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< BASIC INSPECTION >

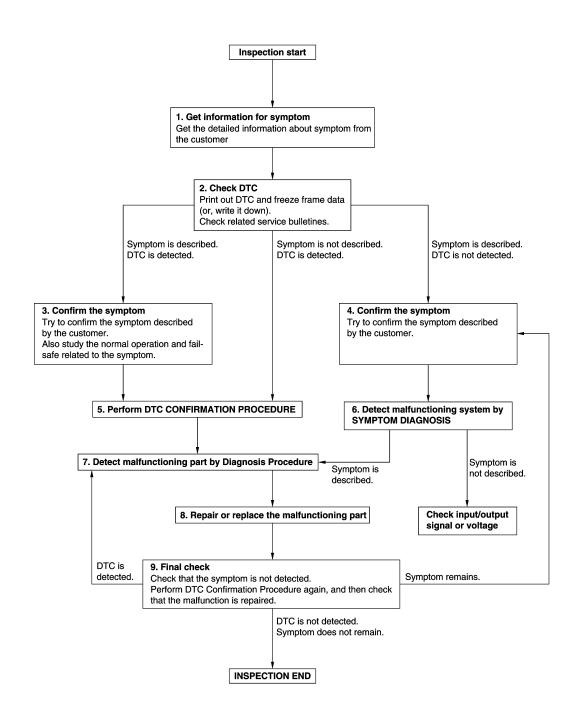
[WITH INTELLIGENT KEY SYSTEM]

BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000007773407

OVERALL SEQUENCE



DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

1. GET INFORMATION FOR SYMPTOM	Δ
1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).	~
2. Check operation condition of the function that is malfunctioning.	В
>> GO TO 2.	
2. CHECK DTC	0
1. Check DTC.	C
 Perform the following procedure if DTC is detected. Record DTC and freeze frame data (Print them out using CONSULT.) Erase DTC. 	D
 Study the relationship between the cause detected by DTC and the symptom described by the customer. Check related service bulletins for information. 	Е
Are any symptoms described and any DTC detected?	
Symptom is described, DTC is detected>>GO TO 3. Symptom is described, DTC is not detected>>GO TO 4. Symptom is not described, DTC is detected>>GO TO 5.	F
3. CONFIRM THE SYMPTOM	
Try to confirm the symptom described by the customer. Also study the normal operation and fail-safe related to the symptom. Verify relation between the symptom and the condition when the symptom is detected.	G
>> GO TO 5.	11
4.CONFIRM THE SYMPTOM	
Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected.	I
>> GO TO 6.	J
5. PERFORM DTC CONFIRMATION PROCEDURE	
	SEC
 NOTE: Freeze frame data is useful if the DTC is not detected. 	
 Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check. 	Μ
If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIR- MATION PROCEDURE.	Ν
Is DTC detected?	
YES >> GO TO 7. NO >> Check according to <u>GI-41, "Intermittent Incident"</u> .	0
6. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS	0
Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom. <u>Is the symptom described?</u>	Ρ
YES >> GO TO 7.	
NO >> Monitor input data from related sensors or check voltage of related module terminals using CON- SULT.	
7. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE	

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to <u>GI-41, "Intermittent Incident"</u>.

 $\mathbf{8}$. Repair or Replace the Malfunctioning Part

- 1. Repair or replace the malfunctioning part.
- Reconnect parts or connectors disconnected during Diagnosis Procedure again after repair and replacement.
- 3. Check DTC. If DTC is detected, erase it.

>> GO TO 9.

9.FINAL CHECK

When DTC is detected in step 2, perform DTC CONFIRMATION PROCEDURE again, and then check that the malfunction is repaired securely.

When symptom is described by the customer, refer to confirmed symptom in step 3 or 4, and check that the symptom is not detected.

Is DTC detected and does symptom remain?

- YES-1 >> DTC is detected: GO TO 7.
- YES-2 >> Symptom remains: GO TO 4.

NO >> Before returning the vehicle to the customer, always erase DTC.

INSPECTION AND ADJUSTMENT

[WITH INTELLIGENT KEY SYSTEM]

< BASIC INSPECTION > [WITH INTELLIGENT REFORMED
INSPECTION AND ADJUSTMENT
ECM
ECM : Description
Performing the following procedure can automatically activate recommunication of ECM and BCM, but only when the ECM is replaced with a new one*. *: New one means a virgin ECM that is never energized on board. (In this step, initialization procedure using CONSULT is not necessary) NOTE:
 • When the replaced ECM is not a brand new, the specified procedure (Initialization of BCM and registration of Intelligent Keys) using CONSULT is necessary. • If multiple keys are attached to the key holder, separate them before beginning work. • Distinguish keys with unregistered key IDs from those with registered IDs.
ECM : Special Repair Requirement
1.PERFORM ECM RECOMMUNICATING FUNCTION
 Install ECM. Contact backside of the registered Intelligent Key* to push-button ignition switch while brake pedal is depressed, then turn ignition switch ON. *: To perform this step, use the key that is used before performing ECM replacement. Maintain ignition switch in the ON position for at least 5 seconds. Turn ignition switch OFF.
5. Start engine.
>> GO TO 2.
2. PERFORM ADDITIONAL SERVICE PROCEDURE WHEN REPLACING ECM
 performing the following procedure. HR18DE (Except for California): <u>EC-22</u>, "<u>ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>" HR18DE (For California): <u>EC-498</u>, "<u>ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT</u>: <u>Special Repair Requirement</u>"
>> END
BCM
BCM : Description
BEFORE REPLACEMENT When replacing BCM, save or print current vehicle specification with CONSULT configuration before replace-
ment. NOTE: If "READ CONFIGURATION" can not be used, use the "WRITE CONFIGURATION - Manual selection" after replacing BCM.
AFTER REPLACEMENT
 CAUTION: When replacing BCM, always perform "WRITE CONFIGURATION" with CONSULT. Or not doing so, BCM control function does not operate normally. Complete the procedure of "WRITE CONFIGURATION" in order. Configuration is different for each vehicle model. Confirm configuration of each vehicle model. If you set incorrect "WRITE CONFIGURATION", incidents might occur.
NOTE: When replacing BCM, perform the system initialization (NATS) (if equipped).

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

BCM : Work Procedure

INFOID:000000007955144

1.SAVING VEHICLE SPECIFICATION

CONSULT Configuration

Perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to <u>BCS-6</u>, "<u>Description</u>".

NOTE:

If "READ CONFIGURATION" can not be used, use the "WRITE CONFIGURATION - Manual selection" after replacing BCM.

>> GO TO 2.

2.REPLACE BCM

Replace BCM. Refer to BCS-81, "Removal and Installation".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

CONSULT Configuration

Perform "WRITE CONFIGURATION - Config file" or "WRITE CONFIGURATION - Manual selection" to write vehicle specification. Refer to <u>BCS-6, "Work Procedure"</u>.

>> GO TO 4.

4.INITIALIZE BCM (NATS) (IF EQUIPPED)

Perform BCM initialization. (NATS)

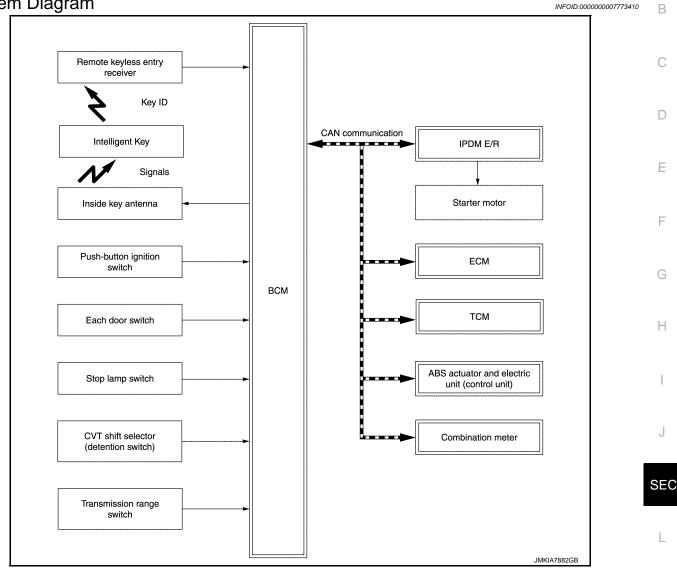
>> WORK END

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION < SYSTEM DESCRIPTION > [WITH INTELLIGENT KEY SYSTEM]

SYSTEM DESCRIPTION

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

System Diagram



System Description

INFOID:000000007773411

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 an electronic ID using two-way communication when pressing the push-button ignition switch while carrying the Intelligent Key, which operates based on the results of electronic ID verification of Intelligent Key using two-way communication between the Intelligent Key and the vehicle.

NOTE:

The driver should carry the Intelligent Key at all times.

- Intelligent Key has 2 IDs [Intelligent Key and 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 Intelligent Key battery is discharged, engine can be started by operating push-button ignition switch after contacting Intelligent Key backside to push-button ignition switch. At that time, verification is performed by immobilizer ID.
- If the ID is successfully verified, engine can be started.
- Up to 4 Intelligent Keys can be registered (Including the standard Intelligent Key) upon request from the customer.



А

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

NOTE:

Refer to <u>DLK-16, "INTELLIGENT KEY SYSTEM : 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, 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, ID verification cannot be performed by mechanical key only and engine cannot be started. In that case, immobilizer ID verification can be performed when Intelligent Key backside is contacted to push-button ignition switch. If verification result is OK, engine can be started.

OPERATION WHEN INTELLIGENT KEY IS CARRIED

- 1. When the push-button ignition switch is pressed, the BCM activates 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. BCM receives the Intelligent Key ID signal via remote keyless entry receiver and verifies it with the registered ID.
- 4. BCM turns ACC relay ON and transmits the ignition power supply ON signal to IPDM E/R.
- 5. IPDM E/R turns the ignition relay ON and starts the ignition power supply.
- 6. BCM detects that the selector lever position and brake pedal operating condition.
- 7. 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.
- 8. IPDM E/R turns the starter control relay ON when receiving the starter request signal.
- 9. Power supply is supplied through the starter relay and the starter control relay to operate the starter motor and start 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.

10. When BCM receives feedback signal from ECM indicating that the engine is started, the BCM transmits a stop signal to IPDM E/R and stops cranking by turning OFF the starter relay. (If engine start is unsuccessful, cranking stops automatically within 5 seconds.) CAUTION:

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

*: For the engine start condition, refer to "POWER SUPPLY POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION".

OPERATION RANGE

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

ENGINE START OPERATION WHEN INTELLIGENT KEY IS HELD CLOSE TO PUSH-BUTTON IG-NITION SWITCH

When Intelligent Key battery is discharged, immobilizer ID verification between transponder in Intelligent Key and BCM is performed when Intelligent Key backside is contacted to push-button ignition switch. Engine can be started.

BATTERY SAVER SYSTEM

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

- The ignition switch is in the ACC position
- All doors are closed
- Selector lever is in the P position

Reset Condition of Battery Saver System

In order to prevent the battery from discharging, the battery saver system cuts off the power supply when all doors are closed, the selector lever is in the P position, and the ignition switch is left in the ACC position for 60 minutes. If any of the following conditions are met the battery saver system is released.



INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< SYSTEM DESCRIPTION >

- [WITH INTELLIGENT KEY SYSTEM]
- Opening any door
- Operating door lock using door request switch
- Operating door lock using Intelligent Key

Press push-button ignition switch and ignition switch changes to the ACC position from the OFF position.

POWER SUPPLY POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERA- B

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 Intelligent Key backside is contacted to push-button ignition switch, it is equivalent to the operations below.
- When starting the engine, the BCM monitors under the engine start conditions,
- Brake pedal operating condition
- Selector lever position
- Vehicle speed

Vehicle speed: less than 4 km/h (2.5 MPH)

	Engine start/stop condition		Duch button ignition owitch	
Power supply position	Selector lever	Brake pedal operation condi- tion	Push-button ignition switch operation frequency	
$LOCK \rightarrow ACC$	_	Not depressed	1	
$LOCK \to ACC \to ON$	—	Not depressed	2	
$LOCK \to ACC \to ON \to OFF$	—	Not depressed	3	
$\begin{array}{l} LOCK \to START \\ ACC \to START \\ ON \to START \end{array}$	P or N position	Depressed	1	
Engine is running \rightarrow OFF	_	_	1	

Vehicle speed: 4 km/h (2.5 MPH) or more

	Engine start/	stop condition	Push-button ignition switch	J
Power supply position	Selector lever	Brake pedal operation condi- tion	operation frequency	
Engine is running $\rightarrow ACC$	—	—	Emergency stop operation	SEC
Engine stall return operation while driving	N position	Not depressed	1	

Emergency stop operation

• Press and hold the push-button ignition switch for 2 seconds or more.

• Press the push-button ignition switch 3 times or more within 1.5 seconds.

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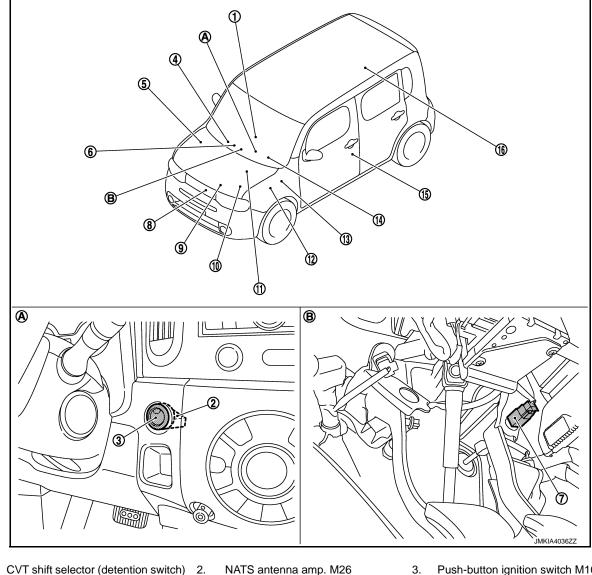
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Component Parts Location

INFOID:000000007773412



- CVT shift selector (detention switch) 2. 1. M58
- Remote keyless entry receiver M87 5. 4. Refer to DLK-18, "INTELLIGENT KEY SYSTEM : Component Parts Location"
- 7. Stop lamp switch E115
- 10. IPDM E/R E10, E11, E12, E13, E14, 11. ECM E16 E15, E17 Refer to PCS-6, "Component Parts Location".
- 13. BCM M68, M69, M70, M71 Refer to BCS-10, "Component Parts Location".
- 16. Inside key antenna (luggage room) B82
- Α. Behind push-button ignition switch

- NATS antenna amp. M26
- ABS actuator and electric unit (con- 6. trol unit) E36 Refer to BRC-12, "Component Parts Location".
- Horn E50, E51 8.
- 14. Security indicator lamp (combination meter) M34

Push-button ignition switch M101

Inside key antenna (instrument center) M105

- Transmission range switch F21 9.
- 12. TCM E18

15. Front door switch (driver side) B34

В. Behind instrument lower cover LH

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION SCRIPTION > [WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

Component Description

INFOID:000000007773413

А

Component	Reference	
BCM	<u>SEC-75</u>	
Push-button ignition switch	<u>SEC-50</u>	
Door switch	DLK-55	
CVT shift selector (detention switch)	<u>SEC-83</u>	
Inside key antenna	<u>DLK-44</u>	
Remote keyless entry receiver	DLK-75	
Stop lamp switch	<u>SEC-48</u>	
ТСМ	<u>SEC-64</u>	
Starter relay	<u>SEC-69</u>	
Starter control relay	<u>SEC-78</u>	
Security indicator lamp	<u>SEC-90</u>	
Key warning lamp	DLK-87	

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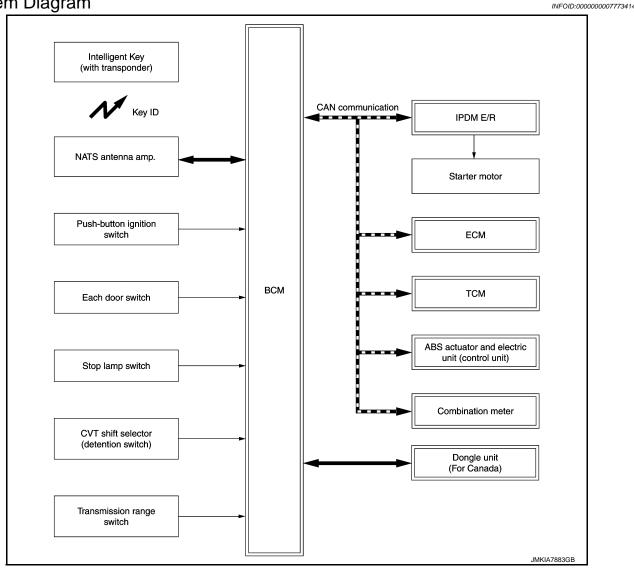
NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

System Diagram



System Description

INFOID:000000007773415

SYSTEM DESCRIPTION

- The NVIS (NATS) is an anti-theft system that registers an Intelligent Key ID to the vehicle and prevents the engine from being started by an unregistered Intelligent Key. It has higher protection against auto theft involving the duplication of mechanical keys.
- It performs ID verification when starting the engine in the same way as the Intelligent 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 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 backside is contacted to push-button ignition switch. If the verification results are OK, the engine start operation can be performed by the push-button ignition switch operation.
- Locate the security indicator lamp and apply the anti-theft system equipment sticker that warns that the NVIS (NATS) is on board the model.
- Security indicator lamp always blinks when the power supply position is in any position except the ON position.
- Up to 4 Intelligent Keys can be registered (including the standard ignition key) upon request from the owner.
- When replacing ECM, BCM, or Intelligent Key, the specified procedure (Initialization of BCM and registration of all Intelligent Keys) using CONSULT is required.

SEC-16

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

of • If	ossible symptom of NVIS (NATS) malfunction is "Engine cannot start". This symptom also occurs because f other than NVIS(NATS) malfunction, so start the trouble diagnosis according to <u>SEC-6</u> , "Work Flow". ECM other than genuine part is installed, the engine cannot be started. For ECM replacement procedure, effer to <u>SEC-9</u> , "ECM : <u>Special Repair Requirement</u> ".	A
	ECAUTIONS FOR KEY REGISTRATION he key registration is a procedure that erases the current NVIS (NATS) ID once, and then reregisters a new	В
IE tra	D operation. Therefore a registered Intelligent Key is necessary for this procedure. Before starting the regis- ation operation collect all registered Intelligent Keys from the customer. /hen registering the Intelligent Key, perform only one procedure to simultaneously register both ID (NVIS	С
"N T gi	NATS" ID and Intelligent Key ID). he NVIS (NATS) ID registration is the procedure that registers the ID stored into the transponder (inte- rated in Intelligent Key) to BCM.	D
• W ba th	he Intelligent key ID registration is the procedure that registers the ID to BCM. /hen performing the Intelligent Key system registration only, the engine cannot be started by Intelligent Key ackside is contacted to push-button ignition switch. When performing the NVIS (NATS) registration only, he engine cannot be started by the operation when carrying the key. The registrations of both systems hould be performed.	E
SE	CURITY INDICATOR LAMP	F
• S	/arns that the vehicle is equipped with NVIS (NATS). ecurity indicator lamp always blinks when the ignition switch is in any position except the ON position.	
	TE: cause security indicator lamp is highly efficient, the battery is barely affected.	G
	GINE START OPERATION WHEN INTELLIGENT KEY IS CONTACTED TO PUSH-BUTTON IG- TION SWITCH	Н
1.	When brake pedal is depressed while selector lever is in the P position, BCM activates immobilizer antenna amplifier that is located on push-button ignition switch backside.	
2.	When Intelligent Key (transponder built-in) backside is contacted to push-button ignition switch, immobilizer ID verification is started between Intelligent Key built-in transponder and immobilizer antenna amplifier.	I
3.	When immobilizer ID verification result is OK, buzzer in combination meter sounds.	J
4.	BCM transmits immobilizer ID verification result to ECM via CAN communication.	
5.	BCM turns ACC relay ON and transmits ignition power supply ON signal to IPDM E/R.	
6.	IPDM E/R turns ignition relay ON and starts ignition power supply.	SE
7.	BCM detects that the shift position is P or N.	
8.	BCM transmits starter request signal to IPDM E/R via CAN communication. When engine start conditions* are satisfied, BCM turns starter relay in IPDM E/R ON.	L
	When starter request signal is received, IPDM E/R turns starter control relay ON.	
10.	IPDM E/R supplies power supply via starter relay and starter control relay, activates starter motor, and starts cranking.	M
11.	When BCM receives engine start or speed feedback signal from ECM, BCM transmits stop signal to IPDM E/R, turns starter relay OFF, and stops cranking.	
PO TIC	WER SUPPLY POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERA-	Ν
The	e power supply position changing operation can be performed with the following operations. TE:	0
• W	/hen an Intelligent Key is within the detection area of inside key antenna and when Intelligent Key backside	
• W - B	contacted to push-button ignition switch, it is equivalent to the operations below. /hen starting the engine, the BCM monitors under the engine start conditions, rake pedal operating condition elector lever position	Ρ
	elector level position	

Vehicle speed: less than 4 km/h (2.5 MPH)

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS < SYSTEM DESCRIPTION > [WITH INTELLIGENT KEY SYSTEM]

Power supply position	Engine start	Push-button ignition switch	
	Selector lever	Brake pedal operation condi- tion	operation frequency
$LOCK \rightarrow ACC$	—	Not depressed	1
$LOCK\toACC\toON$	_	Not depressed	2
$LOCK\toACC\toON\toOFF$	_	Not depressed	3
$\begin{array}{l} LOCK \to START \\ ACC \to START \\ ON \to START \end{array}$	P or N position	Depressed	1
Engine is running \rightarrow OFF	_	—	1

Vehicle speed: 4 km/h (2.5 MPH) or more

	Engine start/	Push-button ignition switch	
Power supply position	Selector lever	Brake pedal operation condi- tion	operation frequency
Engine is running $\rightarrow ACC$			Emergency stop operation
Engine stall return operation while driving	N position	Not depressed	1

Emergency stop operation

• Press and hold the push-button ignition switch for 2 seconds or more.

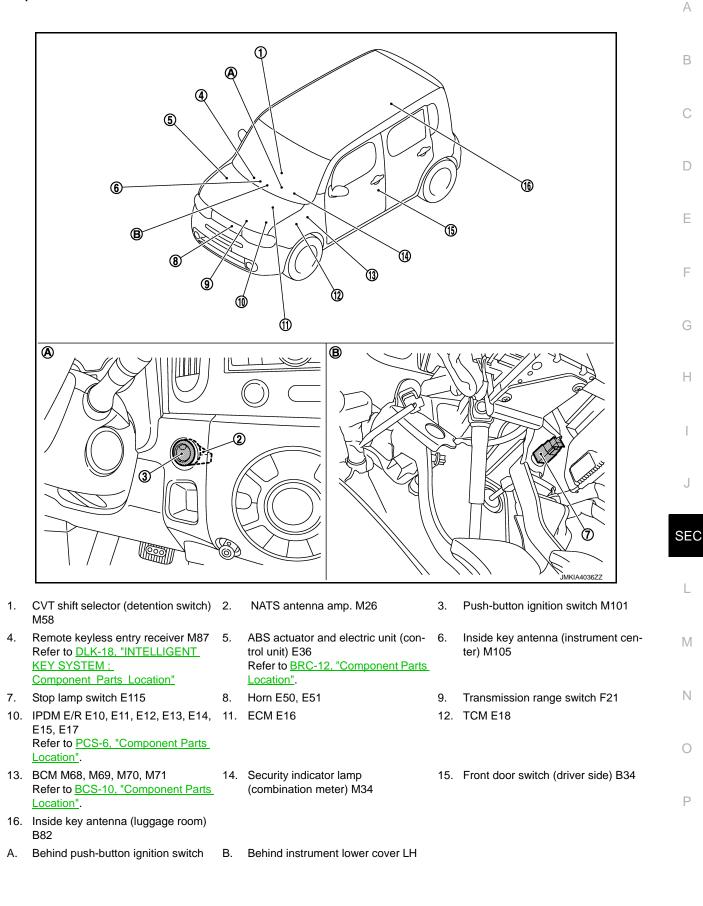
• Press the push-button ignition switch 3 times or more within 1.5 seconds.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Component Parts Location



NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS PTION > [WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

Component Description

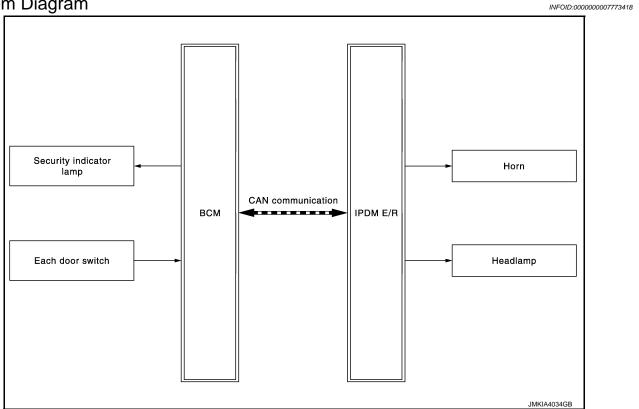
Component	Reference
BCM	<u>SEC-75</u>
Push-button ignition switch	<u>SEC-50</u>
Door switch	DLK-55
CVT shift selector (detention switch)	<u>SEC-83</u>
Stop lamp switch	<u>SEC-48</u>
ТСМ	<u>SEC-64</u>
Starter relay	<u>SEC-69</u>
Starter control relay	<u>SEC-78</u>
Security indicator lamp	<u>SEC-90</u>

VEHICLE SECURITY SYSTEM

< SYSTEM DESCRIPTION >

VEHICLE SECURITY SYSTEM

System Diagram



System Description

INFOID:000000007773419

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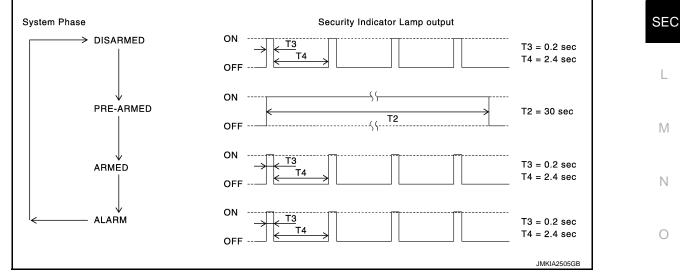
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OPERATION FLOW



SETTING THE VEHICLE SECURITY SYSTEM

Initial Condition

• Ignition switch is in the OFF position.

Disarmed Phase

• When any door is open, the vehicle security system is set in the disarmed phase on the assumption that the owner is inside or near the vehicle.

SEC-21

2012 CUBE

VEHICLE SECURITY SYSTEM

< SYSTEM DESCRIPTION >

 When the vehicle security system is in the disarmed phase, the security indicator lamp blinks every 2.4 seconds.

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. (Security indicator lamp illuminates.)

- 1. BCM receives LOCK signal from door lock and unlock switch, door key cylinder switch door request switch or Intelligent Key, after all doors are closed.
- 2. All doors are closed after all doors are locked by mechanical key or door lock and unlock switch.

CANCELING THE ARMED PHASE VEHICLE SECURITY SYSTEM

When one of the following operations is performed, the armed phase is canceled.

- 1. Unlock all doors with the door lock and unlock switch, door key cylinder switch door request switch or Intelligent Key.
- 2. Turn ignition switch "ON" or "ACC" position.

CANCELING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM

When on of the following operations is performed, the alarm operation is canceled.

- 1. Unlock all doors with the door request switch or Intelligent Key.
- 2. Turn ignition switch "ON" or "ACC" position.

ACTIVATING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM

Check that the system is in the armed phase. (Security indicator lamp blinks every 2.4 seconds.) When the following operations 1 or 2 is performed, the system sounds the horns and blinks the headlamps for about 50 seconds.

- 1. Any door is open during the armed phase.
- 2. Disconnecting and connecting the battery connector before canceling the armed phase.

PANIC ALARM OPERATION

When BCM receives panic alarm signal from Intelligent Key, 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 (HI) and horn. The headlamp (HI) blinks and the horn sounds intermittently.

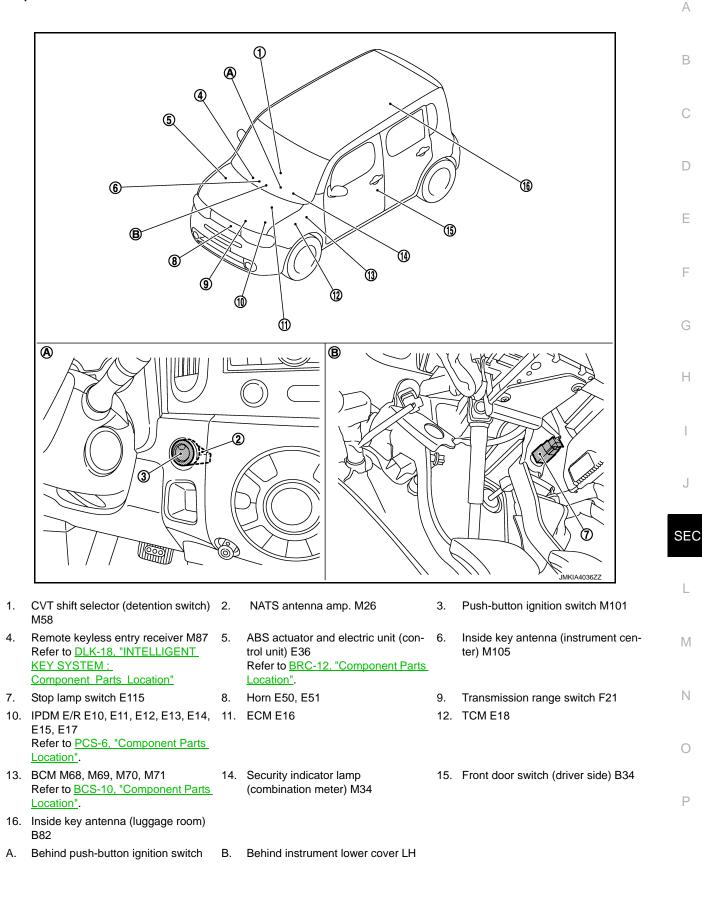
The alarm automatically turns off after 50 seconds or when BCM receives any signal from Intelligent Key or door request switch.

VEHICLE SECURITY SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Component Parts Location



VEHICLE SECURITY SYSTEM [WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

Component Description

Component	Reference
BCM	<u>SEC-75</u>
Security indicator lamp	<u>SEC-90</u>
Door switch	DLK-55
Headlamp	<u>SEC-94</u>
Horn	<u>SEC-92</u>

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000007955114

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description	
Work Support	Changes the setting for each system function.	_
Self Diagnostic Result	Displays the diagnosis results judged by BCM.	- D
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.	
Data Monitor	The BCM input/output signals are displayed.	E
Active Test	The signals used to activate each device are forcibly supplied from BCM.	
Ecu Identification	The BCM part number is displayed.	
Configuration	Read and save the vehicle specification.Write the vehicle specification when replacing BCM.	F

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.

				$\times:$ Applicable item	F
System	System Sub system selection item		Diagnosis mode		
	Sub system selection item	Work Support	Data Monitor	Active Test	
Door lock	DOOR LOCK	×	×	×	1
Rear window defogger	REAR DEFOGGER		×	×	
Warning chime	BUZZER		×	×	
Interior room lamp timer	INT LAMP	×	×	×	
Exterior lamp	HEAD LAMP	×	×	×	
Wiper and washer	WIPER	×	×	×	SI
Turn signal and hazard warning lamps	FLASHER	×	×	×	
Automatic air conditionerManual air conditioner	AIR CONDITONER		×	×*	l
Intelligent Key systemEngine start system	INTELLIGENT KEY	×	×	×	Ν
Combination switch	COMB SW		×		1)
Body control system	ВСМ	×			
NVIS - NATS	IMMU	×	×	×	1
Interior room lamp battery saver	BATTERY SAVER	×	×	×	
Back door	TRUNK		×		_
Vehicle security system	THEFT ALM	×	×	×	(
RAP system	RETAINED PWR		×		
Signal buffer system	SIGNAL BUFFER		×	×	F
TPMS	TPMS (AIR PRESSURE MONITOR)	×	×	×	

*: For models with automatic air conditioner, this model is not used.

FREEZE FRAME DATA (FFD)

The BCM records the following vehicle condition at the time a particular DTC is detected, and displays on CONSULT.

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< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

CONSULT screen item	Indication/Unit	Description	
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected	
Odo/Trip Meter	km	Total mileage (Odometer	r value) of the moment a particular DTC is detected
	SLEEP>LOCK		While turning BCM status from low power consumption mode to normal mode (Power supply position is "LOCK" [*])
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".)
	LOCK>ACC		While turning power supply position from "LOCK" [*] to "ACC"
	ACC>ON		While turning power supply position from "ACC" to "IGN"
	RUN>ACC		While turning power supply position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.)
	CRANK>RUN		While turning power supply position from "CRANKING" to "RUN" (From cranking up the engine to run it)
	RUN>URGENT		While turning power supply position from "RUN" to "ACC" (Emer- gency stop operation)
	ACC>OFF		While turning power supply position from "ACC" to "OFF"
	OFF>LOCK	Power position status of	While turning power supply position from "OFF" to "LOCK"*
Vehicle Condition	OFF>ACC	- the moment a particular DTC is detected	While turning power supply position from "OFF" to "ACC"
	ON>CRANK		While turning power supply position from "IGN" to "CRANKING"
	OFF>SLEEP		While turning BCM status from normal mode (Power supply position is "OFF".) to low power consumption mode
	LOCK>SLEEP		While turning BCM status from normal mode (Power supply position is "LOCK" [*] .) to low power consumption mode
	LOCK		Power supply position is "LOCK"*
	OFF		Power supply position is "OFF" (Ignition switch OFF)
	ACC		Power supply position is "ACC" (Ignition switch ACC)
	ON		Power supply position is "IGN" (Ignition switch ON with engine stopped)
	ENGINE RUN		Power supply position is "RUN" (Ignition switch ON with engine running)
	CRANKING		Power supply position is "CRANKING" (At engine cranking)
IGN Counter	0 - 39	 The number of times that ignition switch is turned ON after DTC is detected The number is 0 when a malfunction is detected now. The number increases like 1 → 2 → 338 → 39 after returning to the normal condition whenever ignition switch OFF → ON. The number is fixed to 39 until the self-diagnosis results are erased if it is over 39. 	

NOTE:

*: Power position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position (CVT models), and any of the following conditions are met.

- Closing door
- Opening door
- Door is locked using door request switch
- Door is locked using Intelligent Key

The power position shifts to "ACC" when the push-button ignition switch (push switch) is pushed at "LOCK". INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

WORK SUPPORT

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

Monitor item	Description
CONFIRM KEY FOB ID	It can be checked whether Intelligent Key ID code is registered or not in this mode
AUTO LOCK SET	Auto door lock time can be changed in this mode • MODE 1: OFF • MODE 2: 30 sec • MODE 3: 1 minute • MODE 4: 2 minutes • MODE 5: 3 minutes • MODE 6: 4 minutes • MODE 7: 5 minutes
LOCK/UNLOCK BY I-KEY	Door lock/unlock function by door request switch mode can be changed to operation in this mode On: Operate Off: Non-operation
ENGINE START BY I-KEY	Engine start function mode can be changed to operation with this modeOn: OperateOff: Non-operation
TRUNK/GLASS HATCH OPEN	NOTE: This item is displayed, but cannot be monitored
PANIC ALARM SET	 Panic alarm button pressing time on Intelligent Key remote control button can be selected from the following with this mode MODE 1: 0.5 sec MODE 2: Non-operation MODE 3: 1.5 sec
TRUNK OPEN DELAY	NOTE: This item is displayed, but cannot be monitored
LO- BATT OF KEY FOB WARN	Intelligent Key low battery warning mode can be changed to operation with this modeOn: OperateOff: Non-operation
ANTI KEY LOCK IN FUNCTI	Key reminder function mode can be changed to operation with this modeOn: OperateOff: Non-operation
HAZARD ANSWER BACK	 Hazard reminder function mode by door request switch and Intelligent Key button can be selected from the following with this mode Lock Only: Door lock operation only Unlock Only: Door unlock operation only Lock/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 operation with this mode On: Operate Off: Non-operation
SHORT CRANKING OUTPUT	Starter motor can operate during the times below
INSIDE ANT DIAGNOSIS	This function allows inside key antenna self-diagnosis
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 On: Operate Off: Non-operation

DATA MONITOR

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

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 back door request switch
PUSH SW	Indicates [On/Off] condition of push-button ignition switch
CLUTCH SW*1	Indicates [On/Off] condition of clutch switch
BRAKE SW 1	Indicates [On/Off]* ² condition of brake switch power supply
BRAKE SW 2	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	NOTE: This item is displayed, but cannot be monitored
S/L -UNLOCK	NOTE: This item is displayed, but cannot be monitored
S/L RELAY -F/B	NOTE: This item is displayed, but cannot be monitored
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/Stall/Crank/Run] condition of engine states
S/L LOCK-IPDM	NOTE: This item is displayed, but cannot be monitored
S/L UNLK-IPDM	NOTE: This item is displayed, but cannot be monitored
S/L RELAY-REQ	NOTE: This item is displayed, but cannot be monitored
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 TCM 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
ID OK FLAG	Indicates [Set/Reset] condition of key ID
PRMT ENG STRT	Indicates [Set/Reset] condition of engine start possibility
PRMT RKE STRT	NOTE: This item is displayed, but cannot be monitored
TRNK/HAT MNTR	NOTE: This item is displayed, but cannot be monitored
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	NOTE: This item is displayed, but cannot be monitored
RKE-PANIC	Indicates [On/Off] condition of PANIC button of Intelligent Key
RKE-MODE CHG	Indicates [On/Off] condition of MODE CHANGE signal from Intelligent Key

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

С

Monitor Item	Condition	Δ
RKE OPE COUN1	When remote keyless entry receiver receives the signal transmitted while operating on Intelli- gent Key, the numerical value start changing	A
RKE OPE COUN2	NOTE: This item is displayed, but cannot be monitored	В

*¹: It is displayed but does not operate on M/T models.

*²: OFF is displayed when brake pedal is depressed while brake switch power supply is OFF.

ACTIVE TEST

Test item	Description
BATTERY SAVER	This test is able to check interior room lamp operationOn: OperateOff: Non-operation
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operationOn: OperateOff: Non-operation
INSIDE BUZZER	 This test is able to check warning chime in combination meter operation Take out: Take away warning chime sounds when CONSULT screen is touched Key: Key warning chime sounds when CONSULT screen is touched Knob: OFF position warning chime sounds when CONSULT screen is touched
INDICATOR	 This test is able to check warning lamp operation KEY ON: "KEY" Warning lamp illuminates when CONSULT screen is touched "KEY" Warning lamp blinks when CONSULT screen is touched
INT LAMP	This test is able to check interior room lamp operationOn: OperateOff: Non-operation
LCD	 This test is able to check meter display information BP N: Engine start operation indicator lamp indicate when CONSULT screen is touched BP I: Engine start operation indicator lamp indicate when CONSULT screen is touched ID NG: This item is displayed, but cannot be monitored ROTAT: This item is displayed, but cannot be monitored SFT P: Shift P warning lamp indicate when CONSULT screen is touched INSRT: This item is displayed, but cannot be monitored BATT: Key warning lamp indicator when CONSULT screen is touched NO KY: This item is displayed, but cannot be monitored OUTKEY: Engine start operation indicator lamp indicate when CONSULT screen is touched
FLASHER	This test is able to check security hazard lamp operation The hazard lamps are activated after "LH/RH/Off" on CONSULT screen is touched
HORN	This test is able to check horn operation The horn is activated after "ON" on CONSULT screen is touched
P RANGE	This test is able to check CVT shift selector power supplyOn: OperateOff: Non-operation
ENGINE SW ILLUMI	This test is able to check push-ignition switch illumination operation Push-ignition switch illumination illuminates when "ON" on CONSULT screen is touched
PUSH SWITCH INDICATOR	This test is able to check LOCK indicator in push-ignition switch operation LOCK indicator in push-ignition switch illuminates when "ON" on CONSULT screen is touched
TRUNK/BACK DOOR	NOTE: This item is displayed, but cannot be monitored

THEFT ALM : CONSULT Function (BCM - THEFT)

DATA MONITOR

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

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 -RR	NOTE: This is displayed even when it is not equipped.
REQ SW -RL	NOTE: This is displayed even when it is not equipped.
REQ SW -BD/TR	Indicates [ON/OFF] condition of back door 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.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side).
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side).
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	Indicates [ON/OFF] condition of back door switch.
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 door key cylinder.
KEY CYL UN-SW	Indicates [ON/OFF] condition of unlock signal from door key cylinder.
TR/BD OPEN SW	NOTE: This is displayed even when it is not equipped.
TRNK/HAT MNTR	NOTE: This is displayed even when it is not equipped.
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	NOTE: This is displayed even when it is not equipped.

