DTC was detected in step 2, perform DTC Confirmation Procedure or Component Function Check again, and then check that the malfunction have been fully repaired. Н When symptom was described from the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected. OK or NG NG (DTC is detected)>>GO TO 8.. NG (Symptom remains)>>GO TO 6... OK >> INSPECTION END SEC

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INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

INSPECTION AND ADJUSTMENT

ECM RE-COMMUNICATING FUNCTION

ECM RE-COMMUNICATING FUNCTION : Description

Performing following procedure can automatically perform re-communication of ECM and BCM, but only when the ECM has been replaced with a new one (*1).

*1: New one means a virgin ECM which has never been energized on-board.

(In this step, initialization procedure by CONSULT-III is not necessary)

NOTE:

- When registering new Key IDs or replacing the ECM that is not brand new, refer to CONSULT-III Operation Manual NATS-IVIS/NVIS.
- If multiple keys are attached to the key holder, separate them before work.
- Distinguish keys with unregistered key ID from those with registered ID.

ECM RE-COMMUNICATING FUNCTION : Special Repair Requirement

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1.PERFORM ECM RE-COMMUNICATING FUNCTION

1. Install ECM.

- Insert the registered Intelligent Key (*2), turn ignition switch to "ON".
 *2: To perform this step, use the key that has been used before performing ECM replacement.
- 3. Maintain ignition switch in "ON" position for at least 5 seconds.
- 4. Turn ignition switch to "OFF".
- 5. Start engine.

Can engine be started?

- YES >> Procedure is completed.
- NO >> Initialize control unit.Refer to CONSULT-III Operation Manual NATS-IVIS/NVIS.

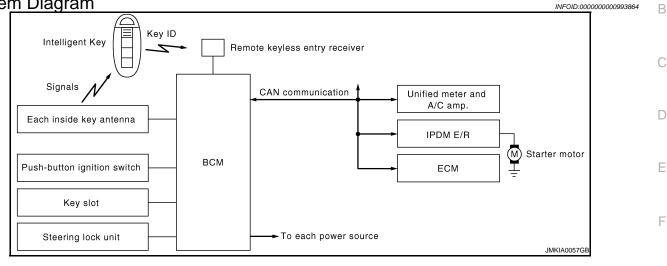
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< FUNCTION DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

FUNCTION DIAGNOSIS INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

System Diagram



System Description

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INPUT/OUTPUT SIGNAL CHART

Switch	Input signal to BCM	BCM function	Actuator	
Push-button ignition switch	Push switch			
CVT device (CVT models)	P range	Engine stat function		
PNP switch (CVT models)	N, P range		 Steering lock relay 	
Clutch interlock switch (M/T mod- els)	Clutch ON/OFF		Steering lock unitStarter relay (IPDM E/R)	,
Stop lamp switch	Brake ON/OFF		 Starter control relay (IPDM E/ R) 	
Each inside key antenna	Request signal		Starter motor	SI
Remote keyless entry receiver	Key ID		 KEY warning lamp 	
Each door switch	Door open/close	1		L
ECM	Engine status signal	1		

SYSTEM DESCRIPTION

• The engine start function of Intelligent Key system is a system that makes it possible to start and stop the engine without removing the key. It verifies the electronic ID using two-way communications when pressing the push-button ignition switch while carrying the Intelligent Key, which operates based on the results of electronic ID verification for Intelligent Key using two-way communications between the Intelligent Key and the vehicle.

NOTE:

The driver should carry the Intelligent Key at all times.

- Intelligent Key has 2 IDs [for Intelligent Key and for NVIS (NATS)]. It can perform the door lock/unlock operation and the push-button ignition switch operation when the registered Intelligent Key is carried.
- When the Intelligent Key battery is discharged, it can be used as emergency back-up by inserting the Intelligent Key to the key slot. At that time, perform the NVIS (NATS) ID verification. If it is used when the Intelligent Key is carried, perform the Intelligent Key ID verification.
- If the ID is successfully verified, and when push-button ignition switch is pressed, steering lock will be released and initiating the engine will be possible.
- If the door lock/unlock operation is performed when the Intelligent Key battery is discharged, all doors lock/ unlock can be performed by operating the driver door key cylinder using the mechanical key set in the Intelligent Key.

< FUNCTION DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

- Intelligent Key can be registered up to 4 keys (Including the standard Intelligent Key) on request from the owner.
 NOTE:
 - Refer to <u>DLK-16. "INTELLIGENT KEY : System Description"</u> for any functions other than engine start function of Intelligent Key system.

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

• In the Intelligent Key system of model V36, the transponder [the chip for NVIS (NATS) ID verification] is integrated into the Intelligent Key. (For the conventional models, it is integrated into the mechanical key.) Therefore, the mechanical key cannot perform the ID verification, and thus it cannot start the engine. Instead, the NVIS (NATS) ID verification can be performed by inserting the Intelligent Key into the key slot, and then it can start the engine.

OPERATION WHEN INTELLIGENT KEY IS CARRIED

- 1. When the push-button ignition switch is pressed, the BCM signals the inside key antenna and transmits the request signal to the Intelligent Key.
- 2. The Intelligent Key receives the request signal and transmits the Intelligent Key ID signal to the BCM via the remote keyless entry receiver.
- 3. The Intelligent Key receives the Intelligent Key ID signal and verifies it with the registered ID.
- 4. BCM transmits the steering lock unlock signal to steering lock unit and IPDM E/R if the verification results are OK.
- 5. IPDM E/R turns the steering lock relay ON and supplies power to the steering lock unit.
- 6. Release of the steering lock.
- 7. BCM transmits the power supply stop signal to IPDM E/R when it confirms that the steering lock is in the unlock condition.
- 8. IPDM E/R turns the steering lock relay OFF and stops power supply to the steering lock unit.
- 9. BCM turns ACC relay ON and transmits the ignition power supply ON signal to IPDM E/R.
- 10. IPDM E/R turns the ignition relay ON and starts the ignition power supply.
- 11. BCM confirms that the shift position is P or N. (CVT models)
- 12. BCM transmits the starter request signal via CAN communication to IPDM E/R and turns the starter relay in IPDM E/R ON if BCM judges that the engine start condition is satisfied.
- 13. IPDM E/R turns the starter control relay ON when receiving the starter request signal.
- 14. Battery power is supplied through the starter relay and the starter control relay to operate the starter motor and to start the cranking. CAUTION:

If a malfunction is detected in the Intelligent Key system, the "KEY" warning lamp in the combination meter illuminates. At that time, the engine cannot be started.

15. When BCM received feedback signal from ECM acknowledging the engine has been initiated, the BCM transmits a stop signal to IPDM E/R and stops the cranking by turning OFF the starter motor relay. (If the engine initiating has failed, the cranking will stop automatically within 5 seconds.) CAUTION:

When the Intelligent Key is carried outside of the vehicle (inside key antenna detection area) with the power supply in ACC or ON position, even if the engine start condition* is satisfied, the engine cannot be started.

*: For the engine start condition, refer to "PUSH-BUTTON IGNITION SWITCH OPERATION PROCEDURE".

OPERATION RANGE

Engine can be started when Intelligent Key is inside the vehicle. However, sometimes engine might not start when Intelligent Key is on instrument panel or in glove box.

OPERATION WHEN KEY SLOT IS USED

When the Intelligent Key battery is discharged, it performs the NVIS (NATS) ID verification between the integrated transponder and BCM by inserting the Intelligent Key into the key slot, and then the engine can be started.

For details relating to starting the engine using key slot, refer to SEC-14, "System Description".

BATTERY SAVER SYSTEM

When all the following conditions are met for 60 minutes, the battery saver system will cut off the power supply to prevent battery discharge.

< FUNCTION DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

 The ignition switch is in the ACC position All doors are closed CVT selector lever is in the P position 	
Reset Condition of Battery Saver System CVT models In order to prevent the battery from discharging, the battery saver system will cut off the power supply when all	
doors are closed, the selector lever is on P position and the ignition switch is left on ACC position for 1 hour. If any of the following conditions are met the battery saver system is released and the steering will change auto- matically to lock position from OFF position.	
 Opening any door Operating with request switch on door lock Operating with Intelligent Key on door lock Press push-button ignition switch and ignition switch will change to ACC position from OFF position. 	
M/T models If any of the conditions above is met the battery saver system is released but the steering will not lock. In this case, the steering operation OFF to LOCK is prohibited.	
STEERING LOCK OPERATION Steering is locked by steering lock unit when ignition switch is in the OFF position, CVT selector lever is in the P position and any of the following conditions are met. • Opening door	
 Closing door Door is locked with request switch Door is locked with Intelligent Key 	
PUSH-BUTTON IGNITION SWITCH OPERATION PROCEDURE The power supply position changing operation can be performed with the following operations. NOTE:	
 When an Intelligent Key is within the detection area of inside key antenna and when it is inserted to the key slot, it is equivalent to the operations below. When starting the engine, the BCM monitors under the engine start conditions, 	
 Brake pedal operating condition (CVT models) CVT selector lever position (CVT models) Clutch pedal operating condition (M/T models) Vehicle speed 	
• Unless each start condition is fulfilled, the engine will not respond regardless of how many times the engine	

 Unless each start condition is fulfilled, the engine will not respond regardless of how many times the engine switch is pressed. At that time, illumination repeats the position in the order of LOCK→ACC→ON→OFF.

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	Engine start/stop condition		Duch hutten instition out to a	
Power supply position	Brake pedal (CVT) /clutch pedal (M/T)	CVT selector lever position	 Push-button ignition switch op eration frequency 	
$LOCK \rightarrow ACC$	Not depressed	Any position	1	
$LOCK\toACC\toON$	Not depressed	Any position	2	
$\begin{array}{c} LOCK \to ACC \to ON \to \\ OFF \end{array}$	Not depressed	Any position	3	
LOCK \rightarrow START ACC \rightarrow START ON \rightarrow START (Engine start)	Depressed	P or N position (*1)	1 [If the switch is pressed once, the engine starts from any pow er supply position (LOCK, ACC, and ON)]	
Engine is running \rightarrow OFF (Engine stop)	_	Any position	1	
Engine is running \rightarrow ACC (Engine stop)	_	Any position other than P (*2)	1	
Engine stall return oper- ation while driving	_	N position	1	

*1: When the CVT selector lever position is N position, the engine start condition is different according to the vehicle speed.

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION DIAGNOSIS > [INTELLIGENT KEY SYSTEM]

< FUNCTION DIAGNOSIS >

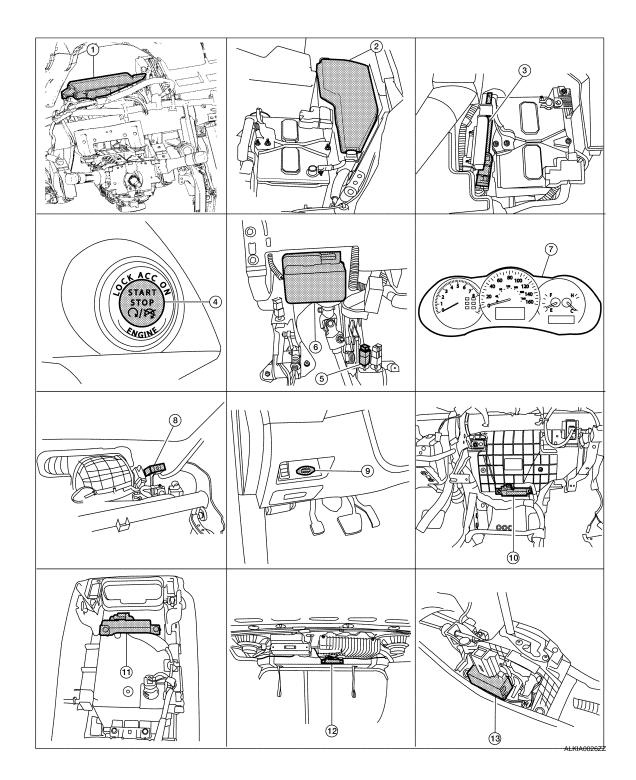
- At vehicle speed of 4 km/h or less, the engine can start only when the brake pedal is depressed.
- At vehicle speed of 4 km/h or more, the engine can start even if the brake pedal is not depressed. (It is the same as "Engine stall return operation while driving".)

*2: When the CVT selector lever position is in any position other than P position and when the vehicle speed is 5 km/h or more, the engine stop condition is different.

- Press and hold the push-button ignition switch for 2 seconds or more. (When the push-button ignition switch is pressed for too short a time, the operation may be invalid, so properly press and hold to prevent an incorrect operation.)
- Press the push-button ignition switch 3 times or more within 1.5 seconds. (Emergency stop operation)

Component Parts Location

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< FUNCTION DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

Steering lock unit (steering column)

- 1. Body control module (view with instrument panel removed)
- Push button ignition switch 4.
- Combination meter 7.

Stop lamp switch (view with lower driv- 6. 5. er instrument panel removed)

2.

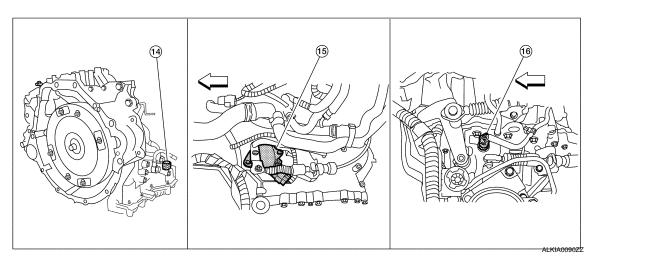
IPDM E/R

- Remote keyless entry receiver (view Key slot 8. 9. with instrument panel removed)
- 11. Front console antenna (bottom view of 12. Rear parcel shelf antenna console)

3.

ECM

- 10. Instrument panel antenna (view with instrument panel removed)
- 13. Detente switch (CVT device)



- 14. Park neutral position switch connec- 15. Park neutral position switch (CVT/ tor (switch inside trans) (CVT/VQ)
- QR)
- 16. Park neutral position switch (M/T)

Component Description

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Component	Reference	SEC
BCM	<u>SEC-78</u>	
Steering lock unit	<u>SEC-67</u>	
Push-button ignition switch	<u>SEC-79</u>	
Door switch	<u>DLK-47</u>	
CVT device (detention switch)	<u>SEC-46</u>	M
Inside key anttena	DLK-40	
Remote keyless entry receiver	<u>DLK-86</u>	
Stop lamp switch	<u>SEC-40</u>	N
Park/neutral position switch	<u>SEC-54</u>	
Clutch switch	<u>SEC-93</u>	0
Steering lock relay	<u>SEC-58</u>	
Starter relay	<u>SEC-61</u>	
Starter control relay	<u>SEC-45</u>	P
Security indicator	<u>SEC-111</u>	
Key warning lamp	<u>SEC-110</u>	

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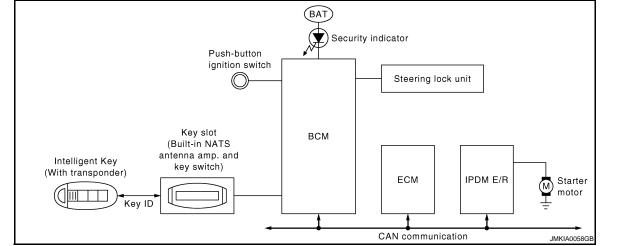
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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< FUNCTION DIAGNOSIS >

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

System Diagram



System Description

INFOID:000000000993869

INFOID:000000000993868

[INTELLIGENT KEY SYSTEM]

INPUT/OUTPUT SIGNAL CHART

Switch	Input signal to BCM	BCM function	Actuator	
Push-button ignition switch	Push switch P range N, P range			
CVT device (CVT models)		NVIS (NATS) Starter relay Starter cont Starter moto KEY warning	Chapring look roley	
PNP switch (CVT models)			 Steering lock relay Steering lock unit 	
Clutch interlock switch (M/T models)	Clutch ON/OFF		Starter relay (IPDM E/R) Starter control relay (IPDM E/R)	
Stop lamp switch	Brake ON/OFF		 Starter control relay (IPDM E/R) Starter motor 	
ey slot	Key ID		KEY warning lamp Security indicator lamp	
Each door switch	Door open/close		 Security indicator lamp 	
ECM	Engine status signal			

SYSTEM DESCRIPTION

- The NVIS (NATS) is an anti-theft system by registering an Intelligent Key ID in to the vehicle and prevents the engine being started by an unregistered Intelligent Key. It has a higher protection against auto thefts that duplicate mechanical key.
- It performs the ID verification when starting the engine in the same way as the Intelligent Key system. But, it performs the NVIS (NATS) ID verification when inserting the Intelligent Key and performs the Intelligent Key ID verification when carrying the Intelligent Key.
- The Intelligent Key system of V36 is not the same as the conventional models. The mechanical key integrated in the Intelligent Key cannot start the engine. When the Intelligent Key battery is discharged, the NVIS (NATS) ID verification memorized to the transponder integrated with Intelligent Key is performed by inserting the Intelligent Key into the key slot. If the verification results are OK, the engine start operation can be performed by the push-button ignition switch operation.
- Locate the security indicator and apply the anti-theft system equipment sticker, forewarn that the NVIS (NATS) is onboard with the model.
- The security indicator always blinks when the Intelligent Key is removed from the key slot and when the power supply position is in LOCK position.
- Intelligent Key can be registered up to 4 keys (Including the standard ignition key) on request from the owner.
- The specified registration is required when replacing ECM, BCM or Intelligent Key. The registrations procedure for NVIS (NATS) and registration procedure for Intelligent Key when installing the BCM, refer to CON-SULT-III Operation Manual NATS-IVIS/NVIS.

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< FUNCTION DIAGNOSIS >

[INTELLIGENT KEY SYSTEM] • Possible symptom of NVIS (NATS) malfunction is "Engine cannot start". In V36, the engine can be started with the Intelligent Key system and NVIS (NATS). Identify the possible causes according to "Work Flow", Refer to SEC-5, "Work Flow".

 If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to SEC-8, "ECM RE-COMMUNICATING FUNCTION : Special Repair Requirement".

PRECAUTIONS FOR KEY REGISTRATION

- The key registration is a procedure that erases the current NVIS (NATS) ID once, and then re-registers a new ID operation. Therefore the registered Intelligent Key is necessary for this procedure. Before starting the registration operation collect all registered Intelligent Keys from the customer
- When registering the Intelligent Key, performs only one procedure to register simultaneously both ID (NVIS) "NATS" ID registration and Intelligent Key ID registration). D The NVIS (NATS) ID registration is the procedure that registers the ID stored into the transponder (integrated in intelligent key) to BCM. The Intelligent key ID registration is the procedure that registers the ID to BCM.
- When performing the Intelligent Key system registration only, the engine cannot be started by inserting the key into the key slot. When performing the NVIS (NATS) registration only, the engine cannot be started by the operation when carrying the key. The registrations of both systems should be performed.

SECURITY INDICATOR

- Warns that the vehicle is equipped with NVIS (NATS).
- The security indicator always blinks when the Intelligent Key is removed from the key slot and when the ignition switch is in LOCK position.

NOTE:

Because security indicator is highly efficient, the battery is barely affected.

Component Parts Location

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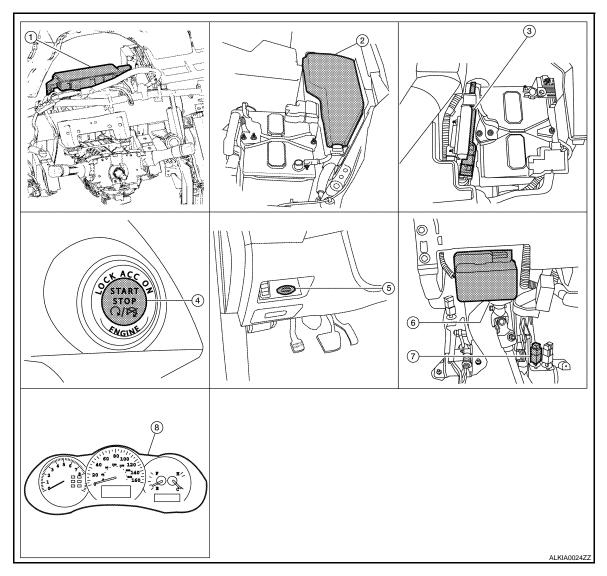
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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS) < FUNCTION DIAGNOSIS > [INTELLIGENT KEY SYSTEM]



- 1. Body control module (view with instrument panel removed)
- 2. IPDM E/R

5.

- 3. ECM
- Stop lamp switch (view with lower driv- 6. Steering lock unit (steering column)

7. Combination meter

4.

Component Description

Push button ignition switch

INFOID:000000000993871

Component	Reference
BCM	<u>SEC-78</u>
Steering lock unit	<u>SEC-67</u>
Push-button ignition switch	<u>SEC-79</u>
Door switch	<u>DLK-47</u>
CVT device (detention switch)	<u>SEC-46</u>
Inside key antenna	<u>DLK-40</u>
Remote keyless entry receiver	DLK-86
Stop lamp switch	<u>SEC-40</u>
Park/neutral position switch	<u>SEC-54</u>

er instrument panel removed)

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< FUNCTION DIAGNOSIS >	[INTELLIGENT KEY SYSTEM]
Component	Reference
Clutch switch	<u>SEC-93</u> A
Steering lock relay	<u>SEC-58</u>
Starter relay	<u>SEC-61</u> B
Starter control relay	<u>SEC-45</u>
Security indicator	<u>SEC-111</u>
Key warning lamp	<u>SEC-110</u> C

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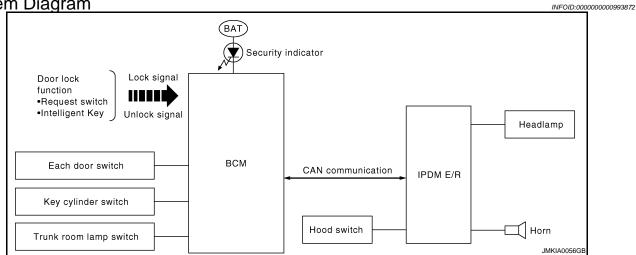
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VEHICLE SECURITY SYSTEM

< FUNCTION DIAGNOSIS >

VEHICLE SECURITY SYSTEM

System Diagram



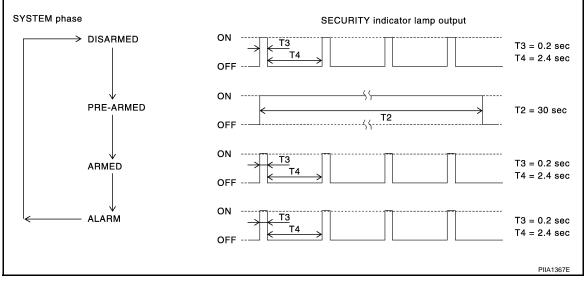
System Description

INFOID:000000000993873

INPUT/OUTPUT SIGNAL CHART

Switch	Input signal to BCM	BCM system	Actuator
All door switch	- Open or close		
Trunk room lamp switch			
Door key cylinder switch			IPDM E/R
Door lock and unlock switch	Lock or unlock	Vehicle security system	 Head lamp Horn Security indicator lamp
Door request switch			
Intelligent Key	Lock or unlock]	
	Panic alarm		

OPERATION FLOW



SETTING THE VEHICLE SECURITY SYSTEM

Initial Condition

• Ignition switch is in OFF position.

Disarmed Phase

SEC-18

VEHICLE SECURITY SYSTEM	
< FUNCTION DIAGNOSIS > [INTELLIGENT KEY SYSTEM]
 When doors or trunk is open, the vehicle security system is set in the disarmed phase on the assumption that the owner is inside or near the vehicle. When the vehicle security system is in the disarmed phase, the security indicator lamp blinks every 2.4 seconds. 	А
Pre-armed Phase and Armed Phase When the following operation 1 or 2 is performed, the vehicle security system turns into the "pre-armed phase. (The security indicator lamp illuminates.)	B 3"
1. BCM receives LOCK signal from front door key cylinder switch or Intelligent Key, after trunk and all door are closed.	s C
 Trunk and all doors are closed after front doors are locked by key or door lock and unlock switch. The security indicator lamp illuminates for 30 seconds. Then, the system automatically shifts into th "armed" phase. 	e _D
 CANCELING THE SET VEHICLE SECURITY SYSTEM When one of the following operations is performed, the armed phase is canceled. 1. Unlock the doors with the key or Intelligent Key. 2. Turn ignition switch "ON" or "ACC" position. 	E
CANCELING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM When unlocking the door with the key or Intelligent Key the alarm operation is canceled.	F
ACTIVATING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM Check that the system is in the armed phase. (The security indicator lamp blinks every 2.4 seconds.) When the following operation 1 or 2 is performed, the system sounds the horns and flashes the headlamps for about 50 seconds.	G or
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- 1. Hood, trunk or any door is opened during armed phase.
- 2. Disconnecting and connecting the battery connector before canceling armed phase.

PANIC ALARM OPERATION

Intelligent Key system may or may not operate vehicle security system (horn and headlamps) as required. When the Intelligent Key system is triggered, ground is supplied intermittently to both headlamp relay and horn relay.

When headlamp relay and horn relay are energized, then power is supplied to headlamps (LH and RH) and horns (HIGH and LOW).

The headlamp flashes and the horn sounds intermittently.

The alarm automatically turns off after 50 seconds or when BCM receives any signal from Intelligent Key.

Component Parts Location

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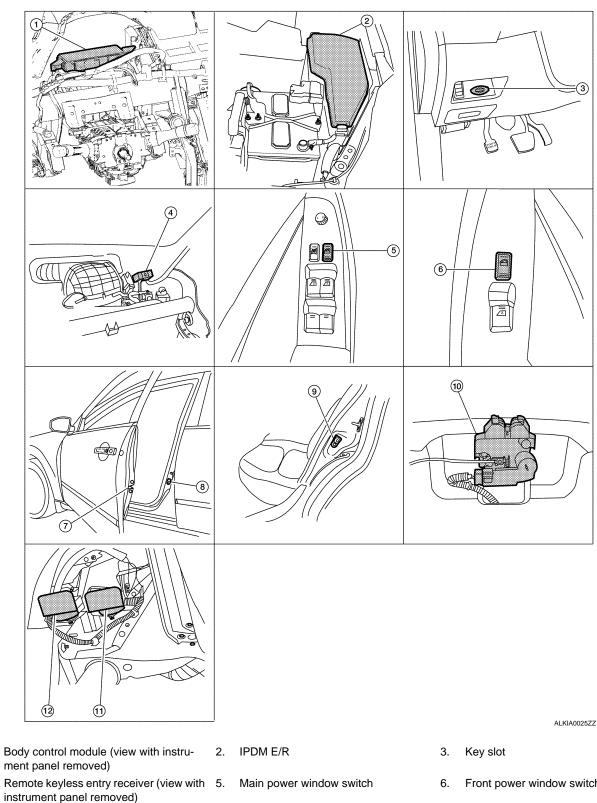
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< FUNCTION DIAGNOSIS >

VEHICLE SECURITY SYSTEM



- 7. Front door lock assembly LH (key cylin- 8. der switch)
- 10. Trunk lid lock assembly

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Component Description

- Front door switch LH
- 11. Horn (high) (view with front fender pro- 12. Horn (low) tector LH removed)
- Front power window switch RH
- 9. Rear door switch LH

INFOID:000000000993875

SEC-20

VEHICLE SECURITY SYSTEM

< FUNCTION DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

Component	Reference	
BCM	<u>SEC-18</u>	_
Horn relay	<u>SEC-107</u>	
Security indicator	<u>SEC-111</u>	
Door switch	<u>DLK-47</u>	
Door lock actuator	<u>DLK-77</u>	
Trunk lid lock assembly	<u>DLK-81</u>	
Door key cylinder switch	DLK-59	
Door lock and unlock switch	DLK-50	

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SEC-21

DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : Diagnosis Description

BCM CONSULT-III FUNCTION

CONSULT-III performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function.
SELF-DIAG RESULTS	Displays the diagnosis results judged by BCM.
CAN DIAG SUPPORT MNTR	Monitors the reception status of CAN communication viewed from BCM.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.
ECU IDENTIFICATION	The BCM part number is displayed.
CONFIGURATION	This function is not used even though it is displayed.

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

System	Sub avetam calentian itam	Diagnosis mode		
System	Sub system selection item	WORK SUPPORT	DATA MONITOR	ACTIVE TEST
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	EXTERNAL LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
Air conditioner	AIR CONDITONER		×	
Intelligent Key system	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
BCM	BCM	×		
Immobilizer	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Trunk open	TRUNK		×	
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	

COMMON ITEM : CONSULT-III Function

ECU IDENTIFICATION Displays the BCM part No.

SELF-DIAG RESULT Refer to <u>BCS-72, "DTC Index"</u>. INTELLIGENT KEY INFOID:000000001042551

INFOID:000000000993877

< FUNCTION DIAGNOSIS >

INTELLIGENT KEY : CONSULT-III Function (BCM - INTELLIGENT KEY)

BCM CONSULT-III FUNCTION

CONSULT-III performs the following functions via CAN communication with BCM.

• • • • •		В
Diagnosis mode	Function Description	
WORK SUPPORT	Changes the setting for each system function.	
SELF-DIAG RESULTS	Displays the diagnosis results judged by BCM.	С
DATA MONITOR	The BCM input/output signals are displayed.	
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.	D

WORK SUPPORT

Monitor item	Description
REMO CONT ID CONFIR	It can be checked whether Intelligent Key ID code is registered or not in this mode.
LOCK/UNLOCK BY I-KEY	Door lock/unlock function by door request switch (driver side, passenger side and trunk) mode can be changed to operate (ON) or not operate (OFF) in this mode.
ENGINE START BY I-KEY	Engine start function mode can be changed to operate (ON) or not operate (OFF) with this mode.
TRUNK/GLASS HATCH OPEN	Buzzer reminder function mode by trunk opener request switch can be changed to operate (ON) or not operate (OFF) with this mode.
PANIC ALARM SET	 Panic alarm button pressing time on Intelligent Key remote control button can be selected from the following with this mode. 0.5 sec. 1.5 sec. OFF: Non-operation
PW DOWN SET	 Unlock button pressing time on Intelligent Key button can be selected from the following with this mode. 3 sec. 5 sec. OFF: Non-operation
TRUNK OPEN DELAY	 Trunk button pressing time on Intelligent Key button can be selected from the following with this mode. 0.5 sec. 1.5 sec. OFF: Non-operation
LO- BATT OF KEY FOB WARN	Intelligent Key low battery warning mode can be changed to operate (ON) or not operate (OFF) with this mode.
ANTI KEY LOCK IN FUNCTI	Key reminder function mode can be changed to operate (ON) or not operate (OFF) with this mode.
HORN WITH KEYLESS LOCK	Horn reminder function mode by Intelligent Key button can be changed to operate (ON) or not operate (OFF) with this mode.
HAZARD ANSWER BACK	 Hazard reminder function mode can be selected from the following with this mode. LOCK ONLY: Door lock operation only UNLOCK ONLY: Door unlock operation only LOCK AND UNLOCK: Lock/unlock operation OFF: Non operation
ANS BACK I-KEY LOCK	 Buzzer reminder function (lock operation) mode by door request switch (driver side and passenger side) can be selected from the following with this mode. HORN CHIRP: Sound horn BUZZER: Sound Intelligent Key warning buzzer OFF: Non-operation
ANS BACK I-KEY UNLOCK	Buzzer reminder function (unlock operation) mode by door request switch can be changed to operate (ON) or not operate (OFF) with this mode.

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< FUNCTION DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

Monitor item	Description
SHORT CRANKING OUTPUT	Starter motor can operate during the times below. • 70 msec • 100 msec • 200 msec
INSIDE ANT DIAGNOSIS	This function allows inside key antenna self-diagnosis.

SELF-DIAG RESULT

Refer to <u>BCS-72, "DTC Index"</u>.

DATA MONITOR

Monitor Item	Condition
REQ SW-DR	Indicates [ON/OFF] condition of door request switch (driver side).
REQ SW-AS	Indicates [ON/OFF] condition of door request switch (passenger side).
REQ SW-BD/TR	Indicates [ON/OFF] condition of trunk opener request switch.
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch.
CLUCH SW	Indicates [ON/OFF] condition of clutch switch.
BRAKE SW 1	Indicates [ON/OFF] condition of brake switch.
DETE/CANCL SW	Indicates [ON/OFF] condition of P position.
SFT PN/N SW	Indicates [ON/OFF] condition of P or N position.
S/L -LOCK	Indicates [ON/OFF] condition of steering lock (LOCK).
S/L -UNLOCK	Indicates [ON/OFF] condition of steering lock (UNLOCK).
S/L RELAY-F/B	Indicates [ON/OFF] condition of ignition switch.
UNLK SEN-DR	Indicates [ON/OFF] condition of driver door UNLOCK status.
PUSH SW -IPDM	Indicates [ON/OFF] condition of push-button ignition switch.
IGN RLY1 F/B	Indicates [ON/OFF] condition of ignition relay 1.
DETE SW -IPDM	Indicates [ON/OFF] condition of P position.
SFT PN -IPDM	Indicates [ON/OFF] condition of P or N position.
SFT P -MET	Indicates [ON/OFF] condition of P position.
SFT N -MET	Indicates [ON/OFF] condition of N position.
ENGINE STATE	Indicates [STOP/START/CRANK/RUN] condition of engine states.
S/L LOCK-IPDM	Indicates [ON/OFF] condition of steering lock (LOCK).
S/L UNLOCK-IPDM	Indicates [ON/OFF] condition of steering lock (UNLOCK).
S/L RELAY-REQ	Indicates [ON/OFF] condition of steering lock relay.
VEH SPEED 1	Display the vehicle speed signal received from combination meter by numerical value [Km/h].
VEH SPEED 2	Display the vehicle speed signal received from ABS or VDC or CVT by numerical value [Km/h].
DOOR STAT-DR	Indicates [LOCK/READY/UNLK] condition of driver side door status.
DOOR STAT-AS	Indicates [LOCK/READY/UNLK] condition of passenger side door status.
KEY SW -SLOT	Indicates [ON/OFF] condition of key slot.
RKE OPE COUN1	When remote keyless entry receiver receives the signal transmitted while operating on Intelligent Key, the numerical value start changing.
RKE OPE COUN2	NOTE: This item is displayed, but cannot be monitored.
TRNK/HAT MNTR	Indicates [ON/OFF] condition of trunk lid.
RKE-LOCK	Indicates [ON/OFF] condition of LOCK signal from Intelligent Key.
RKE-UNLOCK	Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key.
RKE-TR/BD	Indicates [ON/OFF] condition of TRUNK OPEN signal from Intelligent Key.
RKE-PANIC	Indicates [ON/OFF] condition of PANIC button of Intelligent Key.

SEC-24

< FUNCTION DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

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Monitor Item	Condition	0
RKE-P/W OPEN	Indicates [ON/OFF] condition of P/W DOWN signal from Intelligent Key.	А
RKE-MODE CHG	Indicates [ON/OFF] condition of MODE CHANGE signal from Intelligent Key.	

ACTIVE TEST

Test item	Description
BATTERY SAVER	This test is able to check interior room lamp operation. The interior room lamp will be activated after "ON" on CONSULT-III screen is touched.
PW REMOTO DOWN SET	This test is able to check power window down operation. The power window down will be activated after "ON" on CONSULT-III screen is touched.
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation. Intelligent Key warning buzzer sounds when "ON" on CONSULT-III screen is touched.
INSIDE BUZZER	 This test is able to check warning chime in combination meter operation. Take away warning chime sounds when "TAKE OUT" on CONSULT-III screen is touched. Key warning chime sounds when "KEY WARN" on CONSULT-III screen is touched. P position warning chime sounds when "P RNG WARN" on CONSULT-III screen is touched. ACC warning chime sounds when "ACC WARN" on CONSULT-III screen is touched.
INDICATOR	 This test is able to check warning lamp operation. "KEY" Warning lamp illuminates when "KEY IND ON" on CONSULT-III screen is touched. "KEY" Warning lamp flashes when "KEY IND FSH" on CONSULT-III screen is touched.
INT LAMP	This test is able to check interior room lamp operation. The interior room lamp will be activated after "ON" on CONSULT-III screen is touched.
LCD	 This test is able to check meter display information Engine start information displays when "BRAKE/P" on CONSULT-III screen is touched. Engine start information displays when "BRAKE/P/ON" on CONSULT-III screen is touched. Key ID warning displays when "KEY ID NG" on CONSULT-III screen is touched. Steering lock information displays when "STLCK RELES" on CONSULT-III screen is touched. P position warning displays when "P RNG IND" on CONSULT-III screen is touched. Intelligent Key insert information displays when "INSERT KEY" on CONSULT-III screen is touched. Intelligent Key low battery warning displays when "KEY BAT LOW" on CONSULT-III screen is touched. Intelligent Key low battery warning displays when "TK AWAY WDW" on CONSULT-III screen is touched. Take away through window warning displays when "TK AWAY WDW" on CONSULT-III screen is touched. OFF position warning display when "IGN OFF WARN" on CONSULT-III screen is touched.
TRUNK/GLASS HATCH	This test is able to check trunk lid opener actuator open operation. This actuator opens when "ON" on CONSULT-III screen is touched.
FLASHER	This test is able to check security hazard lamp operation. The hazard lamps will be activated after "ON" on CONSULT-III screen is touched.
HORN	This test is able to check horn operation. The horn will be activated after "ON" on CONSULT-III screen is touched.
IGN CONT2	This test is able to check security hazard lamp operation. The hazard lamps will be activated after "ON" on CONSULT-III screen is touched.
P RANGE	This test is able to check A/T device power supply A/T device power is supplied when "ON" on CONSULT-III screen is touched.
ENGINE SW ILLUMI	This test is able to check push-ignition switch illumination operation. Push-ignition switch illumination illuminates when "ON" on CONSULT-III screen is touched.
LOCK INDCATOR	This test is able to check LOCK indicator in push-ignition switch operation. LOCK indicator in push-ignition switch illuminates when "ON" on CONSULT-III screen is touched.
ACC INDCATOR	This test is able to check ACC indicator in push-ignition switch operation. LOCK indicator in push-ignition switch illuminates when "ON" on CONSULT-III screen is touched.
IGNITION ON IND	This test is able to check INGITION ON indicator in push-ignition switch operation. LOCK indicator in push-ignition switch illuminates when "ON" on CONSULT-III screen is touched.
KEY SLOT ILLUMI	This test is able to check key slot illumination operation. Key slot illumination flash when "ON" on CONSULT-III screen is touched.

SEC-25

THEFT ALM

THEFT ALM : CONSULT-III Function (BCM - THEFT)

INFOID:000000000993879

[INTELLIGENT KEY SYSTEM]

APPLICATION ITEM

CONSULT-III performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description
WORK SUPPORT	Changes the setting for each system function.
DATA MONITOR	The BCM input/output signals are displayed.
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.

DATA MONITOR

Monitored Item	Description
REQ SW-DR	Indicates [ON/OFF] condition of door request switch (driver side).
REQ SW-AS	Indicates [ON/OFF] condition of door request switch (passenger side).
REQ SW-BD/TR	Indicates [ON/OFF] condition of trunk opener request switch.
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch
UNLK SEN-DR	Indicates [ON/OFF] condition of driver door UNLOCK status.
KEY SW -SLOT	Indicates [ON/OFF] condition of key slot.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
DOOR SW-BK	This is displayed even when it is not equipped.
CDL LOCK SW	Indicates [ON/OFF] condition of lock signal from door lock/unlock switch LH and RH.
CDL UNLOCK SW	Indicates [ON/OFF] condition of unlock signal from door lock/unlock switch LH and RH.
KEY CYL LK-SW	Indicates [ON/OFF] condition of lock signal from front door key cylinder switch.
KEY CYL UN-SW	Indicates [ON/OFF] condition of unlock signal from front door key cylinder switch.
KEY CYL SW-TR	This is displayed even when it is not equipped.
TR/BD OPEN SW	Indicates [ON/OFF] condition of trunk lid opener switch.
TRNK/HAT MNTR	Indicates [ON/OFF] condition of trunk room lamp switch.
RKE-LOCK	Indicates [ON/OFF] condition of LOCK signal from Intelligent Key.
RKE-UNLOCK	Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key.
RKE-TR/BD	Indicates [ON/OFF] condition of TRUNK OPEN signal from Intelligent Key.

WORK SUPPORT

Test Item	Description
SECURITY ALARM SET	This mode is able to confirm and change security alarm ON-OFF setting.
THEFT ALM TRG	The switch which triggered vehicle security alarm is recorded. This mode is able to confirm and erase the record of vehicle security alarm. The trigger data can be erased by touching "CLEAR" on CONSULT-III screen.

ACTIVE TEST

< FUNCTION DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

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Test Item	Description
THEFT IND	This test is able to check security indicator lamp operation. The lamp will be turned on when "ON" on CONSULT-III screen is touched.
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation. The horns will be activated for 0.5 sec- onds after "ON" on CONSULT-III screen is touched.
HEADLAMP(HI)	This test is able to check vehicle security lamp operation. The headlamps will be activated for 0.5 seconds after "ON" on CONSULT-III screen is touched.
FLASHER	This test is able to check vehicle security hazard lamp operation. The hazard lamps will be activated after "ON" on CONSULT-III screen is touched.
IMMU	

IMMU

IMMU : CONSULT-III Function (BCM - IMMU)

APPLICATION ITEM

CONSULT-III performs the following functions via CAN communication with BCM.

		— F
Diagnosis mode	Function Description	
DATA MONITOR	The BCM input/output signals are displayed.	
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.	G

DATA MONITOR

Monitor item	Content	
CONFRM ID ALL	Indicates [YET] at all time. Switch to [DONE] when a registered Intelligent Key is inserted into the key slot.	
CONFIRM ID4		
CONFIRM ID3		
CONFIRM ID2		
CONFIRM ID1		J
TP 4	Indicates the number of ID which has been registered.	
TP 3		SEC
TP 2		
TP 1		
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch.	L
KEY SW -SLOT	Indicates [ON/OFF] condition of key slot.	
ACTIVE TEST		M

ACTIVE TEST

Test item	Description	
THEFT IND	This test is able to check security indicator lamp operation. The lamp will be turned on when "ON" on CONSULT-III screen touched.	Ν

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COMPONENT DIAGNOSIS U1000 CAN COMM CIRCUIT

Description

INFOID:000000000993881

INFOID:000000000993882

INFOID:000000000993883

Refer to LAN-7, "System Description".

DTC Logic

DTC DETECTION LOGIC

CONSULT-III dis- play description	DTC Detection Condition	Possible cause
CAN COMM CIR- CUIT [U1000]	When IPDM E/R cannot communicate CAN communica- tion signal continuously for 2 seconds or more	In CAN communication system, any item (or items) of the following listed below is malfunctioning. • Transmission • Receiving (ECM) • Receiving (VDC/TCS/ABS) • Receiving (METER/M&A) • Receiving (TCM) • Receiving (MULTI AV) • Receiving (IPDM E/R)

Diagnosis Procedure

1.PERFORM SELF DIAGNOSTIC

1. Turn ignition switch ON and wait for 2 second or more.

2. Check "Self Diagnostic Result".

Is "CAN COMM CIRCUIT" displayed?

YES >> Refer to LAN-8, "CAN Communication Control Circuit".

NO >> Refer to GI-39, "Intermittent Incident".

< COMPONENT DIAGNOSIS > U1010 CONTROL UNIT (CAN)

DTC Logic

DTC DETECTION LOGIC

CONSULT-III display description	DTC Detection Condition	Possible cause	С	
CAN COMM CIRCUIT [U1010]	BCM detected internal CAN communication circuit malfunction.	ВСМ		
Diagnosis Proce	dure	INFOID:00000000993885	D	
1. REPLACE BCM				
When DTC U1010 is detected, replace BCM.				
>> Replace	BCM. Refer to BCS-76, "Removal and Installation".		F	

[INTELLIGENT KEY SYSTEM]

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B2190, P1610 NATS ANTENNA AMP

Description

INFOID:00000000993886

[INTELLIGENT KEY SYSTEM]

Performs ID verification through BCM and Intelligent Key when push-button ignition switch is pressed. Prohibits the release of steering lock or start of engine when an unregistered ID of Intelligent Key is used.

DTC Logic

INFOID:000000000993887

INFOID:000000000993888

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2190			Harness or connectors
P1610	NATS ANTENNA AMP	Inactive communication between key slot and BCM.	(The key slot circuit is open or shorted)Key slotBCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Insert Intelligent Key into the key slot.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to SEC-30, "Diagnosis Procedure".
- NO >> GO TO 2..

2. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press the push-button ignition switch.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to <u>SEC-30, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END.

Diagnosis Procedure

1. INSPECTION START

Check the case in which DTC is detected.

- Case1: It is detected when Intelligent Key is inserted into key slot.
- Case2: It is detected after Intelligent Key is inserted into key slot and push-button ignition switch is pressed.

In which case is DTC detected?

Case1. >> GO TO 2..

Case2. >> GO TO 4..

2.CHECK KEY SLOT INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect key slot harness connector.

3. Check voltage between key slot harness connector and ground.

Key	Key slot		Voltage [V]
Connector	Terminal	Ground	(approx.)
M40	2	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace key slot.

NO >> GO TO 3..

3.CHECK KEY SLOT CIRCUIT

B2190, P1610 NATS ANTENNA AMP

< COMPONENT DIAGNOSIS >

Connector Terminal Connector Terminal M40 2 M19 68 Existed heck continuity between key slot harness connector and ground. Key slot Continuity M40 2 Ground Continuity M40 2 Ground Not existed inspection result normal? >> GO TO 8 >>> Papair harness or connector. PUSH-HGNITION SWITCH OPERATION push-button ignition switch and check if it turns ON. ignition switch turn to ON? >> GO TO 5 >> GO TO 5 >> SGO TO 5 >> GO TO 5 >> Ground Continuity LECK KEY SLOT COMMUNICATION SIGNAL urn ignition switch OFF. isconnect key slot harness connector. heck voltage between key slot harness connector and ground. Existed Continuity M40 3 Ground Existed inspection result normal? >> GO TO 6 SO TO 6 SO TO 6 VECK KEY SLOT COMMUNICATION SIGNAL CIRCUIT Isconnector Existed Continuity M40 3 Ground Existed <th>Key</th> <th>/ slot</th> <th>В</th> <th colspan="2">BCM</th>	Key	/ slot	В	BCM			
key slot Continuity Key slot Continuity Key slot Continuity M40 2 Ground Continuity M40 2 Ground Not existed inspection result normal? S GO TO 8 >> Repair harness or connector. EECK PUSH-IGNITION SWITCH OPERATION push-button ignition switch and check if it turns ON. ignition switch turn to ON? >> GO TO 5 >> GO TO 5 >> GO TO 5 >> GO TO 5 >> GO TO 5 >> GO TO 7 IECK KEY SLOT COMMUNICATION SIGNAL uringinition switch OFF. isconnect key slot harness connector. key slot Continuity M40 3 GO TO 6 Very slot Ground Continuity M40 3 Ground Continuity <th colsp<="" th=""><th>Connector</th><th>Terminal</th><th>Connector</th><th>Terminal</th><th colspan="2">Continuity</th></th>	<th>Connector</th> <th>Terminal</th> <th>Connector</th> <th>Terminal</th> <th colspan="2">Continuity</th>	Connector	Terminal	Connector	Terminal	Continuity	
Key slot Ground Continuity M40 2 Ground Not existed inspection result normal? >> GO TO 8 >> >> Repair harness or connector. IECK PUSH-IGNITION SWITCH OPERATION push-button ignition switch and check if it turns ON. ignition switch turn to ON? >> SG O TO 5 >> G O TO 7 IECK KEY SLOT COMMUNICATION SIGNAL IECK KEY SLOT COMMUNICATION SIGNAL Image: Connector and ground. Continuity Continuity Connector Terminal Ground Continuity Continuity Continuity M40 3 Ground Existed Image: Continuity Continuity M40 3 Ground Existed Image: Continuity Continuity M40 3 Ground Existed Image: Continuity Continuity IECK KEY SLOT COMMUNICATION SIGNAL CIRCUIT Isconnector Existed Image: Continuity Continuity M40 3 M19 G9 Existed Continuity	M40	2	M19	68	Existed		
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1. Turn ignition switch OFF.

2. 3.

Disconnect key slot harness connector. Check continuity between key slot harness connector and ground.

B2190, P1610 NATS ANTENNA AMP

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

Key	Key slot		Continuity
Connector	Terminal	Ground	Continuity
M40	7	Ground	Existed

Is the inspection result normal?

YES >> GO TO 8..

NO >> Repair harness or connector.

8. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> INSPECTION END.

B2191, P1615 DIFFERENCE OF KEY

Description

Performs ID verification through BCM and Intelligent Key when push-button ignition switch is pressed. Prohibits the release of steering lock or start of engine when an unregistered ID of Intelligent Key is used.

DTC Logic

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	C
B2191	DIFFERENCE OF	The ID verification results between BCM and Intel-	• Intelligent Key	
P1615	KEY	ligent Key are NG. The registration is necessary.	Intelligent Key	E

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press the push-button ignition switch

2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

YES >> Go to <u>SEC-33. "Diagnosis Procedure"</u>.

NO >> INSPECTION END.

Diagnosis Procedure

1.PERFORM INITIALIZATION

Perform initialization with CONSULT-III. Re-register all Intelligent Keys. For initialization and registration of Intelligent Key. Refer to "CONSULT-III Operation Manual NATS-IVIS/ NVIS".

Can the system be initialized and can the engine be started with re-registered Intelligent Key?

- YES >> Intelligent Key was unregistered.
- NO >> BCM is malfunctioning.

Replace BCM

• Perform initialization again

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INFOID:000000000993890

INFOID:000000000993891

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B2192, P1611 ID DISCORD, IMMU-ECM

Description

BCM performs the ID verification with ECM that allows the engine to start. Start the engine if the ID is OK. ECM prevents the engine from starting if the ID is not registered. BCM starts the communication with ECM if ignition switch is turned ON.

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2192	ID DISCORD, IMMU-	The ID verification results between BCM and ECM	• BCM
P1611	ECM	are NG. The registration is necessary.	• ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions.
- A/T selector lever is in the P or N position
- Do not depress the brake pedal
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

NO

YES >> Go to SEC-34, "Diagnosis Procedure".

NO >> INSPECTION END.

Diagnosis Procedure

1.PERFORM INITIALIZATION

Perform initialization with CONSULT-III. Re-register all Intelligent Keys. For initialization and registration of Intelligent Key. Refer to "CONSULT-III Operation Manual NATS-IVIS/ NVIS".

Can the system be initialized and can the engine be started with re-registered Intelligent Key?

YES >> ID was unregistered.

- >> BCM is malfunctioning.
 - Replace BCM
 - Perform initialization again
 - Replace ECM

[INTELLIGENT KEY SYSTEM]

INFOID:000000000993892

INFOID:000000000993893

INFOID:000000000993894

B2193, P1612 CHAIN OF ECM-IMMU

Description

BCM performs the ID verification with ECM that allows the engine to start. Start the engine if the ID is OK. ECM prevents the engine from starting if the ID is not registered. BCM starts the communication with ECM if ignition switch is turned ON.

DTC Logic

DTC DETECTION LOGIC **NOTE**:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	F
B2193			Harness or connectors	
P1612	CHAIN OF ECM- IMMU	Inactive communication between ECM and BCM	(The CAN communication line is open or shorted)BCMECM	G
DTC CONF	IRMATION PROC	EDURE		Н

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions.
- CVT selector lever is in the P or N position.
- Do not depress brake pedal.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to <u>SEC-35. "Diagnosis Procedure"</u>.
- NO >> INSPECTION END.

Diagnosis Procedure

1.REPLACE BCM

 Replace BCM.
 Perform initialization with CONSULT-III. For initialization, refer to "CONSULT-III Operation Manual NATS-IVIS/NVIS".

Does the engine start?

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INFOID:000000000993896

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B2013 ID DISCORD, IMMU-STRG

Description

INFOID:000000000993898

[INTELLIGENT KEY SYSTEM]

BCM performs the ID verification with the steering lock unit and releases the steering lock if both BCM and steering lock unit ID are same. BCM starts the communication with the steering lock unit when Intelligent Key is carried into the passenger compartment and the push-button ignition switch is pressed.

DTC Logic

INFOID:000000000993899

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2013	ID DISCORD, IMMU- STRG	The ID verification results between BCM and steer- ing control unit are NG. The registration is neces- sary.	Steering wheel lock unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Lock steering.

- 2. Press the push-button ignition switch
- 3. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

NO

YES >> Go to SEC-36. "Diagnosis Procedure".

NO >> INSPECTION END.

Diagnosis Procedure

INFOID:00000000993900

1.PERFORM INITIALIZATION

Perform initialization with CONSULT-III. Re-register all Intelligent Keys. For initialization and registration of Intelligent Key. Refer to "CONSULT-III Operation Manual NATS-IVIS/ NVIS".

Can the system be initialized and can steering lock be released with re-registered Intelligent Key?

YES >> Steering lock unit was unregistered.

- >> BCM is malfunctioning.
 - Replace BCM
 - Perform initialization again

B2014 CHAIN OF STRG-IMMU

Description

BCM performs the ID verification with the steering lock unit to release the steering. BCM starts the communication with the steering lock unit when Intelligent Key is carried into the passenger compartment and the pushbutton ignition switch is pressed.

DTC Logic

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INFOID:00000000993901

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INFOID:000000000993903

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B2014	CHAIN OF STRG- IMMU	Inactive communication between steering control unit and BCM	 Harness or connectors (steering lock unit circuit is open or short- ed) Steering lock unit BCM 	F

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Lock steering.
- 2. Press the push-button ignition switch.
- 3. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to SEC-37. "Diagnosis Procedure".
- NO >> INSPECTION END.

Diagnosis Procedure

1.CHECK STEERING LOCK UNIT POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Disconnect steering lock unit harness connector.
- 3. Check voltage between steering lock unit harness connector and ground.

Steering	Steering lock unit		Ignition switch position	Voltage [\/]	1
Connector	Terminal	Ground	Ignition switch position	Voltage [V]	
Maa	7	Ground	OFF or ACC	Battery voltage	
M32	/	Ground	ON	0	M

Is the inspection normal?

YES >> GO TO 3..

NO >> GO TO 2..

2.CHECK STEERING LOCK UNIT POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM harness connector.

3. Check continuity between steering lock unit harness connector and BCM harness connector.

Steering) lock unit	BCM		BCM		Continuity
Connector	Terminal	connector	Terminal	Continuity		
M32	7	M19	94	Existed		

4. Check continuity between steering lock unit harness connector and ground.

SEC-37

[INTELLIGENT KEY SYSTEM]

B2014 CHAIN OF STRG-IMMU

< COMPONENT DIAGNOSIS >

Steering	lock unit	Ground	Continuity	
Connector	Terminal	Giodila	Continuity	
M32	7	Ground	Not existed	

Is the inspection normal?

YES >> GO TO 6..

NO >> Repair harness or connector.

${f 3.}$ CHECK STEERING LOCK UNIT GROUND CIRCUIT

1. Turn ignition switch OFF.

2. Check continuity between steering lock unit and ground.

Steering	l lock unit	Ground	Continuity
Connector	Terminal	Giodila	Continuity
 M32	5	Ground	Existed
WI32	6	Ground	Existed

Is the inspection normal?

YES >> GO TO 4..

NO >> Repair harness or connector.

4. CHECK STEERING LOCK UNIT COMMUNICATION SIGNAL

1. Connect steering lock unit harness connector.

Read voltage signal between steering lock unit harness connector and ground. 2.

Steering	lock unit	Ground	Steering lock unit condi-	Value	
Connector	Terminal	Cround	tion	Value	
			Lock	Battery voltage	
M32	32 2 Ground	Lock or unlock	(V) 15 10 50 50 MKIA0066GB		
			For 15 seconds after un- lock	Battery voltage	
			15 seconds or later after unlock.	0 V	

Steering is locked

: Opening the door when ignition switch is ON to OFF.

Steering is unlocked

: Ignition switch is OFF to ACC.

Is the inspection normal?

YES >> Replace steering lock unit.

NO >> GO TO 5..

5.CHECK STEERING LOCK UNIT COMMUNICATION CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM harness connector.

Check continuity between steering lock unit harness connector and BCM harness connector. 3.

Steering	lock unit	B	CM	Continuity	
Connector	Terminal	connector	Terminal	Continuity	
M32	2	M19	99	Existed	

SEC-38

B2014 CHAIN OF STRG-IMMU

< COMPONENT DIAGNOSIS >

4. Check continuity between steering lock unit harness connector and ground.

Ste	ering lock unit	Ground	Continuity	
Connector	Terminal	Ground	Continuity	
M32	2	Ground	Not existed	
s the inspection normal?				
	-			
YES >> GO TO 6 NO >> Repair harne CHECK INTERMITTE	ess or connector.			
NO >> Repair harne	ess or connector. NT INCIDENT			

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B2555 STOP LAMP

Description

BCM detects the stop lamp status and confirms the stop lamp switch ON/OFF status. BCM confirms the engine start condition according to the stop lamp switch ON/OFF status.

DTC Logic

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INFOID-00000000993906

INFOID:00000000993904

DTC DETECTION LOGIC

DTC No.	Trouble diagno- sis name	DTC detecting condition	Possible cause
B2555	STOP LAMP	BCM makes a comparison between the upper voltage and lower voltage of stop lamp switch. It judges from their values to detect the malfunctioning circuit.	 Harness or connectors (stop lamp switch circuit is open or shorted) Stop lamp switch Fuse

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Depress the brake pedal and wait for at least 1 second.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

YES >> Go to SEC-40, "Diagnosis Procedure".

NO >> INSPECTION END.

Diagnosis Procedure

1. CHECK STOP LAMP SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.

- 2. Disconnect BCM harness connector.
- 3. Check voltage between BCM harness connector and ground.

BCM		Ground	Voltage [V]	
Connector	Terminal	Cround	Voltage [V]	
M38	24	Ground	Battery voltage	

Is the inspection normal?

YES >> GO TO 2..

- NO >> Check the following.
 - 10A fuse [No. 7, located in the fuse block (J/B)]
 - Harness for open or short between BCM and fuse.

2. CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

- 1. Disconnect stop lamp switch harness connector.
- 2. Check voltage between stop lamp harness connector and ground.

Stop lan	np switch	Ground	Ground Voltage [V]	
Connector	Terminal	Ground	voltage [v]	
E38	1	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 3..

NO >> Check harness for open or short between stop lamp switch and fuse.

3.CHECK STOP LAMP SWITCH CIRCUIT

1. Check continuity between stop lamp switch harness connector and BCM harness connector.

SEC-40

B2555 STOP LAMP

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

Stop lamp s	witch	B	CM	Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E38	2	M18	26	Existed	
Check continuity betw	een stop lamp sw	itch harness connecte	or and ground.		
Stop	lamp switch			0	
Connector	Termin	al	Ground	Continuity	
E38	2		Ground	Not existed	
the inspection result nor	mal?				
YES >> GO TO 4					
NO >> Repair harnes	s or connector.				
CHECK STOP LAMP S	WITCH				
efer to SEC-41, "Compor	nent Inspection".				
the inspection result nor	mal?				
YES >> GO TO 5					
NO >> Replace stop					
CHECK INTERMITTEN	IT INCIDENT				
efer to <u>GI-39, "Intermitter</u>	nt Incident".				
>> INSPECTION	END.				
component Inspection	on			INF0ID:0000000	
.CHECK STOP LAMP S	WITCH				
. Turn ignition switch Ol	FF.				
. Disconnect stop lamp		onnector.			

3. Check continuity between stop lamp switch terminals under the following conditions.

_	Stop lamp switch			Condition		Continuity	SEC
	Connector	Terr	minal		Condition		
	E38	1	2	Proko podol	Not depressed	Not existed	
	E30		2	Brake pedal	Depressed	Existed	L

Is the inspection result normal?

YES >> INSPECTION END.

NO >> Replace stop lamp switch.

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B2556 PUSH-BUTTON IGNITION SWITCH

Description

The switch that changes the power supply position. BCM maintains the power supply position status. BCM changes the power supply position with the operation of the push-button ignition switch.

DTC Logic

INFOID:000000000993909

INFOID:00000000993908

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2556	PUSH-BUTTON IG- NITION SWITCH	BCM detects the push-button ignition switch stuck to ON for 100 seconds or more	 Harness or connectors (Push-button ignition switch circuit is shorted.) Push-button ignition switch

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine and wait for at least 100 seconds.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

YES >> Go to SEC-42, "Diagnosis Procedure".

NO >> INSPECTION END.

Diagnosis Procedure

1.CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNAL

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

Push-button	gnition switch	Ground	Voltage [V]
Connector	Terminal	Ground	voliage [v]
M38	4	Ground	Battery voltage

Is the inspection normal?

YES >> GO TO 2..

NO >> GO TO 4..

2. CHECK PUSH-BUTTON IGNITION SWITCH

Refer to SEC-43, "Component Inspection".

Is the inspection normal?

YES >> GO TO 3..

NO >> Replace push-button ignition switch.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> INSPECTION END.

4.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT FOR SHORT

1. Disconnect BCM harness connector and IPDM E/R harness connector.

2. Check continuity between push-button ignition switch harness connector and ground.

INFOID:000000000993910

B2556 PUSH-BUTTON IGNITION SWITCH

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

	ignition switch		Ground	Continuity
Connector	Terminal		Ground	Continuity
M38	4		Ground	Not existed
the inspection normal?				
YES >> Replace BCM. F		Removal and Ins	stallation".	
NO >> Repair harness	or connector.			
Component Inspection	ו			INFOID:0000000009391
CHECK PUSH-BUTTON		-		
		1		
. Turn ignition switch OFF . Disconnect push-button		ness connector		
 Check continuity betwee 			inals under the followin	g conditions.
	button ignition switch		Condition	Continuity
Connector	Termina	al		
M38	1	4	Pressed	Existed
	-		Not pressed	Not existed
s the inspection result norm			Not pressed	Not existed
YES >> INSPECTION E	ND.	h	Not pressed	Not existed
-	ND.	h.	Not pressed	Not existed
YES >> INSPECTION E	ND.	h.	Not pressed	Not existed
YES >> INSPECTION E	ND.	h.	Not pressed	Not existed
YES >> INSPECTION E	ND.	h.	Not pressed	Not existed
YES >> INSPECTION E	ND.	h.	Not pressed	Not existed
YES >> INSPECTION E	ND.	h.	Not pressed	Not existed
YES >> INSPECTION E	ND.	h.	Not pressed	Not existed
YES >> INSPECTION E	ND.	h.	Not pressed	Not existed

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B2557 VEHICLE SPEED

Description

INFOID:000000000993912

[INTELLIGENT KEY SYSTEM]

BCM receives the 2 vehicle speed signals via CAN communication. 1 signal is transmitted by the "unified meter" Another signal is transmitted by "ABS actuator and electric unit (control unit)". BCM compares both signals to detect the vehicle speed.

DTC Logic

INFOID:000000000993913

DTC DETECTION LOGIC

NOTE:

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29, "DTC Logic"</u>.

DTC	Self-diagnosis name	DTC detecting condition	Possible causes
B2557	VEHICLE SPEED	 BCM detects the following difference between the vehicle speed from "unified meter" and the one from "ABS actuator and electric unit" for 10 seconds continuously One is 10km/h or more and the other is 4km/h or less. 	 Wheel sensor Unified meter ABS actuator and electric unit (control unit)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Drive the vehicle at the vehicle speed of 10 km/h or more and wait for at least 10 seconds.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to <u>SEC-44, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END.

Diagnosis Procedure

INFOID:000000000993914

1.CHECK DTC WITH "ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT)"

Check "Self diagnostic result" with CONSULT-III. Refer to <u>BRC-46, "DTC No. Index"</u> (ABS), <u>BRC-110, "DTC No. Index"</u> (TCS/ABS) or <u>BRC-204, "DTC No. Index"</u> (VDS/TCS/ABS).

Is the inspection result normal?

YES >> GO TO 2..

NO >> Repair or replace.

2.CHECK UNIFIED METER.

Check unified meter. Refer to MWI-3, "Work Flow".

>> INSPECTION END.

B2560 STARTER CONTROL RELAY

< COMPONENT DIAGNOSIS >

B2560 STARTER CONTROL RELAY

Description

Starter control relay, integrated in IPDM E/R, permits the starter relay operation when in N or P position and В the steering is locked or unlocked. It is installed in parallel with the starter relay.

DTC Logic

INFOID:000000000993916

INFOID:000000000993915

DTC DETECTION LOGIC

NOTE:

- If DTC B2560 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to D SEC-28, "DTC Logic".
- If DTC B2560 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC	Self-diagnosis name	DTC detecting condition	Possible causes	
B2560	STARTER CONTROL RELAY	BCM detects a mismatch between the OFF re- quest of starter control relay to IPDM E/R and the feedback. (The feedback is ON instead of OFF.)	• IPDM E/R	F
DTC CONFIRMA	TION PROCEDUR	E		0
	CONFIRMATION P			G
 Turn ignition sv A/T selector lev Depress the br 	witch ON under the fo ver is in the P positio	pllowing conditions and wait for at least 2 n	seconds.	H
Is DTC detected?				
	<u>SEC-45, "Diagnosis F</u> CTION END.	Procedure".		
Diagnosis Proc			INFOID:0000000009939	J 17
1. CHECK DTC W	ITH IPDM E/R			SE
Check "Self diagno	stic result" with CON	SULT-III. Refer to PCS-34, "DTC Index".		
Is the inspection re				
YES >> GO TC NO >> Repair	0 2 or replace.			L
· ·				
Refer to <u>GI-39</u> , "Inter-				M
10101 to <u>01 00, Int</u>	<u>erratione moldone</u> .			
>> INSPE	CTION END.			Ν

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SEC-45

[INTELLIGENT KEY SYSTEM]

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B2601 SHIFT POSITION

Description

BCM confirms the shift position with the following 4 signals.

- CVT selector lever
- P/N position switch
- P position signal from IPDM E/R (CAN)
- P position signal from TCM (CAN)

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29, "DTC Logic"</u>.
- If DTC B2601 is displayed with DTC B2605, first perform the trouble diagnosis for DTC B2605. Refer to <u>SEC-56, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2601	SHIFT POSITION	BCM detects when a difference between the shift P input signal and the shift position signal re- ceived from IPDM E/R via CAN communication continues for 2 seconds or more	 Harness or connectors (CVT device circuit is open or short- ed.) CVT device (detention switch)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON under the following conditions, and wait for at least 2 seconds.

- CVT selector lever is in the P or N position.
- Do not depress the brake pedal.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to SEC-46, "Diagnosis Procedure".
- NO >> INSPECTION END.

Diagnosis Procedure

1.CHECK CVT DEVICE POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Disconnect CVT device (detention switch) harness connector.
- 3. Check voltage between CVT device (detention switch) harness connector and ground.

CVT device (de	etention switch)	Ground	Voltage [V]
Connector	Terminal	Crodina	voliage [v]
M123	8	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 3..

NO >> GO TO 2..

2. CHECK CVT DEVICE POWER SUPPLY CIRCUIT

1. Disconnect BCM harness connector.

2. Check continuity between CVT device (detention switch) harness connector and BCM harness connector.

INFOID:000000000993918

INFOID-000000000993919

INFOID:000000000993920

B2601 SHIFT POSITION

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

CVT device (detention Connector		witch)		BCM	Continuity
Connect	or T	ērminal	Connector	Terminal	
M23		8	M19	84	Existed
Check conti	nuity between (CVT device (de	tention switch) h	arness connector and	l ground.
	CVT device (deter	ntion switch)		Ground	Continuity
Conne	ector	Terminal		Ground	Continuity
M2	23	8		Ground	Not existed
	result normal?				
	lace BCM.				
-	air harness or o				
	DEVICE CIRC	· · ·			
			PDM E/R harnes	ss connector. arness connector and	BCM harness conne
	-				
	CVT device (detention switch)			BCM	
Connecto	, ,	erminal	Connector	Terminal	Continuity
M23		9	M19	87	Existed
-	nuity between (-		arness connector and	
Oneok conti	nulty between t		ternion switchy h		giouna.
	CVT device (deter	ntion switch)			
				Ground	Continuity
Conne	ector	Terminal		Ground	Continuity
M2 the inspection 'ES >> GO	23 result normal? TO 4	9		Ground	Not existed
M2 <u>the inspection</u> <u>(ES >> GO</u> IO >> Rep .CHECK CVT Disconnect Check conti nector.	23 TO 4 vair harness or o DEVICE CIRC BCM harness or nuity between 0	9 connector. UIT (IPDM E/R connector.	,		Not existed
M2 <u>the inspection</u> <u>(ES)</u> >> GO IO) >> Rep .CHECK CVT Disconnect Check conti nector.	23 TO 4 vair harness or o DEVICE CIRC BCM harness or nuity between 0	9 connector. UIT (IPDM E/R connector. CVT device (de	,	Ground	Not existed
M2 <u>the inspection</u> <u>(ES)</u> >> GO IO) >> Rep .CHECK CVT Disconnect Check conti nector.	23 TO 4 vair harness or o DEVICE CIRC BCM harness o nuity between o	9 connector. UIT (IPDM E/R connector. CVT device (de	tention switch) h	Ground arness connector and	Not existed
M2 the inspection (ES >> GO IO >> Rep CHECK CVT Disconnect Check conti nector.	23 TO 4 Pair harness or of DEVICE CIRC BCM harness of nuity between (device n switch)	9 connector. UIT (IPDM E/R connector. CVT device (de	tention switch) h	Ground arness connector and	Not existed
M2 the inspection (ES >> GO IO >> Rep CHECK CVT Disconnect Check conti nector. CVT o (detentio Connector M23	23 TO 4 pair harness or of DEVICE CIRC BCM harness of nuity between (device n switch) Terminal 9	9 connector. UIT (IPDM E/R connector. CVT device (de IPI Connector E18	tention switch) h	Ground Ground	Not existed
M2 the inspection (ES >> GO IO >> Rep CHECK CVT Disconnect Check conti nector. CVT c (detentio Connector M23 Check conti	23 TO 4 pair harness or of DEVICE CIRC BCM harness of nuity between (device n switch) Terminal 9 nuity between (9 connector. UIT (IPDM E/R connector. CVT device (de IPI Connector E18	tention switch) h	Ground Ground narness connector and Continuity Existed	Not existed
M2 the inspection (ES >> GO IO >> Rep CHECK CVT Disconnect Check conti nector. CVT of (detention Connector M23 Check conti	23 TO 4 pair harness or of DEVICE CIRC BCM harness of nuity between (device n switch) Terminal 9 nuity between (CVT device	9 connector. UIT (IPDM E/R connector. CVT device (de IPI Connector E18	otention switch) h	Ground Ground Darness connector and Continuity Existed arness connector and	Not existed
M2 the inspection (ES >> GO IO >> Rep CHECK CVT Disconnect Check conti nector. CVT of (detention Connector M23 Check conti (detention) Check conti (detention) Check conti (detention) CONNECTOR (detention) CONNECTOR (detention) (de	23 TO 4 Pair harness or of DEVICE CIRC BCM harness or nuity between of device n switch) Terminal 9 nuity between of CVT device rention switch)	9 connector. UIT (IPDM E/R connector. CVT device (de IPI Connector E18 CVT device (de	tention switch) h	Ground Ground narness connector and Continuity Existed	Not existed
M2 the inspection (ES >> GO IO >> Rep CHECK CVT Disconnect Check continector. CVT of (detention) Connector M23 Check continector (detention) Connector	23 TO 4 pair harness or of DEVICE CIRC BCM harness or nuity between (device n switch) Terminal 9 nuity between (CVT device tention switch) Termi	9 connector. UIT (IPDM E/R connector. CVT device (de IPI Connector E18 CVT device (de	tention switch) h	Ground Ground arness connector and Continuity Existed arness connector and Continuity Continuity	Not existed
M2 the inspection (ES >> GO IO >> Rep CHECK CVT Disconnect Check continector. CVT of (detention) Connector M23 Check continector M23 Check continector M23	23 result normal? TO 4 vair harness or of pair harness or of DEVICE CIRC BCM harness or One DEVICE CIRC One BCM harness or One DEVICE One nuity between One OUT device One CVT device One Image: Section switch Image: Section switch Image: Section switch Image: Section switch Image: Section switch Image: Section switch	9 connector. UIT (IPDM E/R connector. CVT device (de E18 CVT device (de nal	otention switch) h	Ground Ground Darness connector and Continuity Existed arness connector and	Not existed
M2 the inspection (ES >> GO IO >> Rep CHECK CVT Disconnect Check continector. CVT of (detention Connector M23 Check continector (detention) Connector M23 Check continector M23 the inspection	23 Tesult normal? TO 4 pair harness or of DEVICE CIRC BCM harness of nuity between (device n switch) Terminal 9 nuity between (CVT device tention switch) Termi 9 nuity between (CVT device tention switch) 9 1 1 1 1 1 1 1 1 1 1 1 1 1	9 connector. UIT (IPDM E/R connector. CVT device (de E18 CVT device (de nal	tention switch) h	Ground Ground arness connector and Continuity Existed arness connector and Continuity Continuity	Not existed
M2 the inspection (ES >> GO IO >> Rep CHECK CVT Disconnect Check continector. CVT of (detention Connector M23 Check continector M23 Check continector M23 the inspection (ES >> GO	23 Tesult normal? TO 4 pair harness or of DEVICE CIRC BCM harness of nuity between (device n switch) Terminal 9 nuity between (CVT device tention switch) Termi 9 nuity between (CVT device tention switch) 9 1 1 1 1 1 1 1 1 1 1 1 1 1	9 connector. UIT (IPDM E/R connector. CVT device (de Connector E18 CVT device (de	tention switch) h	Ground Ground arness connector and Continuity Existed arness connector and Continuity Continuity	Not existed

B2601 SHIFT POSITION

< COMPONENT DIAGNOSIS >

- YES >> GO TO 6..
- NO >> Replace CVT device. Refer to <u>TM-229</u>, "Removal and Installation" (RE0F09B) or <u>TM-383</u>, <u>"Removal and Installation"</u> (RE0F10A).

6.CHECK INTERMITTENT INCIDENT

Refer to GI-39. "Intermittent Incident".

>> INSPECTION END.

Component Inspection

INFOID:000000000993921

1. CHECK CVT DEVICE (DETENTION SWITCH)

- 1. Turn ignition switch OFF.
- 2. Disconnect CVT device (detention switch) harness connector.
- 3. Check continuity between CVT device (detention switch) terminals as follows.

CVT device (detention switch)			Condition		Continuity	
Connector	Terr	minal			Continuity	
M137	8	0	CVT selector lever	P position	Not existed	
11137	0	9	CVT Selector level	Other than above	Existed	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace CVT device. Refer to <u>TM-229</u>, "<u>Removal and Installation</u>" (RE0F09B) or <u>TM-383</u>, <u>"Removal and Installation</u>" (RE0F10A).

< COMPONENT DIAGNOSIS > **B2602 SHIFT POSITION** А Description INFOID:000000000993922 BCM confirms the shift position with the following 4 signals. В CVT selector lever P/N position switch P position signal from IPDM E/R (CAN) P position signal from TCM (CAN) DTC Logic INFOID:000000000993923 D DTC DETECTION LOGIC NOTE: If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic". If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic". F Trouble diagnosis DTC No. DTC detecting condition Possible cause name Harness or connectors BCM detects the following status for 10 seconds. (CVT drive circuit is open or short-· Shift position is in P position ed) B2602 SHIFT POSITION · Vehicle speed is 4km/h or more CVT device (detention switch) Н · Ignition switch is in the ON position · ABS actuator and electric unit (control unit) DTC CONFIRMATION PROCEDURE 1.PERFORM DTC CONFIRMATION PROCEDURE Start the engine under the following conditions and wait for at least 10 seconds. 1. CVT selector lever is in the P or N position Depress the brake pedal. 2. Check "Self diagnostic result" with CONSULT-III. Is DTC detected? SEC YES >> Go to SEC-49, "Diagnosis Procedure". NO >> INSPECTION END. **Diagnosis** Procedure INFOID:000000000993924 CHECK DTC WITH "ABS ACTUATOR AND ELECTRIC UNIT" M Check "Self diagnostic result" with CONSULT-III. Refer to BRC-46, "DTC No. Index" (ABS), BRC-110, "DTC No. Index" (TCS/ABS) or BRC-204, "DTC No. Index" (VDC/TCS/ABS). Is the inspection result normal? Ν >> GO TO 2.. YES NO >> Repair or replace. 2.CHECK CVT DEVICE POWER SUPPLY 1. Turn ignition switch OFF. Disconnect CVT device (detention switch) harness connector. 2. 3. Check voltage between CVT device (detention switch) harness connector and ground. CVT device (detention switch) Ground Voltage [V] Connector Terminal M23 8 Ground Battery voltage

Is the inspection result normal?

>> GO TO 4.. YES

B2602 SHIFT POSITION

< COMPONENT DIAGNOSIS >

NO >> GO TO 3..

3.CHECK CVT DEVICE POWER SUPPLY CIRCUIT

- 1. Disconnect BCM harness connector.
- 2. Check continuity between CVT device (detention switch) harness connector and BCM harness connector.

CVT device (d	CVT device (detention switch)		BCM		
Connector	Terminal	Connector	Terminal	Continuity	
M23	8	M19	84	Existed	

3. Check continuity between CVT device (detention switch) harness connector and ground.

CVT device (d	etention switch)	Ground	Continuity
Connector	Terminal	Croana	Continuity
M23	8	Ground	No existed

Is the inspection result normal?

YES >> Replace BCM.

NO >> Repair harness or connector.

4.CHECK CVT DEVICE CIRCUIT

1. Disconnect BCM harness connector.

2. Check continuity between CVT device (detention switch) harness connector and BCM harness connector.

CVT device (d	e (detention switch) BCM Continuity		BCM	
Connector	Terminal	Connector Terminal		Continuity
M23	9	M19	87	Existed

3. Check continuity between CVT device (detention switch) harness connector and ground.

CVT device (de	etention switch)	Ground	Continuity	
Connector	Terminal	Giouna	Continuity	
M23	9	Ground	No existed	

Is the inspection result normal?

YES >> GO TO 5..

NO >> Repair harness or connector.

5. CHECK CVT DEVICE

Refer to SEC-48, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6..

NO >> Replace CVT device. Refer to <u>TM-229</u>, "<u>Removal and Installation</u>" (RE0F09B) or <u>TM-383</u>, <u>"Removal and Installation</u>" (RE0F10A).

6.CHECK INTERMITTETNT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> INSPECTION END.

B2603 SHIFT POSITION STATUS

Description

BCM confirms the shift position with the following 4 signals.

- CVT selector lever
- P/N position switch
- P position signal from IPDM E/R (CAN)
- P position signal from TCM (CAN)

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2603 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B2603 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29, "DTC Logic"</u>.

DTC	Self-diagnosis name	DTC detecting condition	Possible causes
B2603	SHIFT POSITION STATUS	 BCM detects the followings status for 500 ms or more when shift is in P position and, ignition switch is in ON position. Park/neutral position (PNP) switch: approx. 0V CVT device (detention switch): approx 0V 	 Harness or connector (CVT device circuit is open or shorted.) Harness or connectors [Park/neutral position (PNP) switch circuit is open or shorted.] CVT device (detention switch) Park/neutral position (PNP) switch

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

SEC 1. Start the engine under the following conditions and wait for at least 1 second. CVT selector lever is in the P or N position. Do not depress the brake pedal. Check "Self diagnostic result" with CONSULT-III. 2. Is DTC detected? YES >> Go to SEC-51, "Diagnosis Procedure". >> INSPECTION END. NO Μ Diagnosis Procedure INFOID:000000000993927 1. CHECK DTC WITH TCM Ν Check "Self diagnostic result" with CONSULT-III. Refer to TM-194, "DTC Index" (RE0F09B) or TM-348, "DTC Index" (RE0F10A). Is the inspection result normal? YES >> GO TO 2.. NO >> Repair or replace. Ρ 2.check pNP switch circuit 1. Turn ignition switch OFF.

2. Disconnect TCM harness connector and BCM harness connector.

3. Check continuity between TCM harness connector and BCM harness connector.

- [INTELLIGENT KEY SYSTEM]
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INFOID:000000000993925

В

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INFOID:000000000993926

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SEC-51

B2603 SHIFT POSITION STATUS

< COMPONENT DIAGNOSIS >

Т	CM	BCM Connector Terminal		Continuity	
Connector	Terminal			Continuity	
F16	20	M18	48	Existed	

4. Check continuity between TCM harness connector and ground.

ТСМ		Ground	Continuity	
Connector	Terminal	Ciouna	Continuity	
F16	20	Ground	Not existed	

Is the inspection result normal?

YES >> GO TO 3..

NO >> Repair harness or connector.

$\mathbf{3}.$ CHECK CVT DEVICE POWER SUPPLY

1. Turn ignition switch OFF.

2. Disconnect CVT device (detention switch) harness connector.

3. Check voltage between CVT device (detention switch) harness connector and ground.

CVT device (c	letention switch)	Ground	Voltage [V]	
Connector	Terminal	Ground	voltage [v]	
M23	8	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 5..

NO >> GO TO 4..

4.CHECK CVT DEVICE POWER SUPPLY CIRCUIT

1. Disconnect BCM harness connector.

2. Check continuity between CVT device (detention switch) harness connector and BCM harness connector.

CVT device (d	etention switch)	BCM Connector Terminal		Continuity	
Connector	Terminal			Continuity	
M23	8	M19	87	Existed	

3. Check continuity between CVT device (detention switch) harness connector and ground.

CVT device (de	etention switch)	Ground	Continuity	
Connector	Terminal	Ground	Continuity	
M23	8	Ground	Not existed	

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-76, "Removal and Installation"</u>.

NO >> Repair harness or connector.

5. CHECK CVT DEVICE CIRCUIT

- 1. Disconnect BCM harness connector.
- 2. Check continuity between CVT device (detention switch) harness connector and BCM harness connector.

	device on switch)	BCM		Continuity
Connector	Terminal	Connector	Terminal	Ť
M23	9	M19	87	Existed

3. Check continuity between CVT device (detention switch) harness connector and ground.

SEC-52

B2603 SHIFT POSITION STATUS

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

CVT device (d	etention switch)	Ground	Continuity
Connector	Terminal	Ground	Continuity
M23	9	Ground	Not existed
Is the inspection result norm	<u>al?</u>		
YES >> GO TO 6 NO >> Repair harness	or connector.		
6.CHECK CVT DEVICE			
Refer to SEC-48, "Compone			
Is the inspection result norm	<u>al?</u>		
	nstallation" (RE0F10A).	"Removal and Installa	<u>ation"</u> (RE0F09B) or <u>TM-383.</u>
Refer to GI-39, "Intermittent	Incident".		
>> INSPECTION E	ND.		

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B2604 PNP SWITCH

Description

BCM confirms the shift position with the following 4 signals.

- CVT selector lever
- P/N position switch
- P position signal from IPDM E/R (CAN)
- P position signal from TCM (CAN)

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2604	PNP SWITCH	 BCM detects the following status for 500 ms or more when the ignition switch is in the ON position. N position input signal exists. Shift position signal from TCM does not exist. N position input signal does not exist. Shift posi- tion signal from TCM exists. 	 Harness or connectors [The park/neutral position (PNP) switch circuit is open or shorted.] Park/ neutral position (PNP) switch

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine under the following conditions and wait for at least 1 seconds.
- CVT selector lever is in the P or N position
- Do not depress the brake pedal
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to SEC-54, "Diagnosis Procedure".
- NO >> INSPECTION END.

Diagnosis Procedure

1.CHECK DTC WITH TCM

Check "Self diagnostic result" with CONSULT-III. Refer to <u>TM-194, "DTC Index"</u> (RE0F09B) or <u>TM-348, "DTC Index"</u> (RE0F10A).

Is the inspection result normal?

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

2.check pNP switch circuit

1. Turn ignition switch OFF.

- 2. Disconnect TCM harness connector and BCM harness connector.
- 3. Check continuity between TCM harness connector and BCM harness connector.

T	CM	B	BCM		BCM Continuity	
Connector	Terminal	Connector Terminal		Continuity		
F16	20	M18	48	Existed		

4. Check continuity between TCM harness connector and ground.

SEC-54

INFOID:000000000993928

INFOID-000000000993929

INFOID:00000000993930

B2604 PNP SWITCH

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

Т	СМ	Ground	Continuity	
Connector	Terminal	Ground	Continuity	
F16	20	Ground	Not existed	
the inspection result norm YES >> GO TO 3 NO >> Repair harness CHECK INTERMITTENT efer to GI-39, "Intermittent	or connector. INCIDENT			
>> INSPECTION E				

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B2605 PNP SWITCH

Description

BCM confirms the shift position with the following 4 signals.

- AT selector lever
- P/N position switch
- P position signal from IPDM E/R (CAN)
- P position signal from TCM (CAN)

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2605 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29. "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2605	PNP SWITCH	 BCM detects the following status for 500 ms or more when the ignition switch is in ON position N position input signal exists. Shift position signal from IPDM E/R does not exist. N position input signal does not exist. Shift posi- tion signal from IPDM E/R exists. 	 Harness or connectors [The park/neutral position (PNP) switch circuit is open or shorted.] Park/neutral position (PNP) switch IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait for at least 1 seconds.
- CVT selector lever is in the P or N position
- Do not depress the brake pedal.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to SEC-56. "Diagnosis Procedure".
- NO >> INSPECTION END.

Diagnosis Procedure

1.CHECK DTC WITH IPDM E/R

Check "Self diagnostic result" with CONSULT-III. Refer to PCS-34. "DTC Index".

Is the inspection result normal?

NO >> Repair or replace.

2.CHECK PNP SWITCH CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect TCM harness connector and BCM harness connector.
- 3. Check continuity between TCM connector and BCM harness connector.

Т	ТСМ		BCM		
Connector	Terminal	Connector	Terminal	Continuity	
F16	20	M18	48	Existed	

4. Check continuity between TCM harness connector and ground.

INFOID:000000000993931

INFOID-000000000993932

INFOID:00000000993933

B2605 PNP SWITCH

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

Т	СМ	Ground	Continuity	
Connector	Terminal	Ground	Continuity	
F16	20	Ground	Not existed	
the inspection result norm YES >> GO TO 3 NO >> Repair harness CHECK INTERMITTENT efer to GI-39, "Intermittent	or connector. INCIDENT			
>> INSPECTION E				

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B2606 STEERING LOCK RELAY

Description

The steering lock relay ON signal is transmitted to IPDM E/R by BCM via CAN communication. IPDM E/R turns the steering lock relay ON and transmits the release of the steering to BCM.

DTC Logic

INFOID:000000000993935

INFOID:00000000993936

INFOID:00000000993934

DTC DETECTION LOGIC

NOTE:

- If DTC B2606 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B2606 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29. "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2606	STEERING LOCK RELAY	 BCM detects that there is a mismatch between the following statuses. Steering lock unit ON signal transmitted by IPDM E/R The steering lock unit status feedback 	Steering lock relay (in IPDM E/R)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press the push-button ignition switch under the following conditions.
- CVT selector lever is in the P or N position.
- Do not depress the brake pedal.
- 2. Steering is locked.
- 3. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to <u>SEC-58. "Diagnosis Procedure"</u>.
- NO >> INSPECTION END.

Diagnosis Procedure

1.CHECK DTC WITH IPDM E/R

Check "Self diagnostic result" with CONSULT-III. Refer to PCS-34, "DTC Index".

Is the inspection result normal?

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

2.INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> INSPECTION END.

B2607 STEERING LOCK RELAY

< COMPONENT DIAGNOSIS >

B2607 STEERING LOCK RELAY

Description

BCM requests to IPDM E/R to supply power to steering lock unit. After receiving the power, the steering lock В unit transmits an ON signal to BCM.

DTC Logic

INFOID-000000000993938

INFOID:00000000993937

DTC DETECTION LOGIC

NOTE:

- If DTC B2607 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28, "DTC Logic".
- If DTC B2607 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B2607	STEERING LOCK RELAY	 BCM detects that there is a difference between the following statuses. Steering lock unit ON signal transmitted by IPDM E/R The steering lock unit status feedback 	 Harness or connectors (steering lock unit power supply circuit is open or shorted) Steering lock relay (in IPDM E/R) 	F

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- Press the push-button ignition switch under the following conditions. 1.
- A/T selector lever is in the P or N position
- Do not depress brake pedal
- 2. Steering lock is locked.
- Check "Self diagnostic result" with CONSULT-III. 3.

