SECURITY CONTROL SYSTEM

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< PRECAUTION > PRECAUTION

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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. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which 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 the SR section.
- Do not 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:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT 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 three minutes before performing any service.

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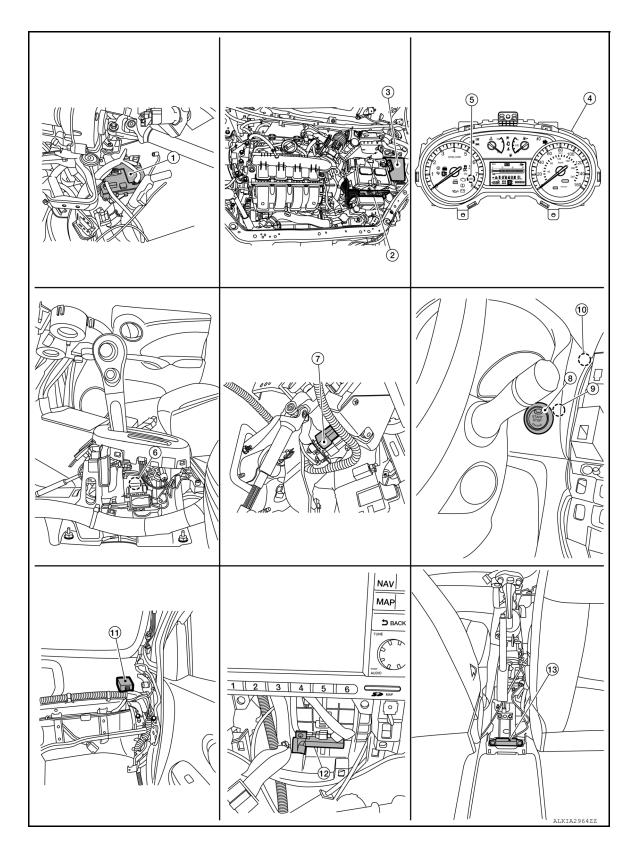
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SYSTEM DESCRIPTION COMPONENT PARTS

Component Parts Location

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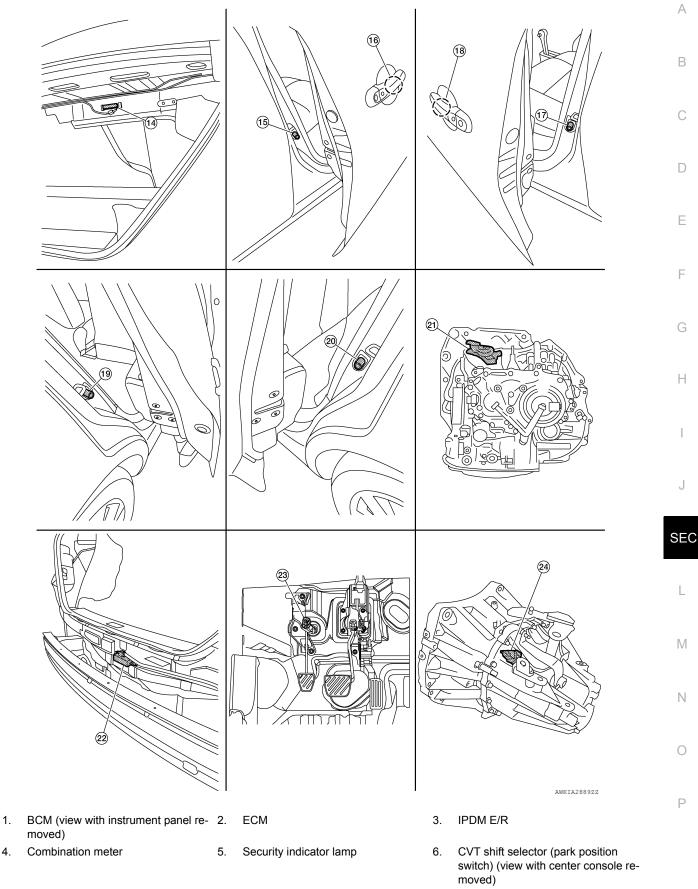
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7. Stop lamp switch

4.

Push-button ignition switch 8.



NATS antenna amp.

9.

COMPONENT PARTS

< SYSTEM DESCRIPTION > Dongle unit (Canada only)

13. Inside key antenna (console) (view

with center console removed) 16. Outside key antenna (passenger

22. Outside key antenna (rear bumper)

- Remote keyless entry receiver (view 12. Inside key antenna (instrument cenwith instrument panel removed)
- 14. Inside key antenna (trunk room)
- 17. Front door switch LH
- 20. Rear door switch LH
- 23. Clutch interlock switch (M/T)
- ter)
- 15. Front door switch RH
- 18. Outside key antenna (driver side)
- 21. Transmission range switch (CVT)
- 24. Park/neutral position (PNP) switch (neutral switch) (M/T)

Component Description

19. Rear door switch RH

side)

INFOID:000000011536746

Component	Reference
CVT shift selector (park position switch)	SEC-8
BCM	SEC-8
ECM	SEC-9
IPDM E/R	SEC-9
NATS antenna amp.	SEC-9
Combination meter	SEC-9
Door switch	SEC-9
Outside key antenna	SEC-9
Inside key antenna	SEC-9
Intelligent Key	SEC-9
Push-button ignition switch	SEC-9
Remote keyless entry receiver	SEC-9
Security indicator lamp	SEC-9
Starter relay	<u>SEC-10</u>
Stop lamp switch	<u>SEC-10</u>
Transmission range switch (CVT)	<u>SEC-10</u>
Park/neutral position (PNP) switch (neutral switch) (M/T)	<u>SEC-10</u>
Clutch interlock switch (M/T)	<u>SEC-10</u>

CVT Shift Selector (Park Position Switch)

INFOID:000000011536747

Park position switch detects that CVT shift selector is in the P (Park) position and then transmits the signal to BCM and IPDM E/R.

BCM confirms the CVT shift selector position with the following 5 signals:

- P (Park) position signal from CVT shift selector (park position switch)
- P/N position signal from TCM
- P (Park) 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 CVT shift selector position with the following 3 signals:

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

BCM

INFOID:000000011536748

BCM controls INTELLIGENT KEY SYSTEM (ENGINE START FUNCTION), NISSAN VEHICLE IMMOBI-LIZER SYSTEM-NATS (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.

SEC-8

[WITH INTELLIGENT KEY SYSTEM]

COMPONENT PARTS

[WITH INTELLIGENT KEY SYSTEM]

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Then, when the power supply position is turned ON, BCM performs ID verification between BCM the ID verification result is OK, ECM can start engine.	A and ECM. If	А
ECM	INFOID:0000000011536749	
ECM controls the engine. When power supply position is turned ON, BCM starts communication with ECM and performs t tion between BCM and ECM.		В
If the verification result is OK, the engine can start. If the verification result is invalid, the engine IPDM E/R		С
	INFOID:0000000011536750	
IPDM E/R has the starter relay and starter control relay inside. Starter relay and starter control r for the engine starting function. IPDM E/R controls these relays while communicating with BCM.		D
NATS Antenna Amp.	INFOID:0000000011536751	E
The ID verification is performed between BCM and transponder in Intelligent Key via NATS a when Intelligent Key backside is contacted to push-button ignition switch in case that Intelligent discharged. If the ID verification result is OK, the operation of starting engine is available.		F
Combination Meter	INFOID:000000011536752	
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 nication. BCM compares both signals to detect the vehicle speed.	CAN commu-	G
Door Switch	INFOID:0000000011536753	Н
Door switch detects door open/close condition and then transmits ON/OFF signal to BCM.		
Outside Key Antenna	INFOID:0000000011536754	
Outside key antenna detects whether Intelligent Key is outside the vehicle and transmits the sign Three outside key antennas are installed in the front outside handle LH, front outside handle bumper.		J
Inside Key Antenna	INFOID:000000011536755	050
Inside key antenna detects whether Intelligent Key is inside the vehicle and transmits the signal Three inside key antennas are installed in the instrument center, console and trunk room.		SEC
Remote Keyless Entry Receiver	INFOID:0000000011536756	L
Remote keyless entry receiver receives each button operation signal and electronic key ID sign gent Key and then transmits the signal to BCM.	al from Intelli-	M
Intelligent Key	INFOID:000000011536757	
Each Intelligent Key has an individual electronic ID and transmits the ID signal by request from E Carrying the Intelligent Key whose ID is registered in BCM, the driver can perform, remote sta unlock operation, remote liftgate, panic alarm and push-button ignition switch operation.		Ν
Push-button Ignition Switch	INFOID:0000000011536758	0
Push-button ignition switch detects that push-button is pressed and then transmits the signal t changes the power supply position with the operation of push-button ignition switch. BCM mainta supply position status while push-button is not operated.		Ρ

Security Indicator Lamp

< SYSTEM DESCRIPTION >

Security indicator lamp is located on combination meter. Security indicator lamp blinks when power supply position is any position other than ON to warn that NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS (NATS) is on board.

