# SECURITY CONTROL SYSTEM

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# CONTENTS

# WITH INTELLIGENT KEY SYSTEM

PRECAUTION4	
PRECAUTIONS       4         Precaution for Supplemental Restraint System       (SRS) "AIR BAG" and "SEAT BELT PRE-TEN-SIONER"         SIONER"       4         Precaution for Procedure without Cowl Top Cover4         Precaution for Battery Service       4         Service Procedure Precautions for Models with a         Pop-up Roll Bar       4	
SYSTEM DESCRIPTION6	
COMPONENT PARTS6Component Parts Location6Component Description7ABS Actuator and Electric Unit (Control Unit)7BCM7CVT Shift Selector (Detention Switch)8ECM8IPDM E/R8TCM8Combination Meter8Door Switch8Inside Key Antenna8Intelligent Key8Key Slot9Push-button Ignition Switch9Remote Keyless Entry Receiver9Security Indicator Lamp9Soft Top Control Unit9Starter Control Relay9	

Soft Top Control Unit	9
Starter Control Relay	9
Starter Relay	9
Stop Lamp Switch	9
Trunk Key Cylinder Switch	9
Trunk Room Lamp Switch	9
·	

SYSTEM .....10

INTELLIGENT KEY SYSTEM/ENGINE START	F
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Diagram10 INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description10	G
NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS12 NISSAN VEHICLE IMMOBILIZER SYSTEM- NATS : System Diagram	H
VEHICLE SECURITY SYSTEM	J
tion	SEC
COMMON ITEM	L
INTELLIGENT KEY	Μ
THEFT ALM	N
IMMU	0
DIAGNOSIS SYSTEM (IPDM E/R)	Ρ
ECU DIAGNOSIS INFORMATION	
ECM, IPDM E/R, BCM	

WIRING DIAGRAM 31
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION
NISSAN VEHICLE IMMOBILIZER SYSTEM- NATS
Wiring Diagram
VEHICLE SECURITY SYSTEM
BASIC INSPECTION 37
DIAGNOSIS AND REPAIR WORK FLOW 37 Work Flow
ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT40
ECM         40           ECM : Description         40           ECM : Work Procedure         40
BCM         40           BCM : Description         40           BCM : Work Procedure         40
DTC/CIRCUIT DIAGNOSIS 42
P1610 LOCK MODE         42           Description         42           DTC Logic         42           Diagnosis Procedure         42
P1611 ID DISCORD, IMMU-ECM43DTC Logic43Diagnosis Procedure43
P1612 CHAIN OF ECM-IMMU44DTC Logic44Diagnosis Procedure44
P1614 CHAIN OF IMMU-KEY45DTC Logic45Diagnosis Procedure45
P1615 DIFFRENCE OF KEY48DTC Logic48Diagnosis Procedure48
B2190 NATS ANTENNA AMP.         49           DTC Logic         49           Diagnosis Procedure         49
B2191 DIFFERENCE OF KEY52DTC Logic52Diagnosis Procedure52
B2192 ID DISCORD, IMMU-ECM         53           DTC Logic         53           Diagnosis Procedure         53

B2193 CHAIN OF ECM-IMMU	<b>54</b>
DTC Logic	54
Diagnosis Procedure	54
B2195 ANTI-SCANNING	<b>55</b>
DTC Logic	55
Diagnosis Procedure	55
B2555 STOP LAMP	<b>56</b>
DTC Logic	56
Diagnosis Procedure	56
Component Inspection	57
B2556 PUSH-BUTTON IGNITION SWITCH	<b>59</b>
DTC Logic	59
Diagnosis Procedure	59
Component Inspection	60
B2557 VEHICLE SPEED	<b>61</b>
DTC Logic	61
Diagnosis Procedure	61
B2560 STARTER CONTROL RELAY	<b>62</b>
DTC Logic	62
Diagnosis Procedure	62
B2601 SHIFT POSITION	<b>63</b>
DTC Logic	63
Diagnosis Procedure	63
B2602 SHIFT POSITION	<b>65</b>
DTC Logic	65
Diagnosis Procedure	65
Component Inspection	66
B2603 SHIFT POSITION	<b>68</b>
DTC Logic	68
Diagnosis Procedure	68
Component Inspection	70
B2604 SHIFT POSITION	<b>71</b>
DTC Logic	71
Diagnosis Procedure	71
B2605 SHIFT POSITION	<b>73</b>
DTC Logic	73
Diagnosis Procedure	73
B2608 STARTER RELAY	<b>75</b>
DTC Logic	75
Diagnosis Procedure	75
B260F ENGINE STATUS	<b>77</b>
Description	77
DTC Logic	77
Diagnosis Procedure	77
B2617 STARTER RELAY CIRCUIT	<b>78</b>
DTC Logic	78
Diagnosis Procedure	78
B261A PUSH-BUTTON IGNITION SWITCH	79

DTC Logic Diagnosis Procedure	79 79
	82
Description	82
DTC Logic	82
Diagnosis Procedure	82
B26EA KEY REGISTRATION	83
DIC LOGIC	83
	03
B210B STARTER CONTROL RELAY	84
DTC Logic	84
Diagnosis Procedure	84
B210C STARTER CONTROL RELAY	85
DTC Logic	85
Diagnosis Procedure	85
B210D STARTER RELAY	86
DIC Logic	86
Diagnosis Procedure	80
B210E STARTER RELAY	87
DTC Logic	87
Diagnosis Procedure	87
B210F SHIFT POSITION/CLUTCH INTER-	
LOCK SWITCH	89
DTC Logic	89
Diagnosis Procedure	89
B2110 SHIFT POSITION/CLUTCH INTER- LOCK SWITCH	91
DTC Logic	91
Diagnosis Procedure	91
	00
Component Function Check	93 02
Diagnosis Procedure	93
HORN FUNCTION	94
Component Function Check	94
Diagnosis Procedure	94
KEY WARNING LAMP	95
Component Function Check	95
Diagnosis Procedure	95
SECURITY INDICATOR LAMP	96
Component Function Check	96
Diagnosis Procedure	96
TRUNK KEY CYLINDER SWITCH	00
Component Function Check	90 
Diagnosis Procedure	
Component Inspection	
SYMPTOM DIAGNOSIS	100

ENGINE DOES NOT START WHEN INTELLI- GENT KEY IS INSIDE OF VEHICLE	A
SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK	B
VEHICLE SECURITY SYSTEM CANNOT BE SET102	D
INTELLIGENT KEY	Е
DOOR REQUEST SWITCH	F
DOOR KEY CYLINDER	G
DOOR LOCK AND UNLOCK SWITCH104DOOR LOCK AND UNLOCK SWITCH : Description104DOOR LOCK AND UNLOCK SWITCH : Diagnosis104Procedure104	H
VEHICLE SECURITY ALARM DOES NOT ACTIVATE	J
INTELLIGENT KEY INSERT INFORMATION DOES NOT OPERATE	SEC
PANIC ALARM FUNCTION DOES NOT OP- ERATE	M
REMOVAL AND INSTALLATION 109	Ν
KEY SLOT109Exploded View109Removal and Installation109	0
PUSH-BUTTON IGNITION SWITCH110Exploded View110Removal and Installation110	Ρ
SECURITY INDICATOR LAMP	

# < 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.

## Precaution for Procedure without Cowl Top Cover

INFOID:000000008460460

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc to prevent damage to windshield.



# Precaution for Battery Service

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

Service Procedure Precautions for Models with a Pop-up Roll Bar

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INFOID:00000008460461

### WARNING:

Always observe the following items for preventing accidental activation.

# SEC-4

# PRECAUTIONS

< PRECAUTION >

### [WITH INTELLIGENT KEY SYSTEM]

- Risk of passenger injury or death may increase if the pop-up roll bar does not deploy during a roll over collision. In order to reduce the chance of an incident where the pop-up roll bar is inoperative, A all maintenance must be performed by a NISSAN or INFINITI dealer.
- Before removing and installing the pop-up roll bar component parts and harness, always turn the ignition switch OFF, disconnect the battery negative terminal, and wait for 3 minutes or more. (The purpose of this operation is to discharge electricity that is accumulated in the auxiliary power supply circuit in the air bag diagnosis sensor unit.)
- When repairing, removing, and installing a pop-up roll bar, always refer to SRS AIR BAG and SRS AIR BAG CONTROL warnings in the Service Manual.

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# SYSTEM DESCRIPTION > SYSTEM DESCRIPTION COMPONENT PARTS

COMPONENT PARTS

**Component Parts Location** 

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- 1. Inside key antenna (console) Refer to <u>DLK-10, "DOOR LOCK</u> <u>SYSTEM :</u> <u>Component Parts Location"</u>.
- Remote keyless entry receiver (Front side) Refer to <u>DLK-10, "DOOR LOCK</u> <u>SYSTEM :</u> <u>Component Parts Location"</u>.
- 7. ECM Refer to <u>EC-15, "ENGINE CON-</u> <u>TROL SYSTEM : Component Parts</u> <u>Location"</u>.
- 10. Security indicator lamp
- 13. Power window main switch (Door lock and unlock switch)
- 16. Front door switch (driver side)

- 2. Push-button ignition switch
- ABS actuator and electric unit (con- 6. trol unit) Refer to <u>BRC-8. "Component Parts</u> <u>Location"</u>.

3.

9.

Key slot

- 8. IPDM E/R Refer to <u>PCS-4, "Component Parts</u> <u>Location"</u>.
- 11. Combination meter Refer to <u>MWI-6</u>, "<u>METER SYSTEM</u>: <u>Component Parts Location</u>".
- 14. Front outside handle LH (Outside key antenna)
- 17. Front outside handle LH (Request switch)

- TCM Refer to <u>TM-10, "CVT CONTROL</u> <u>SYSTEM : Component Parts Location"</u>.
- BCM Refer to <u>BCS-4, "BODY CONTROL</u> <u>SYSTEM : Component Parts Loca-</u> <u>tion"</u>.
- 12. Stop lamp switch Refer to <u>EC-15, "ENGINE CON-</u> <u>TROL SYSTEM : Component Parts</u> <u>Location"</u>.
- 15. Front door lock assembly (driver side) (Door key cylinder switch)
- Soft top control unit Refer to <u>RF-9, "Component Parts</u> <u>Location"</u>.

# **COMPONENT PARTS**

# < SYSTEM DESCRIPTION >

# [WITH INTELLIGENT KEY SYSTEM]

19.	Inside key antenna (trunk room) Refer to <u>DLK-10, "DOOR LOCK</u> <u>SYSTEM :</u> <u>Component Parts Location"</u> .	20.	Remote keyless entry receiver (rear side) Refer to <u>DLK-10. "DOOR LOCK</u> <u>SYSTEM :</u> <u>Component Parts Location"</u> .	21.	Trunk lid opener request switch	A
22.	Trunk lid lock assembly (Trunk room lamp switch)	23.	Outside key antenna (rear bumper) Refer to <u>DLK-10, "DOOR LOCK</u> <u>SYSTEM :</u> <u>Component Parts Location"</u> .	24.	Trunk key cylinder switch	В
25.	Front outside handle RH (Request switch)	26.	Front door switch (passenger side)	27.	Front outside handle RH (Outside key antenna)	
28.	Front power window switch (passen- ger side) (Door lock and unlock switch)					D
Α.	Around instrument lower panel LH	В.	Instrument panel assembly			_
Com	oonent Description				INFOID:00000008460464	E

ABS actuator and electric unit (control unit)	<u>SEC-7</u>	
BCM	SEC-7	G
CVT shift selector (detention switch)	SEC-8	
ECM	SEC-8	
IPDM E/R	<u>SEC-8</u>	H
ТСМ	<u>SEC-8</u>	
Combination meter	<u>SEC-8</u>	
Door switch	<u>SEC-8</u>	
Inside key antenna	<u>SEC-8</u>	
Intelligent Key	<u>SEC-8</u>	J
Key slot	<u>SEC-9</u>	
Push-button ignition switch	<u>SEC-9</u>	SE
Remote keyless entry receiver	<u>SEC-9</u>	
Security indicator lamp	<u>SEC-9</u>	
Soft top control unit	<u>SEC-9</u>	L
Starter control relay	SEC-9	
Starter relay	<u>SEC-9</u>	N./I
Stop lamp switch	<u>SEC-9</u>	111
Trunk key cylinder switch	<u>SEC-9</u>	
Trunk room lamp switch	<u>SEC-9</u>	N

# ABS Actuator and Electric Unit (Control Unit)

ABS actuator and electric unit (control unit) transmits the vehicle speed signal to BCM via CAN communication.

BCM also receives the vehicle speed signal from combination meter via CAN communication. BCM compares both signals to detect the vehicle speed.

# BCM

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BCM controls INTELLIGENT KEY SYSTEM (ENGINE START FUNCTION), NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS and VEHICLE SECURITY SYSTEM.

BCM performs the ID verification between BCM and Intelligent Key when the Intelligent Key is carried into the detection area of inside key antenna, and push-button ignition switch is pressed. If the ID verification result is OK, push-button ignition switch operation is available.

# **COMPONENT PARTS**

# < SYSTEM DESCRIPTION >

Then, when the ignition switch is turned ON, BCM performs ID verification between BCM and ECM. If the ID verification result is OK, ECM can start engine.

# CVT Shift Selector (Detention Switch)

Detention switch detects that selector lever is locked in the P position, and then transmits ON/OFF signal to BCM and IPDM E/R.

BCM confirms the selector lever position with the following 5 signals.

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

IPDM E/R confirms the selector lever position with the following 3 signals.

- P position signal from CVT shift selector (detention switch)
- P/N position signal from TCM
- P/N position signal from BCM (CAN)

# ECM

ECM controls the engine.

When the ignition switch is turned ON, BCM starts communication with ECM and performs the ID verification between BCM and ECM.

If the verification result is OK, the engine can start. If the verification result is NG, the engine can not start.

# IPDM E/R

Starter control relay and starter relay are integrated in IPDM E/R, and used for the engine starting function. Starter relay is controlled by BCM, and starter control relay is controlled by IPDM E/R while communicating with BCM. IPDM E/R sends the starter control relay and starter relay status signal to BCM.

# TCM

TCM transmits the shift position signal (P/N position) to BCM via CAN communication. BCM confirms the selector lever position with the following 5 signals.

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

IPDM E/R confirms the selector lever position with the following 3 signals.

- P position signal from CVT shift selector (detention switch)
- P/N position signal from TCM
- P/N position signal from BCM (CAN)

# Combination Meter

Combination meter transmits the vehicle speed signal to BCM via CAN communication.

BCM also receives the vehicle speed signal from ABS actuator and electric unit (control unit) via CAN communication. BCM compares both signals to detect the vehicle speed.

# Door Switch

Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.

# Inside Key Antenna

Inside key antenna detects whether Intelligent Key is inside the vehicle or not, and transmits the signal to BCM.

Two inside key antennas are installed in console and trunk room.

# Intelligent Key

Each Intelligent key has an individual electronic ID, and transmits the ID signal by request from BCM.

### Revision: 2012 October

SEC-8

# [WITH INTELLIGENT KEY SYSTEM]

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INFOID:00000008460468

INFOID:000000008460469

INFOID:000000008460470

### INFOID:00000008460474

2013 Murano CrossCabriolet

INFOID:00000008460471

INFOID:00000008460472

INFOID:000000008460473

# **COMPONENT PARTS**

Carrying the Intelligent Key whose ID is registered in BCM, the driver can performs door lock/unlock operation

# [WITH INTELLIGENT KEY SYSTEM]

### Key slot has key-in switch and NATS antenna amp. inside. Key-in switch detects whether Intelligent Key is inserted into key slot or not, and transmits ON/OFF signal to BCM. When Intelligent Key is inserted into key slot, BCM receives NATS ID signal from the transponder integrated in Intelligent Key via NATS antenna amp. Key slot indicator blinks when Intelligent Key insertion is required. Push-button Ignition Switch INFOID:00000008460476 Push-button ignition switch has push switch which detects that push-button is pressed, and then transmits ON/ OFF signal to BCM. BCM changes the ignition switch position with the operation of push-button ignition switch. BCM maintains the ignition switch position status while push-button is not operated. Remote Keyless Entry Receiver Ε INFOID:000000008460477 Remote keyless entry receiver receives each button operation signal and electronic key ID signal from Intelligent Key, and then transmits the signal to BCM. Two remote keyless entry receivers are installed in center F console and trunk room. Security Indicator Lamp INFOID:00000008460478 Security indicator lamp is located on the driver's side instrument panel assembly. Security indicator lamp blinks when ignition switch is in any position other than ON, to warn that this vehicle is equipped with Nissan Vehicle Immobilizer System-NATS. Н Soft Top Control Unit INFOID:000000008460479 Soft top control unit controls the soft top system, and controls local communication between BCM and power window switches (door lock and unlock switches are integrated). Soft top control unit has the self diagnosis function that detects a malfunction of the communication line. Starter Control Relay INFOID:00000008460480 Starter control relay and starter relay are integrated in IPDM E/R, and used for the engine starting function. Starter relay is controlled by BCM, and starter control relay is controlled by IPDM E/R while communicating SEC with BCM. IPDM E/R sends the starter control relay and starter relay status signal to BCM. Starter Relay INFOID:00000008460481 Starter control relay and starter relay are integrated in IPDM E/R, and used for the engine starting function. Starter relay is controlled by BCM, and starter control relay is controlled by IPDM E/R while communicating

# Stop Lamp Switch

< SYSTEM DESCRIPTION >

Key Slot

and push-button ignition switch operation.

Stop lamp switch detects that brake pedal is depressed, and then transmits the ON/OFF signal to BCM.

with BCM. IPDM E/R sends the starter control relay and starter relay status signal to BCM.

# Trunk Key Cylinder Switch

Trunk key cylinder switch detects trunk key cylinder operation condition and then transmits ON (trunk lid open)/OFF (not operated) signal to BCM. BCM uses this signal input to judge whether trunk lid is opened by the authorized means or not for the vehicle security system.

# Trunk Room Lamp Switch

Trunk room lamp switch detects engagement of trunk lid lock assembly and trunk lid striker, then transmits the trunk room open/close signal to BCM.

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INFOID:000000008460475

# SYSTEM INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Diagram



# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

INFOID:000000008460486

# SYSTEM DESCRIPTION

• The engine start function of Intelligent Key system makes it possible to start and stop engine without using the key based on the electronic ID verification. The electric ID verification is performed between BCM and Intelligent Key when the push-button ignition switch is pressed while the Intelligent Key is within the detection area of inside key antenna.

NOTE:

The driver should carry the Intelligent Key at all times.

- Intelligent Key has 2 IDs [Intelligent Key ID and for NVIS (NATS) ID]. It can perform the door lock/unlock
  operation and the push-button ignition switch operation when the registered Intelligent Key is carried.
- Up to 4 Intelligent Keys can be registered (Including the standard Intelligent Key) on request from the owner. NOTE:
- Refer to <u>DLK-15, "INTELLIGENT KEY SYSTEM : System Description"</u> for any functions other than engine start function of Intelligent Key system.