Is DTC detected?

- >> Go to SEC-59, "Diagnosis Procedure". YES
- >> INSPECTION END. NO

Diagnosis Procedure

1.CHECK DTC WITH IPDM E/R

Check "Self diagnostic result" with CONSULT-III. Refer to PCS-34, "DTC Index".

Is the inspection result normal?

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

2.CHECK STEERING LOCK UNIT POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect steering lock unit harness connector.
- 3. Check voltage between steering lock unit and ground under the following conditions.

Steering	g lock unit	Ground	Condition	Voltage (V)	
Connector	Terminal	Giodila	Condition	voltage (v)	D
M32	1	Ground	Press push-button ignition switch when steering lock is in lock condition.	Battery voltage	Γ

Is the inspection result normal?

>> GO TO 4.. YES

NO >> GO TO 3..

3.CHECK STEERING LOCK UNIT POWER SUPPLY CIRCUIT

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INFOID:000000000993939

B2607 STEERING LOCK RELAY

< COMPONENT DIAGNOSIS >

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R harness connector.

3. Check continuity between steering lock unit and IPDM E/R harness connector.

Steering	Steering lock unit		M E/R	Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
M32	1	E17	11	Existed	

4. Check continuity between steering lock unit and ground.

Steering	lock unit	Ground	Continuity
Connector	Terminal	Gibund	Continuity
M32	1	Ground	Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-36, "Removal and Installation"</u>.

NO >> Repair harness or connector.

4.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> INSPECTION END.

B2608 STARTER RELAY

Description

Located in IPDM E/R, it runs the starter motor. The starter relay is turned ON by the BCM when the ignition switch is in START position. IPDM E/R transmits the starter relay ON signal to BCM via CAN communication.

DTC Logic

INFOID:000000000993941

INFOID:000000000993942

INFOID:000000000993940

DTC DETECTION LOGIC

NOTE:

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29. "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B2608	STARTER RELAY	BCM receives starter relay ON signal (CAN) from IPDM E/R even if BCM turns the starter relay OFF	 Harness or connectors (starter relay circuit is open or shorted.) IPDM E/R 	F

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press the push-button ignition switch under the following conditions.
- CVT selector lever is in the P or N position.
- Depress the brake pedal.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to <u>SEC-61, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END.

Diagnosis Procedure

1.CHECK STARTER RELAY

1. Turn ignition switch ON.

2. Check voltage between BCM harness connector and ground under the following condition.

BC	M	Ground	Condition		Valtage (V/)	
Connector	Terminal	Ground		Jonation	Voltage (V)	
			CVT selector lever	N or P position	Battery voltage	
MO4	400	Crownd	CVT Selector level	Other than above	0	
M21	132	Ground		Not depressed	0	
			Clutch pedal	Depressed	Battery voltage	

Is the measurement value within the specification?

YES >> GO TO 3..

NO >> GO TO 2..

2. CHECK STARTER RELAY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM harness connector M121 and IPDM E/R harness connector E6.

3. Check continuity between IPDM E/R harness connector and BCM harness connector.

[INTELLIGENT KEY SYSTEM]

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B2608 STARTER RELAY

< COMPONENT DIAGNOSIS >

IPDI	IPDM E/R		BCM		
Connector	Terminal	Connector	Terminal	Continuity	
E18	46	M21	132	Existed	

4. Check continuity between IPDM E/R harness connector and ground.

IPDN	M E/R	Ground	Continuity	
Connector	Terminal	Giodila		
E18	46	Ground	Not existed	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-36, "Removal and Installation".

NO >> Repair harness or connector.

3. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> INSPECTION END.

< COMPONENT DIAGNOSIS >

B2609 STEERING STATUS

Description

There are 2 switches in the steering lock unit (steering lock/unlock switch 1 and 2). BCM compares those two switches conditions to judge the present steering status.

DTC Logic

INFOID:000000000993944

INFOID:000000000993943

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DTC DETECTION LOGIC

NOTE:

- If DTC B2609 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B2609 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29. "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B2609	STEERING STATUS	BCM detects the malfunction of steering lock unit switches for 1 second.	 Harness or connectors [steering lock unit circuit (BCM side) is open or shorted] Harness or connectors [steering lock unit circuit (IPDM E/ R side) is open or shorted.] Steering lock unit IPDM E/R 	

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

1. Press the push-button ignition switch under the following conditions and wait for at least 1 second. CVT selector lever is in the P or N position. Do not depress brake pedal Steering is locked 2. Check "Self diagnostic result" with CONSULT-III. Is DTC detected? SEC YES >> Go to SEC-63. "Diagnosis Procedure". NO >> GO TO 2... 2. PERFORM DTC CONFIRMATION PROCEDURE 2 L 1. Turn ignition switch ON. Turn ignition switch OFF. 2. 3. Press door switch. M 4. Check "Self diagnostic result" with CONSULT-III. Is DTC detected? YES >> Go to SEC-63, "Diagnosis Procedure". Ν >> INSPECTION END. NO Diagnosis Procedure INFOID:000000000993945 **1.**INSPECTION START Check the case in which DTC is detected. Ρ Case1: It is detected after ignition switch is changed from ON to OFF and door switch is pressed Case2: It is detected after ignition switch is changed from ON to OFF In which case is DTC detected? Case1 >> GO TO 2..

Case2 >> GO TO 7..

2. CHECK BCM OUTPUT SIGNAL

< COMPONENT DIAGNOSIS >

1. Turn ignition switch OFF.

- 2. Disconnect steering lock unit harness connector and IPDM E/R harness connector.
- 3. Check voltage between steering lock unit harness connector and ground.

Steering	Steering lock unit		Voltage [V]	
Connector	Terminal	Ground	voltage [v]	
M132	3	Ground	Battery voltage	

Is the inspection result normal?

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

NO >> GO 10 3.

3.CHECK STEERING LOCK UNIT CIRCUIT-I

1. Disconnect BCM harness connector.

2. Check continuity between steering lock unit harness connector and BCM harness connector.

Steering lock unit		BCM		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
M32	3	M19	85	Existed	

3. Check continuity between steering lock unit harness connector and ground.

Steering	lock unit	Ground	Continuity	
Connector	Terminal	Giodila	Continuity	
M32	3	Ground	Not existed	

Is the inspection result normal?

YES >> GO TO 6..

NO >> Repair harness or connector.

4.CHECK IPDM E/R OUTPUT SIGNAL

1. Connect IPDM E/R harness connector.

2. Disconnect BCM harness connector.

3. Check voltage between steering lock unit harness connector and ground.

 Steering lock unit		Ground	Voltogo [\/]	
 Connector	Terminal	Ground	Voltage [V]	
 M32	3	Ground	Battery voltage	

Is the inspection result normal?

YES >> Replace steering lock unit.

NO >> GO TO 5..

5. CHECK STEERING LOCK UNIT CIRCUIT-II

1. Check continuity between steering lock unit harness connector and IPDM E/R harness connector.

Steering lock unit		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M32	3	E17	32	Existed

2. Check continuity between steering lock unit harness connector and ground.

Steering	l lock unit	Ground	Continuity	
Connector	Terminal	Giodila	Continuity	
M32	3	Ground	Not existed	

Is the inspection result normal?

YES >> GO TO 6..

NO >> Repair harness or connector.

< COMPONENT DIAGNOSIS >

CHECK INTERMITT	ENT INCIDENT				
efer to <u>GI-39, "Intermi</u>	ttent Incident".				
>> INSPECTIO					
	OFF. g lock unit harness c veen steering lock ur				ctor E5.
St	eering lock unit		G	round	Voltage [V]
Connector	Termir	nal			
M32 the inspection result	8		Gi	round	Battery voltage
	LOCK UNIT CIRCU arness connector M1 etween steering lock	22.	s connector	and BCM harne	ss connector.
Steering	lock unit		BCN	Λ	
Connector	Terminal	Conn	ector	Terminal	Continuity
M32	8	M	19	86	Existed
. Check continuity be	etween steering lock	unit harnes	s connector	and ground.	
Si	teering lock unit		0	round	Continuity
Connector	Termin	al	G	lound	Continuity
M32	8		Gi	round	Not existed
CHECK IPDM E/R C Connect IPDM E/R Disconnect BCM h	ness or connector.	22.	connector a	nd ground.	
St	teering lock unit		G	round	Voltage [V]
Connector	Termir	al			
M32	8		Gi	round	Battery voltage
the inspection result	eering lock unit.				
NO \rightarrow GO TO 10. 0. CHECK STEERIN	IG LOCK UNIT CIRC				·
NO \rightarrow GO TO 10. 0. CHECK STEERIN			s connector	and IPDM E/R I	narness connector.
NO >> GO TO 10. 0.CHECK STEERIN Check continuity be Steering	IG LOCK UNIT CIRC etween steering lock	unit harnes	IPDM	E/R	Continuity
NO >> GO TO 10. 0. CHECK STEERIN . Check continuity be	IG LOCK UNIT CIRC etween steering lock		IPDM		

2. Check continuity between steering lock unit harness connector and ground.

SEC-65

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

Steering lock unit		Ground	Continuity	
Connector	Terminal	Ciouna	Continuity	
M32	8	Ground	Not existed	

Is the inspection result normal?

YES >> GO TO 11..

NO >> Repair harness or connector.

11. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> INSPECTION END

B260B STEERING LOCK UNIT

< COMPONENT DIAGNOSIS >

B260B STEERING LOCK UNIT

Description

The steering lock unit performs the check by itself according to the steering status.

DTC Logic

INFOID:000000000993947

INFOID:000000000993946

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260B	STEERING LOCK UNIT	BCM detects malfunctioning of steering lock unit before steering unlocking.	Steering lock unit
TC CONFI	IRMATION PROC	EDURE	
.PERFORM	M DTC CONFIRMA	TION PROCEDURE	
. Check "S	Self diagnostic resul	on switch, when steering is locked. " with CONSULT-III.	
	<u>ated?</u> Go to <u>SEC-67, "Diac</u> NSPECTION END.	nosis Procedure".	
Diagnosis	Procedure		INFOID:0000000093948
.INSPECT	ION START		
		t" with CONSULT-III.	
See <u>SEC</u>	DTC Confirmation		
YES >> F	<u>260B displayed aga</u> Replace steering loc NSPECTION END		

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B260C STEERING LOCK UNIT

Description

The steering lock unit performs the check by itself according to the steering status.

DTC Logic

INFOID:000000000993950

INFOID:000000000993951

INFOID:00000000993949

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260C	STEERING LOCK UNIT	BCM detects malfunctioning of steering lock unit before steering locking.	Steering lock unit

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.

- 2. Turn ignition switch OFF.
- 3. Press door switch.
- 4. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to SEC-68, "Diagnosis Procedure".
- NO >> INSPECTION END.

Diagnosis Procedure

1.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Check "Self diagnostic result" with CONSULT-III.
- 3. Touch "ERASE".
- 4. Perform DTC Confirmation Procedure. See <u>SEC-68, "DTC Logic"</u>.

Is the DTC B260C displayed again?

- YES >> Replace steering lock unit.
- NO >> INSPECTION END.

B260D STEERING LOCK UNIT

< COMPONENT DIAGNOSIS >

B260D STEERING LOCK UNIT

Description

The steering lock unit performs the check by itself according to the steering lock status (before lock, after lock В and unlock).

DTC Logic

INFOID:000000000993953

INFOID:000000000993952

[INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

	DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	D		
	B260D	STEERING LOCK UNIT	BCM detects malfunctioning of steering lock unit after steering locking.	Steering lock unit	Е		
	DTC CONFIRMATION PROCEDURE						
	1.PERFORM DTC CONFIRMATION PROCEDURE						
 Turn ignition switch ON. Turn ignition switch OFF. Press door switch. Check "Self diagnostic result" with CONSULT-III. 							
Y	<u>Is DTC detected?</u> YES >> Go to <u>SEC-69, "Diagnosis Procedure"</u> . NO >> INSPECTION END.						
Diagnosis Procedure							
1	1.INSPECTION START						
	 Turn ignition switch ON. Check "Self diagnostic result" with CONSULT-III. 						
 Touch "ERASE". Perform DTC Confirmation Procedure. See <u>SEC-69, "DTC Logic"</u>. Is the DTC B260D displayed again? 							
Y	YES >> Replace steering lock unit. NO >> INSPECTION END.						
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B260F ENGINE STATUS

Description

BCM receives the engine status signal from ECM via CAN communication.

DTC Logic

INFOID:000000000993956

INFOID:000000000993957

INFOID:00000000993955

DTC DETECTION LOGIC

NOTE:

- If DTC B260F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B260F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260F	INTERRUPTION OF ENGINE STATUS SIGNAL	BCM is not yet received the engine status signal from ECM when ignition switch is in ON position	• ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions.
- CVT selector lever is in the P or N position.
- Do not depress the brake pedal.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to SEC-70, "Diagnosis Procedure".
- NO >> INSPECTION END.

Diagnosis Procedure

1.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Check "Self diagnostic result" with CONSULT-III.
- 3. Touch "ERASE".
- 4. Perform DTC Confirmation Procedure. See <u>SEC-70. "DTC Logic"</u>.

Is the DTC B260F displayed again?

- YES >> GO TO 2..
- NO >> INSPECTION END.

2.REPLACE ECM

- 1. Replace ECM.
- Go to EC-24, "BASIC INSPECTION : Special Repair Requirement" (VQ35DE), EC-532, "BASIC INSPEC-TION : Special Repair Requirement" (QR25DE FOR CALIFORNIA) or EC-1047, "BASIC INSPECTION : Special Repair Requirement" (QR25DE EXCEPT FOR CALIFORNIA).

>> INSPECTION END.

B26E1 NO RECEPTION OF ENGINE STATUS SIGNAL

< COMPONENT DIAGNOSIS >

B26E1 NO RECEPTION OF ENGINE STATUS SIGNAL

Description

BCM receives the engine status signal from ECM via CAN communication.

DTC Logic

INFOID:000000000993958

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INFOID:000000000993959

DTC DETECTION LOGIC

NOTE:

- If DTC B26E1 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to SEC-28. "DTC Logic".
- If DTC B26E1 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

-	DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	E	
-	B260F	NO RECEPTION OF ENGINE STATUS SIGNAL	BCM does not receive the engine status signal from ECM when ignition switch is in the ON position	• ECM	F	
DT	C CONFI	RMATION PROC	EDURE		G	
1.	1.PERFORM DTC CONFIRMATION PROCEDURE					
1. - - 2.	 Turn ignition switch ON under the following conditions. CVT selector lever is in the P or N position. Do not depress the brake pedal. 					
<u>ls [</u>	DTC detec	ted?			I	
YI N		So to <u>SEC-71, "Diac</u> NSPECTION END.	nosis Procedure".			
Diagnosis Procedure						
1.	INSPECTI	ON START			050	
 Turn ignition switch ON. Check "Self diagnostic result" with CONSULT-III. Touch "ERASE". Perform DTC Confirmation Procedure. See <u>SEC-71, "DTC Logic"</u>. 					SEC	
	ES >> 0	<u>26E1 displayed aga</u> 30 TO 2 NSPECTION END.	in?		M	
2.	REPLACE	ECM			N	
1. 2.						
	>>	NSPECTION END.			Р	

B2612 STEERING STATUS

Description

INFOID:00000000993961

[INTELLIGENT KEY SYSTEM]

There are 2 switches in the steering unit. IPDM E/R compares those 2 switches conditions to judge the present steering status and transmit the result to BCM via CAN communication.

DTC Logic

INFOID:000000000993962

INFOID:000000000993963

DTC DETECTION LOGIC

NOTE:

- If DTC B2612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B2612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29, "DTC Logic"</u>.

DTC	Self-diagnosis name	DTC detecting condition	Possible causes
B2612	STEERING STA- TUS	 BCM detects the mismatch between the following status for 1 second Steering lock or unlock Feedback of steering lock status from IPDM E/R (CAN) 	 Harness or connectors [steering lock unit circuit (BCM side) is open or shorted] Harness or connectors [steering lock unit circuit (IPDM E/R side) is open or shorted.] Steering lock unit IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

- 1. Press the push-button ignition switch under the following conditions and wait for at least 1 second.
- CVT selector lever is in the P or N position.
- Do not depress brake pedal.
- Steering is locked.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

YES >> Go to SEC-72, "Diagnosis Procedure".

NO >> GO TO 2..

2. PERFORM DTC CONFIRMATION PROCEDURE 2

- 1. Turn ignition switch ON.
- 2. Turn ignition switch OFF.
- 3. Press door switch.
- 4. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to SEC-72, "Diagnosis Procedure".
- NO >> INSPECTION END.

Diagnosis Procedure

1.INSPECTION START

Check the case in which DTC is detected.

- Case1: It is detected after ignition switch is changed from ON to OFF and door switch is pressed.
- Case2: It is detected after ignition switch is changed from ON to OFF

In which case is DTC detected?

Case1 >> GO TO 2.. Case2 >> GO TO 7..

2.CHECK BCM OUTPUT SIGNAL

B2612 STEERING STATUS

< COMPONENT DIAGNOSIS >

1. Turn ignition switch OFF. 2. Disconnect steering lock unit harness connector and IPDM E/R harness connector. А 3. Check voltage between steering lock unit harness connector and ground. Steering lock unit В Ground Voltage [V] Connector Terminal M32 3 Ground Battery voltage Is the inspection result normal? YES >> GO TO 4.. NO >> GO TO 3.. 3. CHECK STEERING LOCK UNIT CIRCUIT-I D 1. Disconnect BCM harness connector. 2. Check continuity between steering lock unit harness connector and BCM harness connector. BCM Steering lock unit Continuity Terminal Connector Connector Terminal F M32 3 M19 85 Existed 3. Check continuity between steering lock unit harness connector and ground. Steering lock unit Ground Continuity Terminal Connector Н M32 3 Ground Not existed Is the inspection result normal? YES >> GO TO 6.. NO >> Repair harness or connector. 4.CHECK IPDM E/R OUTPUT SIGNAL 1. Connect IPDM E/R harness connector. Disconnect BCM harness connector. 2. 3. Check voltage between steering lock unit harness connector and ground. SEC Steering lock unit Ground Voltage [V] Connector Terminal M32 3 Ground Battery voltage Is the inspection result normal? YES >> Replace steering lock unit. Μ NO >> GO TO 5.. 5.CHECK STEERING LOCK UNIT CIRCUIT-II 1. Check continuity between steering lock unit harness connector and IPDM E/R harness connector. Ν Steering lock unit IPDM E/R Continuity Connector Terminal Connector Terminal M32 3 E17 32 Existed Check continuity between steering lock unit harness connector and ground. 2. Steering lock unit Ground Continuity Terminal Connector M32 3 Ground Not existed Is the inspection result normal? YES >> GO TO 6..

>> Repair harness or connector. NO

B2612 STEERING STATUS

< COMPONENT DIAGNOSIS >

6.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> INSPECTION END.

7. CHECK BCM OUTPUT SIGNAL

1. Turn ignition switch OFF.

2. Disconnect steering lock unit harness connector and IPDM E/R harness connector.

3. Check voltage between steering lock unit harness connector and ground.

Steering	Steering lock unit		Voltage [V]	
Connector	Terminal	Ground	voltage [v]	
M32	8	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 9..

NO >> GO TO 8..

8.CHECK STEERING LOCK UNIT CIRCUIT-I

1. Disconnect BCM harness connector.

2. Check continuity between steering lock unit harness connector and BCM harness connector.

Steering	lock unit	t BCM Terminal Connector Terminal		Continuity	
Connector	Terminal			Continuity	
M32	8	M19	86	Existed	

3. Check continuity between steering lock unit harness connector and ground.

Steering lock unit		Ground	Continuity	
Connector	Terminal	Ciouna	Continuity	
M32	8	Ground	Not existed	

Is the inspection result normal?

YES >> GO TO 11..

NO >> Repair harness or connector.

9.CHECK IPDM E/R OUTPUT SIGNAL

- 1. Connect IPDM E/R harness connector.
- 2. Disconnect BCM harness connector.

3. Check voltage between steering lock unit harness connector and ground.

Steering lock unit		Ground	Voltage [V]
Connector	Terminal	Ground	voltage [v]
M32	8	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace steering lock unit.

NO >> GO TO 10..

10.CHECK STEERING LOCK UNIT CIRCUIT-II

1. Check continuity between steering lock unit harness connector and IPDM E/R harness connector.

Steering	lock unit	IPDM E/R				Continuity
Connector	r Terminal Connecto		Terminal	Continuity		
M32	8	E17	33	Existed		

2. Check continuity between steering lock unit harness connector and ground.

SEC-74

B2612 STEERING STATUS

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

Steering	lock unit	Ground	Continuity	
Connector	Terminal	Giouna	Continuity	
M32	8	Ground	Not existed	
Is the inspection result norm YES >> GO TO 11 NO >> Repair harness 11.CHECK INTERMITTEN	or connector.			
efer to GI-39, "Intermittent	Incident".			
>> INSPECTION E	ND.			

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B2617 STARTER RELAY CIRCUIT

Description

INFOID:000000000993964

[INTELLIGENT KEY SYSTEM]

Located in IPDM E/R, it runs the starter motor. The starter relay is turned ON by the BCM when the ignition switch is in START position. IPDM E/R transmits the starter relay ON signal to BCM via CAN communication.

DTC Logic

INFOID:000000000993965

DTC DETECTION LOGIC

NOTE:

- If DTC B2617 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B2617 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29. "DTC Logic"</u>.
- If DTC B2617 is displayed with DTC B2611, first perform the trouble diagnosis for DTC B2611. Refer to <u>PCS-53, "DTC Logic"</u>.
- If DTC B2617 is displayed with DTC B210E, first perform the trouble diagnosis for DTC B210E. Refer to <u>SEC-76, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2617	STARTER RELAY CIRCUIT	An immediate operation of starter relay is request- ed by BCM, but there is no response for more than 1 second	 Harness or connectors (Starter relay circuit is open or short- ed.) IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait for at least 1 second.
- CVT selector lever is in the P or N position.
- Do not depress the brake pedal.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to SEC-76, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000000993966

1.CHECK STARTER RELAY

1. Turn ignition switch ON.

2. Check voltage between BCM harness connector and ground under the following condition.

BC	М	Ground	Condition		Voltage (V)
Connector	Terminal	Ground			voltage (v)
			CVT selector lever	N or P position	Battery voltage
M04	100			Other than above	0
M21	132	Ground	Clutch redal	Not depressed	0
			Clutch pedal	Depressed	Battery voltage

Is the measurement value within the specification.

YES >> GO TO 3..

NO >> GO TO 2..

2. CHECK STARTER RELAY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM harness connector and IPDM E/R harness connector.

SEC-76

B2617 STARTER RELAY CIRCUIT

< COMPONENT DIAGNOSIS >

3. Check continuity between IPDM E/R harness connector and BCM harness connector.

_							A
_	IPDM E/R			B	CM	Continuity	-
_	Connector	Terminal	Conr	nector	Terminal	Continuity	
_	E18	46	М	21	132	Existed	В
4.	4. Check continuity between IPDM E/R harness connector and ground.						_
_							
	IPD	M E/R			Ground	Continuity	C
	Connector	Termina	al		Ciouna	Continuity	

E18	46	Ground	Not existed	D
Is the inspection result norm	<u>al?</u>			-
YES >> Replace IPDM E NO >> Repair harness	F/R. Refer to <u>PCS-36, "Rer</u> or connector.	moval and Installation".		Е
3. CHECK INTERMITTENT	INCIDENT			
Refer to GI-39, "Intermittent	Incident".			F
>> INSPECTION E				
	ND.			G
				0

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B2619 BCM

Description

BCM requests IPDM E/R to supply power to steering lock unit. After receiving the power, the steering lock unit transmits an ON signal to BCM.

DTC Logic

INFOID:000000000993968

INFOID:00000000993969

INFOID:000000000993967

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2619	BCM	BCM detects a mismatch between the power sup- plied to the steering lock unit and the feedback for one second or more.	• BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press the push-button ignition switch under the following conditions and wait for at least 1 second.

- CVT selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to SEC-78, "Diagnosis Procedure".
- NO >> INSPECTION END.

Diagnosis Procedure

1.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Check "Self diagnostic result" with CONSULT-III.
- 3. Touch "ERASE".
- 4. Perform DTC Confirmation Procedure. See <u>SEC-78, "DTC Logic"</u>.

Is the DTC B2619 displayed again?

- YES >> Replace BCM. Refer to <u>BCS-76. "Removal and Installation"</u>.
- NO >> INSPECTION END

B261A PUSH-BUTTON IGNITION SWITCH

Description

BCM transmits the change in the power supply position with the push-button ignition switch to IPDM E/R via the CAN communication. IPDM E/R transmits the power supply position status via CAN communication to BCM.

DTC Logic

DTC DETECTION LOGIC **NOTE**:

< COMPONENT DIAGNOSIS >

- If DTC B261A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28</u>, "DTC Logic".
- If DTC B261A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	F
B261A	PUSH-BUTTON IGNITION SWITCH	 BCM detects the mismatch between the following for 1 second or more Power supply position with push-button ignition switch Power supply position from IPDM E/R (CAN) 	 Harness or connectors (Push-button ignition switch circuit is open or shorted) Between BCM and push-button igni- tion switch Between IPDM E/R and push-button ignition switch 	G

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press the push-button ignition switch under the following conditions and wait for at least 1 second.
- CVT selector lever is in the P or N position
- Do not depress brake pedal.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to SEC-79, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.INSPECTION START

Check the case in which DTC is detected.

• Case1: It is detected when push-button ignition switch is pressed for 1 second

• Case2: It is detected after Intelligent Key is inserted into key slot and push-button ignition switch is pressed

In which case is DTC detected?

Case1 >> GO TO 2..

Case2 >> GO TO 4..

2.CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL 1

2. Disconnect push-button ignition switch harness connector and IPDM E/R harness connector.

3. Check voltage between push-button ignition switch harness connector and ground.

Push-button	ignition switch	Ground	Voltage (V)
Connector	Terminal	Ground	voliage (v)
M38	4	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 6..



[INTELLIGENT KEY SYSTEM]

INFOID:000000000993971

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INFOID:000000000993972

B261A PUSH-BUTTON IGNITION SWITCH

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

NO >> GO TO 3..

3.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT

- 1. Disconnect BCM harness connector.
- 2. Check continuity between push-button ignition switch harness connector and BCM harness connector.

Push-button	ignition switch	B	СМ	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M38	4	M19	77	Existed

3. Check continuity between push-button ignition switch harness connector and ground.

Push-button	ignition switch	Ground	Continuity
Connector	Terminal	Crodina	Continuity
M38	4	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 6..

NO >> Repair harness or connector.

4.CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL 2

1. Turn ignition switch OFF.

2. Disconnect push-button ignition switch harness connector and BCM harness connector.

3. Check voltage between push-button ignition switch harness connector and ground.

Push-button	ignition switch	Ground	Voltage (V)
Connector	Terminal	Crodina	voltage (v)
M38	4	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 6..

NO >> GO TO 5..

5.CHECK PUSH-BUTTON IGNITION SWITCH

- 1. Disconnect IPDM E/R harness connector.
- Check continuity between push-button ignition switch harness connector and IPDM E/R harness connector.

Push-button	ignition switch	IPDN	/I E/R	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M38	4	E17	28	Existed

3. Check continuity between push-button ignition switch harness connector and ground.

Push-button	ignition switch	Ground	Continuity
Connector	Terminal	Croana	Continuity
M38	4	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 6..

NO >> Repair harness or connector.

6.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> INSPECTION END

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< COMPONE	ENT DIAGNOSIS >	,	[INTELLIGENT KEY SYSTEM]	
B261E V	'EHICLE TYP	E		А
Description	n		INFOID:00000000993973	1
There are two • HEV • Convention	o types of vehicle. al			В
DTC Logic	2		INFOID:00000000993974	С
NOTE: • If DTC B26 <u>SEC-28, "D</u>	<u>TC Logic"</u> . 31E is displayed wit	h DTC U1000, first perform the trouble d h DTC U1010, first perform the trouble d	-	D
DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	F
B261E	VEHICLE TYPE	Difference of BCM configration	• BCM	
1.PERFORM	RMATION PROC	EDURE TION PROCEDURE		G
2. Check "S Is DTC detec YES >> 0	Self diagnostic result	" with CONSULT-III. mosis Procedure".		H
Diagnosis	Procedure		INFOID:00000000993975	
1.INSPECT	ION START			J
2. Check "S 3. Touch "E		" with CONSULT-III.		SE
See <u>SEC</u> Is the 1st trip	<u>C-81, "DTC Logic"</u> . DTC B261E display			L
	NSPECTION END			M
				Ν
				0

B2108 STEERING LOCK RELAY

Description

The steering lock relay ON signal is transmitted to IPDM E/R by BCM via CAN communication. IPDM E/R turns the steering lock relay ON and transmits the release of the steering to BCM.

DTC Logic

INFOID:000000000993977

INFOID:00000000993978

INFOID:00000000993976

DTC DETECTION LOGIC

NOTE:

- If DTC B2108 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B2108 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29. "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2108	STRG LCK RELAY ON	IPDM E/R detects that the relay is stuck at ON po- sition for about 1 second even if the IPDM E/R re- ceives steering lock relay ON/OFF signal from BCM.	• IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press the push-button ignition switch under the following conditions and wait for at least 1 second.
- CVT selector lever is in the P or N position
- Do not depress the brake pedal.
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to <u>SEC-82, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK FUSE

NO

- 1. Turn ignition switch OFF.
- 2. Check 10A fuse (No. 40, located in IPDM E/R).

Is the inspection normal?

- YES >> Replace IPDM E/R. Refer to PCS-36. "Removal and Installation".
 - >> Check the following.
 - Harness for open or short between IPDM E/R and battery
 - Fuse

B2109 STEERING LOCK RELAY

< COMPONENT DIAGNOSIS >

B2109 STEERING LOCK RELAY

Description

The steering lock relay ON signal is transmitted to IPDM E/R by BCM via CAN communication. IPDM E/R turns the steering lock relay ON and transmits the release of the steering to BCM.

DTC Logic

INFOID-000000000993980

INFOID:000000000993981

INFOID:00000000993979

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DTC DETECTION LOGIC

NOTE:

- If DTC B2109 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to D SEC-28, "DTC Logic".
- If DTC B2109 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B2109	STRG LCK RELAY OFF	IPDM E/R detects that the relay is stuck at OFF po- sition for about 1 second even if the IPDM E/R re- ceives steering lock relay ON/OFF signal from BCM.	• IPDM E/R	F

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- Press the push-button ignition switch under the following conditions and wait for at least 1 second. 1.
- CVT selector lever is in the P or N position
- Do not depress the brake pedal
- Check "Self diagnostic result" with CONSULT-III. 2.

Is DTC detected?

- >> Go to SEC-83, "Diagnosis Procedure". YES
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK FUSE

- 1. Turn ignition switch OFF.
- Check 10A fuse (No. 40, located in IPDM E/R). 2.

Is the inspection normal?

>> Replace IPDM E/R. Refer to PCS-36, "Removal and Installation". YES NO

- Check the following. >>
 - Harness for open or short between IPDM E/R and battery
 - Fuse

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[INTELLIGENT KEY SYSTEM]

B210A STEERING LOCK CONDITION SWITCH

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

B210A STEERING LOCK CONDITION SWITCH

Description

INFOID:000000000993982

There are 2 switches in the steering unit. IPDM E/R compares those 2 switches conditions to judge the present steering status and transmit the result to BCM via CAN communication.

DTC Logic

INFOID:000000000993983

DTC DETECTION LOGIC

NOTE:

- If DTC B210A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B210A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29. "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210A	STRG LCK STATE SW	 BCM detects the mismatch between the following for 1 second Steering lock or unlock Feedback of steering lock status from IPDM E/R (CAN) 	 Harness or connectors [steering lock unit circuit (BCM side) is open or shorted] Harness or connectors [steering lock unit circuit (IPDM E/ R side) is open or shorted.] Steering lock unit IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press the push-button ignition switch under the following conditions and wait for at least 1 second.
- CVT selector lever is in the P or N position
- Do not depress the brake pedal
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to SEC-84, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000000993984

1.INSPECTION START

Check the case in which DTC is detected.

- Case1: It is detected after ignition switch is changed from ON to OFF and door switch is pressed
- Case2: It is detected after ignition switch is changed from ON to OFF

In which case is DTC detected?

Case1 >> GO TO 2...

Case2 >> GO TO 7..

2.check bcm output signal

- 1. Turn ignition switch OFF.
- 2. Disconnect steering lock unit harness connector and IPDM E/R harness connector.
- 3. Check voltage between steering lock unit harness connector and ground.

Steering	lock unit	Ground	Voltage [V]
Connector	Terminal	Ground	voltage [v]
M32	3	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 4..

SEC-84

B210A STEERING LOCK CONDITION SWITCH

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

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Disconnect BCM ha Check continuity be	rness connector. tween steering lock ι	init harness connec	tor and BCM harne	ess connector.
Steering	lock unit	E	ЗСМ	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M32	3	M19	85	Existed
Check continuity be	tween steering lock ι	init harness connec	tor and ground.	
St	eering lock unit		-	
Connector	Termina	l	Ground	Continuity
M32	3		Ground	Not existed
CHECK IPDM E/R O	UTPUT SIGNAL			
Connect IPDM E/R Disconnect BCM ha Check voltage betw		t harness connecto	r and ground.	
Disconnect BCM ha Check voltage betw	rness connector.	t harness connecto	-	Voltago IV/I
Disconnect BCM ha Check voltage betw	rness connector. een steering lock uni		r and ground. Ground	Voltage [V]
Disconnect BCM ha Check voltage betw Ste Connector M32	eering lock unit		-	Voltage [V] Battery voltage
Disconnect BCM ha Check voltage betw Str Connector M32 the inspection result r ES >> Replace ste O >> GO TO 5 CHECK STEERING	een steering lock unit eering lock unit Termina 3 oormal? ering lock unit.	I I F-II	Ground Ground	Battery voltage
Disconnect BCM ha Check voltage betw Str Connector M32 the inspection result r ES >> Replace ste O >> GO TO 5 CHECK STEERING	Irness connector. een steering lock unit eering lock unit Termina 3 ormal? ering lock unit. LOCK UNIT CIRCUIT tween steering lock u	I I I-II Init harness connec	Ground Ground	Battery voltage
Disconnect BCM ha Check voltage betw Connector M32 the inspection result r ES >> Replace ste O >> GO TO 5 CHECK STEERING Check continuity be	Irness connector. een steering lock unit eering lock unit Termina 3 ormal? ering lock unit. LOCK UNIT CIRCUIT tween steering lock u	I I I-II Init harness connec	Ground Ground	Battery voltage
Disconnect BCM ha Check voltage betw Str Connector M32 he inspection result r ES >> Replace ste O >> GO TO 5 CHECK STEERING Check continuity be Steering	Irness connector. een steering lock unit eering lock unit Termina 3 oormal? ering lock unit. LOCK UNIT CIRCUIT tween steering lock u	I I I I I I I I I I I I I I I I I I I	Ground Ground etor and IPDM E/R H	Battery voltage
Disconnect BCM ha Check voltage betw Connector M32 he inspection result r ES >> Replace ste O >> GO TO 5 CHECK STEERING Check continuity be Steering Connector M32	Irness connector. een steering lock unit eering lock unit Termina 3 ormal? ering lock unit. LOCK UNIT CIRCUIT tween steering lock u lock unit Terminal	I I I Init harness connec IPE Connector E17	Ground Ground Ground Etor and IPDM E/R H DM E/R Terminal 32	Battery voltage narness connector. Continuity
Disconnect BCM ha Check voltage betw Connector M32 the inspection result r ES >> Replace ste O >> GO TO 5 CHECK STEERING Check continuity be Steering Connector M32 Check continuity be	Irness connector. een steering lock unit eering lock unit Termina 3 normal? ering lock unit. LOCK UNIT CIRCUIT tween steering lock u lock unit Terminal 3	I I I Init harness connec IPE Connector E17	Ground Ground Ground tor and IPDM E/R h DM E/R Terminal 32 tor and ground.	Battery voltage Description De
Disconnect BCM ha Check voltage betw Connector M32 he inspection result r ES >> Replace ste O >> GO TO 5 CHECK STEERING Check continuity be Steering Connector M32 Check continuity be	Irness connector. een steering lock unit eering lock unit Termina 3 ormal? ering lock unit. LOCK UNIT CIRCUIT tween steering lock u lock unit Terminal 3 tween steering lock u	I I I I I I I I I I I I I I	Ground Ground Ground Etor and IPDM E/R H DM E/R Terminal 32	Battery voltage narness connector. Continuity

O.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> INSPECTION END

7. CHECK BCM OUTPUT SIGNAL

Turn ignition switch OFF. 1.

Disconnect steering lock unit harness connector and IPDM E/R harness connector. Check voltage between steering lock unit harness connector and ground. 2. 3.

SEC-85

B210A STEERING LOCK CONDITION SWITCH

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

Steering lock unit		Ground	Voltage [V]	
Connector	Terminal	Ground	voliage [v]	
M32	8	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 9..

NO >> GO TO 8..

8. CHECK STEERING LOCK UNIT CIRCUIT-I

1. Disconnect BCM harness connector.

2. Check continuity between steering lock unit harness connector and BCM harness connector.

Steering	lock unit	BCM		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M32	8	M19	86	Existed

3. Check continuity between steering lock unit harness connector and ground.

Steering	lock unit	Ground	Continuity	
Connector	Terminal	Gibana	Continuity	
M32	8	Ground	Not existed	

Is the inspection result normal?

YES >> GO TO 11..

NO >> Repair harness or connector.

9.CHECK IPDM E/R OUTPUT SIGNAL

1. Connect IPDM E/R harness connector.

2. Disconnect BCM harness connector.

3. Check voltage between steering lock unit harness connector and ground.

Steering lock unit		Ground	Voltage [V]	
Connector	Terminal	Ground	voltage [v]	
M32	8	Ground	Battery voltage	

Is the inspection result normal?

YES >> Replace steering lock unit.

NO >> GO TO 10..

10.CHECK STEERING LOCK UNIT CIRCUIT-II

1. Check continuity between steering lock unit harness connector and IPDM E/R harness connector.

Steering	lock unit	IPDI	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M32	8	E17	33	Existed

2. Check continuity between steering lock unit harness connector and ground.

Steering	lock unit	Ground	Continuity	
Connector	Terminal	Ciouna		
M32	8	Ground	Not existed	

Is the inspection result normal?

YES >> GO TO 11..

NO >> Repair harness or connector.

11.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> INSPECTION END	А
>> INSPECTION END	1
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B210B STARTER CONTROL RELAY

Description

Starter control relay, integrated in IPDM E/R, permits the starter relay operation when in N or P position and the steering is locked or unlocked. It is installed in parallel with the starter relay.

DTC Logic

INFOID:000000000993986

INFOID:000000000993987

INFOID:00000000993985

DTC DETECTION LOGIC

NOTE:

- If DTC B210B is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B210B is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29. "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210B	START CONT RLY ON	 IPDM E/R detects that the relay is stuck at ON position even if the followings condition are met for about 1 second. Starter control relay ON/OFF signal from BCM Clutch interlock or shift park neutral position (PNP) switch input signal 	• IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn the power supply position to start under the following conditions and wait for at least 1 second.
- CVT selector lever is in the P or N position.
- Depress the brake pedal
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to SEC-88, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Check "Self diagnostic result" with CONSULT-III.
- 3. Touch "ERASE".
- 4. Perform DTC Confirmation Procedure. See <u>PCS-34</u>, "DTC Index".

Is the DTC B210B displayed again?

- YES >> Replace IPDM E/R. Refer PCS-36, "Removal and Installation".
- NO >> INSPECTION END

SEC-88

B210C STARTER CONTROL RELAY

< COMPONENT DIAGNOSIS >

B210C STARTER CONTROL RELAY

Description

Starter control relay, integrated in IPDM E/R, permits the starter relay operation when in N or P position and the steering is locked or unlocked. It is installed in parallel with the starter relay.

DTC Logic

INFOID:000000000993989

INFOID:00000000993988

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DTC DETECTION LOGIC

NOTE:

- If DTC B210C is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B210C is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29, "DTC Logic"</u>.

	DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
	B210C	START CONT RLY OFF	 IPDM E/R detects that the relay is stuck at ON position even if the followings condition are met for about 1 second. Starter control relay ON/OFF signal from BCM Clutch interlock or shift park neutral position (PNP) switch input signal 	• IPDM E/R	(
D	IC CONFI	RMATION PROC	EDURE		ŀ
1	PERFORM	I DTC CONFIRMA	TION PROCEDURE		
1. - -	CVT sele Depress	ctor lever is in the l the brake pedal		nd wait for at least 1 second.	I
2. Is	Check "S DTC detec	•	" with CONSULT-III.		
Y	′ES >> G	Go to <u>SEC-89, "Diac</u>	nosis Procedure".		
		NSPECTION END			S
	•	Procedure		INFOID:00000000933990	
1		ON START			L
1. 2. 3. 4.	Check "S Touch "E		t" with CONSULT-III.		N
	See PCS	-34, "DTC Index".			
Y	′ES >> F		<u>ain?</u> Refer to <u>PCS-36. "Removal and Installatior</u>	<u>"</u> .	ľ
Ν		NSPECTION END			
					(

[INTELLIGENT KEY SYSTEM]

B210D STARTER RELAY

Description

INFOID:000000000993991

[INTELLIGENT KEY SYSTEM]

Located in IPDM E/R, it runs the starter motor. The starter relay is turned ON by the BCM when the ignition switch is in START position. IPDM E/R transmits the starter relay ON signal to BCM via CAN communication.

DTC Logic

INFOID:000000000993992

INFOID:000000000993993

DTC DETECTION LOGIC

NOTE:

- If DTC B210D is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B210D is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29. "DTC Logic"</u>.
- If DTC B210D is displayed with DTC B2617, first perform the trouble diagnosis for DTC B2617. Refer to <u>SEC-76, "DTC Logic"</u>.

DTC	No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210D)	STARTER RELAY ON	 IPDM E/R detects that the relay is stuck at ON position even if the followings condition are met for about 1 second. Starter control relay ON/OFF signal from BCM Clutch interlock or shift park neutral position (PNP) switch input 	• IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Ignition switch ON under the following conditions and wait for at least 1 second.
- A/T selector lever is P or N position
- Do not depress the brake pedal
- 2. Check "Self diagnostic result" with CONSULT-III.

Is DTC detected?

- YES >> Go to SEC-90, "Diagnosis Procedure".
- NO >> INSPECTION END.

Diagnosis Procedure

1. CHECK STARTER RELAY POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect IPDM E/R harness connector.
- 3. Check voltage between IPDM E/R harness connector and ground.

IPDM E/R		Ground		
Connector	Terminal	Ground	Voltage (V)	
E17	36	Ground	Battery voltage	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-36, "Removal and Installation"</u>.

NO >> Check harness for open or short between IPDM E/R and battery.

B210E STARTER RELAY

Description

Located in IPDM E/R, it runs the starter motor. The starter relay is turned ON by the BCM when the ignition switch is in START position. IPDM E/R transmits the starter relay ON signal to BCM via CAN communication.

DTC Logic

INFOID:000000000993995

INFOID:000000000993994

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DTC DETECTION LOGIC

NOTE:

- If DTC B210E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B210E is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-29. "DTC Logic"</u>.

DTC No. Trouble diagnosis DTC detecting condition Possible cause	F
B210E STARTER RELAY OFF IPDM E/R detects that the relay is stuck at ON position even if the followings condition are met for about 1 second. • IPDM E/R • Starter control relay ON/OFF signal from BCM • Clutch interlock or shift park neutral position (PNP) switch input • IPDM E/R	G
DTC CONFIRMATION PROCEDURE	Н
1.PERFORM DTC CONFIRMATION PROCEDURE	
 Turn ignition switch ON under the following conditions and wait for at least 1 second. A/T selector lever is in the P or N position Do not depress the brake pedal Check "Self diagnostic result" with CONSULT-III. 	I
Is DTC detected?	J
YES >> Go to <u>SEC-91, "Diagnosis Procedure"</u> . NO >> INSPECTION END.	SEC
Diagnosis Procedure	
1.INSPECTION START	L
Check which type of transmission the vehicle is equipped with.	
Which type of transmission CVT >> GO TO 2	M
M/T >> GO TO 3	
2.CHECK STARTER RELAY OUTPUT SIGNAL/CVT MODELS	N
 Turn ignition switch OFF. Disconnect BCM harness connector. 	
 Check voltage between BCM harness connector and ground. 	0

-			Condition			onnector	BCM co
I	Voltage (V)	CVT selector le- ver	Brake pedal	Ignition switch	Ground	Terminal	Connector
-	Battery voltage	P or N					
-	0	Other than above	Slightly depressed	ON	Ground	132	M21

Is the inspection result normal?