INFOID:000000011536759



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

Engine starting system functions by controlling both starter relay and starter control relay.

Transmission Range Switch

trolled by IPDM E/R on request from BCM.

< SYSTEM DESCRIPTION >

Starter Relay

Stop Lamp Switch

Transmission range switch is integrated in CVT assembly, and detects the CVT shift selector position. TCM receives the transmission range switch signal and then transmits the P/N position signal to BCM and IPDM E/R.

BCM confirms the CVT shift selector position with the following 5 signals:

- P (Park) position signal from CVT shift selector (park position switch)
- P/N position signal from TCM
- P (Park) 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 CVT shift selector position with the following 3 signals:

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

Park/neutral position (PNP) switch (neutral switch)

Park/neutral position (PNP) switch detects that shift lever is in the neutral position, and then transmits ON/OFF signal to BCM.

Clutch interlock switch

Clutch interlock switch detects that clutch pedal is depressed, then provides power source to starter control relay and starter relay, and transmits ON/OFF signal to BCM.

Revision: December 2014

Both relays are integrated in IPDM E/R. Starter relay is controlled by BCM, and starter control relay is con-

IPDM E/R transmits starter relay and starter control relay status signal to BCM via CAN communication.

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INFOID:000000011536761

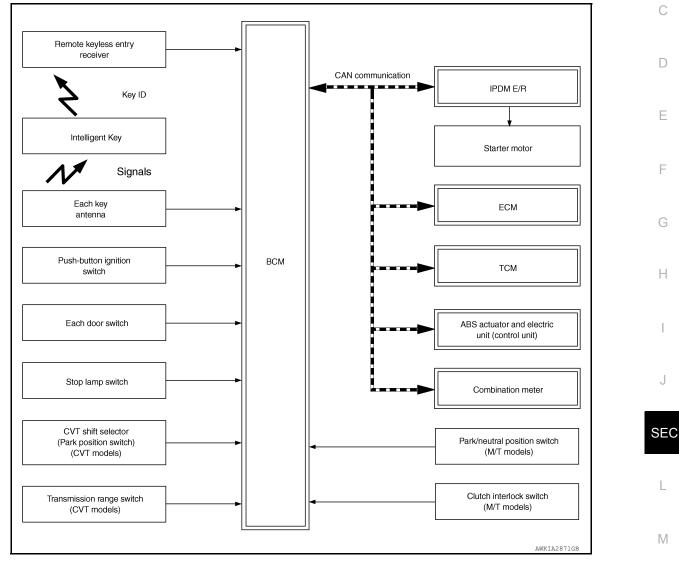
INFOID:000000011536760

< SYSTEM DESCRIPTION > SYSTEM INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

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SYSTEM DIAGRAM



SYSTEM DESCRIPTION

• The engine start function of Intelligent Key system makes it possible to start and stop the engine without using the key, based on the electronic ID verification. The electronic 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 NATS ID). It can perform the door lock/unlock operation and P the push-button ignition switch operation when the registered Intelligent Key is carried.
- If the ID is successfully verified, when push-button ignition switch is pressed the engine can be started.
- Up to 4 Intelligent Keys can be registered (Including the standard Intelligent Key) upon request from the customer.
- · For initialization and registration of Intelligent Key, refer to CONSULT Immobilizer mode and follow the onscreen instructions.

NOTE:

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< SYSTEM DESCRIPTION >

Refer to <u>SEC-14. "NISSAN ANTI-THEFT SYSTEM : System Description"</u> for any functions other than engine start function of Intelligent Key system.

PRECAUTIONS FOR INTELLIGENT KEY SYSTEM

The transponder (the chip for 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, NATS ID verification can be performed when Intelligent Key backside is contacted to push-button ignition switch while brake pedal is depressed. If verification result is OK, engine can be started.

OPERATION WHEN INTELLIGENT KEY IS CARRIED

- 1. When the push-button ignition switch is pressed, the BCM activates the inside key antenna and transmits the request signal to the Intelligent Key.
- 2. The Intelligent Key receives the request signal and transmits the Intelligent Key ID signal to the BCM.
- 3. BCM receives the Intelligent Key ID signal via remote keyless entry receiver and verifies it with the registered ID.
- 4. BCM turns ACC relay ON and transmits the ignition power supply ON signal to IPDM E/R.
- 5. IPDM E/R turns the ignition relay ON and starts the ignition power supply.
- 6. IPDM E/R turns the starter control relay ON for engine starting in advance.
- 7. BCM detects the selector lever position and brake pedal operation condition (CVT models), or clutch pedal operation condition (M/T models).
- 8. BCM transmits the starter request signal to IPDM E/R and turns the starter relay in IPDM E/R ON if BCM judges that the engine start condition* is satisfied.
- 9. Power supply is supplied through the starter relay and the starter control relay to operate the starter motor. **CAUTION:**

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

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

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

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

OPERATION RANGE

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

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

When Intelligent Key battery is discharged, NATS ID verification between transponder in Intelligent Key and BCM is performed when Intelligent Key backside is contacted to push-button ignition switch while brake pedal is depressed. If the verification result is OK, engine can be started.

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

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

NOTĚ:

- When an Intelligent Key is within the detection area of inside key antenna or when Intelligent Key backside is contacted to push-button ignition switch, it is equivalent to the operations below.
- When starting the engine, the BCM monitors under the engine start conditions,

CVT models

- Brake pedal operation condition
- Selector lever position
- Vehicle speed
- M/T models

< SYSTEM DESCRIPTION >

- Clutch pedal operation condition

- Vehicle speed

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

		Condition			
Power supply position	CVT models		M/T models	Push-button ignition switch	
	Selector lever	Brake pedal operation condition	Clutch pedal operation condition	operation frequency	
$OFF \to ACC$	_	Not depressed	Not depressed	1	
$OFF \to ACC \to ON$	—	Not depressed	Not depressed	2	
$\begin{array}{l} OFF \rightarrow ACC \rightarrow ON \rightarrow \\ OFF \end{array}$	_	Not depressed	Not depressed	3	
$OFF \rightarrow START$ ACC $\rightarrow START$ ON $\rightarrow START$	P or N position	Depressed	Depressed	1	
Engine is running \rightarrow OFF	_	_	_	1	

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

Power supply position	CVT	models	M/T models	Push-button ignition switch	
	Selector lever	ector lever Brake pedal operation condition Clutch pedal operation condition		operation frequency	
Engine is running \rightarrow ACC	_	_	_	Emergency stop operation	
Engine stall return oper- ation while driving	N position	Not depressed	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 ANTI-THEFT SYSTEM

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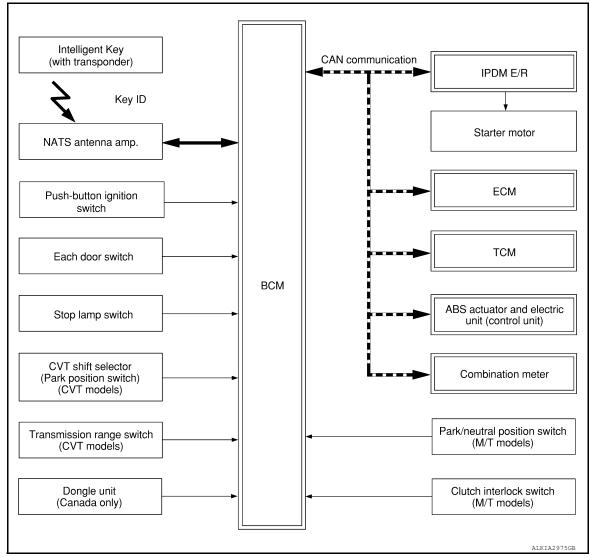
< SYSTEM DESCRIPTION >