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

# < SYSTEM DESCRIPTION >

# [WITH INTELLIGENT KEY SYSTEM]

• Ti th be W	he 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. In that case, the NVIS (NATS) ID verification can be performed when Intelligent Key is inserted into key slot. If verification result is OK, engine can be started.	А	
OP	ERATION WHEN INTELLIGENT KEY IS CARRIED	В	
1.	. When push-button ignition switch is pressed, BCM activates inside key antenna and transmits the request signal to Intelligent Key.		
2.	Intelligent Key receives the request signal and transmits the Intelligent Key ID signal to BCM.	С	
3.	BCM receives the Intelligent Key ID signal via remote keyless entry receiver, and verifies it with the registered ID.		
4.	If the verification result is OK, BCM turns ACC relay ON and transmits the ignition power supply ON signal to IPDM E/R.	D	
5.	IPDM E/R turns ignition relay ON and starts the ignition power supply.	_	
6.	BCM detects that selector lever is in the P or N position.	E	
7.	BCM transmits the starter request signal via CAN communication to IPDM E/R and turns starter relay in IPDM E/R ON if BCM judges that the engine start condition* is satisfied.	_	
8.	IPDM E/R turns starter control relay ON when receiving the starter request signal.	F	
9.	Battery power is supplied through starter relay and starter control relay to operate starter motor.		
	If a malfunction is detected in the Intelligent Key system, "KEY" warning lamp in the combination meter illuminates. At that time, engine cannot be started.	G	
10.	When BCM received feedback signal from ECM indicating that the engine is started, BCM transmits a stop signal to IPDM E/R and stops the cranking by turning OFF starter motor relay. (If the engine start is unsuccessful, the cranking operation stops automatically within 5 seconds.)	Η	
	When Intelligent Key is carried outside of the vehicle (inside key antenna detection area) while ignition switch is in the ACC or ON position, even if the engine start condition* is satisfied, engine cannot be started.	I	
*: F TOI	or the engine start condition, refer to "IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUT- N IGNITION SWITCH OPERATION".	J	
OP	ERATION RANGE		
Eng whe	gine can be started when Intelligent Key is inside the vehicle. However, sometimes engine might not start en Intelligent Key is on instrument panel or in glove box.	SEC	
OP	ERATION WHEN KEY SLOT IS USED		
Wh der For	en the Intelligent Key battery is discharged, the NVIS (NATS) ID verification between BCM and transpon- (integrated into Intelligent Key) is performed when Intelligent Key is inserted into key slot. details relating to starting the engine using key slot, refer to <u>SEC-13</u> , " <u>NISSAN VEHICLE IMMOBILIZER</u>	L	
<u>SY:</u>	STEM-NATS : System Description".	M	
IGN TIC	NITION SWITCH POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERA-		
The NO	e ignition switch position can be changed by performing the following operations.	Ν	
• W	/hen an Intelligent Key is within the detection area of inside key antenna, and when it is inserted to the key		
• W - B	/hen starting engine, BCM checks the following conditions and then changes the ignition switch position. rake pedal operating condition	0	
- S	elector lever position		
- Ve	ehicle speed	Ρ	
• II L( ar - Ig	OCK position and LOCK indicator illuminates without steering lock operation when the following conditions re fulfilled.		
- S	elector lever position: P		
- A • O	ny of the following condition is met pening door		

- Closing door
- Door is locked by request switch operation

• Door is locked by Intelligent Key operation

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

	Engine start/s	Puch-button ignition switch	
Power supply position	Selector lever	Brake pedal operation condition	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 $\rightarrow \text{OFF}$	—	—	1

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

	Engine start/s	Push-button ignition switch operation frequency	
Power supply position	Selector lever Brake pedal operation condition		
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]



# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description

### SYSTEM DESCRIPTION

- The NIssan Vehicle Immobilizer System-NATS [NVIS (NATS)] prevents engine being started by Intelligent Key whose ID is not registered to the vehicle (BCM). It has a higher protection against auto theft involving the duplication of mechanical keys.
- The mechanical key integrated in the Intelligent Key cannot start the engine. When Intelligent Key battery is discharged, the NVIS (NATS) ID verification is performed between BCM and transponder integrated into Intelligent Key when Intelligent Key is inserted into key slot. If the verification results are OK, the engine start operation can be performed by the push-button ignition switch operation.
- Security indicator lamp always blinks when the ignition switch is in any position except ON, to warn that the vehicle is equipped with NVIS (NATS).
- Up to 4 Intelligent Key can be registered (Including the standard ignition key) on request from the owner.
- When replacing ECM, BCM or Intelligent Key, the specified procedure (Initialization and registration) using CONSULT is required.
- Possible symptom of NVIS (NATS) malfunction is "Engine can not start". However, this symptom may occur because of other than NVIS (NATS) malfunction. So, start the trouble diagnosis according to <u>SEC-37. "Work</u> <u>Flow"</u>.
- If ECM other than genuine part is installed, the engine cannot be started. For ECM replacement procedure, refer to EC-118, "Work Procedure".

## PRECAUTIONS FOR KEY REGISTRATION

# SEC-13

Ρ

# < SYSTEM DESCRIPTION >

- The ID registration is a procedure that erases the current NVIS (NATS) ID, and then registers a new ID. Therefore, before starting the registration operation, collect all registered Intelligent Keys from the customer.
- When registering Intelligent Key, perform only one procedure to register both IDs [Intelligent Key ID and NVIS (NATS) ID] simultaneously.

### SECURITY INDICATOR LAMP

- Security indicator lamp always blinks when the ignition switch is in any position except ON.
- This blinking warns that the vehicle is equipped with NVIS (NATS).

### NOTE:

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

### OPERATION WHEN INTELLIGENT KEY IS INSERTED INTO KEY SLOT

- 1. When Intelligent Key is inserted into key slot, BCM activates NATS antenna amp. that is integrated into key slot to transmit the request signal to Intelligent Key.
- 2. Intelligent Key receives the request signal and transmits the Intelligent Key ID signal to BCM.
- 3. BCM receives the Intelligent Key ID signal via NATS antenna amp. and verifies it with the registered ID.
- 4. If the verification result is OK, BCM turns ACC relay ON and transmits the ignition power supply ON signal to IPDM E/R.
- 5. IPDM E/R turns ignition relay ON and starts the ignition power supply.
- 6. BCM detects that selector lever is in the P or N position.
- 7. BCM transmits the starter request signal via CAN communication to IPDM E/R and turns starter relay in IPDM E/R ON if BCM judges that the engine start condition\* is satisfied.
- 8. IPDM E/R turns starter control relay ON when receiving the starter request signal.
- 9. Battery power is supplied through starter relay and starter control relay to operate starter motor.
- 10. When BCM received feedback signal from ECM indicating that the engine is started, BCM transmits a stop signal to IPDM E/R and stops the cranking by turning OFF starter motor relay. (If the engine start is unsuccessful, the cranking operation stops automatically within 5 seconds.)

\*: For the engine start condition, refer to "IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUT-TON IGNITION SWITCH OPERATION".

### IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERA-TION

The ignition switch position can be changed by performing the following operations.

### NOTĚ:

- When an Intelligent Key is within the detection area of inside key antenna, and when it is inserted to the key slot, it is equivalent to the operations below.
- When starting engine, BCM checks the following conditions and then changes the ignition switch position.
- Brake pedal operating condition
- Selector lever position
- Vehicle speed
- This models do not have the steering lock system. However, the ignition switch position changes to the LOCK position and LOCK indicator illuminates without steering lock operation when the following conditions are fulfilled.
- Ignition switch: OFF
- Selector lever position: P
- Any of the following condition is met
- Opening door
- Closing door
- Door is locked by request switch operation
- Door is locked by Intelligent Key operation

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

Power supply position	Engine start/stop condition		Push-button ignition switch
	Selector lever	Brake pedal operation condition	operation frequency
$LOCK \rightarrow ACC$	—	Not depressed	1
$LOCK \rightarrow ACC \rightarrow ON$	—	Not depressed	2

# < SYSTEM DESCRIPTION >

# [WITH INTELLIGENT KEY SYSTEM]

	Engine start/s	top condition	Duch button ignition quitch	٨
Power supply position	Selector lever	Brake pedal operation condition	operation frequency	A
$LOCK \to ACC \to ON \to OFF$	—	Not depressed	3	R
$\begin{array}{l} LOCK \rightarrow START \\ ACC \rightarrow START \\ ON \rightarrow START \end{array}$	P or N position	Depressed	1	D
Engine is running $\rightarrow \text{OFF}$	—	—	1	С

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

				E
	Engine start/s	top condition	Puch button ignition owitch	
Power supply position	Selector lever	Brake pedal operation condition	operation frequency	E
Engine is running $\rightarrow$ ACC	—	—	Emergency stop operation	
Engine stall return operation while driving	N position	Not depressed	1	F

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.

VEHICLE SECURITY SYSTEM

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# [WITH INTELLIGENT KEY SYSTEM]



# **VEHICLE SECURITY SYSTEM : System Description**

INFOID:000000008460490

- The vehicle security system has two alarm functions (theft warning alarm and panic alarm), and reduces the possibility of a theft or mischief by activating horns and headlamps intermittently.
- The panic alarm does not start when the theft warning alarm is activating, and the panic alarm stops when the theft warning alarm is activated.

The priority of the functions are as per the following.

Priority	Function
1	Theft warning alarm
2	Panic alarm

## THEFT WARNING ALARM

- The theft warning alarm function activates horns and headlamps intermittently when BCM detects that any door or trunk lid is opened by unauthorized means, while the system is in the ARMED state.
- · Security indicator lamp always blinks when ignition switch is any position other than ON. Security indicator lamp blinking warns that the vehicle is equipped with a vehicle security system.

# Operation Flow



No.	System state		Switching condition	
1	DISARMED to	When all conditions of A and	A	В
	PRE-ARMED	fied.	<ul> <li>Ignition switch: OFF/LOCK</li> <li>All doors: Closed</li> <li>Trunk lid: Closed</li> </ul>	All doors are locked by: • Door key cylinder LOCK switch • LOCK button of Intelligent Key • Door request switch • Door lock and unlock switch
2	PRE-ARMED to ARMED	When all of the following conditions are satisfied for 30 seconds.	<ul><li>Ignition switch: OFF/LOCK</li><li>All doors: Closed</li><li>Trunk lid: Closed</li></ul>	
3	ARMED to	When the condition A and	А	В
	ALARM	fied.	Intelligent Key function: Not used	<ul><li>Any door: Open</li><li>Trunk lid: Open</li></ul>
4	DISARMED to	When all conditions of A and	A	В
	PRE-RESET	one condition of B are satis- fied.	<ul> <li>Ignition switch: OFF/LOCK</li> <li>All doors: Closed</li> <li>Trunk lid: Open</li> </ul>	All doors are locked by: • Door key cylinder LOCK switch • LOCK button of Intelligent Key • Door request switch
5	PRE-ARMED to PRE-RESET	When the following condition is satisfied.	Trunk lid: Open	
6	ARMED to PRE-RESET	When one of the following conditions is satisfied.	<ul><li>Trunk key cylinder switch: ON</li><li>Trunk lid opener request switch: ON</li></ul>	
7	ALARM to PRE-RESET		IRUNK OPEN button of Intelligent	Key: ON
8	PRE-RESET to DISARMED	When one of the following conditions is satisfied.	<ul> <li>Ignition switch: ACC/ON/CRANKIN</li> <li>Door key cylinder UNLOCK switch:</li> <li>UNLOCK button of Intelligent Key:</li> <li>Door request switch: ON</li> <li>UNLOCK switch of door lock and u</li> <li>Any door: Open</li> <li>Soft top open permission signal fro</li> </ul>	IG/RUN : ON ON Inlock switch: ON m soft top control unit: ON
9	PRE-RESET to	When all conditions of A and	A	В
	PRE-ARMED	condition B are satisfied.	<ul><li>Ignition switch: OFF/LOCK</li><li>All doors: Closed</li></ul>	Trunk lid: Closed
10	PRE-ARMED to DISARMED	When one of the following conditions is satisfied.	<ul> <li>Ignition switch: ACC/ON/CRANKIN</li> <li>Door key cylinder UNLOCK switch:</li> <li>UNLOCK button of Intelligent Key:</li> <li>Door request switch: ON</li> <li>Any door: Open</li> <li>Soft top open permission signal fro</li> </ul>	IG/RUN : ON ON m soft top control unit: ON

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# < SYSTEM DESCRIPTION >

No.	System state		Switching condition
11	ARMED to DISARMED	When one of the following condition is satisfied.	<ul> <li>Ignition switch: ACC/ON/CRANKING/RUN</li> <li>Door key cylinder UNLOCK switch: ON</li> </ul>
12	ALARM to DISARMED		<ul> <li>UNLOCK button of Intelligent Key: ON</li> <li>Door request switch: ON</li> </ul>
13	RE-ALARM	When one of the following conditions is satisfied after ALARM operation is finished.	<ul><li>Any door: Open</li><li>Trunk lid: Open</li></ul>

### NOTE:

• BCM ignores the door key cylinder UNLOCK switch signal input for 1 second after the door key cylinder LOCK switch signal input.

 To lock/unlock all doors or trunk lid by operating remote controller button of Intelligent Key or door/trunk lid request switch, Intelligent Key must be within the detection area of outside key antenna. For details, refer to <u>DLK-16</u>, "<u>DOOR LOCK FUNCTION</u>: <u>System</u> <u>Description</u>".

### DISARMED Phase

The vehicle security system is not set in the DISARMED phase. The vehicle security system stays in this phase while any door is open, because it is assumed that the owner is inside or nearby the vehicle. Security indicator lamp blinks every 2.4 seconds.

When the vehicle security system is reset, each phase switches to the DISARMED phase directly.

### PRE-ARMED Phase

The PRE-ARMED phase is the transient state between the DISARMED phase and the ARMED phase. This phase is maintained for 30 seconds, so that the owner can reset the setting due to a mis-operation. This phase switches to the ARMED phase when vehicle conditions are not changed for 30 seconds. Security indicator lamp illuminates while being in this phase.

To reset the PRE-ARMED phase, refer to the switching condition of No. 10 in the table above.

### ARMED Phase

The vehicle security system is set, and BCM monitors all necessary inputs. If any door or trunk lid is opened without using Intelligent Key or mechanical key, vehicle security system switches to the ALARM phase. Security indicator lamp blinks every 2.4 seconds.

If the theft warning alarm is activated irregularly when the customer opened trunk lid using mechanical key, trunk key cylinder switch circuit might have a malfunction. Check the switch circuit. Refer to <u>SEC-98</u>, "Component Function Check".

To reset the ARMED phase, refer to the switching condition of No. 11 in the table above.

### ALARM Phase

BCM transmits "Theft Warning Horn Request" signal and "High Beam Request" signal intermittently to IPDM E/R via CAN communication. In this phase, horns and headlamps are activated intermittently for approximately 50 seconds to warn that the vehicle is accessed by unauthorized means. ON/OFF timings of horns and headlamps are synchronized. After 50 seconds, the vehicle security system returns to the ARMED phase. At this time, if BCM still detects unauthorized access to the vehicle, the system is switched to the ALARM phase again. This RE-ALARM operation is carried out a maximum of 2 times.

To cancel the ALARM operation, refer to the switching condition of No. 12 in the table above.

### NOTE:

If a battery terminal is disconnected during the ALARM phase, theft warning alarm stops. But when the battery terminal is reconnected, theft warning alarm is activated again.

### PRE-RESET Phase

The PRE-RESET phase is the transient state between each phase and DISARMED phase. If only the condition of trunk lid is not satisfied, the system switches to the PRE-RESET phase. Then, when any condition is changed, the system switches to the DISARMED phase or PRE-ARMED phase.

### PANIC ALARM

- The panic alarm function activates horns and headlamps intermittently when the owner presses the PANIC ALARM button of Intelligent Key outside the vehicle while the Ignition switch position is OFF or LOCK.
- When BCM receives panic alarm signal from Intelligent Key, BCM transmits "Theft Warning Horn Request" signal and "High Beam Request" signal intermittently to IPDM E/R via CAN communication. To prevent the activation due to mis-operation of Intelligent Key by owner, the panic alarm function is activated when BCM receives the signal for 0.4 0.6 seconds.
- Panic alarm operation is maintained for 25 seconds.
- Panic alarm operation is cancelled when BCM receives one of the following signals.

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- LOC - UNL - TRU - PAN	outton of Intelligent Key: ON K button of Intelligent Key: ON OPEN button of Intelligent Key: ON ALARM button of Intelligent Key: Long pressed	A
<ul> <li>UNLOCK button of Intelligent Key: ON</li> <li>TRUNK OPEN button of Intelligent Key: ON</li> <li>PANIC ALARM button of Intelligent Key: Long pressed</li> <li>Any door request switch: ON</li> </ul>	В	
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		D
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**SEC-19** 

# DIAGNOSIS SYSTEM (BCM) COMMON ITEM

# COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000008973097

# 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.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Ecu Identification	The BCM part number is displayed.
Configuration	<ul><li>Read and save the vehicle specification.</li><li>Write the vehicle specification when replacing BCM.</li></ul>

### 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.

Suctor	Sub system selection item	Diagnosis mode		
System	Sub system selection item	Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	×	×	×
Rear window defogger	REAR DEFOGGER		×	×
Warning chime	BUZZER		×	×
Interior room lamp timer	INT LAMP	×	×	×
Exterior lamp	HEAD LAMP	×	×	×
Wiper and washer	WIPER	×	×	×
Turn signal and hazard warning lamps	FLASHER	×	×	×
	AIR CONDITONER*			
<ul><li>Intelligent Key system</li><li>Engine start system</li></ul>	INTELLIGENT KEY	×	×	×
Combination switch	COMB SW		×	
Body control system	BCM	×		
NVIS - NATS	IMMU		×	×
Interior room lamp battery saver	BATTERY SAVER	×	×	×
Trunk lid opener system	TRUNK		×	×
Vehicle security system	THEFT ALM	×	×	×
RAP system	RETAINED PWR		×	
Signal buffer system	SIGNAL BUFFER		×	×
TPMS	AIR PRESSURE MONITOR	×	×	×

### NOTE:

\*: This item is displayed, but 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.

# **DIAGNOSIS SYSTEM (BCM)**

# [WITH INTELLIGENT KEY SYSTEM]

CONSULT screen item	Indication/Unit	Description A		
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected		
Odo/Trip Meter	km	Total mileage (Odometer 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"*)	В
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".)	С
	LOCK>ACC		While turning power supply position from "LOCK" to "ACC"	
	ACC>ON		While turning power supply position from "ACC" to "IGN"	D
	RUN>ACC		While turning power supply position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.)	D
	CRANK>RUN		While turning power supply position from "CRANKING" to "RUN" (From cranking up the engine to run it)	Е
	RUN>URGENT		While turning power supply position from "RUN" to "ACC" (Emer- gency stop operation)	F
	ACC>OFF	Power position status of the moment a particular DTC is detected	While turning power supply position from "ACC" to "OFF"	
Vehicle Condition	OFF>LOCK		While turning power supply position from "OFF" to "LOCK"*	
	OFF>ACC		While turning power supply position from "OFF" to "ACC"	G
	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	Н
	LOCK>SLEEP		While turning BCM status from normal mode (Power supply posi- tion 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)	.1
	ON		Power supply position is "IGN" (Ignition switch ON with engine stopped)	Ũ
	ENGINE RUN		Power supply position is "RUN" (Ignition switch ON with engine running)	SE
	CRANKING	-	Power supply position is "CRANKING" (At engine cranking)	
IGN Counter	0 - 39	The number of times that • The number is 0 wher • The number increases whenever ignition swit • The number is fived to	at ignition switch is turned ON after DTC is detected a malfunction is detected now. s like $1 \rightarrow 2 \rightarrow 338 \rightarrow 39$ after returning to the normal condition tch OFF $\rightarrow$ ON.	
NOTE			שלא	IVI

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\*: Power supply position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position, 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 supply 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)

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# WORK SUPPORT

# 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 <ul> <li>MODE 1: 1 minute</li> <li>MODE 2: 5 minutes</li> <li>MODE 3: 30 seconds</li> <li>MODE 4: 2 minutes</li> </ul>
LOCK/UNLOCK BY I-KEY	Door lock/unlock function by door request switch mode can be changed to operate (ON) or not operate (OFF) in this mode
ENGINE START BY I-KEY	Engine start function mode can be changed to operate (ON) or not operate (OFF) with this mode
TRUNK/GLASS HATCH OPEN	Buzzer reminder function mode by trunk lid opener request switch can be changed to operate (ON) or not operate (OFF) with this mode
PANIC ALARM SET	<ul> <li>Panic alarm button pressing time on Intelligent Key remote control button can be selected from the following with this mode</li> <li>MODE 1: 0.5 sec.</li> <li>MODE 2: Non-operation</li> <li>MODE 3: 1.5 sec.</li> </ul>
PW DOWN SET	<ul> <li>Unlock button pressing time on Intelligent Key button can be selected from the following with this mode</li> <li>MODE 1: 3 sec.</li> <li>MODE 2: Non-operation</li> <li>MODE 3: 5 sec.</li> </ul>
TAKE OUT FROM WIN WARN	NOTE: This item is displayed, but cannot be used
TRUNK OPEN DELAY	<ul> <li>Trunk button pressing on Intelligent Key can be selected as per the following in this mode</li> <li>MODE 1: Press and hold</li> <li>MODE 2: Press twice</li> <li>MODE 3: Press and hold, or press twice</li> </ul>
LO- BATT OF KEY FOB WARN	Intelligent Key low battery warning mode can be changed to operate (ON) or not operate (OFF) with this mode
ANTI KEY LOCK IN FUNCTI	Key reminder function mode can be changed to operate (ON) or not operate (OFF) with this mode.
HAZARD ANSWER BACK	<ul> <li>Hazard reminder function mode can be selected from the following with this mode</li> <li>LOCK ONLY: Door lock operation only</li> <li>UNLOCK ONLY: Door unlock operation only</li> <li>LOCK/UNLOCK: Lock/unlock operation</li> <li>OFF: Non-operation</li> </ul>
ANS BACK I-KEY LOCK	<ul> <li>Buzzer reminder function (lock operation) mode by door request switch (driver side and passenger side) can be selected from the following with this mode</li> <li>Horn chirp: Sound horn</li> <li>Buzzer: Sound Intelligent Key warning buzzer</li> <li>OFF: Non-operation</li> </ul>
ANS BACK I-KEY UNLOCK	Buzzer reminder function (unlock operation) mode by door request switch can be changed to operate (ON) or not operate (OFF) with this mode
SHORT CRANKING OUTPUT	Starter motor can operate during the times below • 70 msec • 100 msec • 200 msec
INSIDE ANT DIAGNOSIS	This function allows inside key antenna self-diagnosis
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

# SELF-DIAG RESULT

Refer to BCS-55, "DTC Index".