YES >> GO TO 5..

NO >> GO TO 4..

B210E STARTER RELAY

< COMPONENT DIAGNOSIS >

3.CHECK STARTER RELAY OUTPUT SIGNAL / M/T MODELS

1. Turn ignition switch OFF.

2. Disconnect BCM harness connector.

3. Check voltage between BCM harness connector and ground.

BCM connector		Ground		ondition	Voltage (V)
Connector	Terminal	Giodila	Ignition switch	Clutch pedal	vollage (v)
M21	132	Ground	OFF	Not depressed	0
	132	Giouna	OFF	Depressed	Battery voltage

Is the inspection result normal?

YES >> GO TO 5..

NO >> GO TO 4..

4.CHECK STARTER RELAY OUTPUT SIGNAL CIRCUIT

1. Disconnect IPDM E/R harness connector.

2. Check continuity between BCM harness connector and IPDM E/R harness connector.

В	BCM		IPDM E/R	
Connector	Terminal	Connector	Terminal	Continuity
M21	132	E18	46	Existed

3. Check continuity between BCM harness connector and ground.

В	СМ	Ground	Continuity	
Connector	Terminal	Glouid	Continuity	
M21	132	Ground	Not existed	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-36. "Removal and Installation".

NO >> Repair harness connector.

5.CHECK STARTER RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

- 2. Disconnect IPDM E/R harness connector.
- 3. Check voltage between IPDM E/R harness connector and ground.

IPDN	/IE/R	Ground	Voltage (V)	
Connector	Terminal	Ground	voltage (v)	
E18	46	Ground	Battery voltage	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-36, "Removal and Installation".

NO >> Check harness for open or short between IPDM E/R and battery.

< COMPONENT DIAGNOSIS >

B210F PNP/CLUTCH INTERLOCK SWITCH

Description

IPDM E/R confirms the shift position with the following signals.

- Park/neutral position (PNP) switch (A/T models)
- Clutch inter lock switch (M/T models)
- Shift position signal from BCM (CAN)

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B210F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>
- If DTC B210F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>SEC-28, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	F
B210F	INTER LOCK/PNP SW ON	 IPDM E/R detects a mismatch between the signals below for 1 second or more. Clutch interlock input signal (M/T models) Shift NP switch input signal (A/T models) Shift position signal from BCM (CAN) 	 Harness or connectors [Park/neutral position (PNP) switch circuit is open or shorted (A/T mod- els)] or (Clutch interlock switch cir- cuit is open or shorted.) Clutch interlock switch (M/T mod- els) Park/neutral position (PNP) switch (A/T models) 	G

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

I.PERFORM DTC CONFIRMATION PROCEDURE	
 Turn ignition switch ON under the following conditions and wait for at least 1 second. A/T selector lever is in the P or N position Do not depress the brake pedal 	J
 Check "Self diagnostic result" with CONSULT-III. <u>Is DTC detected?</u> 	SEC
YES >> Go to <u>SEC-93, "Diagnosis Procedure"</u> . NO >> INSPECTION END	L
Diagnosis Procedure	ð
1.INSPECTION START	M
Check which type of transmission the vehicle is equipped with.	•
Which type of transmission	Ν
CVT >> GO TO 2	
M/T >> GO TO 5	
2.CHECK DTC WITH BCM	0
Refer to BCS-72, "DTC Index".	•
Is the inspection result normal?	_
YES >> GO TO 3	Р
NO >> Repair or replace.	
3. CHECK PNP SWITCH INPUT SIGNAL	
1. Turn ignition switch OFF.	•

2. Disconnect IPDM E/R harness connector.

3. Turn ignition switch ON.

4. Check voltage between IPDM E/R harness connector and ground under following condition.

SEC-93

INFOID:00000000993997

INFOID:000000000993998

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< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

IPDN	/I E/R	Ground	C	ondition	Voltage (V)
Connector	Terminal	Gibana	Condition		voltage (v)
E17	30	Ground	CVT selector lever	P or N	0
		Giouna		Other than above	Battery voltage

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-36, "Removal and Installation".

NO >> GO TO 4..

4.CHECK PNP SWITCH CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect TCM harness connector.

3. Check continuity between IPDM E/R harness connector and TCM harness connector.

IPDI	IPDM E/R		ТСМ		
Connector	Terminal	Connector	Terminal	Continuity	
E17	30	F51	9	Existed	

4. Check continuity between IPDM E/R harness connector and ground.

IPDI	M E/R	Ground	Continuity
Connector	Terminal	Glound	Continuity
E17	30	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 8..

NO >> Repair harness or connector.

5. CHECK CLUTCH INTERLOCK SWITCH INPUT SIGNAL (BCM)

1. Turn ignition switch OFF.

2. Disconnect BCM harness connector.

3. Check voltage between BCM harness connector and ground.

B	CM	Ground	Condition		Voltage (V)
Connector	Terminal	Crodina			vollage (V)
M18	22	Ground		Not depressed	0
1110	22	Ground	Clutch pedal	Depressed	Battery voltage

Is the inspection result normal?

YES >> GO TO 6..

NO >> GO TO 11..

6.CHECK CLUTCH INTERLOCK SWITCH INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect IPDM E/R harness connector.

3. Check voltage between IPDM E/R harness connector and ground.

IPD	M E/R	Ground	Condition		Voltage (V)
Connector	Terminal	Ground			voltage (v)
E17	30	Ground	Clutch podal	Not depressed	0
		Ground	Clutch pedal	Depressed	Battery voltage

Is the inspection result normal?

YES >> Replace IPDM E/R.

NO >> GO TO 7..

7. CHECK CLUTCH INTERLOCK SWITCH POWER SUPPLY

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

Disconnect clutch interlock switch harness connector. 1. 2. Check voltage between clutch interlock switch harness connector and ground. А Clutch interlock switch Ground Voltage (V) Connector Terminal В E36 1 Ground Battery voltage Is the inspection result normal? YES >> GO TO 8.. NO >> Check harness for open or short between clutch interlock switch and fuse. 8.check clutch interlock switch circuit D Check continuity between IPDM E/R harness connector and clutch interlock switch harness connector. 1. IPDM E/R Clutch interlock switch Ε Continuity Terminal Connector Connector Terminal E17 30 E36 2 Existed F Check continuity between IPDM E/R harness connector and ground. 2. IPDM E/R Ground Continuity Connector Terminal E17 30 Not existed Ground Is the inspection result normal? Н YES >> GO TO 9.. NO >> Repair harness or connector. 9.CHECK CLUTCH INTERLOCK SWITCH Refer to SEC-95, "Component Inspection". Is the inspection result normal? YES >> GO TO 11.. NO >> Replace clutch interlock switch. 10.check clutch interlock switch input signal circuit SEC 1. Disconnect clutch interlock switch harness connector. Check continuity between BCM harness connector and clutch interlock switch harness connector. 2. BCM Clutch interlock switch Continuity Terminal Connector Terminal Connector E36 Μ M18 22 2 Existed Check continuity between BCM harness connector and ground. 3. Ν BCM Ground Continuity Connector Terminal M18 22 Ground Not existed Is the inspection result normal? YES >> GO TO 11.. NO >> Repair harness or connector. 11.CHECK INTERMITTENT INCIDENT Refer to GI-39, "Intermittent Incident". >> INSPECTION END

Component Inspection

< COMPONENT DIAGNOSIS >

1. CHECK CLUTCH INTERLOCK SWITCH

- Turn ignition switch OFF. 1.
- 2.
- Disconnect clutch interlock switch harness connector. Check continuity between clutch interlock switch under the following conditions. 3.

Clutch interlock switch		Condition		Continuity	
Connector	Teri	minal	Condition		Continuity
E36	1	2	Clutch pedal	Not depressed	Not existed
	I	2	Clutch pedal	Depressed	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace clutch interlock switch.

< COMPONENT DIAGNOSIS >

B2110 PNP/CLUTCH INTERLOCK SWITCH

Description

IPDM E/R confirms the shift position with the following signals.

- Park/neutral position (PNP) switch (A/T models)
- Clutch inter lock switch (M/T models)
- Shift position signal from BCM (CAN)

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2110 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>SEC-28, "DTC Logic"</u>.
- If DTC B2110 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to SEC-29, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	F
B2110	INTER LOCK/PNP SW	IPDM E/R detects mismatch between the signals below for 1 second or more.Clutch interlock input signal (M/T models)Shift NP switch input signal (A/T models)	 Harness or connectors [Park/neutral position (PNP) switch circuit is open or shorted (A/T mod- els)] or (Clutch interlock switch circuit is open or shorted.) Clutch inter lock switch (MT models) Park/neutral position (PNP) switch (AT models) 	G H

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

 Turn the ignition switch ON under the following conditions and wait for at least 1 second. A/T selector lever is in the P or N position 	J
- Do not depress the brake pedal	
Check "Self diagnostic result" with CONSULT-III.	SEC
Is DTC detected?	
YES >> Go to <u>SEC-97, "Diagnosis Procedure"</u> .	
NO >> INSPECTION END	L
Diagnosis Procedure	
1.INSPECTION START	M
Check which type of transmission the vehicle is equipped with.	
Which type of transmission is equipped?	
CVT >> GO TO 2	Ν
M/T >> GO TO 5	
2. СНЕСК DTC WITH TCM	0
Refer to TM-194, "DTC Index" (RE0F09B) or TM-348, "DTC Index" (RE0F10A).	0
Is the inspection result normal?	
YES >> GO TO 3	Р
NO >> Repair or replace.	
3. CHECK PNP SWITCH INPUT SIGNAL	
1. Turn ignition switch OFF.	

2. Disconnect IPDM E/R harness connector.

3. Turn ignition switch ON.

4. Check voltage between IPDM E/R harness connector and ground under following condition.

SEC-97

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< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

IPDM E/R		Ground Co		ondition	Voltage (V)	
Connector	Terminal	Glound	Condition		voltage (v)	
E17	30	Ground	CVT selector lever	P or N	0	
L1/	30	Ground		Other than above	Battery voltage	

Is the inspection result normal?

YES >> Replace IPDM E/R.

NO >> GO TO 4..

4.CHECK PNP SWITCH CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect TCM harness connector.

3. Check continuity between IPDM E/R harness connector and TCM harness connector.

IPDI	M E/R	T	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
E17	30	F16	20	Existed

4. Check continuity between IPDM E/R harness connector and ground.

IPDI	M E/R	Ground	Continuity	
Connector	Terminal	Giodila		
E17	30	Ground	Not existed	

Is the inspection result normal?

YES >> GO TO 8..

NO >> Repair harness or connector.

5. CHECK CLUTCH INTERLOCK SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R harness connector.

3. Check voltage between IPDM E/R harness connector and ground.

IPDM E/R		Ground C		Condition	Voltage (V)		
Connector	Terminal			Ground	Condition		voltage (v)
E17	30	Ground	Clutch pedal	Not depressed	0		
		Ground	Clutch pedal	Depressed	Battery voltage		

Is the inspection result normal?

YES >> Replace IPDM E/R.

NO >> GO TO 6..

6.CHECK CLUTCH INTERLOCK SWITCH POWER SUPPLY

1. Disconnect clutch interlock switch harness connector.

2. Check voltage between clutch interlock switch harness connector and ground.

Clutch inte	rlock switch	Ground	Voltago (V/)	
Connector	Connector Terminal		Voltage (V)	
E36	1	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 7..

NO >> Check harness for open or short between clutch interlock switch and fuse.

1.CHECK CLUTCH INTERLOCK SWITCH CIRCUIT

1. Check continuity between IPDM E/R harness connector and clutch interlock switch harness connector.

SEC-98

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

		IPDM E/F	२		Clutch interlock	k switch	Continuity
Co	onnector		Terminal	Conn	ector	Terminal	Continuity
	E17		30	E	36	2	Existed
. Check	continuit	ty betwe	en IPDM E/	R harness conn	ector and gro	und.	
		IPI	DM E/R		Gro	und	Continuity
	Connecto	r	Т	erminal	0.0		
	E17			30	Gro	und	Not existed
NO >> B.CHECK	> GO TO > Repair CLUTCI	8 harness H INTEI	s or connecto RLOCK SWI	ТСН			
s the inspe YES >> NO >>	ection res > GO TO > Replace	<u>sult norr</u> 9 e clutch	interlock sw	ritch.			
			T INCIDENT				
Refer to <u>GI</u>	<u>-39, "Inte</u>	ermitten	<u>t Incident"</u> .				
>>	> INSPE		END				
Compon							INFOID:00000000099400
			RLOCK SWI	тсн			
2. Discon		ch inter	lock switch h	narness connect terlock switch ur		ving condition	ns.
Clutch ir	nterlock sw	vitch		ondition	Continuity	-	
Connector	Term	inal			Continuity	_	
E36	1	2	Clutch pedal	Not depressed	Not existed	_	
				Depressed	Existed	_	
	> INSPE	CTION		ritch.			

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POWER SUPPLY AND GROUND CIRCUIT **BCM**

BCM : Diagnosis Procedure

1. CHECK FUSE AND FUSIBLE LINK

Check if the following BCM fuse or fusible link are blown.

Terminal No.	Signal name	Fuse and fusible link No.	
1	Battery power supply	J	
11	Dattery power supply	10	

Is the fuse or fusible link blown?

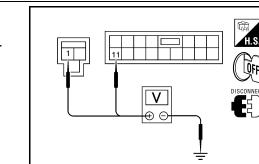
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2..

2. CHECK POWER SUPPLY CIRCUIT

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

	Terminals			
(+)	(-)	Voltage	
B	СМ		(Approx.)	
Connector	Terminal	Ground		
M16	1	Giouna	Battery voltage	
M17	11	†	Dattery Voltage	



Is the measurement normal?

YES >> GO TO 3..

NO >> Repair or replace harness.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

B	CM		Continuity
Connector	Terminal	Ground	Continuity
M17	13	†	Existed

Does continuity exist?

YES >> Inspection End

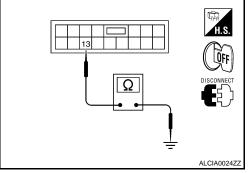
NO >> Repair or replace harness.

BCM : Special Repair Requirement

REQUIRED WORK WHEN REPLACING BCM

Initialize control unit. Refer to CONSULT-III operation manual.

>> Work end. IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) : Diagnosis Procedure INFOID:000000000994007



INFOID:000000000994006

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SEC-100

INFOID-000000000994005

POWER SUPPLY AND GROUND CIRCUIT

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

1.CHECK FUSES AND FUSIBLE LINK

Check that the following IPDM E/R fuses or fusible link are not blown.

Terminal No.	Signal name	Fuses and fusible link No.	В
1, 2		B, D	
	Battery power supply	42	-
—		43	С

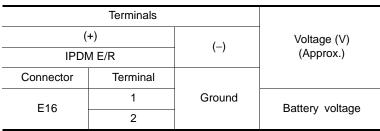
Is the fuse blown?

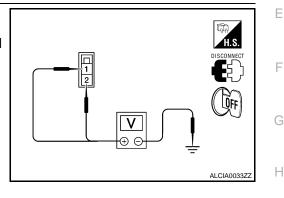
YES >> Replace the blown fuse or fusible link after repairing the affected circuit.

NO >> GO TO 2..

2. CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect IPDM E/R connectors.
- Check voltage between IPDM E/R harness connector and ground.





Is the measurement value normal?

YES >> GO TO 3..

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

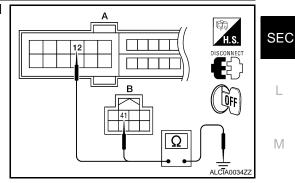
Check continuity between IPDM E/R harness connectors and ground.

IPDM I	E/R		Continuity
Connector	Terminal	Ground	Continuity
A: E18	12	Ground	Yes
B: E17	41		Tes

Does continuity exist?

YES >> Inspection End.

NO >> Repair harness or connector.



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KEY SLOT

Diagnosis Procedure

1. CHECK KEY SLOT POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect key slot connector.

3. Check voltage between slot connector and ground.

Key	slot	Ground	Voltage (V)
Connector	Terminal	Ground	(Approx.)
 M40	1	Ground	Battery voltage
M40	5	Ground	Dattery voltage

Is the inspection result normal?

YES >> GO TO 2..

NO >> Repair or replace key slot power supply circuit.

2. CHECK KEY SLOT GROUND CIRCUIT

Check continuity between key slot connector and ground.

Keys	slot	Ground	Continuity
Connector	Terminal	Ground	Continuity
M40	7	Ground	Existed

Is the inspection result normal?

YES >> GO TO 3..

NO >> Repair or replace key slot ground circuit.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> INSPECTION END

INFOID:000000000994008

[INTELLIGENT KEY SYSTEM]

KEY SLOT ILLUMINATION

< COMPONENT				[INTELI	LIGENT KEY SYSTEM]
KEY SLOT	ILLUMINA	TION			
Description					INFOID:00000000994009
Blinks when Intel	lligent Key inse	rtion is requ	ired.		
Component I	Function Cl	neck			INFOID:00000000994010
CHECK FUNC	CTION				
		Y SLOT ILL	UMI") Active Test mod	le.	
<u>s the inspection</u> YES >> Key	result normal? slot function is	OK			
	er to <u>SEC-103.</u>		Procedure".		
Diagnosis Pro	ocedure				INFOID:00000000994011
CHECK KEY			TPUT SIGNAL		
Check voltage be					
	Terminals				1
(+)			Key slot	Voltage (V)
Key slot	Terminal	()	Condition	illumination	(Approx.)
connector			Intelligent Key inserted	OFF	Battery voltage
M40	6	Ground	Intelligent Key removed	ON	0
s the inspection YES >> GO ⁻ NO >> GO ⁻ 2.CHECK KEY	TO 6 TO 2	SUPPLY C	IRCUIT		
. Turn ignition 2. Disconnect k		tor.			
		Termina			
	(+)				Voltage (V) (Approx.)
Key slot co	onnector	Termin	al	(-)	(πρριοχ.)
M4	0	1	G	round	Battery voltage
s the inspection	result normal?				
YES >> GO NO >> Repa	air or replace k	•	er supply circuit.		
YES >> GO NO >> Repa 3. CHECK KEY	air or replace k SLOT GROUN	DCIRCUIT			
YES >> GO NO >> Repa 3.CHECK KEY	air or replace k SLOT GROUN	DCIRCUIT			
YES >> GO	air or replace k SLOT GROUN between key s	DCIRCUIT	or and ground.	Ground	Continuity

YES >> GO TO 4..

NO >> Repair or replace key slot ground circuit.

SEC-103

KEY SLOT ILLUMINATION

< COMPONENT DIAGNOSIS >

4. CHECK KEY SLOT CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM and key slot connector.
- 3. Check continuity between BCM connector and key slot connector.

BCM connector	Terminal	Key slot connector	Terminal	Continuity
M19	80	M40	6	Existed

4. Check continuity between BCM connector and ground.

BCM connector	Terminal	Orregard	Continuity
M19	80	Ground	Not existed

Is the inspection result normal?

YES >> GO TO 5..

NO >> Repair or replace harness between BCM and key slot.

5. CHECK KEY SLOT

Refer to DLK-58, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6..

NO >> Replace key slot. Refer to <u>SEC-227</u>, "Removal and Installation".

6.CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

>> INSPECTION END.

KEY CYLINDER SWITCH

Description

Power window main switch detects condition of the door key cylinder switch and transmits to BCM as the LOCK or UNLOCK signals.

Component Function Check

1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

Check ("KEY CYL LK-SW", "KEY CYL UN-SW") in "DATA MONITOR" mode for "POWER DOOR LOCK SYS-TEM" with CONSULT-III. Refer to <u>DLK-32, "DOOR LOCK : CONSULT-III Function (BCM - DOOR LOCK)"</u>.

Monitor item	Co	Condition	
KEY CYL LK-SW	Lock	: ON	
KET CTL LK-SW	Neutral / Unlock	: OFF	
	Unlock	: ON	ľ
KEY CYL UN-SW	Neutral / Lock	: OFF	

Is the inspection result normal?

- YES >> Key cylinder switch is OK.
- NO >> Refer to <u>SEC-105, "Diagnosis Procedure"</u>.

Diagnosis Procedure

1.CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

- 1. Turn ignition switch ON.
- 2. Check voltage between BCM connector and ground.

	Terminals				J		
(+)	(+)		(+)		Key position Voltage (V) (Approx.)		
BCM	Terminal	()	SEC				
	M18 56 34	50	Lock	Lock	0		
M4.9		50	30		Neutral / Unlock	5	_
IVITO		24	Ground	Unlock	0	- L	
			Neutral / Lock	5	_		

Is the inspection result normal?

YES >> Replace power window main switch. Refer to <u>PWC-135</u>, "<u>Removal and Installation</u>". After that, Refer to <u>PWC-73</u>, "<u>POWER WINDOW MAIN SWITCH</u>: <u>Special Repair Requirement</u>".

```
NO >> GO TO 2..
```

1. Turn ignition switch OFF.

- 2. Disconnect BCM connector and front door lock assembly LH (key cylinder switch) connector.
- 3. Check continuity between BCM connector and front door lock assembly LH (key cylinder switch) connector.

BCM	Terminal	Front door lock assembly LH (key cylinder switch) connector	Terminal	Continuity
 M18	34	D15	6	Existed
in to	56	5	5	LNSIEU

4. Check continuity between BCM connector and ground.

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INFOID:00000000994012

INFOID:000000000994013

INFOID:000000000994014

KEY CYLINDER SWITCH

< COMPONENT DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

BCMF	Terminal		Continuity
M18	34	Ground	Not existed
1010	56		NUL EXISIEU

Is the inspection result normal?

YES >> GO TO 3..

NO >> Repair or replace harness.

$\mathbf{3.}$ Check door key cylinder switch ground circuit

Check continuity between front door lock assembly LH connector and ground.

Front door lock assembly LH connector	Terminal	Ground	Continuity
D10	4	Ground	Existed

Is the inspection result normal?

YES >> GO TO 4..

NO >> Repair or replace harness.

4.CHECK DOOR KEY CYLINDER SWITCH

Check door key cylinder switch.

Refer to SEC-106, "Component Inspection".

Is the inspection result normal?

- YES >> Check intermittent incident. Refer to GI-39, "Intermittent Incident".
- NO >> Replace front door lock assembly LH (key cylinder switch). Refer to <u>DLK-176. "FRONT DOOR</u> <u>LOCK : Removal and Installation"</u>. After that, Refer to <u>PWC-93, "Special Repair Requirement"</u>.

Component Inspection

COMPONENT INSPECTION

1.CHECK DOOR KEY CYLINDER SWITCH

Check front door lock assembly LH (key cylinder switch).

Terminal Front door lock assembly LH (key cylinder switch) connector			
		Key position	Continuity
5	4	Unlock	Existed
5		Neutral / Lock	Not existed
6	4	Lock	Existed
	-	Neutral / Unlock	Not existed

Is the inspection result normal?

YES >> Key cylinder switch is OK.

NO >> Replace front door lock assembly LH (key cylinder switch). Refer to <u>DLK-176, "FRONT DOOR</u> <u>LOCK : Removal and Installation"</u>. After that, Refer to <u>PWC-93, "Special Repair Requirement"</u>.

INFOID:000000000994015

HORN					
Description					INFOID:00000000994016
Horn (high/low) is loca	ted inside of fror	nt bumper and	loperates	when theft warning s	system is in alarm phase.
Component Fund	tion Check	·			INFOID:00000000994017
1. CHECK FUNCTION	N.				
1. Select "HORN" in		mode with C	ONSULT-II		
2. Check the horn (h					
Test	item			Description	
HORN	ON	Horn relay			20 ms)
Is the operation norma YES >> INSPECT NO >> Go to <u>SEC</u>		s Procedure"			
Diagnosis Proced	dure				INFOID:00000000994018
1.CHECK HORN FUI	NCTION				
YES >> GO TO 2 NO >> Go to HR 2.CHECK HORN REI 1. Turn ignition switc 2. Perform "ACTIVE	<u>N-3, "Wiring Diac</u> LAY POWER SU h ON. TEST" ("HORN"	JPPLY		ground.	
YES >> GO TO 2 NO >> Go to <u>HRM</u> 2.CHECK HORN REI 1. Turn ignition switc 2. Perform "ACTIVE	N-3, "Wiring Diac LAY POWER SU h ON. TEST" ("HORN" ween horn relay	JPPLY) with CONSL harness conr			Voltage (V)
NO >> Go to HRM 2.CHECK HORN REI 1. Turn ignition switc 2. Perform "ACTIVE 3. Check voltage bet	N-3, "Wiring Diac LAY POWER SU h ON. TEST" ("HORN" ween horn relay	JPPLY		Test item	(Applox.)
YES >> GO TO 2 NO >> Go to HRM 2.CHECK HORN REI 1. Turn ignition switc 2. Perform "ACTIVE 3. Check voltage bet Horn rela	N-3, "Wiring Diag LAY POWER SU h ON. TEST" ("HORN" ween horn relay	JPPLY) with CONSL harness conr		Test item	(Applox.) $0 \rightarrow Battery voltage \rightarrow 0$
YES >> GO TO 2 NO >> Go to HRM 2.CHECK HORN REI 1. Turn ignition switc 2. Perform "ACTIVE 3. Check voltage bet Horn rela Connector H-1	N-3, "Wiring Diag LAY POWER SU h ON. TEST" ("HORN" ween horn relay ay1/2 Terminal	JPPLY) with CONSL harness conr Ground	nector and	Test item	(Applox.)
$\begin{array}{rrrr} YES >> GO TO 2\\ NO >> Go to HRM \\ \hline 2.CHECK HORN RED \\ \hline 1. Turn ignition switc \\ 2. Perform "ACTIVE \\ \hline 3. Check voltage bet \\ \hline \\ $	N-3, "Wiring Diag LAY POWER SU h ON. TEST" ("HORN" ween horn relay ay1/2 Terminal 1 1 tormal? LAY CIRCUIT h OFF. E/R and horn relay	JPPLY) with CONSL harness conr Ground Ground Iay connector.	HORN	Test item	$(Applox.)$ $0 \rightarrow Battery voltage \rightarrow 0$ 0
$\begin{array}{rrrr} YES >> GO TO 2\\ NO >> Go to HRM \\ \hline 2.CHECK HORN REI \\ \hline 1. Turn ignition switc \\ 2. Perform "ACTIVE \\ \hline 3. Check voltage bet \\ \hline \\ $	N-3, "Wiring Diag LAY POWER SL h ON. TEST" ("HORN" ween horn relay hy1/2 Terminal 1 1 t normal? LAY CIRCUIT h OFF. E/R and horn relation between IPDM E	JPPLY) with CONSL harness conr Ground Ground Iay connector.	HORN	Test item ON Other than above d horn relay harnes	$(Applox.)$ $0 \rightarrow Battery voltage \rightarrow 0$ 0
$\begin{array}{rrrr} YES >> GO TO 2\\ NO >> Go to HRM \\ \hline 2.CHECK HORN REI \\ \hline 1. Turn ignition switc \\ 2. Perform "ACTIVE \\ \hline 3. Check voltage bet \\ \hline \\ $	N-3, "Wiring Diag LAY POWER SU h ON. TEST" ("HORN" ween horn relay ay1/2 Terminal 1 1 tormal? LAY CIRCUIT h OFF. E/R and horn relay	JPPLY) with CONSL harness conr Ground Ground lay connector. /R harness co	HORN	Test item ON Other than above	$(Applox.)$ $0 \rightarrow Battery voltage \rightarrow 0$ 0

IPDM E/R		Ground	Continuity
Connector	Terminal	Ground	Continuity
E18	44	Ground	Not existed

Is the inspection result normal?

< COMPONENT DIAGNOSIS >

NO >> Repair or replace harness.

4. CHECK INTERMITTENT INCIDENT

Refer to GI-39, "Intermittent Incident".

Is the inspection result normal?

>> Replace IPDM E/R.Refer to <u>PCS-36. "Removal and Installation"</u>. >> Repair or replace the malfunctioning parts. YES

NO

< COMPONENT DIAGNOSIS >

HEADLAMP	A
Description	A 000000994019
Headlamp lighting when theft warning system is alarm phase.	В
Component Function Check	000000994020
1. CHECK HEADLAMP OPERATION	С
Check if headlamp operate by lighting switch.	
Does headlamp come on when turning switch "ON"? YES >> Headlamp circuit is OK. NO >> Check headlamp system. Refer to SEC-109, "Diagnosis Procedure".	D
Diagnosis Procedure	000000994021
1.CHECK HEADLAMP OPERATION	
Refer to EXL-30, "Diagnosis Procedure".	F
Is the inspection result normal?	
YES >> GO TO 2 NO >> Repair or replace.	G
2. CHECK INTER MITTENT INCIDENT	
Refer to GI-39, "Intermittent Incident".	Н
Is the inspection result normal?	
>> INSPECTION END.	I
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< COMPONENT DIAGNOSIS >

WARNING LAMP

Description

- Warning lamp is built in combination meter.
- Intelligent Key system malfunction is reported to the driver by the warning lamp illumination.

Component Function Check

1.CHECK FUNCTION

- 1. Perform "INDICATOR" in the "Active Test" mode with CONSULT-III.
- 2. Check warning lamp operation.

Test	tem	Desci	iption
INDICATOR	ON	Warning Jamp	ON
INDICATOR	OFF	Warning lamp	OFF

Is the inspection result normal?

YES >> INSPECTION END.

NO >> Go to <u>SEC-110</u>, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK "UNIFIED METER."

Check unified meter function. Refer to MWI-3, "Work Flow".

Is the inspection result is normal?

YES >> GO TO 2..

NO >> Repair or replace the malfunctioning parts.

2. CHECK INTERMITTENT INCIDENT

Refer to GI-39. "Intermittent Incident".

>> INSPECTION END.

INFOID:000000000994022

INEOID:000000000994023

INFOID:000000000994024

VEHICLE SECURITY INDICATOR

< COMPONENT DIAGNOSIS >

VEHICLE SECURITY INDICATOR

Description

- Vehicle security indicator is built in combination meter.
- В • NVIS (Infinity Vehicle Immobilizer System-NATS) and vehicle security system conditions are indicated by blink or illumination of vehicle security indicator.

Component Function Check

1.CHECK FUNCTION

- 1. Perform "THEFT IND" in the "ACTIVE TEST" mode with CONSULT-III.
- 2. Check vehicle security indicator operation.

lest i	tem	Des	scription	E
	ON		ON	
THEFT IND	OFF	 Vehicle security indicator 	OFF	
ls the inspection result norm	al?	•		F
YES >> INSPECTION E NO >> Go to <u>SEC-111</u> ,	ND. "Diagnosis Procedure".			(
Diagnosis Procedure			INFOID:00	000000000994027
1. CHECK "UNIFIED METE Check unified meter. Refer to				ŀ
Is the inspection result is nor YES >> GO TO 2		rts.		
2. CHECK INTERMITTENT	•			

>> INSPECTION END.

[INTELLIGENT KEY SYSTEM]

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INFOID:000000000994025

INFOID:000000000994026

< ECU DIAGNOSIS >

ECU DIAGNOSIS BCM (BODY CONTROL MODULE)

Reference Value

INFOID:00000000994028

VALUES ON THE DIAGNOSIS TOOL

FR WIPER HI Other than front wiper switch HI OFF FR WIPER LOW Other than front wiper switch LO OFF FR WIPER LOW Other than front wiper switch LO OFF FR WASHER SW Front wiper switch OFF OFF FR WASHER SW Front washer switch ON ON FR WIPER INT Other than front wiper switch INT OFF FR WIPER STOP Front wiper switch INT OFF FR WIPER STOP Front wiper is not in STOP position OFF Front wiper is in STOP position OFF OFF TURN SIGNAL R Uher than turn signal switch RH OFF TURN SIGNAL L Other than turn signal switch 1ST and 2ND OFF TAIL LAMP SW Other than lighting switch 1ST and 2ND OFF HI BEAM SW Other than lighting switch 2ND ON HI BEAM SW Other than lighting switch 2ND OFF HEAD LAMP SW 2 Other than lighting switch 2ND OFF
Front wiper switch HIONFR WIPER LOWOther than front wiper switch LOOFFFront wiper switch LOONFR WASHER SWFront washer switch OFFOFFFront washer switch ONONFR WIPER INTOther than front wiper switch INTOFFFront wiper switch INTOFFFront wiper switch INTOFFFront wiper switch INTONFR WIPER STOPFront wiper is not in STOP positionOFFFront wiper is in STOP positionONINT VOLUMEWiper intermittent dial is in a dial position 1 - 7Wiper intermittent dial positionTURN SIGNAL ROther than turn signal switch RHOFFTURN SIGNAL LOther than turn signal switch LHOFFTURN SIGNAL LOther than lighting switch 1ST and 2NDOFFTAIL LAMP SWOther than lighting switch HIOFFHI BEAM SWOther than lighting switch 2NDOFFHEAD LAMP SW 1Other than lighting switch 2NDOFFHEAD LAMP SW 2Other than lighting switch 2NDOFF
FR WIPER LOW Front wiper switch LO ON FR WASHER SW Front washer switch OFF OFF Front washer switch ON ON FR WIPER INT Other than front wiper switch INT OFF FR WIPER STOP Front wiper is not in STOP position OFF FR WIPER STOP Front wiper is not in STOP position ON INT VOLUME Wiper intermittent dial is in a dial position 1 - 7 Wiper intermittent dial position TURN SIGNAL R Other than turn signal switch RH OFF TURN SIGNAL L Other than lighting switch 1ST and 2ND OFF TAIL LAMP SW Other than lighting switch 1ST and 2ND OFF HI BEAM SW Other than lighting switch 2ND OFF HEAD LAMP SW 1 Other than lighting switch 2ND OFF HEAD LAMP SW 2 Other than lighting switch 2ND OFF
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Front wiper is in STOP positionONINT VOLUMEWiper intermittent dial is in a dial position 1 - 7Wiper intermittent dial positionTURN SIGNAL ROther than turn signal switch RHOFFTURN SIGNAL LOther than turn signal switch LHONTURN SIGNAL LOther than turn signal switch LHOFFTurn signal switch LHONTAIL LAMP SWOther than lighting switch 1ST and 2NDOFFHI BEAM SWOther than lighting switch HIOFFHEAD LAMP SW 1Other than lighting switch 2NDOFFHEAD LAMP SW 2Other than lighting switch 2NDOFF
TURN SIGNAL ROther than turn signal switch RHOFFTurn signal switch RHONTURN SIGNAL LOther than turn signal switch LHOFFTurn signal switch LHONTAIL LAMP SWOther than lighting switch 1ST and 2NDOFFLighting switch 1ST or 2NDONHI BEAM SWOther than lighting switch HIOFFLighting switch HIOFFLighting switch HIOFFLighting switch 2NDOFFHEAD LAMP SW 1Other than lighting switch 2NDOFFHEAD LAMP SW 2Other than lighting switch 2NDOFF
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Turn signal switch RHONTURN SIGNAL LOther than turn signal switch LHOFFTurn signal switch LHONTAIL LAMP SWOther than lighting switch 1ST and 2NDOFFLighting switch 1ST or 2NDONHI BEAM SWOther than lighting switch HIOFFLighting switch HIONHEAD LAMP SW 1Other than lighting switch 2NDOFFLighting switch 2NDOFFOther than lighting switch 2NDOFF
TURN SIGNAL LTurn signal switch LHONTAIL LAMP SWOther than lighting switch 1ST and 2NDOFFLighting switch 1ST or 2NDONHI BEAM SWOther than lighting switch HIOFFLighting switch HIONHEAD LAMP SW 1Other than lighting switch 2NDOFFLighting switch 2NDONHEAD LAMP SW 2Other than lighting switch 2NDOFF
Turn signal switch LHONTAIL LAMP SWOther than lighting switch 1ST and 2NDOFFLighting switch 1ST or 2NDONHI BEAM SWOther than lighting switch HIOFFLighting switch HIONHEAD LAMP SW 1Other than lighting switch 2NDOFFLighting switch 2NDONHEAD LAMP SW 2Other than lighting switch 2NDOFF
TAIL LAMP SWLighting switch 1ST or 2NDONHI BEAM SWOther than lighting switch HIOFFLighting switch HIONHEAD LAMP SW 1Other than lighting switch 2NDOFFLighting switch 2NDONHEAD LAMP SW 2Other than lighting switch 2NDOFF
Lighting switch 1ST or 2NDONHI BEAM SWOther than lighting switch HIOFFLighting switch HIONHEAD LAMP SW 1Other than lighting switch 2NDOFFLighting switch 2NDONHEAD LAMP SW 2Other than lighting switch 2NDOFF
HI BEAM SW Lighting switch HI ON HEAD LAMP SW 1 Other than lighting switch 2ND OFF Lighting switch 2ND ON HEAD LAMP SW 2 Other than lighting switch 2ND OFF
Lighting switch HIONHEAD LAMP SW 1Other than lighting switch 2NDOFFLighting switch 2NDONHEAD LAMP SW 2Other than lighting switch 2NDOFF
HEAD LAMP SW 1 Lighting switch 2ND ON HEAD LAMP SW 2 Other than lighting switch 2ND OFF
Lighting switch 2ND ON HEAD LAMP SW 2 Other than lighting switch 2ND OFF
HEAD LAMP SW 2
Lighting switch 2ND ON
PASSING SW OFF
Lighting switch PASS ON
AUTO LIGHT SW Other than lighting switch AUTO OFF
Lighting switch AUTO ON
FR FOG SW Front fog lamp switch OFF OFF
Front fog lamp switch ON ON
DOOR SW-DR Driver door closed OFF
Driver 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

< ECU DIAGNOSIS >

Monitor Item	Condition	dition Value/Status		
DOOR SW-BK	NOTE: This item is displayed, but cannot be monitored.	OFF		
	Other than power door lock switch LOCK	OFF		
CDL LOCK SW	Power door lock switch LOCK	ON		
	Other than power door lock switch UNLOCK	OFF		
CDL UNLOCK SW	Power door lock switch UNLOCK	ON		
	Other than driver door key cylinder LOCK position	OFF		
KEY CYL LK-SW	Driver door key cylinder LOCK position	ON		
	Other than driver door key cylinder UNLOCK position	OFF		
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	ON		
KEY CYL SW-TR	NOTE: This item is displayed, but cannot be monitored.	OFF		
	When hazard switch is not pressed	OFF		
HAZARD SW	When hazard switch is pressed	ON		
REAR DEF SW	When rear window defogger switch is pressed	ON		
FAN ON SIG	When AUTO switch or fan switch is pressed	ON		
AIR COND SW	When A/C switch is pressed	ON		
	Trunk lid opener cancel switch OFF	OFF		
TR CANCEL SW	Trunk lid opener cancel switch ON	ON		
	Trunk lid opener switch OFF	OFF		
TR/BD OPEN SW	While the trunk lid opener switch is turned ON	ON		
	Trunk lid closed	OFF		
TRNK/HAT MNTR	Trunk lid opened	ON		
	When LOCK button of Intelligent Key is not pressed	OFF		
RKE-LOCK	When LOCK button of Intelligent Key is pressed	ON		
	When UNLOCK button of Intelligent Key is not pressed	OFF		
RKE-UNLOCK	When UNLOCK button of Intelligent Key is pressed	ON		
	When TRUNK OPEN button of Intelligent Key is not pressed	OFF		
RKE-TR/BD	When TRUNK OPEN button of Intelligent Key is pressed	ON		
	When PANIC button of Intelligent Key is not pressed	OFF		
RKE-PANIC	When PANIC button of Intelligent Key is pressed	ON		
	When UNLOCK button of Intelligent Key is not pressed and held	OFF		
RKE-P/W OPEN	When UNLOCK button of Intelligent Key is pressed and held	ON		
	When LOCK/UNLOCK button of Intelligent Key is not pressed and held simultaneously	OFF		
RKE-MODE CHG	When LOCK/UNLOCK button of Intelligent Key is pressed and held simultaneously	ON		
OPTICAL (LIGHT) SEN-	When outside of the vehicle is bright	Close to 5 V		
SOR	When outside of the vehicle is dark	Close to 0 V		
	When driver door request switch is not pressed	OFF		
REQ SW-DR	When driver door request switch is pressed	ON		
	When passenger door request switch is not pressed	OFF		
REQ SW-AS	When passenger door request switch is pressed	ON		
	When trunk request switch is not pressed	OFF		
REQ SW-BD/TR	When trunk request switch is pressed	ON		

< ECU DIAGNOSIS >

Monitor Item	Condition	Value/Status
PUSH SW	When engine switch (push switch) is not pressed	OFF
PUSH 3W	When engine switch (push switch) is pressed	ON
IGN RLY -F/B	Ignition switch OFF or ACC	OFF
IGN KLT -F/D	Ignition switch ON	ON
ACC RLY -F/B	Ignition switch OFF	OFF
ACC RLY -F/B	Ignition switch ACC or ON	ON
	When the clutch pedal is not depressed	OFF
CLUTCH SW	When the clutch pedal is depressed	ON
	When the brake pedal is not depressed	ON
BRAKE SW 1	When the brake pedal is depressed	OFF
	When selector lever is in P position	OFF
DETE/CANCL SW	When selector lever is in any position other than P	ON
	When selector lever is in any position other than P or N	OFF
SFT PN/N SW	When selector lever is in P or N position	ON
	Electronic steering column lock LOCK status	OFF
S/L -LOCK	Electronic steering column lock UNLOCK status	ON
o#	Electronic steering column lock UNLOCK status	OFF
S/L -UNLOCK	Electronic steering column lock LOCK status	ON
	Ignition switch OFF or ACC	OFF
S/L RELAY-F/B	Ignition switch ON	ON
	Driver door UNLOCK status	OFF
UNLK SEN-DR	Driver door LOCK status	ON
	When engine switch (push switch) is not pressed	OFF
PUSH SW -IPDM	When engine switch (push switch) is pressed	ON
	Ignition switch OFF or ACC	OFF
IGN RLY1 F/B	Ignition switch ON	ON
	When selector lever is in P position	OFF
DETE SW -IPDM	When selector lever is in any position other than P	ON
	When selector lever is in any position other than P or N	OFF
SFT PN -IPDM	When selector lever is in P or N position	ON
	When selector lever is in any position other than P	OFF
SFT P -MET	When selector lever is in P position	ON
	When selector lever is in any position other than N	OFF
SFT N -MET	When selector lever is in N position	ON
	Engine stopped	STOP
ENGINE STATE	While the engine stalls	STALL
	At engine cranking	CRANK
	Engine running	RUN
	Electronic steering column lock LOCK status	OFF
S/L LOCK-IPDM	Electronic steering column lock UNLOCK status	ON
	Electronic steering column lock UNLOCK status	OFF
S/L UNLOCK-IPDM	Electronic steering column lock LOCK status	ON
	Ignition switch OFF or ACC	OFF
S/L RELAY-REQ	Ignition switch ON	ON

< ECU DIAGNOSIS >

[ÍNTELLIGENT KEY SYSTEM]