NISSAN ANTI-THEFT SYSTEM : System Description

INFOID:000000011536766

[WITH INTELLIGENT KEY SYSTEM]

SYSTEM DIAGRAM



SYSTEM DESCRIPTION

- The Nissan Anti-Theft System (NATS) prevents the engine from being started by Intelligent Key whose ID is not registered to the vehicle (BCM). It has higher protection against auto theft involving the duplication of mechanical keys.
- The ignition key integrated in the Intelligent Key cannot start the engine. When the Intelligent Key battery is discharged, the NATS ID verification is performed between the transponder integrated with Intelligent Key and BCM via NATS antenna amp. when the Intelligent Key backside is contacted to push-button ignition switch while brake pedal is depressed. If the verification result is OK, the engine start operation can be performed by the push-button ignition switch operation.
- Locate the security indicator lamp and always blinks it when the ignition switch is in any position except ON to warn that the vehicle is equipped with Nissan Anti-Theft System (NATS).
- Up to 4 Intelligent Keys can be registered (including the standard ignition key) upon request from the owner.
- When replacing ECM, BCM or Intelligent Key, the specified procedure (Initialization and registration) using CONSULT is required.
- For initialization and registration of Intelligent Key, refer to CONSULT Immobilizer mode and follow the onscreen instructions.
- Possible symptom of NATS malfunction is "Engine can not start". This symptom also occurs because of other than NATS malfunction, so start the trouble diagnosis according to <u>GI-36, "Work Flow"</u>.
- If ECM other than genuine part is installed, the engine cannot be started.
 For ECM replacement procedure, refer to <u>EC-488</u>, "<u>Removal and Installation</u>".

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

	ECAUTIONS FOR KEY REGISTRATION						
for • W	The ID registration is a procedure that erases the current NATS ID once, and then registers a new ID. There- re before starting the registration operation, collect all registered Intelligent Keys from the customer. Then registering the Intelligent Key, perform only one procedure to simultaneously register both IDs (NATS)	A					
ID and Intelligent Key ID).							
• Se	ecurity indicator lamp warns that the vehicle is equipped with NATS. ecurity indicator lamp always blinks when the ignition switch is in any position other than ON. OTE:	С					
	ecause security indicator lamp is highly efficient, the battery is barely affected.						
	GINE START OPERATION WHEN INTELLIGENT KEY IS CONTACTED TO PUSH-BUTTON IG- ION SWITCH	D					
	When brake pedal is depressed while selector lever is in the P position (CVT models), or selector lever is in the Neutral position (M/T models), the BCM activates NATS antenna amp. that is located behind push- button ignition switch.	Е					
	When Intelligent Key (transponder built-in) backside is contacted to push-button ignition switch, BCM starts NATS ID verification between BCM and Intelligent Key (transponder built-in) via NATS antenna amp.	F					
	When NATS ID verification result is OK, buzzer in combination meter sounds and BCM transmits the result to ECM.	G					
4.	BCM turns ACC relay ON and transmits ignition power supply ON signal to IPDM E/R.	0					
5.	IPDM E/R turns the ignition relay ON and starts the ignition power supply.						
6.	IPDM E/R turns the starter control relay ON for engine starting in advance.	Н					
	BCM detects that the selector lever position and brake pedal operation condition (CVT models), or clutch pedal operation condition (M/T models).						
	BCM transmits starter request signal to IPDM E/R and turns the starter relay in IPDM E/R ON if BCM judges that the engine start condition* is satisfied.						
9.	Power supply is supplied through the starter relay and the starter control relay to operate the starter motor.						
	When BCM receives feedback signal from ECM indicating that the engine is started, BCM transmits a stop signal to IPDM E/R and stops cranking by turning off the starter motor relay. (If engine start is unsuccessful, cranking stops automatically within 5 seconds.)	J					
*: Fo	or the engine start condition, refer to "IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUT- NIGNITION SWITCH OPERATION" below.	SEC					
IGN	IITION SWITCH POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERA-						
TIO		L					
	ignition switch position can be changed by the following operations.						
NOT • W	hen an Intelligent Key is within the detection area of inside key antenna or when Intelligent Key backside is	M					
co • W	ontacted to push-button ignition switch, it is equivalent to the operations below. hen starting the engine, the BCM monitors under the engine start conditions,						
	VT models rake pedal operation condition	Ν					
- Se	elector lever position						
	ehicle speed / T models	\bigcirc					
	utch pedal operation condition	0					
	ehicle speed						
Vehi	cle speed: less than 4 km/h (2.5 MPH)	Ρ					

< SYSTEM DESCRIPTION >

		Condition				
Power supply position	CVT	models	M/T models	Push-button ignition switch		
	Selector lever Brake pedal operation condition Clutch pedal operation condition		Clutch pedal operation condition	operation frequency		
$OFF \to ACC$	—	- Not depressed		1		
$OFF \to ACC \to ON$	— Not depressed		Not depressed	2		
$\begin{array}{c} OFF \rightarrow ACC \rightarrow ON \rightarrow \\ OFF \end{array}$	_	Not depressed	Not depressed	3		
$OFF \rightarrow START$ ACC $\rightarrow START$ ON $\rightarrow START$	P or N position	Depressed	Depressed Depressed			
Engine is running \rightarrow OFF	_	_	_	1		

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

Power supply position	CVT	models	M/T models	Push-button ignition switch
	Selector lever	Brake pedal operation condition	Clutch pedal operation condition	operation frequency
Engine is running \rightarrow ACC	_	_	_	Emergency stop operation
Engine stall return oper- ation while driving	N position	Not depressed	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.

VEHICLE SECURITY SYSTEM

VEHICLE SECURITY SYSTEM : System Description

INFOID:000000011536767

- 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.

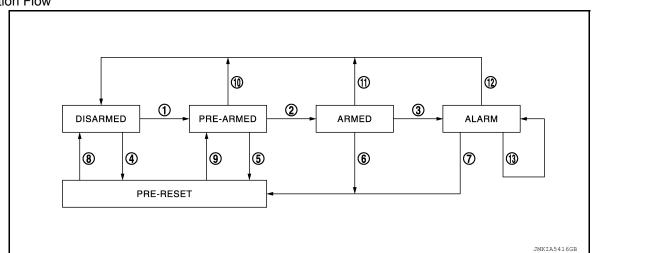
Priority	Function
1	Theft warning alarm
2	Panic alarm

THEFT WARNING ALARM

- The theft warning alarm function activates horns and headlamps intermittently when BCM detects that any door is opened by unauthorized means while the system is in the ARMED state.
- Security indicator lamp on combination meter always blinks when power supply position is any position other than ON. Security indicator lamp blinking warns that the vehicle is equipped with a vehicle security system.

< SYSTEM DESCRIPTION >

Operation Flow



No.	System state	Switching condition			
1	DISARMED to When all conditions of A and		A	В	
	PRE-ARMED	one condition of B is satis- fied.	Power supply position: OFF/LOCKAll doors: Closed	All doors are locked by: • Door key cylinder LOCK switch • LOCK button of Intelligent Key • Door request switch	
2	PRE-ARMED to ARMED	When all of the following conditions are satisfied for 30 seconds.	Power supply position: OFF/LOCKAll doors: Locked		
3	ARMED to ALARM	When one condition of A and one condition of B are satis- fied.	A Intelligent Key: Not used	B • Any door: Open	
4	DISARMED to PRE-RESET	No conditions			
5	PRE-ARMED to PRE-RESET				
6	ARMED to PRE-RESET				
7	ALARM to PRE-RESET				
8	PRE-RESET to DISARMED				
9	PRE-RESET to PRE-ARMED				
10	PRE-ARMED to DISARMED	When one of the following conditions is satisfied.	 Power supply position: ACC/ON/CF Door key cylinder UNLOCK switch: UNLOCK button of Intelligent Key: O TRUNK button of Intelligent Key: O Door request switch: ON Trunk opener switch: ON Any door: Open 	ON NC	
11	ARMED to DISARMED	When one of the following conditions is satisfied.	 Power supply position: ACC/ON/CF Door key cylinder UNLOCK switch: 	ON	
12	ALARM to DISARMED		 UNLOCK button of Intelligent Key: 0 Door request switch: ON Trunk opener switch: ON 	ON	
13	RE-ALARM	When one of the following conditions is satisfied after the ALARM operation is fin- ished.	Any door: Open		

NOTE:

А

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< SYSTEM DESCRIPTION >

- 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 by operating remote controller button of Intelligent Key or door request switch, Intelligent Key must be within the detection area of outside key antenna. For details, refer to <u>SEC-11, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION:</u> <u>System Description</u>".
- To open trunk by operating trunk opener switch, Intelligent Key must be within the detection area of outside key antenna. For details, refer to <u>SEC-11, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System 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 is opened without using Intelligent Key, vehicle security system switches to the ALARM phase. Security indicator lamp blinks every 2.4 seconds.