# DATA MONITOR

NOTE:

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

# DIAGNOSIS SYSTEM (BCM)

# [WITH INTELLIGENT KEY SYSTEM]

Monitor Item	Condition	А
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 item is displayed, but cannot be monitored	В
REQ SW -RL	NOTE: This item is displayed, but cannot be monitored	С
REQ SW -BD/TR	Indicates [ON/OFF] condition of trunk lid opener request switch	
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch	D
IGN RLY2 -F/B	Indicates [ON/OFF] condition of ignition relay 2	D
ACC RLY-FB	NOTE: This item is displayed, but cannot be monitored.	Е
CLUCH SW	NOTE: This item is displayed, but cannot be monitored	
BRAKE SW 1	Indicates [ON/OFF]* condition of brake switch power supply	F
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	G
S/L -LOCK	NOTE: This item is displayed, but cannot be monitored	
S/L -UNLOCK	NOTE: This item is displayed, but cannot be monitored	Н
S/L RELAY -F/B	NOTE: This item is displayed, but cannot be monitored	Ι
UNLK SEN -DR	Indicates [ON/OFF] condition of driver door unlock status	
PUSH SW -IPDM	Indicates [ON/OFF] condition of push-button ignition switch	.1
IGN RLY1 -F/B	Indicates [ON/OFF] condition of ignition relay 1	0
DETE SW -IPDM	Indicates [ON/OFF] condition of P position	
SFT PN -IPDM	Indicates [ON/OFF] condition of P or N position	SEC
SFT P -MET	Indicates [ON/OFF] condition of P position	
SFT N -MET	Indicates [ON/OFF] condition of N position	1
ENGINE STATE	Indicates [STOP/START/CRANK/RUN] condition of engine states	
S/L LOCK-IPDM	<b>NOTE:</b> This item is displayed, but cannot be monitored	M
S/L UNLK-IPDM	<b>NOTE:</b> This item is displayed, but cannot be monitored	
S/L RELAY-REQ	NOTE: This item is displayed, but cannot be monitored	Ν
VEH SPEED 1	Display the vehicle speed signal received from combination meter by numerical value [Km/h]	
VEH SPEED 2	Display the vehicle speed signal received from ABS or VDC or CVT by numerical value [Km/h]	0
DOOR STAT-DR	Indicates [LOCK/READY/UNLOCK] condition of driver side door status	
DOOR STAT-AS	Indicates [LOCK/READY/UNLOCK] condition of passenger side door status	
ID OK FLAG	Indicates [SET/RESET] condition of key ID	Ρ
PRMT ENG STRT	Indicates [SET/RESET] condition of engine start possibility	
PRMT RKE STRT	NOTE: This item is displayed, but cannot be monitored	
KEY SW -SLOT	Indicates [ON/OFF] condition of key slot	
TRNK/HAT MNTR	Indicates [ON/OFF] condition of trunk room lamp switch	

Revision: 2012 October

# < SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Monitor Item	Condition
RKE-LOCK	Indicates [ON/OFF] condition of door lock signal from Intelligent Key
RKE-UNLOCK	Indicates [ON/OFF] condition of door unlock signal from Intelligent Key
RKE-TR/BD	Indicates [ON/OFF] condition of trunk open signal from Intelligent Key
RKE-PANIC	Indicates [ON/OFF] condition of panic alarm button of Intelligent Key
RKE-P/W OPEN	Indicates [ON/OFF] condition of P/W DOWN signal from Intelligent Key
RKE-MODE CHG	Indicates [ON/OFF] condition of MODE CHANGE signal from Intelligent Key
RKE OPE COUN1	When remote keyless entry receiver (front side) receives the signal transmitted while operating on Intelli- gent Key, the numerical value start changing.
RKE OPE COUN2	When remote keyless entry receiver (rear side) receives the signal transmitted while operating on Intelli- gent Key, the numerical value start changing.

\*: 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 operation. The interior room lamp will be activated after "ON" on CONSULT screen is touched.
PW REMOTO DOWN SET	This test is able to check power window down operation. The power window down will be activated after "ON" on CONSULT screen is touched.
INSIDE BUZZER	<ul> <li>This test is able to check warning chime in combination meter operation.</li> <li>Take away warning chime sounds when "TAKE OUT" on CONSULT screen is touched.</li> <li>Key warning chime sounds when "KEY WARN" on CONSULT screen is touched.</li> <li>P position warning chime sounds when "P RNG WARN" on CONSULT screen is touched.</li> <li>ACC warning chime sounds when "ACC WARN" on CONSULT screen is touched.</li> </ul>
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation. The Intelligent Key warning buzzer will be activated after "ON" on CONSULT screen is touched.
INDICATOR	<ul> <li>This test is able to check warning lamp operation.</li> <li>"KEY" Warning lamp illuminates when "KEY ON" on CONSULT screen is touched.</li> <li>"KEY" Warning lamp flashes when "KEY IND" on CONSULT screen is touched.</li> </ul>
INT LAMP	This test is able to check interior room lamp operation. The interior room lamp will be activated after "ON" on CONSULT screen is touched.
LCD	<ul> <li>This test is able to check meter display information</li> <li>Engine start information displays when "BP N" on CONSULT screen is touched.</li> <li>Engine start information displays when "BP I" on CONSULT screen is touched.</li> <li>Key ID warning displays when "ID NG" on CONSULT screen is touched.</li> <li>ROTAT: This item is displayed, but cannot be tested.</li> <li>P position warning displays when SFT P on CONSULT screen is touched.</li> <li>Intelligent Key insert information displays when "INSRT" on CONSULT screen is touched.</li> <li>Intelligent Key low battery warning displays when "BATT" on CONSULT screen is touched.</li> <li>Take away through window warning displays when "NO KY" on CONSULT screen is touched.</li> <li>Take away warning display when "OUTKEY" on CONSULT screen is touched.</li> <li>OFF position warning display when "LK WN" on CONSULT screen is touched.</li> </ul>
TRUNK/GLASS HATCH	NOTE: This item is displayed, but cannot be tested.
FLASHER	This test is able to check hazard warning lamp operation. The hazard warning lamps will be activated after "ON" on CONSULT screen is touched.
HORN	This test is able to check horn operation. The horn will be activated after "ON" on CONSULT screen is touched.
P RANGE	This test is able to check CVT shift selector power supply CVT shift selector power is supplied when "ON" on CONSULT screen is touched.
ENGINE SW ILLUMI	This test is able to check push-ignition switch illumination operation. Push-ignition switch illumination illuminates when "ON" on CONSULT screen is touched.
LOCK INDICATOR	This test is able to check indicator in push-ignition switch operation. Indicator in push-button ignition switch illuminates when "ON" on CONSULT screen is touched.

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# [WITH INTELLIGENT KEY SYSTEM]

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Test item	Description	٨
ACC INDICATOR	This test is able to check indicator in push-ignition switch operation. Indicator in push-button ignition switch illuminates when "ON" on CONSULT screen is touched.	A
IGNITION ON IND	This test is able to check indicator in push-ignition switch operation. Indicator in push-button ignition switch illuminates when "ON" on CONSULT screen is touched.	В
KEY SLOT ILLUMI	This test is able to check key slot illumination operation. Key slot illumination flash when "ON" on CONSULT screen is touched.	
TRUNK/BACK DOOR	NOTE: This item is displayed, but cannot be tested.	С

# THEFT ALM

# THEFT ALM : CONSULT Function (BCM - THEFT)

## APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description	F
WORK SUPPORT	Changes the setting for each system function.	
DATA MONITOR	The BCM input/output signals are displayed.	0
ACTIVE TEST	The signals used to activate each device are forcibly supplied from BCM.	G

# DATA MONITOR **NOTE**:

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

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).	J
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.	SEC
REQ SW -BD/TR	Indicates [ON/OFF] condition of trunk lid opener request switch.	
PUSH SW	Indicates [ON/OFF] condition of push-button ignition switch	L
UNLK SEN -DR	Indicates [ON/OFF] condition of driver door UNLOCK status.	
KEY SW -SLOT	Indicates [ON/OFF] condition of key slot.	Μ
DOOR SW-DR	Indicates [ON/OFF] condition of front door switch LH.	
DOOR SW-AS	Indicates [ON/OFF] condition of front door switch RH.	
DOOR SW-RR	Indicates [ON/OFF] condition of rear door switch RH.	Ν
DOOR SW-RL	Indicates [ON/OFF] condition of rear door switch LH.	
DOOR SW-BK	NOTE: This is displayed even when it is not equipped.	0
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.	Р
KEY CYL LK-SW	Indicates [ON/OFF] condition of lock signal from front door key cylinder switch.	
KEY CYL UN-SW	Indicates [ON/OFF] condition of unlock signal from front door key cylinder switch.	
KEY CYL SW-TR	Indicates [ON/OFF] condition of trunk key cylinder switch.	
TR/BD OPEN SW	Indicates [ON/OFF] condition of trunk lid opener switch.	
TRNK/HAT MNTR	Indicates [ON/OFF] condition of trunk room lamp switch.	

Revision: 2012 October

### < SYSTEM DESCRIPTION >

# [WITH INTELLIGENT KEY SYSTEM]

Monitored Item	Description
RKE-LOCK	Indicates [ON/OFF] condition of LOCK signal from Intelligent Key.
RKE-UNLOCK	Indicates [ON/OFF] condition of UNLOCK signal from Intelligent Key.
RKE-TR/BD	Indicates [ON/OFF] condition of TRUNK signal from Intelligent Key.

# WORK SUPPORT

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

### ACTIVE TEST

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

# IMMU

# IMMU : CONSULT Function (BCM - IMMU)

INFOID:000000008460494

## APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

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

# DATA MONITOR

### NOTE:

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

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

# < SYSTEM DESCRIPTION >

# [WITH INTELLIGENT KEY SYSTEM]

# ACTIVE TEST

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

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# DIAGNOSIS SYSTEM (IPDM E/R)

# CONSULT Function (IPDM E/R)

INFOID:000000008973103

[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 PCS-23, "DTC Index".

# DATA MONITOR **NOTE:**

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

Monitor Item [Unit]	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 shift position 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.	

# DIAGNOSIS SYSTEM (IPDM E/R)

# < SYSTEM DESCRIPTION >

# [WITH INTELLIGENT KEY SYSTEM]

Monitor Item [Unit]	MAIN SIG- NALS	Description	
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.	
DETENT SW [Off/On]		Displays the status of the CVT shift selector (detention switch) judged by IPDM E/ R. $\ensuremath{B}$	
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]		NOTE: The item is indicated, but not monitored.	
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.	
HL WASHER REQ [Off/On]		NOTE:         F           The item is indicated, but not monitored.         F	
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.	
CRNRNG LMP REQ [Off/On]		NOTE: The item is indicated, but not monitored.	

# ACTIVE TEST

Test item	Operation	Description	
CORNERING LAMP	Off		
	LH	NOTE: The item is indicated, but cannot be tested.	
	RH		
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.	L
MOTOR FAN	1	OFF	
	2	Operates the cooling fan relay-1.	M
	3	Operates the cooling fan relay-2.	
	4	Operates the cooling fan relay-2 and cooling fan relay-3.	
HEAD LAMP WASHER	On	<b>NOTE:</b> The item is indicated, but cannot be tested.	
EXTERNAL LAMPS	Off	OFF	
	TAIL	Operates the tail lamp relay.	0
	Lo	Operates the headlamp low relay.	
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 sec- ond intervals.	Ρ
	Fog	Operates the front fog lamp relay.	

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[WITH INTELLIGENT KEY SYSTEM]

# ECU DIAGNOSIS INFORMATION ECM, IPDM E/R, BCM

# List of ECU Reference

INFOID:000000008460496

ECU		Reference
ECM	Reference Value	EC-74, "Reference Value"
	Fail-safe	EC-88, "Fail-safe"
	DTC Inspection Priority Chart	EC-90, "DTC Inspection Priority Chart"
	DTC Index	EC-91, "DTC Index"
BCM	Reference Value	BCS-32, "Reference Value"
	Fail-safe	BCS-54, "Fail-safe"
	DTC Inspection Priority Chart	BCS-54, "DTC Inspection Priority Chart"
	DTC Index	BCS-55, "DTC Index"
IPDM E/R	Reference Value	PCS-15, "Reference Value"
	Fail-safe	PCS-21, "Fail-safe"
	DTC Index	PCS-23, "DTC Index"

# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

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INFOID:000000008460497

# WIRING DIAGRAM INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

# Wiring Diagram

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>.



# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

### < WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]



# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

### < WIRING DIAGRAM >

# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

# Wiring Diagram

INFOID:000000008460498

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[WITH INTELLIGENT KEY SYSTEM]



# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >



# VEHICLE SECURITY SYSTEM

# Wiring Diagram

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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>.




# [WITH INTELLIGENT KEY SYSTEM] **BASIC INSPECTION**

# DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

**OVERALL SEQUENCE** 



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INFOID:000000008460500

#### DETAILED FLOW

Revision: 2012 October

< BASIC INSPECTION >

# **1.**GET INFORMATION ABOUT 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 diagnostic results in real time. If two or more DTCs are detected, refer to <u>BCS-54</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 >> Refer to <u>GI-40, "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.

- 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 > [WITH INTELLIGENT KEY S	YSTEM]
Inspect according to Diagnosis Procedure of the system.	
Is malfunctioning part detected?	ŀ
YES >> GO TO 8.	
NO >> Check according to <u>GI-40, "Intermittent Incident"</u> .	F
<b>Ö.</b> REPAIR OR REPLACE THE MALFUNCTIONING PART	L
<ol> <li>Repair or replace the malfunctioning part.</li> <li>Reconnect parts or connectors disconnected during Diagnosis Procedure again after repair and ment.</li> </ol>	I replace-
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, and then check that	t the mal-
function is repaired securely. When symptom is described from the customer, refer to confirmed symptom in step 3 or 4, and chec symptom is not detected.	k that the
Is DTC detected and does symptom remain?	1
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.	
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### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT < BASIC INSPECTION > [WITH INTELLIGENT KEY SYSTEM]

# ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

### 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 has never been 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 and registration) 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 : Work Procedure

INFOID:000000008460502

INFOID:000000008460501

### **1.**PERFORM ECM RECOMMUNICATING FUNCTION

### 1. Install ECM.

- Insert the registered Intelligent key\* into key slot, 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 power supply position to OFF.
- 5. Check that the engine starts.

### >> GO TO 2.

### 2. PERFORM ADDITIONAL SERVICE WHEN REPLACING ECM

Perform the following procedure, <u>EC-118, "Work Procedure"</u>.

>> END

# BCM

BCM : Description

INFOID:000000008460503

### **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).

BCM : Work Procedure

INFOID:000000008460504

**1.**SAVING VEHICLE SPECIFICATION

# CONSULT Configuration

Perform "READ CONFIGURATION" to save or print current vehicle specification. Refer to <u>BCS-63</u>, "<u>Descrip-</u><u>tion</u>".

# ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION >

# [WITH INTELLIGENT KEY SYSTEM]

NOTE:	
If "READ CONFIGURATION" can not be used, use the "WRITE CONFIGURATION - Manual selection" after replacing BCM.	А
>> GO TO 2.	В
2.REPLACE BCM	
Replace BCM. Refer to BCS-77, "Removal and Installation".	С
>> GO TO 3	
3.WRITING VEHICLE SPECIFICATION	D
CONSULT Configuration	
Perform "WRITE CONFIGURATION - Config file" or "WRITE CONFIGURATION - Manual selection" to write vehicle specification. Refer to <u>BCS-63, "Work Procedure"</u> .	E
>> GO TO 4.	_
<b>4.</b> INITIALIZE BCM (NATS) (IF EQUIPPED)	F
Perform BCM initialization. (NATS)	
	G
>> WORK END	
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	J
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### < DTC/CIRCUIT DIAGNOSIS >

### [WITH INTELLIGENT KEY SYSTEM]

# DTC/CIRCUIT DIAGNOSIS P1610 LOCK MODE

### Description

INFOID:000000008460505

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INFOID:000000008460507

When the starting operation is carried more than five times consecutively under the following conditions, NATS will shift to the mode which prevents the engine from being started.

- Unregistered Intelligent Key is used.
- BCM or ECM is malfunctioning.

### DTC Logic

### DTC DETECTION LOGIC

#### NOTE:

If DTC P1610 is displayed with other DTC (for BCM or ENGINE), first perform the trouble diagnosis for other DTC.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1610	LOCK MODE	<ul><li>When the starting operation is carried out 5 times or more consecutively under the following conditions.</li><li>Unregistered Intelligent Key</li><li>BCM or ECM is malfunctioning.</li></ul>	_

### DTC CONFIRMATION PROCEDURE

# **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Check DTC in "Self Diagnostic Result" mode of "BCM" and "ENGINE" using CONSULT.

#### Is DTC detected?

- YES >> Go to SEC-42, "Diagnosis Procedure".
- NO >> INSPECTION END

### Diagnosis Procedure

### **1.**CHECK ENGINE START FUNCTION

- 1. Check that DTC except for DTC P1610 is not detected. If detected, erase DTC after fixing.
- 2. Turn ignition switch OFF.
- 3. Insert Intelligent Key into key slot.
- 4. Turn ignition switch ON and wait 5 seconds.
- 5. Turn 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.

>> INSPECTION END

# P1611 ID DISCORD, IMMU-ECM

### < DTC/CIRCUIT DIAGNOSIS >

DTC DETECTION LOGIC

# P1611 ID DISCORD, IMMU-ECM

# DTC Logic

Revision: 2012 October

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# [WITH INTELLIGENT KEY SYSTEM]

INFOID:000000008460508

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DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1611	ID DISCORD, IMMU-ECM	The ID verification result between BCM and ECM is NG.	• BCM • ECM
	IRMATION PROCED	URE	
1.PERFOR	M DTC CONFIRMATIO	N PROCEDURE	
1. Turn igr 2. Check I Is DTC dete	ition switch ON. DTC in "Self Diagnostic F cted?	Result" mode of "ENGINE" using CONSULT.	
YES >> NO >>	Go to <u>SEC-43, "Diagnos</u> INSPECTION END	sis Procedure".	
Diagnosis	Procedure		INFOID:00000008460509
1.PERFOR	M INITIALIZATION		
Perform initi Can the svs	alization of BCM and req	gistration of all Intelligent Keys using CONSUL n the engine be started with registered Intellige	T. ent Kev?
YES >> NO >>	INSPECTION END GO TO 2.		
<b>2.</b> снеск :	SELF DIAGNOSTIC RE	SULT	
1. Select "	Self Diagnostic Result" r	node of "ENGINE" using CONSULT.	
3. Perform	DTC CONFIRMATION	PROCEDURE for DTC P1611. Refer to SEC-4	3, "DTC Logic".
Is DTC dete	cted		
YES >> NO >>	GO TO 3. INSPECTION END		
<b>3.</b> REPLAC	E BCM		
1. Replace 2. Perform	BCM. Refer to <u>BCS-77</u> initialization of BCM an	, <u>"Removal and Installation"</u> . d registration of all Intelligent Keys using CON	SULT.
Can the sys	tem be initialized and ca	n the engine be started with registered Intellige	ent Key?
YES >>	INSPECTION END		
4.REPLAC	E ECM		
Replace EC	M. Refer to <u>EC-433, "Re</u>	moval and Installation".	

### P1612 CHAIN OF ECM-IMMU

### < DTC/CIRCUIT DIAGNOSIS >

# P1612 CHAIN OF ECM-IMMU

### DTC Logic

INFOID:000000008460510

[WITH INTELLIGENT KEY SYSTEM]

### DTC DETECTION LOGIC

#### NOTE:

- If DTC P1612 is displayed with DTC U1000 (BCM), first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-66, "DTC Logic"</u>.
- If DTC P1612 is displayed with DTC U1010 (BCM), first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-67, "DTC Logic"</u>.