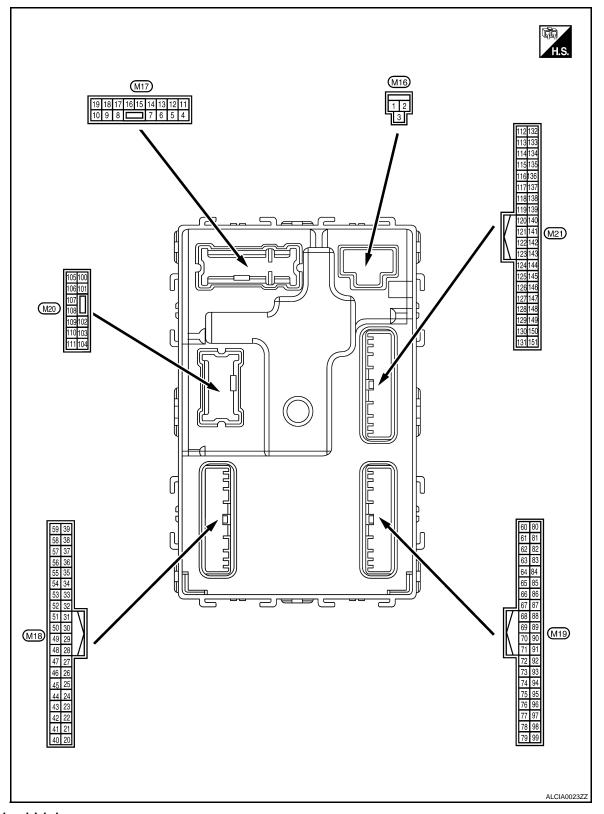
Monitor Item	Condition	Value/Status
VEH SPEED 1	While driving	Equivalent to speedometer reading
VEH SPEED 2	While driving	Equivalent to speedometer reading
	Driver door LOCK status	LOCK
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door UNLOCK status	UNLK
	Passenger door LOCK status	LOCK
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door UNLOCK status	UNLK
	Ignition switch ACC or ON	RESET
ID OK FLAG	Ignition switch OFF	SET
	When the engine start is prohibited	RESET
PRMT ENG STAT	When the engine start is permitted	SET
PRMT RKE STAT	NOTE: This item is displayed, but cannot be monitored.	RESET
	When Intelligent Key is not inserted into key slot	OFF
KEY SW -SLOT	When Intelligent Key is inserted into key slot	ON
RKE OPE COUN1	During the operation of Intelligent Key	Operation frequency of Intelligent Key
RKE OPE COUN2	NOTE: This item is displayed, but cannot be monitored.	Operation frequency of Intelligent Key
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
	When ID of front LH tire transmitter is registered	DONE
ID REGST FL1	When ID of front LH tire transmitter is not registered	YET
	When ID of front RH tire transmitter is registered	DONE
ID REGST FR1	When ID of front RH tire transmitter is not registered	YET
	When ID of rear RH tire transmitter is registered	DONE
ID REGST RR1	When ID of rear RH tire transmitter is not registered	YET
	When ID of rear LH tire transmitter is registered	DONE
ID REGST RL1	When ID of rear LH tire transmitter is not registered	YET
	Tire pressure indicator OFF	OFF
WARNING LAMP	Tire pressure indicator ON	ON
	When tire pressure warning alarm is not sounding	OFF
BUZZER	When tire pressure warning alarm is sounding	ON

Terminal Layout

INFOID:000000000994029

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< ECU DIAGNOSIS >



Physical Values

INFOID:000000000994030

	inal No.	Description				Value
(Wire (+)	e color) (-)	Signal name	Input/ Output	Condition		(Approx.)
1 (W/B)	Ground	Battery power supply	Input	Ignition switch OF	=	Battery voltage
2 (R/Y)	Ground	Battery power supply output	Output	Ignition switch OF	=	Battery voltage
3 (L/W)	Ground	Ignition power supply output	Output	Ignition switch ON		Battery voltage
4	0 -	Interior room lamp		After passing the ir er operation time	terior room lamp battery sav-	OV
(P/W)	Ground	power supply	Output	Any other time after lamp battery saver	er passing the interior room	Battery voltage
5	0 1	Front door RH UN-			UNLOCK (actuator is activated)	Battery voltage
(G/Y)	Ground	LOCK	Output	Front door RH	Other than UNLOCK (actu- ator is not activated)	OV
7	Crownel	Stop Jomp	Quit-2014	Stop Jama	ON	OV
(R/W)	Ground	Step lamp	Output	Step lamp	OFF	Battery voltage
8	Ground	All doors LOCK	Outout	All doors	LOCK (actuator is activat- ed)	Battery voltage
(V)	Ground		Output	All doors	Other than LOCK (actuator is not activated)	0V
9	Ground	Front door LH UN-	Quitout	Front door LH	UNLOCK (actuator is activated)	Battery voltage
(G)	Ground	LOCK	Output		Other than UNLOCK (actuator is not activated)	0V
10	Ground	Rear door RH and rear door LH UN-	Output	Rear door RH	UNLOCK (actuator is activated)	Battery voltage
(G/Y)	Ground	LOCK	Output	and rear door LH	Other than UNLOCK (actuator is not activated)	0V
11 (Y/R)	Ground	Battery power supply	Input	Ignition switch OF	-	Battery voltage
13 (B)	Ground	Ground	_	Ignition switch ON		0V
					OFF	0V
14 (R/Y)	Ground	Engine switch (push switch) illumination ground	Input	Tail lamp	ON	NOTE: When the illumination brighten- ing/dimming level is in the neutral position (V) 10 0 2 ms JSNIA0010GB
15	Ora	ACC indianter land	Quitari	Innition conitate	OFF	Battery voltage
(Y/L)	Ground	ACC indicator lamp	Output	Ignition switch	ACC or ON	0V

< ECU DIAGNOSIS >

[ÍNTELLIGENT KEY SYSTEM]

	inal No. e color)	Description	loout/	Condition		Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
					Turn signal switch OFF	0V
17 (G/B)	Ground	Turn signal (RH)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 0 10 10 10 10 10 10 10 10 10
					Turn signal switch OFF	0V
18 (G/Y)	Ground	Turn signal (LH)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s 1 s 1 s 1 s 1 s 1 s 1 s 1 s
19	Ground	Room lamp timer	Output	Interior room	OFF	Battery voltage
(Y)		control	•	lamp	ON	0V
21	Ground	Optical sensor signal	Input	Ignition switch	When outside of the vehi- cle is bright	Close to 5V
(P/B)			ON When outside of the ver cle is dark		Close to 0V	
22	Ground	Clutch interlock	Input	Clutch interlock	OFF (clutch pedal is not depressed)	0V
(R/Y)		switch		switch	ON (clutch pedal is de- pressed)	Battery voltage
24 (R/W)	Ground	Stop lamp switch 1	Input		_	Battery voltage
				Stop lamp switch	OFF (brake pedal is not de- pressed)	٥V
26 (O/L)	Ground	Stop lamp switch 2	Input	Stop lamp Switch	ON (brake pedal is de- pressed)	Battery voltage
				ICC brake hold	OFF	0V
				relay (with ICC)	ON	Battery voltage
27 (G/W)	Ground	Front door lock as- sembly LH (unlock sensor)	Input	Front door LH	LOCK status	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V
					UNLOCK status	0V
29				When Intelligent K	ey is inserted into key slot	Battery voltage
(Y)	Ground	Key slot switch	Input		ey is not inserted into key slot	0V
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< ECU DIAGNOSIS >

	inal No.	Description				Value	
	e color)	Signal name	Input/		Condition	Value (Approx.)	A
(+)	(-)		Output		OFF	0	
30 (V/Y)	Ground	ACC feedback signal	Input	Ignition switch	ACC or ON	0 Battery voltage	В
					OFF		
31 (G)	Ground	Rear window defog- ger feedback signal	Input	Rear window de- fogger switch	OFF	Battery voltage	C
(-)							С
32 (R/B)	Ground	Front door RH switch	Input	Front door RH switch	OFF (when front door RH closes)	(V) 15 10 5 0 10 ms JPMA0011GB 11.8 V	D
					ON (when front door RH opens)	٥V	F
33	Ground	Compressor ON sig-	Input	A/C switch	OFF	5V	
(SB)	ologia	nal	input	A/C Switch	ON	0V	G
34	Ground	Front door lock as- sembly LH (key cylin-	Innut	Front door lock	OFF (neutral)	5V	
(L/R)	Ground	der switch) (unlock)	Input	assembly LH (key cylinder switch)	ON (unlock)	0V	Н
36	Ground	Look switch signal	Innut	Door lock/unlock	Lock	Battery voltage	
(GR)	Ground	Lock switch signal	Input	switch	Unlock	0V	
37 (O)	Ground	Trunk lid opener can- cel switch	Input	Trunk lid opener cancel switch	CANCEL	(V) 15 10 5 0 10 ms JPMIA0012GB 1.1V	J
38					ON OFF	0V 5V	L
(GR/	Ground	Rear window defog- ger ON signal	Input	Rear window de- fogger switch			
W)		ger on signal			ON	0V	M
39 (GR/	Ground	Unlock switch signal	Input	Door lock/unlock	Unlock	Battery voltage	IVI
R)	0.00.00	erneen ernen eignan	put	switch	Lock	0V	
40 (Y/G)	Ground	Power window serial link	Input/ Output	Ignition switch ON	·	(V) 15 10 10 10 10 10.2V	N O P
				Ignition switch OF	F or ACC	0V	
41	Ground	Engine switch (push	Output	Engine switch (push switch) illu-	ON	5.5V	
(W)	Cround	switch) illumination	Suput	mination	OFF	0V	

< ECU DIAGNOSIS >

[ÍNTELLIGENT KEY SYSTEM]

	inal No.	Description				Velue
	e color)	Signal name	Input/		Condition	Value (Approx.)
(+)	(-)	5	Output		01	0.4
42 (R)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	ON OFF	0V
45		Receiver & sensor			OFF	Battery voltage
45 (P)	Ground	ground	Input	Ignition switch ON		0V
46	Ground	Receiver & sensor	Output	Ignition switch	OFF	0V
(V/W)		power supply output			ACC or ON	5.0V
47	0	Tire pressure receiv-	Input/	Ignition switch	Standby state	(V) 6 4 2 0 ••• 0.2s OCC3881D
(G/O)	Ground	er signal	Output	ON	When receiving the signal from the transmitter	(V) 6 4 2 0 • • 0.2s OCC3880D
48	Ground	Selector lever P/N	Input	Selector lever	P or N position	12.0V
(R/G)		position signal	•		Except P and N positions	0V
					ON	0V
49 (L/O)	Ground	Security indicator sig- nal	Output	Security indicator	Blinking	(V) 15 10 5 0 1 1 1 5 JPMIA0014GB
					OFF	11.3V Battery voltage
					All switch OFF	OV
					Lighting switch 1ST	
					Lighting switch high-beam	(V) 15
50 (LG/ B)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	15 0 2 ms JPMIA0031GB
						10.7V

	inal No.	Description				
	e color)	Signal name	Input/		Condition	Value (Approx.)
(+)	(-)		Output		All switch OFF (Wiper intermittent dial 4)	0V
					Front wiper switch HI (Wiper intermittent dial 4)	
51 (L/W)	Ground	Combination switch OUTPUT 1	Output	Combination switch	Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6 • Wiper intermittent dial 7	15 10 5 0 2 ms JPMIA0032GB 10.7V
					All switch OFF (Wiper intermittent dial 4)	٥V
					Front washer switch ON (Wiper intermittent dial 4)	(V)
52 (G/B)	Ground	Combination switch OUTPUT 2	Output	Combination switch	Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wlper intermittent dial 5 • Wiper intermittent dial 6	15 10 0 2 ms JPMIA0033GB
					All switch OFF	10.7V
					Front wiper switch INT	
53 (LG/ R)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermit- tent dial 4)	Front wiper switch LO Lighting switch AUTO	(V) 15 10 5 0 2 ms
						JPMIA0034GB 10.7V
					All switch OFF	0V
					Front fog lamp switch ON	
				Combination	Lighting switch 2ND	
54 (G/Y)	Ground	Combination switch OUTPUT 4	Output	switch (Wiper intermit- tent dial 4)	Lighting switch flash-to- pass Turn signal switch LH	10 5 0 2 ms
						JPMIA0035GB 10.7V
55 (BR/	Ground	Front blower monitor	Input	Front blower mo-	ON	Battery voltage
(BR/ W)	Ground		input	tor switch	OFF	0V
56	Orașe l	Front door lock as-	1 mm 1	Front door lock	OFF (neutral)	5V
(L/B)	Ground	sembly LH (key cylin- der switch) (lock)	Input	assembly LH (key cylinder switch)	ON (lock)	0V
57 (W)	Ground	Tire pressure warn- ing check switch	Input			5V

< ECU DIAGNOSIS >

[ÍNTELLIGENT KEY SYSTEM]

	iinal No. e color)	Description			0	Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
58 (SB)	Ground	Front door LH switch	Input	Front door LH switch	OFF (front door LH CLOSE)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V
					ON (front door LH OPEN)	0V
59 (G/R)	Ground	Rear window defog- ger relay	Output	Rear window de- fogger	Active Not activated	Battery voltage 0V
					When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB
60 (B/R)	Ground	Front console anten- na 2 (-)	Output	Ignition switch OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 1 1 1 5 0 J J J J J J J J J J J J J
61	Ground	Center console an-	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB
(W/R)	W/R) Ground tenna 2 (+) Output	ŎFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 1 s JMKIA0063GB		

	inal No.	Description) (also	
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	Value (Approx.)	A
62		Front outside handle		When the front door RH request	When Intelligent Key is in the antenna detection area	(V) 15 0 0 15 0 15 0 15 0 15 0 15 0 15 0 1	B C D
(B/Y)	Ground	RH antenna (-)	Output	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	E F
63	Ground	Front outside handle	Output	When the front door RH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	G H
(LG)		RH antenna (+)	Cupu	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 0 0 15 0 15 0 15 0 15 0 15 0 15 15 0 15 15 15 15 15 15 15 15 15 15 15 15 15	J SEC
64	Ground	Front outside handle	Output	When the front door LH request	When Intelligent Key is in the antenna detection area	(V) 15 0 0 15 0 15 0 15 0 15 0 15 0 15 15 15 15 15 15 15 15 15 15 15 15 15	M
(V)	Ground	LH antenna (-)	Capar	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 5 0 1 5 0 1 5 0 1 5 0 1 5 10 5 0 1 5 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 5 0 15 10 10 10 15 10 15 10 15 10 15 10 15 10 10 10 10 10 10 10 10 10 10 10 10 10	P

	iinal No. e color)	Description	1		• • • •	Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
65	65 Original Front outside handle Original When the front door LH request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB			
(P)	Ground	LH antenna (+)	Output	switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB
66	Ground	Instrument panel an-	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB
(R)		tenna (-)	Culput	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 0 1 s JMKIA0063GB
67	Ground	Instrument panel an-	Output	Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB
(G)	Sidurid	tenna (+)	Culput	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB

< ECU DIAGNOSIS >

	inal No.	Description				., .
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	Value (Approx.)
68 (G/O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
69 (O)	Ground	NATS antenna amp (built in key slot)	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelli- gent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
70 (R/B)	Ground	Ignition relay-2 con- trol	Output	Ignition switch	OFF or ACC ON	0V Battery voltage
74		Demete keydere ertr		During waiting		(V) 15 0 1 ms JMKIA0064GB
71 (L/O)	Ground	Remote keyless entry receiver signal	Input/ Output	When operating e	ither button on Intelligent Key	(V) 15 10 50 1 ms JMKIA0065GB
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4V
75 (R/Y)	Ground	Combination switch INPUT 5	Input	Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0037GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 0 2 ms JPMIA0040GB 1.3V

< ECU DIAGNOSIS >

	ninal No. Description					Value
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4V
76	Ground	Combination switch	Input Combination switch	Lighting switch high-beam (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0036GB 1.3V	
(R/G)	Clound	INPUT 3		switch	Lighting switch 2ND (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0037GB 1.3V
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3V
77		Engine switch (push		Engine switch	Pressed	0V
(BR)	Ground	switch)	Input	(push switch)	Not pressed	Battery voltage
78 (P)	Ground	CAN-L	Input/ Output		_	_
79 (L)	Ground	CAN-H	Input/ Output		—	_
					OFF	OV
80 (R/L)	Ground	Key slot illumination	Output	Key slot illumina- tion	Blinking	
					ON	6.5V Battery voltage
						Dattery voltage

< ECU DIAGNOSIS >

	inal No.	Description				Value
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)
81			Outrut	lesities entitele	OFF or ACC	0V
(LG)	Ground	ON indicator lamp	Output	Ignition switch	ON	Battery voltage
83	Ground	ACC relay control	Output	Ignition switch	OFF	0V
(L)	Cround		Output	Ignition ownon	ACC or ON	Battery voltage
84 (Y/R)	Ground	A/T device	Output		_	Battery voltage
85	Orrestored	Electronic steering	la avat	Electronic steer-	Lock status	٥V
(L/O)	Ground	column lock condition No. 1	Input	ing column lock	Unlock status	Battery voltage
86	Orrestored	Electronic steering	la avat	Electronic steer-	Lock status	Battery voltage
(G/R)	Ground	column lock condition No. 2	Input	ing column lock	Unlock status	0V
87	Ground	Selector lever P posi-	Input	Selector lever	P position	0V
(G/B)	Ciouna	tion switch	mput		Any position other than P	Battery voltage
					ON (pressed)	0V
88 (P/L)	Ground	Front door RH re- quest switch	Input	Front door RH re- quest switch	OFF (not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0V
					ON (pressed)	0V
89 (B/W)	Ground	Front door LH re- quest switch	Input	Front door LH re- quest switch	OFF (not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0V
90	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0V
(Y)	Ground	lay control	Output		ON	Battery voltage
91 (L/R)	Ground	Remote keyless entry receiver power sup- ply	Output	Ignition switch OF	F	Battery voltage
94	Ground	Steering wheel lock	Output	Ignition switch	OFF or ACC	Battery voltage
(G/Y)	Cround	unit power supply	Caput	.griation ownon	ON	0V

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< ECU DIAGNOSIS >

[ÍNTELLIGENT KEY SYSTEM]

	inal No. e color)	Description			Condition	Value
(+)	(-)	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF	(V) 15 0 5 0 2 ms JPMIA0041GB 1.4V
					Turn signal switch LH	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3V
95 (R/W)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch RH	(V) 15 10 0 2 ms JPMIA0036GB 1.3V
					Front wiper switch LO	(V) 15 10 0 2 ms JPMIA0038GB 1.3V
					Front washer switch ON	(V) 15 0 2 ms JPMIA0039GB 1.3V

< ECU DIAGNOSIS >

	inal No.	Description				Value	А
(Wir (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)	
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4V	B C D
00		O contribution outitate		Orachination	Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 0 2 ms JPMIA0038GB 1.3V	E
96 (P/B)	Ground	Combination switch INPUT 4	Input	Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0036GB 1.3V	G H I
					Any of the conditions below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3V	J SE(

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	inal No.	Description				Value
(+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF	(V) 15 10 0 2 ms JPMIA0041GB 1.4V
					Lighting switch flash-to- pass	(V) 15 0 2 ms JPMIA0037GB 1.3V
97 (R/B)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	(V) 15 0 2 ms JPMIA0036GB 1.3V
					Front wiper switch INT	(V) 15 10 5 0 2 ms JPMIA0038GB 1.3V
					Front wiper switch HI	(V) 15 10 2 ms JPMIA0040GB 1.3V
					Pressed	0 V
98 (G/O)	Ground	Hazard switch	Input	Hazard switch	Not pressed	(V) 15 10 5 0 10 ms JPMIA0012GB 1.1V

< ECU DIAGNOSIS >

	inal No.	Description				Value	٥
(Wire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)	A
99 (L/Y)	Ground	Electronic steering column lock unit com- munication	Input/ Output	Electronic steer- ing column lock	LOCK status	Battery voltage	B C D
					For 15 seconds after UN- LOCK 15 seconds or later after UNLOCK	Battery voltage	E
103 (V)	Ground	Trunk lid opening.	Output	Trunk lid	Open (trunk lid opener ac- tuator is activated) Close (trunk lid opener ac- tuator is not activated)	Battery voltage	F
110 (V/W)	Ground	Trunk room lamp	Output	Trunk room lamp	ON OFF	0V Battery voltage	Ц
114		Trunk room antenna		Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0062GB	H I J
(B)	Ground	1 (-)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 10 5 0 1 s JMKIA0063GB	SE L M

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	inal No.	Description				Value
(+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)
115	Ground	. Trunk room antenna		Ignition switch	When Intelligent Key is in the passenger compart- ment	(V) 15 0 0 1 s JMKIA0062GB
(W)		1 (+)	Output	OFF	When Intelligent Key is not in the passenger compart- ment	(V) 15 0 0 1 s 1 s JMKIA0063GB
118	Ground	Rear bumper anten-	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 0 0 1 s JMKIA0062GB
(L/O)		na (-)			When Intelligent Key is not in the antenna detection area	(V) 15 0 0 1 s JMKIA0063GB
119 (BR/	Ground	Rear bumper anten-	Output	When the trunk lid request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area	(V) 15 0 1 s JMKIA0062GB
(BK/ W)	Ground	na (+)	Culput		When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB

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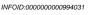
[ÍNTELLIGENT KEY SYSTEM]

	inal No.	Description				Value						
	e color)	Signal name	Input/ Output		Condition	(Approx.)						
(+) 126	(-)		Output		OFF or ACC	Battery voltage						
(BR/ W)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	ON	0V						
129 (Y/G)	Ground	Trunk room lamp switch	Input	Trunk room lamp switch	OFF (trunk is closed)	(V) 15 0 5 0 10 ms JPMIA0011GB 11.8V						
					ON (trunk is open)	0V						
				Ignition switch	When the clutch pedal is depressed	Battery voltage						
				OFF (M/T vehi- cle)	When the clutch pedal is not depressed	OV						
131 (R)	Ground	Starter motor relay control	Output	Output	Output	Output	Output	Output	Output	Ignition switch ON (other than M/	When selector lever is in P or N position and the brake is depressed	Battery voltage
				T vehicle)	When selector lever is in P or N position and the brake is not depressed	OV						
					ON (pressed)	0V						
141 (G/R)	Ground	Trunk request switch	Input	Trunk request switch	OFF (not pressed)	(V) 15 10 10 ms JPMIA0016GB						
				.	Sounding	1.0V						
144 (GR)	Ground	Request switch buzz- er	Output	Request switch buzzer	Not sounding	Battery voltage						
					Pressed	0V						
147 (L/R)	Ground	Trunk lid opener switch	Input	Trunk lid opener switch	Not pressed	(V) 15 10 5 0 10 ms J JPMIA0011GB 11.8V						

	inal No.	Description				Value
(VVire (+)	e color) (-)	Signal name	Input/ Output		Condition	(Approx.)
148 (R/W)	Ground	Rear door RH switch	Input	Rear door RH switch	OFF (when rear door RH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V
					ON (when rear door RH opens)	ΟV
149 (R/B)	Ground	Rear door LH switch	Input	Rear door LH switch	OFF (when rear door LH closes)	(V) 15 10 5 0 10 ms JPMIA0011GB 11.8V
					ON (when rear door LH opens)	0V

[INTELLIGENT KEY SYSTEM]

Wiring Diagram - INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION -





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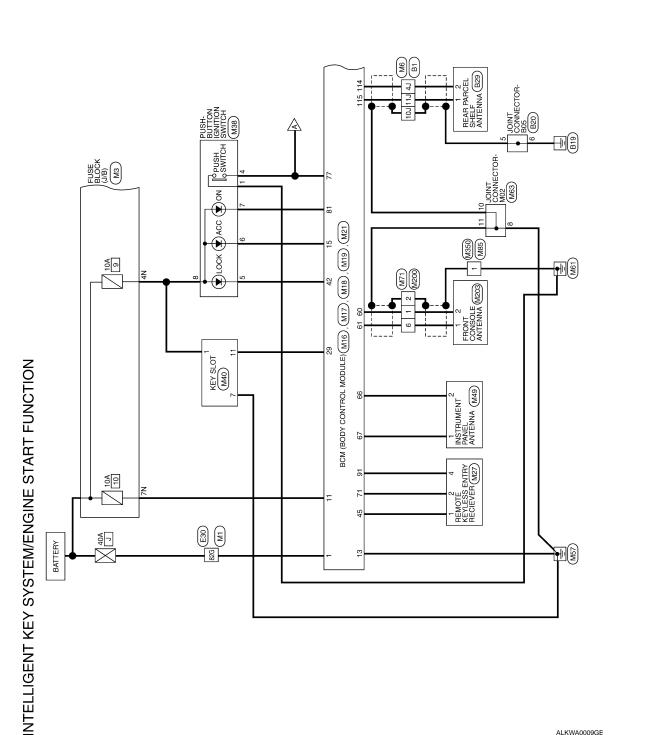
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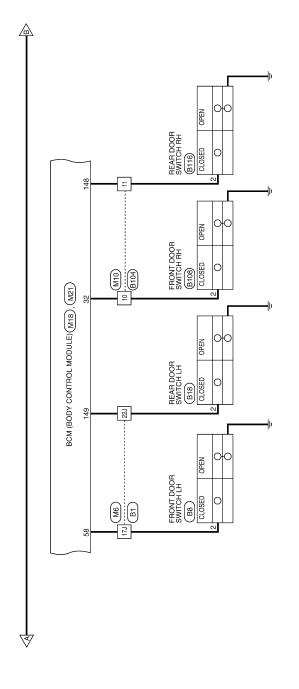
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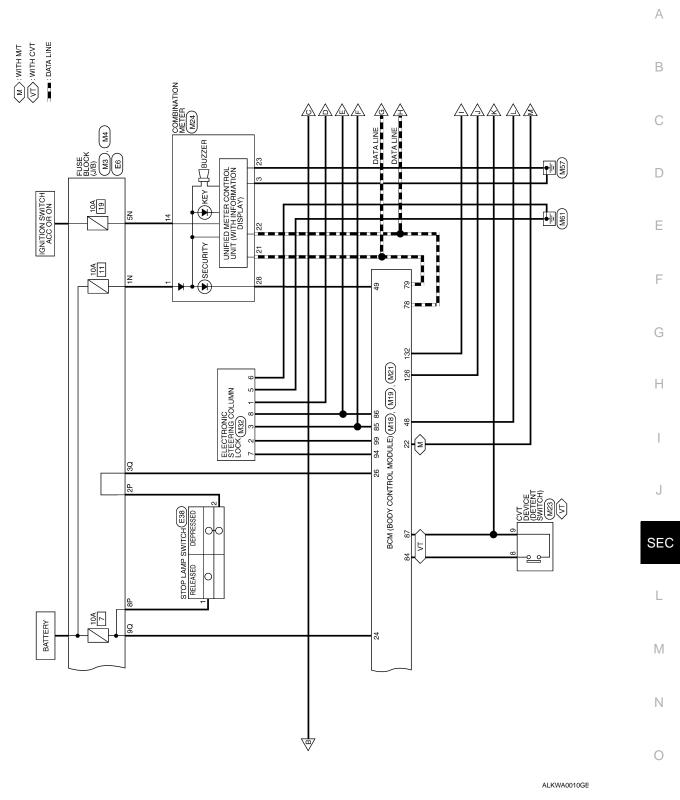


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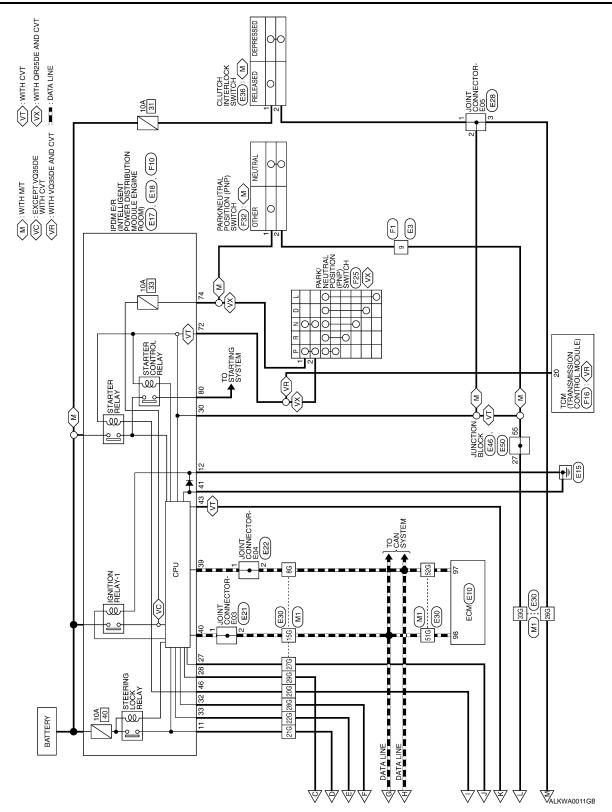
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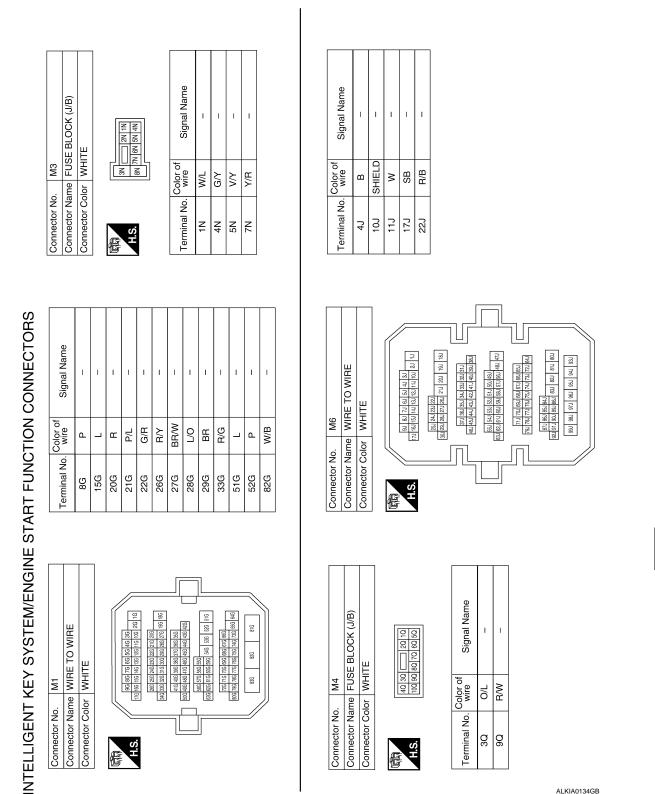


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SEC-139

BCM (BODY CONTROL MODULE)

[INTELLIGENT KEY SYSTEM]

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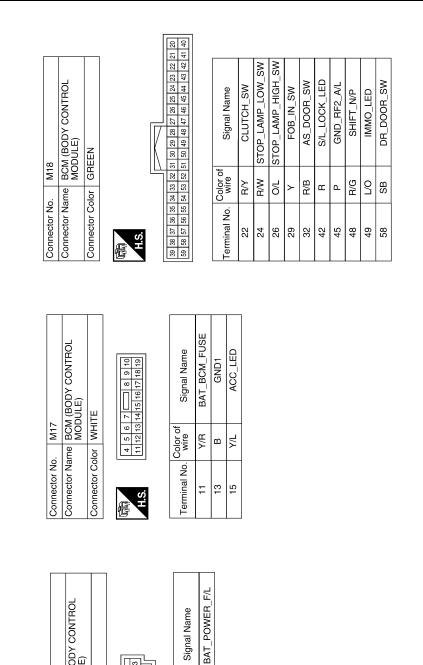
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Signal Name

Color of wire W/B

Terminal No. -

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ALKIA0135GB

Connector Name BCM (BODY CONTROL MODULE)

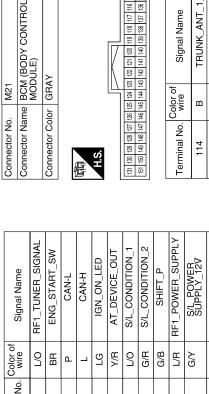
M16

Connector No.

BLACK

Connector Color

TRUNK_ANT_1_B	TRUNK_ANT_1_A	IGN_USM_CONT1	ST_CONT_USM	RR_DOOR_SW	RL_DOOR_SW		Signal Name	BAT	GND	ACC	CAN-H	CAN-L	GND	SECURITY				
В	M	BR/W	н	R/W	R/B		Color of wire	M/L	ш	۲/γ	_	٩	В	Г/0	-			
114	115	126	132	148	149		Terminal No.		с	14	21	22	23	28				
									_				18 10 20	38 39 40				
SUPPLY_12V	S/L_K-LINE								Ľ				0 10 11 12 13 14 15 16 17	30 31 32 33 34 35 36 37				
- 9	Σ						M24		_			l	1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	27				
4	66						Connector No.	Connector Name		ſ		ŊН N	1 2 3 4 5	23 24				
ROOM_AND_2_B	ROOM_ANT_2_A	ROOM_ANT_1_B	ROOM_ANT_1_A					DEVICE	Ш	[1 3 0 7 9 2 4 5 6 8 10				Signal Name	DETENT_KEY_SW	DETENT_KEY_SW	
B/R	W/R	œ	σ				. M23	me CVT	IOL WHII		- 1 3	- -			Color of wire	Y/R	G/B	
60	61	99	67				Connector No.	Connector Name CVT DEVICE	Connector Color WHILE		1 HTA	H.S.			Terminal No. Wire	ω	0	



Signal Name

	Signal Name	RF1_TUNER_SIGNAL	ENG_START_SW	CAN-L	CAN-H	IGN_ON_LED	AT_DEVICE_OUT	S/L_CONDITION_1	S/L_CONDITION_2	SHIFT_P	RF1_POWER_SUPPLY	S/L POWER SUPPLY_12V	S/L_K-LINE	
Color of	wire	L/0	ВВ	٩	_	ГG	Y/R	ΓO	G/R	G/B	L/R	G/Y	Υ	
	l erminal No.	71	77	78	29	81	84	85	86	87	91	94	66	

nector No. M19	Connector Name BCM (BODY CONTROL MODULE)	Connector Color BLACK		ú	77 76 75 74 73 72 71 70 69 68 67 66 65 64 63 62 61 60	99 98 97 96 95 94 93 92 91 90 89 88 87 86 85 84 83 82 81 80	ninal No. Color of Signal Name	60 B/R ROOM_AND_2_B	61 W/R ROOM_ANT_2_A	66 B ROOM ANT 1 B
Connector No.	Connector	Connector	悟	H.S.	79 78 77 76	96 65 97 96	Terminal No.	60	61	99

GRAY

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M32 Connector No. Connector No. ELECTRONIC STEERING Connector Name Connector Name WHITE Connector Name Connector Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Sign	[[
M32 Connector No. Connector No. ELECTRONIC STEERING Connector Name Connector Name WHITE Connector Name Connector Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Signal Name Image: Sign	H-BUTTON IGNITION CH WN	5 6 7 8 5 6 7 8	Signal Name GND START_SW LOCK ACC ON B+	3 NT CONNECTOR-M02 DE	Signal Name
M32 ELECTRONIC STEERING COLUMN LOCK Connector Connector WHTE Connector WHTE Image: Column Lock Image: Column Lock Connector Image: Column Lock Connector Image: Column Lock Image: Column Lock Image: Column Lock Image: Column Loc			Color of wire wire B B BR BR Color of V/L Color of G/V Color of Co		Color of wire B B GR GR
MHI MHI MI	Connector No Connector Na Connector Co	用 H.S.	Terminal No. 1 4 5 6 7 8	Connector N Connector N Connector Co	Terminal No. 8 11
MHIII MHIII MHIII MHIII MHIIII MHIIII MHIIII MHIIII MHIIII MHIIIII MHIIIII MHIIIIIIIIII	OTRONIC STEERING UMN LOCK TE	3 2 9	Signal Name S/L_12V_MECHANICAL (V1) S/L_COM S/L_COM S/L_CONDITION_1 GND GND S/L_12V_CPU (V2) S/L_CONDITION_2	FRUMENT PANEL ENNA	Signal Name ANT+ ANT-
Connector No Connector No Connector No Terminal No. Connector No Connector No Connector No Connector No Connector No Connector No Connector No Connector No Connector No				M49 ME INST Ior GRA	Color of Wire B
	Connector No Connector Na Connector Co	际 H.S.		Connector No Connector Na Connector Co	Terminal No. 1 2
	AOTE KEYLESS ENTR' JIEVER CK	2 3 4	Signal Name GND SIGNAL 12V	SLOT	Signal Name B+ GND CARD_SW_1
7 012 KEYLESS ENTR 012 V 012 KEYLESS ENTR 012 V 012 V			Mire P L/R	M40 M40 M41 M42 M42	Calor of wire Galar 4 A
M27 M27 BLACK BLACK NM40 N NHITE N NHITE N	Connector No. Connector Name Connector Color	际可 H.S.	Terminal No.	Connector No. Connector Name Connector Color	Terminal No.

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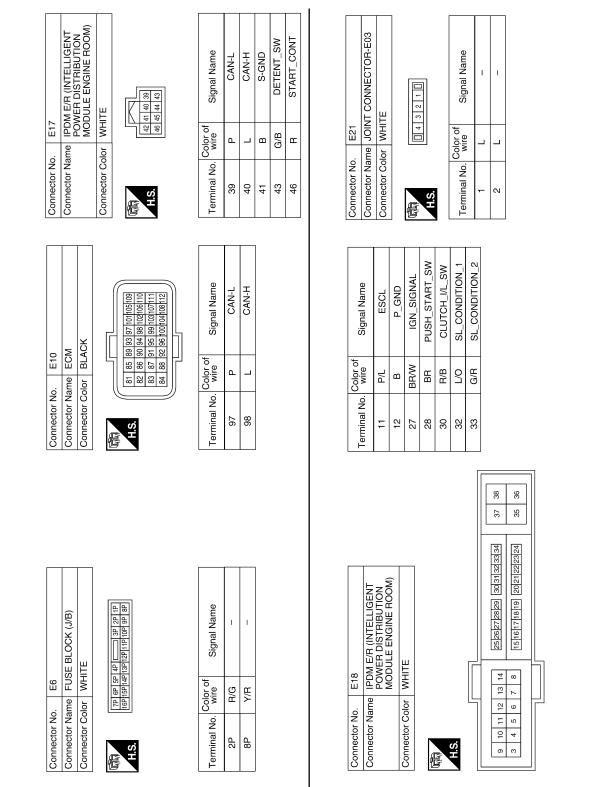
[ÍNTELLIGENT KEY SYSTEM]

ALKIA0137GB

< ECU DIAGNOSIS >	BCM (BODY CONT	ROL MODULE) [INTELLIGENT KEY SYSTEM	/]
			А
	A dame		В
0 E T O WIRE	Signal Name	E3 E3 WIRE TO WIRE WIRE TO WIRE WHITE WILE Note of Signal Name R/B -	С
Connector No. M200 Connector Name WIRE TO WIRE Connector Color WHITE	lo. Color of Wire B/R SHIELD W/R	NO. E3 Name WIF Color WH R/B R/B	D
Connector No. Connector Nan Connector Cold	Terminal No.	Connector No. Connector Name Connector Color H.S. Terminal No. 9 R	E
			F
	Signal Name	Signal Name	G
M85 WIRE TO WIRE WHITE	Calor of wire B Si		Н
Connector No. Connector Name Connector Color	Terminal No. Wolve	Connector No. M350 Connector Name WIRE T Connector Color WHITE Connector Color WHITE	J
			SEC
0 WIRE	Signal Name	AA CONSOLE AA Signal Name ANT+ ANT-	L
M71 ne WIRE TO WIRE or WHITE 10 10 11 12	Color of wire B/R B/R SHIELD W/R	Dior GRAY W/R B/R	
Connector No. M71 Connector Name WIRE TO WIRE Connector Color WHITE	Terminal No. C 1 1 6 S	Connector No. M203 Connector Name FRONT CONSOLE Connector Color GAAY Connector Color GRAY Terminal No. Color of 1 W/R 2 B/R	N
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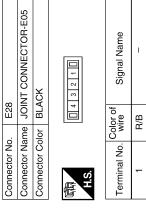
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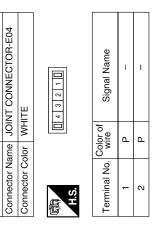
[INTELLIGENT KEY SYSTEM]



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Connector No. E36 Connector Name CLUTCH INTERLOCK SWITCH	NMO		0	-			Signal Name	I	1			
o. E36 ame CLU ⁻ SWI ⁻	olor BROWN					Color of	wire	G/W	R/B			
Connector No. Connector Name	Connector Color	ą		H.S.			Terminal No.		2			
Signal Name -	1	1	1	1	1	1	1	-	1	1	-	I
Color of wire P		н	P/L	G/R	R/B	BR/W	Г/О	BR	R/G	_	Р	W/B
Terminal No. Color of wire 8G P	15G	20G	21G	22G	26G	27G	28G	29G	33G	51G	52G	82G
	Connector Color WHI I E		36 46 56 66 76 86 96		18G 19G 27G 25G 22G 22G 24G 25G 24G 25G 24G 25G 24G	356 356 376 386 406 416	426 436 446 46 476 486 496 496 506	51C 52C 53C 55C 55C 55C 55C 55C	6420 GAD 642	64G 65G 73G 74G 75G 76G 77G 78G 75G 80G	816 826 836	





E22

Connector No.