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 timing 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.

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 power supply 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:
- LOCK button of Intelligent Key: ON
- UNLOCK button of Intelligent Key: ON
- PANIC ALARM button of Intelligent Key: Long pressed
- Any door request switch: ON

< SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000011900756

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description			
ECU Identification	The BCM part number is displayed.			
Self Diagnostic Result	The BCM self diagnostic results are displayed.			
Data Monitor	The BCM input/output data is displayed in real time.			
Active Test	The BCM activates outputs to test components.	E		
Work support	The settings for BCM functions can be changed.			
Configuration	The vehicle specification can be read and saved.The vehicle specification can be written when replacing BCM.			
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication is displayed.			

SYSTEM APPLICATION

BCM can perform the following functions.

				Direct [Diagnosti	c Mode			Н
System	Sub System	ECU Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN DIAG SUPPORT MNTR	l J
Door lock	DOOR LOCK			×	×	×			SEC
Rear window defogger	REAR DEFOGGER			×	×				
Warning chime	BUZZER			×	×				L
Interior room lamp timer	INT LAMP			×	×	×			
Exterior lamp	HEAD LAMP			×	×	×			1.4
Wiper and washer	WIPER			×	×	×			M
Turn signal and hazard warning lamps	FLASHER			×	×	×			
Air conditioner	AIR CONDITIONER			×					Ν
Intelligent Key system	INTELLIGENT KEY		×	×	×	×			
Combination switch	COMB SW			×					
BCM	BCM	×	×			×	×	×	0
Immobilizer	IMMU		×	×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×	×			Р
Trunk open	TRUNK			×					
Vehicle security system	THEFT ALM			×	×	×			
RAP system	RETAINED PWR			×					
Signal buffer system	SIGNAL BUFFER			×					
TPMS	AIR PRESSURE MONITOR		×	×	×	×			

В

С

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< SYSTEM DESCRIPTION >

INTELLIGENT KEY

INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)

INFOID:000000011900757

SELF DIAGNOSTIC RESULT

Refer to BCS-49, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Main	Description
REQ SW -DR [On/Off]	×	Indicates condition of door request switch LH.
REQ SW -AS [On/Off]	×	Indicates condition of door request switch RH.
REQ SW -BD/TR [On/Off]	×	Indicates condition of trunk open switch.
PUSH SW [On/Off]		Indicates condition of push-button ignition switch.
CLUCH SW [On/Off]	×	Indicates condition of clutch switch.
BRAKE SW 1 [On/Off]	×	Indicates condition of brake switch.
BRAKE SW 2 [On/Off]		Indicates condition of brake switch.
DETE/CANCL SW [On/Off]	×	Indicates condition of P (park) position.
SFT PN/N SW [On/Off]	×	Indicates condition of P (park) or N (neutral) position.
UNLK SEN -DR [On/Off]	×	Indicates condition of driver door unlock sensor.
PUSH SW -IPDM [On/Off]		Indicates condition of push-button ignition switch received from IPDM E/R on CAN communication line.
IGN RLY1 -F/B [On/Off]		Indicates condition of ignition relay 1 received from IPDM E/R on CAN commu- nication line.
DETE SW -IPDM [On/Off]		Indicates condition of detent switch received from TCM on CAN communication line.
SFT PN -IPDM [On/Off]		Indicates condition of P (park) or N (neutral) position from TCM on CAN com- munication line.
SFT P -MET [On/Off]		Indicates condition of P (park) position from TCM on CAN communication line.
SFT N -MET [On/Off]		Indicates condition of N (neutral) position from IPDM E/R on CAN communica- tion line.
ENGINE STATE [Stop/Start/Crank/Run]	×	Indicates condition of engine state from ECM on CAN communication line.
VEH SPEED 1 [mph/km/h]	×	Indicates condition of vehicle speed signal received from ABS on CAN commu- nication line.
VEH SPEED 2 [mph/km/h]	×	Indicates condition of vehicle speed signal received from combination meter on CAN communication line.
DOOR STAT-DR [LOCK/READY/UNLK]	×	Indicates condition of driver side door status.
DOOR STAT-AS [LOCK/READY/UNLK]	×	Indicates condition of passenger side door status.
ID OK FLAG [Set/Reset]		Indicates condition of Intelligent Key ID.
PRMT ENG STRT [Set/Reset]		Indicates condition of engine start possibility.
RKE OPE COUN1 [0-19]	×	When remote keyless entry receiver receives the signal transmitted while oper- ating on Intelligent Key, the numerical value start changing.
RKE OPE COUN2 [0-19]	×	When remote keyless entry receiver receives the signal transmitted while oper- ating on Intelligent Key, the numerical value start changing.
TRNK/HAT MNTR [On/Off]		Indicates condition of trunk lid switch.
RKE-LOCK [On/Off]		Indicates condition of lock signal from Intelligent Key.
RKE-UNLOCK [On/Off]		Indicates condition of unlock signal from Intelligent Key.
RKE-TR/BD [On/Off]		Indicates condition of trunk open signal from Intelligent Key.
RKE-PANIC [On/Off]		Indicates condition of panic signal from Intelligent Key.
RKE-MODE CHG [On/Off]		Indicates condition of mode change signal from Intelligent Key.

Revision: December 2014

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION > ACTIVE TEST

PUSH SWITCH INDICATOR

TRUNK/BACK DOOR

OUTSIDE BUZZER

INT LAMP

INDICATOR

FLASHER

HORN

P RANGE

[WITH INTELLIGENT KEY SYSTEM]

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ACTIVE TEST		А
Test Item	Description	
INSIDE BUZZER	This test is able to check combination meter warning chime operation [Take Out/Knob/Key/ Off].	В
LCD	This test is able to check combination meter display information [Off/LK WN/OUTKEY/NO KY/BATT/INSRT/SFT P/ROTAT/ID NG/B&P I/B&P N].	
BATTERY SAVER	This test is able to check battery saver operation [On/Off].	С
ENGINE SW ILLUMI	This test is able to check push-button ignition switch START indicator operation [On/Off].	

This test is able to check trunk actuator operation [Open].

This test is able to check interior room lamp operation [On/Off].

This test is able to check hazard lamp operation [LH/RH/Off].

This test is able to check horn operation [On].

This test is able to check push-button ignition switch indicator operation [On/Off].

This test is able to check Intelligent Key warning buzzer operation [On/Off].

This test is able to check CVT shift selector illumination operation [On/Off].

This test is able to check combination meter warning lamp operation [KEY ON/KEY IND/Off].

WORK SUPPORT

Support Item	S	etting	Description		
	On*		Door lock/unlock function from Intelligent Key ON.	Н	
LOCK/UNLOCK BY I-KEY	Off		Door lock/unlock function from Intelligent Key OFF.		
	On*		Buzzer reminder function from trunk opener switch.	I	
TRUNK/GLASS HATCH OPEN	Off		No buzzer reminder function from trunk opener switch.		
ANTI KEY LOCK IN FUNCTI	On*		Anti lock out setting ON.		
ANTI KET LOCK IN FUNCTI	Off		Anti lock out setting OFF.	J	
ANS BACK I-KEY UNLOCK	Off		No buzzer reminder when doors are unlocked with request switch.		
ANS BACK I-RET UNLOCK	On*		Buzzer reminder when doors are unlocked with request switch.	SE	
	Horn Chi	rp	Horn chirp reminder when doors are locked with request switch.	SEV	
ANS BACK I-KEY LOCK	Buzzer*		Buzzer reminder when doors are locked with request switch.		
	Off		No reminder when doors are locked with request switch.		
HORN WITH KEYLESS LOCK	Off		Horn chirp reminder when doors are locked with Intelligent Key.		
HORN WITH RETLESS LOCK	On*		No horn chirp reminder when doors are locked with Intelligent Key.	5.4	
	Lock/Unio	ock*	Hazard warning lamp activation when doors are locked/unlocked with Intelligent Key or request switch.	M	
HAZARD ANSWER BACK	Unlock O	nly	Hazard warning lamp activation when doors are unlocked with Intel- ligent Key or request switch.	Ν	
HAZARD ANSWER BACK	Lock Only	y	Hazard warning lamp activation when doors are locked with Intelli- gent Key or request switch.		
	Off		No hazard warning lamp activation when doors are locked/unlocked with Intelligent Key or request switch.	0	
INSIDE ANT DIAGNOSIS		_	This function allows inside key antenna self-diagnosis.		
CONFIRM KEY FOB ID		_	Intelligent Key ID code can be checked.	Ρ	
		70 msec			
	Start	100 msec	Starter motor operation duration time setting.		
SHORT CRANKING OUTPUT		200 msec			
	End		_		