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

### DTC CONFIRMATION PROCEDURE

# **1.**PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.

2. Check DTC in "Self Diagnostic Result" mode of "ENGINE" using CONSULT.

#### Is DTC detected?

YES >> Go to SEC-44, "Diagnosis Procedure".

NO >> INSPECTION END

### Diagnosis Procedure

INFOID:000000008460511

# **1.**REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-77, "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 2.

2.REPLACE ECM

Replace ECM. Refer to EC-433, "Removal and Installation".

>> INSPECTION END

# P1614 CHAIN OF IMMU-KEY

### < DTC/CIRCUIT DIAGNOSIS >

# P1614 CHAIN OF IMMU-KEY

# DTC Logic

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INFOID:000000008460512

[WITH INTELLIGENT KEY SYSTEM]

# DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1614 CF	IAIN OF IMMU-KEY	Inactive communication between key slot and BCM.	<ul> <li>Harness or connectors (The key slot circuit is open or shorted.)</li> <li>Key slot</li> <li>BCM</li> </ul>
	ATION PROCEDU	RE	
<b>1</b> .PERFORM D	TC CONFIRMATION	PROCEDURE 1	
1. Insert Intellie 2. Check DTC	gent Key into key slot in "Self Diagnostic Re	esult" mode of "ENGINE" using C	ONSULT.
S DTC detected	<u>?</u> to SEC 45 "Diagnosi	o Drocoduro"	
NO >> GO	TO 2.	<u>s Procedure</u> .	
2.perform c	TC CONFIRMATION	PROCEDURE 2	
1. Press push- 2. Check DTC	button ignition switch	esult" mode of "ENGINE" using C	ONSULT.
s DTC detected	<u> ?</u>		
YES >> Go	to <u>SEC-45, "Diagnosi</u>	<u>s Procedure"</u> .	
NU >> INS Diagraphia Dr			
Jiagnosis Pi	ocedure		INFOID:000000000
1. INSPECTIO	N START		
Perform inspect	ion in accordance with	n procedure that confirms DTC.	
DTC CONFIRM	<u>e confirms DTC?</u> /ATION PROCEDUR	E 1>>GO TO 2	
DTC CONFIRM	ATION PROCEDUR	E 2>>GO TO 6.	
2.CHECK PUS	H-BUTTON IGNITIO	N SWITCH OPERATION	
Press push-butte	on ignition switch and	check if it turns ON.	
VES >> CO	<u>/itch turn ON?</u>		
NO >> GO	TO 5.		
З. СНЕСК КЕҮ	SLOT COMMUNICA	TION SIGNAL	
<ol> <li>Turn ignitior</li> <li>Disconnect</li> <li>Check volta</li> </ol>	n switch OFF. key slot connector. ge between key slot h	narness connector and ground.	
	(+)		
	Key slot	(-)	Voltage (V) (Approx.)
Conn	ector	Terminal	

### Is the inspection result normal?

YES >> Replace key slot. Refer to <u>SEC-109, "Removal and Installation"</u>.

NO >> GO TO 4.

4. CHECK KEY SLOT COMMUNICATION SIGNAL CIRCUIT

# P1614 CHAIN OF IMMU-KEY

### < DTC/CIRCUIT DIAGNOSIS >

### 1. Disconnect BCM connector.

2. Check continuity between key slot harness connector and BCM harness connector.

Key slot		BCM		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M99	3	M122	81	Existed

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

Key slot			Continuity
Connector	Terminal	Ground	Continuity
M99	3		Not existed

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness or connector.

### **5.**CHECK KEY SLOT GROUND CIRCUIT

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

Key slot			Continuity
Connector	Terminal	Ground	Continuity
M99	7		Existed

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness or connector.

6.CHECK KEY SLOT INPUT SIGNAL

#### 1. Turn ignition switch OFF.

2. Disconnect key slot connector.

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

(+) Key slot		(-)	Voltage (V) (Approx.)
Connector	Terminal		
M99	2	Ground	Battery voltage

#### Is the inspection result normal?

YES >> Replace key slot. Refer to <u>SEC-109</u>, "Removal and Installation".

NO >> GO TO 7.

# **7.**CHECK KEY SLOT CIRCUIT

1. Disconnect BCM connector.

2. Check continuity between key slot harness connector and BCM harness connector.

Key slot		BCM		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M99	2	M122	80	Existed

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

Key slot			Continuity
Connector	Terminal	Ground	Continuity
M99	2		Not existed

Is the inspection result normal?

P1614 CHAIN OF IMM	U-KEY	
< DTC/CIRCUIT DIAGNOSIS >	[WITH INTELLIGENT KEY SYSTEM]	
YES >> GO TO 8. NO >> Repair or replace harness or connector.		А
8. CHECK INTERMITTENT INCIDENT		
Refer to GI-40, "Intermittent Incident".		В
>> INSPECTION END		
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# P1615 DIFFRENCE OF KEY

### < DTC/CIRCUIT DIAGNOSIS >

# P1615 DIFFRENCE OF KEY

# DTC Logic

INFOID:000000008460514

INFOID:000000008460515

[WITH INTELLIGENT KEY SYSTEM]

### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1615	DIFFERENCE OF KEY	The ID verification result between BCM and Intelligent Key is NG.	Intelligent Key

### DTC CONFIRMATION PROCEDURE

# **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press push-button ignition switch.
- 2. Check DTC in "Self Diagnostic Result" mode of "ENGINE" using CONSULT.

#### Is DTC detected?

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

NO >> INSPECTION END

Diagnosis Procedure

### **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.REPLACE INTELLIGENT KEY

1. Replace Intelligent Key.

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 3.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# **B2190 NATS ANTENNA AMP.**

### < DTC/CIRCUIT DIAGNOSIS >

# B2190 NATS ANTENNA AMP.

# **DTC** Logic

INFOID:000000008460516

А

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2190 N	NATS ANTENNA AMP	Inactive communication between key slot and BCM.	<ul> <li>Harness or connectors (The key slot circuit is open or shorted.)</li> <li>Key slot</li> <li>BCM</li> </ul>
TC CONFIR	MATION PROCEDUF	RE	
1.PERFORM	DTC CONFIRMATION I	PROCEDURE 1	
1. Insert Intel 2 Check DT	ligent Key into key slot.	sult" mode of "BCM" using CONS	
Is DTC detecte	<u>d?</u>		
YES >> Go	to <u>SEC-49, "Diagnosis</u>	Procedure".	
$2_{\text{PERFORM}}$	DTC CONFIRMATION I		
1. Press push	n-button ignition switch.		
2. Check DT(	C in "Self Diagnostic Re	sult" mode of "BCM" using CONS	SULT.
Is DTC detecte	<u>d?</u> to SEC 40. "Diagnosis	Procoduro"	
NO >> IN	SPECTION END	<u>Procedure</u> .	
Diagnosis P	rocedure		INF01D:0000000846
1. INSPECTIO	ON START		
Perform inspec	tion in accordance with	procedure that confirms DTC.	
Which procedu	re confirms DTC?		
DTC CONFIR	MATION PROCEDURE	1>>GO TO 2.	
<b>2.</b> снеск ри	SH-BUTTON IGNITION	SWITCH OPERATION	
Press push-but	ton ignition switch and o	check if it turns ON.	<u> </u>
Does ignition s	witch turn ON?		
YES >> GO	) TO 3.		
	UTUD. V SLOT COMMUNICAT		
1 Turn ignitic	on switch OFF		
<ol> <li>Disconnec</li> <li>Check volt</li> </ol>	t key slot connector. age between key slot ha	arness connector and ground.	
	(+)		
	Key slot	(-)	Voltage (V) (Approx.)
Con	nector	Terminal	
N	100	3 Ground	Battery voltage

### Is the inspection result normal?

YES >> Replace key slot. Refer to SEC-109, "Removal and Installation".

NO >> GO TO 4.

4. CHECK KEY SLOT COMMUNICATION SIGNAL CIRCUIT

# B2190 NATS ANTENNA AMP.

### < DTC/CIRCUIT DIAGNOSIS >

#### 1. Disconnect BCM connector.

2. Check continuity between key slot harness connector and BCM harness connector.

Key	/ slot	B	CM	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M99	3	M122	81	Existed

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

Key	' slot		Continuity
Connector	Terminal	Ground	Continuity
M99	3		Not existed

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness or connector.

### **5.**CHECK KEY SLOT GROUND CIRCUIT

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

Key	/ slot		Continuity
Connector	Terminal	Ground	Continuity
M99	7		Existed

Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace harness or connector.

6.CHECK KEY SLOT INPUT SIGNAL

#### 1. Turn ignition switch OFF.

2. Disconnect key slot connector.

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

(· Key	+) v slot	(-)	Voltage (V) (Approx.)
Connector	Terminal		
M99	2	Ground	Battery voltage

#### Is the inspection result normal?

YES >> Replace key slot. Refer to <u>SEC-109</u>, "Removal and Installation".

NO >> GO TO 7.

# **7.**CHECK KEY SLOT CIRCUIT

1. Disconnect BCM connector.

2. Check continuity between key slot harness connector and BCM harness connector.

Key	∕ slot	B	CM	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M99	2	M122	80	Existed

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

Key	r slot		Continuity
Connector	Terminal	Ground	Continuity
M99	2		Not existed

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >	[WITH INTELLIGENT KEY SYSTEM]
YES >> GO TO 8. NO >> Repair or replace harness or connector. 8.CHECK INTERMITTENT INCIDENT	
Refer to GI-40, "Intermittent Incident".	

>> INSPECTION END

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# **B2191 DIFFERENCE OF KEY**

### < DTC/CIRCUIT DIAGNOSIS >

# B2191 DIFFERENCE OF KEY

# DTC Logic

INFOID:000000008460518

### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2191	DIFFERENCE OF KEY	The ID verification result between BCM and Intelligent Key is NG.	Intelligent Key

### DTC CONFIRMATION PROCEDURE

# **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press push-button ignition switch.
- 2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

#### Is DTC detected?

YES >> Go to <u>SEC-52, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

Diagnosis Procedure

### **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.REPLACE INTELLIGENT KEY

1. Replace Intelligent Key.

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 3.

3.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

INFOID:000000008460519

### B2192 ID DISCORD, IMMU-ECM [WITH INTELLIGENT KEY SYSTEM]

### < DTC/CIRCUIT DIAGNOSIS >

# B2192 ID DISCORD, IMMU-ECM

# DTC Logic

INFOID:000000008460520

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	I rouble diagnosis name	DTC detecting condition	Possible cause
B2192	ID DISCORD, BCM-ECM	The ID verification result between BCM and ECM is NG.	• BCM • ECM
	FIRMATION PROCED	URE	
<b>1.</b> PERFOF	RM DTC CONFIRMATIO	N PROCEDURE	
1. Turn igr 2. Check I	nition switch ON. DTC in "Self Diagnostic I	Result" mode of "BCM" using CONSUL	Т.
Is DTC dete	cted?		
YES >>	Go to <u>SEC-53, "Diagno</u> INSPECTION END	<u>sis Procedure"</u> .	
Diagnosig			
	BTIOCECUTE		INFOID:00000008460521
<b>1.</b> PERFOF	RM INITIALIZATION		
Perform init	alization of BCM and re	gistration of all Intelligent Keys using C	ONSULT.
VES		an the engine be started with registered	Intelligent Key?
NO >>	GO TO 2.		
2.replac	EBCM		
1. Replace	BCM. Refer to BCS-77	7, "Removal and Installation".	
1. Replace 2. Perform Can the sys	BCM. Refer to <u>BCS-77</u> initialization of BCM an tem be initialized and ca	7, "Removal and Installation". Ind registration of all Intelligent Keys usir	ng CONSULT.
1. Replace 2. Perform <u>Can the sys</u> YES >>	e BCM. Refer to <u>BCS-77</u> n initialization of BCM an tem be initialized and ca INSPECTION END	7, "Removal and Installation". Ind registration of all Intelligent Keys usir an the engine be started with registered	ng CONSULT. I Intelligent Key?
1. Replace 2. Perform <u>Can the sys</u> YES >> NO >>	e BCM. Refer to <u>BCS-77</u> n initialization of BCM an tem be initialized and ca INSPECTION END GO TO 3.	7 <u>, "Removal and Installation"</u> . Id registration of all Intelligent Keys usir an the engine be started with registered	ng CONSULT. I Intelligent Key?
1. Replace 2. Perform <u>Can the sys</u> YES >> NO >> <b>3.</b> REPLAC	e BCM. Refer to <u>BCS-77</u> n initialization of BCM an tem be initialized and ca INSPECTION END GO TO 3. E ECM	7, "Removal and Installation". Ind registration of all Intelligent Keys usin an the engine be started with registered	ng CONSULT. I Intelligent Key?
1. Replace 2. Perform <u>Can the sys</u> YES >> NO >> <b>3.</b> REPLAC 1. Replace 2. Perform	e BCM. Refer to <u>BCS-77</u> ninitialization of BCM an tem be initialized and ca INSPECTION END GO TO 3. E ECM E ECM. Refer to <u>EC-433</u> ninitialization of BCM an	7, "Removal and Installation". ad registration of all Intelligent Keys usir an the engine be started with registered B. "Removal and Installation". ad registration of all Intelligent Keys usir	ng CONSULT. Untelligent Key?
1. Replace 2. Perform <u>Can the sys</u> YES >> NO >> <b>3.</b> REPLAC 1. Replace 2. Perform Can the sys	e BCM. Refer to <u>BCS-77</u> ninitialization of BCM an <u>tem be initialized and ca</u> INSPECTION END GO TO 3. E ECM e ECM. Refer to <u>EC-433</u> ninitialization of BCM an tem be initialized and ca	7, "Removal and Installation". ad registration of all Intelligent Keys usir an the engine be started with registered 8, "Removal and Installation". ad registration of all Intelligent Keys usir an the engine be started with registered	ng CONSULT. LIntelligent Key? ng CONSULT. LIntelligent Key?
1. Replace 2. Perform <u>Can the sys</u> YES >> NO >> <b>3.</b> REPLAC 1. Replace 2. Perform <u>Can the sys</u> YES >>	e BCM. Refer to <u>BCS-77</u> ninitialization of BCM an <u>tem be initialized and ca</u> INSPECTION END GO TO 3. E ECM E ECM. Refer to <u>EC-433</u> ninitialization of BCM an <u>tem be initialized and ca</u> INSPECTION END	7, "Removal and Installation". Ind registration of all Intelligent Keys using an the engine be started with registered B, "Removal and Installation". Ind registration of all Intelligent Keys using an the engine be started with registered	ng CONSULT. I Intelligent Key? ng CONSULT. I Intelligent Key?
1. Replace 2. Perform <u>Can the sys</u> YES >> NO >> <b>3.</b> REPLAC 1. Replace 2. Perform <u>Can the sys</u> YES >> NO >> <b>4</b> CHECK	e BCM. Refer to <u>BCS-77</u> initialization of BCM an <u>tem be initialized and ca</u> INSPECTION END GO TO 3. E ECM E ECM. Refer to <u>EC-433</u> initialization of BCM an <u>tem be initialized and ca</u> INSPECTION END GO TO 4.	7, "Removal and Installation". ad registration of all Intelligent Keys usir an the engine be started with registered 5, "Removal and Installation". ad registration of all Intelligent Keys usir an the engine be started with registered	ng CONSULT. LIntelligent Key? ng CONSULT. LIntelligent Key?
1. Replace 2. Perform Can the sys YES >> NO >> 3.REPLAC 1. Replace 2. Perform Can the sys YES >> NO >> 4.CHECK	e BCM. Refer to <u>BCS-77</u> initialization of BCM and tem be initialized and ca INSPECTION END GO TO 3. E ECM e ECM. Refer to <u>EC-433</u> initialization of BCM and tem be initialized and ca INSPECTION END GO TO 4. INTERMITTENT INCIDE	7. "Removal and Installation". Ind registration of all Intelligent Keys using an the engine be started with registered as, "Removal and Installation". The registration of all Intelligent Keys using an the engine be started with registered ENT	ng CONSULT. LIntelligent Key? ng CONSULT. LIntelligent Key?
1. Replace 2. Perform Can the sys YES >> NO >> 3.REPLAC 1. Replace 2. Perform Can the sys YES >> NO >> 4.CHECK Refer to GI-	e BCM. Refer to <u>BCS-77</u> ninitialization of BCM and tem be initialized and ca INSPECTION END GO TO 3. E ECM e ECM. Refer to <u>EC-433</u> ninitialization of BCM and tem be initialized and ca INSPECTION END GO TO 4. INTERMITTENT INCIDE 40. "Intermittent Inciden	A. "Removal and Installation".         and registration of all Intelligent Keys usin         an the engine be started with registered         a. "Removal and Installation".         a. "Removal and Installation".         an the engine be started with registered         a. "Removal and Installation".         an the engine be started with registered         an the engine be started with registered         ENT         t".	ng CONSULT. LIntelligent Key? ng CONSULT. LIntelligent Key?
1. Replace 2. Perform <u>Can the sys</u> YES >> NO >> <b>3.</b> REPLAC 1. Replace 2. Perform <u>Can the sys</u> YES >> NO >> <b>4.</b> CHECK Refer to <u>GI-</u>	e BCM. Refer to <u>BCS-77</u> ninitialization of BCM an <u>tem be initialized and ca</u> INSPECTION END GO TO 3. E ECM e ECM. Refer to <u>EC-433</u> ninitialization of BCM an <u>tem be initialized and ca</u> INSPECTION END GO TO 4. INTERMITTENT INCIDE 40, "Intermittent Inciden	7, "Removal and Installation". ad registration of all Intelligent Keys usin an the engine be started with registered 8, "Removal and Installation". ad registration of all Intelligent Keys usin an the engine be started with registered ENT <u>t</u> ".	ng CONSULT. LIntelligent Key? ng CONSULT. LIntelligent Key?

### B2193 CHAIN OF ECM-IMMU

### < DTC/CIRCUIT DIAGNOSIS >

# B2193 CHAIN OF ECM-IMMU

### DTC Logic

INFOID:000000008460522

[WITH INTELLIGENT KEY SYSTEM]

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66. "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-67, "DTC Logic"</u>.

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

### DTC CONFIRMATION PROCEDURE

# **1.**PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.

2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

#### Is DTC detected?

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

### Diagnosis Procedure

INFOID:000000008460523

# **1.**REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-77, "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 2.

2.REPLACE ECM

Replace ECM. Refer to EC-433, "Removal and Installation".