	Signal Name	Ĩ	I
	Color of wire	R/B	R/B
N.H.	erminal No.	+	2

Т

R/B

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BCM (BODY CONTROL MODULE)

[ÍNTELLIGENT KEY SYSTEM]

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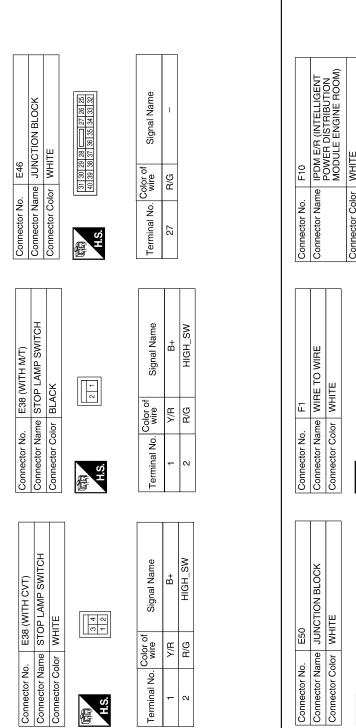
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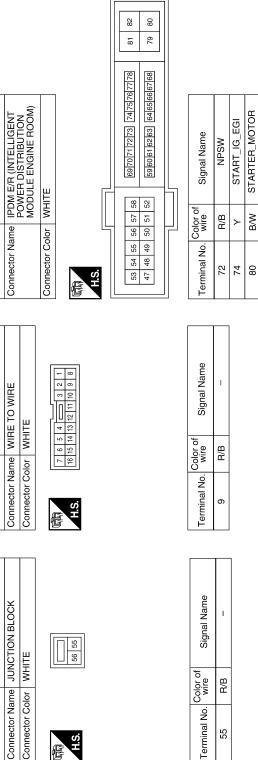
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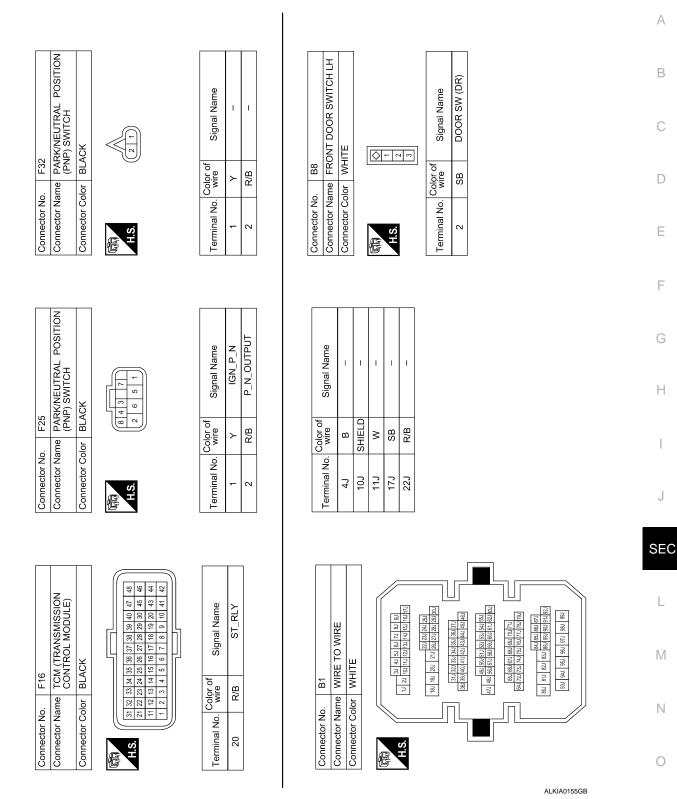
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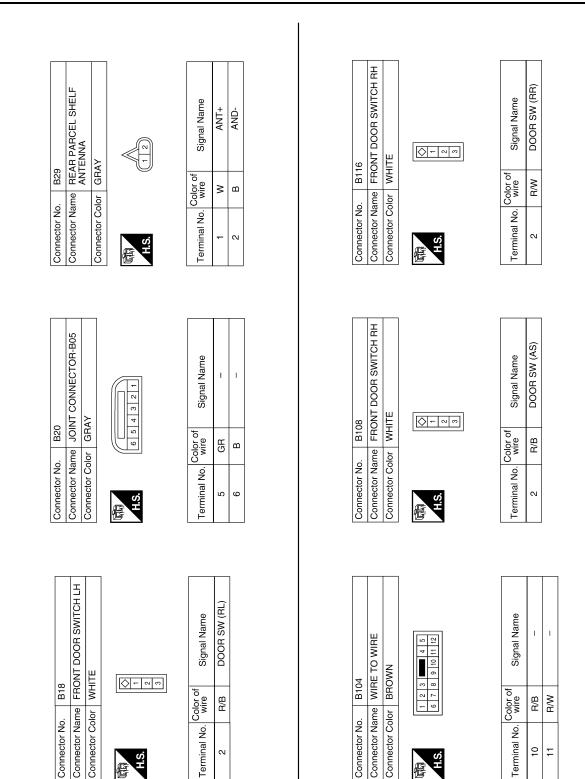


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[INTELLIGENT KEY SYSTEM]



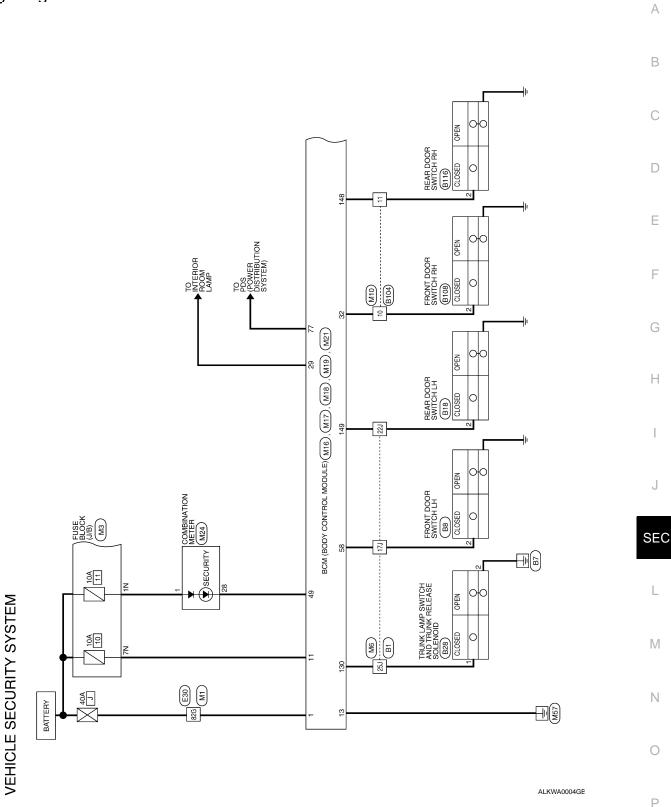
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Wiring Diagram - VEHICLE SECURITY SYSTEM -

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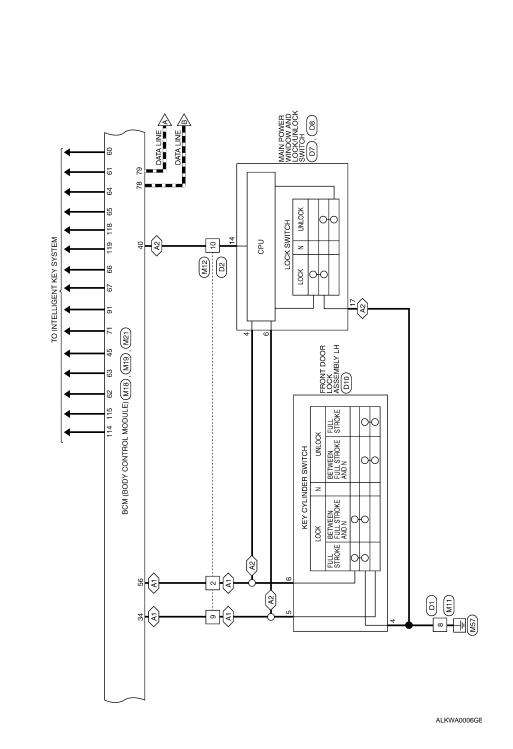
 (A1)
 WITH LEFT FRONT ONLY POWER

 (A2)
 WINDOW ANTI-PINCH SYSTEM

 (A2)
 WITH LEFT AND RIGHT FRONT POWER

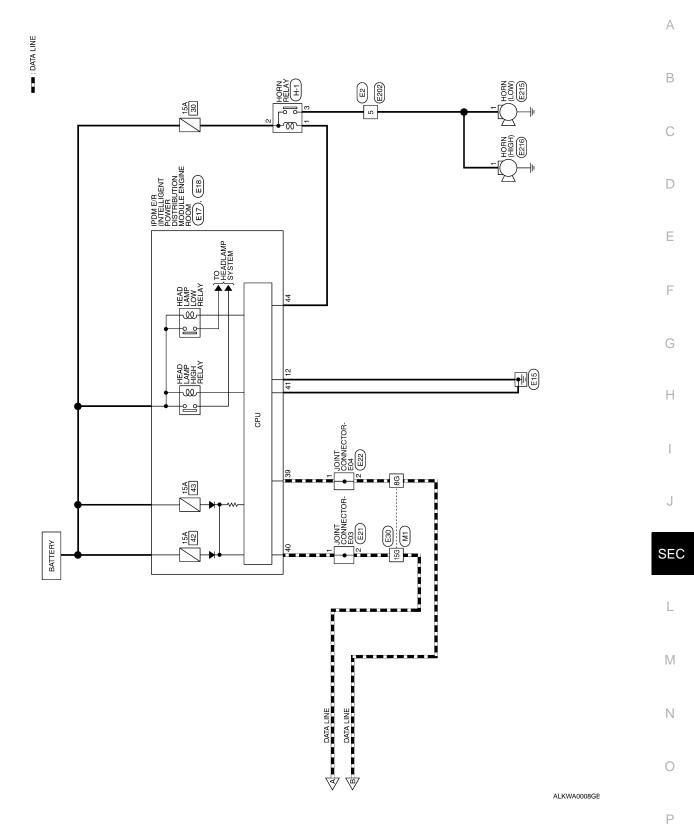
 (A1)
 DAD RIGHT FRONT POWER

 (A2)
 MITH LEFT AND RIGHT FRONT POWER

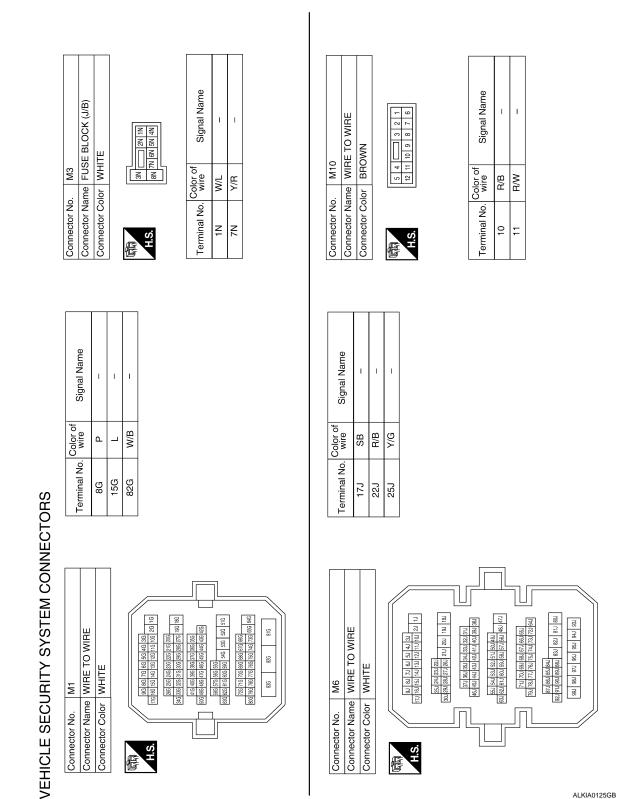


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[ÍNTELLIGENT KEY SYSTEM]



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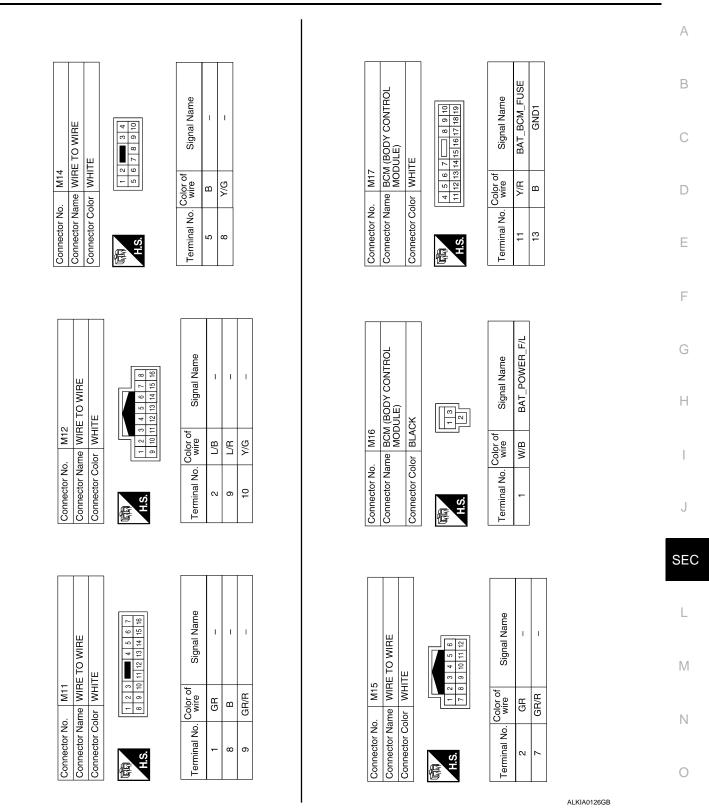
BCM (BODY CONTROL MODULE) [INTELLIGENT KEY SYSTEM]

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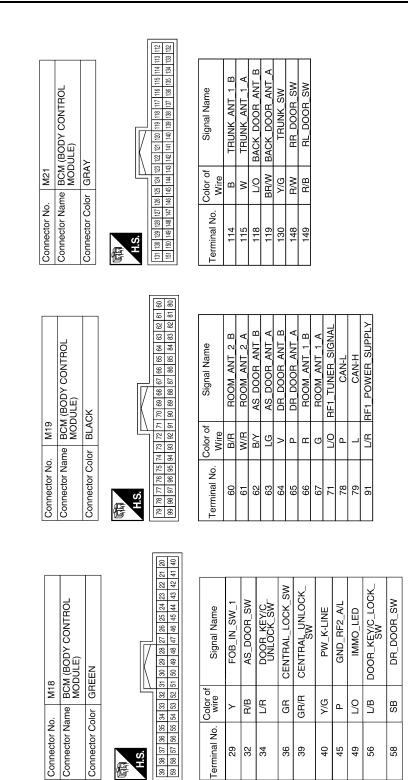
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BCM (BODY CONTROL MODULE)

[INTELLIGENT KEY SYSTEM]



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[INTELLIGENT KEY SYSTEM]

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Signal Name

Color of wire

Terminal No.

Connector Name COMBINATION METER

M24

Connector No.

WHITE

Connector Color

SECURITY

BAT

W/L

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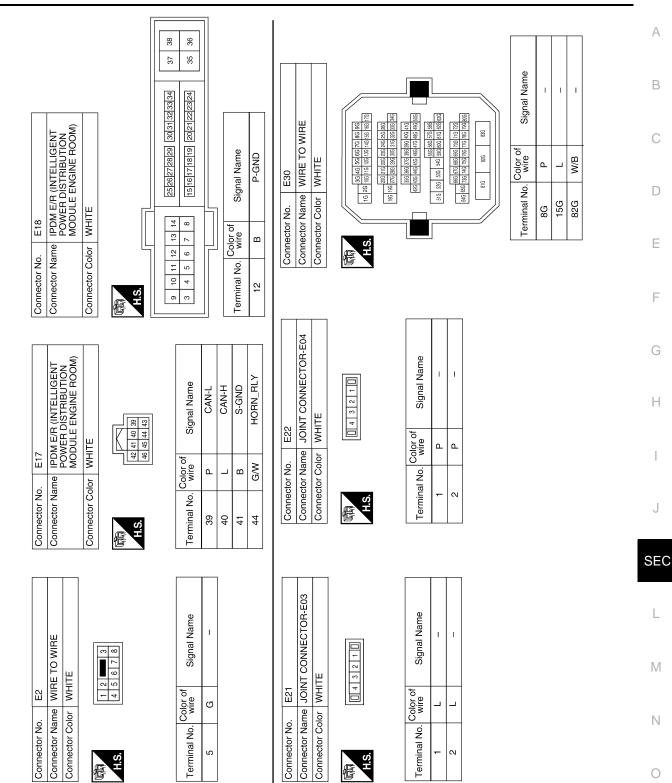
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H.S.

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36 39 40

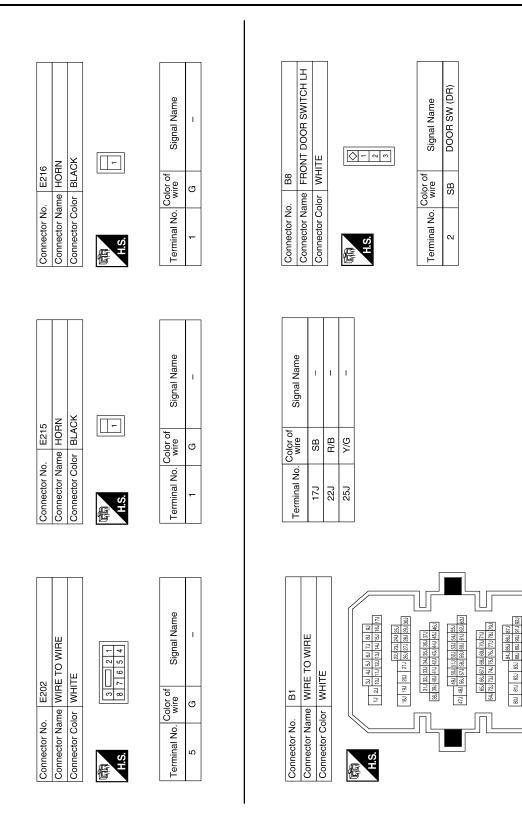
BCM (BODY CONTROL MODUL	E)
	[INTELLIGENT KEY SYSTEM]



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[ÍNTELLIGENT KEY SYSTEM]



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93J 94J 95J 96J 97J 98J 99J

<pre></pre>	L MODULE) [INTELLIGENT KEY SYSTEM]	
Connector No. B104 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Name Image: Second seco	Connector No. D1 Connector Name WIRE TO WIRE Connector Color WHITE Terminal No. Color of 8 B 9 GR/R	A B C D
Connector No. B28 Connector Name TRUNK LAMP SWITCH Connector Name TRUNK RELEASE SOLENOID NHITE Connector Color WHITE	Connector No. B116 Connector Name FRONT DOOR SWITCH RH Connector Color WHITE Mill Image: Connector Color Terminal No. Color of Signal Name 2 R/W DOOR SW (RR)	F G H J
Connector No. B18 Connector Name FRONT DOOR SWITCH LH Connector Color WHITE Connector Color WHITE Terminal No. Color of all Signal Name 2 R/B DOOR SW (RL)	Connector No. B108 Connector Name FRONT DOOR SWITCH RH Connector Color WHITE Milite Signal Name Terminal No. Color of wire Signal Name 2 R/B DOOR SW (AS)	L M N
	ALKIA0130GB	Ρ

SEC-157

D8 MAIN POWER WINDOW SWITCH WHITE TT 18 19	Signal Name GND LOCK	D102 WIRE TO WIRE WHITE 0 5 4 3 2 1 12 11 10 9 8 7	Signal Name
	Color of wire and GR		Color of wire GR
Connector No. Connector Name Connector Color	Terminal No.	Connector No. Connector Name Connector Color	Terminal No. 2
D7 D7 me MAIN POWER WINDOW AND LOCKUNLOCK SWITCH or WHITE 1 2 8 10 11 2 8 10	Signal Name LOCK UNLOCK (WITH LEFT AND RIGHT FRONT AND RIGHT FRONT ANTI-PINCH SYSTEM) UNLOCK (WITH LEFT WINDOW ANTI-PINCH SYSTEM) COM	D101 WIRE TO WIRE WHITE	Signal Name -
	Color of wire of wire of wire of wire of VIB L/B CBN/R CBN/R Y/G Y/G		Color of wire B
Connector No. Connector Name Connector Color	Terminal No. 6 14 14	Connector No. Connector Name Connector Color H.S.	Terminal No. 5 8
D2 WIRE TO WIRE WHITE 8 7 6 5 4 3 2 1 16 15 14 13 12 11 10 9	Signal Name	D10 FRONT DOOR LOCK ASSEMBLY LH GRAY 2 3 4 5 6	Signal Name GND DOOR KEY/C UNLOCK_SW DOOR KEYD/C
	Color of wite UB L/B V/G		Color of wire B L/R
Connector No. Connector Name Connector Color	Terminal No. 9 10	Connector No. Connector Name Connector Color	Terminal No. 4 5 6

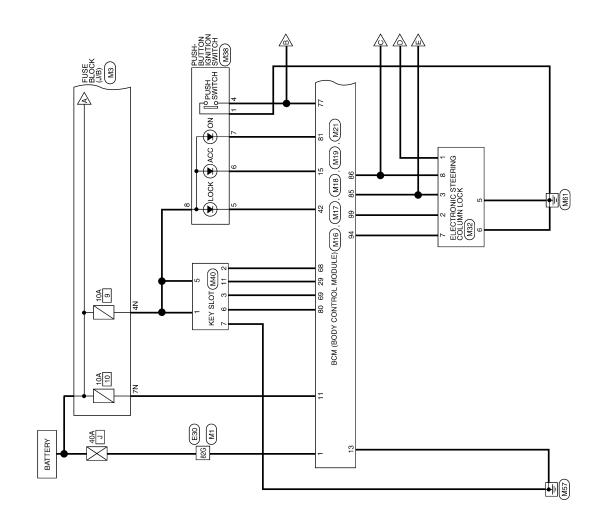
BCM (BODY CONTROL MODULE) [INTELLIGENT KEY SYSTEM]

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<pre> BCM (BODY CONTROL MODULE) < ECU DIAGNOSIS > [INTELLIGEN] </pre>	KEY SYSTEM]	
		A
		В
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		F
AWINDOW AND COCKUNLOCK ARH (WITH LEFT GHT FRONT CH R (WITH LEFT GHT FRONT Signal Name Signal Name PW_K_LINE		G
		Η
		I
Connector N Connector N Connector O HS 11 16		J
		SEC
D105 POWER WINDOW AND POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH (WITH LEFT FRM) WHITE WHITE Or of Signal Name Signal Name B GND		L
Didos Didos Didos Doong LockUNL SwitcH RH (with SwitcH RH (with System) System) Join WHITE Color of GR Color of GR B GND		Μ
nector N a a a b b b b b b b b b b b b b b b b b		Ν
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Wiring Diagram - NVIS -

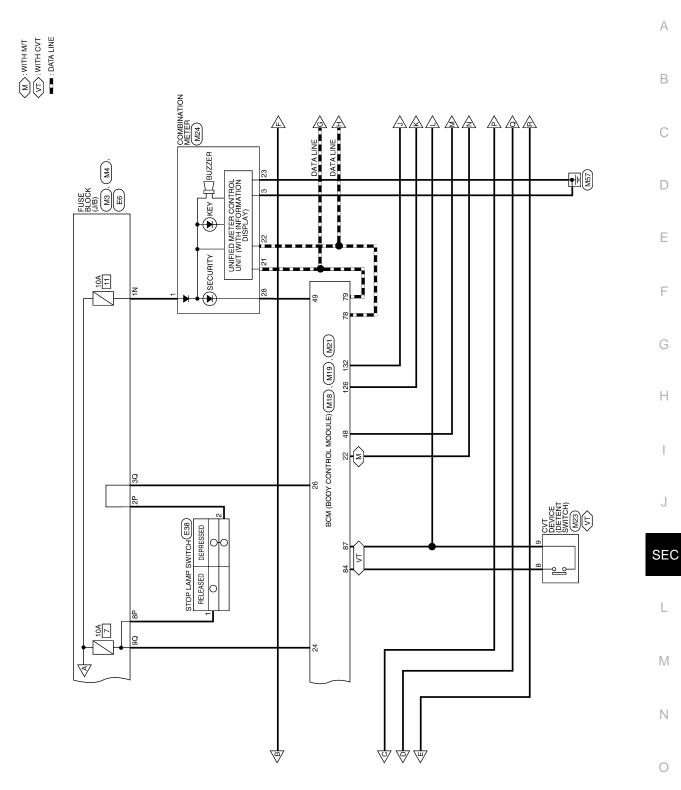
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NVIS

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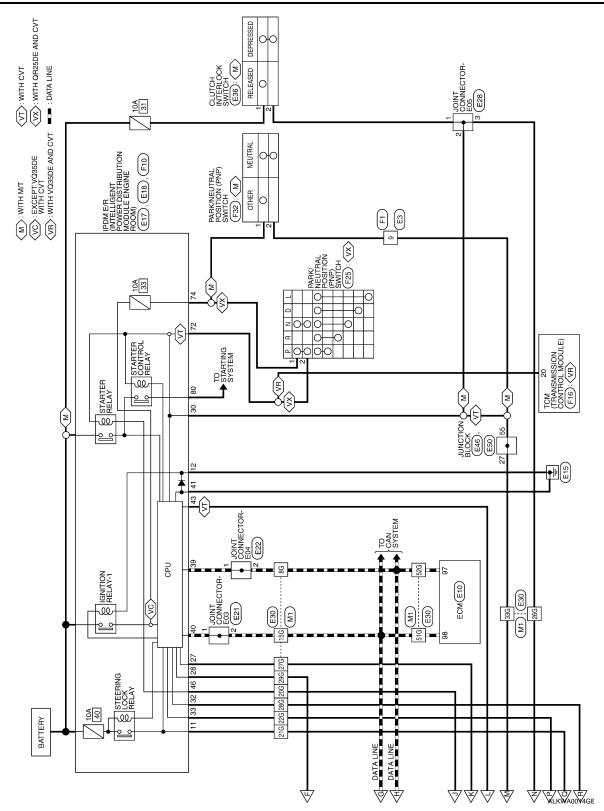
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	M3 FUSE BLOCK (J/B)	WHITE			ZN EN 5N 1N		1		Signal Name	I	I	I			BCM (BODY CONTROL	WHITE	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19			BAT_BCM_FUSE	ACC LED			
	Connector No. M3 Connector Name FUS			E	Ś			Color of	al No.			7N Y/R			e	Connector Color WH	国 H.S.		Terminal No. Wire		13 B 15 Y/L	-		
	Signal Name	1	1	1	1	1	1	1	1	1	1	1	1	I	BODY CONTROL		13		Signal Name	BAT_POWER_F/L				
	Terminal No. Wire	8G P	15G L	20G R	21G P/L	22G G/R		27G BR/W	28G L/O	29G BR	33G R/G	51G L	52G P	82G W/B	ne	Connector Color BLACK	H.S.	Color of	Terminal No. wire	1 W/B				
								[
NVIS CONNECTORS	Connector No. M1 Connector Name WIRF TO WIRF	olor WHITE			96 86 76 86 56 46 36 	1/16/19/6/13/6/13/6/13/6/13/6/13/6/13/6/	266 256 246 226 226 226 206 206 266 276 196 186	416 406 396 376 365 356	506 496 496 476 466 456 446 436 426	580 570 560 550 540 530 540 530 510	726 716 706 696 696 676 666	80G 79G 79G 77G 76G 75G 74G 736 85G 64G	836 826 81G		o. M4 ame FUSE BLOCK (J/B)	olor WHITE	40 30 20 10 100 90 80 70 60 50	-	Color of Signal Name	- – –	R/W –			
CONN	Connector No.	Connector Color		E		5									Connector No. Connector Name	Connector Color	品 H.S.		Terminal No.	30	90			

BCM (BODY CONTROL MODULE) [INTELLIGENT KEY SYSTEM]

M19	BCM (BODY CONTROL MODULE)	BLACK			79 78 77 76 77 70 68 67 66 65 64 63 62 61 60 99 98 99 98 87 86 85 84 83 85 84 83 85 84 83 85 84 83 85 84 83 85 84 83 85 84 83 85 84 83 85 84 83 85 84 83 85 84 83 85 84 83 85 84 83 85 84 83 85 84 83 85 84 83 85 84 83 85 84 85 84 85 84 85 84 85 84 85 84 85 84 85 84 85 84 85 84 85 84 85 84 85 84 85 84 85 </th <th></th> <th>e Signal Name</th> <th>D FOB_READER_CLOCK</th> <th>FOB_READER_DATA</th> <th></th> <th></th> <th></th> <th></th>		e Signal Name	D FOB_READER_CLOCK	FOB_READER_DATA				
					74 73 72 94 93 92	-	vire	G/O	0				
Connector No.	Connector Name	Connector Color	SH 昭	5	79 78 77 76 75 99 98 97 96 95 95		Terminal No.	68	69				
M18	BCM (BODY CONTROL MODULE)	GREEN			36 55 54 53 22 51 50 29 28 27 26 25 24 23 22 12 20 55 54 53 22 14 40	r of Signal Name	<pre></pre>	V STOP_LAMP_LOW_SW	- STOP_LAMP_HIGH_SW	FOB_IN_SW_1	S/L_LOCK_LED	SHIFT_N/P	IMMO_LED
	ame	olor			34 33 54 53	Color of wire	RУ	МЧ	ОГ	≻	œ	R/G	Г/О
Connector No.	Connector Name	Connector Color		õ	39 38 37 36 35 59 58 57 56 55	Terminal No.	22	24	26	29	42	48	49

3_IN_SW_1	אטר_חטוח_אט		AMP_LOW_SW	UTCH_SW AMP_LOW_SW
S/L_LOCK_LED	FOB S/L_L			
н	≻ œ	O/L R	R/W O/L R	R/V R/W O/L R
42	29 42	26 29 42	24 26 29 42	22 24 26 29 42
$29 \gamma FOB_IN_SW_1$		O/L STO	R/W O/L	R/Y R/W O/L

M21	Connector Name BCM (BODY CONTROL MODULE)	GRAY	
Connector No.	Connector Name	Connector Color GRAY	际 H.S.

Connector Name CVT DEVICE

Connector No. M23

Connector Color WHITE



Signal Name	IGN_USM_CONT1	ST_CONT_USM	
Color of wire	BR/W	щ	
Terminal No.	126	132	

1				
	Signal Name		IGN_USM_CONT1	ST_CONT_USM
	or of	2	N	

	_	
Signal Name	DETENT_KEY_SW	DETENT_KEY_SW
Color of wire	Y/R	G/B
Terminal No.	8	6

H.S. 俉

Signal Name	ENG_START_SW	CAN-L	CAN-H	FOB_SLOT ILLUMINATION	IGN_ON_LED	AT_DEVICE_OUT	S/L_CONDITION_1	S/L_CONDITION_2	SHIFT_P	S/L_POWER SUPPLY_12V	S/L_K-LINE
wire	BR	٩	Γ	R/L	ГG	Y/R	Г/О	G/R	G/B	G/Y	LY
Terminal No.	22	78	62	80	81	84	85	86	87	64	66

Signal Name	ENG_START_SW	CAN-L	CAN-H	FOB_SLOT ILLUMINATION	IGN_ON_LED	AT_DEVICE_OUT	S/L_CONDITION_1	S/L_CONDITION_2	SHIFT_P	S/L_POWER SUPPLY_12V	S/L_K-LINE
Color of wire	BR	٩	_	R/L	ГG	Y/R	D/J	G/R	G/B	G/Y	ΓΛ
Terminal No.	22	78	62	80	81	84	85	86	87	94	66

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	5111	(-				U							ITEL	LI	GE	EN	ΤI	KE	Y	S
Color of Signal Name	P/L S/L_12V_MECHANICAL (V1)	L/Y S/L_COM	L/O S/L_CONDITION_1	B GND	B GND	G/Y S/L_12V_CPU (V2)	G/R S/L_CONDITION_2	o. E3	ame WIRE TO WIRE	olor WHITE	1 2 3 4 5 6 7 8 9 10 11 12 14 15 16		Color of Signal Name	R/B –						
Terminal No.	-	2	e	5	9	7	ω	Connector No.	Connector Name	Connector Color	日 H.S.		Terminal No.	6						
SECURITY									OT		10 11 12 10 11 12	-	Signal Name	B+	CLOCK	DATA	LIGHT_BAT+	LIGHT_A	GND	CAPD SW 1

Connector Name KEY SLOT Connector Color WHITE

Connector No. M40

Signal Name	BAT	GND	ACC	CAN-H	CAN-L	GND	SECURITY
Color of si	W/L	В	NN		Ь	В	с Г/О
Terminal No.	Ļ	3	14	21	22	23	28

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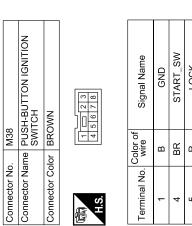
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						16 17 18 19 20	36 37 38 39 40
						1	37
	~					9	8
	Connector Name COMBINATION METER					15	35
	Ψ					10 11 12 13 14	8
	z				F	<u></u> €	26 27 28 29 30 31 32 33
	⊡					12	32
	Ā					=	3
	Z					9	R
L_	B	ШШ				0	29
M24	ō	Ł				∞	28
2	0	5				~	27
	le	r				ဖ	26
<u>o</u>	au	ŏ					10
Connector No.	Ę	Connector Color WHITE				2	21 22 23 24 25
g	믱	당				4	64 10
ne	l e	De l		Н.S.		<u></u>	5
ou	6	6	Æ	Ϊ.		5	5
O	U U	O	ľ	Г			Ń

2 3 4 5 6 8 9 10 11 12	Signal Name	B+	CLOCK	DATA
	Color of wire	G/Y	G/O	0
国 H.S.	Terminal No.	٢	2	3



Signal Name	GND	START_SW	LOCK	ACC	NO	B+	
Color of wire	В	BR	Я	۲/۲	ГG	G/Y	
Terminal No.	٢	4	5	9	7	8	

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< ECU DIAGNOSIS >

Connector Name ELECTRONIC STEERING COLUMN LOCK

M32

Connector No.

Connector Color WHITE

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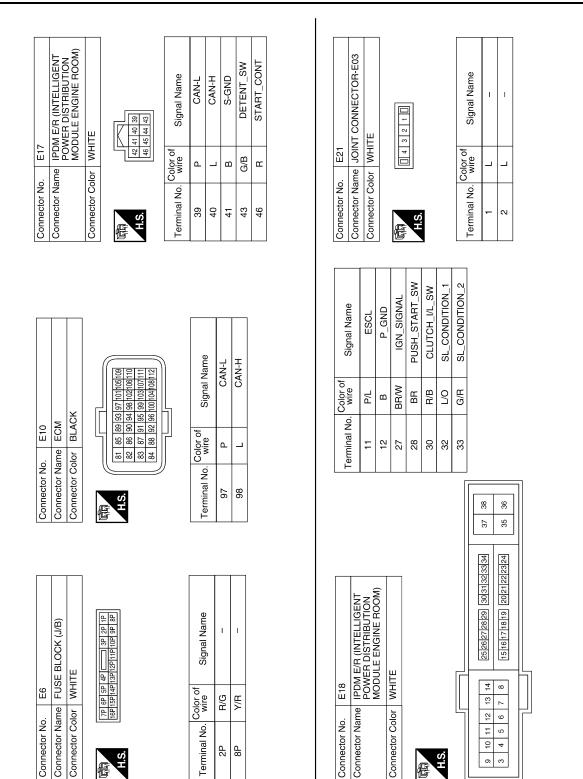
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[INTELLIGENT KEY SYSTEM]

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SEC-166

JTCH INTERLOCK	SWITCH	BROWN	[5	-			Signal Name	I	-			
		_	_		_		Color of	wire	G/W	R/B			
Connector No. Connector Name		Connector Color	4	E	H.S.			Terminal No.	÷	2			
Signal Name	I	I	I	I	I	I	I	I	-	-	-	I	I
Color of wire	٩.	_	æ	P/L	G/R	R/B	BR/W	۲ <u>0</u>	BR	R/G	L	٩	W/B
Terminal No.	8G	15G	20G	21G	22G	26G	27G	28G	29G	33G	51G	52G	82G
	Connector Name WIRE IO WIRE			3646		1460 1490 2002 2016 2005 2003 2440 2660 2005 1500 1490 2002 2005 2005 2005 2005 2005 2005	3366 3305 5776 3386 3306 4105	420 430 440 450 460 460 460 460	516 206 506 506 506 506 500 100 000	522 J 512 J 502 J 503 J	846 856 736 746 756 766 776 786 776 786 876	816 826 836	

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[ÍNTELLIGENT KEY SYSTEM]

3210	Signal Name	I
4	Color of wire	R/B
雨 H.S.	Terminal No. Color of	1

Connector Name JOINT CONNECTOR-E05

E28

Connector No.

Connector Color BLACK

Connector Name JOINT CONNECTOR-E04 Connector Color WHITE

E22

Connector No.

H.S.

E

Signal Name	I	I	
Color of wire	Р	Ь	
Terminal No.	1	2	

I. I. T

> R/B R/Y

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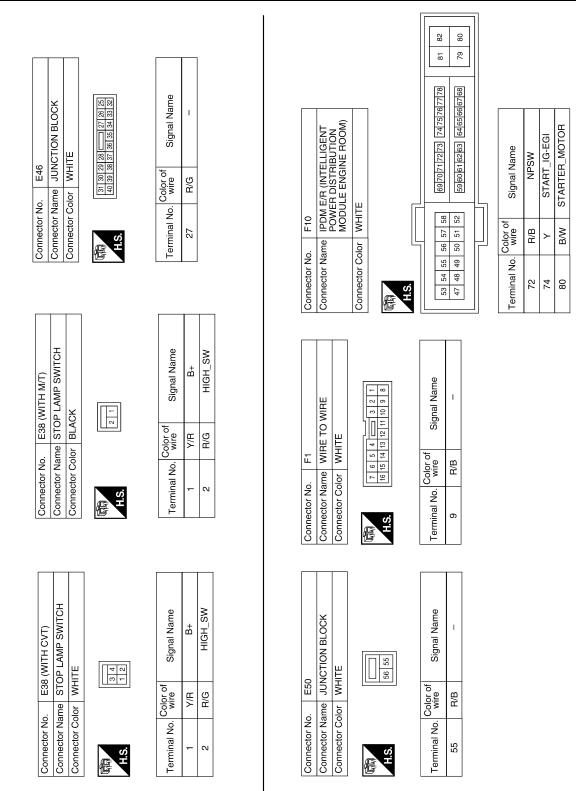
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ALKIA0152GB

Fail Safe

Display contents of CONSULT	Fail-safe	Cancellation
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	Erase DTC
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	Erase DTC
B2190: NATS ANTTENA AMP	Inhibit engine cranking	Erase DTC

SEC-169

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INFOID:000000000994034

BCM (BODY CONTROL MODULE) [INTELLIGENT KEY SYSTEM]

< ECU DIAGNOSIS >

Display contents of CONSULT	Fail-safe	Cancellation
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI-SCANNING	Inhibit engine cranking	Erase DTC
B2197: BCM-ENG-ST ID NG	Inhibit engine cranking	Erase DTC
B2557: VEHICLE SPEED	Inhibit electronic steering column lock	When normal vehicle speed signals have been received from ABS actuator and electric unit (control unit) for 500 ms
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status has become consistentStarter control relay signalStarter relay status signal
B2562: LO VOLTAGE	 Inhibit engine cranking Inhibit electronic steering column lock 	100 ms after the power supply voltage increases to more than 8.8 V
B2563: HI VOLTAGE	 Inhibit engine cranking Inhibit electronic steering column lock 	500 ms after the power supply voltage decreases to less than 18 V
B2601: SHIFT POSITION	Inhibit electronic steering column lock	 500 ms after the following signal reception status becomes consistent Selector lever P position switch signal P range signal (CAN)
B2602: SHIFT POSITION	Inhibit electronic steering column lock	 5 seconds after the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Vehicle speed: 4 /h or more
B2603: SHIFT POSI STATUS	Inhibit electronic steering column lock	 500 ms after the following BCM recognition conditions are fulfilled Ignition switch is in the ON position Selector lever P position switch signal: Except P position (battery voltage) Selector lever P/N position signal: Except P and N positions (0 V)
B2604: PNP SW	Inhibit electronic steering column lock	 500 ms after any of the following BCM recognition conditions is fulfilled Status 1 Ignition switch is in the ON position Selector lever P/N position signal: P and N position (battery voltage) P range signal or N range signal (CAN): ON Status 2 Ignition switch is in the ON position Selector lever P/N position signal: Except P and N positions (0 V) P range signal and N range signal (CAN): OFF
B2605: PNP SW	Inhibit electronic steering column lock	 500 ms after any of the following BCM recognition conditions is fulfilled Ignition switch is in the ON position Power position: IGN Selector lever P/N position signal: Except P and N positions (0 V) Interlock/PNP switch signal (CAN): OFF Status 2 Ignition switch is in the ON position Selector lever P/N position signal: P or N position (battery voltage) PNP switch signal (CAN): ON
B2606: S/L RELAY	Inhibit engine cranking	 500 ms after the following CAN signal communication status has become consistent Electronic steering column lock relay signal (Request signal) Electronic steering column lock relay signal (Condition signal)

< ECU DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

INFOID:000000000994035

Display contents of CONSULT	Fail-safe	Cancellation
B2607: S/L RELAY	Inhibit engine cranking	 500 ms after the following CAN signal communication status has become consistent Electronic steering column lock relay signal (Request signal) Electronic steering column lock relay signal (Condition signal)
B2608: STARTER RELAY	Inhibit engine cranking	 500 ms after the following signal communication status becomes consistent Starter motor relay control signal Starter relay status signal (CAN)
B2609: S/L STATUS	 Inhibit engine cranking Inhibit electronic steering column lock 	 When the following electronic steering column lock conditions agree BCM electronic steering column lock control status Electronic steering column lock condition No. 1 signal status Electronic steering column lock condition No. 2 signal status
B260A: IGNITION RELAY	Inhibit engine cranking	 500 ms after the following conditions are fulfilled IGN relay (IPDM E/R) control signal: OFF (Battery voltage) Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions is fulfilledPower position changes to ACCReceives engine status signal (CAN)
B2612: S/L STATUS	 Inhibit engine cranking Inhibit electronic steering column lock 	 When any of the following conditions is fulfilled Electronic steering column lock unit status signal (CAN) is received normally The BCM electronic steering column lock control status matches the electronic steering column lock status recognized by the electronic steering column lock unit status signal (CAN from IPDM E/R)
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM be- comes normal
B2619: BCM	Inhibit engine cranking	1 second after the electronic steering column lock unit power sup- ply output control inside BCM becomes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization
B26E1: ENG STATE NO RECIV	Inhibit engine cranking	When any of the following conditions is fulfilledPower position changes to ACCReceives engine status signal (CAN)

DTC Inspection Priority Chart

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

Priority	DTC	
1	B2562: LOW VOLTAGE B2563: HI VOLTAGE	
2	U1000: CAN COMM CIRCUIT U1010: CONTROL UNIT (CAN)	
3	 B2190: NATS ANTTENA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM 	

< ECU DIAGNOSIS >

Priority		D	тс	
4	 B2013: ID DISCORD BCM-S/L B2014: CHAIN OF S/L-BCM B2553: IGNITION RELAY B2555: STOP LAMP B2556: PUSH-BTN IGN SW B2557: VEHICLE SPEED B2560: STARTER CONT RELAY B2601: SHIFT POSITION B2602: SHIFT POSI STATUS B2603: SHIFT POSI STATUS B2604: PNP SW B2606: S/L RELAY B2607: S/L RELAY B2608: STARTER RELAY B2609: S/L STATUS B26009: S/L STATUS B260100000000000000000000000000000000000			
5	 C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1707: LOW PRESSURE RL C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RR C1712: [CHECKSUM ERR] FL C1713: [CHECKSUM ERR] FR C1714: [CHECKSUM ERR] RR C1715: [CHECKSUM ERR] RL C1715: [CHECKSUM ERR] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RR C1720: [CODE ERR] FL C1721: [CODE ERR] FR C1722: [CODE ERR] RR C1723: [CODE ERR] RR C1724: [BATT VOLT LOW] FL C1726: [BATT VOLT LOW] RR C1727: [BATT VOLT LOW] RL C1734: CONTROL UNIT 			
6	 B2621: INSIDE ANTENNA B2622: INSIDE ANTENNA B2623: INSIDE ANTENNA 			

< ECU DIAGNOSIS >

[ÍNTELLIGENT KEY SYSTEM]

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NOTE:

Details of time display

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

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	-	_	_
U1000: CAN COMM CIRCUIT	_	_	_	PCS-48
U1010: CONTROL UNIT (CAN)	_		_	PCS-49
U0415: VEHICLE SPEED SIG	_			BCS-30
B2013: ID DISCORD BCM-S/L	×	—	_	<u>SEC-36</u>
B2014: CHAIN OF S/L-BCM	×	—	_	<u>SEC-37</u>
B2190: NATS ANTTENA AMP	×			<u>SEC-30</u>
B2191: DIFFERENCE OF KEY	×	_	_	<u>SEC-33</u>
B2192: ID DISCORD BCM-ECM	×	_	_	SEC-34
B2193: CHAIN OF BCM-ECM	×	—	_	<u>SEC-35</u>
B2553: IGNITION RELAY	_	_	_	PCS-50
B2555: STOP LAMP	_		_	<u>SEC-40</u>
B2556: PUSH-BTN IGN SW	_	×	_	<u>SEC-42</u>
B2557: VEHICLE SPEED	×	×	_	<u>SEC-44</u>
B2560: STARTER CONT RELAY	×	×	_	<u>SEC-45</u>
B2562: LOW VOLTAGE	—	—	_	BCS-31
B2563: HI VOLTAGE	×	×	—	BCS-32
B2601: SHIFT POSITION	×	×	_	<u>SEC-46</u>
B2602: SHIFT POSITION	×	×	_	<u>SEC-49</u>
B2603: SHIFT POSI STATUS	×	×	—	<u>SEC-51</u>
B2604: PNP SW	×	×	_	<u>SEC-54</u>
B2605: PNP SW	×	×	_	<u>SEC-56</u>
B2606: S/L RELAY	×	×	—	<u>SEC-58</u>
B2607: S/L RELAY	×	×	—	<u>SEC-59</u>
B2608: STARTER RELAY	×	×	—	<u>SEC-61</u>
B2609: S/L STATUS	×	×	—	<u>SEC-63</u>
B260A: IGNITION RELAY	×	×	—	PCS-52
B260B: STEERING LOCK UNIT	—	×	—	<u>SEC-67</u>
B260C: STEERING LOCK UNIT	—	×	—	<u>SEC-68</u>
B260D: STEERING LOCK UNIT	—	×	_	<u>SEC-69</u>
B260F: ENG STATE SIG LOST	×	×	—	<u>SEC-70</u>
B2611: ACC RELAY	_	—	—	PCS-53
B2612: S/L STATUS	×	×	_	<u>SEC-72</u>
B2614: ACC RELAY CIRC	_	×	—	PCS-55
B2615: BLOWER RELAY CIRC	_	×	_	PCS-58

< ECU DIAGNOSIS >

[ÍNTELLIGENT KEY SYSTEM]