WORK SUPPORT

Service 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 screen.

ACTIVE TEST

Test Item	Description
THEFT IND	This test is able to check security indicator lamp operation. Security indicator lamp is turned on when "ON" on CONSULT screen is touched.
VEHICLE SECURITY HORN	This test is able to check horn operation. Horn is activated for 0.5 seconds after "ON" on CONSULT screen is touched.
HEADLAMP(HI)	This test is able to check headlamp operation. Headlamps are activated for 0.5 seconds after "ON" on CONSULT screen is touched.
FLASHER	This test is able to check hazard warning lamp operation. Hazard warning lamps are activated after "ON" on CONSULT screen is touched.

IMMU

< SYSTEM DESCRIPTION >

IMMU : CONSULT Function (BCM - IMMU)

DATA MONITOR

Monitor item	Content
CONFRM ID ALL	
CONFIRM ID4	Indicates [YET] at all time. Switches to [DONE] when a registered Intelligent Key backside is contacted to push-button ignition switch.
CONFIRM ID3	
CONFIRM ID2	
CONFIRM ID1	
NOT REGISTERED	Indicates [ID OK] when key ID that is registered is received or is not yet received. Indicates [ID NG] when key ID that is not registered is received.
TP 4	Indicates the number of IDs that are registered.
TP 3	
TP 2	
TP 1	
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch.

ACTIVE TEST

Test item	Description	Ц
THEFT IND	This test is able to check security indicator lamp operation. Security indicator lamp is turned on when "ON" on CONSULT screen touched.	11

WORK SUPPORT

Service item	Description	
CONFIRM DONGLE ID	It is possible to check that dongle unit is applied to the vehicle.	J

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DIAGNOSIS SYSTEM (BCM) [WITH INTELLIGENT KEY SYSTEM]

INFOID:000000007773425

А

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

INFOID:000000007955121

[WITH INTELLIGENT KEY SYSTEM]

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with IPDM E/R.

Diagnosis mode	Description
Ecu Identification	Allows confirmation of IPDM E/R part number.
Self Diagnostic Result	Displays the diagnosis results judged by IPDM E/R.
Data Monitor	Displays the real-time input/output data from IPDM E/R input/output data.
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.

SELF DIAGNOSTIC RESULT

Refer to <u>SEC-143, "DTC Index"</u>.

DATA MONITOR

Monitor item

Monitor Item [Unit]	MAIN SIG- NALS	Description
MOTOR FAN REQ [1/2/3/4]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication.
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the clutch interlock switch (M/T models) or shift position (CVT models) judged by IPDM E/R.
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.
IHBT RLY -REQ [Off/On]		Displays the status of the starter control relay signal received from BCM via CAN communication.
ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item [Unit]	MAIN SIG- NALS	Description
DETENT SW [Off/On]		Displays the status of the CVT shift selector (detention switch) judged by IPDM E/ R.
S/L RLY -REQ [Off/On]		NOTE: The item is indicated, but not monitored.
S/L STATE [LOCK/UNLOCK/UNKWN]		NOTE: The item is indicated, but not monitored.
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication. NOTE: This item is monitored only the vehicle with daytime running light system.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
HOOD SW [Off/On]		NOTE: The item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN com- munication.

ACTIVE TEST

Test item

Test item	Operation	Description
HORN	On	Operates horn relay for 20 ms.
HORN On Operates horn relay for 20 ms. FRONT WIPER Off OFF Lo Operates the front wiper relay. Hi Operates the front wiper relay and front w MOTOR FAN 1 OFF 2 Operates the cooling fan relay (LO operate) 3 Operates the cooling fan relay (HI operate) 4 Off OFF Composition Operates the tail lamp relay. Lo Operates the tail lamp relay. Lo Operates the headlamp low relay.	Off	OFF
	Lo	Operates the front wiper relay.
	Operates the front wiper relay and front wiper high relay.	
MOTOR FAN	1	OFF
	2	Operates the cooling fan relay (LO operation).
	3	Operates the cooling fan relay (HI operation).
	4	
	Off	OFF
EXTERNAL LAMPS	TAIL	Operates the tail lamp relay.
	Lo	Operates the headlamp low relay.
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.
	Fog	Operates the front fog lamp relay.

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DTC/CIRCUIT DIAGNOSIS P1610 LOCK MODE

Description

INFOID:000000007773427

ECM forcibly switches to the mode that inhibits engine start, when engine start operation is performed 5 times or more while communication between ECM and BCM is not normal.

DTC Logic

INFOID:000000007773428

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1610	LOCK MODE	When ECM detects a communication malfunction between ECM and BCM 5 times or more	_

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.

2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

- YES >> Go to SEC-34, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK ENGINE START FUNCTION

- 1. Perform the check for DTC except DTC P1610.
- 2. Use CONSULT to erase DTC after fixing.
- 3. Turn ignition switch OFF.
- 4. Turn ignition switch ON when registered Intelligent Key backside is contacted to push-button ignition switch and wait for 5 seconds.
- 5. Turn the ignition switch OFF and wait 5 seconds.
- 6. Repeat steps 4 and 5 twice (a total of 3 times).
- 7. Check that engine can start when registered Intelligent Key backside is contacted to push-button ignition switch.

>> INSPECTION END

INF0ID:000000007773429

< DTC/CIRCUIT DIAGNOSIS >

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 successfully verified. 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 P1611 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-40, "DTC Logic"</u>.
- If DTC P1611 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41, "DTC Logic"</u>.

-	DTC No.	Trouble diagnosis name	DTC detecting condition	Possible ca	use	F
_	P1611	ID DISCORD, IMMU- ECM	The ID verification results between BCM and ECM are NG.	BCMECM		
DT	C CONFI	RMATION PROC	EDURE			G
1.	PERFORM	M DTC CONFIRMA	TION PROCEDURE			
1. - -	Selector	tion switch ON unde lever is in the P or N epress brake pedal	er the following conditions. N position			Η
2.		Self-diagnosis result	" using CONSULT.			
<u>ls l</u>	DTC detec					
-		Bo to <u>SEC-35, "Diac</u> NSPECTION END	<u>inosis Procedure"</u> .			J
Di	Diagnosis Procedure					
1.	1.PERFORM INITIALIZATION					
Pe	rform initia	lization of BCM and	I registration of all Intelligent Keys using CC	NSULT.		
<u>Ca</u>	Can the system be initialized and can the engine be started with registered Intelligent Key?					L
YES >> INSPECTION END NO >> GO TO 2.						
2.	2. CHECK SELF-DIAGNOSIS RESULT					M
1.						
2. 3.	 Erase DTC. Perform DTC confirmation Procedure. Refer to <u>EC-462, "DTC Inspection Priority Chart"</u>. 					Ν
<u>ls l</u>	Is DTC detected?					
-	YES >> GO TO 3.					
-	NO >> INSPECTION END 3.REPLACE BCM					0
5.						
1. 2.	 Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. 					Ρ
<u>Ca</u>	n the syste	em be initialized and	d can the engine be started with registered	Intelligent Key?		
	YES >> INSPECTION END NO >> GO TO 4.					
	4. REPLACE ECM					
۱.	 Replace ECM. Refer to <u>SEC-9, "ECM : Special Repair Requirement"</u>. 					

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INFOID:000000007773430

P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. Can the system be initialized and can the engine be started with registered Intelligent Key?

YES >> INSPECTION END

NO >> GO TO 5.

 $5. {\sf check intermittent incident}$

Refer to GI-41, "Intermittent Incident".

>> INSPECTION END

P1612 CHAIN OF ECM-IMMU

Description

BCM performs ID verification with ECM that allows the engine to start. Start the engine if the ID is successfully verified. 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 P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-40, "DTC Logic".
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1612	CHAIN OF ECM-IMMU	Inactive communication between ECM and BCM	 Harness or connectors (The CAN communication line is open or shorted) BCM ECM
DTC CO	NFIRMATION PRC	CEDURE	
1 .PERF	ORM DTC CONFIRM	IATION PROCEDURE	
- Select - Do no 2. Chect Is DTC de YES	ctor lever is in the P c ot depress brake ped k "Self-diagnosis res <u>etected?</u>	lal ult" using CONSULT. iagnosis Procedure".	
Diagnos	sis Procedure		INFOID:00000007773435
1.REPL	ACE BCM		
2. Perfo	orm initialization of BC	<u>CS-81, "Removal and Installation"</u> . CM and registration of all Intelligent Keys	using CONSULT.
YES :	<u>engine start?</u> >> INSPECTION EN >> GO TO 2.	D	
2.REPL	ACE ECM		
Replace I	ECM. Refer to <u>SEC-9</u>	<u>), "ECM : Special Repair Requirement"</u> .	
:	>> INSPECTION EN	D	

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INFOID:000000007773433

B2192 ID DISCORD, IMMU-ECM

Description

BCM performs ID verification with ECM that allows the engine to start. Start the engine if the ID is successfully verified. 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

INFOID:000000007773437

INFOID:000000007773436

DTC DETECTION LOGIC

NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-40, "DTC Logic"</u>.
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41, "DTC Logic"</u>.

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

- YES >> Go to SEC-38. "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007773438

1.PERFORM INITIALIZATION

Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

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

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

2.CHECK SELF-DIAGNOSIS RESULT

- 1. Perform "Self-diagnosis result" of BCM using CONSULT.
- 2. Erase DTC.
- 3. Perform DTC Confirmation Procedure. Refer to <u>SEC-38, "DTC Logic"</u>.

Is DTC detected?

YES >> GO TO 3.

NO >> INSPECTION END

3.REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.
- 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

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

- YES >> INSPECTION END
- NO >> GO TO 4.

4.REPLACE ECM

- 1. Replace ECM. Refer to SEC-9, "ECM : Special Repair Requirement".
- 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

B2192 ID DISCORD, IMMU-ECM

DZ 19Z ID DIGCORD, II	
< DTC/CIRCUIT DIAGNOSIS >	[WITH INTELLIGENT KEY SYSTEM]
Can the system be initialized and can the engine be started with	th registered Intelligent Key?
YES >> INSPECTION END	
NO >> GO TO 5.	
5. CHECK INTERMITTENT INCIDENT	
Refer to GI-41, "Intermittent Incident".	
>> INSPECTION END	

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B2193 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 successfully verified. 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

INFOID:000000007773440

INFOID:000000007773439

DTC DETECTION LOGIC

- NOTE:
- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-40, "DTC Logic"</u>.
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2193	CHAIN OF ECM-BCM	Inactive communication between ECM and BCM	 Harness or connectors (The CAN communication line is open or shorted) BCM ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

- YES >> Go to SEC-40. "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.REPLACE BCM

- 1. Replace BCM. Refer to BCS-81, "Removal and Installation".
- 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

Does the engine start?

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

2.REPLACE ECM

Replace ECM. Refer to SEC-9, "ECM : Special Repair Requirement".

>> INSPECTION END

B2195 ANTI-SCANNING

Description

When ignition switch is turned ON, BCM performs ID verification with ECM. If ID verification that is out of the specified specification is detected, BCM prohibits further ID verification and engine cranking.

DTC Logic

INFOID:000000007773443

INFOID:000000007773442

DTC DETECTION LOGIC

_	DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	C
	B2195	ANTI SCANNING	ID verification between BCM and ECM that is out of the specified specification is detected	ID verification request out of the specified specification	6
DT	C CONFI	RMATION PROC	EDURE		
1.	PERFORM	M DTC CONFIRMA	TION PROCEDURE		F
1.			er the following conditions.		
-		lever is in the P or I epress brake pedal	N position		(
2.		Self-diagnosis result	" using CONSULT.		
<u>is D</u> YE	<u>TC detec</u> S >> F		iagnosis Procedure".		ŀ
NC		NSPECTION END.	<u></u>		
Dia	ignosis	Procedure		INFOID:000000007773444	
1.0	CHECK S	ELF-DIAGNOSIS R	ESULT-1		1
1.			It" of BCM using CONSULT.		
2. 3	Erase DT Perform		Procedure. Refer to <u>SEC-41, "DTC Logic"</u> .		
<u>ls D</u>	TC detec				
YE NC		GO TO 2. NSPECTION END			SE
-		QUIPMENT OF TH	E VEHICI E		
			y part related to engine start is not installed		L
		•	ated to engine start installed?		
YE NC		GO TO 3. GO TO 4.			N
~		ELF-DIAGNOSIS R	ESULT-2		
1.			oval to remove unspecified accessory part	related to engine start, and then	Ν
2.	remove it	t.	Ilt" of BCM using CONSULT.		
3.	Erase D1	rC.	C C		C
	Perform		Procedure. Refer to <u>SEC-41, "DTC Logic"</u> .		
<u>is d</u> YE		GO TO 4.			F
NC) >> II	NSPECTION END			
	REPLACE				
			-81, "Removal and Installation". and registration of all Intelligent Kevs usin	a CONSULT	

2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

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B2196 DONGLE UNIT

Description

INFOID:000000007773445

[WITH INTELLIGENT KEY SYSTEM]

BCM performs ID verification between dongle unit. When verification result is OK, BCM permits cranking.

DTC Logic

INFOID:000000007773446

DTC DETECTION LOGIC

NOTE:

- If DTC B2196 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-40, "DTC Logic"</u>.
- If DTC B2196 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2196	DONGLE NG	The ID verification results between BCM and dongle unit is NG.	 Dongle unit Harness or connectors (Dongle unit circuit is open or shorted.)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Turn ignition switch OFF.
- 3. Turn ignition switch ON under the following conditions.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 4. Check "Self-diagnosis result" using CONSULT.

Is the DTC detected?

YES >> Refer to <u>SEC-42. "Diagnosis Procedure"</u>.

NO >> INSPECTION END.

Diagnosis Procedure

1.PERFORM INITIALIZATION

1. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

2. Start the engine.

Dose the engine start?

YES >> INSPECTION END

NO >> GO TO 2.

2. CHECK DONGLE UNIT CIRCUIT

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

B	СМ	Dong	le unit	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M68	24	M75	7	Existed

4. Check continuity between BCM harness connector and ground.

B2196 DONGLE UNIT

В	CM		Continuity
Connector	Terminal	Ground	Continuity
M68	24		Not existed
inspection result norm >> GO TO 3. >> Repair or replac ECK DONGLE UNIT (e harness. GROUND CIRCUIT		
k continuity between do	ongle unit harness connect	or and ground.	
	le unit		Continuity
Connector	Terminal	Ground	
M75 e inspection result norm	1		Existed

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B2198 NATS ANTENNA AMP.

Description

INFOID:000000007773448

[WITH INTELLIGENT KEY SYSTEM]

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

DTC Logic

INFOID:000000007773449

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2198	NATS ANTENNA AMP.	Inactive communication between NATS antenna amp. and BCM.	Harness or connectorsNATS antenna amp.BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

- 1. Intelligent Key backside is contacted to push-button ignition switch.
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

- YES >> Go to SEC-44, "Diagnosis Procedure".
- NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE 2

- 1. Press the push-button ignition switch.
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

1.CHECK FUSE

Check that the following IPDM E/R fuse is not blown.

Signal name	Fuse No.
Battery power supply	43

Is the fuse fusing?

YES >> Is the blown fuse after repairing the affected circuit if a fuse is blown.

NO >> GO TO 2.

2.CHECK NATS ANTENNA AMP. POWER SUPPLY

1. Turn ignition switch OFF.

2. Disconnect NATS antenna amp. connector.

3. Check voltage between NATS antenna amp. harness connector and ground.

(+) enna amp.	()	Voltage (V) (Approx.)
Connector	Terminal		
M26	1	Ground	Battery voltage

Is the inspection result normal?

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

B2198 NATS ANTENNA AMP.

	CHECK NATS ANTENN Disconnect IPDM E/R o Check continuity betwe	connector.			np. connector.
-	IPDM E/R		NATS a	ntenna amp.	
	Connector	Terminal	Connector	Terminal	Continuity
_	E14	45	M26	1	Existed
	Check continuity betwe	en IPDM E/R ha	rness connector an	d ground.	
	IPC	DM E/R			
_	Connector	Termin	al	Ground	
	E14	45			Not existed
t	he inspection result norn	nal?	I		
1(O >> Repair or replace		SIGNAL 1		
	CHECK NATS ANTENN Connect NATS antenna Disconnect BCM conne Check voltage betweer	a amp. connector		d.	
•	Connect NATS antenna Disconnect BCM conne Check voltage between	a amp. connector ector. BCM harness c (+)			Voltage (V)
	Connect NATS antenna Disconnect BCM conne Check voltage between	a amp. connector ector. BCM harness c (+) BCM	onnector and groun	d. (-)	Voltage (V) (Approx.)
	Connect NATS antenna Disconnect BCM conne Check voltage between	a amp. connector ector. BCM harness c (+)	onnector and groun		(Approx.)
· · · · · · · · · · · · · · · · · · ·	Connect NATS antenna Disconnect BCM conne Check voltage between E Connector	a amp. connector ector. BCM harness c (+) BCM Termin 21	onnector and groun	()	
- - - - - - - - - - - - - - - - - - -	Connect NATS antenna Disconnect BCM conne Check voltage between E Connector M68 he inspection result norm ES >> GO TO 6. D >> GO TO 5. CHECK NATS ANTENN Disconnect NATS anten	a amp. connector ector. BCM harness c (+) BCM Termin 21 nal? A AMP. OUTPUT	connector and groun	(–) Ground	(Approx.) Battery voltage
	Connect NATS antenna Disconnect BCM conne Check voltage between E Connector M68 he inspection result norm ES >> GO TO 6. D >> GO TO 5. CHECK NATS ANTENN	a amp. connector ector. BCM harness c (+) BCM Termin 21 nal? A AMP. OUTPUT	connector and groun	(–) Ground	(Approx.) Battery voltage
· · · · · · · · · · · · · · · · · · ·	Connect NATS antenna Disconnect BCM conne Check voltage between E Connector M68 he inspection result norm ES >> GO TO 6. D >> GO TO 5. CHECK NATS ANTENN Disconnect NATS anten	a amp. connector ector. BCM harness c (+) BCM Termin 21 nal? A AMP. OUTPUT	SIGNAL CIRCUIT	(–) Ground	(Approx.) Battery voltage
· · · · · · · · · · · · · · · · · · ·	Connect NATS antenna Disconnect BCM conne Check voltage between Connector M68 he inspection result norm ES >> GO TO 6. D >> GO TO 5. CHECK NATS ANTENN Disconnect NATS anten Check continuity betwe	a amp. connector ector. BCM harness c (+) BCM Termin 21 nal? A AMP. OUTPUT	SIGNAL CIRCUIT	(-) Ground 1 TS antenna amp. cc	(Approx.) Battery voltage
	Connect NATS antenna Disconnect BCM conne Check voltage between Connector M68 he inspection result norm ES >> GO TO 6. D >> GO TO 5. CHECK NATS ANTENN Disconnect NATS anter Check continuity betwee	a amp. connector ector. BCM harness c (+) BCM Termin 21 nal? A AMP. OUTPUT nna amp. connector en BCM harness	T SIGNAL CIRCUIT	(–) Ground 1 TS antenna amp. co	(Approx.) Battery voltage
	Connect NATS antenna Disconnect BCM conne Check voltage between Connector M68 he inspection result norm ES >> GO TO 6. D >> GO TO 5. CHECK NATS ANTENN Disconnect NATS anten Check continuity betwee BCM Connector	a amp. connector ector. BCM harness c (+) 3CM Termin 21 nal? A AMP. OUTPUT nna amp. connec en BCM harness Terminal 21	SIGNAL CIRCUIT SIGNAL CIRCUIT tor. connector and NATS a Connector M26	(-) Ground 1 TS antenna amp. co intenna amp. Terminal 2	(Approx.) Battery voltage
	Connect NATS antenna Disconnect BCM conne Check voltage between Connector M68 he inspection result norm ES >> GO TO 6. D >> GO TO 5. CHECK NATS ANTENN Disconnect NATS anten Check continuity betwee BCM Connector M68 Check continuity betwee	a amp. connector ector. BCM harness c (+) 3CM Termin 21 nal? A AMP. OUTPUT nna amp. connec en BCM harness Terminal 21	SIGNAL CIRCUIT SIGNAL CIRCUIT tor. connector and NATS a Connector M26	(-) Ground 1 TS antenna amp. co intenna amp. Terminal 2	(Approx.) Battery voltage
· · · · · · · · · · · · · · · · · · ·	Connect NATS antenna Disconnect BCM conne Check voltage between Connector M68 he inspection result norm ES >> GO TO 6. D >> GO TO 5. CHECK NATS ANTENN Disconnect NATS anten Check continuity betwee BCM Connector M68 Check continuity betwee	a amp. connector ector. BCM harness c (+) 3CM Termin 21 nal? A AMP. OUTPUT nna amp. connect en BCM harness Terminal 21 en BCM harness	SIGNAL CIRCUIT SIGNAL CIRCUIT tor. connector and NATS a Connector M26 connector and gro	(-) Ground 1 TS antenna amp. co intenna amp. Terminal 2	(Approx.) Battery voltage

$6. {\sf CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL}$

1. Connect BCM connector.

2. Check voltage between BCM harness connector and ground using analog tester.

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B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

	(+)			Voltage (V)	
B	СМ	()	Condition	(Approx.)	
Connector	Terminal				
M68	21	Ground	Intelligent Key backside is contacted to push-button ignition switch, turn ig- nition switch ON.	Just after pressing push-button igni- tion switch. Pointer of analog tester should move.	

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace NATS antenna amp. Refer to <u>SEC-150, "Removal and Installation"</u>.

7.CHECK NATS ANTENNA AMP. OUTPUT SIGNAL 2

1. Disconnect BCM connector.

2. Check voltage between BCM harness connector and ground.

(+) BCM			
		()	Voltage (V) (Approx.)
Connector	Terminal		
M68	25	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 8.

8.CHECK NATS ANTENNA AMP. OUTPUT SIGNAL CIRCUIT 2

1. Disconnect NATS antenna amp. connector.

2. Check continuity between BCM harness connector and NATS antenna amp. connector.

B	BCM		NATS antenna amp.	
Connector	Terminal	Connector	Terminal	Continuity
M68	25	M26	3	Existed

3. Check continuity between BCM harness connector and ground.

BC	CM		Continuity	
Connector	Connector Terminal		Continuity	
M68	25		Not existed	

Is the inspection result normal?

YES >> Replace NATS antenna amp. Refer to SEC-150, "Removal and Installation".

NO >> Repair or replace harness.

9. Check nats antenna AMP. Communication signal

1. Connect BCM connector.

2. Check voltage between BCM harness connector and ground using analog tester.

(+)					
B	СМ	()	Condition	Voltage (V) (Approx.)	
Connector	Terminal			(
M68	25	Ground	Intelligent Key backside is contacted to push-button ignition switch, turn ig- nition switch ON.	Just after pressing push-button igni- tion switch. Pointer of analog tester should move.	

Is the inspection result normal?

YES >> GO TO 10.

NO >> Replace NATS antenna amp. Refer to <u>SEC-150, "Removal and Installation"</u>.

10.CHECK NATS ANTENNA AMP. GROUND CIRCUIT

B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

1. Disconnect NATS antenna amp. connector.

2. Check continuity between NATS antenna amp. harness connector and ground.

NATS antenna amp.			Continuity
Connector	Connector Terminal		Continuity
M68	4		Existed
s the inspection result normal?			
YES >> GO TO 11.			
NO >> Repair or replace ha			
1.CHECK INTERMITTENT IN	NCIDENT		
Refer to GI-41, "Intermittent Inci	dent".		
>> INSPECTION END			

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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

INFOID:000000007773452

INFOID:000000007773453

INFOID:000000007773451

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 1 second or more.
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

YES >> Go to SEC-48, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK STOP LAMP SWITCH INPUT SIGNAL 1

1. Turn ignition switch OFF.

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

(+) BCM		()	Voltage (V) (Approx.)	
Connector	Terminal			
M71	105	Ground	Battery voltage	

Is the inspection normal?

- YES >> GO TO 2.
- NO-1 >> Check 10 A fuse [No. 9, located in the fuse block (J/B)].
- NO-2 >> Check harness for open or short between BCM and fuse.

2.CHECK STOP LAMP SWITCH POWER SUPPLY CIRCUIT

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

(+) Stop lamp switch		(-)	Voltage (V) (Approx.)	
Connector	Terminal	_	(
E115	1	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check harness for open or short to stop lamp switch.

 ${\it 3.}$ CHECK STOP LAMP SWITCH INPUT SIGNAL 2

B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

1. Connect stop lamp switch connector.

Check voltage between BCM harness connector and ground 2

(+) BCM		()	(-) Condition			Voltage (V)	
Connector	Terminal	()		Condition		(Approx.)	
M68	9	Ground	Brake pe	dal	pressed lepressed	, ,	
O >> GO TO 4 CHECK STOP LA	BCM. Refer to <u>B(</u> I.	CUIT			arness co	nnector.	
Stop	lamp switch		BC	M			
Connector	Terminal	Со	nnector	Termina		Continuity	
E115	2		M68	9		Existed	
Check continuity	between stop lar	np switch harne	ess connecto	r and ground.			
	Stop lamp switch					Continuity	
Connector		Terminal	G	Ground		-	
E115 e inspection resu		2				Not existed	
e inspection resu S >> GO TO 6 >> Replace	omponent Inspect Ilt normal?	Refer to <u>BR-1</u>	7, "Exploded	<u>View"</u> .			
er to <u>GI-41, "Inter</u>	mittent Incident".						
>> INSPEC mponent Insp CHECK STOP LA	ection MP SWITCH					INFOID:0000000	
	tch OFF. lamp switch conn between stop lar		nals.				
	amp switch erminal		Cond	ition		Continuity	
10	eminai			Not depres	sed	Not existed	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace stop lamp switch. Refer to <u>BR-17, "Exploded View"</u>.

SEC-49

Brake pedal

Existed

Depressed

B2556 PUSH-BUTTON IGNITION SWITCH

Description

The switch 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:000000007773456

INFOID:000000007773455

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2556	PUSH-BTN IGN SW	BCM detects the push-button ignition switch stuck at ON for 100 seconds or more.	 Harness or connectors (Push-button ignition switch circuit is shorted.) Push-button ignition switch BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine and wait 100 seconds or more.
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

YES >> Go to <u>SEC-50, "Diagnosis Procedure"</u>. NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007773457

1. CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNAL

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

(+) Push-button ignition switch		(-)	Voltage (V) (Approx.)	
Connector	Terminal			
M101	8	Ground	12	

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT

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

Push-button	Push-button ignition switch		BCM	
Connector	Terminal	Connector	Terminal	Continuity
M101	8	M71	76	Existed

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

Push-button ignition switch			Continuity
Connector	Terminal	Ground	Continuity
M101	8		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-81. "Removal and Installation". NO >> Repair or replace harness. 3.CHECK PUSH-BUTTON IGNITION SWITCH GROUND CIRCUIT Check continuity between push-button ignition switch harness connector and ground. Push-button ignition switch Ground Continuity Push-button ignition switch Ground Continuity M101 4 Existed Sthe inspection result normal? YES >> GO TO 4. NO >> Repair or replace harness. A.CHECK PUSH-BUTTON IGNITION SWITCH Refer to SEC-51. "Component Inspection". Is the inspection result normal? YES >> GO TO 5. NO >> Replace push-button ignition switch. Refer to PCS-132. "Removal and Installation". S.CHECK INTERMITTENT INCIDENT Refer to GI-41. "Intermittent Incident". >>> INSPECTION END Component Inspection 1. CHECK PUSH-BUTTON IGNITION SWITCH	GENT KEY SYSTEM]
NO >> Repair or replace harness. 3.CHECK PUSH-BUTTON IGNITION SWITCH GROUND CIRCUIT Check continuity between push-button ignition switch harness connector and ground. Push-button ignition switch Ground Continuity M101 4 Existed Existed Is the inspection result normal? YES >> GO TO 4. NO >> Repair or replace harness. 4.CHECK PUSH-BUTTON IGNITION SWITCH Refer to SEC-51. "Component Inspection". Is the inspection result normal? YES >> GO TO 5. NO >> Replace push-button ignition switch. Refer to PCS-132. "Removal and Installation". 5.CHECK INTERMITTENT INCIDENT Refer to GI-41. "Intermittent Incident". >> INSPECTION END Ormponent Inspection Optimizer Section PCS-132. "Removal and Installation". Component Inspection > INSPECTION END Component Inspection 1. Turn ignition switch OFF. 2. Disconcet push-button ignition switch connector. 3. Check continuity between push-button ignition switch terminals. Continuity Continuity 4 8 Push-button ignition Not pressed Not existed	
Check continuity between push-button ignition switch harness connector and ground. Push-button ignition switch Ground Continuity Continuity Minits Continuity Minits Continuity Section result normal? YES > GO TO 4. NO >> Replace push-button ignition switch. Refer to PCS-132, "Removal and Installation". S.CHECK INTERMITTENT INCIDENT Refer to GI-41, "Intermittent Incident". >> INSPECTION END Component Inspection 1. CHECK PUSH-BUTTON IGNITION SWITCH 1. 1. Turn ignition switch	
Push-button ignition switch Ground Continuity M101 4 Existed Is the inspection result normal? YES > GO TO 4. NO >> Repair or replace harness. 4. CHECK PUSH-BUTTON IGNITION SWITCH Refer to SEC-51. "Component Inspection". Is the inspection result normal? YES >> GO TO 5. NO >> Replace push-button ignition switch. Refer to PCS-132. "Removal and Installation". 5.CHECK INTERMITTENT INCIDENT Refer to GI-41, "Intermittent Incident". >> INSPECTION END Component Inspection 1. CHECK PUSH-BUTTON IGNITION SWITCH 1. Turn ignition switch OFF. 2. Disconnect push-button ignition switch connector. 3. Check continuity between push-button ignition switch terminals. Push-button ignition switch Terminal Quich-button ignition switch 1 2 3. Check continuity between push-button ignition switch terminals. Yesh-button ignition switch 4 8 Push-button ignition A Push-button ignition	
Connector Terminal Ground Continuity M101 4 Existed Existed Is the inspection result normal? YES >> GO TO 4. NO >> Repair or replace harness. 4. CHECK PUSH-BUTTON IGNITION SWITCH Refer to SEC-51. "Component Inspection". Is the inspection result normal? YES >> GO TO 5. NO >> Replace push-button ignition switch. Refer to PCS-132. "Removal and Installation". 5. CHECK INTERMITTENT INCIDENT Refer to GI-41. "Intermittent Incident". >> INSPECTION END Surgeococcoccorrestrict 1. CHECK PUSH-BUTTON IGNITION SWITCH 1. Turn ignition switch OFF. 2. 1. Turn ignition switch OFF. 2. Disconnect push-button ignition switch connector. 3. 3. Check continuity between push-button ignition switch terminals. Condition Continuity 4 8 Push-button ignition Switch Not pressed Not existed	
Connector Terminal Ground M101 4 Existed Is the inspection result normal? YES >> GO TO 4. NO >> Repair or replace harness. 4. CHECK PUSH-BUTTON IGNITION SWITCH Refer to SEC-51. "Component Inspection". Is the inspection result normal? YES >> GO TO 5. NO NO >> Replace push-button ignition switch. Refer to PCS-132. "Removal and Installation". 5.CHECK INTERMITTENT INCIDENT Refer to GI-41. "Intermittent Incident". >> INSPECTION END Component Inspection 1.CHECK PUSH-BUTTON IGNITION SWITCH 1. Turn ignition switch OFF. 2. Disconnect push-button ignition switch connector. 3. Check continuity between push-button ignition switch terminals. Yesh-button ignition switch Condition Yesh-button ignition switch Condition 4 8 Push-button ignition gwitch	
Is the inspection result normal? YES >> GO TO 4. NO >> Repair or replace harness. 4. CHECK PUSH-BUTTON IGNITION SWITCH Refer to SEC-51. "Component Inspection". Is the inspection result normal? YES >> GO TO 5. NO >> Replace push-button ignition switch. Refer to PCS-132. "Removal and Installation". 5. CHECK INTERMITTENT INCIDENT Refer to GI-41. "Intermittent Incident". >> INSPECTION END Component Inspection 1. CHECK PUSH-BUTTON IGNITION SWITCH 1. Turn ignition switch OFF. 2. Disconnect push-button ignition switch connector. 3. Check continuity between push-button ignition switch terminals. Push-button ignition switch 4 8	Continuity
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NO >> Repair or replace harness. 4.CHECK PUSH-BUTTON IGNITION SWITCH Refer to SEC-51. "Component Inspection". Is the inspection result normal? YES >> GO TO 5. NO >> Replace push-button ignition switch. Refer to PCS-132. "Removal and Installation". 5.CHECK INTERMITTENT INCIDENT Refer to GI-41. "Intermittent Incident". >> INSPECTION END Component Inspection 1.CHECK PUSH-BUTTON IGNITION SWITCH 1. Turn ignition switch OFF. 2. Disconnect push-button ignition switch connector. 3. Check continuity between push-button ignition switch terminals. Switch Pressed 4 8	
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NO >> Replace push-button ignition switch. Refer to PCS-132, "Removal and Installation". 5.CHECK INTERMITTENT INCIDENT Refer to GI-41, "Intermittent Incident". >> INSPECTION END Component Inspection INFOLDO00000000000000000000000000000000000	
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1.CHECK PUSH-BUTTON IGNITION SWITCH 1. Turn ignition switch OFF. 2. Disconnect push-button ignition switch connector. 3. Check continuity between push-button ignition switch terminals. <u>Push-button ignition switch</u> <u>Condition</u> <u>Continuity</u> <u>4 8 Push-button ignition switch</u> <u>Not pressed</u> <u>Existed</u> <u>Not existed</u>	
1. Turn ignition switch OFF. 2. Disconnect push-button ignition switch connector. 3. Check continuity between push-button ignition switch terminals. Push-button ignition switch Condition Condition Continuity 4 8 Push-button ignition switch Push-button ignition A 8 Push-button ignition switch Not pressed Existed Not existed	INFOID:000000007773458
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Push-button ignition switch TerminalConditionContinuity48Push-button ignition switchPressedExistedA8Not pressedNot existed	
Terminal Condition Continuity 4 8 Push-button ignition switch Pressed Existed Not pressed Not existed	
Terminal Push-button ignition switch Pressed Existed 4 8 Push-button ignition switch Not pressed Not existed	Continuity
4 8 switch Not pressed Not existed	Continuity
switch Not pressed Not existed	Existed
	Not existed
is the inspection result normal?	
YES >> INSPECTION END	
replace pash batter small small relef to <u>recenter and motal and to taken</u> .	
<u>Is the inspection result normal?</u> YES >> INSPECTION END NO >> Replace push-button ignition switch. Refer to <u>PCS-132</u> , " <u>Removal and Insta</u>	ta

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B2557 VEHICLE SPEED

Description

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

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-40, "DTC Logic"</u>.
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-41, "DTC Logic".

DTC No.	Self-diagnosis name	DTC detecting condition	Possible causes
B2557	VEHICLE SPEED	 BCM detects the following difference between the vehicle speed signal from "combination meter" and the one from "ABS actuator and electric unit" for 10 seconds continuously. One is 10 km/h (6.2 MPH) or more and the other is 4 km/ h (2.5 MPH) or less 	 Combination 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 (6.2 MPH) or more and wait 10 seconds or more.
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

- YES >> Go to <u>SEC-52, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007773461

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

Check "Self-diagnosis result" using CONSULT. Refer to BRC-94, "DTC Index".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CHECK DTC WITH "COMBINATION METER"

Check "Self-diagnosis result" using CONSULT. Refer to <u>MWI-57, "DTC Index"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> INSPECTION END

INFOID:000000007773459

B2601 SHIFT POSITION

Description

BCM confirms the shift position with the following 4 signals.

- Selector lever
- Transmission range 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>BCS-40, "DTC Logic"</u>.
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41, "DTC Logic"</u>.
- If DTC B2601 is displayed with DTC B2603, first perform the trouble diagnosis for DTC B2603. Refer to F SEC-59, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	G
B2601	SHIFT POSITION	When there is a difference between P range signal from CVT shift selector and shift position signal from IPDM E/R	 Harness or connectors (CVT shift selector circuit is open or shorted) CVT shift selector (detention switch) BCM CAN communication malfunction between BCM and IPDM E/R 	H

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait 2 seconds or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

YES >> Go to <u>SEC-53, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK CVT SHIFT SELECTOR POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Disconnect CVT shift selector (detention switch) connector.

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

 (+)	(-)	Voltage (V) (Approx.)	
 Connector	Terminal		(Approx.)	Р
 M58	7	Ground	12	_

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

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INFOID:000000007773462

INFOID:00000007773463

< DTC/CIRCUIT DIAGNOSIS >

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

CVT shift selector	CVT shift selector (detention switch)		BCM	
Connector	Terminal	Connector	Terminal	Continuity
M58	7	M71	104	Existed

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

CVT shift selector (detention switch)			Continuity
Connector	Terminal	Ground	Continuity
M58	7		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

NO >> Repair or replace harness.

3.CHECK CVT SHIFT SELECTOR CIRCUIT (BCM)

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

 Check continuity between CVT shift selector (detention switch) harness connector and BCM harness connector.

CVT shift selector	(detention switch)	BCM		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M58	8	M68	37	Existed

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

CVT shift selector	CVT shift selector (detention switch)		Continuity
Connector	Terminal	Ground	Continuity
M58	8		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK CVT SHIFT SELECTOR CIRCUIT (IPDM E/R)

Check continuity between CVT shift selector (detention switch) harness connector and IPDM E/R harness connector.

CVT shift selector	CVT shift selector (detention switch)		IPDM E/R	
Connector	Terminal	Connector	Terminal	Continuity
M58	8	E17	64	Existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

Refer to SEC-55, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace CVT shift selector. Refer to <u>TM-209</u>, "Removal and Installation".

6.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

WITH INTELLIGENT KEY SYSTEM

< DTC/CIRCUIT DIAG				ENT KEY SYSTEM]
>> INSPECTI	ON END			
Component Inspe	ction			INFOID:000000007773465
1.CHECK CVT SHIFT		NTION SWITCH)		
1. Turn ignition switch	h OFF.			
	hift selector connector etween CVT shift sele		h) terminals.	
			.,	
	r (detention switch)	Con	dition	Continuity
-			P position	Not existed
7	8	Selector lever	Other than above	Existed

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B2602 SHIFT POSITION

Description

BCM confirms the shift position with the following 4 signals.

- Selector lever
- Transmission range switch
- P position signal from IPDM E/R (CAN)
- P position signal from TCM (CAN)

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-40, "DTC Logic"</u>.
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41. "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2602	SHIFT POSITION	 BCM detects the following status for 10 seconds. Shift position is in the P position Vehicle speed is 4 km/h (2.5 MPH) or more Ignition switch is in the ON position 	 Harness or connectors (CVT shift selector circuit is open or shorted) CVT shift selector (detention switch) BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine under the following conditions and wait 10 seconds or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

INFOID:000000007773468

1.CHECK DTC WITH "ABS ACTUATOR AND ELECTRIC UNIT"

Check "Self-diagnosis result" using CONSULT. Refer to BRC-94, "DTC Index".

Is the inspection result normal?

NO >> Repair or replace the malfunctioning parts.

2.CHECK CVT SHIFT SELECTOR POWER SUPPLY

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

	(+) CVT shift selector (detention switch) Connector Terminal		Voltage (V) (Approx.)	
Connector				
M58	7	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 4.

INFOID:000000007773466

< DTC/CIRCUIT DIAGNOSIS >

NO >> GO TO 3. **3.**CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT А 1. Disconnect BCM connector. Check continuity between CVT shift selector (detention switch) harness connector and BCM harness con-2. В nector. CVT shift selector (detention switch) BCM Continuity Connector Terminal Connector Terminal 104 7 M71 M58 Existed Check continuity between CVT shift selector (detention switch) harness connector and ground. 3. D CVT shift selector (detention switch) Continuity Connector Terminal Ground 7 M58 Not existed Is the inspection result normal? F YES >> Replace BCM. Refer to BCS-81, "Removal and Installation". NO >> Repair or replace harness. CHECK CVT SHIFT SELECTOR CIRCUIT 1. Disconnect BCM connector and IPDM E/R connector. 2. Check continuity between CVT shift selector (detention switch) harness connector and BCM harness connector. Н BCM CVT shift selector (detention switch) Continuity Connector Terminal Connector Terminal M58 8 M68 37 Existed Check continuity between CVT shift selector (detention switch) harness connector and ground. 3. CVT shift selector (detention switch) Continuity Connector Terminal Ground SEC M58 8 Not existed Is the inspection result normal? YES >> GO TO 5. NO >> Repair or replace harness. ${f 5.}$ CHECK CVT SHIFT SELECTOR (DETENTION SWITCH) Refer to SEC-57, "Component Inspection". M Is the inspection result normal? YES >> GO TO 6. NO >> Replace CVT shift selector. Refer to TM-209, "Removal and Installation". Ν **6.**CHECK INTERMITTENT INCIDENT Refer to GI-41, "Intermittent Incident". >> INSPECTION END Component Inspection INFOID:000000007773469 1. CHECK CVT SHIFT SELECTOR (DETENTION SWITCH) 1. Turn ignition switch OFF.