>> INSPECTION END

# **B2195 ANTI-SCANNING**

### < DTC/CIRCUIT DIAGNOSIS >

# **B2195 ANTI-SCANNING**

# DTC Logic

INFOID:000000008460524

DIC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
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
TC CONF	IRMATION PROCEDU	JRE	
.PERFOR	M DTC CONFIRMATION	I PROCEDURE	
Turn ign Check E <u>DTC dete</u> YES >> NO >>	ition switch ON. DTC in "Self Diagnostic R <u>cted?</u> Refer to <u>SEC-55, "Diagn</u> INSPECTION END	esult" mode of "BCM" using CONSULT osis Procedure".	
iaanosis	Procedure		INFOID:0000000846052
.CHECK (	SELF DIAGNOSTIC RES	SULT 1	
Select " Erase D Perform	Self Diagnostic Result" m TC.	node of "BCM" using CONSULT.	
DTC 2195	5 detected?		<u>SEC-55, "DTC Logic"</u> .
<u>DTC 219</u> YES >> NO >> .CHECK E	<u>5 detected?</u> GO TO 2. INSPECTION END EQUIPMENT OF THE VE	HICLE	<u>SEC-55, "DTC Logic"</u> .
DTC 2198 YES >> NO >> CHECK B	<u>5 detected?</u> GO TO 2. INSPECTION END EQUIPMENT OF THE VE	EHICLE	<u>SEC-55, "DTC Logic"</u> .
DTC 2195 YES >> NO >> CHECK E heck that u unspecifie	<u>5 detected?</u> GO TO 2. INSPECTION END EQUIPMENT OF THE VE unspecified accessory part ed accessory part related	EHICLE rt related to engine start is not installed to engine start installed?	<u>SEC-55, "DTC Logic"</u> .
DTC 2195 YES >> NO >> CHECK I heck that u unspecifie YES >> NO >>	<u>5 detected?</u> GO TO 2. INSPECTION END EQUIPMENT OF THE VE unspecified accessory part ed accessory part related GO TO 3. Replace BCM. Refer to E	EHICLE rt related to engine start is not installed to engine start installed? 3CS-77, "Removal and Installation".	<u>SEC-55, "DTC Logic"</u> .
DTC 219 YES >> NO >> CHECK I heck that u unspecifie YES >> NO >> .CHECK S	<u>5 detected?</u> GO TO 2. INSPECTION END EQUIPMENT OF THE VE unspecified accessory part ed accessory part related GO TO 3. Replace BCM. Refer to <u>E</u> SELF DIAGNOSTIC RES	EHICLE rt related to engine start is not installed to engine start installed? BCS-77, "Removal and Installation".	<u>SEC-55, "DTC Logic"</u> .
DTC 219 YES >> NO >> CHECK I heck that u unspecifie YES >> NO >> CHECK S Obtain t remove	<u>5 detected?</u> GO TO 2. INSPECTION END EQUIPMENT OF THE VE anspecified accessory part and accessory part related GO TO 3. Replace BCM. Refer to <u>E</u> SELF DIAGNOSTIC RES the customers approval f it.	EHICLE rt related to engine start is not installed to engine start installed? BCS-77. "Removal and Installation". SULT 2 to remove unspecified accessory part	related to engine start, and ther
DTC 219 YES >> NO >> .CHECK I heck that u unspecifie YES >> NO >> .CHECK S .CHECK S .C	<u>5 detected?</u> GO TO 2. INSPECTION END EQUIPMENT OF THE VE anspecified accessory part ed accessory part related GO TO 3. Replace BCM. Refer to <u>E</u> SELF DIAGNOSTIC RES the customers approval it. Self Diagnostic Result" m	EHICLE rt related to engine start is not installed to engine start installed? BCS-77. "Removal and Installation". SULT 2 to remove unspecified accessory part node of "BCM" using CONSULT.	<u>SEC-55, "DTC Logic"</u> .
DTC 2195 YES >> NO >> .CHECK I heck that u unspecifie YES >> NO >> .CHECK S Obtain t remove Select " Erase D Perform DTC B219	<u>5 detected?</u> GO TO 2. INSPECTION END EQUIPMENT OF THE VE anspecified accessory part ed accessory part related GO TO 3. Replace BCM. Refer to <u>E</u> SELF DIAGNOSTIC RES the customers approval f it. Self Diagnostic Result" m DTC. DTC CONFIRMATION F <u>95 detected?</u>	EHICLE rt related to engine start is not installed to engine start installed? BCS-77. "Removal and Installation". SULT 2 to remove unspecified accessory part node of "BCM" using CONSULT. PROCEDURE for DTC B2195. Refer to	<u>SEC-55, "DTC Logic"</u> .
DTC 219 YES >> NO >> .CHECK I heck that u unspecific YES >> NO >> .CHECK S .CHECK S .C	<u>5 detected?</u> GO TO 2. INSPECTION END EQUIPMENT OF THE VE anspecified accessory part ed accessory part related GO TO 3. Replace BCM. Refer to <u>E</u> SELF DIAGNOSTIC RES the customers approval fit. Self Diagnostic Result" m DTC. DTC CONFIRMATION F <u>95 detected?</u> Replace BCM. Refer to <u>E</u> INSPECTION END	EHICLE rt related to engine start is not installed to engine start installed? <u>3CS-77, "Removal and Installation"</u> . SULT 2 to remove unspecified accessory part node of "BCM" using CONSULT. PROCEDURE for DTC B2195. Refer to <u>3CS-77, "Removal and Installation"</u> .	<u>SEC-55, "DTC Logic"</u> .

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# < DTC/CIRCUIT DIAGNOSIS >

# B2555 STOP LAMP

DTC Logic

INFOID:000000008460526

[WITH INTELLIGENT KEY SYSTEM]

### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis 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.	<ul> <li>Harness or connectors (Stop lamp switch circuit is open or shorted.)</li> <li>Stop lamp switch</li> <li>Fuse</li> </ul>

### DTC CONFIRMATION PROCEDURE

# **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Depress brake pedal and wait at least 1 second.
- 2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

#### Is DTC detected?

- YES >> Go to <u>SEC-56, "Diagnosis Procedure"</u>.
- 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		()	(Approx.)	
Connector	Terminal			
M123	116	Ground	Battery voltage	

Is the inspection normal?

YES >> GO TO 2.

NO-1 >> Check 10 A fuse [No. 7, 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			
E116	1	Ground	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 3.

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

### **3.**CHECK STOP LAMP SWITCH INPUT SIGNAL 2

1. Connect stop lamp switch connector.

2. Check voltage between BCM harness connector and ground.

INFOID:000000008460527

# **B2555 STOP LAMP**

### < DTC/CIRCUIT DIAGNOSIS >

# [WITH INTELLIGENT KEY SYSTEM]

(-	+)		Condition Vc		Voltag	Voltage (V)
Connector	Terminal	(_)			(Approx.)	
M123	118	Ground	Brake pedal	Depressed Not depressed	Battery voltage	
the inspecting res	ult normal?			1		
/ES >> GO TO NO >> GO TO	4. 5.					
REPLACE BCM						
. Replace BCM. I . Perform initializ	Refer to <u>BCS-77</u> ation of BCM and	"Removal and In d registration of al	<u>stallation"</u> . I Intelligent Keys u	using CONSULT.		
>> INSPEC	CTION END					
CHECK STOP L	AMP SWITCH C	IRCUIT				
Disconnect stop Check continuit	amp switch cor y between stop la	nnector. amp switch harne	ss connector and	BCM harness cor	nector.	
Stop	amp switch		BCM		Continuity	
Connector	Termina	al Cor	nector	Terminal		
E116	2	N	1123	118	Existed	
. Check continuit	y between stop la	amp switch harne	ss connector and	grouna.		
	Stop lamp switch				Continuity	
Connector		Terminal	Ground			
E116		2			Not existed	
YES >> GO TO NO >> Repair ( CHECK STOP L)	6. or replace harnes AMP SWITCH	ss or connector.				
Refer to <u>SEC-57. "C</u>	component Inspe	ction".				
S THE INSPECTION TES	<u>suit normal?</u> 7					
NO >> Replace	e stop lamp switc	h. Refer to <u>BR-18</u>	3, "Removal and Ir	stallation".		
CHECK INTERM	IITTENT INCIDE	NT				
Refer to <u>GI-40, "Inte</u>	ermittent Incident					
>> INSPEC	CTION END					
Component Insi	pection				INF0ID:0000000	
.CHECK STOP L	AMP SWITCH					
. Turn ignition sw 2. Disconnect stor	itch OFF. lamp switch cor	nnector.				
3. Check continuit	y between stop la	amp switch termir	nals.			

# B2555 STOP LAMP

### < DTC/CIRCUIT DIAGNOSIS >

### [WITH INTELLIGENT KEY SYSTEM]

Stop lamp switch Terminal		Condition		Continuity	
I	2	Diake pedal	Depressed	Existed	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace stop lamp switch. Refer to <u>BR-18, "Removal and Installation"</u>.

#### **B2556 PUSH-BUTTON IGNITION SWITCH** [WITH INTELLIGENT KEY SYSTEM]

# < DTC/CIRCUIT DIAGNOSIS >

# **B2556 PUSH-BUTTON IGNITION SWITCH**

# DTC Logic

INFOID:00000008460529

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#### DTC DETECTION LOGIC В DTC No. DTC detecting condition Trouble diagnosis name Possible cause · Harness or connectors (Push-button ignition switch circuit is BCM detects push-button ignition switch B2556 PUSH-BTN IGN SW shorted.) stuck to ON for 100 seconds or more · Push-button ignition switch D BCM DTC CONFIRMATION PROCEDURE 1.PERFORM DTC CONFIRMATION PROCEDURE Ε Press push-button ignition switch under the following condition. 1. Brake pedal: Not depressed 2. Release push-button ignition switch and wait 100 seconds or more. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT. 3. Is DTC detected? >> Go to SEC-59, "Diagnosis Procedure". YES NO >> INSPECTION END Diagnosis Procedure INFOID:000000008460530 Н 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. (+)Voltage (V) Push-button ignition switch (-) (Approx.) Connector Terminal SEC M101 4 Ground Battery voltage Is the inspection normal? YES >> GO TO 3. NO >> GO TO 2. 2.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT M 1. **Disconnect BCM connector.** 2. Check continuity between push-button ignition switch harness connector and BCM harness connector. Ν BCM Push-button ignition switch Continuity Connector Terminal Connector Terminal M121 M101 4 60 Existed Check continuity between push-button ignition switch harness connector and ground. 3. Push-button ignition switch Ρ Continuity Connector Terminal Ground M101 4 Not existed Is the inspection normal?

YES >> Replace BCM. Refer to BCS-77, "Removal and Installation".

>> Repair or replace harness or connector. NO

# **SEC-59**

#### 2013 Murano CrossCabriolet

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# **B2556 PUSH-BUTTON IGNITION SWITCH**

< DTC/CIRCUIT DIAGNOSIS >

# ${f 3.}$ CHECK PUSH-BUTTON IGNITION SWITCH GROUND CIRCUIT

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

Push-button	ignition switch		Continuity
Connector	Terminal	Ground	Continuity
M101	1		Existed

Is the inspection normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connector.

**4.**CHECK PUSH-BUTTON IGNITION SWITCH

Refer to SEC-60, "Component Inspection".

Is the inspection normal?

YES >> GO TO 5.

NO >> Replace push-button ignition switch. Refer to <u>SEC-110, "Removal and Installation"</u>.

**5.**CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

#### >> INSPECTION END

### Component Inspection

INFOID:000000008460531

# **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		Condition	Continuity	
Terr	Terminals			
1	4	Pressed	Existed	
Ι	4	Not pressed	Not existed	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace push-button ignition switch. Refer to <u>SEC-110, "Removal and Installation"</u>.

### **B2557 VEHICLE SPEED**

### < DTC/CIRCUIT DIAGNOSIS >

# **B2557 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 BCS-66, "DTC Logic".
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".

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DTC No.	Trouble diagnosis name	DTC detecting condition	Possible causes	L
B2557	VEHICLE SPEED	<ul> <li>BCM detects the following difference between the vehicle speed from combination meter and the one from "ABS actuator and electric unit (control unit)" for 10 seconds continuously</li> <li>One is 10 km/h (6.2 MPH) or more and the other is 4 km/h (2.5 MPH) or less.</li> </ul>	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>Combination meter</li> <li>ABS actuator and electric unit (control unit)</li> </ul>	E
	FIRMATION PROCE	DURE		1
1.PERFOF	RM DTC CONFIRMATIO	ON PROCEDURE		C
1. Start en	igine and wait 10 secor	nds or more.		G
<ol> <li>Drive th</li> <li>Check I</li> </ol>	e vehicle at a vehicle s DTC in "Self Diagnostic	peed of 10 km/h (6.2 MPH) or more for Result" mode of "BCM" using CONSUL	10 seconds or more. T.	
Is DTC dete	ected?			ŀ
YES >>	Go to SEC-61, "Diagno	<u>osis Procedure"</u> .		
NO >>	INSPECTION END			
Diagnosis	s Procedure		INFOID:00000008460533	
1.снеск	DTC OF "ABS ACTUAT	FOR AND ELECTRIC UNIT (CONTROL	UNIT)"	
Check DTC	in "Self Diagnostic Res	sult" mode of "ABS" using CONSULT. Re	efer to BRC-24, "DTC No. Index".	
Is the inspe	ction result normal?			5
YES >>	GO TO 2. Repair or replace the r	nalfunctioning parts		01
	DTC OF COMBINATIO	N METER		
	in "Self Diagnostic R	esult" mode of "METER/M&A" using (	ONSULT Refer to MWI-31 "DTC	L
Index".	In Gen Diagnostic IV	esuit mode of mereromaa using c		
Is the inspe	ction result normal?			Ν
YES >>	GO TO 3.			
NU >>	Repair or replace the r	naifunctioning parts.		
J.CHECK				Ν
Refer to GI-	40, "Intermittent Incide	<u>nt"</u> .		
>>	INSPECTION END			(

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# **B2560 STARTER CONTROL RELAY**

### < DTC/CIRCUIT DIAGNOSIS >

# **B2560 STARTER CONTROL RELAY**

# DTC Logic

INFOID:000000008460534

[WITH INTELLIGENT KEY SYSTEM]

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2560 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-66, "DTC Logic"</u>.
- If DTC B2560 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-67, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible causes
B2560	STARTER CONT RELAY	BCM detects a mismatch between the OFF request of starter control relay to IPDM E/R and the feedback. (The feedback is ON instead of OFF.)	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>IPDM E/R</li> </ul>

### DTC CONFIRMATION PROCEDURE

**1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON and wait 2 seconds or more.
- 2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

Is DTC detected?

YES >> Go to SEC-62, "Diagnosis Procedure".

NO >> INSPECTION END

### Diagnosis Procedure

INFOID:000000008460535

# **1.**CHECK DTC OF IPDM E/R

Check DTC in "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT. Refer to PCS-23, "DTC Index". Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace IPDM E/R. Refer to <u>PCS-31, "Removal and Installation"</u>.

2. CHECK INTERMITTENT INCIDENT

Refer to GI-40. "Intermittent Incident"

>> INSPECTION END

### **B2601 SHIFT POSITION**

### < DTC/CIRCUIT DIAGNOSIS >

# **B2601 SHIFT POSITION**

# DTC Logic

# DTC DETECTION LOGIC

#### NOTE:

- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-67, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B2601	SHIFT POSITION	BCM detects a difference between the P posi- tion signal from CVT sift selector (detention switch) and the P position signal from IPDM E/R (CAN) for 2 seconds or more	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>Harness or connectors [CVT shift selector (detention switch) circuit is open or shorted.]</li> <li>CVT shift selector (detention switch)</li> </ul>	F

### DTC CONFIRMATION PROCEDURE

### **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON and wait 2 seconds or more.
- 2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

### Is DTC detected?

- YES >> Go to <u>SEC-63, "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.

(+) CVT shift selector (detention switch)				
		()	Voltage (V) (Approx.)	L
Connector	Terminal		(, , , , , , , , , , , , , , , , , , ,	
M57	8	Ground	Battery voltage	
				• IVI

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.check CVT shift selector power supply circuit

- 1. Disconnect BCM connector.
- 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	
M57	8	M122	96	Existed	

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

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# **B2601 SHIFT POSITION**

#### < DTC/CIRCUIT DIAGNOSIS >

CVT shift selector	(detention switch)		Continuity
Connector	Terminal	Ground	Continuity
M57 8			Not existed

#### Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-77, "Removal and Installation"</u>.

NO >> Repair or replace harness or connector.

**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
M57	9	M122	99	Existed

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

CVT shift selector	(detention switch)		Continuity
Connector	Connector Terminal		Continuity
M57	9		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connector.

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

1. 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
M57	9	E11	43	Existed

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

CVT shift selector	(detention switch)		Continuity
Connector Terminal		Ground	Continuity
M57 9			Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness or connector.

**5.**CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

Refer to <u>SEC-66</u>, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace CVT shift selector. Refer to <u>TM-145</u>, "Removal and Installation".

 $\mathbf{6.}$ CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

# **B2602 SHIFT POSITION**

### < DTC/CIRCUIT DIAGNOSIS >

# **B2602 SHIFT POSITION**

# **DTC Logic**

# DTC DETECTION LOGIC

### NOTE:

- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".

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-	DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
	B2602	SHIFT POSITION	<ul> <li>BCM detects the following status for 10 seconds.</li> <li>Shift position is in the P position</li> <li>Vehicle speed is 4 km/h (2.5 MPH) or more</li> <li>Ignition switch is in the ON position</li> </ul>	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>Harness or connectors [CVT shift selector (detention switch) circuit is open or shorted.]</li> <li>CVT shift selector (detention switch)</li> <li>ABS actuator and electric unit (control unit)</li> <li>Combination meter</li> <li>BCM</li> </ul>	F
DT	C CONFI	RMATION PROCED	URE		
1.	PERFORM				Н
1.	Start eng	ine.			
2. 3. Is I	Drive veh Check D	hicle at a speed of 4 kn TC in "Self Diagnostic ted?	n/h (2.5 MPH) or more for 10 second Result" mode of "BCM" using CONS	ds or more. SULT.	I
Y N	ES >> G O >> II	Go to <u>SEC-65, "Diagno</u> NSPECTION END	<u>sis Procedure"</u> .		J
Dia	agnosis	Procedure		INFOID:000000008460539	
1.	CHECK D	TC OF "ABS ACTUAT	OR AND ELECTRIC UNIT"		SE
Ch	eck DTC ir	n "Self Diagnostic Resu	ult" mode of "ABS" using CONSULT.	Refer to BRC-24, "DTC No. Index".	
<u>ls t</u>	he inspect	ion result normal?			L
Y N	ES >> @ 0 >> R	GO TO 2. Repair or replace the m	alfunctioning parts		
2.	CHECK D	TC OF COMBINATION			N
Ch	eck DTC i	in "Self Diagnostic Re	sult" mode of "MFTFR/M&A" using	a CONSULT. Refer to MWI-31 "DTC	
Ind	<u>ex"</u> .				Ν
<u>ls t</u>	<u>he inspect</u>	ion result normal?			
Y	ES >> 0	GO TO 3. Ropair or roplage the m	alfunctioning parts		
2					С
J.	CHECK C	VI SHIFT SELECTOR			

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)	()	Voltage (V)
Connector	Connector Terminal		(//pp/ox.)
M57	8	Ground	Battery voltage

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INFOID:00000008460538

# **B2602 SHIFT POSITION**

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

### **4.**CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

#### 1. Disconnect BCM 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
M57	8	M122	96	Existed

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

CVT shift selector	r (detention switch)		Continuity
Connector	Terminal	Ground	Continuity
M57	8		No existed

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-77, "Removal and Installation"</u>.

NO >> Repair or replace harness or connector.

5. CHECK CVT SHIFT SELECTOR CIRCUIT

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
M57	9	M122	99	Existed

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

CVT shift selector	(detention switch)		Continuity
Connector	Terminal	Ground	Continuity
M57	9		No existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness or connector.

 $\mathbf{b}$ .CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

Refer to <u>SEC-66, "Component Inspection"</u>.

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace CVT shift selector. Refer to <u>TM-145</u>, "Removal and Installation".

**I**.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

#### >> INSPECTION END

### **Component Inspection**

**1.**CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

1. Turn ignition switch OFF.

2. Disconnect CVT shift selector connector.

INFOID:000000008460540

# **B2602 SHIFT POSITION**

### < DTC/CIRCUIT DIAGNOSIS >

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

CVT shift selector (detention switch)					
Terr	Terminal		ndition Continuity		
0	0	Solootor lover	P position	Not existed	В
0	9	Selector level	Other than above	Existed	-

YES >> INSPECTION END

NO >> Replace CVT shift selector. Refer to TM-145, "Removal and Installation".

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### < DTC/CIRCUIT DIAGNOSIS >

# **B2603 SHIFT POSITION**

# DTC Logic

INFOID:000000008460541

[WITH INTELLIGENT KEY SYSTEM]

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2603 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-66, "DTC Logic"</u>.
- If DTC B2603 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-67, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible causes
B2603	SHIFT POSI STATUS	<ul> <li>BCM detects the followings status for 500 ms or more when ignition switch is in the ON position.</li> <li>P/N position signal from TCM: Approx. 0 V (Other than P/N position)</li> <li>CVT shift selector (detention switch) signal: Approx. 0 V (P position)</li> </ul>	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>Harness or connector [CVT shift selector circuit (detention switch) is open or shorted.]</li> <li>Harness or connectors (TCM circuit is open or shorted.)</li> <li>CVT shift selector (detention switch)</li> <li>TCM</li> <li>BCM</li> </ul>

### DTC CONFIRMATION PROCEDURE

# **1.**PERFORM DTC CONFIRMATION PROCEDURE 1

- 1. Shift the selector lever to the P position.
- 2. Turn ignition switch ON and wait 1 second or more.
- 3. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

#### Is DTC detected?

- YES >> Go to SEC-68, "Diagnosis Procedure".
- NO >> GO TO 2.