CONSULT display	Fail-safe	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
B2616: IGN RELAY CIRC	_	×	-	PCS-61
B2617: STARTER RELAY CIRC	×	×	_	<u>SEC-76</u>
B2618: BCM	×	×	_	PCS-64
B2619: BCM	×	×	_	<u>SEC-78</u>
B261A: PUSH-BTN IGN SW	_	×	_	<u>SEC-79</u>
B261E: VEHICLE TYPE	×	× (Turn ON for 15 seconds)	—	<u>SEC-81</u>
B2621: INSIDE ANTENNA	_	_	_	DLK-40
B2622: INSIDE ANTENNA	_	—	—	DLK-42
B2623: INSIDE ANTENNA	_	—	_	<u>DLK-44</u>
B26E1: ENG STATE NO RES	×	×		<u>SEC-71</u>
C1704: LOW PRESSURE FL	_	—	×	<u>WT-19</u>
C1705: LOW PRESSURE FR	_	—	×	<u>WT-19</u>
C1706: LOW PRESSURE RR	_	—	×	<u>WT-19</u>
C1707: LOW PRESSURE RL	_	_	×	<u>WT-19</u>
C1708: [NO DATA] FL	_	_	×	<u>WT-13</u>
C1709: [NO DATA] FR	_	—	×	<u>WT-13</u>
C1710: [NO DATA] RR	_	—	×	<u>WT-13</u>
C1711: [NO DATA] RL	_	—	×	<u>WT-13</u>
C1712: [CHECKSUM ERR] FL	_	—	×	<u>WT-14</u>
C1713: [CHECKSUM ERR] FR	_	—	×	<u>WT-14</u>
C1714: [CHECKSUM ERR] RR	_	—	×	<u>WT-14</u>
C1715: [CHECKSUM ERR] RL	_	—	×	<u>WT-14</u>
C1716: [PRESSDATA ERR] FL	_	—	×	<u>WT-15</u>
C1717: [PRESSDATA ERR] FR	_	—	×	<u>WT-15</u>
C1718: [PRESSDATA ERR] RR	_	_	×	<u>WT-15</u>
C1719: [PRESSDATA ERR] RL	_	—	×	<u>WT-15</u>
C1720: [CODE ERR] FL	—	—	×	<u>WT-14</u>
C1721: [CODE ERR] FR	_	—	×	<u>WT-14</u>
C1722: [CODE ERR] RR	—	_	×	<u>WT-14</u>
C1723: [CODE ERR] RL	—	—	×	<u>WT-14</u>
C1724: [BATT VOLT LOW] FL	_	—	×	<u>WT-14</u>
C1725: [BATT VOLT LOW] FR	_	—	×	<u>WT-14</u>
C1726: [BATT VOLT LOW] RR	—	_	×	<u>WT-14</u>
C1727: [BATT VOLT LOW] RL	_	—	×	<u>WT-14</u>
C1729: VHCL SPEED SIG ERR	—	_	×	<u>WT-16</u>

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) < ECU DIAGNOSIS > [INTELLIGENT KEY SYSTEM]

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

Reference Value

INFOID:000000000994037

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VALUES ON THE DIAGNOSIS TOOL

Monitor Item	(Condition	Value/Status	С
RADFAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 - 100 %	D
		A/C switch OFF	Off	
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On	E
	Lighting switch OFF		Off	
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On	F
	Lighting switch OFF		Off	_
HL LO REQ	Lighting switch 2ND HI or AUTC	(Light is illuminated)	On	G
	Lighting switch OFF		Off	_ 0
HL HI REQ	Lighting switch HI		On	_
		Front fog lamp switch OFF	Off	H
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	 Front fog lamp switch ON Daytime running light activated (Only for Canada models) 	On	-
		Front wiper switch OFF	STOP	
		Front wiper switch INT	1LOW	_
FR WIP REQ	Ignition switch ON	Front wiper switch LO	Low	– J
		Front wiper switch HI	Hi	_
		Front wiper stop position	STOP P	SE
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P	
		Front wiper operates normally	Off	L
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe opera- tion	BLOCK	
	Ignition switch OFF or ACC		Off	M
IGN RLY1 -REQ	Ignition switch ON		On	_
	Ignition switch OFF or ACC		Off	N
IGN RLY	Ignition switch ON		On	- IN
	Release the push-button ignition	n switch	Off	
PUSH SW	Press the push-button ignition s	witch	On	0
	Ignition switch ON	CVT selector lever in any position other than P or N (CVT models)	Off	
		Release clutch pedal (M/T models)		Ρ
INTER/NP SW	Ignition switch ON	CVT selector lever in P or N posi- tion (CVT models)	On	
		Depress clutch pedal (M/T models)		
ST RLY CONT	Ignition switch ON		Off	
	At engine cranking		On	

< ECU DIAGNOSIS >

[INTELLIGENT KEY SYSTÉM]

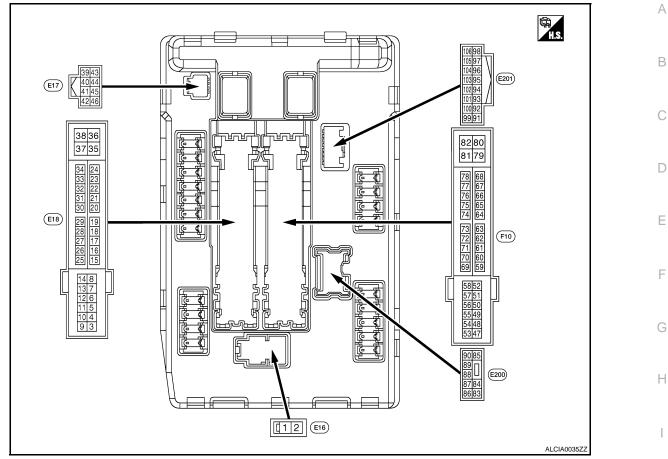
Monitor Item	Con	ndition	Value/Status
	Ignition switch ON		Off
IHBT RLY -REQ	At engine cranking		On
	Ignition switch ON		Off
	At engine cranking		ST →INHI
ST/INHI RLY		control relay cannot be recognized by when the starter relay is ON and the	UNKWN
DETENT SW	Ignition switch ON	 Press the selector button with CVT selector lever in P position CVT selector lever in any posi- tion other than P 	Off
	Release the CVT selector button wi NOTE: The lever is fixed ON for M/T	th CVT selector lever in P position	On
	None of the conditions below are pr	resent	Off
S/L RLY -REQ	seconds)	ition switch is turned OFF (for a few vitch when the steering lock is activat- ne steering lock is activated	On
	Steering lock is activated		LOCK
S/L STATE	Steering lock is deactivated		UNLK
	[DTC B210A] is detected	UNKWN	
DTRL REQ	NOTE: This item is displayed, but cannot b	e monitored.	Off
	Ignition switch OFF, ACC or engine	running	Open
OIL P SW	Ignition switch ON		Close
	Not operated		Off
THFT HRN REQ	 Panic alarm is activated Horn is activated with VEHICLE S TEM 	SECURITY (THEFT WARNING) SYS-	On
	Not operated		Off
HORN CHIRP	Door locking with Intelligent Key (ho	orn chirp mode)	On
CRNRNG LMP REQ	NOTE: This item is displayed, but cannot b	e monitored.	Off

< ECU DIAGNOSIS >

[INTELLIGENT KEY SYSTÉM]

J

TERMINAL LAYOUT



PHYSICAL VALUES

	inal No.	Description				Value	-
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)	SEC
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage	-
2 (B/Y)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage	- L
4	Ground	Front wiper LO	Output	Ignition	Front wiper switch OFF	0 V	
(L/R)	Ground		Output	switch ON	Front wiper switch LO	Battery voltage	M
5	Ground	Front wiper HI	Output	Ignition	Front wiper switch OFF	0 V	_
(L/B)	Ground			switch ON	Front wiper switch HI	Battery voltage	N
6 (SB)	Ground	Daytime light relay power supply (Canada models only)	Output	Ignition sw	itch OFF	Battery voltage	0
7	Ground	Tail, license plate lamps &	Output	Ignition	Lighting switch OFF	0 V	
(R/L)	Ground	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage	_
10				Ignition sw (For a few s switch OFF	seconds after turning ignition	0 V	Ρ
10 (R/B)	Ground	ECM relay power supply	Output	 Ignition s (More th) 	switch ON switch OFF an a few seconds after turn- on switch OFF)	Battery voltage	_

SEC-177

< ECU DIAGNOSIS >

[INTELLIGENT KEY SYSTÉM]

	nal No.	Description													
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)									
				Ignition switch OFF	A few seconds after open- ing the driver door	Battery voltage									
11 (P/L)	re color) Import - Signal name Import Ground Steering lock unit power Out Ground Ground	Output	Ignition switch LOCK	Press the push-button ig- nition switch	Battery voltage										
				Ignition swi	tch ACC or ON	0 V									
12 (B)	Ground	Ground	—	Ignition swi	itch ON	0 V									
13					tely 1 second or more after ignition switch ON	0 V									
(W)	Ground	Fuel pump power supply	Output		nately 1 second after turning on switch ON unning	Battery voltage									
15	Oround	Ignition relay-1 power sup-	Output	Ignition swi	tch OFF	0 V									
(G/W)	Ground		Output	-		Battery voltage									
16				Ignition	Front wiper stop position	0 V									
(L/Y)	Ground	Front wiper auto stop	Input	switch ON	Any position other than front wiper stop position	Battery voltage									
19	Ground	Ignition relay-1 power sup-	Output	Ignition swi	itch OFF	0 V									
(L/Y)	Giouna	ply	Output	Ignition swi	itch ON	Battery voltage									
25	Ground	Ignition relay-1 power sup-	Output	Ignition swi	tch OFF	0 V									
(GR)	Giouna	ply		Ignition switch ON		Battery voltage									
27	0			Ignition switch OFF or ACC	Battery voltage										
(BR/ W)	Ground	Ignition relay monitor	Input	Ignition swi		0 V									
28	Ground	-	Input Input	Input	Press the push-button ignition switch		0 V								
(BR)		switch			Release the	e push-button ignition switch	Battery voltage								
														CVT mod- els	CVT selector lever in any position other than P or N (ignition switch ON)
30 (R/B)	Ground	Starter relay control	Input	615	CVT selector lever P or N (ignition switch ON)	Battery voltage									
				M/T mod-	Release the clutch pedal	0 V									
				els	Depress the clutch pedal	Battery voltage									
32	Ground		Input	Electronic s	steering column lock is acti-	0 V									
(O/L)	0.00.00	lock unit condition-1		Electronic s tivated	steering column lock is deac-	Battery voltage									
33	Ground		Innut	Electronic s	steering column lock is acti-	Battery voltage									
(G/R)	Cround	lock unit condition-2	Input	Electronic s tivated	steering column lock is deac-	0 V									
34	0		1. 4	Ignition swi	tch OFF or ACC	0 V									
(BR/ W)	Ground	Cooling tan relay-3 control	Input	Ignition swi	itch ON	0.7 V									
35	Ground	Cooling fan motor control	Output	Ignition swi	tch OFF or ACC	0 V									
(L/B)				Ignition swi	itch ON	0.7 V									

SEC-178

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) < ECU DIAGNOSIS > [INTELLIGENT KEY SYSTEM]

	inal No.	Description		-	.	Value										
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)										
36 (G)	Ground	Battery power supply	Input	Ignition swi	itch OFF	Battery voltage										
38			0.1.1	Ignition swi	itch OFF or ACC	0 V										
(R/W)	Ground	Cooling fan motor control	Output	Ignition swi	itch ON	0.7 V										
39 (P)	_	CAN - L	Input/ Output		-	_										
40 (L)		CAN - H	Input/ Output		_	_										
41 (B)	Ground	Ground		Ignition swi	itch ON	0 V										
42	Ground	Cooling fan relay-2 control	Input	Ignition swi	itch OFF or ACC	0 V										
(SB)	Cround		mput	Ignition swi	itch ON	0.7 V										
					Press the CVT selector button (CVT selector lever P)	Battery voltage										
43 (G/B)	Ground	CVT device (Detention switch)	Input	Ignition switch ON	 CVT selector lever in any position other than P Release the CVT selector tor button (CVT selector lever P) 	0 V										
44				s deactivated	Battery voltage											
(G/W)	Ground	Horn relay control	Input	The horn is	sactivated	0 V										
45				The horn is	s deactivated	Battery voltage										
(L/O)	Ground	Anti theft horn relay control	Input	The horn is	s activated	0 V										
				CVT mod- els	CVT selector lever in any position other than P or N (ignition switch ON)	0 V										
46 (R)	Ground	Starter relay control	Starter relay control	Starter relay control	Starter relay control	Starter relay control	Starter relay control	Starter relay control	Starter relay control	Starter relay control	Starter relay control	Input		CVT selector lever P or N (ignition switch ON)	Battery voltage	
				M/T mod-	Release the clutch pedal	0 V	_									
				els	Depress the clutch pedal	Battery voltage										
					A/C switch OFF	0 V										
48 (Y/R)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is oper- ating)	Battery voltage										
40				Ignition swi (For a few s switch OFF	seconds after turning ignition	0 V										
49 (R/B)	Ground	ECM relay power supply	Output			Battery voltage										
51	Ground	Ignition relay power supply	Output	Ignition swi	itch OFF	0 V										
(LG)	Croand	ginnen sing perior ouppry	- aipui	Ignition swi	itch ON	Battery voltage										
52	Ground	Ignition relay power supply	Output	Ignition swi		0 V										
(Y/G)		5 7F FF 7		Ignition swi	itch ON	Battery voltage										

< ECU DIAGNOSIS >

[INTELLIGENT KEY SYSTÉM]

Terminal No.		Description				
(Wire +	e color) –	Signal name Input/ Output		Condition		Value (Approx.)
53 (R/B)	Ground	ECM relay power supply	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		0 V
						Battery voltage
54 (G/W)	Ground	Throttle control motor re- lay power supply	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		0 V
						Battery voltage
55 (W/L)	Ground	ECM power supply	Output	Ignition switch OFF		Battery voltage
56 (R/Y)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
57	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
(O)				Ignition switch ON		Battery voltage
58 (Y)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition swi	itch ON	Battery voltage
69	Ground	ECM relay control	Output	Ignition switch OFF (For a few seconds after turning ignition switch OFF)		Battery voltage
(W/B)				 Ignition switch ON Ignition switch OFF (More than a few seconds after turn- ing ignition switch OFF) 		0 - 1.5 V
70 (O)	Ground	Throttle control motor re- lay control	Output	Ignition switch $ON \rightarrow OFF$		0 -1.0 V
						↓ Battery voltage ↓ 0 V
				Ignition switch ON		0 - 1.0 V
72 (R/B)	Ground	PNP switch signal	Input		CVT selector lever in P or N position	Battery voltage
				Ignition switch ON	CVT selector lever in any position other than P or N position	0 V
74	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
(Y)	2.24114	ignation roley power supply	Carpur	Ignition switch ON		Battery voltage
75 (P/L)	Ground	Oil pressure switch	Input	Ignition	Engine stopped	0 V
				switch ON	Engine running	Battery voltage

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[INTELLIGENT KEY SYSTÉM]

	inal No.	Description				Value	٥
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)	A
				Ignition swi	itch ON	(V) 6 4 2 0 ★ 2 ms ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	B C D
76 (GR)	Ground	Power generation com- mand signal	Output		on "Active test", "ALTERNA- /" of "ENGINE"	(V) 6 4 2 0 ★ 2ms ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	E
						3.8 V	G
					on "Active test", "ALTERNA- " of "ENGINE"	(V) 6 4 2 0 ► • • • • • • • • • • • • • • • • • • •	Н
						 JPMIA0003GB 1.4 V	I
77 (B/R)	Ground	Fuel pump relay control	Output	Engine running		0 - 1.0 V	J
(0/17)					tely 1 second or more after ignition switch ON	Battery voltage	SE
80 (B/W)	Ground	Starter motor	Output	At engine of	sranking	Battery voltage	
83	Ground	Headlamp LO (RH)	Output	Ignition	Lighting switch OFF	0 V	L
(R/Y)				switch ON	Lighting switch 2ND Lighting switch OFF	Battery voltage	
84 (L)	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch 2ND	Battery voltage	M
86 (W/R)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	 Front fog lamp switch ON Daytime running light activated (Only for Can- ada models) 	Battery voltage	Ν
					Front fog lamp switch OFF	0 V	0
87 (L/Y)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	 Front fog lamp switch ON Daytime running light activated (Only for Can- ada models) 	Battery voltage	Ρ
88 (R/W)	Ground	Washer pump power sup- ply	Output	Ignition sw	Front fog lamp switch OFF	0 V Battery voltage	

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[INTELLIGENT KEY SYSTÉM]

	inal No.	Description				Value
(VVire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)
89 (L/W)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	Lighting switch HIlighting switch PASS	Battery voltage
(Ľ/٧٧)				SWITCH ON	Lighting switch OFF	0 V
90 (G)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	Lighting switch HILighting switch PASS	Battery voltage
(0)				SWIICH ON	Lighting switch OFF	0 V
91	<u> </u>			Ignition	Lighting switch 1ST	Battery voltage
(LG/ R)	Ground	Parking lamp (RH)	Output	switch ON	Lighting switch OFF	0 V
92			-	Ignition	Lighting switch 1ST	Battery voltage
(LG/ B)	Ground	Parking lamp (LH)	Output	switch ON	Lighting switch OFF	0 V
105	Ground	Daytime light relay control	Output	Ignition switch ON	Daytime light system ac- tive	Battery voltage
(V)	Ground	Daytine light relay control	Calput	Ignition switch ON	Daytime light system inac- tive	0 V

Wiring Diagram — INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION





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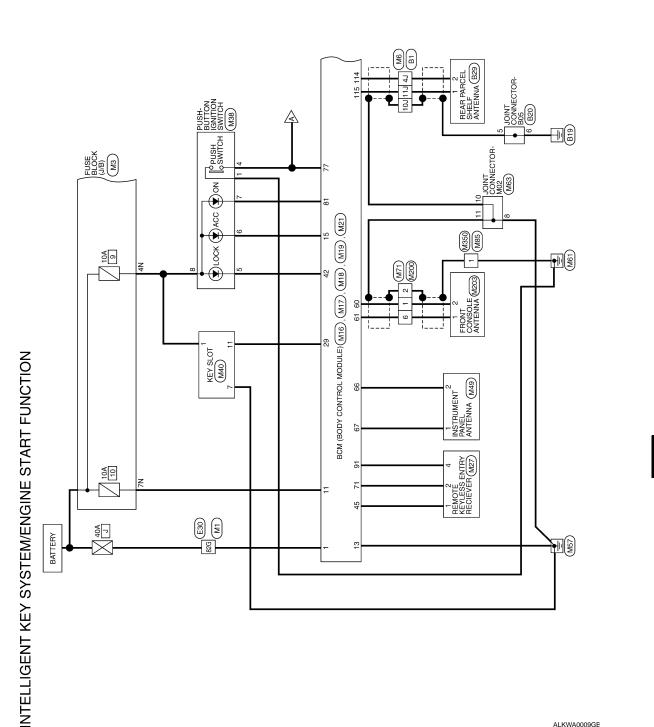
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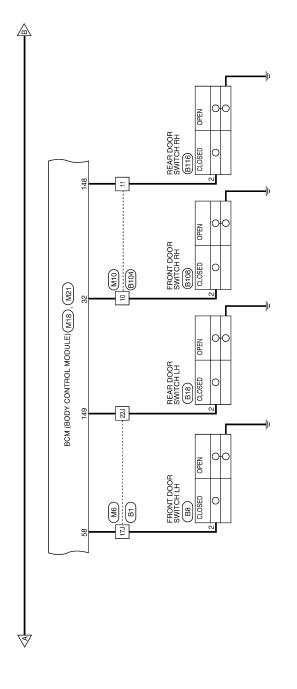
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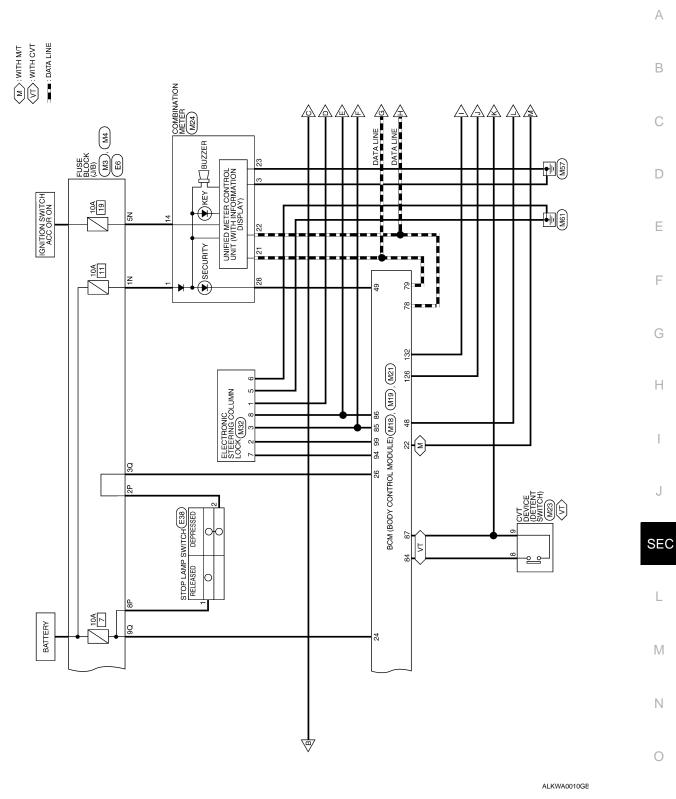
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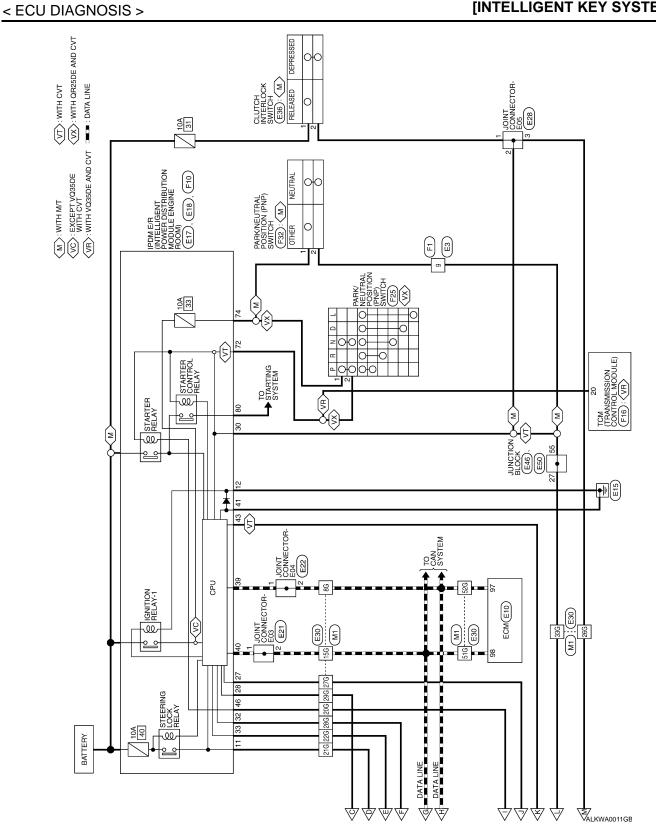
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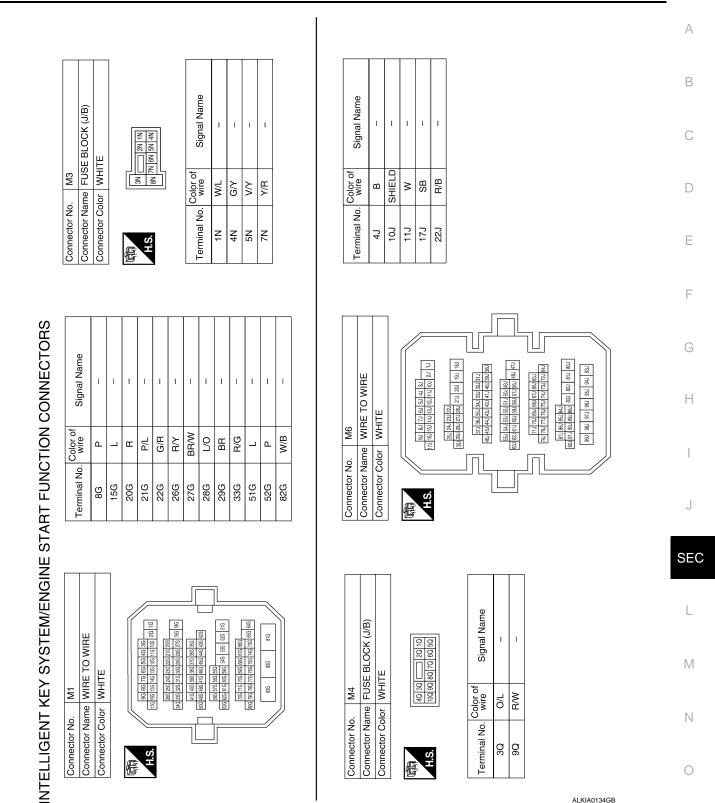


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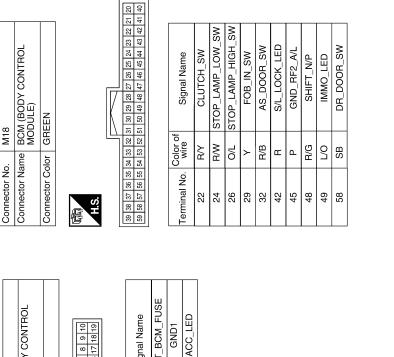


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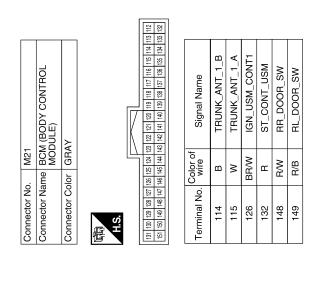
Connector No.	. M17	
Connector Na	me BCN MOI	Connector Name BCM (BODY CONTROL MODULE)
Connector Color WHITE	lor WHI	TE
त्तित H.S.	4 5 6 11 12 13	4 5 6 7 <u>8 9 10</u> 11 12 13 14 15 16 17 18 19
Terminal No.	Color of wire	Signal Name
11	Н/Y	BAT_BCM_FUSE
13	в	GND1
15	٦/٨	ACC_LED

Connector No.	M16
Connector Name	Connector Name BCM (BODY CONTROL MODULE)
Connector Color BLACK	BLACK
际 H.S.	13

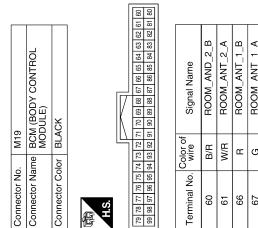
Signal Name	BAT_POWER_F/L
Color of wire	W/B
Terminal No.	-

Signal Name	BAT_POWER_F/L	
Color of wire	W/B	

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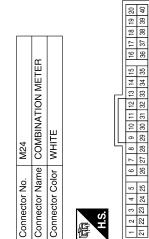
Signal Name	RF1_TUNER_SIGNAL	ENG_START_SW	CAN-L	CAN-H	IGN_ON_LED	AT_DEVICE_OUT	S/L_CONDITION_1	S/L_CONDITION_2	SHIFT_P	RF1_POWER_SUPPLY	S/L_POWER SUPPLY_12V	S/L_K-LINE
Color of wire	Г/О	BR	Р	L	ГG	Y/R	Г/О	G/R	G/B	L/R	G/Y	Γ
Terminal No.	71	77	78	79	81	84	85	86	87	91	94	66

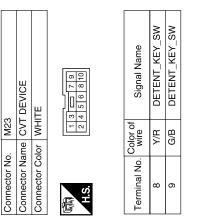


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Signal Name	ROOM_AND_2_B	ROOM_ANT_2_A	ROOM_ANT_1_B	ROOM_ANT_1_A	
Color of wire	B/R	M/R	В	G	
Terminal No.	60	61	66	67	

Signal Name	BAT	GND	ACC	CAN-H	CAN-L	GND	SECURITY	
Color of wire	M/L	в	۲/۷	_	٩	В	Г/О	
Terminal No.	-	з	14	21	22	23	28	





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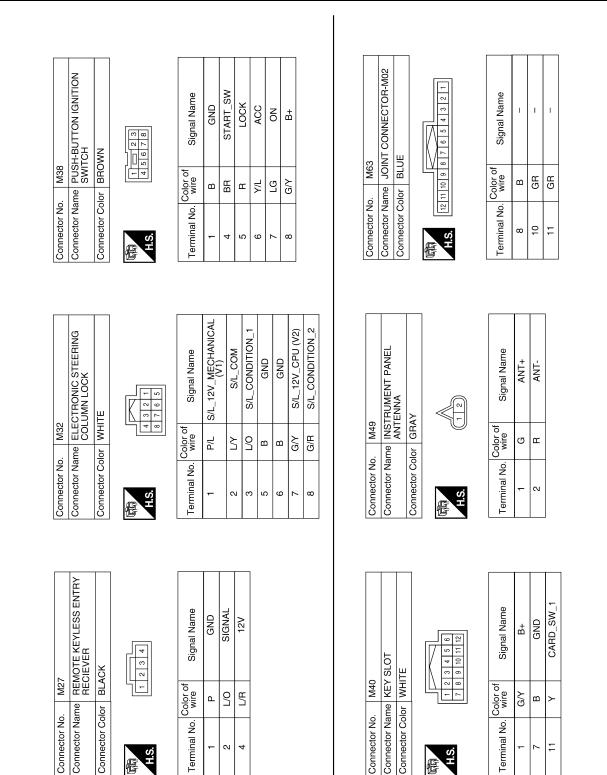
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BLACK

Connector Color

Color of wire

Terminal No.

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M27

Connector No.

Connector Name KEY SLOT

M40

Connector No.

Connector Color WHITE

Color of wire

Terminal No.

H.S.H.

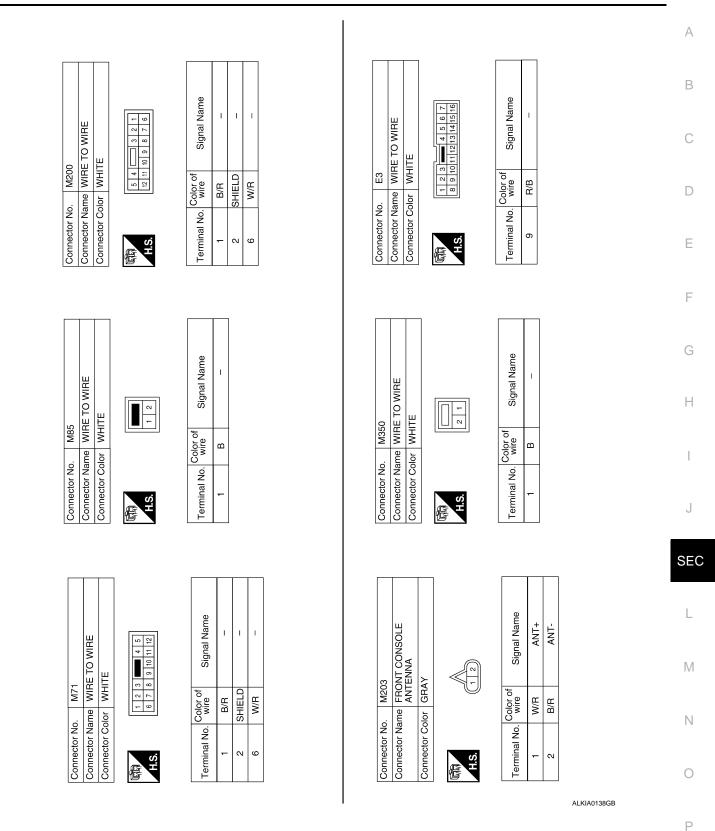
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Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Name JOINT CONNECTOR-E03 START_CONT DETENT_SW CAN-H Signal Name Signal Name S-GND CAN-L I. I 42 41 40 39 46 45 44 43 K WHITE Connector Color WHITE E17 Color of wire Color of wire E21 G/B _ ш ш ٩ _ Connector Color Connector No. Connector No. Terminal No. Terminal No. 43 39 40 4 46 N H.S. H.S. E 佢 SL_CONDITION_1 SL_CONDITION_2 PUSH_START_SW CLUTCH_I/L_SW IGN SIGNAL Signal Name Signal Name P_GND CAN-H
 81
 85
 89
 93
 97
 101
 105
 109

 82
 86
 90
 94
 98
 102
 106
 110

 83
 87
 91
 95
 99
 107
 101
 105
 103

 83
 87
 91
 95
 99
 103
 107
 111

 84
 88
 92
 96
 100
 104
 112
 CAN-L ESCL Connector Color BLACK E10 ECM Color of wire Color of wire BR/W R/B 9 G/R ٩ _ ВВ РГ ш Connector Name Connector No. Terminal No. Terminal No. 97 86 = 12 30 28 32 33 27 H.S. 倨 36 38 37 35 2526272829 3031323334 15 16 17 18 19 20 21 22 23 24 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) 7P 6P 5P 4P 3P 2P 1P 16P15P14P13P12P11P10P 9P 8P Signal Name FUSE BLOCK (J/B) L I WHITE WHITE E18 4 œ Color of wire <u>9</u> R/G 13 Y/R 2 Connector Color Connector Name Connector Name Connector Color 9 12 Connector No. Connector No. ÷ 5 Terminal No.

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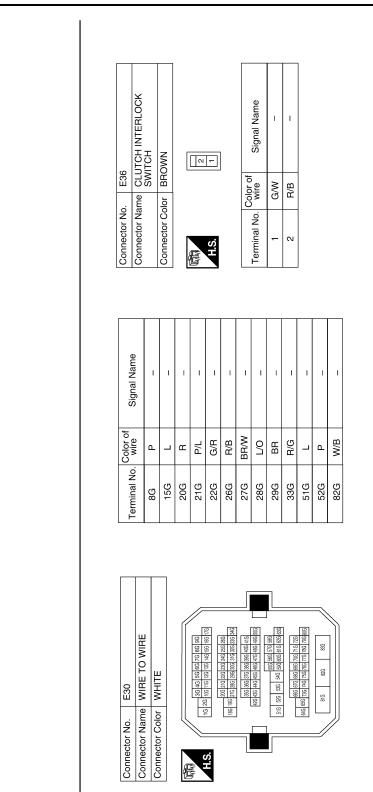
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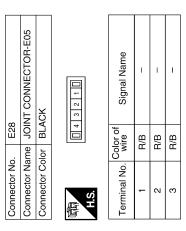
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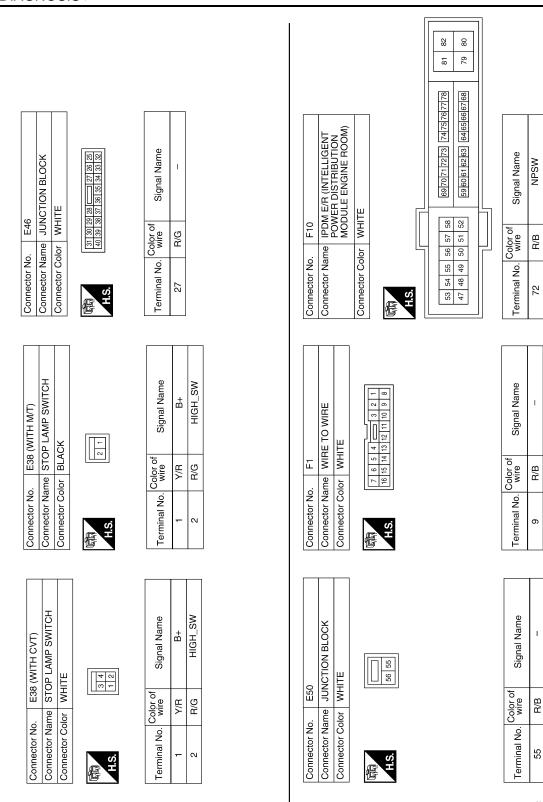
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Connector No.	. E22	
Connector Name		JOINT CONNECTOR-E04
Connector Color	olor WHITE	ITE
雨 H.S.		043210
Terminal No.	Color of wire	Signal Name
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Signal Name	-	-
Color of wire	Ч	٩
rminal No.	1	2

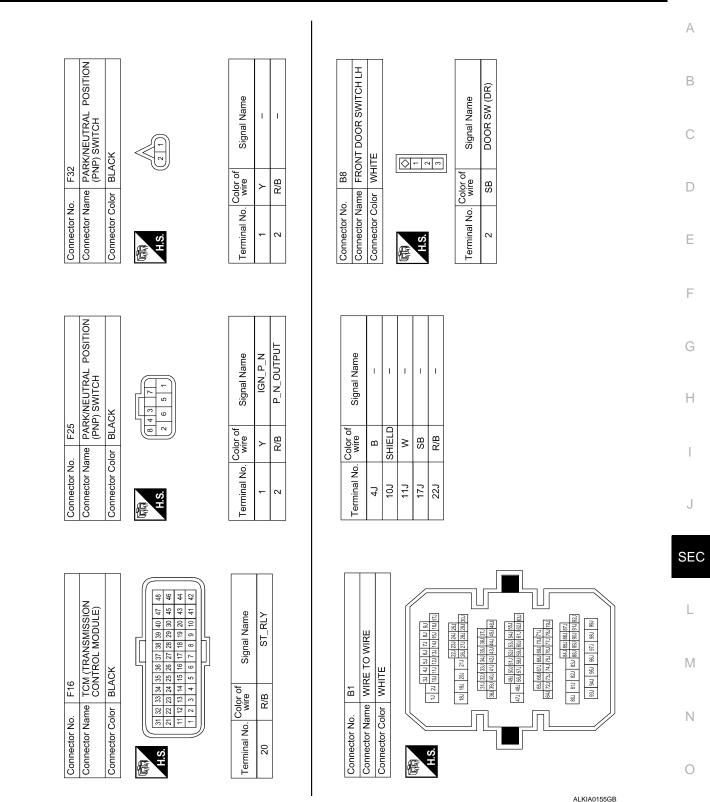


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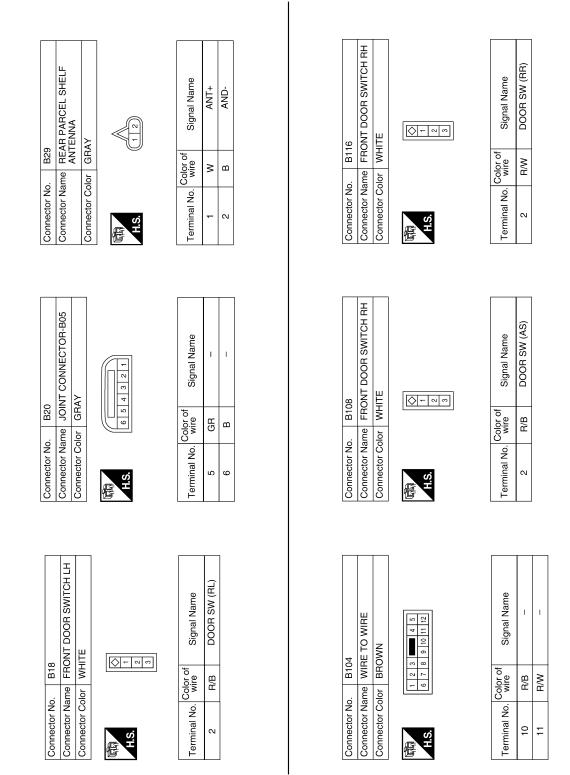
START_IG_EGI STARTER_MOTOR

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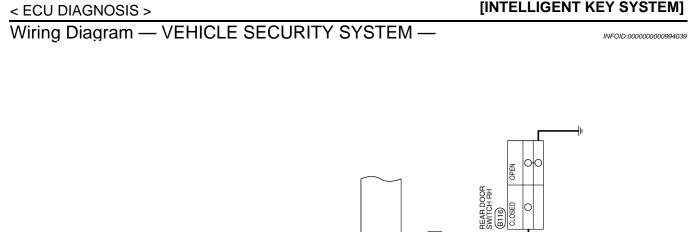
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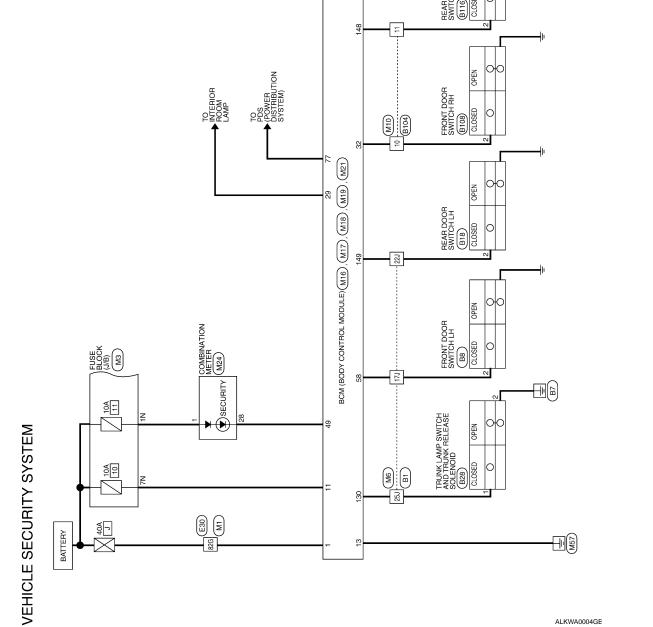
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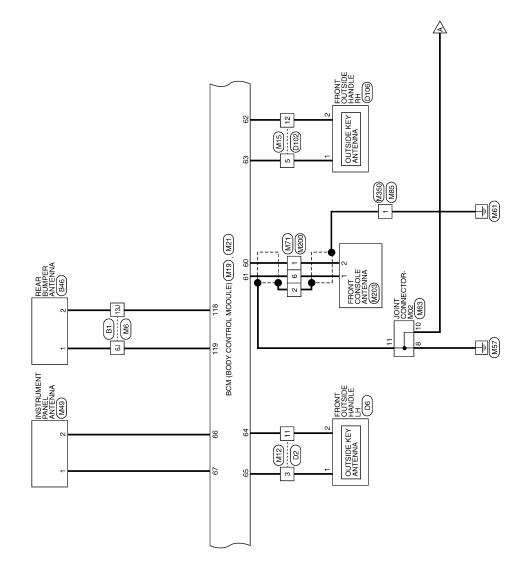
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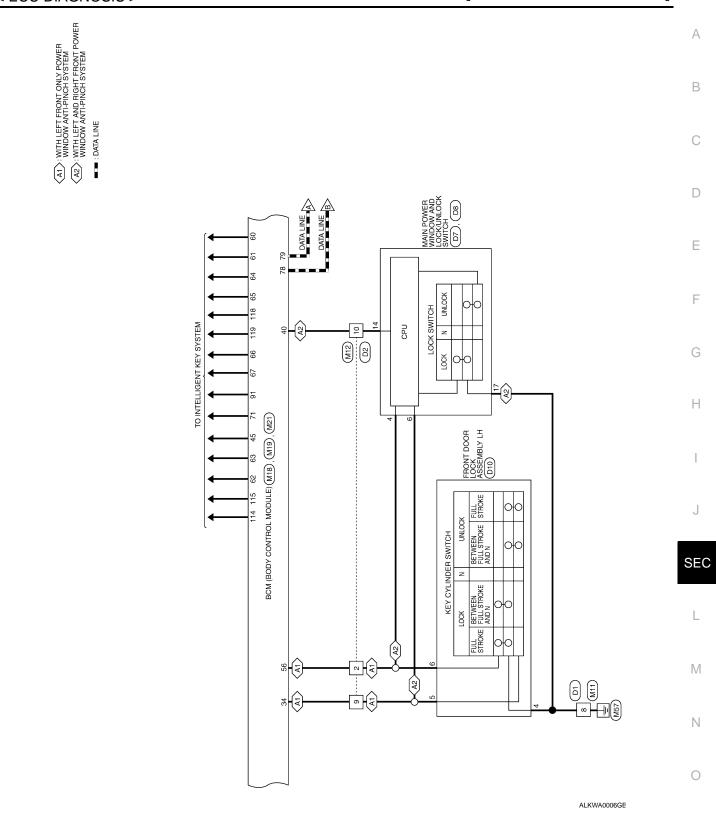
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 (A1)
 WINDOW ANT-PINCH SYSTEM

 (A2)
 WINDOW ANT-PINCH SYSTEM

 (MINDOW ANT-PINCH SYSTEM

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 DATA LINE

 FRONT POWER WINDOW AND DOOR LOCKUNLOCK SWITCH RH 2 0105 UNLOCK ЮЮ LOCK SWITCH 79 z ά LOCK 0102 M15 ж ~ 2 MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH D7), D8 UNLOCK 60 LOCK SWITCH z LOCK ЮЮ (FM) ā 18 39 36 A1 L 6 0 WINDOW AND DOOR LOCK/UNLOCK SWITCH RH D105 BCM (BODY CONTROL MODULE) (M18), (M19) OWER UNLOCK 010J M14 oю LOCK SWITCH 19 СРU z LOCK ЮЮ M61 $\overline{\mathbf{A}}$ MAIN POWER WINDOW AND LOCK/UNLOCK SWITCH D7), D8

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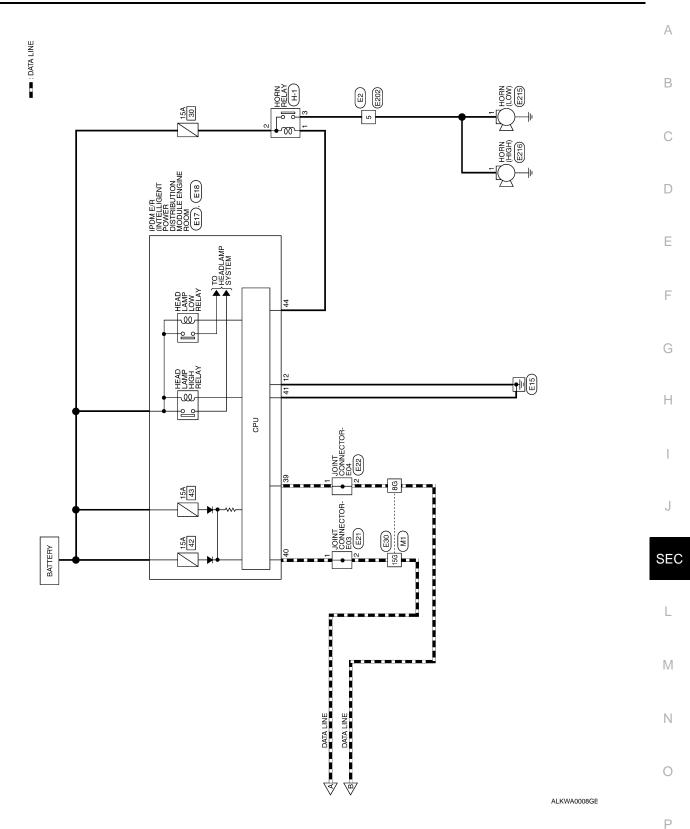
LOCK SWITCH

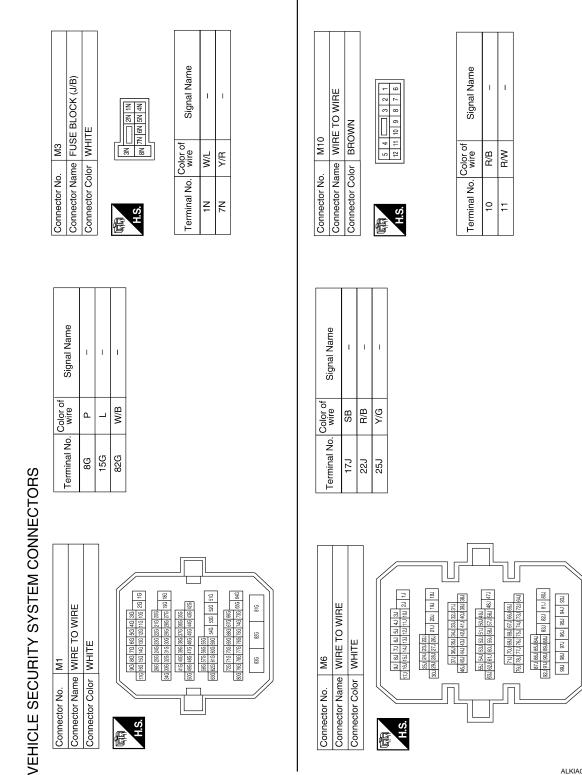
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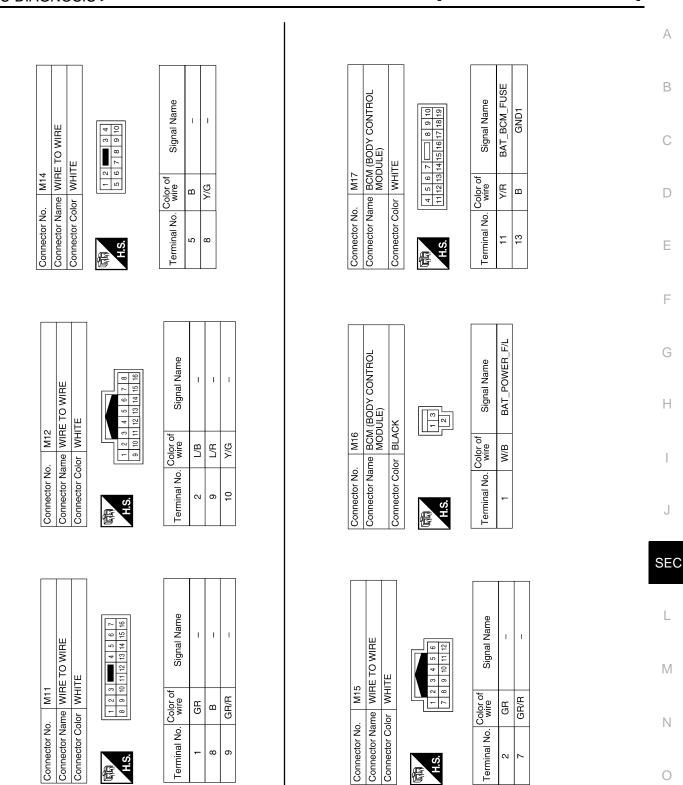
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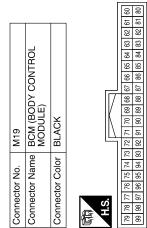


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8 133 116 115 114 134 58 BCM (BODY CONTROL MODULE) 36 1 \$ 8 141 121 5 \$ GRAY € M21 124 4 145 Connector Name Connector Color 126 46 Connector No.