2. Disconnect CVT shift selector connector.

3. Check continuity between CVT shift selector (detention switch) terminals.

SEC-57

< DTC/CIRCUIT DIAGNOSIS >

CVT shift selector (detention switch)		Condition		Continuity	
Terr	Terminal		Condition		
7	8 Selector lever		P position	Not existed	
	0		Other than above	Existed	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace CVT shift selector. Refer to <u>TM-209</u>, "Removal and Installation".

Description

BCM confirms the shift position with the following 4 signals.

- Selector lever
- Transmission range 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>BCS-40, "DTC Logic"</u>.
- If DTC B2603 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41, "DTC Logic"</u>.
- If DTC B2603 is displayed with DTC B2601, first perform the trouble diagnosis for DTC B2601. Refer to F SEC-53, "DTC Logic".

DTC No.	Self-diagnosis name	DTC detecting condition	Possible causes
B2603	SHIFT POSI STATUS	 BCM detects the following status when ignition switch is in the ON position. Transmission range switch: approx. 0 V CVT shift selector (detention switch): approx. 0 V 	 Harness or connector (CVT shift selector circuit is open or shorted) Harness or connectors (Transmission range switch circuit is open or shorted) CVT shift selector (detention switch) Transmission range switch BCM IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

1. Turn ignition switch ON under the following conditions and wait 1 second or more.	SEC
- Selector lever is in the P or N position	
- Do not depress brake pedal	
Check "Self-diagnosis result" using CONSULT.	L
Is DTC detected?	
YES >> Go to <u>SEC-59, "Diagnosis Procedure"</u> .	
NO >> GO TO 2.	M
2. PERFORM DTC CONFIRMATION PROCEDURE 2	
 After step 1 of DTC confirmation procedure, shift selector lever to a position other than P or N Check "Self-diagnosis result" using CONSULT. 	Ν
Is DTC detected?	
YES >> Go to <u>SEC-59, "Diagnosis Procedure"</u> . NO >> INSPECTION END	0
Diagnosis Procedure	
1.INSPECTION START	Ρ
Perform inspection in accordance with procedure that confirms DTC.	
Which procedure confirms DTC?	
DTC confirmation procedure 1>>GO TO 2	

DTC confirmation procedure 1>>GO TO 2. DTC confirmation procedure 2>>GO TO 7. J

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INFOID:000000007773471

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< DTC/CIRCUIT DIAGNOSIS >

2.CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Disconnect transmission range switch connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between transmission range switch harness connector and ground.

(+) Transmission range switch Connector Terminal			Voltage (V) (Approx.)	
		()		
F21	1	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

3.CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

- 2. Disconnect IPDM E/R connector.
- Check continuity between transmission range switch harness connector and IPDM E/R harness connector.

Transmission range switch		IPDN	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
F21	1	E15	59	Existed

4. Check continuity between transmission range switch harness connector and ground.

A/T as	sembly		Continuity	
Connector	Connector Terminal		Continuity	
F21	1		Not existed	

Is the inspection result normal?

YES >> Check 10 A fuse (No. 56, located in the IPDM E/R).

NO >> Repair or replace harness.

4.CHECK BCM INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Connect transmission range switch connector.
- 3. Turn ignition switch ON.

4. Check voltage between BCM harness connector and ground.

(+) BCM		(-)	Con	Condition	
Connector	Terminal				(Approx.)
M71	102	Ground	Selector lever	P or N position	Battery voltage
1717	102	Ground	Selector lever	Other than above	0

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

NO >> GO TO 5.

5.CHECK BCM INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.

- 2. Disconnect transmission range switch connector.
- 3. Check continuity between transmission range switch harness connector and BCM harness connector.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Tansmission	n range switch		BCM	Continuity
Connector	Terminal	Connector	Terminal	Continuity
F21	2	M71	102	Existed
Check continuity be	etween transmission i	ange switch harne	ss connector and gro	ound.
Transr	nission range switch			
Connector	Termina	al	Ground	Continuity
F21	2			Not existed
the inspection result				
ES >> GO TO 6.				
	eplace harness.			
CHECK TRANSMIS	SION RANGE SWITC	СН		
fer to <u>SEC-62, "Com</u>	ponent Inspection (Tr	ansmission Range	Switch)".	
the inspection result	normal?			
ES >> GO TO 12.				
•	ansaxle assembly. Re		<u>oloded View"</u> .	
CHECK CVT SHIFT	SELECTOR POWER	RSUPPLY		
Turn ignition switch				
Disconnect CVT sh	hift selector (detention veen CVT shift selecter	switch) connector.) harness connector	and around
Check voltage betv				and ground.
	(+)			
CVT shift s	elector (detention switch)		()	Voltage (V) (Approx.)
	Termina	.1		(Approx.)
Connector	Terrinia	al		
Connector M58	7	ai	Ground	12
	7		Ground	12
M58 the inspection result ES >> GO TO 9.	7		Ground	12
M58 the inspection result ES >> GO TO 9. O >> GO TO 8.	normal?			12
M58 the inspection result ES >> GO TO 9. O >> GO TO 8.	7			12
M58 the inspection result ES >> GO TO 9. O >> GO TO 8. CHECK CVT SHIFT Disconnect BCM co	normal? SELECTOR POWER onnector.	SUPPLY CIRCUI	T	
M58 the inspection result ES >> GO TO 9. O >> GO TO 8. CHECK CVT SHIFT Disconnect BCM co Check continuity be	normal? SELECTOR POWER	SUPPLY CIRCUI	T	
M58 the inspection result ES >> GO TO 9. O >> GO TO 8. CHECK CVT SHIFT Disconnect BCM co	normal? SELECTOR POWER onnector.	SUPPLY CIRCUI	T	
M58 the inspection result ES >> GO TO 9. O >> GO TO 8. CHECK CVT SHIFT Disconnect BCM co Check continuity be nector.	normal? SELECTOR POWER onnector.	R SUPPLY CIRCUI	T	or and BCM harne
M58 the inspection result ES >> GO TO 9. O >> GO TO 8. CHECK CVT SHIFT Disconnect BCM co Check continuity be nector.	7 normal? SELECTOR POWER onnector. etween CVT shift sele	R SUPPLY CIRCUI	T cch) harness connect	
M58 the inspection result ES >> GO TO 9. O >> GO TO 8. CHECK CVT SHIFT Disconnect BCM co Check continuity be nector.	7 normal? SELECTOR POWEF onnector. etween CVT shift sele	SUPPLY CIRCUI	T cch) harness connect BCM	or and BCM harne
M58 the inspection result ES >> GO TO 9. O >> GO TO 8. CHECK CVT SHIFT Disconnect BCM co Check continuity be nector. CVT shift selector Connector M58	7 normal? SELECTOR POWER onnector. etween CVT shift sele (detention switch) Terminal	Connector	T cch) harness connect BCM Terminal 104	tor and BCM harne
M58 the inspection result ES >> GO TO 9. O >> GO TO 8. CHECK CVT SHIFT Disconnect BCM co Check continuity be nector. CVT shift selector Connector M58 Check continuity be	7 normal? SELECTOR POWER onnector. etween CVT shift sele (detention switch) Terminal 7 etween CVT shift sele	Connector	T cch) harness connect BCM Terminal 104	tor and BCM harne
M58 the inspection result ES >> GO TO 9. O >> GO TO 8. CHECK CVT SHIFT Disconnect BCM ca Check continuity be nector. CVT shift selector Connector M58 Check continuity be CVT shift selector	7 normal? SELECTOR POWER onnector. etween CVT shift sele (detention switch) Terminal 7 etween CVT shift sele etween CVT shift sele etween CVT shift sele	R SUPPLY CIRCUI ctor (detention swit Connector M71 ctor (detention swi	T cch) harness connect BCM Terminal 104 tch) harness connec	tor and BCM harne
M58 the inspection result ES >> GO TO 9. O >> GO TO 8. CHECK CVT SHIFT Disconnect BCM co Check continuity be nector. CVT shift selector Connector M58 Check continuity be CVT shift selector	7 normal? SELECTOR POWER onnector. etween CVT shift sele (detention switch) Terminal 7 etween CVT shift sele elector (detention switch) Terminal 7 etween CVT shift sele elector (detention switch) Terminal 7	R SUPPLY CIRCUI ctor (detention swit Connector M71 ctor (detention swi	T cch) harness connect BCM Terminal 104	tor and BCM harne Continuity Existed tor and ground. Continuity
M58 the inspection result ES >> GO TO 9. O >> GO TO 8. CHECK CVT SHIFT Disconnect BCM ca Check continuity be nector. CVT shift selector Connector M58 Check continuity be CVT shift s Connector M58	7 normal? SELECTOR POWER onnector. etween CVT shift sele (detention switch) Terminal 7 etween CVT shift sele elector (detention switch) Terminal 7 etween CVT shift sele elector (detention switch) Terminal 7 etween CVT shift sele elector (detention switch) Terminal 7	R SUPPLY CIRCUI ctor (detention swit Connector M71 ctor (detention swi	T cch) harness connect BCM Terminal 104 tch) harness connec	tor and BCM harne — Continuity Existed tor and ground.
M58 the inspection result ES >> GO TO 9. O >> GO TO 8. CHECK CVT SHIFT Disconnect BCM co Check continuity be nector. CVT shift selector Connector M58 Check continuity be CVT shift selector M58 Check continuity be CVT shift selector M58 Check continuity be	7 normal? SELECTOR POWER onnector. etween CVT shift sele (detention switch) Terminal 7 etween CVT shift sele elector (detention switch) Terminal 7 etween CVT shift sele elector (detention switch) Terminal 7 normal?	Connector M71 Al	T cch) harness connect BCM Terminal 104 tch) harness connec Ground	tor and BCM harne Continuity Existed tor and ground. Continuity
M58 the inspection result ES >> GO TO 9. O >> GO TO 8. CHECK CVT SHIFT Disconnect BCM co Check continuity be nector. CVT shift selector Connector M58 Check continuity be CVT shift selector M58 Check continuity be CVT shift selector M58 Check continuity be CVT shift selector M58 Check continuity be CVT shift selector M58 Connector M58	7 normal? SELECTOR POWER onnector. etween CVT shift sele (detention switch) Terminal 7 etween CVT shift sele elector (detention switch) Terminal 7 etween CVT shift sele elector (detention switch) Terminal 7 normal? CM. Refer to BCS-81.	Connector M71 Al	T cch) harness connect BCM Terminal 104 tch) harness connec Ground	tor and BCM harne Continuity Existed tor and ground. Continuity
M58 the inspection result ES >> GO TO 9. O >> GO TO 8. CHECK CVT SHIFT Disconnect BCM ca Check continuity be nector. CVT shift selector Connector M58 Check continuity be CVT shift selector M58 Check continuity be CVT shift selector M58 Check continuity be CVT shift selector M58 Check continuity be	7 normal? SELECTOR POWER onnector. etween CVT shift sele (detention switch) Terminal 7 etween CVT shift sele elector (detention switch) Terminal 7 etween CVT shift sele elector (detention switch) Terminal 7 normal?	R SUPPLY CIRCUI ctor (detention swite Connector M71 atomic (detention swite atomic (detention swite) atomic (detenti	T cch) harness connect BCM Terminal 104 tch) harness connec Ground	tor and BCM harne Continuity Existed tor and ground. Continuity

nector.

SEC-61

< DTC/CIRCUIT DIAGNOSIS >

CVT shift selector (detention switch)		BCM		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
M58	8	M68	37	Existed	

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

CVT shift selector	(detention switch)		Continuity
Connector	Terminal	Ground	Continuity
M58	8		Not existed

Is the inspection result normal?

YES >> GO TO 10.

NO >> Repair or replace harness.

10.CHECK CVT SHIFT SELECTOR CIRCUIT (IPDM E/R)

Check continuity between CVT shift selector (detention switch) harness connector and IPDM E/R harness connector.

CVT shift selector (detention switch)		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M58	8	E17	64	Existed

Is the inspection result normal?

YES >> GO TO 11.

NO >> Repair or replace harness.

11.CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

Refer to <u>SEC-62</u>, "Component Inspection [CVT Shift Selector (Detention Switch)]".

Is the inspection result normal?

YES >> GO TO 12.

NO >> Replace CVT shift selector. Refer to <u>TM-209</u>, "Removal and Installation".

12.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> INSPECTION END

Component Inspection (Transmission Range Switch)

INFOID:000000007773473

1. CHECK TRANSMISSION RANGE SWITCH

1. Turn ignition switch OFF.

2. Disconnect transmission range switch connector.

3. Check continuity between transmission range switch terminals.

Transmission	Transmission range switch Terminal		Continuity
Terr			Continuity
1	2	P or N position	Existed
I	Z	Other than above	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace transaxle assembly. Refer to <u>TM-228</u>, "Exploded View".

Component Inspection [CVT Shift Selector (Detention Switch)]

INFOID:000000007773474

1.CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

- 1. Turn ignition switch OFF.
- 2. Disconnect CVT shift selector connector.

3. Check continuity between CVT shift selector (detention switch) terminals.

CV	shift selector	(detention switch)	Cor	dition	Continuity	В
	Terr	minal	001		Continuity	
	7	9	Selector lever	P position	Not existed	
	1	0	Selector level	Other than above	Existed	С

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace CVT shift selector. Refer to <u>TM-209</u>, "Removal and Installation".

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B2604 SHIFT POSITION

Description

BCM confirms the shift position with the following 4 signals.

- Selector lever
- Transmission range switch
- P position signal from IPDM E/R (CAN)
- P position signal from TCM (CAN)

DTC Logic

INFOID:000000007773476

DTC DETECTION LOGIC

NOTE:

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-40, "DTC Logic"</u>.
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2604	PNP/CLUTCH SW	 The following states are detected while ignition switch is ON. There is park/neutral position signal input but shift position signal input (CAN) from TCM is other than P or N There is not park/neutral position signal input but shift position signal input (CAN) from TCM is P or N 	 Harness or connectors (Transmission range switch circuit is open or shorted) Transmission range switch BCM IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

- YES >> Go to SEC-64, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007773477

1. CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Disconnect transmission range switch connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between transmission range switch harness connector and ground.

(+) Transmission range switch		(-)	Voltage (V) (Approx.)	
Connector	Terminal			
F21	1	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY CIRCUIT

INFOID:000000007773475

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

Turn ignition switch OFF. 1. Disconnect IPDM E/R connector. 2. А Check continuity between transmission range switch harness connector and IPDM E/R harness connec-3. tor. В Transmission range switch IPDM E/R Continuity Connector Terminal Connector Terminal F21 1 E15 59 Existed Check continuity between transmission range switch harness connector and ground. 4 Transmission range switch D Continuity Connector Terminal Ground F21 1 Not existed Е Is the inspection result normal? >> Replace IPDM E/R. Refer to PCS-33, "Removal and Installation". YES NO >> Repair or replace harness. F 3. CHECK BCM INPUT SIGNAL 1. Turn ignition switch OFF. Connect transmission range switch connector. 2. 3. Turn ignition switch ON. 4. Check voltage between BCM harness connector and ground. Н (+) Voltage (V) BCM Condition (-) (Approx.) Connector Terminal P or N position Battery voltage M71 102 Ground Selector lever Other than above 0 Is the inspection result normal? >> Replace BCM. Refer to BCS-81, "Removal and Installation". YES NO >> GO TO 4. SEC CHECK BCM INPUT SIGNAL CIRCUIT 1. Turn ignition switch OFF. 2. Disconnect transmission range switch connector. L Check continuity between transmission range switch harness connector and BCM harness connector. 3. BCM Transmission range switch Μ Continuity Connector Terminal Terminal Connector 2 F21 M71 102 Existed Ν 4. Check continuity between transmission range switch harness connector and ground. Transmission range switch Continuity Connector Terminal Ground F21 2 Not existed Is the inspection result normal? Ρ YES >> GO TO 5. NO >> Repair or replace harness. $\mathbf{5.}$ CHECK TRANSMISSION RANGE SWTICH Refer to SEC-66, "Component Inspection". Is the inspection result normal?

YES

>> GO TO 6.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

NO >> Replace transaxle assembly. Refer to <u>TM-228</u>, "Exploded View".

6.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> INSPECTION END

Component Inspection

INFOID:000000007773478

1. CHECK TRANSMISSION RANGE SWITCH

1. Turn ignition switch OFF.

2. Disconnect transmission range switch connector.

3. Check continuity between transmission range switch terminals.

Transmission	Transmission range switch Terminal		Continuity
Terr			Continuity
1	2	P or N position	Existed
1	Z	Other than above	Not existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace transaxle assembly. Refer to <u>TM-228, "Exploded View"</u>.

B2605 SHIFT POSITION

Description

BCM confirms the shift position with the following 4 signals.

- Selector lever
- Transmission range 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>BCS-40, "DTC Logic"</u>.
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41. "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B2605	PNP/CLUTCH SW	When ignition switch is ON, N range signal input and shift position signal (CAN) input from IPDM E/ R do not match.	 Harness or connectors (Transmission range switch circuit is open or shorted) Transmission range switch IPDM E/R BCM 	C F

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

- YES >> Go to SEC-67. "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK IPDM E/R INPUT SIGNAL

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

_		+) /I E/R	(-)	Con	dition	Voltage (V) (Approx.)	0
_	Connector	Terminal				(********)	
	E15	47	Ground	Selector lever	P or N position	Battery voltage	Þ
	EID	47	Ground	Selector level	Other than above	0	-

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-33, "Removal and Installation"</u>.

NO >> GO TO 2.

2.CHECK IPDM E/R INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.

[WITH INTELLIGENT KEY SYSTEM]

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< DTC/CIRCUIT DIAGNOSIS >

2. Disconnect BCM connector.

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

IPDM E/R		B	BCM	
Connector	Terminal	Connector	Terminal	Continuity
E15	47	M71	102	Existed

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

IPDN	/I E/R		Continuity
Connector	Terminal	Ground	Continuity
E15	47	1	Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

NO >> Repair or replace harness.

B2608 STARTER RELAY

Description

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

DTC Logic

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DTC DETECTION LOGIC **NOTE**:

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-40, "DTC Logic".
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41, "DTC Logic"</u>.

DTC	No.	ouble diagnosis name	DTC detec	ting condition	Possil	ole cause
B26	08 STA	RTER RELAY	BCM outputs starter rela ceives starter relay ON s		 Harness or con (Starter relay of shorted.) IPDM E/R 	nnectors ircuit is open or
этс сс	NFIRMA	TION PROC	EDURE			
1. PERF	ORM DT	C CONFIRMA	TION PROCEDURE			
- Sele - Do r 2. Che	ctor lever ot depres ck "Self-d	is in the P or I s brake pedal	er the following condit N position " using CONSULT.	tions.		
YES		<u>SEC-69, "Diac</u> ECTION END	nosis Procedure".			
Diagno	sis Pro	cedure				INFOID:000000007773484
1.снес	CK DTC V	VITH IPDM E/F	ł			
	pection r	esult normal?	ng CONSULT. Refer	to <u>PCS-31, "DTC</u>	Index".	
YES NO	•	-	e malfunctioning parts	S.		
YES NO 2.CHEC	>> Repai	r or replace the POWER SUPP	• ·			
YES NO 2. CHEC 1. Turn	>> Repai CK BCM F ignition s ck voltage	r or replace the POWER SUPP witch ON. between BCN	LY CIRCUIT			Voltage (V/)
YES NO 2.CHEC 1. Turn 2. Che	>> Repai CK BCM F ignition s ck voltage	r or replace the POWER SUPP witch ON. between BCN (+) BCM	LY CIRCUIT	and ground.	ndition	Voltage (V) (Approx.)
YES NO 2.CHEC 1. Turn 2. Che	>> Repai CK BCM F ignition s ck voltage	r or replace the POWER SUPP witch ON. between BCN	LY CIRCUIT	and ground.	ndition	• • • •

NO >> GO TO 3.

3.CHECK STARTER RELAY CIRCUIT

B2608 STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

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

IPDM E/R		B	BCM		
Connector	Terminal	Connector	Terminal	Continuity	
E13	30	M71	97	Existed	

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

IPDM E/R			Continuity
Connector	Terminal	Ground	Continuity
E13	30		Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-33</u>, "Removal and Installation".

NO >> Repair or replace harness.

4.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> INSPECTION END

B260F ENGINE STATUS

< DTC/CIRCUIT DIAGNOSIS >

B260F ENGINE STATUS

Description

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

DTC Logic

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DTC DETECTION LOGIC

NOTE:

- If DTC B260F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-40. "DTC Logic"</u>.
- If DTC B260F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260F	ENG STATE SIG LOST	BCM has not yet received the engine status signal from ECM when ignition switch is in the ON position.	ECM
TC CONFIRM	ATION PROCEDURE		
.PERFORM D	TC CONFIRMATION PROC	EDURE	
Selector level Do not depression	e switch ON under the following er is in the P or N position ess brake pedal -diagnosis result" using CON		
	<u>?</u> to <u>SEC-71, "Diagnosis Proce</u> PECTION END	edure".	
iagnosis Pr	ocedure		INFOID:000000007773487
.INSPECTION	I START		
Touch "ERA Perform DT	-diagnosis result" using CON SE". C Confirmation Procedure.	ISULT.	
	I <u>, "DTC Logic"</u> .) <u>F displaved again?</u>		
YES >> GO NO >> INS	TO 2. PECTION END		
REPLACE E	CM		
eplace ECM. F	Refer to <u>SEC-9, "ECM : Spec</u>	ial Repair Requirement".	
>> INS	PECTION END		

[WITH INTELLIGENT KEY SYSTEM]

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B26F3 STARTER CONTROL RELAY

Description

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

DTC Logic

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INFOID:000000007773490

INFOID:000000007773488

DTC DETECTION LOGIC

NOTE:

- If DTC B26F3 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-40, "DTC Logic"</u>.
- If DTC B26F3 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-41, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F3	START CONT RLY ON	BCM requests IPDM E/R to turn starter control re- lay OFF but starter control relay OFF state signal is not transmitted from IPDM E/R.	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 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

1.CHECK DTC WITH IPDM E/R

Check "Self-diagnosis result" using CONSULT. Refer to PCS-31, "DTC Index".

Is the inspection result normal?

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

2.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> INSPECTION END

B26F4 STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

B26F4 STARTER CONTROL RELAY

Description

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

DTC Logic

DTC DETECTION LOGIC **NOTE**:

- If DTC B26F4 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-40, "DTC Logic".
- If DTC B26F4 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B26F4	START CONT RELAY OFF	BCM requests IPDM E/R to turn starter control re- lay ON but starter control relay ON state signal is not transmitted from IPDM E/R.	 Harness or connector (Transmission range switch circuit is open or short). IPDM E/R BCM 	

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

- YES >> Go to <u>SEC-73. "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

1.CHECK IPDM E/R INPUT SIGNAL

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

-		+) M E/R	()	Con	dition	Voltage (V) (Approx.)	N
-	Connector	Terminal				(, , , , , , , , , , , , , , , , , , ,	
-	E15	47	Ground	Selector lever	P or N position	Battery voltage	-
_	EIS	47	Ground	Selector level	Other than above	0	0

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-33, "Removal and Installation".

NO >> GO TO 2.

2.CHECK IPDM E/R INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM connector.

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

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[WITH INTELLIGENT KEY SYSTEM]

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INFOID:000000007773491

B26F4 STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

B	CM	IPDN	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
M71	102	E15	47	Existed

4. Check continuity between BCM harness connector and ground.

_	B	CM		Continuity
	Connector	Terminal	Ground	Continuity
-	M71	102		Not existed

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

NO >> Repair or replace harness.

B26F7 BCM

Description

BCM (Body Control Module) controls the various electrical components. It inputs the information required to В the control from CAN communication and the signal received from each switch and sensor.

DTC Logic

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F7	BCM	Inside key antenna output circuit in BCM is malfunctioning.	BCM
TC CONFI	RMATION PROCEDUF	RE	
.PERFORM	DTC CONFIRMATION	PROCEDURE	
2. Check "Se	or request switch. elf-diagnosis result" using	g CONSULT.	
	<u>ted?</u> So to <u>SEC-76, "Diagnosis</u> NSPECTION END	Procedure".	
Diagnosis I	Procedure		INFOID:000000007773496
.INSPECTION	ON START		
2. Check "Se 3. Touch "Ef	ion switch ON. elf-diagnosis result" using RASE". DTC Confirmation Procec		
	-76, "DTC Logic".		
YES >> R		CS-81, "Removal and Installation".	

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INFOID:000000007773494

B26F8 BCM

Description

INFOID:000000007773497

[WITH INTELLIGENT KEY SYSTEM]

BCM (Body Control Module) controls the various electrical components. It inputs the information required to the control from CAN communication and the signal received from each switch and sensor.

DTC Logic

INFOID:000000007773498

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F8	BCM	When BCM turns starter motor control replay in IPDM E/R ON, input from feedback circuit does not match.	BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch under the following conditions and wait 1 second or more.

- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

INFOID:000000007773499

1.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Check "Self-diagnosis result" using CONSULT.
- 3. Touch "ERASE".
- Perform DTC Confirmation Procedure. See <u>SEC-76, "DTC Logic"</u>.

Is DTC detected?

- YES >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.
- NO >> INSPECTION END

B26FC KEY REGISTRATION

Description

When door request switch or push-button ignition switch is pressed, BCM verifies Intelligent Key that is regis-В tered to the vehicle. If verification result is OK, door lock, door unlock, and engine start are allowed.

DTC Logic

INFOID:000000007773501

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DTC DETECTION LOGIC

-	DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
_	B26FC	KEY REGISTRA- TION	Intelligent Key that does not match the vehicle is registered.	Improper registration operationIntelligent KeyBCM
DT	C CONFI	RMATION PROC	EDURE	
1.	PERFORM	I DTC CONFIRMA	TION PROCEDURE	
1.			and registration of all Intelligent Keys usin	ng CONSULT.
2.		elf-diagnosis result	using CONSULI.	
	<u>DTC detec</u>	Go to <u>SEC-77, "Diac</u>	inosis Procedure"	
		NSPECTION END		
Dia	agnosis	Procedure		INFOID:000000007773502
1.	REPLACE	INTELLIGENT KE	Y	
1.			matches the vehicle.	
2. 3.		nitialization of BCM self-diagnosis result	and registration of all Intelligent Keys usin	ng CONSULT.
• •	DTC detec	•		
Y	ES >> F		to BCS-81. "Removal and Installation".	

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[WITH INTELLIGENT KEY SYSTEM]

B210B STARTER CONTROL RELAY

Description

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

DTC Logic

INFOID:000000007773504

INFOID:000000007773505

INFOID:000000007773503

DTC DETECTION LOGIC

NOTE:

If DTC B210B is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-40, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210B	START CONT RLY ON	 When comparing the following items, a malfunction is detected for 1 second or more. Starter relay ON signal (CAN) from BCM Starter control relay conditions of contact side and coil side Transmission range switch input 	IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

1.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Check "Self-diagnosis result" for IPDM E/R using CONSULT.
- 3. Touch "ERASE".
- 4. Perform DTC Confirmation Procedure. See <u>SEC-78</u>, "DTC Logic".

Is DTC detected?

- YES >> Replace IPDM E/R. Refer PCS-33, "Removal and Installation".
- NO >> INSPECTION END

B210C STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

B210C STARTER CONTROL RELAY

Description

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

DTC Logic

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INFOID:000000007773506

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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>BCS-40, "DTC Logic"</u>.
- When IPDM E/R power supply voltage is low (Approx. 7 8 V for about 1 second), the DTC B210C may be detected.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210C	START CONT RLY OFF	 When comparing the following items, a malfunction is detected for 1 second or more. Starter relay ON signal (CAN) from BCM Starter control relay conditions of contact side and coil side Transmission range switch input 	IPDM E/R
C CONFIF	RMATION PROCEDUI	RE	
PERFORM	DTC CONFIRMATION	PROCEDURE	
Selector le Do not de	ion switch ON under the ever is in the P or N posi press brake pedal elf-diagnosis result" usin		ð.
DTC detect (ES >> G	•	-	
iagnosis I	Procedure		INFOID:000000007773508
INSPECTIO	ON START		
Turn igniti	ion switch ON. elf-diagnosis result" for II	PDM E/R using CONSULT.	
Perform D See <u>SEC</u> -	DTC Confirmation Proceed	dure.	
		to PCS-33, "Removal and Installation".	

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B210D STARTER RELAY

Description

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

DTC Logic

INFOID:000000007773510

INFOID:000000007773511

INFOID:000000007773509

DTC DETECTION LOGIC

NOTE:

If DTC B210D is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-40, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210D	STARTER RELAY ON	 When comparing the following items, a malfunction is detected for 1 second or more. Starter relay ON signal (CAN) from BCM Starter control relay conditions of contact side and coil side Transmission range switch input 	IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait for 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

- YES >> Go to SEC-80, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Check "Self-diagnosis result" for IPDM E/R using CONSULT.
- 3. Touch "ERASE".
- 4. Perform DTC Confirmation Procedure. See <u>SEC-80, "DTC Logic"</u>.

Is DTC detected?

- YES >> Replace IPDM E/R. Refer to PCS-33, "Removal and Installation".
- NO >> INSPECTION END

B210E STARTER RELAY

Description

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

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B210E is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-40, "DTC Logic"</u>.
- If DTC B210E is displayed with DTC B2605, first perform the trouble diagnosis for DTC B2605. Refer to <u>SEC-67, "DTC Logic"</u>.
- When IPDM E/R power supply voltage is low (Approx. 7 8 V for about 1 second), the DTC B210F may be detected.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B210E	STARTER RELAY OFF	 When comparing the following items, a malfunction is detected for 1 second or more. Starter relay ON signal (CAN) from BCM Starter control relay conditions of contact side and coil side Transmission range switch input 	 Harness or connector (Starter relay circuit is open or short) IPDM E/R Battery BCM 	

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

YES >> Go to SEC-81. "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK STARTER RELAY OUTPUT SIGNAL

1. Check voltage between BCM harness connector and ground.

nector	ector	(—)		Condition		Voltage (V) (Approx.)	
Terr	Terminal		Ignition switch	Brake pedal	Selector lever	(/(pprox.)	
				P or N	Battery voltage		
ç	97	Ground	ON	Depressed	Other than above	0	(

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK STARTER RELAY OUTPUT SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect BCM connector M71.
- 3. Disconnect IPDM E/R connector E13.
- 4. Check continuity between BCM harness connector and IPDM E/R harness connector.

SEC-81

[WITH INTELLIGENT KEY SYSTEM]

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B210E STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

BCM		IPDM E/R		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
M71	97	E13	30	Existed	

5. Check continuity between BCM harness connector and ground.

BC	CM		Continuity
 Connector	Terminal	Ground	Continuity
 M71	97		Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-33, "Removal and Installation".

NO >> Repair or replace harness.

3.CHECK STARTER RELAY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector E10.

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

(+) IPDM E/R		()	Voltage (V) (Approx.)
Connector	Terminal		
E10	4	Ground	Battery voltage

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Check harness for open or short between IPDM E/R and battery. Refer to <u>PCS-27</u>, "Wiring Dia-<u>gram — IPDM E/R —</u>".

4.REPLACE BCM

1. Replace BCM. Refer to <u>SEC-10, "BCM : Work Procedure"</u>.

2. Perform DTC CONFIRMATION PROCEDIURE. Refer to SEC-81, "DTC Logic".

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace IPDM E/R. Refer to PCS-33, "Removal and Installation".

B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

Description

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

- Transmission range switch
- 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 BCS-40, "DTC Logic".
- If DTC B210F is displayed with DTC B2603, first perform the trouble diagnosis for DTC B2603. Refer to <u>SEC-59, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	_
B210F	INTRLCK/PNP SW ON	There is a difference between input from transmis- sion range switch and shift position signal from BCM.	 Harness or connectors (Transmission range switch circuit is open or shorted) Transmission range switch IPDM E/R BCM 	F

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON under the following conditions and wait 1 second or more.
- Selector lever is in the P or N position
- Do not depress brake pedal
- 2. Check "Self-diagnosis result" using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

1.CHECK IPDM E/R INPUT SIGNAL

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

-		+) M E/R	()	Con	dition	Voltage (V) (Approx.)	Ν
-	Connector	Terminal					
-	E15	47	Ground	Selector lever	N or P position	Battery voltage	0
_	E15	+7	Ground		Other than above	0	_

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-33. "Removal and Installation".

NO >> GO TO 2.

2.CHECK IPDM E/R SIGNAL CIRCUIT SHORT

- 1. Disconnect transmission range switch connector.
- 2. Check continuity between IPDM E/R harness connector and ground.

SEC-83

INFOID:000000007773516

[WITH INTELLIGENT KEY SYSTEM]

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B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

(+) IPDM E/R		(-)	Voltage (V) (Approx.)
Connector	Terminal		
E15	47	Ground	0

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-33, "Removal and Installation".

NO >> Repair or replace harness.

B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

Description

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

- Transmission range switch
- 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>BCS-</u> 40, "DTC Logic".

-	DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	E
-	B2110	INTRLCK/PNP SW	There is a difference between input from transmis- sion range switch and shift position signal from BCM.	 Harness or connectors (Transmission range switch circuit is open or shorted) Transmission range switch IPDM E/R 	F

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

 1. Turn the ignition switch ON under the following conditions and wait 1 second or more.

 - Selector lever is in the P or N position

 - Do not depress brake pedal

 2. Check "Self-diagnosis result" using CONSULT.

 Is DTC detected?

 YES
 >> Go to SEC-85, "Diagnosis Procedure".

 NO
 >> INSPECTION END

 Diagnosis Procedure
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1.CHECK IPDM E/R INPUT SIGNAL

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector.

3. Turn ignition switch ON.

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

(+) M E/R	()	Con	dition	Voltage (V) (Approx.)	IVI
Connector	Terminal				(//pp/0x.)	Ν
E15	47	Ground	Selector lever	P or N position	Battery voltage	
EIS	47	Ground	Selector level	Other than above	0	\bigcirc

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-33, "Removal and Installation"</u>.

NO >> GO TO 2.

2.CHECK IPDM E/R INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.

- 2. Disconnect transmission range switch connector.
- Check continuity between transmission range switch harness connector and IPDM E/R harness connector.

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INFOID:000000007773519

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B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Transmission range switch		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	Continuity
F21	2	E15	59	Existed

4. Check continuity between transmission range switch harness connector and ground.

Transmissior	n range switch		Continuity
Connector	Terminal	Ground	Continuity
F21	2		Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY

1. Connect IPDM E/R connector.

2. Turn ignition switch ON.

3. Check voltage between transmission range switch harness connector and ground.

(+) Transmission range switch		()	Voltage (V) (Approx.)
Connector	Terminal		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
F21	1	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4.CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector.

Check continuity between transmission range switch harness connector and IPDM E/R harness connector.

Transmissior	Transmission range switch IPDM E/R		Continuity	
Connector	Terminal	Connector	Terminal	Continuity
F21	1	E15	59	Existed

4. Check continuity between transmission range switch harness connector and ground.

Transmission	Transmission range switch		Continuity
Connector	Terminal	Ground	Continuity
F21	1		Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-33, "Removal and Installation"</u>.

NO >> Repair or replace harness.

5.CHECK TRANSMISSION RANGE SWTICH

Refer to SEC-87, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace transaxle assembly. Refer to <u>TM-228, "Exploded View"</u>.

6.CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

>> INSPECTION E			
omponent Inspection			INFOID:000000007773
.CHECK TRANSMISSION	RANGE SWITCH		
Turn ignition switch OFF.			
Disconnect transmission	range switch connecto	r.	
Check continuity betwee	n transmission range si	witch terminals.	
Transmission	range switch	O and it is a	Orationity
Tern	ninal	Condition	Continuity
1	2	P or N position	Existed
·	2	Other than above	Not existed
the inspection result norma	<u>al?</u>		
YES >> INSPECTION E			
		M-228, "Exploded View".	
-		-	

POWER SUPPLY AND GROUND CIRCUIT

INFOID:000000007955120

POWER SUPPLY AND GROUND CIRCUIT BCM

BCM : Diagnosis Procedure

1.CHECK FUSE AND FUSIBLE LINK

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

Signal name	Fuse and fusible link No.	
Rottony power supply	G	
Battery power supply	8	

Is the fuse fusing?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

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

(+)	(-)	Voltage
BCM			(Approx.)
Connector Terminal		Ground	
MZO	70	Giouna	Detter veltere
M70 57			Battery voltage

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

В	CM		Continuity
Connector	Terminal	Ground	Continuity
M70	67	Ť	Existed

Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

IPDM E/R

IPDM E/R : Diagnosis Procedure

1.CHECK FUSES AND FUSIBLE LINK

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

Signal name	Fuses and fusible link No.
	С
Battery power supply	D
	J

POWER SUPPLY AND GROUND CIRCUIT

[WITH INTELLIGENT KEY SYSTEM]

s the fuse fus				<u> </u>
	•	lown fuse or fu	sible link after repai	ring the affected circuit if a fuse or fusible link is
bl	own.			
	O TO 2.			
CHECK PC	OWER SUPP	LY CIRCUIT		
. Turn the ig	gnition switcl	n OFF.		
	ct IPDM E/R			
. Check vol	tage betwee	n IPDIVI E/R na	rness connector and	a the ground.
	Terminals			
(-	+)		Voltage	
	/ /IE/R	(-)	(Approx.)	
Connector	Terminal			
	1	-		
E9	2	Ground	Battery voltage	
E10	8	_		
s the measure	ement value	normal?		
	O TO 3.			
NO >> R	epair the har	ness or connec	tor.	
3. СНЕСК GF		CUIT		
Check continu	ity between	IPDM E/R harn	ess connectors and	the ground.
				5
IPDM	E/R		Continuity	
Connector	Terminal	Ground	Continuity	
E11	9	Cround	Existed	
E12	19		Existed	
<u>Does continuit</u>	<u>ty exist?</u>			
	ISPECTION			
NO >> R	epair the har	ness or connec	ctor.	

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SECURITY INDICATOR LAMP

< DTC/CIRCUIT DIAGNOSIS >

SECURITY INDICATOR LAMP

Description

- · Security indicator lamp is located on combination meter.
- NVIS (Nissan Vehicle Immobilizer System) and vehicle security system conditions are indicated by blink or illumination of security indicator lamp.

Component Function Check

1.CHECK FUNCTION

- 1. Perform "THEFT IND" in the "ACTIVE TEST" mode using CONSULT.
- 2. Check security indicator lamp operation.

Test item		Description	
THEFT IND	ON	Security indicator lamp	Illuminates
	OFF	Security indicator lamp	Does not illuminate

Is the inspection result normal?

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

Diagnosis Procedure

1.CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

	(+) Combination meter		Voltage (V) (Approx.)
Connector	Connector Terminal		
M34	M34 27		Battery voltage

Is the inspection result normal?

YES >> GO TO 2.

NO-1 >> Check 10 A fuse [No. 11, located in the fuse block (J/B)].

NO-2 >> Check harness for open or short between combination meter and fuse.

2. CHECK SECURITY INDICATOR LAMP SIGNAL

- 1. Connect combination meter connector.
- 2. Disconnect BCM connector.
- 3. Check voltage between BCM harness connector and ground.

(+) BCM		()	Voltage (V) (Approx.)	
Connector	Connector Terminal		(, , , , , , , , , , , , , , , , , , ,	
M68	23	Ground	Battery voltage	

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

NO >> GO TO 3.

$\mathbf{3.}$ CHECK SECURITY INDICATOR LAMP CIRCUIT

1. Disconnect combination meter connector.

2. Check continuity between combination meter harness connector and BCM harness connector.

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SECURITY INDICATOR LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

_	Combination meter		BCM		Continuity	А
-	Connector	Terminal	Connector	Terminal	Continuity	
-	M34	18	M68	23	Existed	
· -	Charle continuity h	atwaan combination n	notor hornoon oonno	ator and around		В

3. Check continuity between combination meter harness connector and ground.

Combina	tion meter		Continuity	0
Connector	Terminal	Ground	Continuity	C
M34	18		Not existed	-

Is the inspection result normal?

YES >> Replace combination meter. Refer to <u>MWI-90, "Removal and Installation"</u>.