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Support Item	Set	tting	Description
	MODE 3	1.5 sec	
PANIC ALARM SET	MODE 2	OFF	Intelligent Key panic alarm button setting.
	MODE 1*	0.5 sec	
LO-BATT OF KEY FOB WARN	On*		Intelligent Key low battery warning ON.
LO-BAIT OF RET FOB WARN	Off		Intelligent Key low battery warning OFF.
	MODE7	5 min	
	MODE6	4 min	
	MODE5	3 min	
AUTO LOCK SET	MODE4	2 min	Auto door lock time setting.
	MODE3*	1 min	
	MODE2	30 sec	
	MODE1	Off	
	MODE 3	1.5 sec	
TRUNK OPEN DELAY	MODE 2	OFF	Intelligent Key trunk open button setting.
	MODE 1*	0.5 sec	1

*: Initial Setting

IMMU : CONSULT Function (BCM - IMMU)

SELF DIAGNOSTIC RESULT

Refer to BCS-49, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Description
CONFRM ID ALL [Yet/DONE]	
CONFIRM ID4 [Yet/DONE]	
CONFIRM ID3 [Yet/DONE]	Switches to DONE when an Intelligent Key is registered.
CONFIRM ID2 [Yet/DONE]	
CONFIRM ID1 [Yet/DONE]	
TP 4 [Yet/DONE]	
TP 3 [Yet/DONE]	DONE indicates the number of Intelligent Key ID which has been registered
TP 2 [Yet/DONE]	— DONE indicates the number of Intelligent Key ID which has been registered.
TP 1 [Yet/DONE]	
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.

ACTIVE TEST

Test Item	Description		
THEFT IND	This test is able to check security indicator operation [On/Off].		

WORK SUPPORT

Support Item	Setting	Description
CONFIRM DONGLE ID	_	Dongle ID code can be read.

THEFT ALM

INFOID:000000011900760

< SYSTEM DESCRIPTION >

THEFT ALM : CONSULT Function (BCM - THEFT)

DATA MONITOR

Description	В
Indicates condition of door request switch LH.	
Indicates condition of door request switch RH.	C
Indicates condition of trunk open switch.	0
Indicates condition of push-button ignition switch.	
Indicates condition of driver door unlock sensor.	D
Indicates condition of front door switch LH.	
Indicates condition of front door switch RH.	
Indicates condition of rear door switch RH.	
Indicates condition of rear door switch LH.	
Indicates condition of trunk switch.	F
Indicates condition of lock signal from door lock and unlock switch.	
Indicates condition of unlock signal from door lock and unlock switch.	
Indicates condition of lock signal from door key cylinder switch.	G
Indicates condition of unlock signal from door key cylinder switch.	
Indicates condition of trunk open switch.	Н
Indicates condition of trunk lid switch.	
Indicates condition of lock signal from Intelligent Key.	
Indicates condition of unlock signal from Intelligent Key.	
Indicates condition of trunk open signal from Intelligent Key.	
	Indicates condition of door request switch LH. Indicates condition of door request switch RH. Indicates condition of trunk open switch. Indicates condition of push-button ignition switch. Indicates condition of driver door unlock sensor. Indicates condition of front door switch LH. Indicates condition of front door switch RH. Indicates condition of rear door switch LH. Indicates condition of rear door switch RH. Indicates condition of lock signal from door lock and unlock switch. Indicates condition of lock signal from door lock and unlock switch. Indicates condition of lock signal from door key cylinder switch. Indicates condition of unlock signal from door key cylinder switch. Indicates condition of trunk open switch. Indicates condition of trunk open switch. Indicates condition of trunk open switch. Indicates condition of lock signal from Intelligent Key. Indicates condition

ACTIVE TEST

Test Item	Description	
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation [On].	SE
FLASHER	This test is able to check turn signal lamp operation [LH/RH/Off].	
THEFT IND	This test is able to check security indicator lamp operation [On/Off].	
HEAD LAMP(HI)	This test is able to check vehicle security lamp operation [On].	

WORK SUPPORT

			M
Support Item	Setting	Description	
SECURITY ALARM SET	Off	Security alarm OFF.	
SECONT I ALANNI SET	On*	Security alarm ON.	Ν
	Off/On	The switch which triggered vehicle security alarm is recorded [On]. This mode is able	
THEFT ALM TRG	CLEAR	to confirm and erase the record of vehicle security alarm. The trigger data can be erased by touching [CLEAR].	0

*: Initial setting

INFOID:000000011900761

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< ECU DIAGNOSIS INFORMATION >

[WITH INTELLIGENT KEY SYSTEM]

ECU DIAGNOSIS INFORMATION ECM, IPDM E/R, BCM

List of ECU Reference

INFOID:000000011536772

	ECU	Reference		
	Reference Value	EC-77, "Reference Value"		
FCM	Fail-safe	EC-90, "Fail Safe"		
ECIVI	DTC Inspection Priority Chart	EC-93, "DTC Inspection Priority Chart"		
	DTC Index	Sterence Value EC-77, "Reference Value" il-safe EC-90, "Fail Safe" TC Inspection Priority Chart EC-93, "DTC Inspection Priority Chart" TC Index EC-94, "DTC Index" Sterence Value BCS-29, "Reference Value" il-safe BCS-46, "Fail-safe" TC Inspection Priority Chart BCS-48, "DTC Inspection Priority Chart" TC Inspection Priority Chart BCS-48, "DTC Inspection Priority Chart" TC Inspection Priority Chart BCS-49, "DTC Index" TC Index BCS-49, "DTC Index" Sterence Value PCS-13, "Reference Value" il-safe PCS-19, "Fail-safe"		
	Reference Value	BCS-29, "Reference Value"		
BCM	Fail-safe	BCS-46, "Fail-safe"		
DCIVI	DTC Inspection Priority Chart	Ence Value EC-77, "Reference Value" ife EC-90, "Fail Safe" inspection Priority Chart EC-93, "DTC Inspection Priority Chart index EC-94, "DTC Index" index BCS-29, "Reference Value" ife BCS-46, "Fail-safe" inspection Priority Chart BCS-48, "DTC Inspection Priority Chart index BCS-48, "DTC Inspection Priority Chart index BCS-49, "DTC Index"		
	DTC Index	BCS-49, "DTC Index"		
	Reference Value	PCS-13, "Reference Value"		
IPDM E/R	Reference Value EC-77, "Reference Value" Fail-safe EC-90, "Fail Safe" DTC Inspection Priority Chart EC-93, "DTC Inspection Priority DTC Index EC-94, "DTC Index" Reference Value BCS-29, "Reference Value Fail-safe BCS-46, "Fail-safe" DTC Inspection Priority Chart BCS-48, "DTC Inspection Priority Fail-safe BCS-49, "DTC Inspection Priority DTC Index BCS-49, "DTC Inspection Priority DTC Index BCS-49, "DTC Index" PTC Index BCS-49, "DTC Index" Fail-safe PCS-13, "Reference Value Fail-safe PCS-19, "Fail-safe"	PCS-19, "Fail-safe"		
	DTC Index	PCS-20, "DTC Index"		