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Signal Name		TRUNK ANT 1 B	TRUNK ANT 1 A	BACK_DOOR_ANT_B	BACK_DOOR_ANT_A	TRUNK_SW	RR_DOOR_SW	RL DOOR SW
Color of	Wire	В	M	L/0	BR/W	Y/G	R/W	R/B
Terminal No.		114	115	118	119	130	148	149



Signal Name	ROOM ANT 2 B	ROOM_ANT_2_A	AS DOOR ANT B	AS_DOOR_ANT_A	DR_DOOR_ANT_B	DR_DOOR_ANT_A	ROOM_ANT_1_B	ROOM_ANT_1_A	RF1_TUNER_SIGNAL	CAN-L	CAN-H	RF1_POWER_SUPPLY	
Color of Wire	B/R	W/R	B/Y	ГG	٨	Ч	В	G	L/O	Р	L	L/R	
Terminal No.	60	61	62	63	64	65	66	67	71	78	79	91	

Connector No. M18 Connector Name BCM (BODY CONTROL MODULE) Connector Color GREEN	39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20	52 51 50 49 48 47		
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-

-			-	_						_	
Signal Name	FOB_IN_SW_1	AS_DOOR_SW	DOOR KEY/C UNLOCK_SW	CENTRAL_LOCK_SW	CENTRAL UNLOCK	PW_K-LINE	GND_RF2_A/L	IMMO_LED	DOOR_KEY/C_LOCK_	DR_DOOR_SW	
Color of wire	≻	R/B	L/R	GR	GR/R	Э/Л	Ч	Г/О	L/B	SB	
Terminal No.	29	32	34	36	39	40	45	49	56	58	

Signal Name		DAT	DAI	20110110	
Color of	2	1/1/1	VV/L	Ç,	S
Terminal No. Color of		÷		00	20
Connector No. M24	Connector Name COMBINATION METER		Connector Color WHITE		



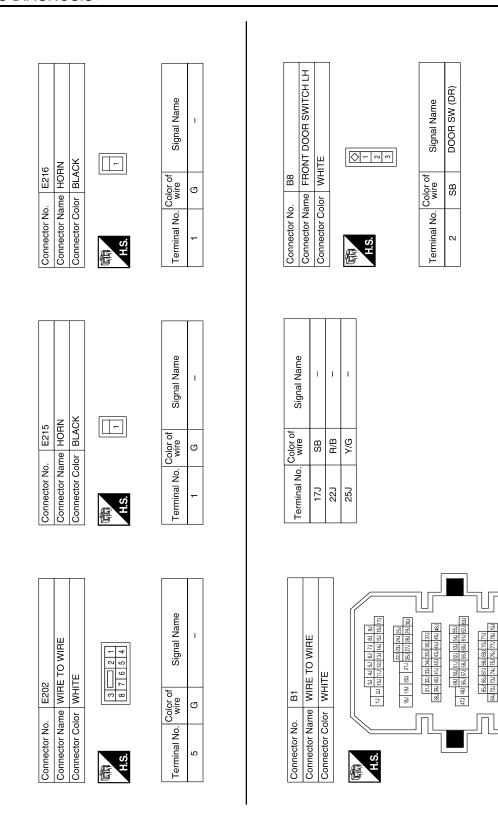
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	-	21	1

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А 38 36 37 35 Signal Name В I ı I 32 33 34 2021222324 9G 16G 17G 51G 52G 53G 54G 55G 56G 57G 58G 796 806 30 31 WIRE TO WIRE IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) 206 216 226 226 246 256 266 186 196 256 266 64G 65G 73G 75G 75G 77G 77G 75G 79G 356 366 376 386 396 406 410 426 436 446 456 466 476 486 496 83G 3G 4G 5G 6G 7G 8G 1 1G 2G 108 116 128 136 146 156 1 С 25 26 27 28 29 15 16 17 18 19 Color of wire Signal Name 82 P-GND W/B WHITE ٩ _ E30 81G D Terminal No. Connector No. Connector Color 82G 15G 8 WHITE E18 14 ω Color of wire 13 \sim മ H.S. Ε Connector Name Connector Color 12 9 F Connector No. ÷ 5 Terminal No. 10 4 42 H.S. F 6 ო E JOINT CONNECTOR-E04 Signal Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) I T HORN_RLY Signal Name CAN-H S-GND CAN-L Н 42 41 40 39 46 45 44 43 Connector Color WHITE E22 Color of wire WHITE ۲ ٩ Connector Name E17 Color of wire G/V Connector No. ٩ ш _ Terminal No. Connector Name Connector Color Connector No. N Terminal No. H.S. J 佢 39 40 41 44 H.S. E SEC Connector Name JOINT CONNECTOR-E03 L Signal Name Signal Name I Т T. WIRE TO WIRE
 1
 2
 3

 4
 5
 6
 7
 Μ WHITE WHITE Color of wire Color of wire Ы **E** ര _ _ Connector Name Connector Color Connector Color Ν Connector No. Connector No. Terminal No. Terminal No. ß N H.S. H.S. 俉 佢 0

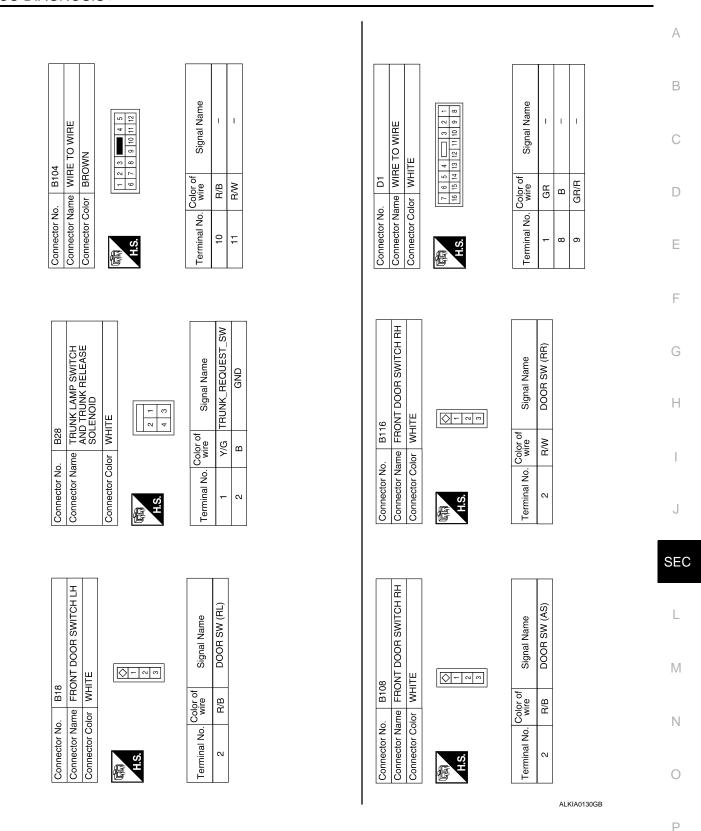
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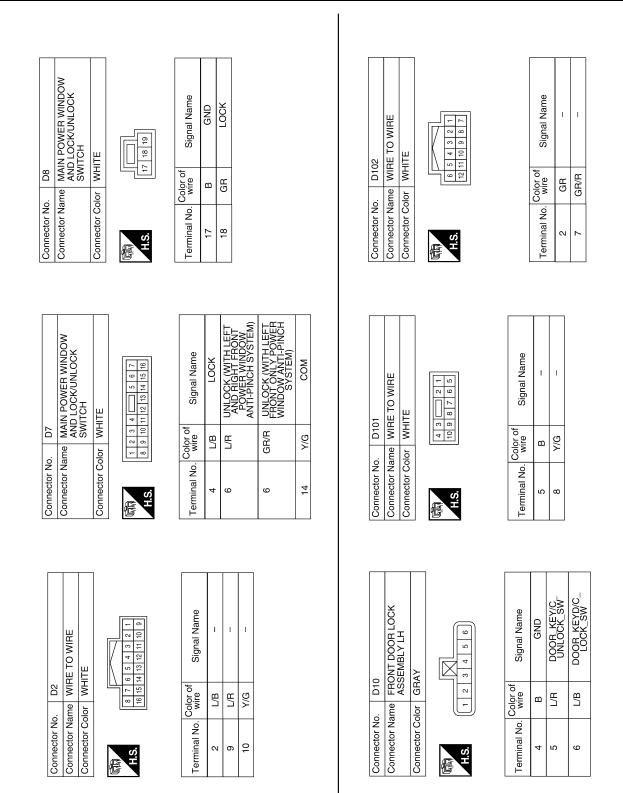


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84.) 85.) 85.) 85.) 85.) 87.) 80.) 81.) 82.) 83.) 88.) 90.) 97.) 92.)

93J 94J 95J 96J 97J 98J 99J





ALKIA0131GB

Connector No.		15 Marca 1440
Connector Name		POWER WINDOW AND DOOR LOCK/UNLOCK AND RIGHT FRONT POWER WINDOW ANTI-PINCH SYSTEM)
ctor Co	Connector Color WHITE	ITE
H.S.	1 2 3 8 9 10	3 4 2 5 6 7 10 11 12 13 14 15 16
Terminal No.	Color of wire	Signal Name
11	в	GND
16	У/G	PW_K_LINE

)5	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH (WITH LEFT FRONT ONLY POWER WINDOW ANTI-PINCH SYSTEM)	WHITE	2 <u>3 4 5</u> 7 8 9 10 11 12	Signal Name	LOCK	NLOCK	GND
. D105		-	- 0	Color of wire	GR	GR/R	ш
Connector No.	Connector Name	Connector Color	子 王 子 子 子 子 子 子 子 子 子 子 子 子 子 子 子 子 子 子	Terminal No.	1	2	ო

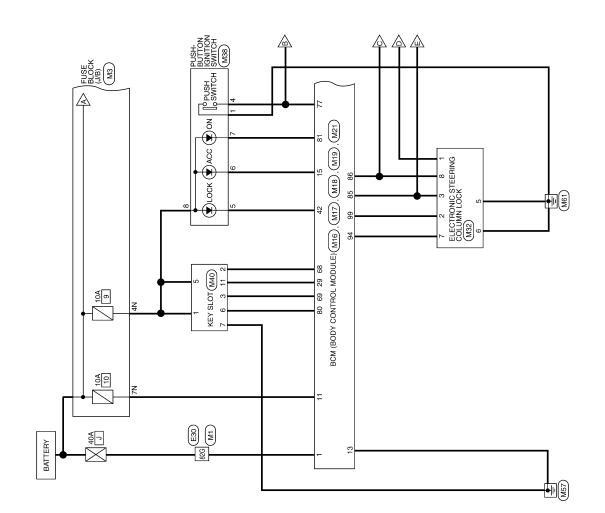
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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) [INTELLIGENT KEY SYSTÉM]

< ECU DIAGNOSIS >

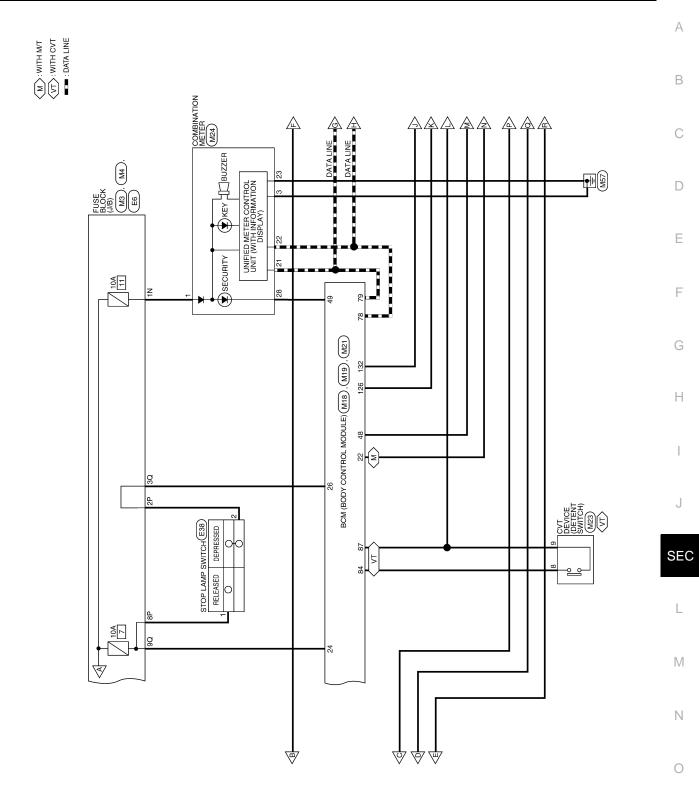
Wiring Diagram — NVIS —

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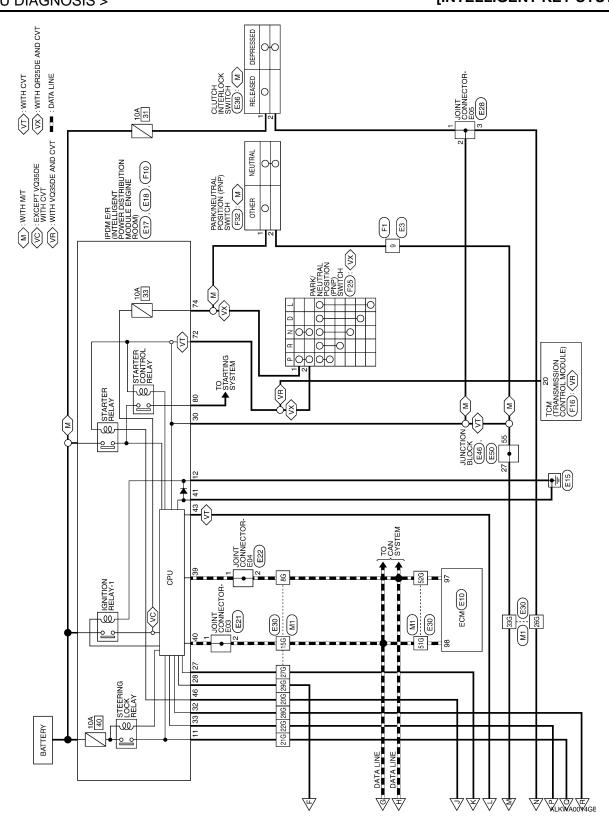


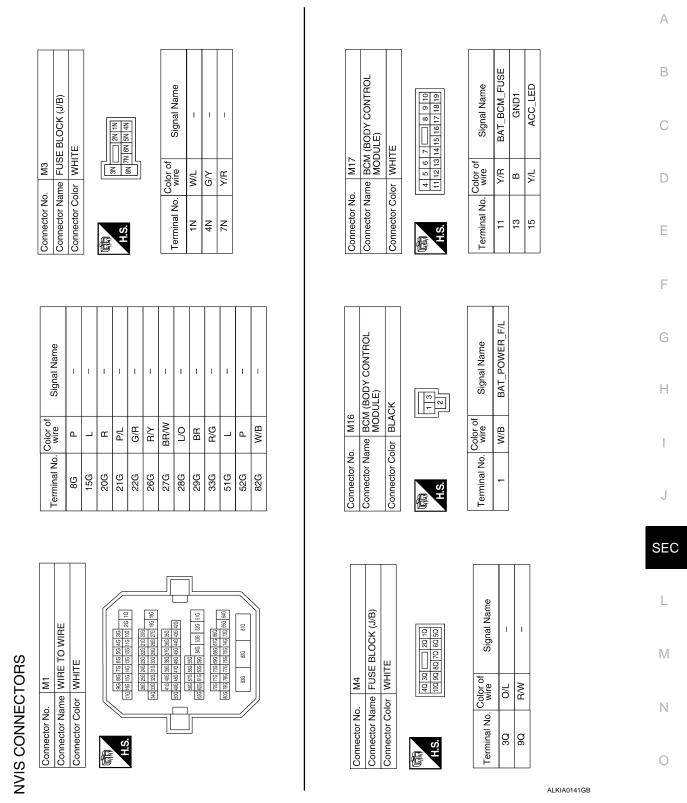
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ALKWA0013GE





Signal Name	ENG_START_SW	CAN-L	CAN-H	FOB_SLOT ILLUMINATION	IGN_ON_LED	AT_DEVICE_OUT	S/L_CONDITION_1	S/L_CONDITION_2	SHIFT_P	S/L_POWER SUPPLY_12V	S/L_K-LINE
Color of wire	BR	٩	_	R/L	ГG	Y/R	L/0	G/R	G/B	G/Y	Γ
Terminal No.	77	78	62	08	81	84	85	86	87	64	66

				[81 80			
	BCM (BODY CONTROL MODULE)	BLACK			70 69 68 67 66 65 64 63 62	91 90 89 88 87 86 85 84 83 82 8	Signal Name	FOB_READER_CLOCK	FOB_READER_DATA
. M19					74 73 72 7	94 93 92 9	Color of wire	G/O	0
Connector No.	Connector Name	Connector Color	回到 H.S.		78 77 76 75	66 67 66 62 6	Terminal No.	68	69

BCM (BODY CONTROL MODULE)

Connector No. M18 Connector Name

		21 20 41 40									
GREEN		31 30 29 28 27 26 25 24 23 22 1 51 50 49 48 47 46 45 44 43 42	Signal Name	CLUTCH_SW	STOP_LAMP_LOW_SW	STOP_LAMP_HIGH_SW	FOB_IN_SW_1	S/L_LOCK_LED	SHIFT_N/P	IMMO_LED	
		34 33 32 54 53 52	Color of wire	RV	R/W	0/L	≻	щ	R/G	L/0	
Connector Color	语 H.S.	39 38 37 36 35 59 58 57 56 55	Terminal No.	22	24	26	29	42	48	49	

Connector No.	M21
nnector Name	Connector Name BCM (BODY CONTROL MODULE)
Connector Color GRAY	GRAY



			-	
	112	33		
	113	133		_
	114	134		
	115	135		
	116	136		
	117	137		
	118	138		
	119	139		
7	120	140		
/	121	141		
١	122	142		
/	123	143		+
	124	144		Color of
	125	145		18
	126	146		C
	127	147		
	128	148		
	129	1 6		
	130	150		
	131	151		
			-	

Signal Name	IGN_USM_CONT1	ST_CONT_USM	
Color of wire	BR/W	œ	
Terminal No.	126	132	

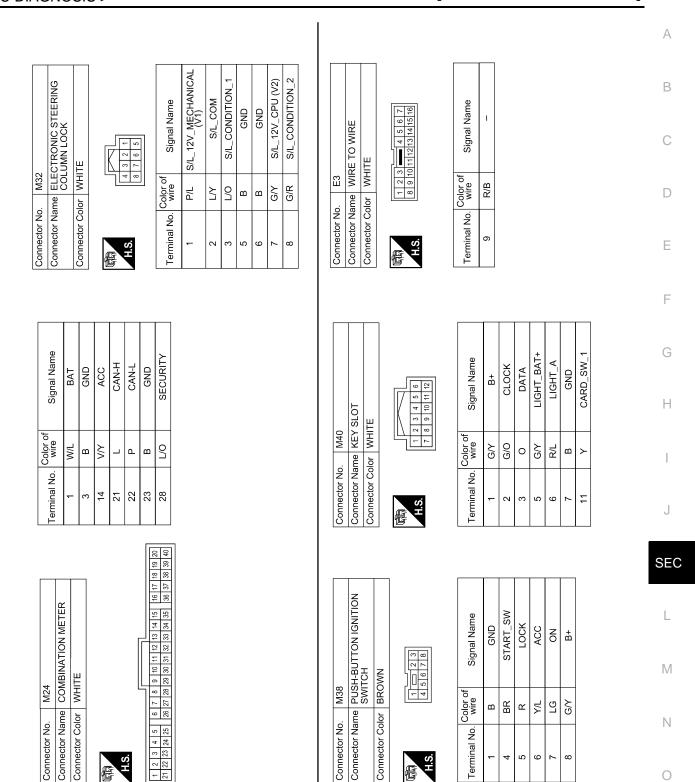
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or No. M23	Connector Name CVT DEVICE	Connector Color WHITE	
Connector No.	Connector Name	Connector Color	

و 1

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Signal Name	DETENT_KEY_SW	DETENT_KEY_SW	
Color of wire	Y/R	G/B	
Terminal No.	8	6	



Connector Name Connector Color

Terminal No.

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Connector No.

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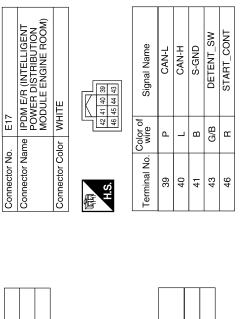
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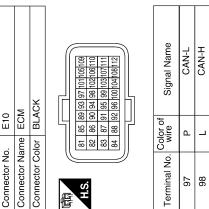
SEC-215

Connector No.

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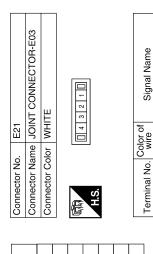


Connector No.	E6
Connector Name	Connector Name FUSE BLOCK (J/B)
Connector Color WHITE	WHITE
际日 H.S.	7P 6P 5P 4P (3P 2P 1P 6P15P14P[3P12P11P10P 9P 8P

Signal Name	Η	1
Color of wire	R/G	Y/R
Terminal No.	ЪР	48

CAN-H

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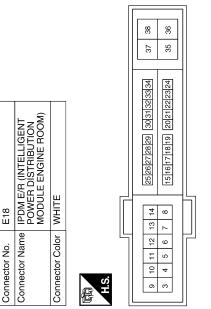
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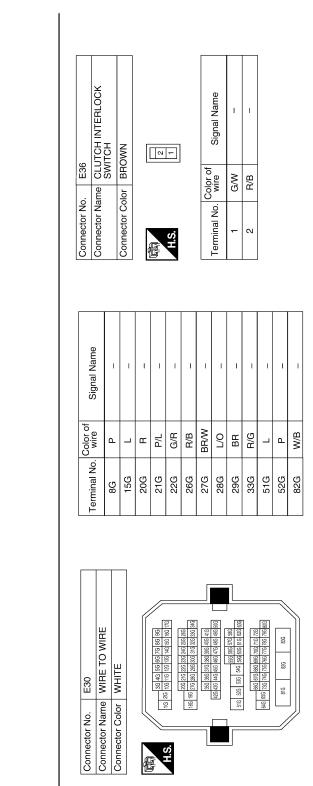
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Signal Name	ESCL	P_GND	IGN_SIGNAL	PUSH_START_SW	CLUTCH_I/L_SW	SL_CONDITION_1	SL_CONDITION_2	
Color of wire	P/L	в	BR/W	BR	R/B	Г/О	G/R	
Terminal No.	11	12	27	28	30	32	33	



ALKIA0144GB



E28	Connector Name JOINT CONNECTOR-E05	BLACK		
Connector No.	Connector Name	Connector Color BLACK		
	14]	

Connector No. E22	Connector Name JOINT CONNECTOR-E04	Connector Color WHITE	
Connecto	Connecto	Connecto	EB B



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Signal Name	I	I
Color of wire	٩	٩
Terminal No.	1	2

Signal Name

Color of wire

Terminal No.

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R/B B/B

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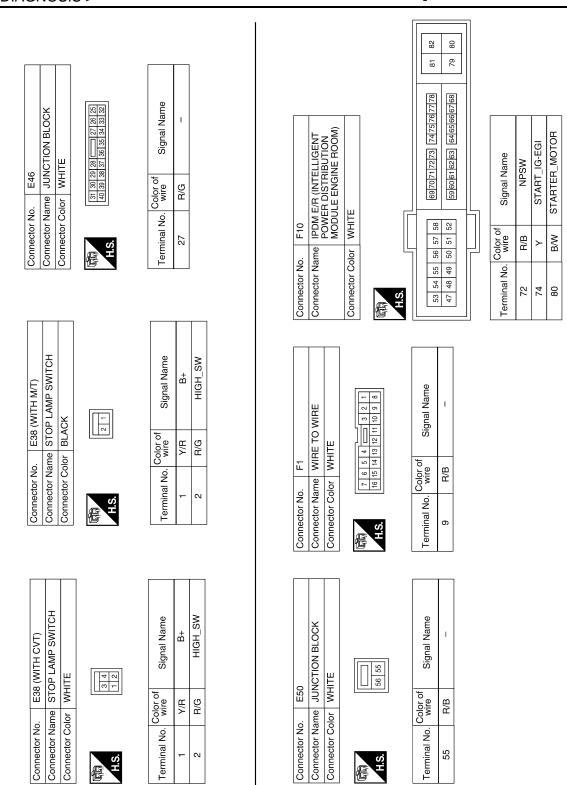
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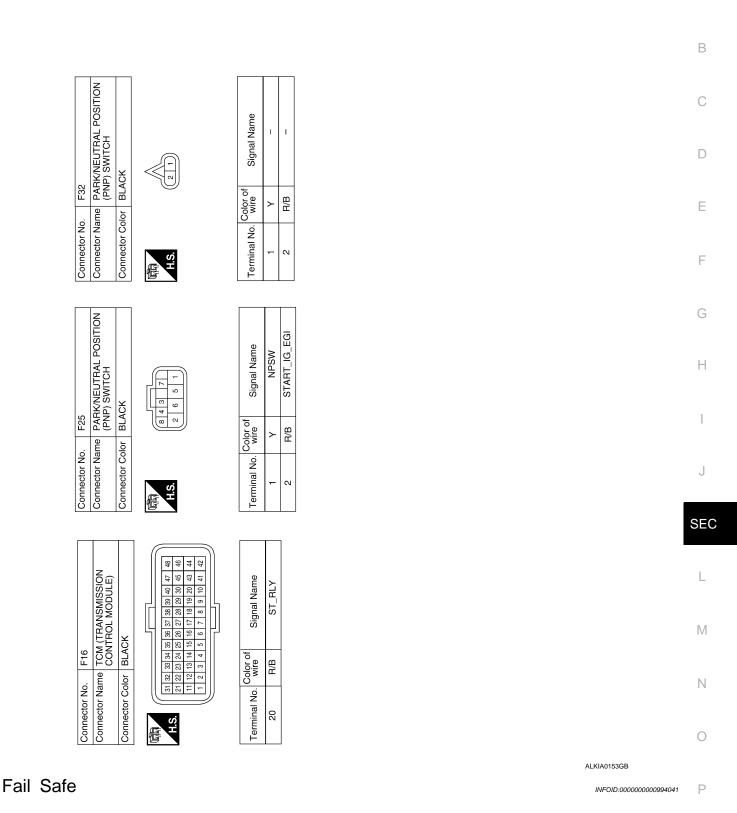
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CAN COMMUNICATION CONTROL

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If No CAN Communication Is Available With ECM

SEC-219

Control part Fail-safe in operation Cooling fan • Signals cooling fans ON when the ignition switch is turned ON • Signals cooling fans OFF when the ignition switch is turned OFF A/C compressor A/C relay OFF Generator Outputs the power generation command signal (PWM signal) 0%

If No CAN Communication Is Available With BCM

Control part	Fail-safe in operation
Headlamp	 Turns ON the headlamp low relay when the ignition switch is turned ON Turns OFF the headlamp low relay when the ignition switch is turned OFF Headlamp high relay OFF
Parking lampsLicense plate lampsIlluminationsTail lamps	 Turns ON the tail lamp relay when the ignition switch is turned ON Turns OFF the tail lamp relay when the ignition switch is turned OFF
Front wiper	 The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. The wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating.
Front fog lamps	Front fog lamp relay OFF
Horn	Horn OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay OFF
Electronic steering column lock unit	Electronic steering column lock relay OFF

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

• IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.

 IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation coil circuit.

• If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

DTC	Ignition switch	Ignition relay	Tail lamp relay
ON		ON	—
_	OFF	OFF	—
B2098: IGN RELAY ON	OFF	ON	ON (10 minutes)
B2099: IGN RELAY OFF ON		OFF	—

NOTE:

The tail lamp turns OFF when the ignition switch is turned ON.

FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper auto stop signal.

When a front wiper auto stop signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10 second activation and 20 second stop five times.

Ignition switch	Front wiper switch	Auto stop signal
ON	OFF Front wiper stop position signal input 10 seconds.	
	ON	The signal does not change for 10 seconds.

NOTE:

This operation status can be confirmed on the IPDM E/R "Data Monitor" that displays "BLOCK" for the item "WIP PROT" while the wiper is stopped.

SEC-220

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS >

[INTELLIGENT KEY SYSTEM]

STARTER MOTOR PROTECTION FUNCTION

IPDM E/R turns OFF the starter control relay to protect the starter motor when the starter control relay remains А active for 90 seconds.

DTC Index

INFOID:000000000994042

В

CONSULT-III display	Fail-safe	TIM	TIME ^{NOTE}		
No DTC is detected. further testing may be required.	_	_	_	_	
U1000: CAN COMM CIRCUIT	×	CRNT	1 – 39	PCS-15	
B2098: IGN RELAY ON	×	CRNT	1 – 39	PCS-16	
B2099: IGN RELAY OFF	_	CRNT	1 – 39	PCS-17	
B2108: STRG LCK RELAY ON	_	CRNT	1 – 39	<u>SEC-82</u>	
B2109: STRG LCK RELAY OFF	_	CRNT	1 – 39	<u>SEC-83</u>	
B210A: STRG LCK STATE SW	_	CRNT	1 – 39	<u>SEC-84</u>	
B210B: START CONT RLY ON	_	CRNT	1 – 39	<u>SEC-88</u>	
B210C: START CONT RLY OFF	_	CRNT	1 – 39	<u>SEC-89</u>	
B210D: STARTER RELAY ON	—	CRNT	1 – 39	<u>SEC-90</u>	
B210E: STARTER RELAY OFF	—	CRNT	1 – 39	<u>SEC-91</u>	
B210F: INTRLCK/PNP SW ON	—	CRNT	1 – 39	<u>SEC-93</u>	
B2110: INTRLCK/PNP SW OFF	_	CRNT	1 – 39	<u>SEC-97</u>	

NOTE:

The details of TIME display are as follows.

CRNT: The malfunctions that are detected now

• 1 - 39: The number is indicated when it is normal at present and a malfunction was detected in the past. It increases like $0 \rightarrow 1 \rightarrow 2 \cdots 38 \rightarrow 39$ after returning to the normal condition whenever IGN OFF \rightarrow ON. It is fixed to 39 until the self-diagnosis results are erased if it is over 39. It returns to 0 when a malfunction is detected again in the process.

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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION SYMPTOMS < SYMPTOM DIAGNOSIS > [INTELLIGENT KEY SYSTEM]

SYMPTOM DIAGNOSIS

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION SYMPTOMS

Symptom Table

INFOID:00000000994043

Engine can not be started with all Intelligent Keys. **CAUTION:**

- Follow Trouble Diagnosis Flowchart referring to "<u>SEC-5, "Work Flow"</u>". Determine malfunctioning condition before performing this diagnosis.
- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis.
- Check systems shown in the "Diagnosis/service procedure" column in this order.

CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

- Engine start function is ON when setting on CONSULT-III.
- Use Intelligent Key with registered Intelligent Key ID.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the passenger compartment.

Diagnosis/service	procedure	Reference page
1. Check power cupply and ground circuit	BCM	<u>SEC-100</u>
1. Check power supply and ground circuit	IPDM E/R	<u>SEC-100</u>
2. Check push button ignition switch	PCS-69	
3. Check Intermittent Incident	<u>GI-39</u>	

VEHICLE SECURITY SYSTEM SYMPTOMS GIS > [INTELLIGENT KEY SYSTEM]

< SYMPTOM DIAGNOSIS >

VEHICLE SECURITY SYSTEM SYMPTOMS

Symptom Table

INFOID:000000000994044

Procedure Symptom		dure	– Diagnostic procedure	Refer to page		
		tom	Diagnostic procedure	Relei to page		
	Door switch Check		Check door switch	<u>DLK-47</u>		
Vehicle se	ecurity sys-	Trunk	Check trunk room lamp switch	<u>DLK-69</u>		
	ot be set by	Door outside key	Check key cylinder switch	<u>SEC-105</u>		
ı ····		Intelligent Key	Check Intelligent Key.	<u>DLK-89</u>		
		_	Check Intermittent Incident	<u>GI-39</u>		
Socurity i		Check vehicle security indicator	<u>SEC-111</u>			
Security indicator does not t		s not turn ON.	Check Intermittent Incident	<u>GI-39</u>		
* Vehicle	,		Check door switch	<u>DLK-47</u>		
2 system does not sound alarm when ····	Any door is opened.	Check Intermittent Incident	<u>GI-39</u>			
	Horn alarm	Check horn	<u>SEC-107</u>			
Vehicle so 3 alarm doe	ecurity es not acti-		Check Intermittent Incident	<u>GI-39</u>		
vate.	es not acti-	Head Jamp alarm	Check head lamp alarm	<u>SEC-109</u>		
	Head lamp alarm	Check Intermittent Incident	<u>GI-39</u>			
	Vehicle security sys- tem cannot be can- celed by ····	De se sutsida lass	Door outoido kov	Check key cylinder switch	<u>SEC-105</u>	
		Check Intermittent Incident	<u>GI-39</u>			
				aled by	Intelligent Koy	Check Intelligent Key
		Intelligent Key	Check Intermittent Incident	<u>GI-39</u>		

*: Check the system is in the armed phase.

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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

< SYMPTOM DIAGNOSIS >

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

Symptom Table

INFOID:000000000994045

[INTELLIGENT KEY SYSTEM]

Security indicator does not turn ON or flash. CAUTION:

- Follow Trouble Diagnosis Flowchart referring to "<u>SEC-5, "Work Flow"</u>". Determine malfunctioning condition before performing this diagnosis.
- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis.
- Check systems shown in the "Action" column in this order.

CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

- Intelligent Key is not inserted into key slot.
- Engine switch is not depressed.

Action	Reference page	
1. Check vehicle security indicator	<u>SEC-111</u>	
2. Check Intermittent Incident	<u>GI-39</u>	

ON-VEHICLE MAINTENANCE А PRE-INSPECTION FOR DIAGNOSTIC **Basic Inspection** INFOID:000000000994046 The engine start function, door lock function, power distribution system and NATS-IVIS/NMS in the Intelligent Key system are closely related to each other regarding control. Narrow down the functional area in question by performing basic inspection to identify which function is malfunctioning. The vehicle security function can operate only when the door lock and power distribution system are operating normally. Therefore, it is easy to identify any factor unique to the vehicle security system by performing the vehicle security operation check after basic inspection. D 1. CHECK DOOR LOCK OPERATION 1 Check the door lock for normal operation with the Intelligent Key controller and door request switch. Ε Successful door lock operation with the Intelligent Key and request SW indicates that the remote keyless entry receiver and inside key antenna required for engine start are functioning normally. Identify the malfunctioning point by referring to the DLK section if the door cannot be unlocked. Can the door be locked with the Intelligent Key and door request switch? F YES >> GO TO 2.. NO >> Refer to DLK-139, "Symptom Table". 2. CHECK ENGINE STARTING 1. Checks that the engine starts when operating the Intelligent Key inserted into the key slot. Does the engine start? Н YES >> GO TO 3.. NO >> Refer to SEC-222, "Symptom Table". ${f 3.}$ CHECK STEERING LOCKING Does the steering lock when operating door switch after switching the power supply from ON position (or 1. ACC position) to LOCK position? If door switch is malfunctioning, BCM cannot lock the steering. If BCM does not detect DTC, steering lock J unit is normal. Does steering lock? SEC YES >> GO TO 4.. >> Refer to DLK-47, "Component Function Check". NO 4. CHECK POWER SUPPLY INDICATOR SWITCHING 1. Press push-button ignition switch and position indicator will switch from LOCK, ACC to ON gradually when steering is locked. Checks that the position indicator is illuminated at different positions of the circuit. Is each position indicator illuminating? Μ YES >> GO TO 5.. NO >> Refer to PCS-69, "Component Function Check". **5.**CHECK VEHICLE SECURITY SYSTEM Ν 1. Check the vehicle security system for normal operation. The vehicle security function can operate only when the door lock and power distribution functions are operating normally. Therefore, it is easy to identify any factor unique to the vehicle security by performing the vehicle security operation check after this basic inspection. Ρ >> Go to SEC-225, "Vehicle Security Operation Check". Vehicle Security Operation Check INFOID:00000000994047

1.INSPECTION START

Turn ignition switch "OFF" and pull out Intelligent Key from key slot. **NOTE:**

PRE-INSPECTION FOR DIAGNOSTIC

< ON-VEHICLE MAINTENANCE >

Before starting operation check, open front windows.

>> GO TO 2..

2. CHECK SECURITY INDICATOR LAMP

- 1. Lock doors using Intelligent Key or mechanical key.
- 2. Check that security indicator lamp illuminates for 30 seconds.

Security indicator lamp should illuminate.

OK >> GO TO 3..

NG >> Perform diagnosis and repair. Refer to <u>SEC-111, "Component Function Check"</u>.

3.CHECK ALARM FUNCTION

- 1. After 30 seconds, security indicator lamp will start to blink.
- 2. Open any door or hood before unlocking with Intelligent Key or mechanical key, or open trunk lid without Intelligent Key or mechanical key.

Do alarm function properly.

- OK >> GO TO 4..
- NG >> Check the following.
 - The vehicle security system does not phase in alarm mode. Refer to <u>SEC-223. "Symptom</u> <u>Table"</u>.
 - Alarm (horn, headlamp and hazard lamp) do not operate. Refer to SEC-223, "Symptom Table".

4.CHECK ALARM CANCEL OPERATION

Unlock any door or open trunk lid using Intelligent Key or mechanical key. Alarm (horn, headlamp and hazard lamp) should stop.

- OK >> INSPECTION END.
- NG >> Check door lock function. Refer to <u>DLK-16, "INTELLIGENT KEY : System Description"</u>.

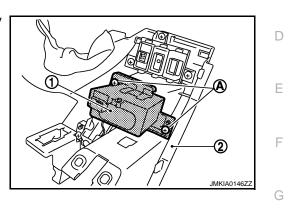
< ON-VEHICLE REPAIR >

ON-VEHICLE REPAIR KEY SLOT

Removal and Installation

REMOVAL

- 1. Remove the instrument lower panel LH (2). Refer to IP-11, "Removal and Installation".
- 2. Disconnect key slot connector.
- 3. Remove the key slot mounting screw (A), and then remove key slot (1) from instrument lower panel LH (2).



INSTALLATION Install in the reverse order of removal.



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SEC-227

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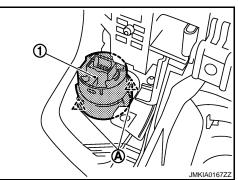
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PUSH BUTTON IGNITION SWITCH

Removal and Installation

REMOVAL

- 1. Remove the cluster lid A assembly. Refer to IP-11, "Removal and Installation".
- 2. Remove the push-button ignition switch (1) from cluster lid A assembly, and then remove pawl (A). Press push-button ignition switch (1) back to disengage from cluster lid A assembly.



INSTALLATION Install in the reverse order of removal. [INTELLIGENT KEY SYSTEM]

INFOID:000000001041194