NO >> Repair or replace harness.

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HORN FUNCTION

Description

Perform answer-back for each operation with horn.

Component Function Check

1.CHECK FUNCTION

1. Perform "VEHICLE SECURITY HORN" in the "ACTIVE TEST" mode using CONSULT.

2. Check the horn operation.

Test item		Description	
VEHICLE SECURITY HORN	ON	Horn	Sounds (for 20 ms)

Is the operation normal?

YES >> Horn function is OK. NO >> Go to <u>SEC-92, "Diagnosis Procedure"</u>.

Diagnosis Procedure

1.CHECK HORN FUNCTION

Check horn function with horn switch.

Do the horn sound?

YES >> GO TO 2.

NO >> Refer to <u>HRN-2</u>, "Wiring Diagram - HORN -".

2.CHECK IPDM E/R POWER SUPPLY

1. Disconnect IPDM E/R connector.

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

	(+)			
IPDM E/R		()	Voltage (V) (Approx.)	
Connector	Terminal			
E13	34	Ground	Battery voltage	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-62, "Removal and Installation"</u>.

NO >> GO TO 3.

3.CHECK IPDM E/R POWER SUPPLY CIRCUIT

1. Disconnect horn relay connector.

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

IPDM E/R		Horn relay		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E13	34	E5	1	Existed

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

	IPDM E/R		Continuity
Connector	Terminal	Ground	Continuity
E13	34		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

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4.CHECK INTERMITTENT INCIDENT

>> INSPECTION END

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HEADLAMP FUNCTION

Description

Headlamp lighting when vehicle security system is alarm phase.

Component Function Check

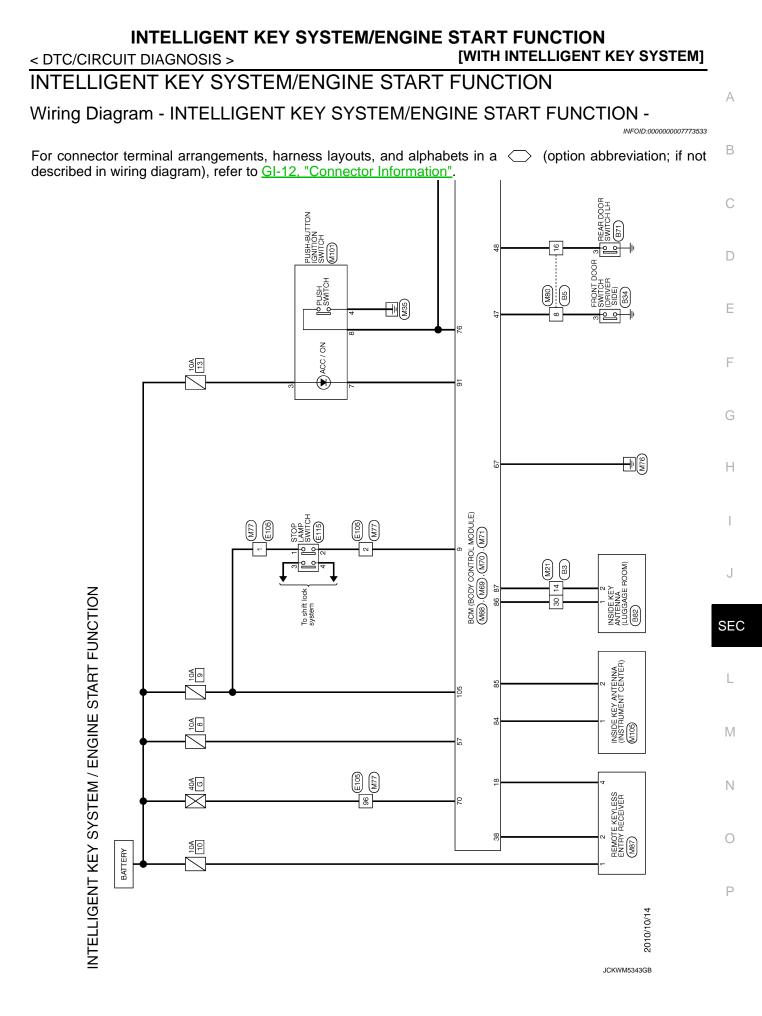
1. CHECK FUNCTION

- 1. Perform "HEAD LAMP(HI)" in the "ACTIVE TEST" mode using CONSULT.
- 2. Check headlamp operation.

Test	Test item		ription
	ON		Lighting
HEAD LAMP (HI)	OFF	HEADLAMP (HI)	Does not lighting
Is the inspection result norma	al?		
YES >> INSPECTION EN NO >> Refer to <u>SEC-94</u>	ND , "Diagnosis Procedure".		
Diagnosis Procedure			INFOID:000000007773532
1.CHECK HEADLAMP FUN	ICTION		
Refer to EXL-46, "Componer	nt Function Check".		
Is the inspection result norma	<u>al?</u>		
YES >> GO TO 2.			
	e the malfunctioning parts.		
2.CHECK INTERMITTENT	INCIDENT		

>> INSPECTION END

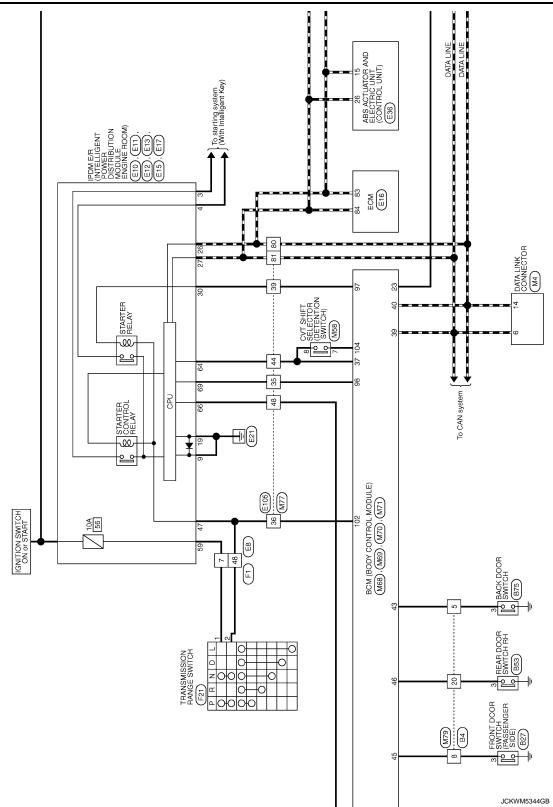
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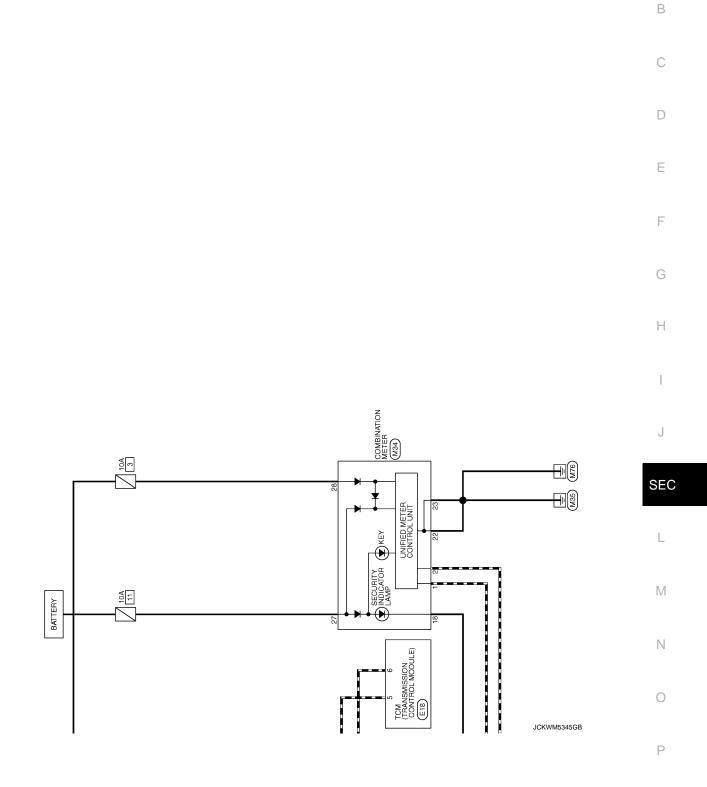


INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< DTC/CIRCUIT DIAGNOSIS >





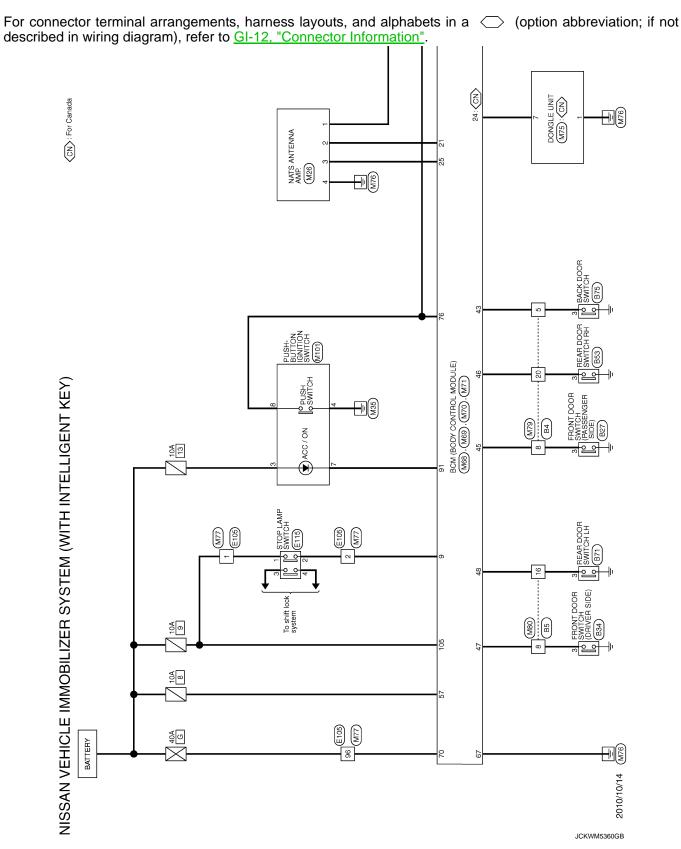


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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS < DTC/CIRCUIT DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

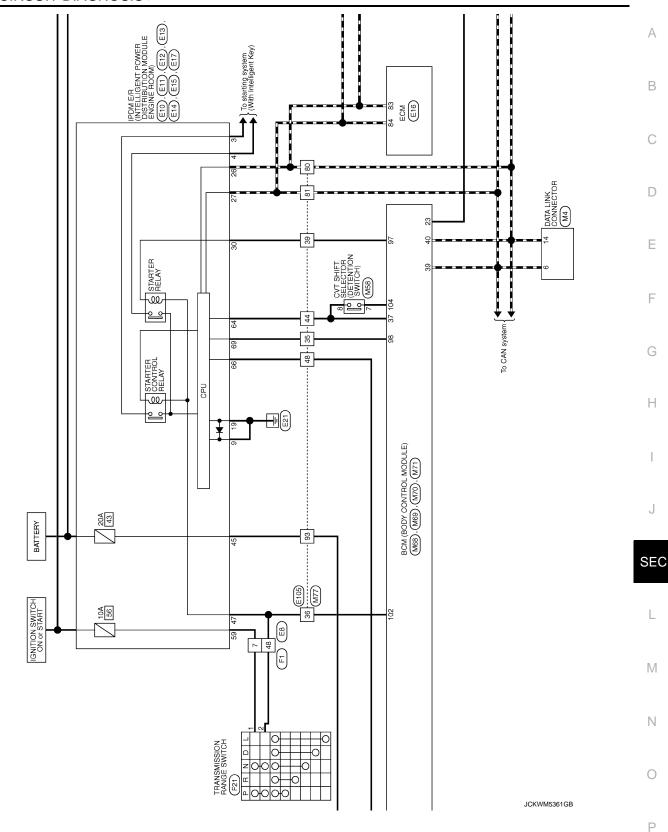
Wiring Diagram - NISSAN VEHICLE IMMOBILIZER SYSTEM -

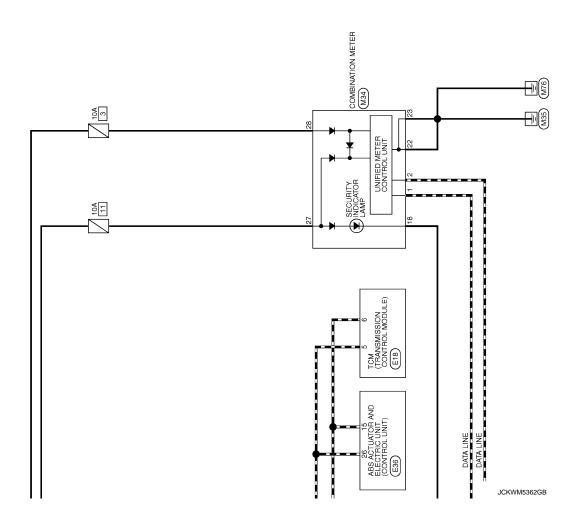


NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< DTC/CIRCUIT DIAGNOSIS >







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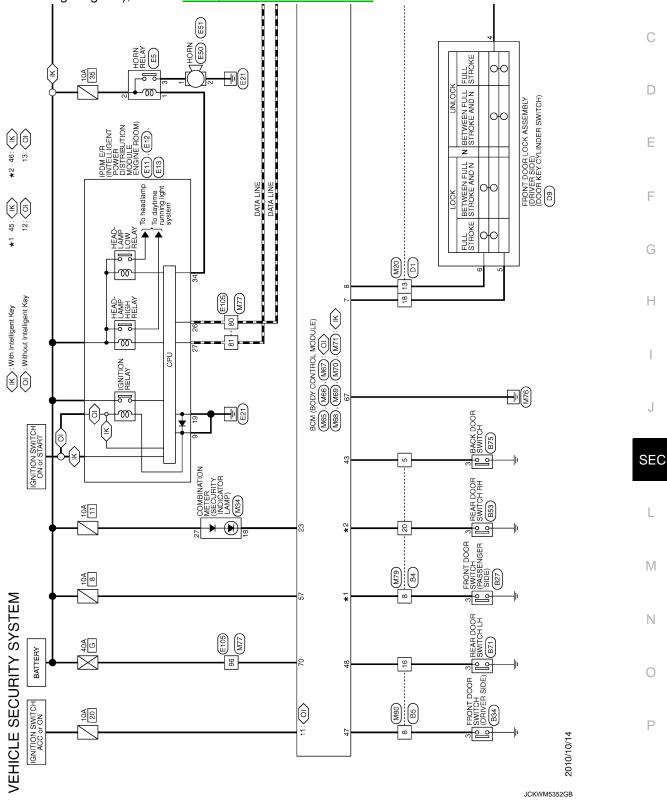
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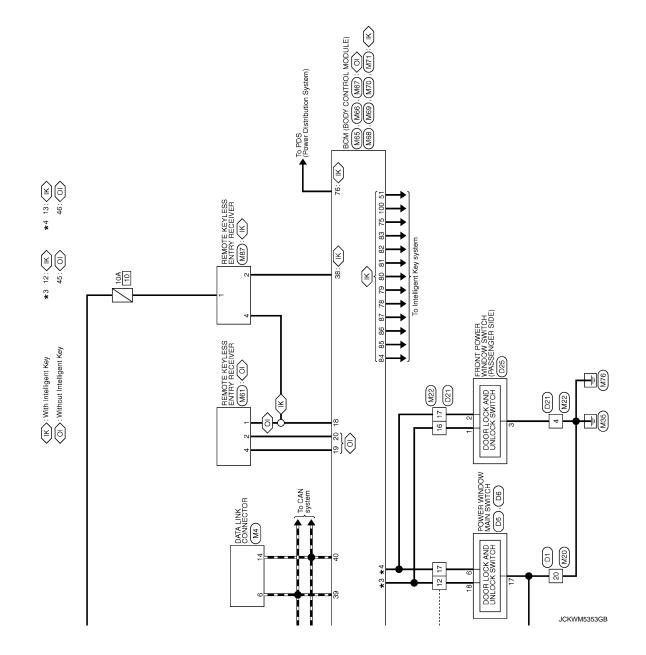
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VEHICLE SECURITY SYSTEM

Wiring Diagram - VEHICLE SECURITY SYSTEM -

For connector terminal arrangements, harness layouts, and alphabets in a \bigcirc (option abbreviation; if not described in wiring diagram), refer to <u>GI-12, "Connector Information"</u>.





ECU DIAGNOSIS INFORMATION BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

CONSULT MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
	Front wiper switch HI	On
R WIPER LOW	Other than front wiper switch LO	Off
	Front wiper switch LO	On
FR WASHER SW	Front washer switch OFF	Off
TR WASHER SW	Front washer switch ON	On
R WIPER INT	Other than front wiper switch INT	Off
	Front wiper switch INT	On
R WIPER STOP	Front wiper is not in STOP position	Off
	Front wiper is in STOP position	On
NT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
RR WIPER ON	Other than rear wiper switch ON	Off
	Rear wiper switch ON	On
RR WIPER INT	Other than rear wiper switch INT	Off
	Rear wiper switch INT	On
RR WASHER SW	Rear washer switch OFF	Off
K WASHER SW	Rear washer switch ON	On
RR WIPER STOP	Rear wiper is in STOP position	Off
KK WIPEK STOP	Rear wiper is not in STOP position	On
FURN SIGNAL R	Other than turn signal switch RH	Off
URN SIGNAL R	Turn signal switch RH	On
URN SIGNAL L	Other than turn signal switch LH	Off
URN SIGNAL L	Turn signal switch LH	On
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	Off
	Lighting switch 1ST or 2ND	On
HI BEAM SW	Other than lighting switch HI	Off
	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 2ND	On
ASSING SW	Other than lighting switch PASS	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

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< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
DOOR SW-DR	Driver door closed	Off
	Driver door opened	On
DOOR SW-AS	Passenger door closed	Off
00K 3W-A3	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
JOOR SW-RL	Rear LH door opened	On
DOOR SW-BK	Back door closed	Off
JOOR SW-BR	Back door opened	On
	Other than power door lock switch LOCK	Off
DL LOCK SW	Power door lock switch LOCK	On
	Other than power door lock switch UNLOCK	Off
DL 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
EY CYL UN-SW	Driver door key cylinder UNLOCK position	On
	Hazard switch is OFF	Off
IAZARD SW	Hazard switch is ON	On
	Rear window defogger switch OFF	Off
REAR DEF SW	Rear window defogger switch ON	On
R/BD OPEN SW	NOTE: The item is indicated, but not monitored.	Off
RNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off
	Blower fan OFF	Off
AN ON SIG	Blower fan ON	On
	Air conditioner OFF (A/C switch indicator OFF)	Off
AIR COND SW	Air conditioner ON (A/C switch indicator ON)	On
	LOCK button of the key is not pressed	Off
RKE-LOCK	LOCK button of the key is pressed	On
	UNLOCK button of the key is not pressed	Off
RKE-UNLOCK	UNLOCK button of the key is pressed	On
	BACK DOOR OPEN button of the key is not pressed	Off
KE-TR/BD	BACK DOOR OPEN button of the key is pressed	On
	PANIC button of the key is not pressed	Off
KE-PANIC	PANIC button of the key is pressed	On
	LOCK/UNLOCK button of the key is not pressed and held simultaneously	Off
KE-MODE CHG	LOCK/UNLOCK button of the key is pressed and held simultaneously	On
	Bright outside of the vehicle	Close to 5 V
OPTI SEN (DTCT)	Dark outside of the vehicle	Close to 0 V
	Bright outside of the vehicle (Lighting switch AUTO)	Close to 5 V
OPTI SEN (FILT)	Dark outside of the vehicle (Lighting switch AUTO)	Close to 1.50 V

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< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status
OPTICAL SENSOR	NOTE: The item is indicated, but not monitored.	Off
RAIN SENSOR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -DR	Driver door request switch is not pressed	Off Off Off On Off On Off On Off Off Off On Off On
KEQ SW -DR	Driver door request switch is pressed	On
REQ SW -AS	Passenger door request switch is not pressed	Off
	Passenger door request switch is pressed	On
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -RL	NOTE: The item is indicated, but not monitored.	Off
REQ SW -BD/TR	Back door request switch is not pressed	Off
	Back door request switch is pressed	On
PUSH SW	Push-button ignition switch (push switch) is not pressed	Value/Status Off Off <
	Push-button ignition switch (push switch) is pressed	On
CLUCH SW	The clutch pedal is not depressed.	Off
	The clutch pedal is depressed	On
BRAKE SW 1	The brake pedal is not depressed	Off On Off On Off e On Off On Off On Off On
DRAKE SW I	The brake pedal is depressed	
	The brake pedal is depressed when No. 9 fuse is blown	Off
BRAKE SW 2	The brake pedal is not depressed when No. 9 fuse is blown, or No. 9 fuse is normal	On
DETE/CANCL SW	Selector lever in P position	Off
JETE/CANCE SW	Selector lever in any position other than P	On
	Selector lever in any position other than P and N	Off
FT PN/N SW	Selector lever in P or N position	On
S/L -LOCK	NOTE: The item is indicated, but not monitored.	Off
S/L -UNLOCK	NOTE: The item is indicated, but not monitored.	Off
S/L RELAY-F/B	NOTE: The item is indicated, but not monitored.	Off
JNLK SEN -DR	Driver door is locked	Off
	Driver door is unlocked	On
PUSH SW -IPDM	Push-button ignition switch (push-switch) is not pressed	Off
	Push-button ignition switch (push-switch) is pressed	Off On Off On Off On Off Off On Off On Off On Off On Off On Off On Off On<
GN RLY1 -F/B	Ignition switch in OFF or ACC position	Off
	Ignition switch in ON position	On
DETE SW -IPDM	Selector lever in any position other than P	Off
	Selector lever in P position	On
	Selector lever in any position other than P and N	Off
SFT PN -IPDM	Selector lever in P or N position	On
SET D MET	Selector lever in any position other than P	Off
SFT P -MET	Selector lever in P position	On
	Selector lever in any position other than N	Off
SFT N -MET	Selector lever in N position	Off On Off

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SEC-105

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
	Engine stopped	Stop
ENGINE STATE	While the engine stalls	Stall
ENGINE STATE	At engine cranking	Crank
	Engine running	Run
S/L LOCK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L UNLK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L RELAY-REQ	NOTE: The item is indicated, but not monitored.	Off
VEH SPEED 1	While driving	Equivalent to speed- ometer reading
VEH SPEED 2	While driving	Equivalent to speed- ometer reading
	Driver door is locked	LOCK
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door is unlocked	UNLOCK
	Passenger door is locked	LOCK
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door is unlocked	UNLOCK
ID OK FLAG	Driver side door is open after ignition switch is turned OFF (Selector lever is in the P position except for M/T models)	Reset
	Ignition switch ON	Set
PRMT ENG STRT	The engine start is prohibited	Reset
	The engine start is permitted	Set
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset
RKE OPE COUN1	During the operation of the key	Operation frequency of the key
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	_
CONFRM ID ALL	The key ID that the key slot receives is not recognized by any key ID reg- istered to BCM.	Yet
	The key ID that the key slot receives is recognized by any key ID registered to BCM.	Done
CONFIRM ID4	The key ID that the key slot receives is not recognized by the fourth key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by the fourth key ID reg- istered to BCM.	Done
CONFIRM ID3	The key ID that the key slot receives is not recognized by the third key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by the third key ID reg- istered to BCM.	Done
CONFIRM ID2	The key ID that the key slot receives is not recognized by the second key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by the second key ID registered to BCM.	Done

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status	~
CONFIRM ID1	The key ID that the key slot receives is not recognized by the first key ID registered to BCM.	Yet	A
	The key ID that the key slot receives is recognized by the first key ID reg- istered to BCM.	Done	В
NOT REGISTERED	BCM detects registered key ID, or BCM does not detect key ID.	ID OK	-
NOT REGISTERED	BCM detects non-registration key ID.	ID NG	С
TP 4	The ID of fourth key is not registered to BCM	Yet	0
124	The ID of fourth key is registered to BCM	Done	
TP 3	The ID of third key is not registered to BCM	Yet	D
IF 5	The ID of third key is registered to BCM	Done	-
TP 2	The ID of second key is not registered to BCM	Yet	E
1F 2	The ID of second key is registered to BCM	Done	
	The ID of first key is not registered to BCM	Yet	
TP 1	The ID of first key is registered to BCM	Done	F
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	G
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire	Н
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire	
	ID of front LH tire transmitter is registered	Done	
ID REGST FL1	ID of front LH tire transmitter is not registered	Yet	
	ID of front RH tire transmitter is registered	Done	
ID REGST FR1	ID of front RH tire transmitter is not registered	Yet	J
	ID of rear RH tire transmitter is registered	Done	
ID REGST RR1	ID of rear RH tire transmitter is not registered	Yet	SEC
	ID of rear LH tire transmitter is registered	Done	
ID REGST RL1	ID of rear LH tire transmitter is not registered	Yet	-
	Tire pressure indicator OFF	Off	L
WARNING LAMP	Tire pressure indicator ON	On	
	Tire pressure warning alarm is not sounding	Off	M
BUZZER	Tire pressure warning alarm is sounding	On	1 1 1

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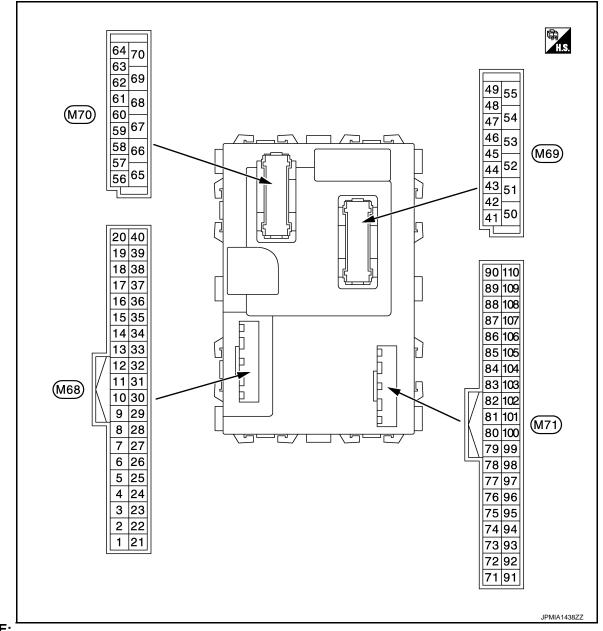
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< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

TERMINAL LAYOUT



NOTE:

Connector color

- M68, M70: Black
- M69, M71: White

PHYSICAL VALUES

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< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description				Value	
(Wire +	color)	Signal name	Input/ Output		Condition	(Approx.)	
					All switch OFF	0 V	В
					Turn signal switch RH		
					Lighting switch HI	(V) 15	\sim
2 (BR/W)	Ground	Combination switch INPUT 5	Input	Combination switch (Wiper intermit-	Lighting switch 1ST	10 5 0 ++10ms FKIB4958J 1.0 V	C
				tent dial 4)	Lighting switch 2ND	(V) 15 10 5 0 ++10 ms JPMA0342JP 2.0 V	E F
					All switch OFF	0 V	
		Combination switch INPUT 4	Input	Combination switch (Wiper intermit- tent dial 4)	Turn signal switch LH		Η
					Lighting switch PASS	(V) 15	
3 (GR)	Ground				Lighting switch 2ND	10 5 0 ++10ms FKIB4958J 1.0 V	l J
(0.1)					Front fog lamp switch ON	(V) 15 10 5 0 • • • 10ms • • • • 10ms • • • • • • • • • • • • • • • • • • •	SEC L
					All switch OFF	0 V	
					Front wiper switch LO		Ν
				Combination	Front wiper switch MIST	(V) 15 10 5	IN
4	Ground	Combination switch	Input	switch	Front wiper switch INT		
(L/Y)		INPUT 3	πραι	(Wiper intermit- tent dial 4)	Lighting switch AUTO	0 + 10ms	O P

< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value
(Wire +	color) –	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF (Wiper intermittent dial 4)	0 V
					Front washer switch (Wiper intermittent dial 4) Rear washer ON	(V) 15
					(Wiper intermittent dial 4)	
5 (G)	Ground	Combination switch INPUT 2	Input	Combination switch	Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	++10ms ++10ms РКIВ4958J 1.0 V
					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 ↓ ↓ 10ms ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
		Combination switch INPUT 1	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V
					Front wiper switch HI (Wiper intermittent dial 4) Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10 5 0
					Wiper intermittent dial 3 (All switch OFF)	++10ms РКIВ4958J 1.0 V
6 (L/R)	Ground				Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2	(V) 15 10 5 0 + 10ms
					Any of the condition below with all switch OFF • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 5 0 ••••10ms ••••10ms ••••10ms ••••10ms ••••10ms ••••10ms ••••10ms ••••10ms ••••10ms ••••0 •••0 •

< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value	
(Wire +	color)	Signal name	Input/ Output		Condition	Value (Approx.)	A
7 (W/R)	Ground	Door key cylinder switch UNLOCK	Input	Door key cylin- der switch	NEUTRAL position	(V) 15 10 5 0 + 10ms JPMIA0587GB	B
						8.0 - 8.5 V	D
					UNLOCK position	0 V	
8	Ground	Door key cylinder	Input	Door key cylin-	NEUTRAL position	12 V	Е
(W/B)		switch LOCK	•	der switch	LOCK position	0 V	
9	Ground	Stop lamp switch 1	Input	Stop lamp switch	OFF (Brake pedal is not depressed)	0 V	F
(R)	Ground		mput		ON (Brake pedal is de- pressed)	Battery voltage	
12 (GR)	Ground	Door lock and unlock switch LOCK	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 10 5 0 10 ms JPMIA0012GB 1.0 - 1.5 V	G H
					LOCK position	0 V	
13 (BR)	Ground	Door lock and unlock switch UNLOCK	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 0 10 10 ms JPMIA0012GB 1.0 - 1.5 V	J SEC
					UNLOCK position	0 V	
14				Ignition switch	When bright outside of the vehicle	Close to 5 V	Μ
(L/G)	Ground	Optical sensor	Input	ON	When dark outside of the vehicle	Close to 0 V	Ν
15 (W/L)	Ground	Rear window defog- ger switch	Input	Rear window defogger switch	Not pressed	(V) 15 10 5 0 10 ms JPMIA0012GB 1.0 - 1.5 V	O P
					Pressed	0 V	
17 (R/G)	Ground	Optical sensor pow-	Output	Ignition switch	OFF, ACC	0 V	
(K/G)		er supply			ON	5 V	

< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value	
(Wire +	color)	Signal name	Input/ Output		Condition	(Approx.)	
18 (V)	Ground	Sensor ground	Input	Ignition switch O	N	0 V	
21 (P/L)	Ground	NATS antenna amp.	Input/ Output	Intelligent Key: Intelligent Key: Intelligent Key battery is re- moved		(V) 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
					Brake pedal: Not de- pressed	12 V	
					ON	0 V	
23 (R/Y)	Ground	Security indicator lamp	Output		Blinking (Ignition switch OFF)	(V) ₁₅ 10 5 0 ••••1s JPMIA0590GB 12.0 V	
					OFF	Battery voltage	
24* ¹ (SB)	Ground	Dongle link	Input/ Output	Ignition switch O	FF	5 V	
25 (LG)	Ground	NATS antenna amp.	Input/ Output	During waiting	Brake pedal: Depressed NOTE: Waveform varies each time when brake pedal is depressed	(V) 15 10 5 0 ★ 40ms JMKIA6233JP	
					Brake pedal: Not de- pressed	12 V	
26* ²	Ground	Thermo control amp.	Input	Ignition switch ON		0 V	
(GR)			•	Evaporator is ext	remely low temperature	12 V	

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

	nal No.	Description)/=l+=	
(Wire +	e color) —	Signal name	Input/ Output		Condition	Value (Approx.)	A
		A/C ON (Automatic A/C)		A/C	OFF (A/C switch indicator: OFF)	(V) 15 10 5 10 10 10 10 ms JPMIA0012GB 1.0 - 1.5 V	B C D
27 (O)	Ground		Input		ON (A/C switch indicator: ON)	0 V	
		A/C switch (Manual A/C)		A/C switch	OFF	(V) 15 10 5 10 10 ms JPMIA0012GB	E F G
					ON	1.0 - 1.5 V 0 V	
					Blower fan switch OFF	0 V	Н
28	Ground	Blower fan switch (Automatic A/C)	fan switch	Fan switch	Blower fan switch ON	(V) 15 0 • • • 10ms • • • • • • • • • • • • • • • • • • •	 Ј
(G/W)		Blower fan switch (Manual A/C)		Fan switch	Blower fan switch OFF	(V) 10 5 0 + 10ms FIB7730J 1.5 - 2.0 V	L
					Blower fan switch ON	0 V	Ν
29 (L/W)	Ground	Hazard switch	Input	Hazard switch	OFF ON	12 V 0 V	
						U V	0
31 (G/B)	Ground	Front door lock as- sembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	(V) 10 5 0 + 10ms FKIB4960J 7.0 - 8.0 V	Ρ
					UNLOCK status (Unlock sensor switch ON)	0 V	

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< ECU DIAGNOSIS INFORMATION > Descripti

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	nal No.	Description				Value
(Wire +	color) –	Signal name	Input/ Output		Condition	(Approx.)
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 0 0 0 0 0 0 0 0 0 0 0 0
32 (LG)	Ground	Combination switch OUTPUT 5	Output	Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4)	
					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7	0 +-10ms PKIB4956J 1.0 V
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
33 (Y/L)	Ground	Combination switch OUTPUT 4	Output	Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)	1.0 - 0.0 V
(··-)					Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 10
					Rear wiper switch INT (Wiper intermittent dial 4)	5 0
					 Any of the condition below with all switch OFF Wiper intermittent dial 1 Wiper intermittent dial 5 Wiper intermittent dial 6 	++10ms PKIB4958J 1.2 V

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

	inal No.	Description				Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A
					All switch OFF (Wiper intermittent dial 4)	(V) 15 0 5 0 + 10ms PKIB4960J	B
34 (W)	Ground	Combination switch OUTPUT 3	Output	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)	7.0 - 8.0 V	D
					Lighting switch HI (Wiper intermittent dial 4)		E
					Rear washer switch ON (Wiper intermittent dial 4)		F
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	PKIB4958J 1.2 V	G
35	0	, Combination switch		Combination	All switch OFF	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V	H I J
(R/L)	Ground	OUTPUT 2	Output	(Wiper intermit- tent dial 4)	Lighting switch 2ND	(V)	
					Lighting switch PASS Front wiper switch INT	(V) 15 10 5	SEC
					Front wiper switch HI	0 ↓ ↓ 10ms ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	L
36		Combination switch		Combination	All switch OFF	(V) 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V	N
(L/O)	Ground	OUTPUT 1	Output	(Wiper intermit- tent dial 4)	Turn signal switch RH	(V) 15 10 5	Р
					Turn signal switch LH Front wiper switch LO		
					(Front wiper switch MIST)		
					Front washer switch ON	• • • 10ms • • • 10ms • • • 10ms • • • 10ms • • • • • 10ms • • • • • • • • • • • • • • • • • • •	

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2012 CUBE

	nal No.	Description	1			Value
(vvire	e color) _	Signal name	Input/ Output		Condition	(Approx.)
37	Ground	Selector lever P po-	Input	Selector lever	P position	0 V
(G/O)	Gibunu	sition switch	mput	Selector level	Any position other than P	12 V
					Waiting	12 V
				Ignition switch OFF (Remote keyless entry communication)	When operating either button on Intelligent Key	(V) 15 10 5 0 200 ms JMMIA05720
38 (G/Y) Gro	Ground	Receiver communi- cation	Input/ Output	Ignition switch ON (TPMS communication)	Waiting	(V) 15 0 0 100 ms JMMIA05730
					When receiving signal from tire pressure sensor	(V) 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
39 (L)	Ground	CAN-H	Input/ Output		_	_
40 (P)	Ground	CAN-L	Input/ Output		_	_
43 (W)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	(V) 15 0 + 10ms PKIB4960J 9.5 - 10.0 V
					ON (When back door opened)	0 V
44		Rear wiper stop po-		Ignition switch	Rear wiper stop position	12 V
(LG)	Ground	sition	Input	ON	Any position other than rear wiper stop position	0 V

BCM (BODY CONTROL MODULE) [WITH INTELLIGENT KEY SYSTEM]

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< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description				Value	
(Wire +	color)	Signal name	Input/ Output		Condition	value (Approx.)	
45 (SB)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	(V) 15 0 0 • • • 10ms • • • • 10ms • • • • 10ms • • • • • • • • • • • • • • • • • • •	
				ON (When passenger door opened)	0 V		
46 (GR/L)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (When rear RH door closed)	(V) 15 10 5 0 ★ 10ms FKIB4960J 7.0 - 8.0 V	
				ON (When rear RH door opened)	0 V		
47 (BR/Y)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	(V) 15 10 5 0 ++ 10ms PKIB4960J	
				-	ON (When driver door opened)	7.0 - 8.0 V 0 V	
48 (W/G)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (When rear LH door closed)	(V) 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	
					ON (When rear door LH opened)	0 V	
50	Ground	Back door lock actu-	Output	Back door	LOCK (Actuator is activat- ed)	0 V	
(R/W)		ator relay control			Other than LOCK (Actua- tor is not activated)	Battery voltage	
51 (W)	Ground	Back door request switch	Input	Back door re- quest switch	ON (Pressed) OFF (Not pressed)	0 V 12 V	
54	Ground	Rear wiper	Output	Rear wiper	OFF (Stopped)	0 V	
(LG)			Culput		ON (Activated)	12 V	

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

	nal No.	Description				
(Wire +	color)	Signal name	Input/ Output		Condition	Value (Approx.)
55	Ground	Rear door UNLOCK	Output	Rear door	UNLOCK (Actuator is activated)	12 V
(G)	Ground	Real door UNLOCK	Output	Real dool	Other then UNLOCK (Ac- tuator is not activated)	0 V
					p battery saver is activated. room lamp power supply)	0 V
56 (L)	Ground	Interior room lamp power supply	Output	vated.	p battery saver is not acti- rior room lamp power sup-	12 V
57 (Y)	Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage
59	Ground	Passenger door UN-	Output	Passenger door	UNLOCK (Actuator is activated)	12 V
(G)	Cround	LOCK	Output		Other then UNLOCK (Ac- tuator is not activated)	0 V
					Turn signal switch OFF	0 V
60 (W/B)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch LH	(V) 15 0 10 10 10 10 10 10 10 10 10
					Turn signal switch OFF	0 V
61 (W/L)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 15 15 15 15 15 15 15 15 15 15
62		Interior room lamp		Interior room	OFF	12 V
63 (BR)	Ground	Interior room lamp control signal	Output	lamp	ON	0 V
65		All 1	0		LOCK (Actuator is activat- ed)	12 V
(V)	Ground	All doors LOCK	Output	All doors	Other then LOCK (Actua- tor is not activated)	0 V
66	Crownel	Driver door UN-	0.14-0.14		UNLOCK (Actuator is activated)	12 V
(L/B)		LOCK	Output	t Driver door	Other then UNLOCK (Ac- tuator is not activated)	0 V
67 (B)	Ground	Ground	Output	Ignition switch O	N	0 V
68 (L)	Ground	P/W power supply (IGN)	Output	Ignition switch ON		12 V
69 (P)	Ground	P/W power supply (BAT)	Output	Ignition switch O	FF	12 V

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< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

	nal No.	Description		Condition		Value	
(vvire +	color)	Signal name	Input/ Output		Condition	(Approx.)	A
70 (Y)	Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage	В
72* ² (SB)	Ground	A/C indicator	Output	A/C indicator	OFF ON	12 V 0 V	0
75 (SB)	Ground	Driver door request switch	Input	Driver door re- quest switch	ON (Pressed) OFF (Not pressed)	0 V 12 V	C
76 (L/O)	Ground	Push-button ignition switch (push switch)	Input	Push-button ig- nition switch (push switch)	Pressed Not pressed	0 V 12 V	C
78	Ground	Driver door antenna	Outout	tput door request switch is operat- ed with ignition switch ON	When Intelligent Key is not in the antenna detec- tion area (The distance between In- telligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 5 5 5 5 5 5 5 5 5 5 5 5 5	F
(LG)	Ground	(+)	Output		When Intelligent Key is in the antenna detection area (The distance between In- telligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 500 ms JMKIA5955GB	H
79	Ground	round Driver door antenna O		When the driver door request switch is operat- ed with ignition switch ON	When Intelligent Key is not in the antenna detec- tion area (The distance between In- telligent Key and antenna: Approx. 2 m)	(V) 15 10 50 50 500 ms JMKIA5954GB	SE
(V)	Ground		Output		When Intelligent Key is in the antenna detection area (The distance between In- telligent Key and antenna: 80 cm or less)	(V) 15 10 50 500 ms JMKIA5955GB	M