### 2. PERFORM DTC CONFIRMATION PROCEDURE 2

- 1. Shift the selector lever to any position other than P, and wait 1 second or more.
- 2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

#### Is DTC detected?

- YES >> Go to <u>SEC-68. "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

### Diagnosis Procedure

# **1.**CHECK DTC OF TCM

Check DTC in "Self Diagnostic Result" mode of "TCM" using CONSULT. Refer to <u>TM-45, "DTC Index"</u>. Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

### 2. CHECK TCM CIRCUIT

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

-	т	ТСМ		BCM	
-	Connector	Terminal	Connector	Terminal	Continuity
-	F23	20	M123	140	Existed

4. Check continuity between TCM harness connector and ground.

INFOID:000000008460542

# **B2603 SHIFT POSITION**

### < DTC/CIRCUIT DIAGNOSIS >

### [WITH INTELLIGENT KEY SYSTEM]

	ТСМ				Continuity
Connector	Tern	minal	Grou	nd	Continuity
F23	2	20			Not existed
e inspection resul S >> GO TO 3. >> Repair or HECK CVT SHIF	replace harness or o	connector.	Y		
Disconnect CVT s Check voltage be	shift selector (detenti tween CVT shift sele	ion switch) c	connector. tion switch) harr	ess connecto	or and ground.
	(+)				
CVT shift	selector (detention switc	ch)	(-)		Voltage (V)
Connector	Tern	ninal	_		(Approx.)
M57	8	8	Grou	nd	Battery voltage
e inspection resul	t normal?		1		
S >> GO TO 5. ) >> GO TO 4.					
Disconnect BCM Check continuity I	connector. between CVT shift so	elector (dete	ention switch) ha	Irness conne	ctor and BCM harne
nector.					
	or (dotoption switch)		DOM		
CVT shift select	or (detention switch)	0	BCM	Torminal	Continuity
CVT shift select Connector M57	or (detention switch)	Cor	BCM	Terminal 96	Continuity
CVT shift select Connector M57 Check continuity I	or (detention switch) Terminal 8 between CVT shift s	Cor N selector (dete	BCM nnector /122 ention switch) ha	Terminal 96 arness conne	Continuity Existed ctor and ground.
Nector. CVT shift select Connector M57 Check continuity I CVT shift	or (detention switch) Terminal 8 between CVT shift s selector (detention switc	Cor N selector (dete	BCM nnector //122 ention switch) ha	Terminal 96 arness conne	Continuity Existed ctor and ground.
CVT shift select Connector M57 Check continuity I CVT shift Connector	or (detention switch) Terminal 8 between CVT shift s selector (detention switc Term	Cor Cor Selector (dete	BCM nnector A122 ention switch) ha	Terminal 96 arness conne	Continuity Existed ctor and ground. Continuity
CVT shift select Connector M57 Check continuity I CVT shift Connector M57	or (detention switch) Terminal 8 between CVT shift s selector (detention switc Term 8	Cor Cor Selector (dete	BCM nnector /122 ention switch) ha	Terminal 96 arness conne	Continuity Existed ctor and ground. Continuity Not existed
CVT shift select Connector M57 Check continuity I CVT shift Connector M57 ie inspection resul S >> Replace E > > Replace E > >> Replar or CHECK CVT SHIF Disconnect BCM Check continuity I nector	or (detention switch) Terminal 8 between CVT shift s selector (detention switc Term 8 t normal? 3CM. Refer to BCS- replace harness or o T SELECTOR CIRC connector and IPDM between CVT shift se	Cor Cor Selector (deter ch) minal 8 77. "Remova connector. CUIT A E/R conne elector (deter	BCM nnector 4122 ention switch) ha Groun al and Installation ector. ention switch) ha	Terminal 96 arness conne nd n".	Continuity Existed ctor and ground. Continuity Not existed
CVT shift select Connector M57 Check continuity I CVT shift Connector M57 ie inspection resul S >> Replace E > >> Replace E > >> Replar or CHECK CVT SHIF Disconnect BCM Check continuity I nector.	or (detention switch) Terminal 8 between CVT shift s selector (detention switc Term 8 t normal? BCM. Refer to BCS- replace harness or o T SELECTOR CIRC connector and IPDN between CVT shift se	Cor Cor Selector (detector) minal 8 77, "Remove connector. CUIT A E/R conne elector (detector)	BCM nnector 4122 ention switch) ha Groun al and Installation ector. ention switch) ha	Terminal 96 arness conne	Continuity Existed ctor and ground. Continuity Not existed
CVT shift select Connector M57 Check continuity I CVT shift Connector M57 e inspection resul S >> Replace E > >> Replace E > >> Repair or CHECK CVT SHIF Disconnect BCM Check continuity I nector.	or (detention switch)           Terminal           8           between CVT shift s           selector (detention switch)           Term           8           selector (detention switch)           1           8           selector (detention switch)           1           8           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1	Cor Cor Selector (deter Sch) minal 8 77. "Remove connector. CUIT A E/R conne elector (deter	BCM Innector III22 Ention switch) ha Groun al and Installatio Ector. Ention switch) ha BCM	Terminal 96 arness conne nd n".	Continuity Existed Ctor and ground. Continuity Not existed Ctor and BCM harme
CVT shift select Connector M57 Check continuity I CVT shift Connector M57 e inspection resul S >> Replace E > >> Replace E > >> Repair or CHECK CVT SHIF Disconnect BCM Check continuity I nector. CVT shift select Connector	or (detention switch) Terminal 8 between CVT shift s selector (detention switc Term 8 t normal? 3CM. Refer to BCS- replace harness or o T SELECTOR CIRC connector and IPDN between CVT shift se or (detention switch) Terminal	Cor Selector (deter Sch) minal 8 77. "Remove connector. CUIT A E/R conne elector (deter Cor	BCM nnector A122 ention switch) ha Groun al and Installatio ector. ention switch) ha BCM nnector	Terminal 96 arness conne nd n".	Continuity Existed Ctor and ground. Continuity Not existed Ctor and BCM harne Continuity
CVT shift select Connector M57 Check continuity I CVT shift Connector M57 Solution resul Solution result Solution resu	or (detention switch)           Terminal           8           between CVT shift s           selector (detention switch)           Term           8           between CVT shift s           selector (detention switch)           Term           8           Selector (detention switch)           1           8           9	Corrector (determinal 8 77. "Removation connector. CUIT A E/R conne elector (determination Corrector	BCM Innector Ill22 Ention switch) ha Groun al and Installation Ector. Ention switch) ha BCM Innector Ill22 Ellipside body body	Terminal 96 arness conne nd n n".	Continuity Existed Ctor and ground. Continuity Not existed Ctor and BCM harne Continuity Existed
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CVT shift select Connector M57 Check continuity I CVT shift Connector M57 Connector M57 Ne inspection resul S >> Replace E > >> Replace E > >> Repair or CHECK CVT SHIF Disconnect BCM Check continuity I nector. CVT shift select Connector M57 Check continuity I	or (detention switch)           Terminal           8           between CVT shift s           selector (detention switch)           Term           1           8           between CVT shift s           selector (detention switch)           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1           1 </td <td>Cor Selector (deter Sh) minal 8 77. "Remove Connector. CUIT A E/R conne elector (deter Cor Selector (deter Sch)</td> <td>BCM nnector A122 ention switch) ha Groun al and Installatio ector. ention switch) ha BCM nnector A122 ention switch) ha</td> <td>Terminal 96 arness conne nd n". arness conne Terminal 99 arness conne</td> <td>Continuity Continuity Continuity Continuity Not existed Ctor and BCM harne Continuity Existed Ctor and ground. Continuity Existed Ctor and ground.</td>	Cor Selector (deter Sh) minal 8 77. "Remove Connector. CUIT A E/R conne elector (deter Cor Selector (deter Sch)	BCM nnector A122 ention switch) ha Groun al and Installatio ector. ention switch) ha BCM nnector A122 ention switch) ha	Terminal 96 arness conne nd n". arness conne Terminal 99 arness conne	Continuity Continuity Continuity Continuity Not existed Ctor and BCM harne Continuity Existed Ctor and ground. Continuity Existed Ctor and ground.
CVT shift select Connector M57 Check continuity I CVT shift Connector M57 Connector M57 e inspection resul S >> Replace E >> Repair or CHECK CVT SHIF Disconnect BCM Check continuity I nector. CVT shift select Connector M57 Check continuity I CVT shift select Connector	or (detention switch)           Terminal           8           between CVT shift s           selector (detention switc)           Term           8           selector (detention switc)           Term           8           Selector (detention switc)           1           8           Selector (detention switc)           1           8           9           between CVT shift s           9           between CVT shift s           9           between CVT shift s	Cor Selector (deter Sh) minal 8 77. "Remove Connector. CUIT A E/R conne elector (deter Cor Selector (deter Sh) minal	BCM Annector A122 ention switch) ha Groun al and Installation ector. ention switch) ha BCM Annector A122 ention switch) ha Groun Comparison switch) ha Comparison switch ha Comparison s	Terminal 96 arness conne nd n". arness conne Terminal 99 arness conne nd	Continuity Existed Ctor and ground. Continuity Not existed Ctor and BCM harne Continuity Existed Ctor and ground. Continuity Existed Ctor and ground. Continuity

Revision: 2012 October

>> Repair or replace harness or connector.

NO

# **B2603 SHIFT POSITION**

< DTC/CIRCUIT DIAGNOSIS >

6.CHECK CVT SHIFT SELECTOR (DETENTION SWITCH)

Refer to SEC-66. "Component Inspection".

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace CVT shift selector. Refer to <u>TM-145</u>, "Removal and Installation".

7. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

#### >> INSPECTION END

### Component Inspection

INFOID:000000008460543

# 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.

CVT shift selector (detention switch) Terminal		Condition		Continuity	
				Continuity	
9	٥	P position	Not existed		
0	9	Selector level	Other than above	Existed	

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace CVT shift selector. Refer to <u>TM-145</u>, "Removal and Installation".

# **B2604 SHIFT POSITION**

### < DTC/CIRCUIT DIAGNOSIS >

# **B2604 SHIFT POSITION**

# DTC Logic

# DTC DETECTION LOGIC

### NOTE:

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-67, "DTC Logic"</u>.

				D
DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B2604	PNP/CLUTCH SW	<ul> <li>BCM detects the following status for 500 ms or more when ignition switch is in the ON position.</li> <li>P/N position input signal exists. Shift position signal from TCM does not exist.</li> <li>P/N position input signal does not exist. Shift position signal from TCM exists.</li> </ul>	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>Harness or connectors (TCM circuit is open or shorted.)</li> <li>TCM</li> </ul>	E
DTC CONF	IRMATION PROCED	URE		I
1.PERFOR	M DTC CONFIRMATIC	N PROCEDURE		
1 Shift the	selector lever to the P	position		G
2. Turn ign	ition switch ON and wa	it 5 seconds or more.		
3. Shift the 4 Shift the	selector lever to the N	position and wait 5 seconds or more.	conds or more	Н
5. Check D	TC in "Self Diagnostic	Result" mode of "BCM" using CONSULT.		
Is DTC detection	cted?			1
YES >> (	Go to <u>SEC-71, "Diagno</u>	sis Procedure".		I
Diagnosis	Procedure		INFOID:00000008460545	J
1.снеск с	DTC OF TCM		1	
Check DTC i	in "Self Diagnostic Res	ult" mode of "TCM" using CONSULT. Ref	er to <u>TM-45, "DTC Index"</u> .	SEC
Is the inspec	tion result normal?			
YES >> (	GO TO 2.			
NU >>1	Repair or replace the m	airunctioning parts.		L
∠.CHECK T	CM CIRCUIT 1			

1. Turn ignition switch OFF.

2. Disconnect TCM connector and BCM connector.

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

тс	ТСМ		BCM		N
Connector	Terminal	Connector	Terminal	Continuity	
F23	20	M123	140	Existed	

### Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 3.

# **3.**CHECK TCM CIRCUIT 2

1. Disconnect IPDM E/R connector.

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

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[WITH INTELLIGENT KEY SYSTEM]

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# **B2604 SHIFT POSITION**

### < DTC/CIRCUIT DIAGNOSIS >

IPEM E/R		B	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
E10	30	M123	140	Existed

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

IPDN	M E/R		Continuity
Connector Terminal		Ground	Continuity
E10	30		Not existed

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness or connector.

4.CHECK TCM CIRCUIT 3

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

IPEN	IPEM E/R		ТСМ	
Connector	Terminal	Connector	Terminal	Continuity
E10	72	F23	20	Existed

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

IPDM E/R			Continuity
Connector	Terminal	Ground	Continuity
E10	72		Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".

NO >> Repair or replace harness or connector.

5. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END
## **B2605 SHIFT POSITION**

#### < DTC/CIRCUIT DIAGNOSIS >

## **B2605 SHIFT POSITION**

#### **DTC** Logic

## DTC DETECTION LOGIC

#### NOTE:

- If DTC B2605 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".

DTC No.	Trouble diagnosis name		DTC detecting conc	lition		Possible cause
B2605	PNP/CLUTCH SW	BCM dete more whe • P/N pos signal fr • P/N pos position	cts the following status n ignition switch is in th sition input signal exists rom IPDM E/R does no sition input signal does signal from IPDM E/R	a for 500 ms or the ON position s. Shift position at exist. not exist. Shift exists.	<ul> <li>Harness (The CA open or</li> <li>Harness (TCM ciii)</li> <li>TCM</li> <li>IPDM E/</li> </ul>	or connectors N communication line is shorted.) or connectors rcuit is open or shorted.)
TC CONF	FIRMATION PROCEI	DURE				
1.PERFOR	RM DTC CONFIRMATI	ON PROC	EDURE			
1. Shift the 2. Turn igr 3. Shift the 4. Shift the	e selector lever to the F hition switch ON and wa e selector lever to the N e selector lever to any p DTC in "Self Diagnostic	P position. ait 1 seco I position position of Result" r	nd or more. and wait 1 second ther than P and N,	or more. and wait 1 s	second or mo	ore.
s DTC dete	ected?	itesuit i			-1.	
YES >>	Go to <u>SEC-73, "Diagn</u>	osis Proce	<u>edure"</u> .			
<< ON No >>	INSPECTION END					
	STICECUIE					INFOID:00000008460547
I.CHECK	DTC OF IPDM E/R					
Check DTC	in "Self Diagnostic Res	sult" mode	e of "IPDM E/R" us	ing CONSU	LT. Refer to	PCS-23, "DTC Index".
<u>s the inspec</u> YES >> NO >>	<u>ction result normal?</u> GO TO 2. Repair or replace the r	nalfunctio	ning parts.			
<b>2.</b> снеск <sup>-</sup>	TCM CIRCUIT					
<ol> <li>Turn igr</li> <li>Disconr</li> <li>Check of</li> </ol>	nition switch OFF. nect TCM connector an continuity between TCN	d BCM co I harness	onnector. connector and B(	CM harness	connector.	
	ТСМ			BCM		Continuity
Cor	nnector Term	inal	Connector	Te	erminal	Continuity

#### F23 20 M123 140 Check continuity between TCM harness connector and ground. 4.

Т	СМ		Continuity	Ρ
Connector	Terminal	Ground	Continuity	
F23	20		Not existed	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness or connector. Existed

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# $3. {\sf CHECK} {\sf INTERMITTENT} {\sf INCIDENT}$

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

## B2608 STARTER RELAY

#### < DTC/CIRCUIT DIAGNOSIS >

## **B2608 STARTER RELAY**

## DTC Logic

## DTC DETECTION LOGIC

#### NOTE:

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-67, "DTC Logic"</u>.
- If DTC B2608 is displayed with DTC B210D (IPDM E/R), first perform the trouble diagnosis for DTC B210D. Refer to <u>SEC-86, "DTC Logic"</u>.

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

## DTC CONFIRMATION PROCEDURE

## **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.
- Is DTC detected?
- YES >> Go to <u>SEC-75, "Diagnosis Procedure"</u>.
- NO >> INSPECTION END

## Diagnosis Procedure

## 1.CHECK STARTER RELAY POWER SUPPLY CIRCUIT

## 1. Turn ignition switch ON.

2. Check voltage between BCM harness connector and ground.

(+) BCM		-	Condition		Voltage (V)	L
		()			(Approx.)	
Connector	Terminar					
M121	52	Ground	Soloctor lovor	N or P position	Battery voltage	M
	52	Ground	Selector level	Other than above	0	

## Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

# 2. CHECK STARTER RELAY CIRCUIT

- 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.

IPDI	M E/R	B	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
E11	46	M121	52	Existed

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

# SEC-75

## 2013 Murano CrossCabriolet

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## **B2608 STARTER RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

IPDN	M E/R		Continuity	
Connector Terminal		Ground	Continuity	
E11	46		Not existed	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".

NO >> Repair or replace harness or connector.

**3.**CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

#### **B260F ENGINE STATUS**

## **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 BCS-66, "DTC Logic".
- If DTC B260F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-67, "DTC Logic".

DICINO.	Trouble diagnosis name	DIC detecting condition	Possible cause
B260F	ENG STATE SIG LOST	BCM is not yet received the engine status signal from ECM when ignition switch is in ON position	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>ECM</li> </ul>
TC CON	IFIRMATION PROCEDUR RM DTC CONFIRMATION F	E PROCEDURE	
. Turn ig . Check s DTC det	nition switch ON and wait 2 DTC in "Self Diagnostic Res rected?	seconds or more. sult" mode of "BCM" using CONSULT.	
YES >: NO >:	<ul> <li>Go to <u>SEC-77, "Diagnosis</u></li> <li>INSPECTION END</li> </ul>	Procedure".	

Diagnosis Procedure INFOID:000000008460552 **1.**INSPECTION START 1. Turn ignition switch ON. 2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT. SEC Touch "ERASE". 3. Perform DTC CONFIRMATION PROCEDURE for DTC B260F. Refer to <u>SEC-77, "DTC Logic"</u>. Is the DTC B260F displayed again? L YES >> GO TO 2. NO >> GO TO 3. 2.REPLACE ECM Μ Replace ECM. Refer to EC-433, "Removal and Installation". Ν >> INSPECTION END  $\mathbf{3.}$ CHECK INTERMITTENT INCIDENT Refer to GI-40, "Intermittent Incident".

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

# B2617 STARTER RELAY CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

# B2617 STARTER RELAY CIRCUIT

## DTC Logic

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#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2617	BCM	A malfunction of starter relay output signal circuit is detected inside of BCM	ВСМ

#### DTC CONFIRMATION PROCEDURE

## **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press push-button ignition switch under the following conditions, and wait 1 second or more.
- Shift position: P or N
- Brake pedal: Depressed
- 2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

#### Is DTC detected?

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

#### **Diagnosis** Procedure

## **1.**INSPECTION START

- 1. Turn ignition switch ON.
- 2. Select "Self Diagnostic Result" mode of "BCM" using CONSULT.
- 3. Touch "ERASE".
- 4. Perform DTC CONFIRMATION PROCEDURE for DTC B2617. Refer to SEC-78, "DTC Logic".

#### Is DTC detected?

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

## 2.REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-77, "Removal and Installation"</u>.
- 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

## B261A PUSH-BUTTON IGNITION SWITCH

## < DTC/CIRCUIT DIAGNOSIS >

# B261A PUSH-BUTTON IGNITION SWITCH

## DTC Logic

## DTC DETECTION LOGIC

#### NOTE:

- If DTC B261A is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-66, "DTC Logic".
- If DTC B261A is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-67, "DTC Logic"</u>.

PUSH-BTN IGN SW	<ul> <li>BCM detects the mismatch between the following for 1 second or more</li> <li>Power supply position with push-button ignition switch</li> <li>Power supply position from IPDM E/R (CAN)</li> </ul>	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>Harness or connectors (Push-button ignition switch circuit is open or shorted.)</li> <li>Between BCM and push-button igni- tion switch</li> <li>Between IPDM E/R and push-button ignition switch</li> </ul>
)	PUSH-BTN IGN SW	PUSH-BTN IGN SW       BCM detects the mismatch between the following for 1 second or more         PUSH-BTN IGN SW       Power supply position with push-button ignition switch         Power supply position from IPDM E/R (CAN)         IFIRMATION PROCEDURE         RM DTC CONFIRMATION PROCEDURE 1

Brake pedal: Not depressed
Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.
Is DTC detected?

#### VEC USE Cata SEC

YES >> Go to <u>SEC-79, "Diagnosis Procedure"</u> NO >> GO TO 2.

Selector lever: In the P or N position.

- 2.PERFORM DTC CONFIRMATION PROCEDURE 2
- 1. Insert Intelligent Key into the key slot.
- 2. Press the 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.
- 3. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

#### Is DTC detected?

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

## Diagnosis Procedure

5	
1.INSPECTION START	
Perform inspection in accordance with procedure that confirms DTC.	
Which procedure confirms DTC?	
DTC CONFIRMATION PROCEDURE 1>>GO TO 2. DTC CONFIRMATION PROCEDURE 2>>GO TO 4.	
<b>2.</b> CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL 1	



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

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

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## **B261A PUSH-BUTTON IGNITION SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

(+) Push-button ignition switch		()	Voltage (V) (Approx.)	
Connector	Terminal		( +++)	
M101	4	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 3.