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

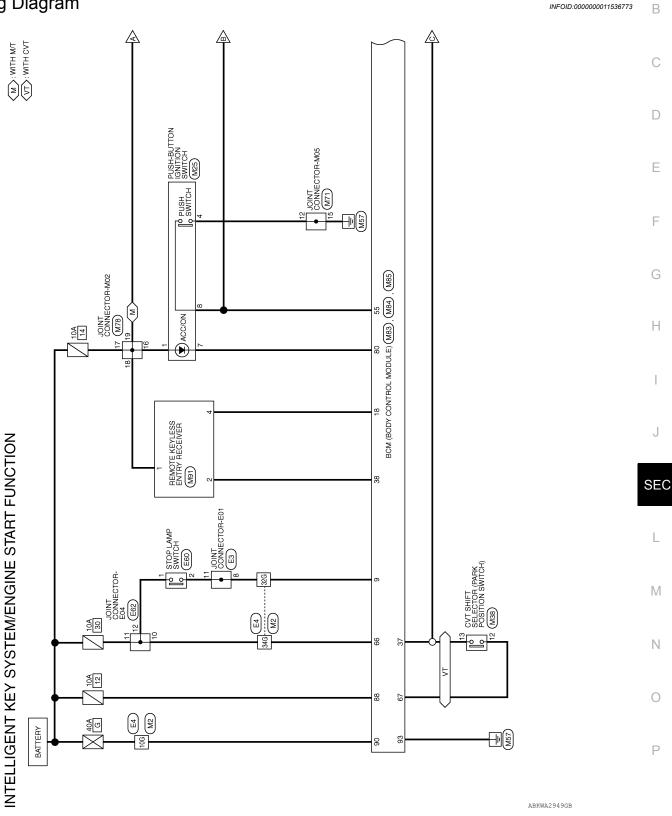
[WITH INTELLIGENT KEY SYSTEM]

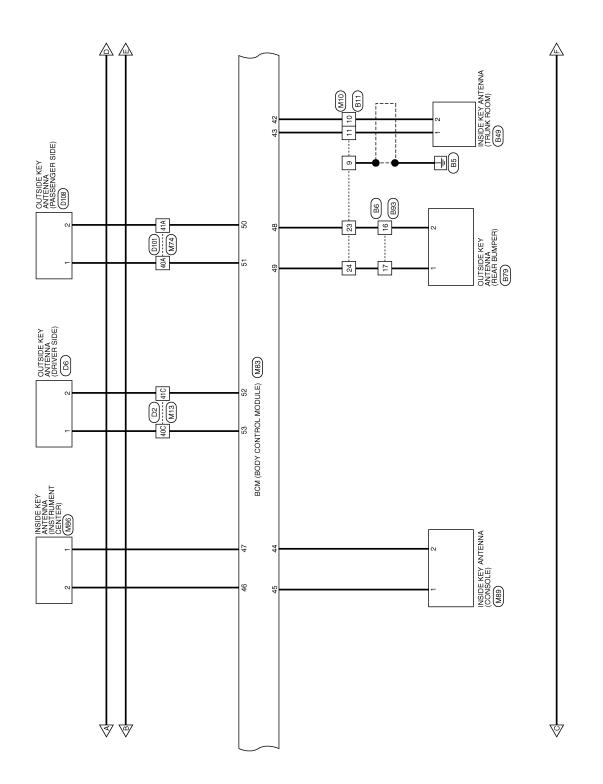
А

WIRING DIAGRAM

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

Wiring Diagram



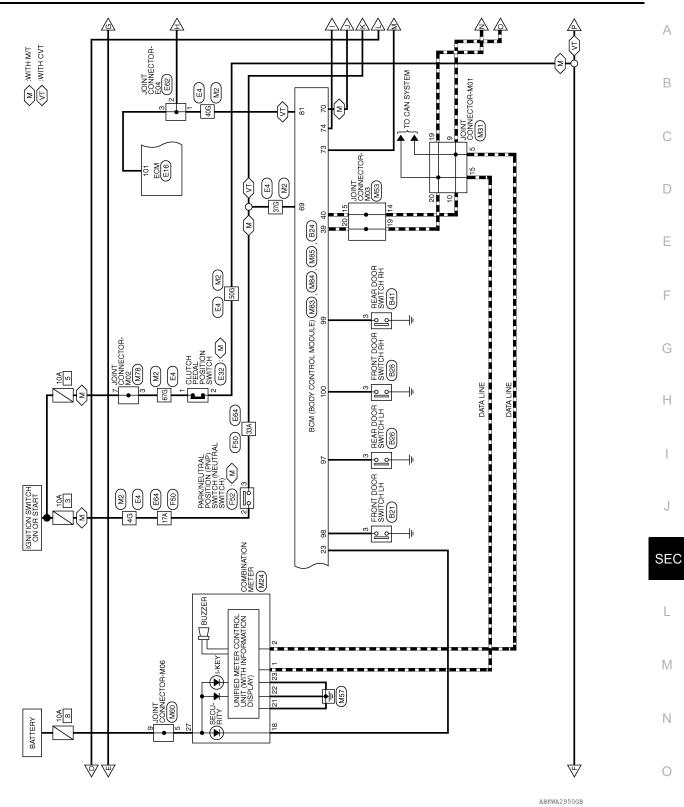


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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION



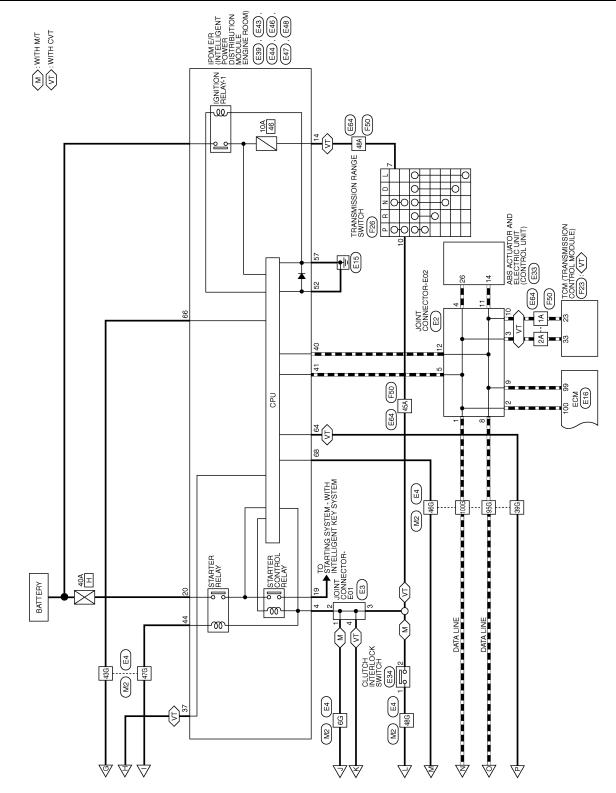
[WITH INTELLIGENT KEY SYSTEM]



Р

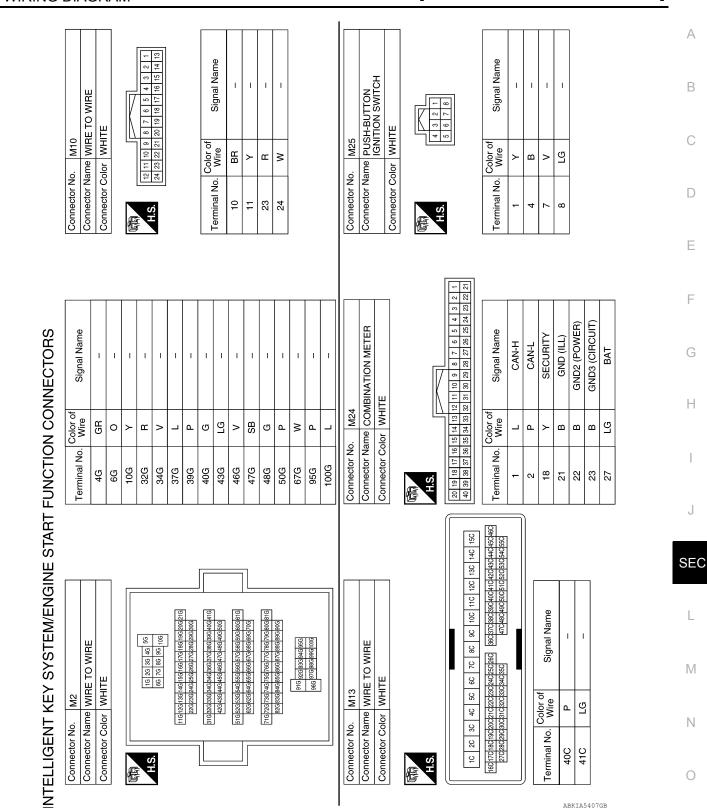
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >