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< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value
(Wire +	color)	Signal name	Input/ Output		Condition	(Approx.)
80	Ground	Passenger door an-		When the pas- senger door re- quest switch is	When Intelligent Key is not in the antenna detec- tion area (The distance between In- telligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 5 5 5 5 5 5 5 5 5 5 5 5 5
(BR/Y)		tenna (+)	Output	operated with ignition switch ON	When Intelligent Key is in the antenna detection area (The distance between In- telligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 500 ms JMKIA5955GB
81	Ground	Passenger door an-	Output	When the pas- senger door re- quest switch is operated with ignition switch ON	When Intelligent Key is not in the antenna detec- tion area (The distance between In- telligent Key and antenna: Approx. 2 m)	(V) 15 10 50 500 ms JMKIA5954GB
(L/Y)	Glound	tenna (-)			When Intelligent Key is in the antenna detection area (The distance between In- telligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 500 ms JMKIA5955GB
82	Ground	Back door antenna		When the back door request	When Intelligent Key is not in the antenna detec- tion area (The distance between In- telligent Key and antenna: Approx. 2 m)	(V) 15 10 5 5 0 5 0 5 0 5 1 5 10 5 5 0 5 5 0 5 5 0 5 5 5 0 5 5 5 5 5 5 5 5 5 5 5 5 5
(W/B)		d (+) Out		switch is operat- ed with ignition switch ON	When Intelligent Key is in the antenna detection area (The distance between In- telligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 • • • • • • • • • • • • • • • • • • •

< ECU DIAGNOSIS INFORMATION >

Terminal No.		Description				Value	
(Wire +	e color) –	Signal name	Input/ Output		Condition	Value (Approx.)	A
83		Back door antenna (-		When the back door request	When Intelligent Key is not in the antenna detec- tion area (The distance between In- telligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 5 5 5 5 5 5 5 5 5 5 5 5 5	B C D
(B/W)	Ground)	Output	switch is operat- ed with ignition switch ON	When Intelligent Key is in the antenna detection area (The distance between In- telligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 500 ms JMKIA5955GB	E
84		Room antenna (+)		Ignition switch	When Intelligent Key is not in the antenna detec- tion area	(V) 15 10 10 10 10 10 10 10 10 10 10	G H
(Y/G)	Ground	(Instrument center)	Output	ŎN	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA3839GB	J SEC
85	Ground	Room antenna (-)	Output	Ignition switch	When Intelligent Key is not in the antenna detec- tion area	(V) 15 10 5 0 1 1 1 1 1 1 1 1 1 1 1 1 1	M
(Y/L)	Ground	(Instrument center)	Cutput	ON	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA3839GB	P

< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value	
+	color)	Signal name	Input/ Output		Condition	(Approx.)	
86	Ground	Luggage room an-	Output	Ignition switch	When Intelligent Key is not in the antenna detec- tion area	(V) 15 10 5 0 1 s JMKIA5951GB	
(P)		tenna (+)	Gupu		When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA3839GB	
87	Ground	Luggage room an-	Output	Ignition switch	When Intelligent Key is not in the antenna detec- tion area	(V) 15 0 10 5 0 15 0 15 0 15 0 15 15 15 15 15 15 15 15 15 15	
(L)	Clound	tenna (-)	Cuput	ON	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA3839GB	
90 (W/L)	Ground	Push-button ignition switch illumination	Output	Push-button ig- nition switch illu-	ON	12 V	
91 (Y)	Ground	ACC/ON indicator lamp	Output	mination Ignition switch	OFF OFF ACC or ON OFF	0 V Battery voltage 0.5 V 0 V	
92 (BR/R)	Ground	Push-button ignition switch illumination ground	Output	Tail lamp	ON	NOTE: When the illumination brighten- ing/dimming level is in the neutral position (V) 15 10 5 0 10 10 10 10 10 10 10 10 10 10 10 10 1	

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

Terminal No. (Wire color)		Description			0 IV	Value	
+	-	Signal name	Input/ Output	Condition		(Approx.)	
93	Ground	Intelligent Key warn-	Output	Intelligent Key	Sounding	0 V	
(GR/W)	Giouna	ing buzzer	Output	warning buzzer	Not sounding	12 V	
96	Ground	ACC relay control	Output	Ignition switch	OFF	0 V	
(BR/W)	Glound	Acc relay control	Output	Ignition switch	ACC or ON	12 V	
97	Ground	Starter relay control	Output	Ignition switch	When selector lever is in P or N position	Battery voltage	
(L/R)	Orodina	Statter relay control	Output	ON	When selector lever is not in P or N position	0 V	
98	Ground	Ignition relay (IPDM	Output	Ignition switch	OFF or ACC	12 V	
(BR)	Ground	E/R) control	Output		ON	0 V	
99	Ground	Ignition relay control	Output	Output Ignition switch	OFF or ACC	0 V	
(W/R)	Giouna	Ignition relay control	Output	Ignition switch	ON	12 V	
100	Ground	Passenger door re-	Input	t Passenger door request switch	ON (Pressed)	0 V	
(G)	Giouna	quest switch	input		OFF (Not pressed)	12 V	
102	Ground	Selector lever P/N	Input	Input Selector lever	P or N position	Battery voltage	
(G)	Ground	position	mput	Selector level	Except P and N positions	0 V	
						A/C mode defroster ON position	0 V
103* ² (G/Y)	Ground	Front defroster switch	Input	Ignition switch ON	Other than A/C mode de- froster ON position	(V) 15 10 5 0 ••2ms 	
104 (Y/R)	Ground	CVT shift selector (detention switch) power supply	Output	Ignition switch ON		12 V	
105 (B/O)	Ground	Stop lamp switch 2	Input	Ignition switch OFF		Battery voltage	
106	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0 V	
(Y/B)	Ground	lay control	Output		ON	12 V	

*1: For Canada

*2: Manual air conditioner

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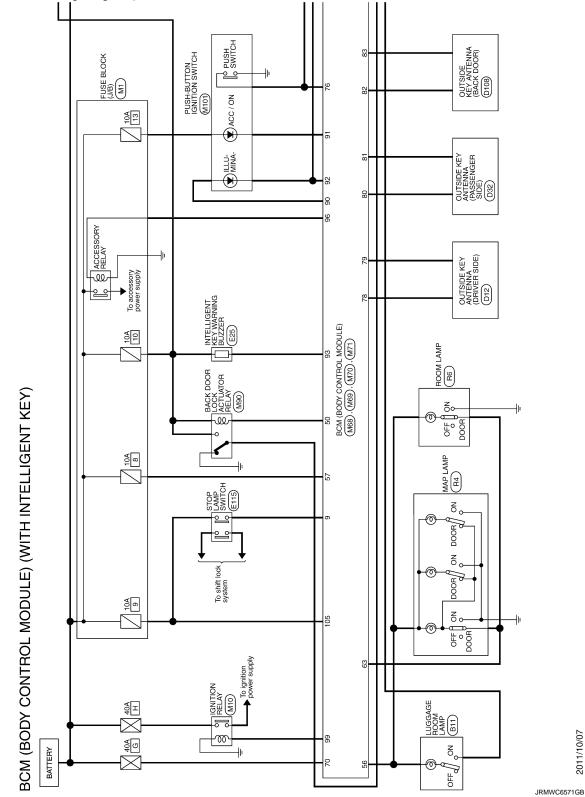
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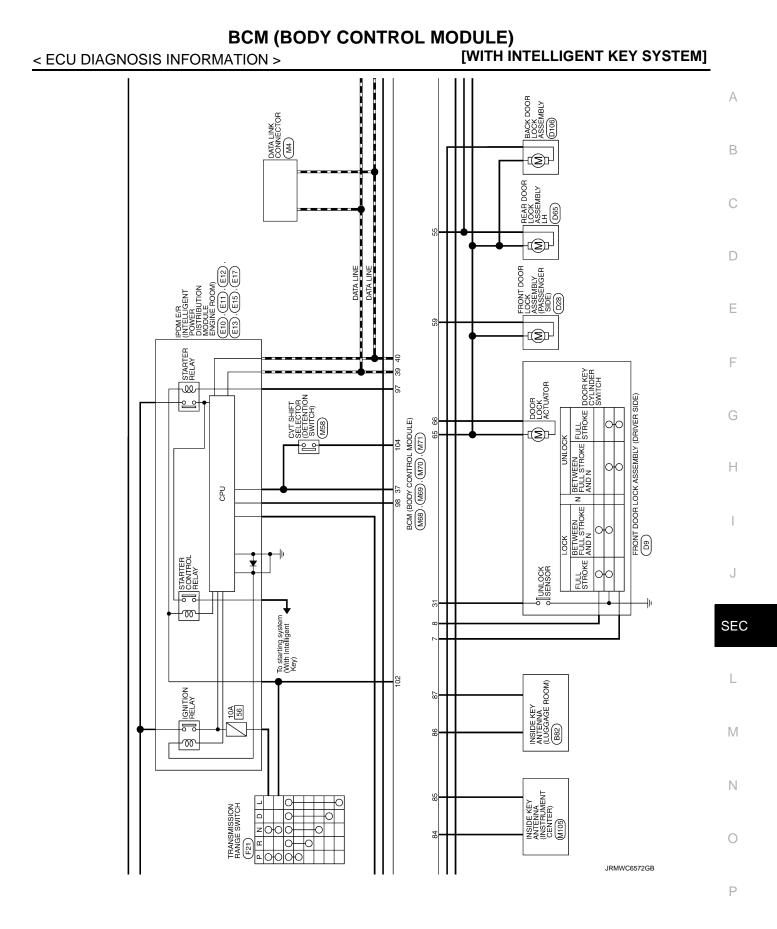
< ECU DIAGNOSIS INFORMATION >

Wiring Diagram - BCM -

INFOID:000000007955116

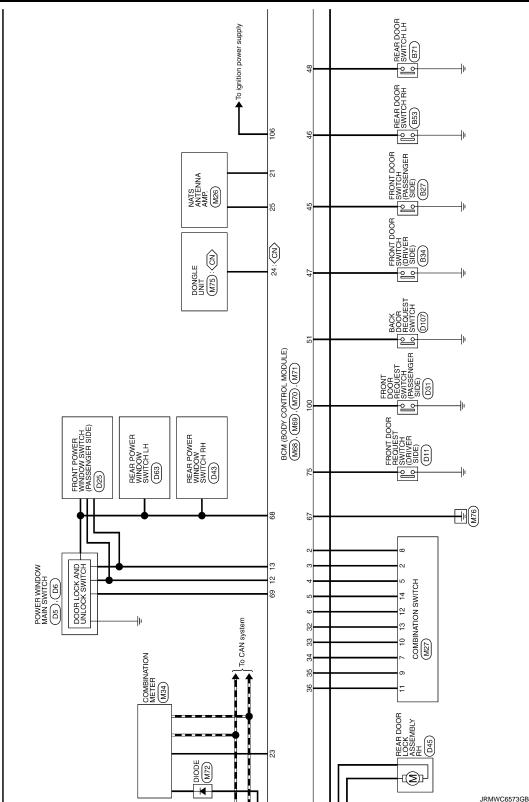
For connector terminal arrangements, harness layouts, and alphabets in a \bigcirc (option abbreviation; if not described in wiring diagram), refer to <u>GI-12, "Connector Information"</u>.



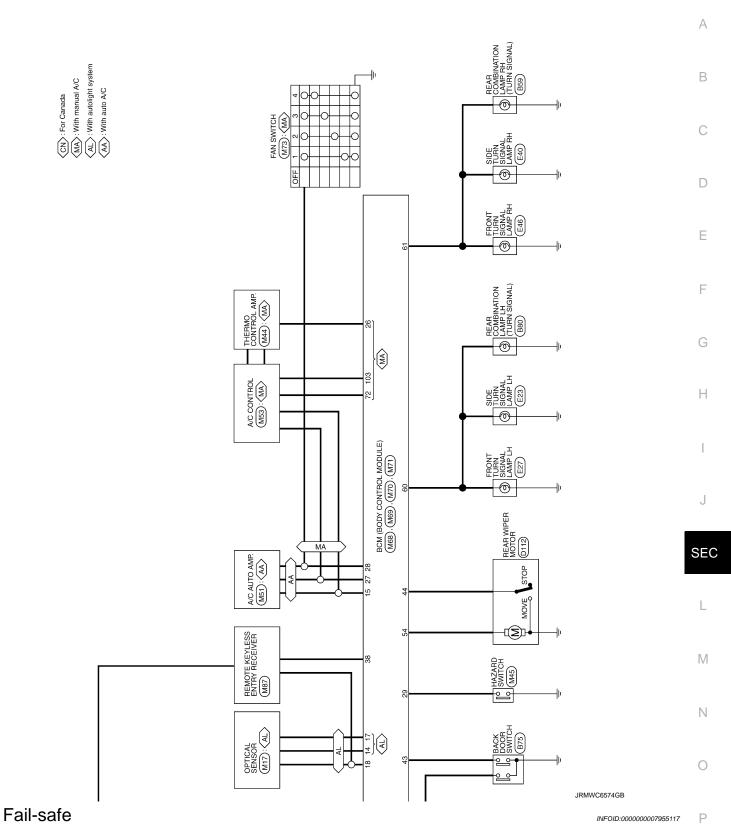


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< ECU DIAGNOSIS INFORMATION >



BCM (BODY CONTROL MODULE) < ECU DIAGNOSIS INFORMATION > [WITH INTELLIGENT KEY SYSTEM]



FAIL-SAFE CONTROL BY DTC

BCM performs fail-safe control when any DTC are detected.

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

Display contents of CONSULT	Fail-safe	Cancellation
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	Ignition switch $ON \rightarrow OFF$
B2196: DONGLE NG	Inhibit engine cranking	Erase DTC
B2198: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2608: STARTER RELAY Inhibit engine cran		 500 ms after the following signal communication status becomes consistent Starter relay control signal Starter relay status signal (CAN)
B260F: ENG STATE SIG LOST	Inhibit engine cranking	When any of the following conditions are fulfilledPower position changes to ACCReceives engine status signal (CAN)
B26F1: IGN RELAY OFF	Inhibit engine cranking	 When the following conditions are fulfilled Ignition switch ON signal (CAN: Transmitted from BCM): ON Ignition switch ON signal (CAN: Transmitted from IPDM E/R): ON
B26F2: IGN RELAY ON	Inhibit engine cranking	 When the following conditions are fulfilled Ignition switch ON signal (CAN: Transmitted from BCM): OFF Ignition switch ON signal (CAN: Transmitted from IPDM E/R): OFF
B26F3: START CONT RLY ON	Inhibit engine cranking	 When the following conditions are fulfilled Starter control relay signal (CAN: Transmitted from BCM): OFF Starter control relay signal (CAN: Transmitted from IPDM E/R): OFF
B26F4: START CONT RLY OFF	Inhibit engine cranking	 When the following conditions are fulfilled Starter control relay signal (CAN: Transmitted from BCM): ON Starter control relay signal (CAN: Transmitted from IPDM E/R): ON
B26F7: BCM Inhibit engine cranking by Intelligent Key sys- tem		When room antenna and luggage room antenna functions normally

REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper stop position signal. When the rear wiper stop position signal does not change for more than 5 seconds while driving the rear wiper, BCM stops power supply to protect the rear wiper motor.

Condition of cancellation

- 1. More than 1 minute is passed after the rear wiper stop.
- 2. Turn rear wiper switch OFF.
- 3. Operate the rear wiper switch or rear washer switch.

FAIL-SAFE CONTROL OF COMBINATION SWITCH READING FUNCTION CAUSED BY LOW POWER SUPPLY VOLTAGE

If voltage of battery power supply lower, BCM maintains combination switch reading to the status when input voltage is less than approximately 9 V.

NOTE:

When voltage of battery power supply is approximately 9 V or more, combination switch reading function returns to normal operation.

DTC Inspection Priority Chart

INFOID:000000007955118

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

Priority	DTC
1	B2562: LOW VOLTAGE
2	 U1000: CAN COMM CIRCUIT U1010: CONTROL UNIT (CAN)

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

riority	DTC	
3	 B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2195: ANTI-SCANNING B2196: DONGLE NG B2198: NATS ANTENNA AMP 	
4	 B2555: STOP LAMP B2556: PUSH-BTN IGN SW B2557: VEHICLE SPEED B2601: SHIFT POSITION B2602: SHIFT POSI STATUS B2603: SHIFT POSI STATUS B2604: PNP/CLUTCH SW B2605: PNP/CLUTCH SW B2608: STARTER RELAY B260F: ENG STATE SIG LOST B2614: BCM B2615: BCM B2616: BCM B2617: BCN RELAY OFF B26F1: IGN RELAY ON B26F3: START CONT RLY ON B26F4: START CONT RLY OFF B26F6: BCM B26F7: WHCL SPEED SIG ERR U0415: VEHICLE SPEED 	
5	 C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RL 	
6	B2621: INSIDE ANTENNA B2622: INSIDE ANTENNA	
7	 B2626: OUTSIDE ANTENNA B2627: OUTSIDE ANTENNA B2628: OUTSIDE ANTENNA 	

The details of time display are as follows.

CRNT: A malfunction is detected now.

• PAST: A malfunction was detected in the past.

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to <u>SEC-25, "COM-</u> <u>MON ITEM : CONSULT Function (BCM - COMMON ITEM)"</u>.

< ECU DIAGNOSIS INFORMATION >

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	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	_	—	_		BCS-40
U1010: CONTROL UNIT (CAN)	—	—	_		BCS-41
U0415: VEHICLE SPEED	—	—	×		BCS-42
B2192: ID DISCORD BCM-ECM	×	—	_		SEC-38
B2193: CHAIN OF BCM-ECM	×	—	_		<u>SEC-40</u>
B2195: ANTI-SCANNING	×	—	_		<u>SEC-41</u>
B2196: DONGLE NG	×	—	_		SEC-42
B2198: NATS ANTENNA AMP	×	—	_		<u>SEC-44</u>
B2555: STOP LAMP	—	×	×		<u>SEC-48</u>
B2556: PUSH-BTN IGN SW		×	×		<u>SEC-50</u>
B2557: VEHICLE SPEED	_	×	×		<u>SEC-52</u>
B2562: LOW VOLTAGE	_	×	_		BCS-43
B2601: SHIFT POSITION	_	×	×		<u>SEC-53</u>
B2602: SHIFT POSITION	_	×	×		<u>SEC-56</u>
B2603: SHIFT POSI STATUS	_	×	×		<u>SEC-59</u>
B2604: PNP/CLUTCH SW	_	×	×		<u>SEC-64</u>
B2605: PNP/CLUTCH SW	_	×	×		<u>SEC-67</u>
B2608: STARTER RELAY	×	×	×		<u>SEC-69</u>
B260F: ENG STATE SIG LOST	×	×	×		<u>SEC-71</u>
B2614: BCM	—	×	×		PCS-75
B2615: BCM	_	×	×		PCS-78
B2616: BCM	—	×	×		PCS-81
B2618: BCM	—	×	×		PCS-84
B261A: PUSH-BTN IGN SW	—	×	×		PCS-85
B2621: INSIDE ANTENNA	—	×		—	<u>DLK-44</u>
B2622: INSIDE ANTENNA	—	×		—	DLK-46
B2626: OUTSIDE ANTENNA	—	×	—	—	DLK-50
B2627: OUTSIDE ANTENNA	—	×	—	—	<u>DLK-48</u>
B2628: OUTSIDE ANTENNA	—	×		—	DLK-52
B26F1: IGN RELAY OFF	×	×	×	—	PCS-87
B26F2: IGN RELAY ON	×	×	×	—	PCS-89
B26F3: START CONT RLY ON	×	×	×	—	<u>SEC-72</u>
B26F4: START CONT RLY OFF	×	×	×	—	<u>SEC-73</u>
B26F6: BCM	—	×	×	—	PCS-91
B26F7: BCM	×	×	×	—	<u>SEC-75</u>
B26F8: BCM	—	×	×	—	<u>SEC-76</u>
B26FC: KEY REGISTRATION	—	×	×	_	<u>SEC-77</u>

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condi- tion	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	A
C1704: LOW PRESSURE FL	—	—	_	×		
C1705: LOW PRESSURE FR	—	—	—	×	WT-22	С
C1706: LOW PRESSURE RR	—	—	—	×	<u>vv1-22</u>	0
C1707: LOW PRESSURE RL	—	—	—	×		
C1708: [NO DATA] FL	—	—	—	×		D
C1709: [NO DATA] FR	—	—	_	×	WT-24	
C1710: [NO DATA] RR	—	—	_	×	<u>vv1-24</u>	Е
C1711: [NO DATA] RL				×		
C1716: [PRESSDATA ERR] FL	_	_		×		
C1717: [PRESSDATA ERR] FR	_	_		×	WT-27	F
C1718: [PRESSDATA ERR] RR	—	—	_	×		
C1719: [PRESSDATA ERR] RL	_	_		×		0
C1729: VHCL SPEED SIG ERR		—	_	×	<u>WT-29</u>	G

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

Reference Value

INFOID:000000007955123

VALUES ON THE DIAGNOSIS TOOL

Monitor Item		Condition	Value/Status
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	1/2/3/4
		A/C switch OFF	Off
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On
TAIL&CLR REQ	Lighting switch OFF		Off
TAIL&ULK KEQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On
HL LO REQ	Lighting switch OFF		Off
	Lighting switch 2ND, HI or AUT	D (Light is illuminated)	On
	Lighting switch OFF		Off
HL HI REQ	Lighting switch HI		On
FR FOG REQ	Lighting switch 2ND or	Front fog lamp switch OFF	Off
	AUTO (Light is illuminated)	Front fog lamp switch ON	On
		Front wiper switch OFF	Stop
FR WIP REQ	Ignition switch ON	Front wiper switch INT	1LOW
	Ignition switch ON	Front wiper switch LO	Low
		Front wiper switch HI	Hi
		Front wiper stop position	
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P
		Front wiper operates normally	Off
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe opera- tion	BLOCK
IGN RLY1 -REQ	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
	Ignition switch OFF or ACC		Off
IGN RLY	Ignition switch ON		On
PUSH SW	Release the push-button ignition	Off	
FUSH 3W	Press the push-button ignition s	witch	On
	Ignition switch ON	 Selector lever in any position other than P or N (CVT models) Release clutch pedal (M/T models) 	Off
INTER/NP SW	Ignition switch ON	 Selector lever in P or N position (CVT models) Depress clutch pedal (M/T mod- els) 	On
	Ignition switch ON	· · · · · · · · · · · · · · · · · · ·	Off
ST RLY CONT	At engine cranking		On

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

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTÉM]

Monitor Item	Cor	Value/Status	
	Ignition switch ON	Off	
IHBT RLY -REQ	At engine cranking		On
	Ignition switch ON		Off
	At engine cranking		$INHI\:ON\toST\:ON$
ST/INHI RLY		control relay cannot be recognized by when the starter relay is ON and the	UNKWN
DETENT SW	Ignition switch ON	 Pull the selector lever with selector lever in P position Selector lever in any position other than P 	Off
	Release the selector lever with sele NOTE: Fixed On for M/T models	ctor lever in P position	On
S/L RLY -REQ	NOTE: The item is indicated, but not monit	ored.	Off
S/L STATE	NOTE: The item is indicated, but not monit	ored.	UNLOCK
DTRL REQ	Not operation		Off
NOTE: This item is monitored only on the vehicle with the daytime running light system.	Daytime running light system is ope	erated.	On
OIL P SW	Ignition switch OFF, ACC or engine	Open	
OIL P SW	Ignition switch ON	Close	
HOOD SW	NOTE: The item is indicated, but not monit	Off	
	Not operation	Off	
THFT HRN REQ	 Panic alarm is activated Horn is activated with VEHICLE S TEM 	On	
	Not operating	Off	
HORN CHIRP	Door locking with Intelligent Key (he	orn chirp mode)	On

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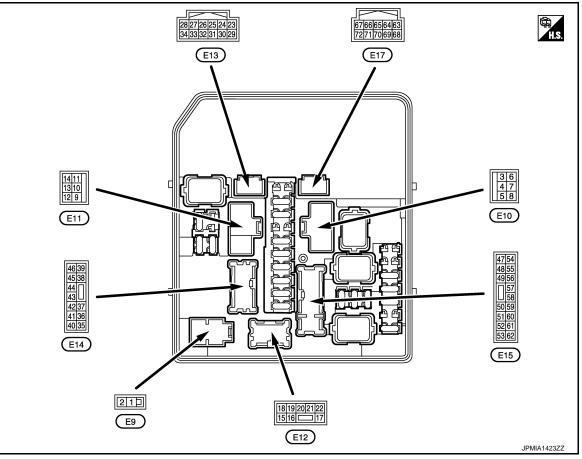
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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

TERMINAL LAYOUT



PHYSICAL VALUES

Termin		Description			Value	
(Wire color) + –		Signal name Input/ Output		Condition	(Approx.)	
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	
2 (G)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	
3	Ground	Starter motor	Output	Ignition switch ON	0 V	
(BR)	Giouna	Starter motor	Output	At engine cranking	Battery voltage	
4 (P)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	
5	Ground	Cooling fan relay-1 power supply	Output	Cooling fan OFF	0 V	
(LG)	Ground			Cooling fan operated	Battery voltage	
_		Cooling fan relay-2 power supply	Output	Cooling fan OFF	0 V	
7 (Y)	Ground			Cooling fan LO operated	9.0 V	
(.)				Cooling fan HI operated	Battery voltage	
8 (V)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	
9 (B/W)	Ground	Ground	_	Ignition switch ON	0 V	
				Cooling fan OFF	0 V	
10 (L)	Ground	Cooling fan motor ground	Output	Cooling fan LO operated	5.0 V	
(-)		ground		Cooling fan HI operated	0 V	

Revision: 2011 November

2012 CUBE

Terminal NO. (Wire color)		Description				Value	
(VVire +	color)	Signal name	Input/ Output	Condition		(Approx.)	
13	Ground	Rear window defogger	Output	Ignition switch	Rear window defogger switch OFF	0 V	
(W)	Ground	Real window delogger	Output	ON	Rear window defogger switch ON	Battery voltage	
19 (B/W)	Ground	Ground	—	Ignition sw	vitch ON	0 V	
21	Ground	Front fog lamp (RH)	Output	Lighting switch	Front fog lamp switch OFF	0 V	
(W)				2ND	Front fog lamp switch ON	Battery voltage	
22 (V)	Ground	Front fog lamp (LH)	Output	Lighting switch	Front fog lamp switch OFF	0 V	
(v)				2ND	Front fog lamp switch ON	Battery voltage	
24	Ground		lasut	Ignition switch	Engine stopped	0 V	
(LG)	Ground	Oil pressure switch	Input	ON	Engine running	Battery voltage	
05				Ignition	Front wiper stop position	0 V	
25 (Y)	Ground	Front wiper auto stop	Input	switch ON	Any position other than front wiper stop position	Battery voltage	
26 (P)	Ground	CAN-L	Input/ Output		_	_	
27 (L)	Ground	CAN-H	Input/ Output		_	_	
28 ^{*1}	Ground	Daytime running light	Output	Daytime ru	unning light deactivated	0 V	
(P)		relay-1 control		-	unning light activated	Battery voltage	
30	Ground	Starter relay control	Output	At engine	_	0 V	
(SB)		-		Ignition sv		Battery voltage	
31	Ground	Fuel pump relay control	Output		mately 1 second after turn- ignition switch ON running	0 - 1.5 V	
(W)					ately 1 second or more after e ignition switch ON	Battery voltage	
				Ignition sw	vitch ON	Battery voltage	
33 (O)	Ground	Power generation com- mand signal	Output		et on "ACTIVE TEST", "AL- OR DUTY" of "ENGINE"	(V) 4 2 0 4 2 2 ms JPMIA0002GB 3.8 V	
					80 % is set on "ACTIVE TEST", "AL- TERNATOR DUTY" of "ENGINE"		(V) 6 2 0 Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fraction Fra

	nal NO.	Description				Value
(VVire +	color)	Signal name	Input/ Output		Condition	(Approx.)
34				The horn i	s deactivated	Battery voltage
(R)	Ground	Horn relay control	Output	The horn i	s activated	0 V
36				Ignition	Lighting switch OFF	0 V
(Y)	Ground	Parking lamp (LH)	Output	switch ON	Lighting switch 1ST	Battery voltage
37				Ignition	Lighting switch OFF	0 V
(V)	Ground	Parking lamp (RH)	Output	switch ON	Lighting switch 1ST	Battery voltage
38 (C) Ground	Tail lamp (RH) & illumi-		Ignition	Lighting switch OFF	0 V	
(G)	Ground	nations	Output	switch ON	Lighting switch 1ST	Battery voltage
39	0	Front Standard	0	Ignition	Front wiper switch OFF	0 V
(V)	Ground	Front wiper HI	Output	switch ON	Front wiper switch HI	Battery voltage
40					vitch OFF n a few seconds after turn- n switch OFF)	Battery voltage
40 (R)	Ground	ECM relay control	Output	 Ignition switch ON Ignition switch OFF (For a few seconds after turning ig- nition switch OFF) 		0 - 1.5 V
41		Tail lamp (LH) & license		Ignition	Lighting switch OFF	0 V
(SB)	Ground	plate lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
43		ECM relay power sup-			vitch OFF n a few seconds after turn- n switch OFF)	0 V
43 (G)	Ground	ply	Output	Ignition (For a feedback	switch ON switch OFF ew seconds after turning ig- witch OFF)	Battery voltage
44		ECM relay power sup-			vitch OFF n a few seconds after turn- n switch OFF)	0 V
(P)	Ground	ply	Output	Ignition (For a feedback	switch ON switch OFF ew seconds after turning ig- witch OFF)	Battery voltage
45 (Y)	Ground	TCM power supply	Output	Ignition sw	vitch OFF	Battery voltage
46				Ignition	Front wiper switch OFF	0 V
(O)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
		Transmission range switch ^{*2}	Input	Select lever in any position other than P or N (Ignition switch ON)		0 V
47 (BR)	Ground			Select lever P or N (Ignition switch ON)		Battery voltage
(=)		Clutch interlock		Release the clutch pedal		0 V
		switch*3		Depress the clutch pedal		Battery voltage

	nal NO.	Description				Value			
(vvire +	color) –	Signal name	Input/ Output		Condition	(Approx.)			
				Ignition	Lighting switch OFF	0 V	_		
49 (W)	Ground	Headlamp HI (RH)	Output	switch ON	Lighting switch HILighting switch PASS	Battery voltage	_		
				Daytime ru	unning light activated ^{*1}	7.0 V			
				Ignition	Lighting switch OFF	0 V			
50 (GR)	Ground	Headlamp HI (LH)	Output	switch ON	Lighting switch HILighting switch PASS	Battery voltage	_		
				Daytime ru	unning light activated ^{*1}	7.0 V			
51			Ignition Lighting switch OFF		0 V				
(R)	Ground	Headlamp LO (LH)	Output	switch ON	Lighting switch 2ND	Battery voltage			
		Headlamp LO (RH)			Lighting switch OFF	0 V			
52	Ground	Daytime running light	Output	Ignition switch		0 0	_		
(P)	Cround	relay-2 ^{*1}	output	ON	Lighting switch 2ND	Battery voltage			
54				· ·	itch OFF n a few seconds after turn- n switch OFF)	0 V	_		
54 (GR)	Ground Throttle control motor relay power supply	Output	 Ignition switch ON Ignition switch OFF (For a few seconds after turning ig- nition switch OFF) 		Battery voltage				
55				Approximately 1 second or more than after turning the ignition switch ON		0 V			
55 (P)	Ground	Fuel pump power sup- ply	Output		mately 1 second after turn- gnition switch ON running	Battery voltage			
					A/C switch OFF	0 V	-		
56 (SB)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is oper- ating)	Battery voltage			
		Throttle control motor relay control	Output	Ignition switch ON \rightarrow OFF Ignition switch ON		0 - 1.0 V			
						↓ Battery voltage			
57 (G)	Ground					\downarrow			
						0 V			
						0 - 1.0 V			
58 (D) ^{*2}		Ignition relay power	• • •	Ignition sw	vitch OFF	0 V			
(R) ^{*2} (Y) ^{*3}	Ground	supply	Output	Ignition sw	vitch ON	Battery voltage			
59		59 Ground	Ignition relay power		Outerst	Ignition sw	vitch OFF	0 V	-
(Y)	Ground	supply	Output	Ignition sw	vitch ON	Battery voltage	_		
60	Ground	Ignition relay power	Outout	Ignition sw	ritch OFF	0 V			
(V)	Ground	supply	Output	Ignition sw	vitch ON	Battery voltage			
61	Ground	Ignition relay power	0	Ignition sw	vitch OFF	0 V			
(W)	Ground	supply	Output	Ignition sw	vitch ON	Battery voltage	-		
62	0	Ignition relay power	0	Ignition sw	vitch OFF	0 V			
(L)	Ground	supply	Output	Ignition sw	vitch ON	Battery voltage			

Termina		Description				Value
(Wire) +	color)	Signal name	Input/ Output		Condition	(Approx.)
64 ^{*2}		CVT shift selector		Ignition	Select lever P	0 V
(R)	Ground	(Detention switch)	Input	switch ON	Select lever in any posi- tion other than P	Battery voltage
66		Duch button ignition		Press the	push-button ignition switch	0 V
(L)	Ground	Push-button ignition switch		Release the push-button ignition switch		Battery voltage
69	Ground	Ignition relay monitor	Input	Ignition sw	vitch OFF or ACC	Battery voltage
(Y)	Giouna	Ignition relay monitor	mput	Ignition sw	vitch ON	0 V

*1: With daytime running light system

*2: CVT models

*3: M/T models

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

< ECU DIAGNOSIS INFORMATION >

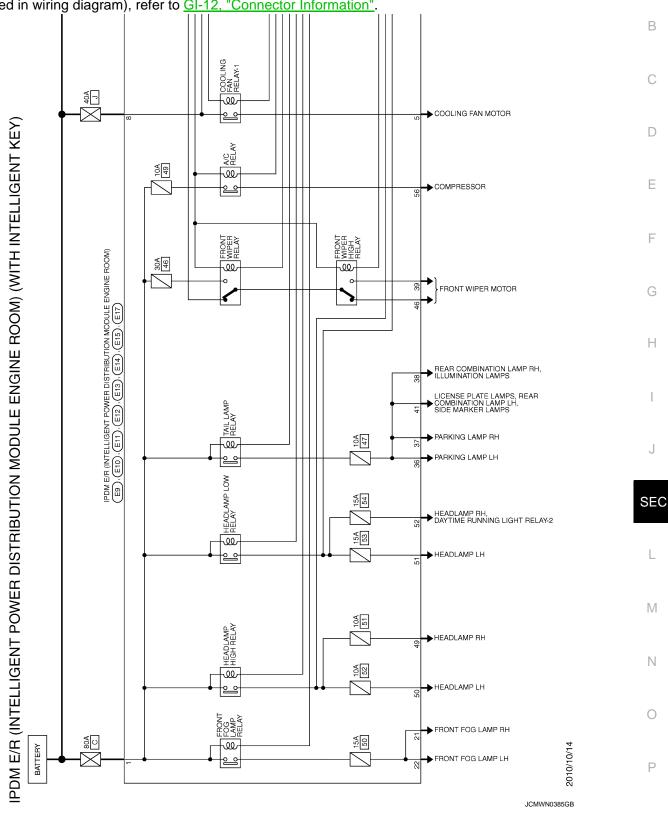
[WITH INTELLIGENT KEY SYSTEM]

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Wiring Diagram — IPDM E/R

For connector terminal arrangements, harness layouts, and alphabets in a \bigcirc (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information"



STARTER CONTROL RELAY -00 STARTER MOTOR STARTER RELAY ₽ → FUSE AND FUSIBLE LINK BLOCK ത BCM (BODY CONTROL MODULE) BCM (BODY CONTROL MODULE), TRANSMISSION RANGE SWITCH, ECM IPM ER (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (E9) (E10) (E11) (E12) (E13) (E14) (E15) (E17) TCM (TRANSMISSION CONTROL MODULE), NATS ANTENNA AMP., ECM 45 ECM RELAY ECM 20A 6 -W ECM, MASS AIR FLOW SENSOR, EVAP CANISTER PURGE VOLUME CONTROL SOLENOID VALVE 2 53 INTAKE VALVE TIMING CONTROL SOLENOID VALVE, CONDENSER, IGNITION COILS, EVAP CANISTER VENT CONTROL VALVE, ECM THROTTLE CONTROL MOTOR RELAY 4 15A 64 FUU 57 ECM / 15A 42 REAR DEFOGGER RELAY P09 15A 41 ഷ A/C AUTO AMP., → DOOR MIRRORS, REAR WINDOW DEFOGGER $\overline{\checkmark}$ Ω

E RELAY-3

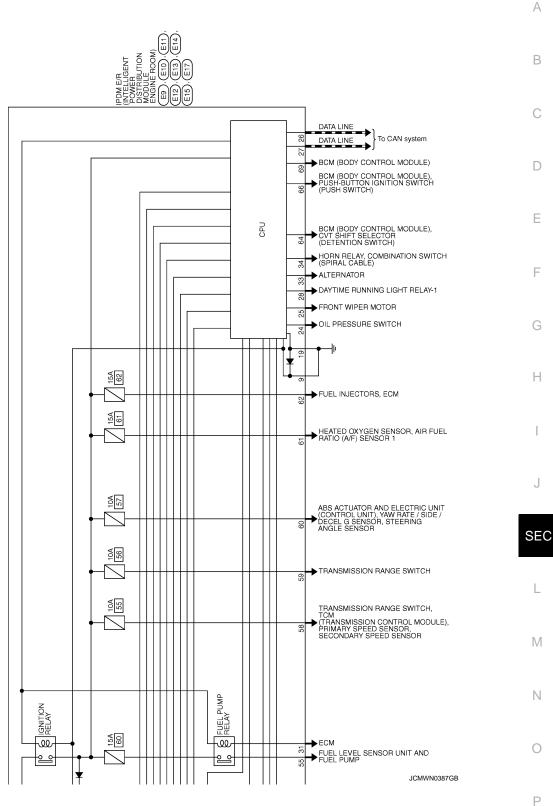
FAN BEAN-2

JCMWN0386GB

COOLING FAN MOTOR

COOLING FAN MOTOR

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Fail-Safe

INFOID:000000007955125

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

Control part	Fail-safe operation
Cooling fan	 The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn ON when the ignition switch is turned ON (Cooling fan HI operation) The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn OFF when the ignition switch is turned OFF
A/C compressor	A/C relay OFF
Alternator	Outputs the power generation command signal (PWM signal) 0%

If No CAN Communication Is Available With BCM

Control part	Fail-safe 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 Daytime running light relay OFF[*]
 Parking lamps Side marker lamps License plate lamps Illuminations Tail 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 wipe 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

*: With daytime running light system

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.