# **3.**CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT 1

1. Disconnect BCM connector.

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

Push-button	ignition switch	B	BCM		
Connector	Terminal	Connector	Terminal	Continuity	
M101	4	M121	60	Existed	

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

Push-button	ignition switch		Continuity
Connector	Terminal	Ground	Continuity
M101	4		Not existed

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness or connector.

#### **4.**CHECK PUSH-BUTTON IGNITION SWITCH OUTPUT SIGNAL 2

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

(+) Push-button ignition switch		(-)	Voltage (V) (Approx.)	
Connector	Terminal			
M101	4	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 5.

5.check push-button ignition switch circuit 2

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

Push-button	Push-button ignition switch		IPDM E/R		
Connector	Terminal	Connector Terminal		Continuity	
M101	4	E10	28	Existed	

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

 Push-button	ignition switch		Continuity
 Connector	Terminal	Ground	Continuity
 M101	4		Not existed

Is the inspection result normal?

## **B261A PUSH-BUTTON IGNITION SWITCH**

< DTC/CIRCUIT DIAGNOSIS >	[WITH INTELLIGENT KEY SYSTEM]
YES >> GO TO 6. NO >> Repair or replace harness or connector. 6.CHECK INTERMITTENT INCIDENT	
Refer to GI-40, "Intermittent Incident".	

>> INSPECTION END

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## B261E VEHICLE TYPE

#### Description

There are two types of vehicle.

• HEV

Conventional

#### DTC Logic

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B261E	VEHICLE TYPE	Difference of BCM configuration	BCM

#### DTC CONFIRMATION PROCEDURE

**1.**PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.

2. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

#### Is DTC detected?

YES >> Go to <u>SEC-82, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

#### **Diagnosis Procedure**

## **1.**INSPECTION START

1. Turn ignition switch ON.

- 2. Select "Self Diagnostic Result" mode of "BCM" using CONSULT.
- 3. Touch "ERASE".
- 4. Perform DTC CONFIRMATION PROCEDURE for DTC B261E. Refer to SEC-82, "DTC Logic".

#### Is the DTC displayed?

- YES >> Replace BCM. Refer to <u>BCS-77, "Removal and Installation"</u>.
- NO >> INSPECTION END

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#### **B26EA KEY REGISTRATION** [WITH INTELLIGENT KEY SYSTEM]

#### < DTC/CIRCUIT DIAGNOSIS >

# **B26EA KEY REGISTRATION**

# DTC Logic

INFOID:000000008460560

	Trouble diagnosis name	DTC detecting condition	Possible cause
B26EA	KEY REGISTRATION	Intelligent Key is not registered successfully.	<ul><li>Improper registration operation</li><li>Intelligent Key</li><li>BCM</li></ul>
DTC CONFI	RMATION PROCEDU	RE	
1.PERFORM	M DTC CONFIRMATION	PROCEDURE	
L. Perform	initialization of BCM and	registration of all Intelligent Keys using	g CONSULT.
s DTC detec	ted?		•
YES >> C	So to <u>SEC-83, "Diagnosis</u> NSPECTION END	s Procedure"	
Diagnosis	Procedure		INEO/D-0000008460
1			IN 012.00000000400
2. Check D	TC in "Self Diagnostic Re	esult mode of "BCM" using CONSULT	CONSULI.
s DTC detec	ted?		
YES >> 0 NO >> 1	GO TO 2. NSPECTION END		
	INTELLIGENT KEY		
I. Replace	Intelligent Key.		
Replace     Perform     Check D	Intelligent Key. initialization of BCM and TC in "Self Diagnostic Re	registration of all Intelligent Keys using	g CONSULT.
Replace     Perform     Check D     S DTC detec	Intelligent Key. initialization of BCM and TC in "Self Diagnostic Re ted?	registration of all Intelligent Keys using esult" mode of "BCM" using CONSULT	g CONSULT.
I. Replace 2. Perform 3. Check D <u>s DTC detec</u> YES >> F	Intelligent Key. initialization of BCM and TC in "Self Diagnostic Re ted? Replace BCM. Refer to <u>B</u>	registration of all Intelligent Keys using esult" mode of "BCM" using CONSULT CS-77. "Removal and Installation".	g CONSULT.
I. Replace 2. Perform 3. Check D <u>s DTC detec</u> YES >> F NO >> I	Intelligent Key. initialization of BCM and TC in "Self Diagnostic Re ted? Replace BCM. Refer to <u>B</u> NSPECTION END	registration of all Intelligent Keys using esult" mode of "BCM" using CONSULT CS-77. "Removal and Installation".	g CONSULT.
I. Replace 2. Perform 3. Check D <u>s DTC detec</u> YES >> F NO >> I	Intelligent Key. initialization of BCM and TC in "Self Diagnostic Re <u>ted?</u> Replace BCM. Refer to <u>B</u> NSPECTION END	registration of all Intelligent Keys using esult" mode of "BCM" using CONSULT CS-77. "Removal and Installation".	g CONSULT.
I. Replace 2. Perform 3. Check D <u>s DTC detec</u> YES >> F NO >> I	Intelligent Key. initialization of BCM and TC in "Self Diagnostic Re <u>ted?</u> Replace BCM. Refer to <u>B</u> NSPECTION END	registration of all Intelligent Keys using esult" mode of "BCM" using CONSULT CS-77. "Removal and Installation".	g CONSULT.
I. Replace 2. Perform 3. Check D <u>s DTC detec</u> YES >> F NO >> I	Intelligent Key. initialization of BCM and TC in "Self Diagnostic Re <u>ted?</u> Replace BCM. Refer to <u>B</u> NSPECTION END	registration of all Intelligent Keys using esult" mode of "BCM" using CONSULT CS-77, "Removal and Installation".	g CONSULT.
I. Replace 2. Perform 3. Check D <u>s DTC detec</u> YES >> F NO >> I	Intelligent Key. initialization of BCM and TC in "Self Diagnostic Re <u>ted?</u> Replace BCM. Refer to <u>B</u> NSPECTION END	registration of all Intelligent Keys using esult" mode of "BCM" using CONSULT CS-77, "Removal and Installation".	g CONSULT.

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## **B210B STARTER CONTROL RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

## **B210B STARTER CONTROL RELAY**

## DTC Logic

DTC DETECTION LOGIC

#### NOTE:

If DTC B210B is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>PCS-</u> <u>27, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210B	START CONT RLY ON	<ul> <li>IPDM E/R detects that the relay is stuck at ON position even if the following conditions are met for about 1 second.</li> <li>Starter control relay ON/OFF signal from BCM</li> <li>P/N position signal from TCM</li> </ul>	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>IPDM E/R</li> </ul>

#### DTC CONFIRMATION PROCEDURE

### **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Press push-button ignition switch under the following conditions to start engine, and wait 1 second or more.
- Selector lever: In the P or N position.
- Brake pedal: Depressed
- 2. Check DTC in "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.

#### Is DTC detected?

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

## Diagnosis Procedure

INFOID:000000008460563

## **1.**INSPECTION START

- 1. Turn ignition switch ON.
- 2. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
- 3. Touch "ERASE".
- 4. Perform DTC CONFIRMATION PROCEDURE for DTC B210B. Refer to SEC-84, "DTC Logic".

Is the DTC B210B displayed again?

- YES >> Replace IPDM E/R. Refer PCS-31. "Removal and Installation".
- NO >> INSPECTION END

INFOID:000000008460562

## **B210C STARTER CONTROL RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

## **B210C STARTER CONTROL RELAY**

# DTC Logic

## DTC DETECTION LOGIC

#### NOTE:

- If DTC B210C is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-27, "DTC Logic".
- 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	D
B210C	B210C       START CONT RLY OFF       IPDM E/R detects that the relay is stuck at OFF position even if the followings condition are met for about 1 second.       • Harness or connectors (The CAN communication line is open or shorted.)         • Starter control relay ON/OFF signal from BCM • P/N position signal from TCM       • IPDM E/R       • Battery			
DTC CONF	IRMATION PROCEDU	IRE		F
1.PERFORM	M DTC CONFIRMATION	I PROCEDURE		
1. Press pu more.	ush-button ignition switc	h under the following conditions to start	engine, and wait 1 second or	G
- Brake pe 2. Check D	edal: Depressed TC in "Self Diagnostic R	esult" mode of "IPDM E/R" using CONSU	LT.	Н
YES >> ( NO >> I	Go to <u>SEC-85, "Diagnosi</u> NSPECTION END	<u>s Procedure"</u> .		l
Diagnosis	Procedure		INF01D:00000008460565	
1.INSPECT	ION START			J
<ol> <li>Turn igni</li> <li>Select "S</li> <li>Touch "E</li> </ol>	tion switch ON. Self Diagnostic Result" m RASE".	node of "IPDM E/R" using CONSULT.		SEC
4. Periorin Is the DTC B YES >> F	210C displayed again? Replace IPDM E/R. Refe	er to PCS-31, "Removal and Installation".	EC-85, DTC Logic.	L
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## **B210D STARTER RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

## **B210D STARTER RELAY**

## DTC Logic

INFOID:000000008460566

[WITH INTELLIGENT KEY SYSTEM]

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC B210D is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to PCS-27. "DTC Logic".
- If DTC B210D is displayed with DTC B2617, first perform the trouble diagnosis for DTC B2617. Refer to <u>SEC-78, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210D	STARTER RELAY ON	<ul> <li>IPDM E/R detects that the relay is stuck at ON position even if the followings condition are met for about 1 second.</li> <li>Starter control relay ON/OFF signal from BCM</li> <li>P/N position signal from TCM</li> </ul>	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>IPDM E/R</li> </ul>

#### DTC CONFIRMATION PROCEDURE

**1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Ignition switch ON and wait 1 second or more.
- 2. Check DTC in "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.

#### Is DTC detected?

- YES >> Go to SEC-86, "Diagnosis Procedure".
- NO >> INSPECTION END

#### Diagnosis Procedure

INFOID:000000008460567

- **1.**INSPECTION START
- 1. Turn ignition switch ON.
- 2. Select "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.
- 3. Touch "ERASE".
- 4. Perform DTC CONFIRMATION PROCEDURE for DTC B210D. Refer to <u>SEC-86, "DTC Logic"</u>.

#### Is the DTC B210D displayed again?

- YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
- NO >> INSPECTION END

## **B210E STARTER RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

# B210E STARTER RELAY

## **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>PCS-27, "DTC Logic"</u>.
- If DTC B210E is displayed with DTC B2110 for IPDM E/R, first perform the trouble diagnosis for DTC B2110. Refer to <u>SEC-91, "DTC Logic"</u>.
- If DTC B210E is displayed with DTC B2617 for BCM, first perform the trouble diagnosis for DTC B2617. Refer to <u>SEC-78, "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.

				E
DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B210E	STARTER RELAY OFF	<ul> <li>IPDM E/R detects that the relay is stuck at OFF position even if the followings condition are met for about 1 second.</li> <li>Starter control relay ON/OFF signal from BCM</li> <li>P/N position signal from TCM</li> </ul>	<ul> <li>Harness or connectors (The CAN communication line is open or shorted.)</li> <li>IPDM E/R</li> <li>Battery</li> </ul>	F

## DTC CONFIRMATION PROCEDURE

## **1.**PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON and wait 1 second or more.
- 2. Check DTC in "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.

#### Is DTC detected?

YES >> Go to <u>SEC-87, "Diagnosis Procedure"</u>.

NO >> INSPECTION END

## Diagnosis Procedure

## **1.**CHECK STARTER RELAY OUTPUT SIGNAL

1. Turn ignition switch OFF.

2. Check voltage between BCM harness connector and ground.

(+) BCM connector		(-)	Condition		Voltage (V)	L	
Connector	Terminal		Ignition switch	Brake pedal	Selector lever	(Applox.)	
					P or N	Battery voltage	M
M121	52	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. Disconnect IPDM E/R connector.

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

B	BCM		IPDM E/R		
Connector	Terminal	Connector	Terminal	Continuity	
M121	52	E11	46	Existed	

3. Check continuity between BCM harness connector and ground.

## **SEC-87**

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## **B210E STARTER RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

BCM			Continuity
Connector	Terminal	Ground	Continuity
M121	52		Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".

NO >> Repair or replace harness or connector.

# 3. CHECK STARTER RELAY POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R connector.

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

(+) IPDM E/R		()	Voltage (V)	
Connector	Terminal		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
E10	36	Ground	Battery voltage	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31. "Removal and Installation".

NO >> Check harness for open or short between IPDM E/R and battery. Refer to <u>PCS-24</u>, "Wiring Dia-<u>aram"</u>.

## B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

## B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

## **DTC Logic**

## DTC DETECTION LOGIC

#### NOTE:

If DTC B210F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>PCS-27. "DTC Logic"</u>

DTC No.       Trouble diagnosis name       DTC detecting condition       Possible cause         IPDM E/R detects a mismatch between the sig-       • Harness or connectors (The CAN communication line is
IPDM E/R detects a mismatch between the sig-              • Harness or connectors             (The CAN communication line is
B210F       INTRLCK/PNP SW ON       nals below for 1 second or more.       open or shorted.)         • P/N position signal from TCM       • Harness or connectors (TCM circuit is open or shorted.)         • Shift position signal from BCM (CAN)       • TCM
TC CONFIRMATION PROCEDURE
<ul> <li>Turn ignition switch ON and wait 1 second or more.</li> <li>Check DTC in "Self Diagnostic Result" mode of "IPDM E/R" using CONSULT.</li> <li><u>s DTC detected?</u></li> <li>YES &gt;&gt; Go to <u>SEC-89, "Diagnosis Procedure"</u>.</li> </ul>
NO >> INSPECTION END
Diagnosis Procedure INFOID:00000008460571
CHECK DTC OF BCM
<u>s the inspection result normal?</u> YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. 2.CHECK P/N POSITION SIGNAL
. Turn ignition switch ON. . Check voltage between IPDM E/R harness connector and ground.
(+) Voltago (V)
IPDM E/R (-) Condition (Approx.)
Connector Terminal
E10 30 Ground Selector lever P or N Battery voltage
Other than above 0
<u>s the inspection result normal?</u>
YES >> Replace IPDM E/R. Refer to <u>PCS-31, "Removal and Installation"</u> . NO >> GO TO 3. CHECK P/N POSITION SIGNAL CIRCUIT
1. Turn ignition switch OFF.

2. Disconnect TCM connector and IPDM E/R connector.

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

	IPDN	IPDM E/R		ТСМ		
-	Connector	Terminal	Connector	Terminal	Continuity	
-	F12	72	F23	20	Existed	

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

## **SEC-89**

#### 2013 Murano CrossCabriolet

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INFOID:000000008460570

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## B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

# [WITH INTELLIGENT KEY SYSTEM]

IPDM E/R			Continuity
Connector	Terminal	Ground	Continuity
F12	72		Not existed

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".

NO >> Repair or replace harness or connector.

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

< DTC/CIRCUIT DIAGNOSIS >

# B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

## **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>PCS-</u> <u>27. "DTC Logic"</u>.

	Trouble diagnosis name	DIC detecti	ing condition	Pos	sible cause
B2110	INTRLCK/PNP SW OFF	IPDM E/R detects misma signals for 1 second or m • P/N position signal from • Shift position signal from	tch between the followi nore. m TCM m BCM (CAN)	Harness or co (The CAN com or shorted.)     Harness or co (TCM circuit is TCM     IPDM E/R     BCM	nnectors munication line is open nnectors s open or shorted.)
	JEIRMATION PROC			Bow	
<b>1.</b> PERFC	RM DTC CONFIRMA	TION PROCEDURE			
1. Turn t	he ignition switch ON	and wait 1 second or r	nore.		
2. Check Is DTC de	CDTC in "Self Diagnos tected?	stic Result" mode of "IF	DM E/R" using C	ONSULI.	
YES >	> Go to <u>SEC-91, "Dia</u>	gnosis Procedure".			
NO >					
Diagnos	is Procedure				INFOID:00000008460573
<b>1.</b> CHECł	CDTC OF TCM				
Check DT	C in "Self Diagnostic F	Result" mode of "BCM"	using CONSULT.	Refer to TM-45, '	'DTC Index".
Is the insp	ection result normal?				
NO >	> GO TO 2. > Repair or replace th	e malfunctioning parts			
2.снеси	P/N POSITION SIG	NAL			
1. Turn i	gnition switch ON.				
2. Check	voltage between IPD	M E/R harness conne	ctor and ground.		
	(+)				Voltage (V/)
	IPDM E/R	()	Con	dition	(Approx.)
Con	inector Termina			P or N	Battery voltage
E	E10 30	Ground	Selector lever	Other than above	0
Is the insp	ection result normal?				
YES >	> Replace IPDM E/R.	Refer to PCS-31, "Re	moval and Installa	<u>tion"</u> .	
יאט > 2 ראברי	> GU IU 3. ( P/N PASITIAN SIGN				

2. Disconnect TCM connector and IPDM E/R connector.

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

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INFOID:000000008460572

## B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

IPDI	M E/R	ТСМ		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
F12	72	F23	20	Existed	

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

_	IPDM E/R			Continuity	
	Connector Terminal		Ground	Continuity	
	F12	72		Not existed	

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".

NO >> Repair or replace harness or connector.

## HEADLAMP FUNCTION

#### [WITH INTELLIGENT KEY SYSTEM]

# < DTC/CIRCUIT DIAGNOSIS > [WITH HEADLAMP FUNCTION Component Function Check 1.CHECK FUNCTION

1. Perform "HEAD LAMP(HI)" in "ACTIVE TEST" mode of "THEFT ALM" of "BCM" using CONSULT.

2. Check headlamps operation.

Test item		Descri	otion
ON ON			Light
	OFF	Headlamps (HI)	Do not light
s the inspection result norm	al?		
YES >> INSPECTION E NO >> Refer to <u>SEC-93</u>	ND 3, "Diagnosis Procedure".		
Diagnosis Procedure			INFOID:000000084605
1.CHECK HEADLAMP FUI	NCTION		
Refer to EXL-37, "Compone	nt Function Check".		
ls the inspection result norm	al?		
YES >> GO TO 2.			
NO >> Repair or replace	e the malfunctioning parts.		
2.CHECK INTERMITTENT	INCIDENT		
Refer to <u>GI-40, "Intermittent</u>	Incident".		
>> INSPECTION E	NU		

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INFOID:000000008460574

#### < DTC/CIRCUIT DIAGNOSIS >

## HORN FUNCTION

#### **Component Function Check**

INFOID:000000008460576

[WITH INTELLIGENT KEY SYSTEM]

## **1.**CHECK FUNCTION

- Perform "VEHICLE SECURITY HORN" in "ACTIVE TEST" mode of "THEFT ALM" of "BCM" using CON-SULT.
- 2. Check the horn operation.

Test item		Description	
VEHICLE SECURITY HORN	ON	Horn	Sounds (for 0.5 sec)

#### Is the operation normal?

- YES >> INSPECTION END
- NO >> Go to <u>SEC-94</u>, "Diagnosis Procedure".

#### Diagnosis Procedure

INFOID:000000008460577

## **1.**CHECK HORN FUNCTION

Check that horns function properly using horn switch.

#### Does horn sound?

- YES >> GO TO 2.
- NO >> Check horn circuit. Refer to <u>HRN-3, "Wiring Diagram"</u>.

2. CHECK HORN CONTROL CIRCUIT

- 1. Disconnect horn relay.
- 2. Disconnect IPDM E/R connector.

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

IPDI	M E/R	Horn relay		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E11	44	E5	1	Existed	

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

IPDN	/I E/R		Continuity
Connector	Terminal	Ground	Continuity
E11	44		Not existed

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".

NO >> Repair or replace harness.

## < DTC/CIRCUIT DIAGNOSIS >

# KEY WARNING LAMP

Component Function Check

## 1.CHECK FUNCTION

Check the operation with "INDICATOR" in "Active Test" mode with CONSULT.