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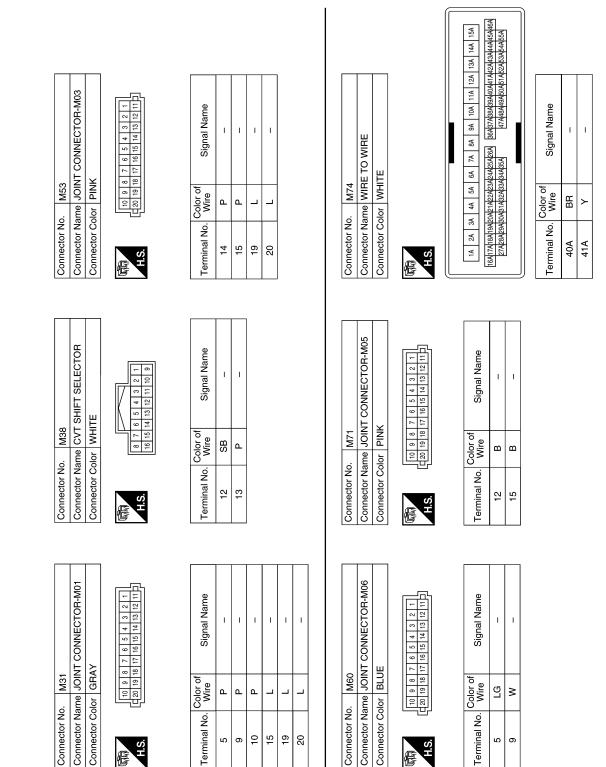
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION [WITH INTELLIGENT KEY SYSTEM] < WIRING DIAGRAM >



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



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H.S.

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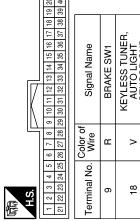
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION [WITH INTELLIGENT KEY SYSTEM]

		Ī						Г
No. M78 Name JOINT CONNECTOB-M02	Connector No.			Terr	Terminal No.	Color of Wire	Signal Name	
	Connector Name				49	Ν	BACK DOOR ANTENNA +	+
			VT KEY SYSTEM)		50	~	DOOR ANTENNA (AS)	Γ.
100876514331	Connector Color		WHILE		51	ВВ	DOOR ANTENNA (AS) +	
<u>19</u> 18 17 16 15 14 13 12	4				52	ГG	DOOR ANTENNA (DR)	
	1414m				53	٩	DOOR ANTENNA (DR) +	-
	H.S.		R		55	ГG	ENGINE START SW	
	60 59 58 57 56	55 54 53	52 51 50 49 48 47 46 45 44 43 42 41		66	>	BRAKE SW2	
	80 79 78 77 76	75 74 73 72	72 71 70 69 68 67 66 65 64 63 62 61		67	SB	AT DEVICE OUTPUT	
Color of					69	L	SHIFT N, P (WITH CVT)	
o. Wire Signal Name	Terminal No.	Wire	Signal Name		69	L	NEUTRAL SW (WITH M/T)	
- N	42	BR	ROOM ANTENNA 3 -		70	0	CLUTCH SW (WITH M/T)	
	43	> (ROOM ANTENNA 3 +		73	>	IGN RELAY OUTPUT1 (USM)	
	44	r c			14	6	STARTER RELAY	
I AS I	ç	5 8			/4	2D N	OUTPUT	
	46	H ³ H ³	ROOM ANTENNA 1 -		80	>	POWER POSITION LED	
	48	œ	BACK DOOR ANTENNA -					7
No. M84	Terminal No.	Color of	Signal Name	Con	Connector No.		10	
BCM (BODY CONTROL Name MODULE) (WITH INTELLI- CENT KEY SYSTEM)	23			Con	Connector Name		BCM (BODY CONTROL MODULE) (WITH INTELLI- GENT KEV SVSTEM)	
			SHIFT P POSITION.	Con	Connector Color		TTE	
	37	٩	PARKING POSITION SW (WITH CVT)					7
	37	٩	ASCD CANCEL SW (CLUTCH CANCEL SW) (WITH M/T)	E	H.S.	89 88	89] 88] 87] 86] 85] 84] 83] 82] 81] 95 94 93 92 91 90	
5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	38	ГС	INTELLIGENT TUNER					
25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40	98 39	_	CAN-H					
o. Wire Signal Name	40	٩	CAN-L	Terr	Terminal No.	Color of Wire	Signal Name	
R BRAKE SW1					81	J	STARTER OUTPUT ENABLE INPUT	
					88	0	BATTERY (FUSE)	
SENSOR GND					06	≻	BATTERY (F/L)	1
					93	ш	GND (POWER)	1
								1
SE	J	1	F	E	E		E	A
-	J		6	-)			Ą

Connector No.		M78	œ					
Connector Name JOINT CONNECTC	r Name	9	1	ŏ	R	۳	<u></u>	2
Connector Color PINK	r Color	Ы	¥					
E	₽	8 6	~	9	ŝ	4	Э	~
	20	19 18	17	16 15 14	15		13 12	12
5								

Signal Name	I	I	I	I	I	I	
Color of Wire	Μ	σ	۲	SB	щ	თ	
Terminal No. Color of Wire	3	7	16	17	18	19	

Connector No.	M84
Connector Name	Connector Name MODULE) (WITH INTELLI- GENT KEY SYSTEM)
Connector Color BLACK	BLACK



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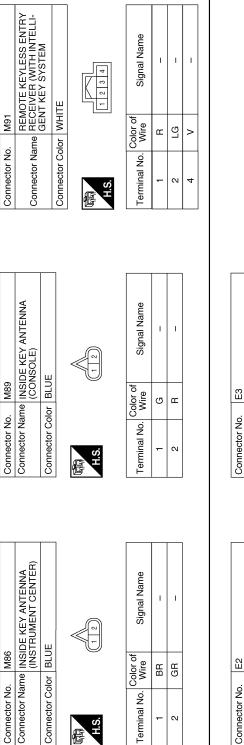
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< WIRING DIAGRAM >

Revision: December 2014

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



Connector Name JOINT CONNECTOR-E01	JE	9 8 7 6 5 4 3 2 1	Signal Name	Ι
IIOC am	lor BLL	12 11 10 9	Color of Wire	BR
Connector Na	Connector Color BLUE	同 H.S.	Terminal No.	-

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8 7 6 5 4 3 2 1	Signal Name	I	I	I	I	I	I	I	I	I	I
12 11 10 9	Color of Wire	_	Г	Γ	_	L	٩	Р	Ч	Ч	Ч
E H.S.	Terminal No.	-	2	3	4	5	8	6	10	11	12

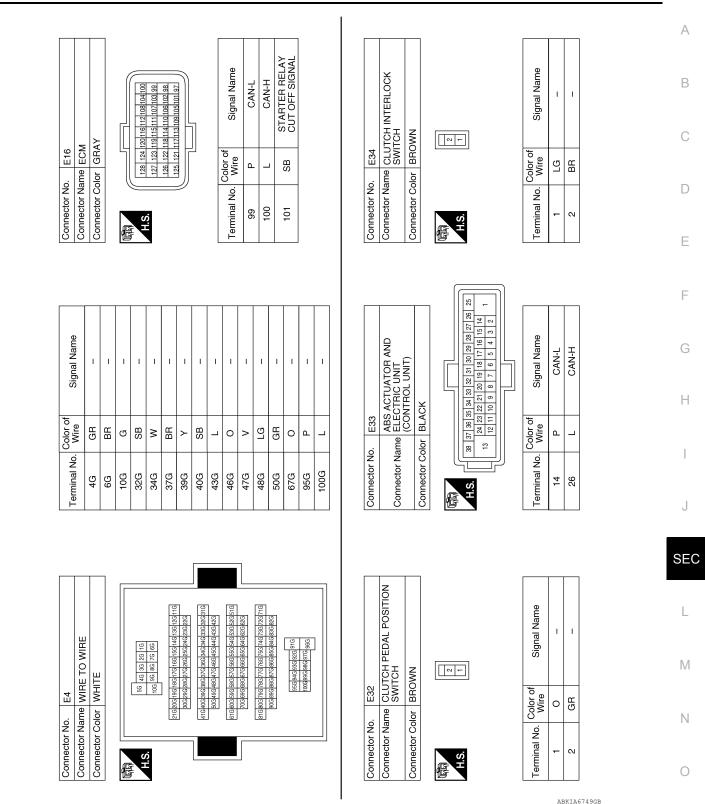
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Connector Name JOINT CONNECTOR-E02

BLUE

Connector Color

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



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

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) STARTER MOTOR GND (POWER) Signal Name F/L IGN SW Signal Name 57 21 20 19 24 23 22 58 61 WHITE BLACK 59 Color of Wire E48 Color of Wire E44 B/Υ ш ۲ Connector Name Connector Name Connector Color Connector Color Connector No. Connector No. Terminal No. Terminal No. 19 20 57 H.S. H.S. F 臣 **REVERSE LAMP IGN** IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) GND (SIGNAL) Signal Name
 9
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 Signal Name NP SW
 51
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 49

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 53
 52
 BROWN WHITE Color of Wire E43 Color of Wire E47 ŋ B/Y ВΒ Connector Name Connector Name Connector Color Connector Color Connector No. Connector No. Terminal No. Terminal No. 4 52 4 H.S. H.S. F E Γ IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) PUSH START SW DETENT SW Signal Name **IGN SIGNAL** 7 66 65 64 63 71 70 69 68

BLACK E39 Connector Name Connector Color Connector No.