Voltage	judgment		
Ignition relay contact side	Ignition relay excitation coil side	IPDM E/R judgment	Operation
ON	ON	Ignition relay ON normal	_
OFF	OFF	Ignition relay OFF normal	_
ON	OFF	Ignition relay ON stuck	 Detects DTC "B2098: IGN RELAY ON" Turns ON the tail lamp relay for 10 minutes
OFF	ON	Ignition relay OFF stuck	Detects DTC "B2099: IGN RELAY OFF"

FRONT WIPER CONTROL

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

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

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

< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

Ignition switch	Front wiper switch	Front wiper stop position signal	
ON	OFF	The front wiper stop position signal (stop position) cannot be input for 10 seconds.	-
ÖN	ON	The front wiper stop position signal does not change for 10 seconds.	_
NOTE: This operation status can be con "WIP PROT" while the wiper is sto		nitor" that displays "BLOCK" for the iter	ו
STARTER MOTOR PROTECT PDM E/R turns OFF the starter co active for 90 seconds.		otor when the starter control relay remain	5
DTC Index		INF0ID:000000079551	6
 The details of time display are a 			
PAST: A malfunction was detect IGN counter is displayed on FFI The number is 0 when is detect The number increases like $1 \rightarrow$ ON.	ed in the past. D (Freeze Frame data). ed now.		
ON.	ted in the past. O (Freeze Frame data). ed now. 2 … 38 \rightarrow 39 after returning to the	d if it is over 39. ×: Applicabl	
 PAST: A malfunction was detect IGN counter is displayed on FFI The number is 0 when is detect The number increases like 1 → ON. The number is fixed to 39 until t 	ted in the past. D (Freeze Frame data). ed now. 2 38 \rightarrow 39 after returning to the he self-diagnosis results are erase	d if it is over 39. ×: Applicabl	
 PAST: A malfunction was detect IGN counter is displayed on FFI The number is 0 when is detected The number increases like 1 → ON. The number is fixed to 39 until t CONSULT display No DTC is detected. further testing	ted in the past. D (Freeze Frame data). ed now. 2 38 \rightarrow 39 after returning to the he self-diagnosis results are erase	d if it is over 39. ×: Applicabl	
 PAST: A malfunction was detect IGN counter is displayed on FFI The number is 0 when is detected. The number increases like 1 → ON. The number is fixed to 39 until t CONSULT display No DTC is detected. further testing may be required. 	ted in the past. D (Freeze Frame data). ed now. 2 38 \rightarrow 39 after returning to the he self-diagnosis results are erase Fail-sa 	d if it is over 39. Afe Refer to —	
 PAST: A malfunction was detect IGN counter is displayed on FFI The number is 0 when is detected The number increases like 1 → ON. The number is fixed to 39 until t CONSULT display No DTC is detected. further testing may be required. U1000: CAN COMM CIRCUIT 	ted in the past. D (Freeze Frame data). ed now. 2 38 \rightarrow 39 after returning to the he self-diagnosis results are erase Fail-sa -	d if it is over 39. ×: Applicable afe Refer to 	
 PAST: A malfunction was detect IGN counter is displayed on FFI The number is 0 when is detected. The number increases like 1 → ON. The number is fixed to 39 until t CONSULT display No DTC is detected. further testing may be required. U1000: CAN COMM CIRCUIT B2098: IGN RELAY ON 	ted in the past. D (Freeze Frame data). ed now. 2 38 \rightarrow 39 after returning to the he self-diagnosis results are erase Fail-sa -	d if it is over 39. x: Applicable Afe Refer to 	-
 PAST: A malfunction was detect IGN counter is displayed on FFI The number is 0 when is detected The number increases like 1 → ON. The number is fixed to 39 until t CONSULT display No DTC is detected. further testing may be required. U1000: CAN COMM CIRCUIT B2098: IGN RELAY OFF 	ted in the past. D (Freeze Frame data). ed now. 2 38 \rightarrow 39 after returning to the he self-diagnosis results are erase Fail-sa -	d if it is over 39. ×: Applicable Afe Refer to PCS-16 PCS-17 PCS-18	e - -
 PAST: A malfunction was detect IGN counter is displayed on FFI The number is 0 when is detected. The number increases like 1 → ON. The number is fixed to 39 until t CONSULT display No DTC is detected. further testing may be required. U1000: CAN COMM CIRCUIT B2098: IGN RELAY ON B2099: IGN RELAY OFF B210B: START CONT RLY ON 	ted in the past. D (Freeze Frame data). ed now. 2 38 \rightarrow 39 after returning to the he self-diagnosis results are erase Fail-sa -	d if it is over 39. ×: Applicable Afe Refer to PCS-16 PCS-17 PCS-18 SEC-78	e - -
 PAST: A malfunction was detect IGN counter is displayed on FFI The number is 0 when is detected. The number increases like 1 → ON. The number is fixed to 39 until t CONSULT display No DTC is detected. further testing may be required. U1000: CAN COMM CIRCUIT B2098: IGN RELAY ON B2099: IGN RELAY OFF B210C: START CONT RLY OFF 	ted in the past. D (Freeze Frame data). ed now. 2 38 \rightarrow 39 after returning to the he self-diagnosis results are erase Fail-sa -	d if it is over 39. x: Applicable Afe Refer to PCS-16 PCS-17 PCS-18 SEC-78 SEC-79	

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B210F: INTRLCK/PNP SW ON

B2110: INTRLCK/PNP SW OFF

<u>SEC-83</u>

SEC-85

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ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE < SYMPTOM DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

SYMPTOM DIAGNOSIS

ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE

Description

INFOID:000000007773545

Engine does not start when push-button ignition switch is pressed while carrying Intelligent Key. **NOTE:**

- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.
- The engine start function, door lock function, power distribution system, and NATS-IVIS/NVIS in the Intelligent Key system are closely related to each other regarding control. The vehicle security function can operate only when the door lock and power distribution system are operating normally.

Conditions of Vehicle (Operating Conditions)

- "ENGINE START BY I-KEY" in "WORK SUPPORT" is ON when setting on CONSULT.
- Intelligent Key is not inserted in key slot.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

Diagnosis Procedure

INFOID:000000007773546

1.PERFORM WORK SUPPORT

Perform "INSIDE ANT DIAGNOSIS" on Work Support in "INTELLIGENT KEY". Refer to <u>SEC-26, "INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)"</u>.

>> GO TO 2.

2. PERFORM SELF-DIAGNOSIS RESULT

Perform Self-Diagnosis Result in "BCM", and check whether or not DTC of inside key antenna is detected. <u>Is DTC detected?</u>

YES >> Refer to <u>DLK-44, "DTC Logic"</u> (instrument center) or <u>DLK-46, "DTC Logic"</u> (luggage room). NO >> GO TO 3.

3.CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch.

Refer to PCS-93, "Component Function Check".

Is the operation normal?

YES >> GO TO 4.

NO >> Repair or replace malfunctioning parts.

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection normal?

YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u>.

NO >> GO TO 1.

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

[WITH INTELLIGENT KEY SYSTEM]

< SYMPTOM DIAGNOSIS >

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK А Description INFOID:000000007773547 Security indicator lamp does not blink when ignition switch is in a position other than ON В NOTE: Before performing the diagnosis, check "Work Flow". Refer to <u>SEC-6, "Work Flow"</u>. Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and С check each symptom. Conditions of Vehicle (Operating Conditions) D Ignition switch is not in the ON position. **Diagnosis** Procedure INFOID:000000007773548 Е 1. CHECK SECURITY INDICATOR LAMP Check security indicator lamp. Refer to SEC-90, "Component Function Check". F Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. 2.CONFIRM THE OPERATION Confirm the operation again. Н Is the result normal? YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident". NO >> GO TO 1.

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VEHICLE SECURITY SYSTEM CANNOT BE SET

< SYMPTOM DIAGNOSIS >

VEHICLE SECURITY SYSTEM CANNOT BE SET INTELLIGENT KEY

INTELLIGENT KEY : Description

Armed phase is not activated when door is locked using Intelligent Key.

NOTE:

Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.

CONDITION OF VEHICLE (OPERATING CONDITION)

Confirm the setting of "SECURITY ALARM SET" in "WORK SUPPORT" in "THEFT ALM" using CONSULT.

INTELLIGENT KEY : Diagnosis Procedure

1.CHECK INTELLIGENT KEY SYSTEM (REMOTE KEYLESS ENTRY FUNCTION)

Lock/unlock door with Intelligent Key.

Refer to <u>DLK-25. "REMOTE KEYLESS ENTRY FUNCTION : System Description"</u>.

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Check Intelligent Key system (remote keyless entry function). Refer to <u>DLK-130</u>, "<u>Diagnosis Pro-</u> <u>cedure</u>".

2.confirm the operation

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u>.

NO >> GO TO 1.

DOOR REQUEST SWITCH

DOOR REQUEST SWITCH : Description

Armed phase is not activated when door is locked using door request switch.

NOTE:

Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.

CONDITION OF VEHICLE (OPERATING CONDITION) Confirm the setting of "SECURITY ALARM SET" in "WORK SUPPORT" in "THEFT ALM" using CONSULT.

DOOR REQUEST SWITCH : Diagnosis Procedure

1.CHECK INTELLIGENT KEY SYSTEM (DOOR LOCK FUNCTION)

Lock/unlock door with door request switch. Refer to <u>DLK-20, "DOOR LOCK FUNCTION : System Description"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Check Intelligent Key system (door lock function). Refer to <u>DLK-127, "ALL DOOR : Diagnosis Pro-</u> cedure".

2.confirm the operation

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u>.

NO >> GO TO 1.

DOOR KEY CYLINDER

[WITH INTELLIGENT KEY SYSTEM]

INFOID:000000007773549

INFOID:000000007773550

INFOID:000000007773551

VEHICLE SECURITY SYSTEM CANNOT BE SET

< SYMPTOM DIAGNOSIS >	[WITH INTELLIGENT KEY SYSTEM]
DOOR KEY CYLINDER : Description	INFOID:000000007773553
Armed phase is not activated when door is locked using mechanical NOTE:	
Check that vehicle is under the condition shown in "Conditions of veh each symptom.	nicle" before starting diagnosis, and check $_{\sf B}$
CONDITION OF VEHICLE (OPERATING CONDITION) Confirm the setting of "SECURITY ALARM SET" in "WORK SUPPO	RT" in "THEFT ALM" using CONSULT. $$ $_{ m C}$
DOOR KEY CYLINDER : Diagnosis Procedure	INFOID:00000007773554
1.CHECK POWER DOOR LOCK SYSTEM	D
Lock/unlock door with mechanical key. Refer to <u>DLK-13, "System Description"</u> . <u>Is the inspection result normal?</u> YES >> GO TO 2.	E
NO >> Check power door lock system. Refer to <u>DLK-126. "Diac</u> 2.CONFIRM THE OPERATION	gnosis Procedure". F
Confirm the operation again.	
<u>Is the result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent</u>	G
NO >> GO TO 1.	Н

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VEHICLE SECURITY ALARM DOES NOT ACTIVATE

< SYMPTOM DIAGNOSIS >

VEHICLE SECURITY ALARM DOES NOT ACTIVATE

Description

Alarm does not operate when alarm operating condition is satisfied. **NOTE:**

Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.

CONDITIONS OF VEHICLE (OPERATING CONDITIONS) "SECURITY ALARM SET" in "WORK SUPPORT" of "THEFT ALM" is ON when setting on CONSULT.

Diagnosis Procedure

INFOID:000000007773556

INFOID:000000007773555

[WITH INTELLIGENT KEY SYSTEM]

1.CHECK DOOR SWITCH

Check door switch. Refer to DLK-55, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the malfunctioning door switch

2. CHECK HEADLAMP FUNCTION

Check headlamp function. Refer to <u>SEC-94, "Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.CHECK HORN FUNCTION

Check horn function. Refer to <u>SEC-92, "Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u>.

NO >> GO TO 1.

< PRECAUTION > PRECAUTION PRECAUTIONS

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

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< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION NATS ANTENNA AMP.

Exploded View

Refer to IP-12, "Exploded View".

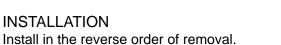
Removal and Installation

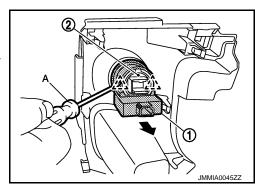
REMOVAL

- 1. Remove the switch panel finisher. Refer to <u>IP-13, "Removal and Installation"</u>.
- 2. Disengage pawl with flat blade screwdriver.

Pawl : Pawl

3. Pull NATS antenna amp.(1) forward and then remove push-button ignition switch (2).





[WITH INTELLIGENT KEY SYSTEM]

INFOID:000000007773558

BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

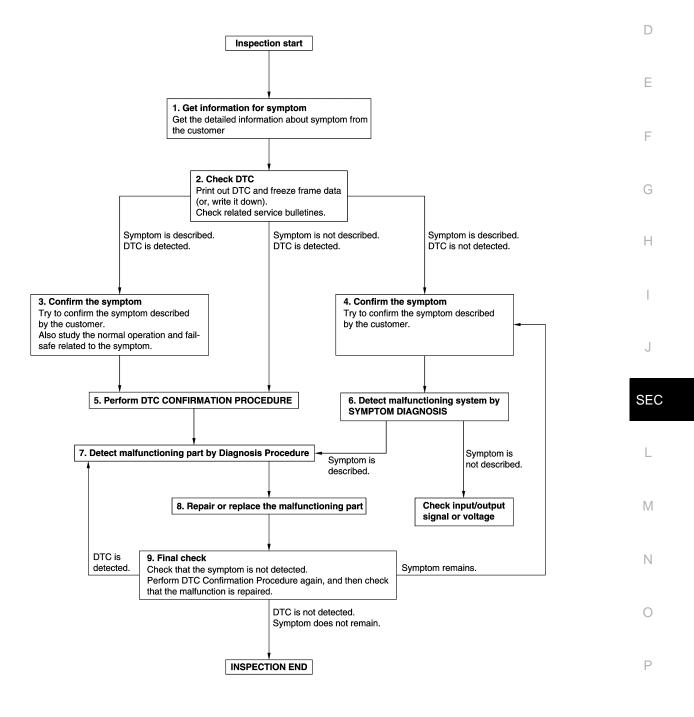
Work Flow

INFOID:000000007773560 B

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[WITHOUT INTELLIGENT KEY SYSTEM]

OVERALL SEQUENCE



JMKIA8652GB

Revision: 2011 November

< BASIC INSPECTION >

1.GET INFORMATION FOR SYMPTOM

- 1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).
- 2. Check operation condition of the function that is malfunctioning.

>> GO TO 2.

2.CHECK DTC

- 1. Check DTC.
- 2. Perform the following procedure if DTC is detected.
- Record DTC and freeze frame data (Print them out using CONSULT.)
- 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.

Are any symptoms described and any DTC detected?

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

3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer. Also study the normal operation and fail-safe related to the symptom. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

4.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer. Verify relation 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 detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to <u>SEC-128</u>, "<u>DTC Inspection Priority Chart</u>" (BCM), 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 on 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 CONFIR-MATION PROCEDURE.

Is DTC detected?

YES >> GO TO 7.

NO >> Check according to <u>GI-41, "Intermittent Incident"</u>.

6. Detect malfunctioning system by symptom diagnosis

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

Is the symptom described?

- YES >> GO TO 7.
- NO >> Monitor input data from related sensors or check voltage of related module terminals using CON-SULT.
- **1.**DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >	[WITHOUT INTELLIGENT KEY SYSTEM]
Inspect according to Diagnosis Procedure of the system.	
Is malfunctioning part detected?	A
YES >> GO TO 8.	
NO >> Check according to <u>GI-41, "Intermittent Incident"</u> .	
8.REPAIR OR REPLACE THE MALFUNCTIONING PART	В
 Repair or replace the malfunctioning part. Reconnect parts or connectors disconnected during Diagr ment. 	nosis Procedure again after repair and replace-
3. Check DTC. If DTC is detected, erase it.	
>> GO TO 9. 9. FINAL CHECK	D
When DTC is detected in step 2, perform DTC CONFIRMATION malfunction is repaired securely.	N PROCEDURE again, and then check that the
When symptom is described by the customer, refer to confirm	ed symptom in step 3 or 4, and check that the
symptom is not detected.	F
Is DTC detected and does symptom remain?	
YES-1 >> DTC is detected: GO TO 7. YES-2 >> Symptom remains: GO TO 4.	G
NO >> Before returning the vehicle to the customer, alway	
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INSPECTION AND ADJUSTMENT

ECM : Description

Performing the following procedure can automatically activate recommunication of ECM and BCM, but only when the ECM is replaced with a new one*.

*: New one means a virgin ECM that is never energized on-board.

(In this step, initialization procedure using CONSULT is not necessary)

NOTE:

- When the replaced ECM is not a brand new, the specified procedure (Initializing of BCM and registration of all ignition keys) using CONSLT is necessary.
- If multiple keys are attached to the key holder, separate them before beginning work.
- Distinguish keys with unregistered key IDs from those with registered IDs.

ECM : Special Repair Requirement

INFOID:000000007773562

INFOID:000000007773561

1.PERFORM ECM RECOMMUNICATING FUNCTION

1. Install ECM.

- Insert the registered ignition key^{*} into key cylinder, then turn ignition switch ON.
 *: To perform this step, use the key that is used before performing ECM replacement.
- 3. Maintain ignition switch in the ON position for at least 5 seconds.
- 4. Turn ignition switch OFF.
- 5. Start engine.

>> GO TO 2.

2. ERFORM ADDITIONAL SERVICE PROCEDURE WHEN REPLACING ECM

performing the following procedure.

- HR18DĚ (Except for California): <u>EC-22, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT :</u> <u>Special Repair Requirement"</u>
- HR18DE (For California): <u>EC-498</u>, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT : Special Repair Requirement"

>> END

BCM

BCM : Description

INFOID:000000007955145

BEFORE REPLACEMENT

When replacing BCM, save or print current vehicle specification with CONSULT configuration before replacement.

NOTE:

If "READ CONFIGURATION" can not be used, use the "WRITE CONFIGURATION - Manual selection" after replacing BCM.

AFTER REPLACEMENT

CAUTION:

When replacing BCM, always perform "WRITE CONFIGURATION" with CONSULT. Or not doing so, BCM control function does not operate normally.

• Complete the procedure of "WRITE CONFIGURATION" in order.

- Configuration is different for each vehicle model. Confirm configuration of each vehicle model.
- If you set incorrect "WRITE CONFIGURATION", incidents might occur.

NOTE:

When replacing BCM, perform the system initialization (NATS) (if equipped).

INSPECTION AND ADJUSTMENT

< BASIC INSPECTION >	[WITHOUT INTELLIGENT KEY SYSTEM]
BCM : Work Procedure	INFOID:00000007955146
1.SAVING VEHICLE SPECIFICATION	
CONSULT Configuration Perform "READ CONFIGURATION" to save or print current v	ehicle specification. Refer to <u>BCS-84, "Descrip-</u>
NOTE: f "READ CONFIGURATION" can not be used, use the "WRI replacing BCM.	TE CONFIGURATION - Manual selection" after
>> GO TO 2.	
2.REPLACE BCM	
Replace BCM. Refer to <u>BCS-142, "Removal and Installation"</u> .	
>> GO TO 3.	
3. WRITING VEHICLE SPECIFICATION	
CONSULT Configuration Perform "WRITE CONFIGURATION - Config file" or "WRITE vehicle specification. Refer to <u>BCS-84, "Work Procedure"</u> .	CONFIGURATION - Manual selection" to write
>> GO TO 4.	
4. INITIALIZE BCM (NATS) (IF EQUIPPED)	
Perform BCM initialization. (NATS)	
>> WORK END	

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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

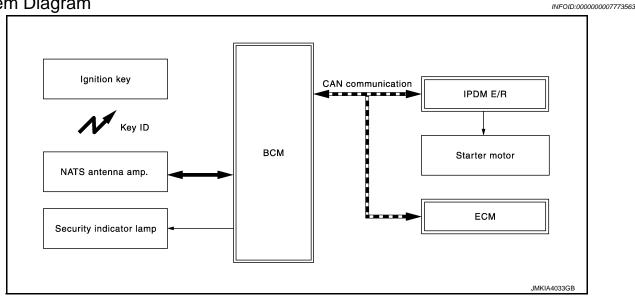
< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

SYSTEM DESCRIPTION

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

System Diagram



System Description

INFOID:000000007773564

SYSTEM DESCRIPTION

NVIS (Nissan Vehicle Immobilizer System-NATS) has the following immobilizer functions:

- Engine immobilizer shows high anti-theft performance to prevent engine start by other than the owner.
- Only a key with key ID registered in BCM and ECM can start engine, and shows high anti-theft performance to prevent key from being copied or stolen.
- If system detects malfunction, security indicator lamp illuminate when ignition switch is turned to ON position.
- If the owner requires, ignition key ID can be registered for up to 5 keys.
- During trouble diagnosis, when the following parts have been replaced or additional ignition key is needed, the specified procedure (Initializing of BCM and registration* of ignition keys) using CONSULT is required.
 *: All keys kept by the owner of the vehicle should be registered with ignition key.
- ECM
- BCM
- Ignition key
- Possible symptom of NVIS(NATS) malfunction is "Engine cannot start". However, this symptom also occurs because of other than the NVIS(NATS) malfunction, so start the trouble diagnosis according to <u>SEC-151</u>, <u>"Work Flow"</u>.
- If ECM other than Genuine NISSAN parts is installed, the engine cannot be started. For ECM replacement procedure, refer to <u>SEC-154, "ECM : Special Repair Requirement"</u>.

PRECAUTIONS FOR KEY REGISTRATION

- The key registration is a procedure that erases the current NVIS(NATS) ID once, and then registers a new ID. Therefore the registered ignition key is necessary for this procedure. Before starting the registration operation collect all registered ignition keys from the customer
- NVIS(NATS) ID registration is the procedure that registers the ID stored into the transponder (integrated in ignition key) to BCM.

SECURITY INDICATOR LAMP

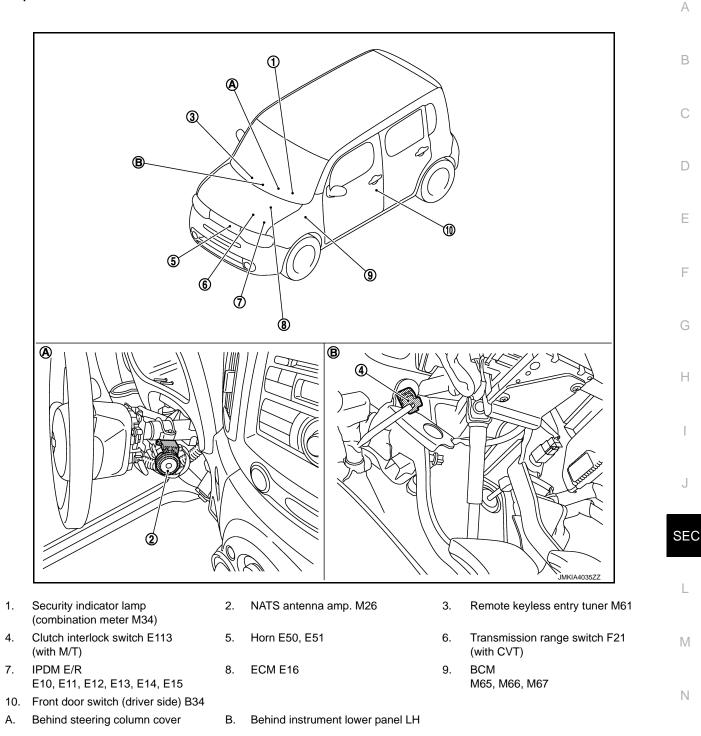
- Security indicator lamp is located on combination meter and warns that the vehicle is equipped with NVIS(NATS).
- Security indicator lamp always blinks, when the ignition switch is in any position except the ON position.
- Security indicator lamp turns OFF, when the ignition switch is in ON position.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS PTION > [WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000007773565



Component Description

Component	Reference	Р
BCM	<u>BCS-87</u>	
NATS antenna amp.	<u>SEC-173</u>	
Security indicator lamp	<u>SEC-184</u>	

INFOID:000000007773566

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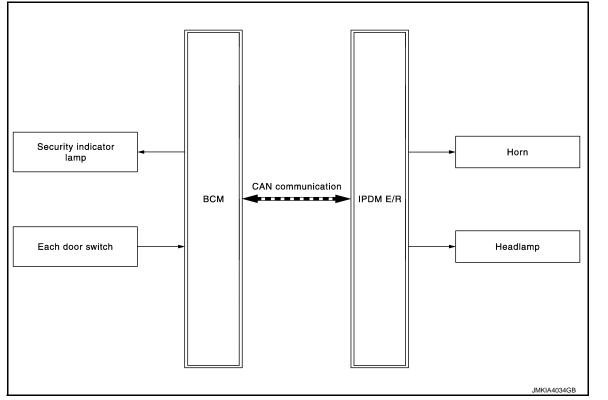
VEHICLE SECURITY SYSTEM

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY SYSTEM

System Diagram

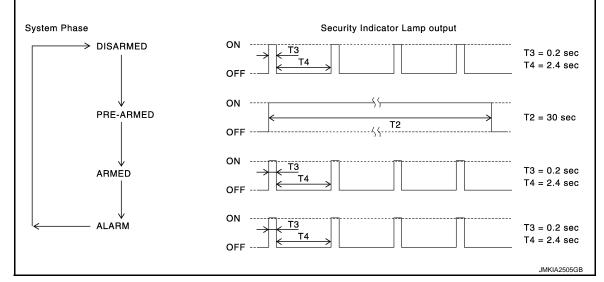


System Description

INFOID:000000007773568

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OPERATION FLOW



SETTING THE VEHICLE SECURITY SYSTEM

Initial Condition

• Ignition switch is in OFF position.

Disarmed Phase

• When any door is open, the vehicle security system is set in the disarmed phase on the assumption that the owner is inside or near the vehicle.

SEC-158

VEHICLE SECURITY SYSTEM

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

•	When the vehicle security system is in the disarmed phase, the security indicator lamp blinks every 2.4 sec- onds.
Ρ	re-armed Phase and Armed Phase

When the following operation 1 or 2 is performed, the vehicle security system turns into the "pre-armed" phase. (Security indicator lamp illuminates.)

- 1 BCM receives LOCK signal from door key cylinder switch, door lock and unlock switch or keyfob, after all doors are closed.
- 2. All doors are closed after all doors are locked by ignition key or door lock and unlock switch.

CANCELING THE ARMED PHASE VEHICLE SECURITY SYSTEM

When one of the following operations is performed, the armed phase is canceled.

- 1. Unlock all doors ignition key, door lock and unlock switch or keyfob.
- 2. Turn ignition switch "ON" position.

CANCELING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM When one of the following operations is performed, the alarm operation is canceled.

- Unlock all doors with the keyfob.
- Turn ignition switch "ON" position.

ACTIVATING THE ALARM OPERATION OF THE VEHICLE SECURITY SYSTEM

Check that the system is in the armed phase. (Security indicator lamp blinks every 2.4 seconds.) When the following operation 1 or 2 is performed, the system sounds the horns and blinks the headlamps for approx. 50 seconds.

- 1. Any door is opened during armed phase.
- 2. Disconnecting and connecting the battery connector before canceling armed phase.

PANIC ALARM OPERATION

When BCM receives panic alarm signal from keyfob, 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 (HI) and horn. The headlamp blinks and the horn sounds intermittently.

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

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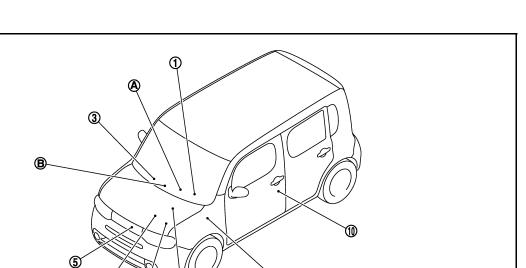
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< SYSTEM DESCRIPTION >

VEHICLE SECURITY SYSTEM [WITHOUT INTELLIGENT KEY SYSTEM]

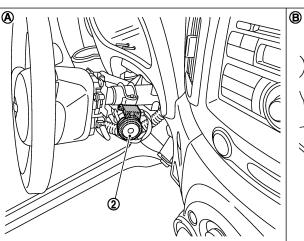
Component Parts Location

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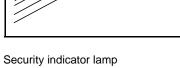


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- Security indicator lamp (combination meter M34)
 Clutch integla de guidate E440
- 4. Clutch interlock switch E113 (with M/T)
- 7. IPDM E/R E10, E11, E12, E13, E14, E15
- 10. Front door switch (driver side) B34
- A. Behind steering column cover

Component Description

- 2. NATS antenna amp. M26
- 5. Horn E50, E51

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- 8. ECM E16
- B. Behind instrument lower panel LH
- 3. Remote keyless entry tuner M61

JMKIA4035ZZ

 Transmission range switch F21 (with CVT)

9. BCM M65, M66, M67

Component	Reference
BCM	BCS-87
Security indicator lamp	<u>SEC-184</u>
Door switch	DLK-222
Horn	<u>SEC-186</u>
Headlamp	<u>SEC-188</u>

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000007955127

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[WITHOUT INTELLIGENT KEY SYSTEM]

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description	
Work Support	Changes the setting for each system function.	
Self Diagnostic Result	Displays the diagnosis results judged by BCM.	D
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.	
Data Monitor	The BCM input/output signals are displayed.	E
Active Test	The signals used to activate each device are forcibly supplied from BCM.	
Ecu Identification	The BCM part number is displayed.	
Configuration	Read and save the vehicle specification.Write the vehicle specification when replacing BCM.	F

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.

				\times : Applicable item	Н
System	Sub system calestian item	Diagnosis mode			
	Sub system selection item	Work Support	Data Monitor	Active Test	
Door lock	DOOR LOCK	×	×	×	I
Rear window defogger	REAR DEFOGGER		×	×	
Warning chime	BUZZER		×	×	J
Interior room lamp control	INT LAMP	×	×	×	
Remote keyless entry system	MULTI REMOTE ENT	×	×	×	
Exterior lamp	HEAD LAMP	×	×	×	SE
Wiper and washer	WIPER	×	×	×	
Turn signal and hazard warning lamps	FLASHER		×	×	L
Manual air conditioner	AIR CONDITONER		×	×	
Combination switch	COMB SW		×		
Body control system	BCM	×			M
NVIS - NATS	IMMU	×	×	×	
Interior room lamp battery saver	BATTERY SAVER	×	×	×	N
Back door	TRUNK		×		IN
Vehicle security system	THEFT ALM	×	×	×	
RAP system	RETAINED PWR		×	×	0
Signal buffer system	SIGNAL BUFFER		×	×	
TPMS	TPMS (AIR PRESSURE MONITOR)	×	×	×	P
Panic alarm system	PANIC ALARM			×	Ρ

IMMU

IMMU : CONSULT Function (BCM - IMMU)

DATA MONITOR

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

[WITHOUT INTELLIGENT KEY SYSTEM]

Monitor item	Content
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.

ACTIVE TEST

Test item	Description
THEFT IND	This test is able to check security indicator lamp operation [ON/OFF].

THEFT ALM

THEFT ALM : CONSULT Function (BCM - THEFT ALM)

INFOID:000000007773573

DATA MONITOR

Monitor Item	Condition
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.
KEY ON SW	Indicates [ON/OFF] condition of key switch.
KEYLESS LOCK	Indicates [ON/OFF] condition of lock signal from keyfob.
KEYLESS UNLOCK	Indicates [ON/OFF] condition of unlock signal from keyfob.
TRUNK OPNR SW	NOTE: The item is indicated, but not monitored.
TRNK OPNR MNTR	NOTE: The item is indicated, but not monitored.
HOOD SW	NOTE: The item is indicated, but not monitored.
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch (driver side).
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch (passenger side).
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.
BACK DOOR SW	Indicates [ON/OFF] condition of back door switch.
KEY CYL LK-SW	Indicates [ON/OFF] condition of door key cylinder switch.
KEY CYL UN-SW	Indicates [ON/OFF] condition of door key cylinder switch.
CDL LOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.
CDL UNLOCK SW	Indicates [ON/OFF] condition of door lock and unlock switch.
TRANSPONDER	Indicates key ID verification results by [ON/OFF].
INTELLI KEY	NOTE: The item is indicated, but not monitored.
LOCK STATUS	NOTE: The item is indicated, but not monitored.
AUTO RELOCK	NOTE: The item is indicated, but not monitored.

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 screen.

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

[WITHOUT INTELLIGENT KEY SYSTEM]

ACTIVE TEST

Test Item	Description
THEFT IND	This test is able to check security indicator lamp operation. Security indicator lamp will be turned on when "ON" on CONSULT screen is touched.
VEHICLE SECURITY HORN	This test is able to check horn operation. Horn will be activated for 0.5 seconds after "ON" on CONSULT screen is touched.
HEADLAMP (HI)	This test is able to check headlamp (HI) operation. Headlamps (HI) will be activated for 0.5 seconds after "ON" on CONSULT screen is touched.
FLASHER	This test is able to check hazard warning lamp operation. Hazard warning lamps will be activated after "LH" or "RH" on CONSULT screen is touched.

PANIC ALARM

PANIC ALARM : CONSULT Function (BCM - PANIC ALARM)

INFOID:000000007773574

ACTIVE TEST

		F
Test item	Description	
VEHICLE SECURITY HORN	This test is able to check horn operation. Horn is activated for 0.5 seconds after "ON" on CONSULT screen touched.	G
HEAD LAMP (HI)	This test is able to check headlamp (HI) operation. Headlamps (HI) will be activated after "ON" on CONSULT screen touched.	

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DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

INFOID:000000007955128

[WITHOUT INTELLIGENT KEY SYSTEM]

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with IPDM E/R.

Diagnosis mode	Description
Ecu Identification	Allows confirmation of IPDM E/R part number.
Self Diagnostic Result	Displays the diagnosis results judged by IPDM E/R.
Data Monitor	Displays the real-time input/output data from IPDM E/R input/output data.
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.

DIAGNOSIS SYSTEM (IPDM E/R)

SELF DIAGNOSTIC RESULT

Refer to <u>SEC-221, "DTC Index"</u>.

DATA MONITOR

Monitor item

Monitor Item [Unit]	MAIN SIG- NALS	Description
MOTOR FAN REQ [1/2/3/4]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication.
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the shift position (CVT models) judged by IPDM E/R.
ST RLY-REQ [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication. NOTE: This item is monitored only the vehicle with daytime running light system.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
HOOD SW [Off/On]		NOTE: The item is indicated, but not monitored.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Monitor Item [Unit]	MAIN SIG- NALS	Description	А
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.	
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN com- munication.	В

ACTIVE TEST

Test item

Test item	Operation	Description
HORN	On	Operates horn relay for 20 ms.
FRONT WIPER	Off	OFF
	Lo	Operates the front wiper relay.
	Hi	Operates the front wiper relay and front wiper high relay.
MOTOR FAN	1	OFF
	2	Operates the cooling fan relay (LO operation).
	3	Operates the cooling fan relay (HI operation).
	4	— Operates the cooling fan relay (Hi operation).
	Off	OFF
	TAIL	Operates the tail lamp relay.
EXTERNAL LAMPS	Lo	Operates the headlamp low relay.
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 sec- ond intervals.
	Fog	Operates the front fog lamp relay.

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DTC/CIRCUIT DIAGNOSIS P1610 LOCK MODE

Description

INFOID:000000007773576

ECM forcibly switches to the mode that inhibits engine start, when engine start operation is performed 5 times or more while communication between ECM and BCM is not normal, and when engine start operation is performed 5 times or more by unregistered ignition key.

DTC Logic

INFOID:000000007773577

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1610	LOCK MODE	 When ECM detects any of the following 2 states Ignition switch ON 5 times or more during communication between ECM and BCM is malfunctioning Ignition switch ON by unregistered ignition key 5 times or more 	_

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Check "Self diagnosis result" with CONSULT.

Is DTC detected?

- YES >> Refer to <u>SEC-166, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

INFOID:000000007773578

1. CHECK ENGINE START FUNCTION

- 1. Perform the check for DTC except DTC P1610.
- 2. Use CONSULT to erase DTC after fixing.
- 3. Turn ignition switch OFF.
- 4. Turn ignition switch ON when registered ignition key is inserted into key cylinder and wait for 5 seconds.
- 5. Turn the ignition switch OFF and wait 5 seconds.
- 6. Repeat steps 4 and 5 twice (a total of 3 times).
- 7. Check that engine can start when registered ignition key is inserted into key cylinder.

>> INSPECTION END

< DTC/CIRCUIT DIAGNOSIS > P1611 ID DISCORD, IMMU-ECM

Description

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

DTC Logic

DTC DETECTION LOGIC

- NOTE:
- If DTC P1611 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-40, "DTC Logic"</u>.
- If DTC P1611 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41, "DTC Logic"</u>.

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Check "Self diagnosis result" with CONSULT.

Is DTC detected?

YES >> Refer to <u>SEC-167</u>, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

5	
1.PERFORM INITIALIZATION	J
Perform initialization of BCM and registration of all ignition keys using CONSULT.	
Can the system be initialized and can the engine be started with registered ignition key?	SEC
YES >> INSPECTION END NO >> GO TO 2.	
2.REPLACE BCM	L
 Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>. Perform initialization of BCM and registration of all ignition keys using CONSULT. 	M
Can the system be initialized and can the engine be started with registered ignition key?	101
YES >> INSPECTION END NO >> GO TO 3.	N
3.REPLACE ECM	
Replace ECM. Refer to SEC-154, "ECM : Special Repair Requirement".	
Can the system be initialized and can the engine be started with registered ignition key?	0
YES >> INSPECTION END	
NO >> GO TO 4.	5
4.CHECK INTERMITTENT INCIDENT	Р
Refer to GI-41. "Intermittent Incident".	

Refer to <u>GI-41, "Intermittent Incident"</u>.

>> INSPECTION END

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INFOID:000000007773579

INFOID:000000007773580

P1612 CHAIN OF ECM-IMMU

Description

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

DTC Logic

INFOID:000000007773583

INFOID:000000007773582

DTC DETECTION LOGIC **NOTE**:

- If DTC P1612 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-40, "DTC Logic".
- If DTC P1612 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1612	CHAIN OF ECM-IMMU	Inactive communication between ECM and BCM	 Harness or connectors (The CAN communication line is open or short) BCM ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Check "Self diagnosis result" with CONSULT.

Is DTC detected?

- YES >> Refer to <u>SEC-168</u>, "Diagnosis Procedure".
- NO >> INSPECTION END

Diagnosis Procedure

1.REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.
- 2. Perform initialization of BCM and registration of all ignition keys using CONSULT.

Does the engine start?

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

2.REPLACE ECM

Replace ECM. Refer to SEC-154, "ECM : Special Repair Requirement".

>> INSPECTION END

P1614 CHAIN OF IMMU-KEY

Description

Performs ID verification through BCM and NATS antenna amp. when ignition switch is ON position. Prohibits the start of engine when an unregistered ID of ignition key is used.

DTC Logic

DTC DETECTION LOGIC

	DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	D
	P1614	NATS ANTENNA AMP.	 Inactive communication between NATS antenna amp. and BCM Ignition key is malfunctioning 	 Harness or connectors (The NATS antenna amp. circuit is open or short) Ignition key NATS antenna amp. BCM 	E
		RMATION PROCE			G
1.	1.PERFORM DTC CONFIRMATION PROCEDURE				

- 1. Insert ignition key into the key cylinder.
- 2. Turn ignition switch ON.
- 3. Check "Self diagnosis result" with CONSULT.

Is DTC detected?

YES >> Refer to <u>SEC-169</u>, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

1.CHECK FUSE

Check that the following IPDM E/R fuse is not blown.

	Signal name	Fuse No.	SEC
	Battery power supply	43	
<u>Is the fu</u>	use fusing?		L
YES NO	>> Is the blown fuse after repairing the affecter >> GO TO 2.	d circuit if a fuse is blown.	
2.сне	CK NATS ANTENNA AMP. INSTALLATION		Μ
Check I	NATS antenna amp. Installation. Refer to SEC-	73, "Diagnosis Procedure".	
<u>Is the ir</u>	nspection result normal?		Ν
YES	>> GO TO 3.		
NO	>> Reinstall NATS antenna amp. correctly.		
3. CHE	CK IGNITION KEY		0
Start er	ngine with another registered ignition key.		
Does th	ne engine start?		
YES	CONSULT	ation of BCM and registration of all ignition keys using	Р
NO	>> GO TO 4.		
4. CHE	CK NATS ANTENNA AMP. POWER SUPPLY		
	n ignition switch OFF.		

2. Disconnect NATS antenna amp. connector.

3. Check voltage between NATS antenna amp. harness connector and ground.

SEC-169

[WITHOUT INTELLIGENT KEY SYSTEM]

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INFOID:000000007773586

INFOID:000000007773587

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P1614 CHAIN OF IMMU-KEY [WITHOUT INTELLIGENT KEY SYSTEM]

(NATS ant	na amp. (–)		Voltage (V) (Approx.)
Connector	Terminal		()
M26	1	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 6. NO >> GO TO 5.

5. CHECK NATS ANTENNA AMP. POWER SUPPLY CIRCUIT

1. Disconnect IPDM E/R connector.

2. Check continuity between IPDM E/R harness connector and NATS antenna amp. connector.

IPDI	DM E/R NATS antenna amp. Continuity		NATS antenna amp.		
Connector	Terminal	Connector	Terminal	Continuity	
E14	45	M26	1	Existed	

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

IPDI	M E/R		Continuity	
Connector	Connector Terminal		Continuity	
E14	45		Not existed	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-62, "Removal and Installation"</u>.

NO >> Repair or replace harness.

 $\mathbf{6.}$ CHECK NATS ANTENNA AMP. GROUND CIRCUIT

Check continuity between NATS antenna amp. harness connector and ground.

NATS and	enna amp.		Continuity
Connector	Terminal	Ground	Continuity
M26	3		Existed

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

7.CHECK NATS ANTENNA AMP. SIGNAL

1. Connect BCM connector and NATS antenna amp. connector.

2. Check voltage between BCM harness connector and ground.

	(+) BCM		Condition	Voltage (V) (Approx.)
Connector	Terminal			(
	21		Just after inserting ignition key in key cylinder	Pointer of tester should move
M65		Ground	Other than above	0
MOS	25	Just after inserting ignition key in key cylinder	Pointer of tester should move	
			Other than above	0

Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 8.