Test item		Condition	С
	KEY ON	Key warning lamp illuminates	
INDICATOR	KEY IND	Key warning lamp flashes	
Is the inspection result normal?		·	D
YES >> Key warning lamp NO >> Refer to <u>SEC-95.</u> "	in combinat <u>Diagnosis F</u>	ion meter is OK. <u>Procedure"</u> .	Е
Diagnosis Procedure		INF01D:00000008460579	
1.CHECK KEY WARNING LA	MP		F
Refer to SEC-95. "Component	Function C	Check"	
Is the inspection result normal? Yes >> GO TO 2. No >> Repair or replace k	ey warning	lamp circuit.	G
2. CHECK INTERMITTENT IN	CIDENT		Н
Refer to GI-40, "Intermittent Inc	<u>cident"</u> .		
>> INSPECTION END	)		I

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INFOID:000000008460578

## SECURITY INDICATOR LAMP

## Component Function Check

## **1.**CHECK FUNCTION

1. Perform "THEFT IND" in the "ACTIVE TEST" mode with CONSULT.

2. Check security indicator lamp operation.

Test item		Description	
THEFT IND	ON	Socurity indicator lamp	Illuminate
	OFF	Security indicator lamp	Not illuminate

Is the inspection result normal?

YES >> INSPECTION END

NO >> Go to <u>SEC-96, "Diagnosis Procedure"</u>.

#### Diagnosis Procedure

INFOID:000000008460581

INFOID:00000008460580

## 1.CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

(+)			
Security indicator lamp		(-)	(Approx.)
Connector	Terminal		
M100	1	Ground	Battery voltage

Is the inspection result normal?

- YES >> GO TO 2.
- NO-1 >> Check 10 A fuse [No. 6, located in the fuse block (J/B)].
- NO-2 >> Check harness for open or short between security indicator lamp and fuse.

#### **2.**CHECK SECURITY INDICATOR LAMP SIGNAL

- 1. Connect security indicator lamp connector.
- 2. Disconnect BCM connector.
- 3. Check voltage between BCM harness connector and ground.

(+) BCM		()	Voltage (V)
Connector	Terminal		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
M123	141	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace BCM. Refer to <u>BCS-77. "Removal and Installation"</u>.

NO >> GO TO 3.

# **3.**CHECK SECURITY INDICATOR LAMP SIGNAL CIRCUIT

- 1. Disconnect security indicator lamp connector.
- 2. Check continuity between security indicator lamp harness connector and BCM harness connector.

Security in	dicator lamp	B	СМ	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M100	2	M123	141	Existed

3. Check continuity between security indicator lamp harness connector and ground.

## **SEC-96**

## SECURITY INDICATOR LAMP

#### < DTC/CIRCUIT DIAGNOSIS >

#### [WITH INTELLIGENT KEY SYSTEM]

Security indicator lamp			Continuity
Connector	Connector Terminal Grour	Ground	Continuity
M100	2		Not existed
s the inspection result no	mal?		
YES >> Replace secu NO >> Repair or repl	rity indicator lamp. Refer to <u>S</u> ace harness.	SEC-111, "Removal and Ir	nstallation".

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Revision: 2012 October

# TRUNK KEY CYLINDER SWITCH

## Component Function Check

INFOID:000000008460582

[WITH INTELLIGENT KEY SYSTEM]

## **1.**CHECK FUNCTION

- 1. Select "KEY CYL SW-TR" in "Data Monitor" mode of "THEFT ALM" of "BCM" using CONSULT.
- 2. Check the indication under the following conditions.

Monitor item	Con	Indication	
KEY OVI SWITD	Trunk kov ovlindor switch	Off position	Off
KET OTE SW-TK		On (Trunk lid open) position	On

Is the inspection result normal?

- YES >> Trunk key cylinder switch is OK.
- NO >> Refer to <u>SEC-98, "Diagnosis Procedure"</u>.

#### Diagnosis Procedure

INFOID:000000008460583

# 1. CHECK TRUNK KEY CYLINDER SWITCH INPUT SIGNAL

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

(+) Trunk key cylinder switch		()	Voltage
Connector	Terminal	(Ap	(Approx.)
T11	1	Ground	12 V

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 2.

## **2.**CHECK TRUNK KEY CYLINDER SWITCH SIGNAL CIRCUIT

1. Disconnect BCM connector.

2. Check continuity between BCM harness connector and trunk key cylinder switch harness connector.

В	СМ	Trunk key cy	linder switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M121	49	T11	1	Existed

3. Check continuity between BCM harness connector and ground.

BCM			Continuity
Connector	Terminal	Ground	Continuity
M121	49		Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

**3.**REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-77, "Removal and Installation"</u>.
- 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> INSPECTION END

## TRUNK KEY CYLINDER SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

#### [WITH INTELLIGENT KEY SYSTEM]

# 4. CHECK TRUNK KEY CYLINDER SWITCH GROUND CIRCUIT

Check continuity between trunk key cylinder switch harness connector and ground.

Trunk key c	ylinder switch		Continuity
Connector	Terminal	Ground	Continuity
T11	2		Existed
Is the inspection result norm	al?		
YES >> GO TO 5. NO >> Repair or replace	e harness.		
<b>5.</b> CHECK TRUNK KEY CY	LINDER SWITCH		
Refer to <u>SEC-99, "Compone</u>	ent Inspection"		
Is the inspection result norm	al?		
YES >> GO TO 6. NO >> Replace trunk k	ey cylinder switch.		
6.CHECK INTERMITTENT	INCIDENT		
Refer to <u>GI-40, "Intermittent</u>	Incident".		
>> INSPECTION E	ND		
Component Inspectior	1		INFOID:00000008460584
<b>1.</b> CHECK TRUNK KEY CY	LINDER SWITCH		
<ol> <li>Turn ignition switch OFF</li> <li>Disconnect trunk key cy</li> <li>Observative between the set of th</li></ol>	inder switch connector.	h (anns in alla	

3. Check continuity between trunk key cylinder switch terminals.

	Trunk key cylinder switch		Condition		Continuity	J
	Terminal					
_	1	2	Trunk lid key cylinder	Off position	Not existed	SE
				On (trunk lid open) position	Existed	

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace trunk key cylinder switch.

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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:000000008460585

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" setting: ON Check the setting of "ENGINE START BY I-KEY" in "Work Support" mode of "INTELLIGENT KEY" of "BCM" using CONSULT.
- Intelligent Key is not inserted into key slot.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

## **Diagnosis** Procedure

INFOID:000000008460586

## **1.**PERFORM WORK SUPPORT

Perform "INSIDE ANT DIAGNOSIS" in "Work Support" mode of "INTELLIGENT KEY" of "BCM" using CON-SULT.

Refer to <u>SEC-21</u>, "INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)".

>> GO TO 2.

#### 2. PERFORM SELF-DIAGNOSTIC RESULT

Select "Self Diagnostic Result" mode of "BCM", and check whether or not DTC of inside key antenna is detected.

#### Is DTC detected?

YES >> Refer to <u>DLK-51, "DTC Logic"</u> (console) or <u>DLK-53, "DTC Logic"</u> (trunk room).

NO >> GO TO 3.

 $\mathbf{3.}$ CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch.

Refer to PCS-65, "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-40, "Intermittent Incident"</u>.

NO >> GO TO 1.

#### SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK IM DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

#### < SYMPTOM DIAGNOSIS >

# SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

#### А Description INFOID:00000008460587 Security indicator lamp does not blink when ignition switch is in a position other than ON. В NOTE: Before performing the diagnosis in the following table, check "Work Flow". Refer to <u>SEC-37, "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) Intelligent Key is not inserted in key slot. D Ignition switch position is not in the ON position. **Diagnosis** Procedure INFOID:000000008460588 Ε 1. CHECK SECURITY INDICATOR LAMP Check security indicator lamp. Refer to SEC-96, "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? >> Check intermittent incident. Refer to GI-40, "Intermittent Incident". YES 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 all doors are 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)

 "ENGINE START BY I-KEY" setting: ON Check the setting of "ENGINE START BY I-KEY" in "Work Support" mode of "INTELLIGENT KEY" of "BCM" using CONSULT.

## INTELLIGENT KEY : Diagnosis Procedure

INFOID:000000008460590

INFOID-00000008460589

[WITH INTELLIGENT KEY SYSTEM]

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

Lock/unlock door with Intelligent Key. Refer to <u>DLK-20, "REMOTE KEYLESS ENTRY FUNCTION</u>: System Description".

Is the inspection result normal?

- YES >> GO TO 2.
- NO >> Check Intelligent Key system (remote keyless entry function). Refer to <u>DLK-104</u>, "<u>Diagnosis Pro-</u> <u>cedure</u>".

2. CHECK DOOR SWITCH

Check door switch circuit.

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

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace malfunctioning parts. Refer to <u>DLK-55, "Diagnosis Procedure"</u>.

3.CHECK TRUNK ROOM LAMP SWITCH

Check trunk room lamp switch circuit. Refer to DLK-69, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace malfunctioning parts. Refer to <u>DLK-69</u>, "Diagnosis Procedure".

**4.**CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.

NO >> GO TO 1.

#### DOOR REQUEST SWITCH

## DOOR REQUEST SWITCH : Description

INFOID:000000008460591

ARMED phase is not activated when all doors are 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)

 "ENGINE START BY I-KEY" setting: ON Check the setting of "ENGINE START BY I-KEY" in "Work Support" mode of "INTELLIGENT KEY" of "BCM" using CONSULT.

## SEC-102

# VEHICLE SECURITY SYSTEM CANNOT BE SET < SYMPTOM DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

DOOR REQUEST SWITCH : Diagnosis Procedure	٨
1. CHECK INTELLIGENT KEY SYSTEM (DOOR LOCK FUNCTION)	А
Lock/unlock door with door request switch. Refer to DLK-16, "DOOR LOCK FUNCTION : System Description".	В
Is the inspection result normal?         YES       >> GO TO 2.         NO       >> Check Intelligent Key system (door lock function). Refer to <u>DLK-102, "ALL DOOR : Diagnosis Procedure"</u> .	С
2. CHECK DOOR SWITCH	D
Check door switch circuit. Refer to <u>DLK-55, "Component Function Check"</u> .	
Is the inspection result normal?	Е
NO >> Repair or replace malfunctioning parts.	
3. CHECK TRUNK ROOM LAMP SWITCH	F
Check trunk room lamp switch circuit.	
Is the inspection result normal?	G
YES >> GO TO 4.	
4.CONFIRM THE OPERATION	Н
Confirm the operation again.	
<u>Is the result normal?</u>	Ι
NO $>>$ GO TO 1.	
DOOR KEY CYLINDER	J
DOOR KEY CYLINDER : Description	
ARMED phase is not activated when all doors are locked using mechanical key.	SEC
DOOR KEY CYLINDER : Diagnosis Procedure	
1.CHECK POWER DOOR LOCK SYSTEM	L
Lock/unlock door with mechanical key.	
Is the inspection result normal?	IVI
YES >> GO TO 2.	
NO >> Check power door lock system. Refer to <u>DLK-101, "Diagnosis Procedure"</u> .	Ν
Check door switch circuit	
Refer to DLK-55, "Component Function Check".	0
Is the inspection result normal? YES >> GO TO 3	
NO >> Repair or replace malfunctioning parts.	Ρ
3. CHECK TRUNK ROOM LAMP SWITCH	
Check trunk room lamp switch circuit. Refer to DLK-69, "Component Function Check".	
Is the inspection result normal?	

YES >> GO TO 4.

## VEHICLE SECURITY SYSTEM CANNOT BE SET

< SYMPTOM DIAGNOSIS >

S > [WITH INTELLIGENT KEY SYSTEM]

NO >> Repair or replace malfunctioning parts. 4.CONFIRM THE OPERATION

Confirm the operation again. Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.

NO >> GO TO 1.

DOOR LOCK AND UNLOCK SWITCH

DOOR LOCK AND UNLOCK SWITCH : Description

Armed phase is not activated when all doors are locked by door lock and unlock switch. **NOTE:** 

Check that vehicle is under the condition shown in "CONDITIONS OF VEHICLE (OPERATING CONDI-TIONS)" before starting diagnosis, and check each symptom.

CONDITION OF VEHICLE (OPERATING CONDITIONS)

"SECURITY ALARM SET": ON

Check the setting of "SECURITY ALARM SET" in "Work Support" mode of "THEFT ALM" of "BCM" using CONSULT.

DOOR LOCK AND UNLOCK SWITCH : Diagnosis Procedure

INFOID:000000008460596

INFOID:00000008460595

1. CHECK DTC OF SOFT TOP CONTROL UNIT

Check DTC in "Self Diagnostic Result" mode of "CONVERTIBLE ROOF" using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis regarding to the detected DTC. Refer to <u>RF-57</u>, "DTC Index".

NO >> GO TO 2.

2. CHECK DOOR LOCK FUNCTION

Lock/unlock door using door lock and unlock switches (Driver side and passenger side). Refer to <u>DLK-13, "System Description"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Check power door lock system. Refer to <u>DLK-99, "ALL DOOR : Diagnosis Procedure"</u>.

**3.**CHECK DOOR SWITCH

Check door switch circuit.

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

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace malfunctioning parts.

**4.**CHECK TRUNK ROOM LAMP SWITCH

Check trunk room lamp switch circuit.

Refer to DLK-69, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace malfunctioning parts.

**5.**CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.

NO >> GO TO 1.

#### VEHICLE SECURITY ALARM DOES NOT ACTIVATE GNOSIS > [WITH INTELLIGENT KEY SYSTEM]

< SYMPTOM DIAGNOSIS >	[WITH II
VEHICLE SECURITY ALARM DOI	S NOT ACTIVATE

VEHICLE SECURITI ALARIVI DUES NUT ACTIVATE	Λ
Description INFOID:00000008460597	A
Alarm does not operate when alarm operating condition is satisfied. <b>NOTE:</b>	В
each symptom.	0
<ul> <li>CONDITION OF VEHICLE (OPERATING CONDITION)</li> <li>"ENGINE START BY I-KEY" setting: ON Check the setting of "ENGINE START BY I-KEY" in "Work Support" mode of "INTELLIGENT KEY" of "BCM" using CONSULT.</li> </ul>	D
Diagnosis Procedure	
1.CHECK DOOR SWITCH	E
Check door switch. Refer to <u>DLK-55, "Component Function Check"</u> .	F
<u>Is the inspection result normal?</u> YES >> GO TO 2.	0
2.CHECK TRUNK ROOM LAMP SWITCH	G
Check trunk room lamp switch circuit. Refer to <u>DLK-69, "Component Function Check"</u> .	Н
Is the inspection result normal?	
YES >> GO TO 3. NO >> Repair or replace malfunctioning parts.	I
<b>3.</b> CHECK HEADLAMP FUNCTION	
Check headlamp function. Refer to <u>SEC-93, "Component Function Check"</u> .	J
Is the inspection result normal?	
YES >> GO TO 4. NO >> Repair or replace the malfunctioning parts.	SEC
4. CHECK HORN FUNCTION	
Check horn function. Refer to SEC-94, "Component Function Check".	L
Is the inspection result normal?	
YES >> GO TO 5.	M
NO >> Repair or replace the malfunctioning parts.	
<b>5.</b> CONFIRM THE OPERATION	
Confirm the operation again.	Ν
Is the result normal?	
<ul> <li>YES &gt;&gt; Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.</li> <li>NO &gt;&gt; GO TO 1.</li> </ul>	0

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#### INTELLIGENT KEY INSERT INFORMATION DOES NOT OPERATE < SYMPTOM DIAGNOSIS > [WITH INTELLIGENT KEY SYSTEM]

# INTELLIGENT KEY INSERT INFORMATION DOES NOT OPERATE

## Description

INFOID:000000008460599

Intelligent Key insert information does not operate when push-button ignition switch is operated while Intelligent Key is not inside vehicle.

#### ŇOTE:

Operating conditions of warning function are extremely complicated. Refer to <u>DLK-23</u>, "WARNING FUNC-<u>TION : System Description"</u>.

## **Diagnosis Procedure**

INFOID:000000008460600

## **1.**CHECK POWER POSITION

Check if ignition switch position is changing or not.

Does ignition switch position change?

YES >> GO TO 3.

NO >> GO TO 2.

**2.**CHECK PUSH-BUTTON IGNITION SWITCH

Check push-button ignition switch. Refer to <u>PCS-65, "Component Function Check"</u>.

Is the inspection result normal?

YES >> Check BCM for DTC. Refer to <u>BCS-55, "DTC Index"</u>.

NO >> Repair or replace the malfunctioning parts.

**3.**CHECK DOOR SWITCH

Check door switch.

Refer to <u>DLK-55</u>, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

**4.**CHECK KEY SLOT

Check key slot.

Refer to DLK-91, "Component Function Check".

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace the malfunctioning parts.

**5.**CHECK INFORMATION DISPLAY

Check information display.

Refer to DLK-88. "Component Function Check".

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace the malfunctioning parts.

**6.**CHECK KEY SLOT INDICATOR

Check key slot indicator.

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

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace the malfunctioning parts.

**7.**CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

YES >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.

# INTELLIGENT KEY INSERT INFORMATION DOES NOT OPERATE

## < SYMPTOM DIAGNOSIS >

NO >> GO TO 1.

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#### PANIC ALARM FUNCTION DOES NOT OPERATE

#### < SYMPTOM DIAGNOSIS >

## PANIC ALARM FUNCTION DOES NOT OPERATE

## Description

#### NOTE:

- Before performing the following procedure, check "Work Flow". Refer to SEC-37, "Work Flow".
- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.

#### CONDITIONS OF VEHICLE (OPERATION CONDITIONS)

- Power supply position: OFF or LOCK
- PANIC ALARM SET: MODE 1
- Check the setting of "PANIC ALARM SET" in "Work Support" mode of "INTELLIGENT KEY" of "BCM" using CONSULT.

#### Diagnosis Procedure

INFOID:000000008460602

INFOID:000000008460601

[WITH INTELLIGENT KEY SYSTEM]

#### **1.**CHECK REMOTE KEYLESS ENTRY FUNCTION

Check remote keyless entry function. Refer to <u>DLK-20, "REMOTE KEYLESS ENTRY FUNCTION : System</u> <u>Description"</u>.

Does door lock or unlock when operating Intelligent key button?

YES >> GO TO 2.

NO >> Go to <u>DLK-104</u>, "Diagnosis Procedure".

2. CHECK VEHICLE SECURITY ALARM OPERATION

Check vehicle security alarm operation. Refer to <u>SEC-16</u>, <u>"VEHICLE SECURITY SYSTEM : System Description"</u>.

Is alarm (headlamps and horns) activated?

YES >> GO TO 3.

NO >> Go to <u>SEC-105, "Diagnosis Procedure"</u>.

**3.**CHECK "PANIC ALARM" BUTTON OPERATION

1. Turn ignition switch ON.

- Select "RKE-PANIC" and "RKE OPE COUN1" in "Data Monitor" mode of "INTELLIGENT KEY" of "BCM" using CONSULT.
- 3. Check "RKE-PANIC" and "RKE OPE COUN1" indications when pressing (for approximately 0.5 seconds) "PANIC ALARM" button of Intelligent Key.

Indication	Specification	
RKE-PANIC	$OFF\toON$	
RKE OPE COUN1	Increases	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace Intelligent Key.

**4.**CONFIRM THE OPERATION

Confirm the operation again.

#### Is the result normal?

- YES >> Check intermittent incident. Refer to <u>GI-40, "Intermittent Incident"</u>.
- NO >> GO TO 1.
# < REMOVAL AND INSTALLATION > REMOVAL AND INSTALLATION KEY SLOT

Exploded View

INFOID:000000008460603

INFOID:000000008460604

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## Removal and Installation

#### REMOVAL

- 1. Remove the instrument lower panel LH (2). Refer to <u>IP-13.</u> <u>"Removal and Installation"</u>.
- 2. Disconnect key slot connector.
- 3. Remove the key slot mounting screw (A), and then remove key slot (1) from instrument lower panel LH (2).



INSTALLATION Install in the reverse order of removal.

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#### < REMOVAL AND INSTALLATION >

## PUSH-BUTTON IGNITION SWITCH

#### Exploded View

INFOID:000000008460605



1. Push-button ignition switch

#### Removal and Installation

INFOID:000000008460606

#### REMOVAL

- 1. Remove the instrument stay cover LH. Refer to IP-13, "Removal and Installation".
- Remove the push-button ignition switch (1) from instrument stay cover LH, after removing pawl (A). Press push-button ignition switch (1) back to disengage from instrument stay cover LH (2).



INSTALLATION Install in the reverse order of removal.

#### SECURITY INDICATOR LAMP

#### < REMOVAL AND INSTALLATION >

## SECURITY INDICATOR LAMP

## **Exploded View**

INFOID:000000008460607

[WITH INTELLIGENT KEY SYSTEM]



Security indicator lamp 1.

#### **Removal and Installation**

#### REMOVAL

Remove the security indicator lamp (1).

Disengage pawls with remover tool (A) and pull up the security • indicator lamp.

<u></u>
六: Pawl



# **INSTALLATION**

Install in the reverse order of removal.



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