8. CHECK NATS ANTENNA AMP. SIGNAL CIRCUIT

P1614 CHAIN OF IMMU-KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

- 1. Disconnect NATS antenna amp. connector.
- 2. Check continuity between BCM harness connector and NATS antenna amp. harness connector.

BCM		NATS antenna amp.		Orationity	
Connector	Terminal	Connector	Terminal	Continuity	
M65	21	M26	2		
W05	25	IVIZO	4	Existed	
Check continuity be	tween BCM harness	connector and groun	nd.		
	BCM			Quantinguita	
Connector	Termina			Continuity	
M65	21		Ground	Not existed	
MOS	25			NOL EXISIED	
e inspection result r	ormal?				
		for to SEC-226 "Por	moval and Installati	on"	
S >> Replace NA >> Repair or re		1000000000000000000000000000000000000	noval and motalial	<u>.</u> .	

Refer to GI-41, "Intermittent Incident".

>> INSPECTION END

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P1615 DIFFRENCE OF KEY

Description

Performs ID verification through BCM when ignition switch is ON position. Prohibits the start of engine when an unregistered key is used.

DTC Logic

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1615	DIFFERENCE OF KEY	The ID verification results between BCM and ignition key are NG.	 Ignition key BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Insert ignition key into the key cylinder.
- 2. Turn ignition switch ON.
- 3. Check "Self diagnosis result" with CONSULT.

Is DTC detected?

YES >> Refer to <u>SEC-172, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

1.PERFORM INITIALIZATION

Perform initialization of BCM and registration of all ignition keys using CONSULT.

Can the system be initialized and can the engine be started with registered ignition key?

YES >> INSPECTION END

NO >> GO TO 2.

2.REPLACE IGNITION KEY

- 1. Replace ignition key.
- 2. Perform initialization of BCM and registration of all ignition keys using CONSULT.

Can the system be initialized and can the engine be started with registered ignition key?

YES >> INSPECTION END

NO >> GO TO 3.

3.REPLACE BCM

Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

>> INSPECTION END

INFOID:000000007773588

INFOID:000000007773589

B2190 NATS ANTENNA AMP.

Description

Performs ID verification through BCM and NATS antenna amp. when ignition switch is ON position. Prohibits the start of engine when an unregistered ID of ignition key is used.

DTC Logic

DTC DETECTION LOGIC

	DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	D
	B2190	NATS ANTENNA AMP.	 Inactive communication between NATS antenna amp. and BCM. Ignition key is malfunctioning. 	 Harness or connectors (The NATS antenna amp. circuit is open or short) Ignition key NATS antenna amp. BCM 	E
DT	C CONFI	RMATION PROC	EDURE		

1.PERFORM DTC CONFIRMATION PROCEDURE

 Insert ignition key into the key cylinder. 	
2. Turn ignition switch ON.	
3. Check "Self diagnosis result" with CONSULT.	
Is DTC detected?	
YES >> Refer to <u>SEC-173, "Diagnosis Procedure"</u> .	
NO >> INSPECTION END	
Diagnosis Procedure	INFOID:000000007773593

1.CHECK FUSE

Check that the following IPDM E/R fuse is not blown.

Signal name	Fuse No.	SE
Battery power supply	43	
Is the fuse fusing?		L
YES >> Is the blown fuse after repairing the affec NO >> GO TO 2.	ted circuit if a fuse is blown.	
2. CHECK NATS ANTENNA AMP. INSTALLATION		\mathbb{N}
Check NATS antenna amp. Installation. Refer to SEC	-226, "Exploded View".	
Is the inspection result normal?		Ν
YES >> GO TO 3.		
NO >> Reinstall NATS antenna amp. correctly.		
3.CHECK IGNITION KEY		0
Start engine with another registered ignition key.		
Does the engine start?		
YES >> Replace ignition key, then perform initial CONSULT.	lization of BCM and registration of all ignition keys using	Ρ
NO >> GO TO 4.		
4. CHECK NATS ANTENNA AMP. POWER SUPPLY		
1. Turn ignition switch OFF.		

- Disconnect NATS antenna amp. connector. 2.
- Check voltage between NATS antenna amp. harness connector and ground. 3.

SEC-173

[WITHOUT INTELLIGENT KEY SYSTEM]

INFOID:000000007773591

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B2190 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

	+) enna amp.	a amp. (–) Voltage (V) (Approx.)	
Connector	Terminal		
M26	1	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 6. NO >> GO TO 5.

5.CHECK NATS ANTENNA AMP. POWER SUPPLY CIRCUIT

1. Disconnect IPDM E/R connector.

2. Check continuity between IPDM E/R harness connector and NATS antenna amp. connector.

IPDI	DM E/R NATS antenna amp. Continuity		NATS antenna amp.		
Connector	Terminal	Connector	Terminal	Continuity	
E14	45	M26	1	Existed	

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

IPDN	/I E/R		Continuity
Connector	Connector Terminal		Continuity
E14	45		Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to <u>PCS-62, "Removal and Installation"</u>.

NO >> Repair or replace harness.

$\mathbf{6.}$ CHECK NATS ANTENNA AMP. GROUND CIRCUIT

Check continuity between NATS antenna amp. harness connector and ground.

NATS ant	enna amp.		Continuity	
Connector Terminal		Ground	Continuity	
M26	3		Existed	

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

7.CHECK NATS ANTENNA AMP. SIGNAL

1. Connect BCM connector and NATS antenna amp. connector.

2. Check voltage between BCM harness connector and ground.

	(+) BCM (–) Condition		Voltage (V) (Approx.)	
Connector	Terminal			(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	21		Just after inserting ignition key in key cylinder	Pointer of tester should move
Mee	M6525	Ground	Other than above	0
MOS		Ground	Just after inserting ignition key in key cylinder	Pointer of tester should move
			Other than above	0

Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 8.

8. CHECK NATS ANTENNA AMP. SIGNAL CIRCUIT

B2190 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

Continuity

Existed

1. Disconnect NATS antenna amp. connector. 2. Check continuity between BCM harness connector and NATS antenna amp. harness connector. BCM NATS antenna amp. Terminal Connector Terminal Connector 2 21 M65 M26 25 4

3. Check continuity between BCM harness connector and ground.

E	CM		Continuity	
Connector	Terminal	Ground	Continuity	D
M65	21	Ground	Not existed	-
COIVI	25		NOT EXISTED	
s the inspection result nor	nal?			
YES >> Replace NATS	antenna amp. Refer to S	EC-226, "Removal and Insta	allation".	
NO >> Repair or repla	ce harness.			F

NO >> Repair or replace harness.

9. CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident".

>> INSPECTION END

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B2191 DIFFERENCE OF KEY

Description

Performs ID verification through BCM when ignition switch is ON position. Prohibits the start of engine when an unregistered key is used.

DTC Logic

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2191	DIFFERENCE OF KEY	The ID verification results between BCM and ignition key are NG.	 Ignition key BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Insert ignition key into the key cylinder.
- 2. Turn ignition switch ON.
- 3. Check "Self diagnosis result" with CONSULT.

Is DTC detected?

YES >> Refer to SEC-176, "Diagnosis Procedure".

NO >> INSPECTION END

Diagnosis Procedure

1.PERFORM INITIALIZATION

Perform initialization of BCM and registration of all ignition keys using CONSULT.

Can the system be initialized and can the engine be started with registered ignition key?

YES >> INSPECTION END

NO >> GO TO 2.

2.REPLACE IGNITION KEY

- 1. Replace ignition key.
- 2. Perform initialization of BCM and registration of all ignition keys using CONSULT.

Can the system be initialized and can the engine be started with registered ignition key?

YES >> INSPECTION END

NO >> GO TO 3.

3.REPLACE BCM

Replace BCM. Refer to BCS-81, "Removal and Installation".

>> INSPECTION END

INFOID:000000007773594

INFOID:000000007773595

< DTC/CIRCUIT DIAGNOSIS > B2192 ID DISCORD, IMMU-ECM

Description

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

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>BCS-40, "DTC Logic"</u>.
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-41, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B2192	ID DISCORD BCM-ECM	The ID verification results between BCM and ECM are NG.	BCM ECM	

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Check "Self diagnosis result" with CONSULT.

Is DTC detected?

YES >> Refer to <u>SEC-177, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

1.PERFORM INITIALIZATION	J
Perform initialization of BCM and registration of all ignition keys using CONSULT.	
Can the system be initialized and can the engine be started with registered ignition key?	SEC
YES >> INSPECTION END NO >> GO TO 2.	
2.REPLACE BCM	L
 Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>. Perform initialization of BCM and registration of all ignition keys using CONSULT. 	M
Can the system be initialized and can the engine be started with registered ignition key?	
YES >> INSPECTION END NO >> GO TO 3.	Ν
3.REPLACE ECM	
Replace ECM. Refer to SEC-154, "ECM : Special Repair Requirement".	
Can the system be initialized and can the engine be started with registered ignition key?	0
YES >> INSPECTION END NO >> GO TO 4.	
4.CHECK INTERMITTENT INCIDENT	Р
Refer to GL41 "Intermittent Incident"	

Refer to <u>GI-41, "Intermittent Incident"</u>.

>> INSPECTION END

В

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INFOID:000000007773597

INFOID:000000007773598

B2193 CHAIN OF ECM-IMMU

Description

BCM performs the ID verification with ECM that allows the engine to start. BCM starts the communication with ECM if ignition switch is turned ON and starts the engine if the ID is OK. ECM prevents the engine from start-

DTC Logic

INFOID:000000007773601

INFOID:000000007773600

DTC DETECTION LOGIC **NOTE**:

ing if the ID is not registered.

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-40, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-41, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2193	CHAIN OF BCM- ECM	Inactive communication between ECM and BCM	 Harness or connectors (The CAN communication line is open or short) BCM ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Check "Self diagnosis result" with CONSULT.

Is DTC detected?

- YES >> Refer to <u>SEC-178, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

Diagnosis Procedure

1.REPLACE BCM

- 1. Replace BCM. Refer to BCS-81, "Removal and Installation".
- 2. Perform initialization of BCM and registration of all ignition keys using CONSULT.

Does the engine start?

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

2.REPLACE ECM

Replace ECM. Refer to SEC-154, "ECM : Special Repair Requirement".

>> INSPECTION END

B2195 ANTI-SCANNING

Description

When ignition switch is turned ON, BCM performs ID verification with ECM. If ID verification that is out of the specified specification is detected, BCM prohibits further ID verification and engine cranking.

DTC Logic

INFOID:000000007773604

INFOID:000000007773603

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	C
B2195	ANTI SCANNING	ID verification between BCM and ECM that is out of the specified specification is detected	ID verification request out of the specified specification	E
DTC CONF	IRMATION PROC	EDURE		
1.PERFOR	M DTC CONFIRMA	TION PROCEDURE		F
2. Check "	ition switch ON. Self-diagnosis result	" using CONSULT.		
Is DTC deter				(
	INSPECTION END.	<u>Diagnosis Procedure"</u> .		
Diagnosis	Procedure		INF01D:00000007773605	ŀ
	ELF-DIAGNOSIS R			
 Perform Erase D 	-	ult" of BCM using CONSULT.		
		Procedure. Refer to <u>SEC-179, "DTC Logic"</u> .		
Is DTC 2195				,
	GO TO 2. INSPECTION END			
~	EQUIPMENT OF TH	E VEHICLE		S
		y part related to engine start is not installed		
<u>Is unspecifie</u>	d accessory part rel	ated to engine start installed?		
	GO TO 3. GO TO 4.			
~	GO TO 4. SELF-DIAGNOSIS R	2591117-2		ľ
		oval to remove unspecified accessory part	related to opging start, and then	
remove	it.		related to engine start, and then	ſ
 Perform Erase D 		ult" of BCM using CONSULT.		
		Procedure. Refer to <u>SEC-179, "DTC Logic"</u> .		
ls DTC 2195	detected?			(
	GO TO 4. INSPECTION END			
4.REPLACI				F
		-155, "BCM : Work Procedure".		
		and registration of all Intelligent Keys using	g CONSULT.	

>> INSPECTION END

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B2196 DONGLE UNIT

Description

INFOID:000000007773606

[WITHOUT INTELLIGENT KEY SYSTEM]

BCM performs ID verification between dongle unit. When verification result is OK, BCM permits cranking.

DTC Logic

INFOID:000000007773607

DTC DETECTION LOGIC

NOTE:

- If DTC B2196 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-40, "DTC Logic"</u>.
- If DTC B2196 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-41, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2196	DONGLE NG	The ID verification results between BCM and dongle unit is NG.	 Dongle unit Harness or connectors (Dongle unit circuit is open or shorted.)

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Turn ignition switch OFF.
- 3. Turn ignition switch ON.
- 4. Check "Self-diagnosis result" using CONSULT.

Is the DTC detected?

- YES >> Refer to <u>SEC-180, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END.

Diagnosis Procedure

1.PERFORM INITIALIZATION

- 1. Perform initialization of BCM and registration of all ignition keys using CONSULT.
- 2. Start the engine.

Does the engine start?

YES >> INSPECTION END

NO >> GO TO 2.

2.CHECK DONGLE UNIT CIRCUIT

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

В	BCM		Dongle unit		
Connector	Terminal	Connector	Terminal	Continuity	
M65	24	M75	7	Existed	

4. Check continuity between BCM harness connector and ground.

BC	CM		Continuity
Connector	Connector Terminal		Continuity
M65	24		Not existed

Is the inspection result normal?

B2196 DONGLE UNIT

WITHOUT INTELLIGENT KEY SYSTEM

DTC/CIRCUIT DIAGNOSIS >		ELLIGENT KEY SYSTEN
NO >> Repair or replace harness.	-	
CHECK DONGLE UNIT GROUND CIRCUI		
Check continuity between dongle unit harness	connector and ground.	
Dongle unit		Continuity
Connector Terminal	Ground	Continuity
M75 1		Existed
s the inspection result normal?		
YES >> Replace dongle unit. NO >> Repair or replace harness.		

Ρ

POWER SUPPLY AND GROUND CIRCUIT

[WITHOUT INTELLIGENT KEY SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT BCM

BCM : Diagnosis Procedure

INFOID:000000007773609

1. CHECK FUSES AND FUSIBLE LINK

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

Signal name	Fuses and fusible link No.
Pottory power supply	8
Battery power supply	G
ACC power supply	20
Ignition power supply	2

Is the fuse fusing?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM connectors.

3. Check voltage between BCM harness connector and ground.

Terminals		- Ignition switch position				
(-	+)		ignition switch position		5511011	
BC	CM	(-)	OFF	OFF ACC ON		
Connector	Terminal			ACC	ON	
M67	70		Battery	Battery	Battery	
INIO7	57		voltage	voltage	voltage	
M65	11	Ground	Approx. 0 V	Battery voltage	Battery voltage	
1000	38		Approx. 0 V	Approx. 0 V	Battery voltage	

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

B	BCM		Continuity
Connector	Terminal	Ground	Continuity
M67	67	*	Existed

Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

IPDM E/R

IPDM E/R : Diagnosis Procedure

1.CHECK FUSES AND FUSIBLE LINK

INFOID:000000007955129

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

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

Signal name			Fuses and fusible link No.	
			С	
Battery power su	upply		D	
			J	
the fuse fusing?				
blown. NO >> GO TO 2. CHECK POWER SUPPI Turn the ignition switch Disconnect IPDM E/R of	LY CIRCUIT OFF. connector.		the affected circuit if a fuse or fusible	link i
. Check voltage betweer	IPDM E/R ha	rness connector and the	e ground.	
Terminals				
(+) IPDM E/R	()	Voltage (Approx.)		
Connector Terminal				
E9 1	Ground			
2		Battery voltage		
E10 8				
YES >> GO TO 3. NO >> Repair the harr CHECK IGNITION POW	ness or connec /ER SUPPLY (
YES >> GO TO 3. NO >> Repair the harr CHECK IGNITION POW . Turn the ignition switch	ness or connec /ER SUPPLY (ON.	CIRCUIT	e ground.	
YES >> GO TO 3. NO >> Repair the harr CHECK IGNITION POW	ness or connec /ER SUPPLY (ON.	CIRCUIT	e ground.	
YES >> GO TO 3. NO >> Repair the harr CHECK IGNITION POW Turn the ignition switch Check voltage betweer	ness or connec /ER SUPPLY (ON.	CIRCUIT rness connector and the Voltage	e ground.	
YES >> GO TO 3. NO >> Repair the harr CHECK IGNITION POW . Turn the ignition switch . Check voltage betweer Terminals (+) IPDM E/R	Ness or connect /ER SUPPLY (ON. n IPDM E/R ha	CIRCUIT	e ground.	
YES >> GO TO 3. NO >> Repair the harr CHECK IGNITION POW . Turn the ignition switch Check voltage betweer Terminals (+) IPDM E/R Connector Terminal	ness or connec /ER SUPPLY (ON. n IPDM E/R ha	Voltage (Approx.)	e ground.	
YES >> GO TO 3. NO >> Repair the harr CHECK IGNITION POW . Turn the ignition switch . Check voltage betweer Terminals (+) IPDM E/R Connector Terminal E12 18	CON. IPDM E/R ha	CIRCUIT rness connector and the Voltage	e ground.	
NO >> Repair the harr CHECK IGNITION POW . Turn the ignition switch Check voltage between Terminals (+) IPDM E/R Connector Terminal	Conserver the formation of the formation	CIRCUIT rness connector and the Voltage (Approx.) Battery voltage	e ground.	
YES >> GO TO 3. NO >> Repair the harr CHECK IGNITION POW Turn the ignition switch Check voltage betweer Terminals (+) IPDM E/R Connector Terminal E12 18 S the measurement value r YES >> GO TO 4. NO >> Repair the harr CHECK GROUND CIRC Turn the ignition switch	Conserver a connect CR SUPPLY (ON. IPDM E/R hat (-) Ground Cormal? Dess or connect CUIT OFF.	CIRCUIT rness connector and the Voltage (Approx.) Battery voltage		
YES >> GO TO 3. NO >> Repair the harr CHECK IGNITION POW Turn the ignition switch Check voltage betweer Terminals (+) IPDM E/R Connector Terminal E12 18 S the measurement value r YES >> GO TO 4. NO >> Repair the harr CHECK GROUND CIRC Turn the ignition switch	Conserver a connect CR SUPPLY (ON. IPDM E/R hat (-) Ground Cormal? Dess or connect CUIT OFF.	CIRCUIT rness connector and the Voltage (Approx.) Battery voltage		
YES >> GO TO 3. NO >> Repair the harr CHECK IGNITION POW . Turn the ignition switch . Check voltage betweer Terminals (+) IPDM E/R Connector Terminal E12 18 Sthe measurement value r YES >> GO TO 4. NO >> Repair the harr .CHECK GROUND CIRC . Turn the ignition switch	Conserver a connect CR SUPPLY (ON. IPDM E/R hat (-) Ground Cormal? Dess or connect CUIT OFF.	CIRCUIT rness connector and the Voltage (Approx.) Battery voltage ctor. harness connectors and		
YES >> GO TO 3. NO >> Repair the harr CHECK IGNITION POW Turn the ignition switch Check voltage betweer Terminals (+) IPDM E/R Connector Terminal E12 18 S the measurement value r YES >> GO TO 4. NO >> Repair the harr CHECK GROUND CIRC Turn the ignition switch Check continuity between	CON. (ER SUPPLY (ON. IPDM E/R ha (-) Ground Cormal? Dess or connect CUIT OFF. Den IPDM E/R	CIRCUIT rness connector and the Voltage (Approx.) Battery voltage		
YES >> GO TO 3. NO >> Repair the harr CHECK IGNITION POW Turn the ignition switch Check voltage betweer (+) IPDM E/R Connector Terminal E12 18 Sthe measurement value r YES >> GO TO 4. NO >> Repair the harr CHECK GROUND CIRC Turn the ignition switch Check continuity betwee	Conserver a connect CR SUPPLY (ON. IPDM E/R hat (-) Ground normal? Dess or connect CUIT OFF.	CIRCUIT rness connector and the Voltage (Approx.) Battery voltage ctor. harness connectors and Continuity		
YES >> GO TO 3. NO >> Repair the harr CHECK IGNITION POW Turn the ignition switch Check voltage betweer Terminals (+) IPDM E/R Connector Terminal E12 18 S the measurement value r YES >> GO TO 4. NO >> Repair the harr CHECK GROUND CIRC Turn the ignition switch Check continuity between IPDM E/R Connector Terminal	CON. (ER SUPPLY (ON. IPDM E/R ha (-) Ground Cormal? Dess or connect CUIT OFF. Den IPDM E/R	CIRCUIT rness connector and the Voltage (Approx.) Battery voltage ctor. harness connectors and		

SEC-183

SECURITY INDICATOR LAMP

< DTC/CIRCUIT DIAGNOSIS >

SECURITY INDICATOR LAMP

Description

- · Security indicator lamp is located on combination meter.
- NVIS (Nissan Vehicle Immobilizer System) and vehicle security system conditions are indicated by blink or illumination of security indicator lamp.

Component Function Check

1.CHECK FUNCTION

- 1. Perform "THEFT IND" in the "ACTIVE TEST" mode using CONSULT.
- 2. Check security indicator lamp operation.

Test	item	Desc	ription
THEFT IND	ON	Security indicator lamp	Illuminates
	OFF	Security indicator lamp	Does not illuminate

Is the inspection result normal?

- YES >> INSPECTION END
- NO >> Go to <u>SEC-184, "Diagnosis Procedure"</u>.

Diagnosis Procedure

1.CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

	(+) Combination meter		Voltage (V) (Approx.)	
Connector	Terminal			
M34	27	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 2.

NO-1 >> Check 10 A fuse [No. 11, located in the fuse block (J/B)].

NO-2 >> Check harness for open or short between combination meter and fuse.

2. CHECK SECURITY INDICATOR LAMP SIGNAL

- 1. Connect combination meter connector.
- 2. Disconnect BCM connector.
- 3. Check voltage between BCM harness connector and ground.

	(+) BCM		Voltage (V) (Approx.)
Connector	Terminal		(++)
M65	23	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-81, "Removal and Installation"</u>.

NO >> GO TO 3.

3.CHECK COMBINATION METER CIRCUIT

1. Disconnect combination meter connector.

2. Check continuity between combination meter harness connector and BCM harness connector.

INFOID:000000007773611

INFOID:000000007773612

INFOID:000000007773613

SECURITY INDICATOR LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

Combina	ation meter	B	СМ	Continuity	A
Connector	Terminal	Connector	Terminal	Continuity	
M34	18	M65	23	Existed	-
	- to a second in a time of	· · ·			•

3. Check continuity between combination meter harness connector and ground.

Combination meter			Continuity	0
Connector	Terminal	Ground	Continuity	C
M34	18		Not existed	

Is the inspection result normal?

YES >> Replace combination meter. Refer to <u>MWI-90, "Removal and Installation"</u>.

NO >> Repair or replace harness.

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< DTC/CIRCUIT DIAGNOSIS >

HORN FUNCTION

Description

Perform answer-back for each operation with horn.

Component Function Check

1.CHECK FUNCTION

1. Perform "VEHICLE SECURITY HORN" in the "ACTIVE TEST" mode using CONSULT.

2. Check the horn operation.

Tes	st item	Desc	ription
VEHICLE SECURITY HORN	ON	Horn	Sounds (for 20 ms)

Is the operation normal?

YES >> Horn function is OK. NO >> Go to <u>SEC-186</u>, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK HORN FUNCTION

Check horn function with horn switch.

Do the horn sound?

YES >> GO TO 2.

NO >> Refer to <u>HRN-2</u>, "Wiring Diagram - HORN -".

2. CHECK IPDM E/R POWER SUPPLY

1. Disconnect IPDM E/R connector.

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

	(+)			
IPI	IPDM E/R		Voltage (V) (Approx.)	
Connector	Terminal			
E13	34	Ground	Battery voltage	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-62, "Removal and Installation".

NO >> GO TO 3.

3.CHECK IPDM E/R POWER SUPPLY CIRCUIT

1. Disconnect horn relay connector.

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

IPDM E/R		Horn	Continuity		
Connector	Terminal Connector Terminal		Terminal		
E13	34	E5	1	Existed	

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

IPD	M E/R		Continuity
Connector	Connector Terminal		Continuity
E13	34		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

INFOID:000000007773614

INFOID:000000007773615

INFOID:000000007773616

4. CHECK INTERMITTENT INCIDENT

>> INSPECTION END

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< DTC/CIRCUIT DIAGNOSIS >

HEADLAMP FUNCTION

Description

Headlamp lighting when vehicle security system is alarm phase.

Component Function Check

1. CHECK FUNCTION

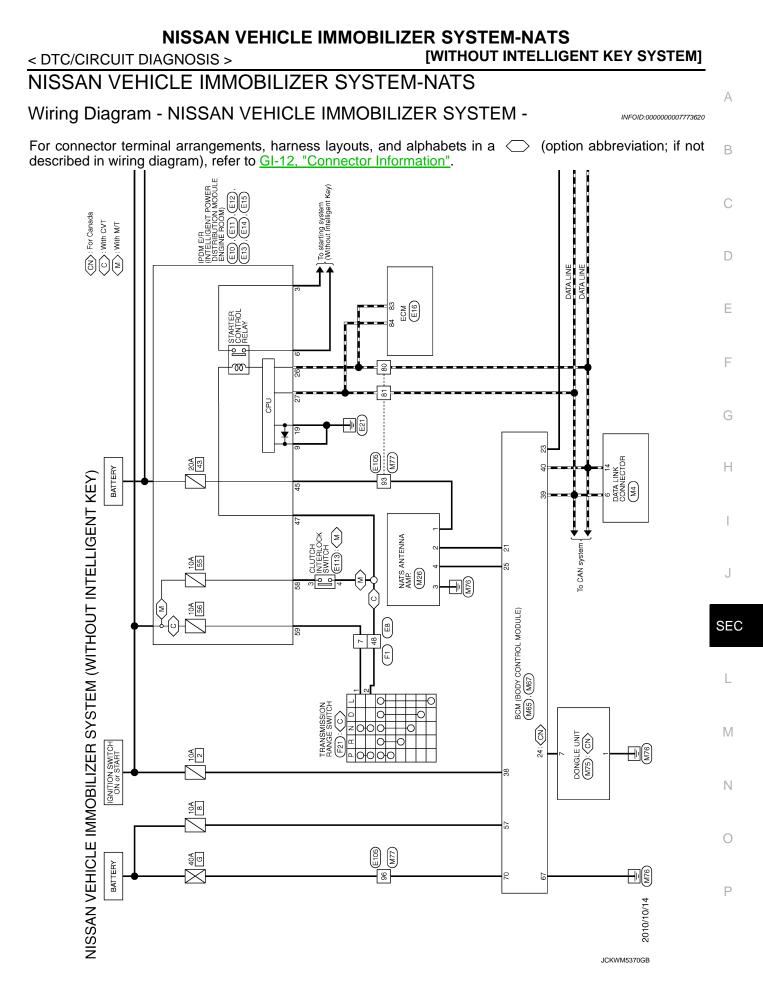
- 1. Perform "HEAD LAMP(HI)" in the "ACTIVE TEST" mode using CONSULT.
- 2. Check headlamp operation.

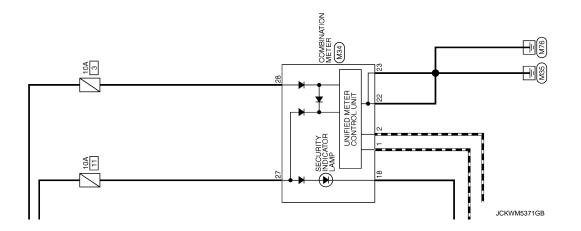
Tes	t item	Desc	ription
	ON		Lighting
HEAD LAMP (HI)	OFF	HEADLAMP (HI)	Does not lighting
Is the inspection result norm	nal?		
YES >> INSPECTION E NO >> Refer to <u>SEC-1</u>	ND 88, "Diagnosis Procedure".		
Diagnosis Procedure			INFOID:00000007773619
1. CHECK HEADLAMP FU	NCTION		
Refer to EXL-46, "Compone	ent Function Check".		
Is the inspection result norm	nal?		
YES >> GO TO 2.			
NO >> Repair or replace	e the malfunctioning parts.		
2. CHECK INTERMITTENT	INCIDENT		

>> INSPECTION END

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INFOID:000000007773618





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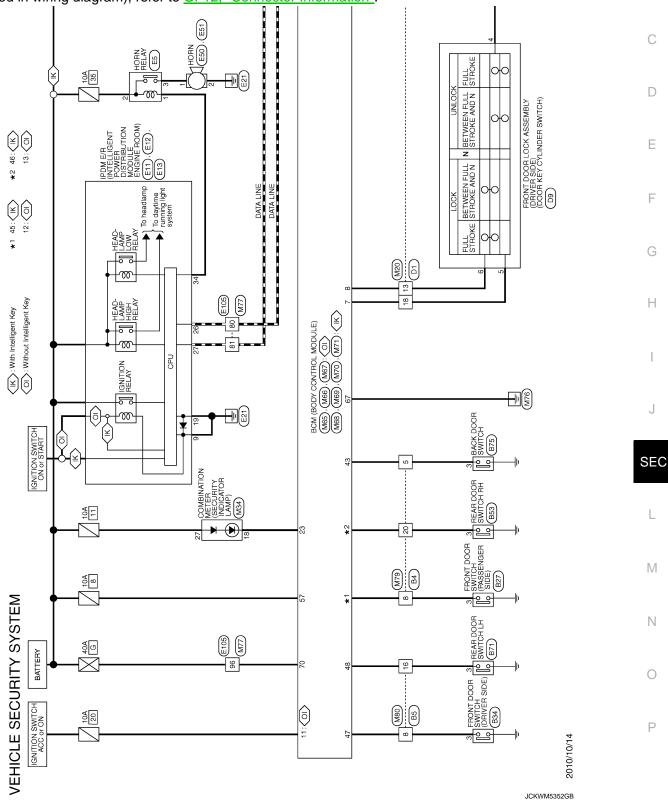
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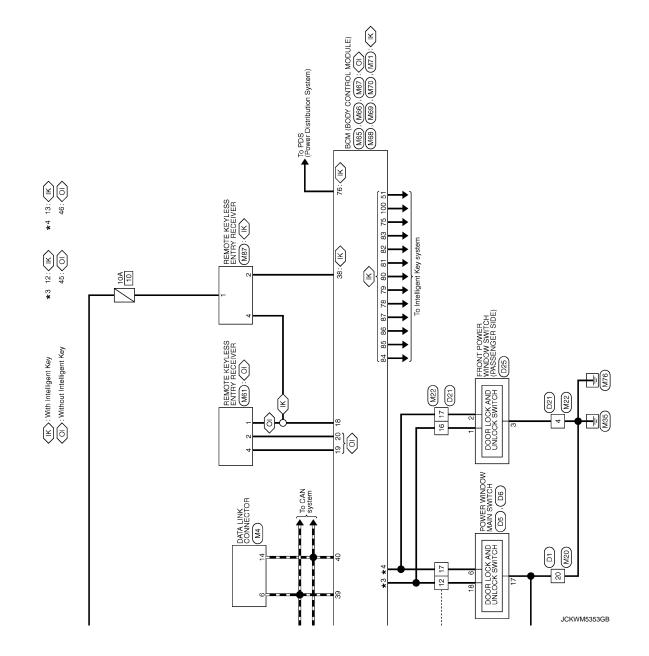
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VEHICLE SECURITY SYSTEM

Wiring Diagram - VEHICLE SECURITY SYSTEM -

For connector terminal arrangements, harness layouts, and alphabets in a \bigcirc (option abbreviation; if not described in wiring diagram), refer to <u>GI-12, "Connector Information"</u>.





[WITHOUT INTELLIGENT KEY SYSTEM]

А

INFOID:000000007955134 B

Reference Value

VALUES ON THE DIAGNOSIS TOOL

BCM (BODY CONTROL MODULE)

Monitor Item	Condition	Value/Status
	Ignition switch OFF or ACC	Off
GN ON SW	Ignition switch ON	On
	Mechanical key is removed from key cylinder	Off
KEY ON SW	Mechanical key is inserted to key cylinder	On
CDL LOCK SW	Door lock/unlock switch does not operate	Off
CDL LUCK SW	Press door lock/unlock switch to the lock side	On
	Door lock/unlock switch does not operate	Off
CDL UNLOCK SW	Press door lock/unlock switch to the unlock side	On
	Driver's door closed	Off
DOOR SW-DR	Driver's door opened	On
DOOR SW-AS	Passenger door closed	Off
DOOR SW-AS	Passenger door opened	On
	Rear RH door closed	Off
DOOR SW-RR	Rear RH door opened	On
	Rear LH door closed	Off
DOOR SW-RL	Rear LH door opened	On
	Back door closed	Off
BACK DOOR SW	Back door opened	On
LOCK STATUS	NOTE: The item is indicated, but not monitored.	Off
	Ignition switch OFF	Off
ACC ON SW	Ignition switch ACC or ON	On
	"LOCK" button of key fob is not pressed	Off
KEYLESS LOCK	"LOCK" button of key fob is pressed	On
KEYLESS UNLOCK	"UNLOCK" button of key fob is not pressed	Off
KETLESS UNLOCK	"UNLOCK" button of key fob is pressed	On
SHOCK SENSOR	NOTE: The item is indicated, but not monitored.	NORMAL
	Other than driver door key cylinder LOCK position	Off
KEY CYL LK-SW	Driver door key cylinder LOCK position	On
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	Off
NET UTL UN-SW	Driver door key cylinder UNLOCK position	On
VEHICLE SPEED	While driving	Equivalent to speed- ometer reading
	Rear window defogger switch OFF	Off
REAR DEF SW	Rear window defogger switch ON	On
	NOTE:	Off
REVERSE SW CAN	The item is indicated, but not used.	On

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
TAIL LAMP SW	Lighting switch OFF	Off
TAIL LAWF SW	Lighting switch 1ST	On
FR FOG SW	NOTE: The item is indicated, but not monitored.	Off
BUCKLE SW	The seat belt (driver side) is fastened. [Seat belt switch (driver side) OFF]	Off
	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) ON]	On
FRNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off
ACC SW	Ignition switch OFF	Off
	Ignition switch ACC or ON	On
(YLS TRNK/HAT	NOTE: The item is indicated, but not monitored.	Off
EYLESS PANIC	PANIC button of key fob is not pressed	Off
	PANIC button of key fob is pressed	On
HI BEAM SW	Lighting switch OFF	Off
	Lighting switch HI	On
HEAD LAMP SW 1	Lighting switch OFF	Off
	Lighting switch 2ND	On
IEAD LAMP SW 2	Lighting switch OFF	Off
IEAD LAIVIF SVV 2	Lighting switch 2ND	On
UTO LIGHT SW	NOTE: The item is indicated, but not monitored.	Off
UTO LIGHT SW NOTE: The item is indicated, but not monitored. ASSING SW Other than lighting switch PASS Lighting switch PASS NOTE: NOTE:	Other than lighting switch PASS	Off
A331NG 5W	Lighting switch PASS	On
R FOG SW	NOTE: The item is indicated, but not monitored.	Off
URN SIGNAL R	Turn signal switch OFF	Off
URN SIGNAL R	Turn signal switch RH	On
	Turn signal switch OFF	Off
URN SIGNAL L	Turn signal switch LH	On
	Parking brake switch is OFF	Off
PKB SW	Parking brake switch is ON	On
	Engine stopped	Off
NGINE RUN	Engine running	On
OPTI SEN (DTCT)	NOTE: The item is indicated, but not monitored.	Close to 5 V
OPTI SEN (FILT)	NOTE: The item is indicated, but not monitored.	Close to 5 V
IG SEN COND	NOTE: The item is indicated, but not monitored.	OFF
GN SW CAN	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
R WIPER HI	Front wiper switch OFF	Off
	Front wiper switch HI	On
	Front wiper switch OFF	Off
FR WIPER LOW	Front wiper switch LO	On

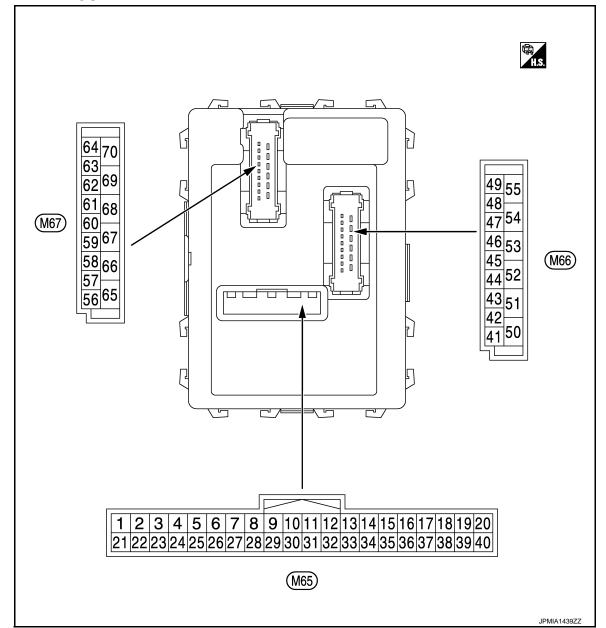
< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
	Front wiper switch OFF	Off
	Front wiper switch INT	On
R WASHER SW	Front washer switch OFF	Off
R WASHER SW	Front washer switch ON	On
NT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
R WIPER STOP	Any position other than front wiper stop position	Off
R WIPER STOP	Front wiper stop position	On
	Rear wiper switch OFF	Off
R WIPER ON	Rear wiper switch ON	On
R WIPER INT	Rear wiper switch OFF	Off
	Rear wiper switch INT	On
	Rear washer switch OFF	Off
R WASHER SW	Rear washer switch ON	On
	Rear wiper stop position	Off
R WIPER STOP	Other than rear wiper stop position	On
NIN SENSOR	NOTE: The item is indicated, but not monitored.	Off
	Hazard switch OFF	Off
AZARD SW	Hazard switch ON	On
	Blower control dial OFF	Off
N ON SIG	Other than blower control dial OFF	On
	A/C switch OFF	Off
R COND SW	A/C switch ON	On
	Ignition switch ON	Off
ERMO AMP	Evaporator is extremely low temperature	On
	Other than A/C mode defroster ON position	Off
DEF SW	A/C mode defroster ON position	On
YLESS TRUNK	NOTE: The item is indicated, but not monitored.	Off
RNK OPNR SW	NOTE: The item is indicated, but not monitored.	Off
NK OPN MNTR	NOTE: The item is indicated, but not monitored.	Off
	Close the hood	Off
DOD SW	Open the hood	On
	Other than the ignition switch is ON by key registered to BCM.	Off
RANSPONDER	The ignition switch is ON by key registered to BCM.	On
TELLI KEY	NOTE: The item is indicated, but not used.	Off
JTO RELOCK	NOTE: The item is indicated, but not monitored.	Off
IL PRESS SW	Ignition switch OFF or ACCEngine running	Off
	Ignition switch ON	On
	Brake pedal is not depressed	Off
RAKE SW	Brake pedal is depressed	On

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

TERMINAL LAYOUT



NOTE:

• M65, M66: White

• M67: Black

PHYSICAL VALUES

Revision: 2011 November

BCM (BODY CONTROL MODULE) < ECU DIAGNOSIS INFORMATION > [WITHOUT INT]

[WITHOUT INTELLIGENT KEY SYSTEM]

	nal No. color)	Description		-		Value	А
+	-	Signal name	Input/ Output		Condition	(Approx.)	
					All switch OFF	0 V	В
					Turn signal switch RH		
					Lighting switch HI	(V) 15	0
2 (BR/W)	Ground	Combination switch	Input	Combination switch (Wiper intermit-	Lighting switch 1ST	10 5 0 •••10ms •••10ms •••10ms •••10ms ••••10ms ••••10ms ••••10ms ••••10ms ••••10ms ••••10ms	C
, , , , , , , , , , , , , , , , , , ,				tent dial 4)			Е
					Lighting switch 2ND		F
						2.0 V	G
					All switch OFF	0 V	
				Turn signal switch LH		Н	
				Combination	Lighting switch PASS	(V) 15	
3 (GR)	Ground	Combination switch INPUT 4	Input	switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	10 5 0 • • • 10ms PKIB4958J 1.0 V	l J
					All switch OFF	0 V	
					Front wiper switch LO		SE
				Combination	Front wiper switch MIST	(V) 15	
4 (L/Y) Ground	Combination switch INPUT 3	Input	Combination switch (Wiper intermit- tent dial 4)	Front wiper switch INT	PKIB4958J 1.0 V	L	

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< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description				Value	
(vvire +	- color)	Signal name	Input/ Output		Condition	(Approx.)	
					All switch OFF (Wiper intermittent dial 4)	0 V	
		(Wij	Front washer switch (Wiper intermittent dial 4)	(V) 15			
					Rear washer switch ON (Wiper intermittent dial 4)		
5 (G)	Ground	Combination switch INPUT 2	Input	Combination switch	Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	тородина → +10ms → +10ms PKIB4958J 1.0 V	
					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 10 10 10 10 10 10 10 10 10	
					All switch OFF (Wiper intermittent dial 4)	0 V	
					Front wiper switch HI (Wiper intermittent dial 4)	(V) 15	
					Rear wiper switch INT (Wiper intermittent dial 4)		
					Wiper intermittent dial 3 (All switch OFF)	+ +10ms PKIB4958J 1.0 V	
6 (L/R)	Ground	Combination switch INPUT 1	Input	Combination switch	Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2	(V) 15 0 0 +10ms FKIB4952J 1.9 V	
					Any of the condition below with all switch OFF • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 10 5 0 +10ms PKIB4956J 0.8 V	

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Terminal No. (Wire color)		Description				Value
(Wire +	color)	Signal name	Input/ Output		Condition	(Approx.)
7 (W/R)	Ground	Door key cylinder switch UNLOCK	Input	Door key cylin- der switch	NEUTRAL position	(V) 10 50 • • 10ms • • 10ms • • • • 10ms • • • • • • • • • • • • • • • • • • •
					UNLOCK position	0 V
8		Door key cylinder		Door key cylin-	NEUTRAL position	12 V
(W/B)	Ground	switch LOCK	Input	der switch	LOCK position	0 V
9	Ground	Stop lamp switch	Incut	nput Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
(R)	Ground	Stop lamp switch	input		ON (Brake pedal is de- pressed)	Battery voltage
10	Ground	Rear window defog-	Input	delogger switch	OFF (Not pressed)	12 V
(W/L)	Ground	ger switch	input		ON (Pressed)	0 V
11	Ground	Ignition switch ACC	Input	Ignition switch OFF		0 V
(L/Y)	Ciouna	-g-mon eviden / CO	mpor	Ignition switch A	CC or ON	Battery voltage
12 (SB)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	(V) 15 10 5 0 • • • 10ms • • • 0 • • • 0 • • • • • • • • • • • • • • • • • • •
					ON (When passenger door opened)	0 V
13 (GR/L)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (When rear RH door closed)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
					ON (When rear RH door opened)	0 V
18	Ground	Receiver ground	Input	Ignition switch O	N	0 V

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< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value
(VVire +	color)	Signal name	Input/ Output		Condition	(Approx.)
					Insert mechanical key into ignition key cylinder	0 V
					Remove mechanical key from ignition key cylinder (Any door opened)	5 V
19 (BR)	Ground	Remote keyless en- try receiver power supply		Remove mechanical key from ignition key cylinder (Any door closed)	(V) 6 4 2 0 ++0.2 s JPMA0338JP	
					Insert mechanical key into ignition key cylinder	0 V
20 (G/Y)	Ground	Remote keyless en- try receiver commu- nication	Input	Ignition switch OFF	Waiting	(V) 6 4 2 0 • • • 1.0ms • • • 1.0ms • • • 1.0ms • • • 1.0ms • • • • 1.0ms • • • • • • • • • • • • • • • • • • •
					Signal receiving	(V) 6 2 0 •••1.0ms
21	Ground	NATS antenna amp.	Input/	Just after insertin	g ignition key in key cylinder	Pointer of tester should move
(P/L)			Output	Other than above		0 V
23 (R/Y)	Ground	Security indicator	Input	Security indica- tor	ON Blinking (Ignition switch OFF)	0 V
					OFF	12 V
24* (GR/B)	Ground	Dongle link	Input/ Output	Ignition switch O	FF	5 V
25	Ground	NATS antenna amp.	Input/		g ignition key in key cylinder	Pointer of tester should move
(LG)		······································	Output	Other than above		0 V
26 (GR)	Ground	Thermo control amp.	Input	Ignition switch O		0 V
					remely low temperature	12 V

< ECU DIAGNOSIS INFORMATION >

	inal No.	Description	Description			Value	
(vvire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)	A
27 (Y/G)	Ground	A/C switch	Input	A/C switch	OFF	(V) 15 10 5 10 10 ms JPMIA0012GB 1.0 - 1.5 V	B C D
					ON	0 V	
28 (G/W)	Ground	Blower fan switch	Input	Fan switch	Blower fan switch OFF	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V	E F G
					Blower fan switch ON	0 V	
29 (L/W)	Ground	Hazard switch	Input	Hazard switch	OFF ON	Battery voltage	Н
					A/C mode defroster ON position	0 V	I
31 (G/Y)	Ground	Front defroster switch	Input	Ignition switch ON	Other than A/C mode de- froster ON position	(V) 15 10 5 0 III IIIIIIIIIIIIIIIIIIIIIII • • 2ms JPMIA0589GB 8.0 - 9.0 V	J SE(
32	Ground	Combination switch	Output	Combination	All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V	L M N
(LG) Ground	OUTPUT 5	Output	switch			O P	

< ECU DIAGNOSIS INFORMATION >

	nal No.	Description				Value	
(Wire +	color)	Signal name	Input/ Output	Condition		(Approx.)	
33		Combination switch		Combination	All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 • • • • • • • • • • • • •	
(Y/L)	Ground	OUTPUT 4	Output	switch	Lighting switch 1ST (Wiper intermittent dial 4)	(V) =	
					Rear wiper switch INT (Wiper intermittent dial 4)		
					 Any of the condition below with all switch OFF Wiper intermittent dial 1 Wiper intermittent dial 5 Wiper intermittent dial 6 	0 ► +10ms PKiB4958J 1.2 V	
					All switch OFF (Wiper intermittent dial 4)	(V) 10 50 ↓ 10ms → 10ms PKIB4960J 7.0 - 8.0 V	
34 (W)	Ground	Combination switch OUTPUT 3	Output	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)		
(**)					Lighting switch HI (Wiper intermittent dial 4)	(V) 15	
					Rear washer switch ON (Wiper intermittent dial 4)		
					 Any of the condition below with all switch OFF Wiper intermittent dial 1 Wiper intermittent dial 2 Wiper intermittent dial 3 	+10ms РКIВ4958J 1.2 V	
0.E				Combination	All switch OFF	(V) 10 50 •••••••••••••••••••••••••••••••••	
35 (R/L)	Ground	Combination switch OUTPUT 2	Output	switch (Wiper intermit- tent dial 4)	Lighting switch 2ND		
					Lighting switch PASS Front wiper switch INT		
					Front wiper switch IN	5 0 →→+10ms	
						PKIB4958J 1.2 V	

< ECU DIAGNOSIS INFORMATION >

	Terminal No. Description (Wire color)						
(Wire +	color)	Signal name	Input/ Output	Condition		Value (Approx.)	A
36		Combination switch		All switch OFF Combination switch		(V) 15 10 5 0 → + 10ms PKIB4960J 7.0 - 8.0 V	B C D
(L/O)	Ground	OUTPUT 1	Output	(Wiper intermit-	Turn signal switch RH		
				tent dial 4)	Turn signal switch LH	(V) 15	_
					Front wiper switch LO (Front wiper switch MIST)		E
					Front washer switch ON	+ 10ms PKIB4958J 1.2 V	F
				Insert mechanica	al key into ignition key cylin-		G
37	Ground	Key switch	Input	der	,	Battery voltage	
(R/W)	Giouna	Rey Switch	input	Remove mechar cylinder	ical key from ignition key	0 V	Н
38	Ground	Ignition switch ON	Input	Ignition switch O	FF or ACC	0 V	
(O)		-9	-	Ignition switch O	Ν	Battery voltage	1
39 (L)	Ground	CAN-H	Input/ Output		_	_	
40 (P)	Ground	CAN-L	Input/ Output		_	_	J
43 (W)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	(V) 15 10 5 0 • • 10ms PKIB4960J	SEC
						7.0 - 8.0 V	M
					ON (When back door opened)	0 V	IVI
44		Rear wiper stop po-		Ignition switch	Rear wiper stop position	12 V	Ν
(LG)	Ground	sition	Input	ON	Any position other than rear wiper stop position	0 V	
45 (GR)	Ground	Door lock and unlock switch LOCK	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 10 5 0 10 ms JPMIA0012GB 1.0 - 1.5 V	O
						1.0 - 1.5 V 0 V	
					LOCK position	υv	

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description				Value
(Wire	color)	Signal name	Input/ Output	Condition		(Approx.)
46 (BR)	Ground	Door lock and unlock switch UNLOCK	Input	Door lock and unlock switch	NEUTRAL position	(V) 15 0 10 10 10 10 10 10 10 10 10
					UNLOCK position	0 V
47 (BR/Y)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	(V) 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
					ON (When driver door opened)	0 V
48 (W/G)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (When rear LH door closed)	(V) 15 10 5 0 + 10ms PKIB4960J 7.0 - 8.0 V
					ON (When rear LH door opened)	0 V
50 (SB)	Ground	A/C indicator	Output	A/C indicator	OFF ON	12 V 0 V
54	Ground	Rear wiper	Output	Ignition switch	Rear wiper switch OFF	0 V
(LG)		•		ON	Rear wiper switch ON	12 V
					p battery saver is activated. room lamp power supply)	0 V
56 (L)	Ground	Interior room lamp power supply	Output	vated.	np battery saver is not acti- rior room lamp power sup-	12 V
57 (Y)	Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage
59	Ground	Driver door UN-	Output	Driver door	UNLOCK (Actuator is activated)	12 V
(L/B)	Ground	LOCK	Culput		Other then UNLOCK (Ac- tuator is not activated)	0 V

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Terminal No. (Wire color)		Description				Value	
(vvire +		Signal name	Input/ Output	Condition		(Approx.)	
					Turn signal switch OFF	0 V	
60 (W/B)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch LH		
					Turn signal switch OFF	6.0 V 0 V	
61 (W/L)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 + + - 15 - - - - - - - - - - - - -	
						6.0 V	
63 (BR)	Ground	Interior room lamp control signal	Output	Interior room Iamp	OFF ON	12 V 0 V	
65	Cround	All doors LOCK	Output	All doors	LOCK (Actuator is activat- ed)	12 V	
(V)	Ground		Caipui	All doors	Other then LOCK (Actua- tor is not activated)	0 V	
66		Passenger door and		Passenger door	UNLOCK (Actuator is activated)	12 V	
(G)	Ground	rear door UNLOCK	Output	and rear door	Other then UNLOCK (Ac- tuator is not activated)	0 V	
67 (B)	Ground	Ground	Output	Ignition switch O	N	0 V	
68 (L)	Ground	P/W power supply (IGN)	Output	Ignition switch ON		12 V	
69 (P)	Ground	P/W power supply (BAT)	Output	Ignition switch OFF		12 V	
70 (Y)	Ground	Battery power sup- ply	Input	Ignition switch O	FF	Battery voltage	

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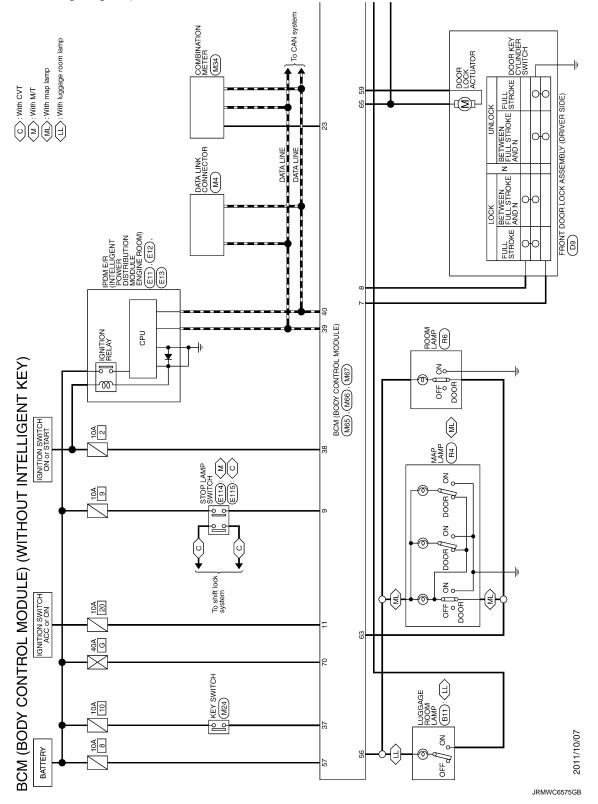
< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Wiring Diagram - BCM -

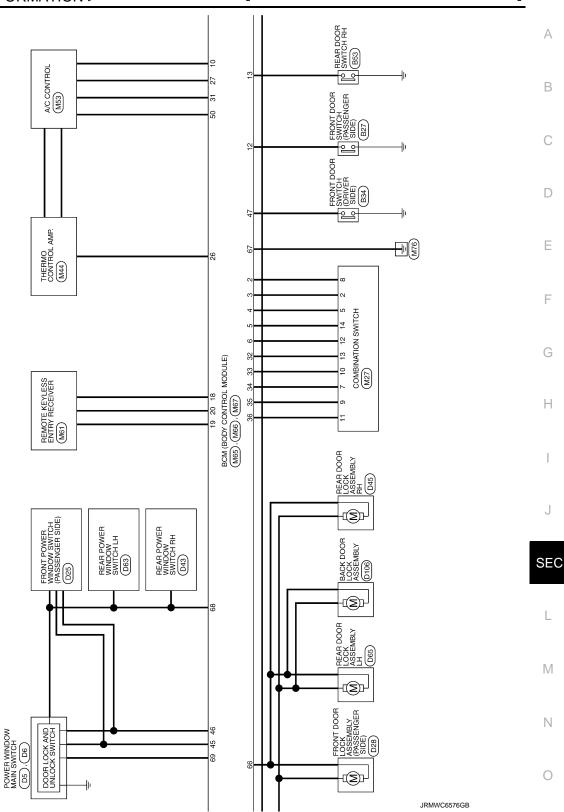
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For connector terminal arrangements, harness layouts, and alphabets in a \bigcirc (option abbreviation; if not described in wiring diagram), refer to <u>GI-12, "Connector Information"</u>.



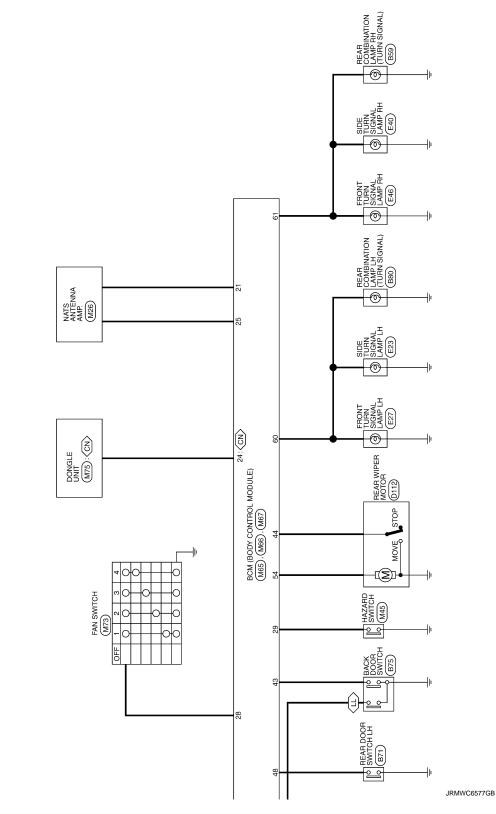
< ECU DIAGNOSIS INFORMATION >





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BCM (BODY CONTROL MODULE) [WITHOUT INTELLIGENT KEY SYSTEM] < ECU DIAGNOSIS INFORMATION >



Fail-safe

CN : For Canada LL : With luggage room lamp

INFOID:000000007955136

FAIL-SAFE CONTROL BY DTC

BCM performs fail-safe control when any DTC are detected.

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Display contents of CONSULT	Fail-safe	Cancellation	А
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC	
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC	
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC	В
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC	
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch $ON \rightarrow OFF$	С
B2196: DONGLE NG	Inhibit engine cranking	Erase DTC	

REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper auto stop signal. When the rear wiper auto stop signal does not change more than 5 seconds while driving the rear wiper, BCM stops power supply to protect the rear wiper motor.

Condition of cancellation

- 1. Pass more than 1 minute after the rear wiper stop.
- 2. Turn rear wiper switch OFF.
- 3. Operate the rear wiper switch or rear washer switch.

DTC Inspection Priority Chart

INFOID:000000007955137

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

Priority	DTC	Н
1	U1000: CAN COMM U1010: CONTROL UNIT (CAN)	
2	 B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2195: ANTI SCANNING B2196: DONGLE NG 	J
3	C1735: IGN CIRCUIT OPEN	050
4	 C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RL C1716: [PRESSDATA ERR] FL C1717: [PRESSDATA ERR] FR C1718: [PRESSDATA ERR] FR C1719: [PRESSDATA ERR] RR C1719: [PRESSDATA ERR] RL C1729: VHCL SPEED SIG ERR 	L N

DTC Index

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.

INFOID:000000007955138

BCM (BODY CONTROL MODULE) < ECU DIAGNOSIS INFORMATION > [WITHOUT INT]

CONSULT display	Fail-safe	Tire pressure monitor warn- ing lamp ON	Reference
U1000: CAN COMM	—	—	BCS-113
U1010: CONTROL UNIT (CAN)	_	—	BCS-114
B2190: NATS ANTENNA AMP	×	—	<u>SEC-173</u>
B2191: DIFFERENCE OF KEY	×	—	<u>SEC-176</u>
B2192: ID DISCORD BCM-ECM	×	—	<u>SEC-177</u>
B2193: CHAIN OF BCM-ECM	×	—	<u>SEC-178</u>
B2195: ANTI SCANNING	×	—	<u>SEC-179</u>
B2196: DONGLE NG	×	—	<u>SEC-180</u>
C1704: LOW PRESSURE FL	—	×	
C1705: LOW PRESSURE FR	_	×	WT-22
C1706: LOW PRESSURE RR	_	×	<u>vv1-22</u>
C1707: LOW PRESSURE RL	_	×	
C1708: [NO DATA] FL	_	×	
C1709: [NO DATA] FR	_	×	WT-24
C1710: [NO DATA] RR	_	×	<u>vv1-24</u>
C1711: [NO DATA] RL	—	×	
C1716: [PRESS DATA ERR] FL	—	×	
C1717: [PRESS DATA ERR] FR	_	×	WT-27
C1718: [PRESS DATA ERR] RR	_	×	<u>vv1-27</u>
C1719: [PRESS DATA ERR] RL	-	×	
C1729: VHCL SPEED SIG ERR	-	×	<u>WT-29</u>
C1735: IGN CIRCUIT OPEN	-	_	BCS-115

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

Reference Value

INFOID:000000007955130

А

В

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	(Condition	Value/Status
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	1/2/3/4
		A/C switch OFF	Off
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On
	Lighting switch OFF		Off
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On
	Lighting switch OFF		Off
HL LO REQ	Lighting switch 2ND, HI or AUTO) (Light is illuminated)	On
	Lighting switch OFF		Off
HL HI REQ	Lighting switch HI		On
FR FOG REQ	Lighting switch 2ND or	Front fog lamp switch OFF	Off
FR FUG KEQ	AUTO (Light is illuminated)	Front fog lamp switch ON	On
		Front wiper switch OFF	Stop
FR WIP REQ	Ignition switch ON	Front wiper switch INT	1LOW
		Front wiper switch LO	Low
		Front wiper switch HI	Hi
		Front wiper stop position	STOP P
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P
		Front wiper operates normally	Off
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe opera- tion	BLOCK
	Ignition switch OFF or ACC		Off
IGN RLY	Ignition switch ON		On
INTER/NP SW		Selector lever in any position other than P or N (CVT models)	Off
INTER/INF OW	Ignition switch ON	Selector lever in P or N position (CVT models)	On
ST RLY -REQ	Ignition switch OFF or ACC	Off	
	Ignition switch ON		On
DTRL REQ	Not operation	Off	
NOTE: This item is monitored only o the vehicle with the daytime running light system.		operated.	On
	Ignition switch OFF, ACC or eng	ine running	Open
OIL P SW	Ignition switch ON		Close
HOOD SW	NOTE: The item is indicated, but not mo	onitored.	Off

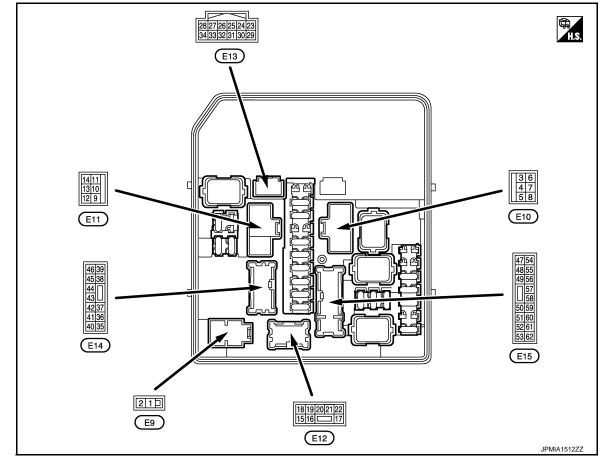
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	Value/Status
	Not operation	Off
THFT HRN REQ	 Panic alarm is activated Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM 	On
HORN CHIRP	Not operating	Off
	Door locking with key fob (horn chirp mode)	On

TERMINAL LAYOUT



PHYSICAL VALUES

Termin		Description - Signal name Input/ Output			Value
(Wire +	color) –			Condition	(Approx.)
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
2 (G)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
3	Ground	Starter motor	Output	Ignition switch ON	0 V
(BR)	Gibunu	Starter motor	Output	At engine cranking	Battery voltage
5	Ground	Cooling fan relay-1	Output	Cooling fan OFF	0 V
(LG)	Ground	power supply	Output	Cooling fan operated	Battery voltage
6 (SB)	Ground	Ignition switch START	Output	Any position other ignition switch START	0 V
(SB)				Ignition switch START	Battery voltage

Termin		Description				Value
(Wire +	color) –	Signal name	Input/ Output		Condition	(Approx.)
				Cooling fa	n OFF	0 V
7 (Y) Ground		Cooling fan relay-2 power supply	Output	Cooling fa	n LO operated	9.0 V
(1)				Cooling fa	n HI operated	Battery voltage
8 (V)	Ground	Battery power supply	Input	Ignition sw	ritch OFF	Battery voltage
9 B/W)	Ground	Ground	_	Ignition sw	ritch ON	0 V
				Cooling fa	n OFF	0 V
10 (L)	Ground	Cooling fan motor ground	Output	Cooling fa	n LO operated	5.0 V
(Ľ)		ground		Cooling fa	n HI operated	0 V
13	Crownd	Door window doformer	Outerut	Ignition	Rear window defogger switch OFF	0 V
(W)	Ground	Rear window defogger	Output	switch ON	Rear window defogger switch ON	Battery voltage
18	Ground	Ignition quitch	Outrout	Ignition switch OFF		0 V
(Y)	Ground	Ignition switch	Output	Ignition sw	ritch ON	Battery voltage
19 3/W)	Ground	Ground	_	Ignition sw	ritch ON	0 V
21 (W) Ground	Ground	Front fog lamp (RH)	Output	Lighting switch	Front fog lamp switch OFF	0 V
(vv)				2ND	Front fog lamp switch ON	Battery voltage
22	Ground	Front fog lamp (LH)	Output	Lighting switch	Front fog lamp switch OFF	0 V
(V)				2ND	Front fog lamp switch ON	Battery voltage
24				Ignition	Engine stopped	0 V
LG)	Ground	Oil pressure switch	Input	switch ON	Engine running	Battery voltage
25				Ignition	Front wiper stop position	0 V
(Y)	Ground	Front wiper auto stop	Input	switch ON	Any position other than front wiper stop position	Battery voltage
26 (P)	Ground	CAN-L	Input/ Output		_	_
27 (L)	Ground	CAN-H	Input/ Output	_		_
28 ^{*1}	Ground	Daytime running light	Output	Daytime running light deactivated		0 V
(P)	Ground	relay-1 control	Output	Daytime ru	unning light activated	Battery voltage
31 (W)	Ground	Fuel pump relay control	Output	 Approximately 1 second after turning the ignition switch ON Engine running 		0 - 1.5 V
(**)					ately 1 second or more after	Battery voltage

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Terminal NO. Description Value (Wire color) Condition Input/ (Approx.) Signal name Output + _ Ignition switch ON Battery voltage 40 % is set on "ACTIVE TEST", "AL-TERNATOR DUTY" of "ENGINE" JPMIA0002GB 33 Power generation com-Ground Output 3.8 V (O) mand signal 80 % is set on "ACTIVE TEST", "AL-TERNATOR DUTY" of "ENGINE" JPMIA0003GB 1.4 V The horn is deactivated Battery voltage 34 Ground Horn relay control Output (R) The horn is activated 0 V Ignition Lighting switch OFF 0 V 36 Ground Parking lamp (LH) Output switch (Y) Lighting switch 1ST Battery voltage ON 0 V Ignition Lighting switch OFF 37 Ground Parking lamp (RH) Output switch (V) Lighting switch 1ST Battery voltage ON Ignition Lighting switch OFF 0 V 38 Tail lamp (RH) & illumi-Ground Output switch (G) nations Lighting switch 1ST Battery voltage ON Ignition 0 V Front wiper switch OFF 39 switch Ground Front wiper HI Output (V) Front wiper switch HI Battery voltage ON Ignition switch OFF (More than a few seconds after turn-Battery voltage ing ignition switch OFF) 40 Ground ECM relay control Output · Ignition switch ON (R) • Ignition switch OFF 0 - 1.5 V (For a few seconds after turning ignition switch OFF) 0 V Ignition Lighting switch OFF 41 Tail lamp (LH) & license Ground Output switch (SB) plate lamps Lighting switch 1ST Battery voltage ON Ignition switch OFF (More than a few seconds after turn-0 V ing ignition switch OFF) 43 ECM relay power sup-Ground Output Ignition switch ON • (G) ply · Ignition switch OFF Battery voltage (For a few seconds after turning ig-

nition switch OFF)

Terminal NO.		Description Signal name Input/ Output		Condition		Value (Approx.)		
(Wire color) + –								
44 (P) Ground		ECM relay power sup-	Output		ritch OFF a a few seconds after turn- a switch OFF)	0 V	_	
		ply		(For a fe	switch ON switch OFF ew seconds after turning ig- vitch OFF)	Battery voltage	_	
45 (Y)	Ground	TCM power supply	Output	Ignition sw	ritch OFF	Battery voltage		
46			0.1	Ignition	Front wiper switch OFF	0 V	_	
(O)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage		
		Transmission range	Input		er in any position other than nition switch ON)	0 V	_	
47 (BR)	Ground	switch*2	mput	Select lever P or N (Ignition switch ON)		Battery voltage	_	
		Clutch interlock	Input		e clutch pedal	0 V	_	
		switch ^{*3}	put	Depress th	ne clutch pedal	Battery voltage		
		Headlamp HI (RH)		Ignition	Lighting switch OFF	0 V	_	
49 (W)	Ground		Output	Switch Output ON	Lighting switch HILighting switch PASS	Battery voltage		
				Daytime running light activated ^{*1}		7.0 V		
50	Ground	und Headlamp HI (LH)	switch • Lighting switch		Lighting switch OFF Lighting switch HI 	0 V Battery voltage	_	
(GR)	Cround		Julpur		Lighting switch PASS			
				-	Inning light activated ^{*1}	7.0 V		
51	Ground	Headlamp LO (LH)	Output	Ignition It switch ON	Lighting switch OFF	0 V	_	
(R)	e.ea				Lighting switch 2ND	Battery voltage		
52		Headlamp LO (RH)	Output sv	Output s	Ignition	Lighting switch OFF	0 V	_
(P)	Ground	Daytime running light Our relay-2 ^{*1}			switch ON	Lighting switch 2ND	Battery voltage	
54 (GR) Gro		Fround Throttle control motor relay power supply	Output		itch OFF a few seconds after turn- a switch OFF)	0 V	-	
	Ground			 Ignition swit 		switch OFF w seconds after turning ig-	Battery voltage	_
55 (P) Grou		Ground Fuel pump power sup- ply	Output		tely 1 second or more than ag the ignition switch ON	0 V	_	
	Ground				mately 1 second after turn- gnition switch ON running	Battery voltage	_	
					A/C switch OFF	0 V	_	
56 (SB)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is oper- ating)	Battery voltage	-	

Terminal NO.		Description			Value	
(Wire +	color)	Signal name	Input/ Output	Condition	(Approx.)	
57 (G)	Ground	Throttle control motor relay control	Output	Ignition switch $ON \rightarrow OFF$	0 - 1.0 V ↓ Battery voltage ↓ 0 V	
				Ignition switch ON	0 - 1.0 V	
58		Ignition roley newer		Ignition switch OFF	0 V	
(R) ^{*2} (Y) ^{*3}	Ground	Ignition relay power supply	Output	Ignition switch ON	Battery voltage	
59	Crownd	Ignition relay power supply	Output	Ignition switch OFF	0 V	
(Y)	Ground			Ignition switch ON	Battery voltage	
60	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V	
(V)	Ground			Ignition switch ON	Battery voltage	
61	Ground	Ignition relay power	Output	Ignition switch OFF	0 V	
(W)	Ground	supply		Ignition switch ON	Battery voltage	
62	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V	
(L)				Ignition switch ON	Battery voltage	

*1: With daytime running light system

*2: CVT models

*3: M/T models

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

< ECU DIAGNOSIS INFORMATION >

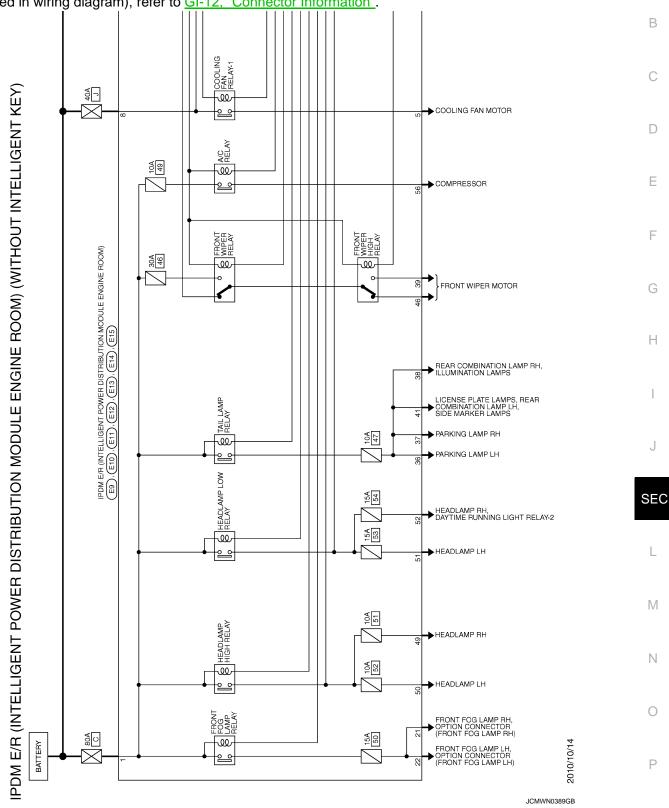
[WITHOUT INTELLIGENT KEY SYSTÉM]

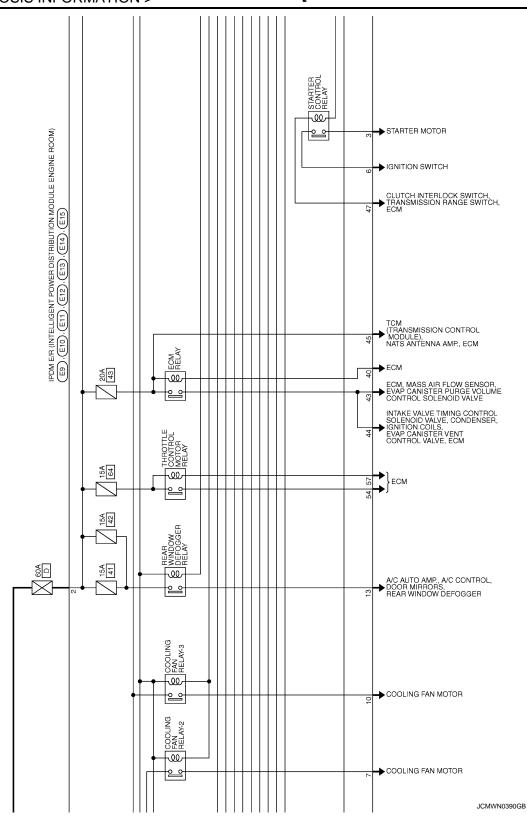
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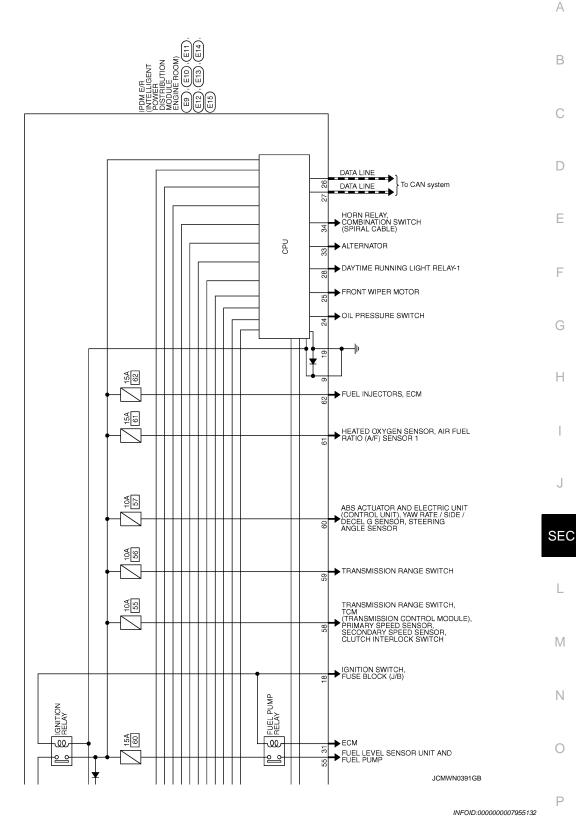
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Wiring Diagram — IPDM E/R —

For connector terminal arrangements, harness layouts, and alphabets in a \bigcirc (option abbreviation; if not described in wiring diagram), refer to <u>GI-12, "Connector Information"</u>.







Fail-Safe

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

Control part	Fail-safe operation	
Cooling fan	 The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn ON when the ignition switch is turned ON (Cooling fan HI operation) The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn OFF when the ignition switch is turned OFF 	
A/C compressor	A/C relay OFF	
Alternator	Outputs the power generation command signal (PWM signal) 0%	

If No CAN Communication Is Available With BCM

Control part	Fail-safe 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 Daytime running light relay OFF[*] 		
 Parking lamps Side marker lamps License plate lamps Illuminations Tail 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		
Rear window defogger relay	Rear window defogger relay OFF		
Horn Horn OFF			

*: With daytime running light system

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit of the ignition relay inside and ignition switch status from BCM via CAN communication.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the ignition switch status from BCM via CAN communication.
- 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.

Voltage	judgment		Operation	
Ignition relay contact side	Ignition switch status from BCM	IPDM E/R judgment		
ON	ON	Ignition relay ON normal	_	
OFF	OFF	Ignition relay OFF normal	_	
ON	OFF	Ignition relay ON stuck	 Detects DTC "B2098: IGN RELAY ON" Turns ON the tail lamp relay for 10 minutes 	
OFF	ON	Ignition relay OFF stuck	Detects DTC "B2099: IGN RELAY OFF"	

FRONT WIPER CONTROL

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

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

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

< ECU DIAGNOSIS INFORMATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Ignition switch	Front wiper switch	Front wiper stop position signal	F
ON	OFF	The front wiper stop position signal (stop position) cannot be input for 10 seconds.	
ON	ON	The front wiper stop position signal does not change for 10 seconds.	E

NOTE:

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

DTC Index

NOTE:

- · The details of time display are as follows.
- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.
- IGN counter is displayed on FFD (Freeze Frame data).
- The number is 0 when is detected now.
- The number increases like 1 ightarrow 2 \cdots 38 ightarrow 39 after returning to the normal condition whenever IGN OFF ightarrowF -ON.
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

		×: Applicable	0
CONSULT display	Fail-safe	Refer to	
No DTC is detected. further testing may be required.	_	_	ŀ
U1000: CAN COMM CIRCUIT	×	PCS-16	
B2098: IGN RELAY ON	×	PCS-17	
B2099: IGN RELAY OFF	_	PCS-47	

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INFOID:000000007955133

V: Applicable

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SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK < SYMPTOM DIAGNOSIS > [WITHOUT INTELLIGENT KEY SYSTEM]

SYMPTOM DIAGNOSIS

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

Description

INFOID:000000007773631

Security indicator lamp does not blink when ignition switch is in a position other than ON **NOTE:**

- Before performing the diagnosis, check "Work Flow". Refer to <u>SEC-6. "Work Flow"</u>.
- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.

CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

Ignition switch is not in the ON position.

Diagnosis Procedure

INFOID:000000007773632

1.CHECK SECURITY INDICATOR LAMP

Check security indicator lamp. Refer to <u>SEC-90, "Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

- YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u>.
- NO >> GO TO 1.

VEHICLE SECURITY SYSTEM CANNOT BE SET

< SYMPTOM DIAGNOSIS >	[WITHOUT INTELLIGENT KEY SYSTEM]			
VEHICLE SECURITY SYSTEM CANNOT BI	E SET			
Description	INF0/D:00000007773633			
Armed phase is not activated when door is locked using keyfob. NOTE:				
Check that vehicle is under the condition shown in "Conditions of each symptom.	f vehicle" before starting diagnosis, and check			
CONDITION OF VEHICLE (OPERATING CONDITION) Confirm the setting of "SECURITY ALARM SET" in "WORK SUI				
Diagnosis Procedure				
1.CHECK REMOTE KEYLESS ENTRY SYSTEM				
Lock/unlock door with keyfob. Refer to <u>DLK-213, "System Description"</u> .	E			
<u>Is the inspection result normal?</u> YES >> GO TO 2.	F			
NO >> Check remote keyless entry system. Refer to <u>DLK-271. "Diagnosis Procedure"</u> . 2.CONFIRM THE OPERATION				
	G			
Confirm the operation again. <u>Is the result normal?</u>				
YES >> Check intermittent incident. Refer to GI-41, "Intermi	ttent Incident". H			

NO >> GO TO 1.

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VEHICLE SECURITY ALARM DOES NOT ACTIVATE

< SYMPTOM DIAGNOSIS >

VEHICLE SECURITY ALARM DOES NOT ACTIVATE

Description

Alarm does not operate when alarm operating condition is satisfied. **NOTE:**

Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.

CONDITIONS OF VEHICLE (OPERATING CONDITIONS) "SECURITY ALARM SET" in "WORK SUPPORT" of "THEFT ALM" is ON when setting on CONSULT.

Diagnosis Procedure

INFOID:000000007773636

INFOID:000000007773635

[WITHOUT INTELLIGENT KEY SYSTEM]

1.CHECK DOOR SWITCH

Check door switch. Refer to <u>DLK-222</u>, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the malfunctioning door switch

2. CHECK HEADLAMP FUNCTION

Check headlamp function. Refer to <u>SEC-188, "Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.CHECK HORN FUNCTION

Check horn function. Refer to <u>SEC-186, "Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

4.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident".

NO >> GO TO 1.

< PRECAUTION > PRECAUTION PRECAUTIONS

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS system uses the seat belt switches to determine the front air bag deployment, and may only deploy one front air bag, depending on the severity of a collision and whether the front occupants are belted or unbelted. Information necessary to service the system safely is included in the "SRS AIR BAG" and "SEAT BELT" of this Service Manual.

WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

WARNING:

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

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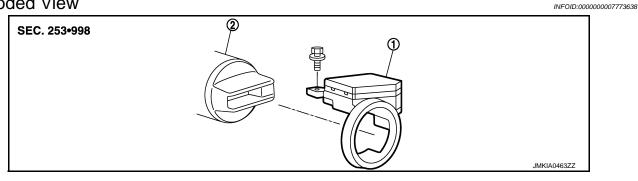
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[WITHOUT INTELLIGENT KEY SYSTEM]

REMOVAL AND INSTALLATION NATS ANTENNA AMP.

Exploded View



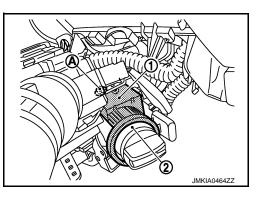
1. NATS antenna amp.

2. Key switch

Removal and Installation

REMOVAL

- Remove the steering column cover. Refer to <u>IP-13, "Removal and Installation"</u>.
- 2. Remove the NATS antenna amp. mounting screw (A), and then remove NATS antenna amp. (1) from key switch (2).



INFOID:000000007773639

INSTALLATION Install in the reverse order of removal.