67 72 H.S. F

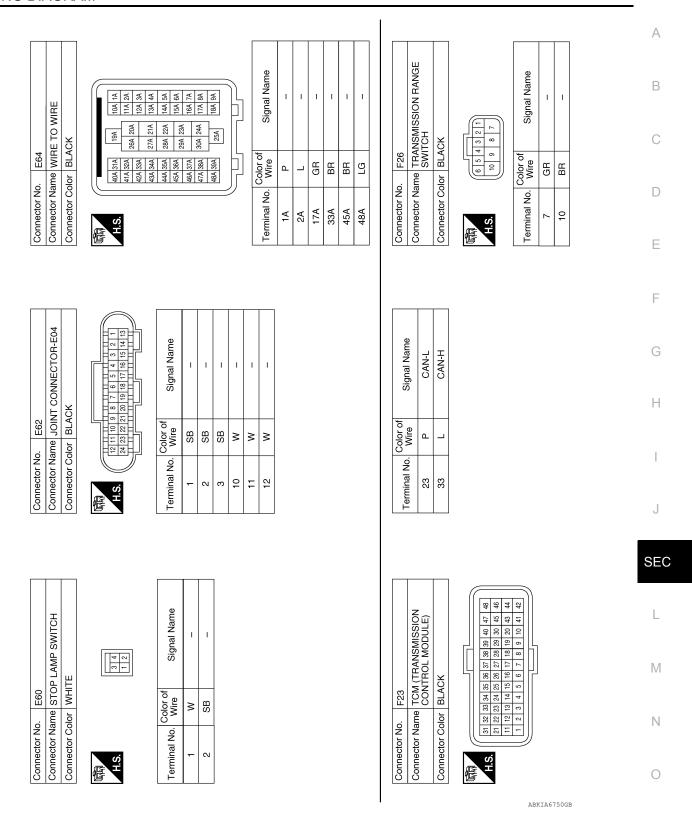
Color of Wire 0 ≻ _ Terminal No. 99 68 64

or No. E46	Connector Name POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Color WHITE	
Connector No.	Connector Nar	Connector Col	

Signal Name	INHIBIT CUT	CAN-L	CAN-H	START CONT	
Color of Wire	SB	Р	L	>	
Terminal No.	37	40	41	44	

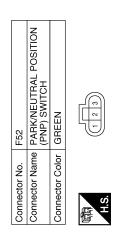
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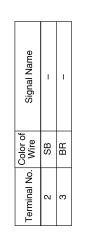
INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION < WIRING DIAGRAM > [WITH INTELLIGENT KEY SYSTEM]



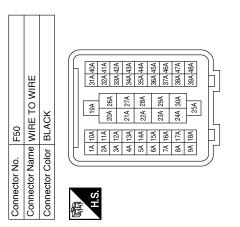
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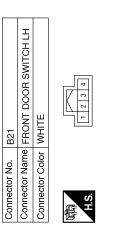
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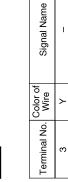




Signal Name	Ι	I	I	Ι	I	I	
Color of Wire	Ь	Γ	SB	BR	BR	GR	
Terminal No.	1A	2A	17A	AEE	45A	48A	

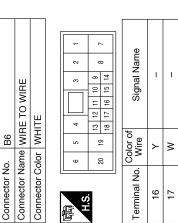






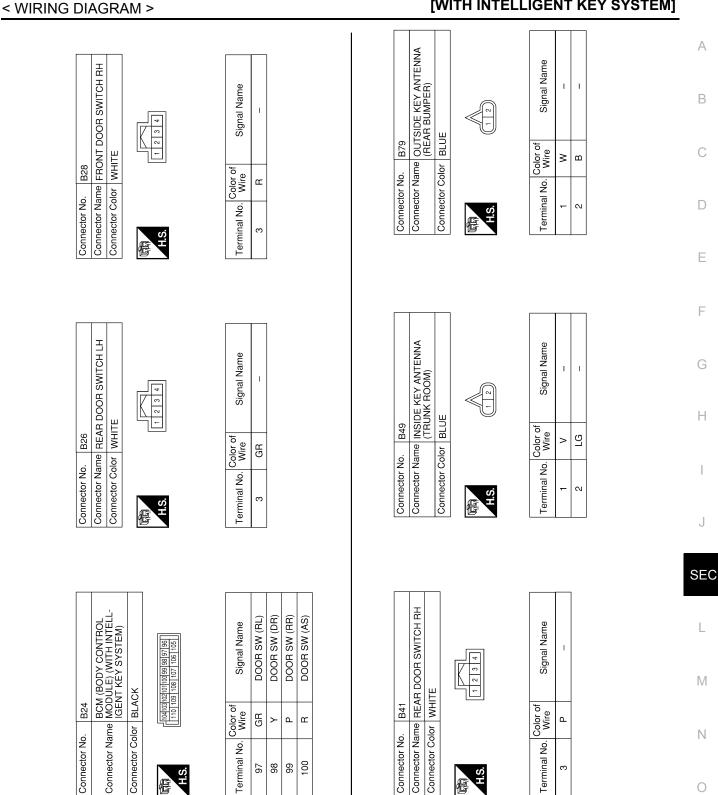
				12	24	1
				8 9 10 11 12	13 14 15 16 17 18 19 20 21 22 23 24	1
				9	22	1
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	/IR			œ	20	1
	\leq			7	19	
	10		N	9	18	1
	ш	Ë		5	17	1
B11	Η	Η	-	4	16	
m	>	>		3	15	
	ше I	or		2	14	
ŝ	Na	S		-	13	
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	E.		<u>0</u>	

Signal Name	I	1	I	I	I	
Color of Wire	SHIELD	ГG	٨	Y	M	
Terminal No. Wire	6	10	11	23	24	



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



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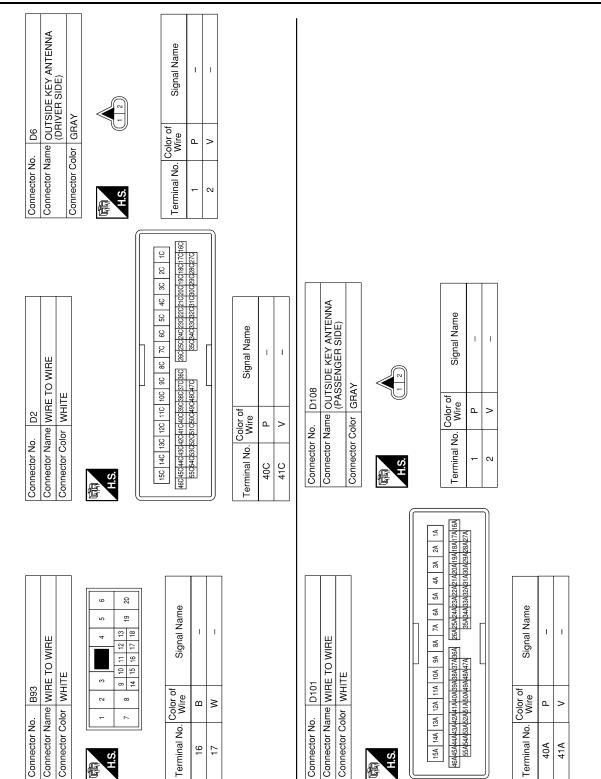
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INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION GRAM > [WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >



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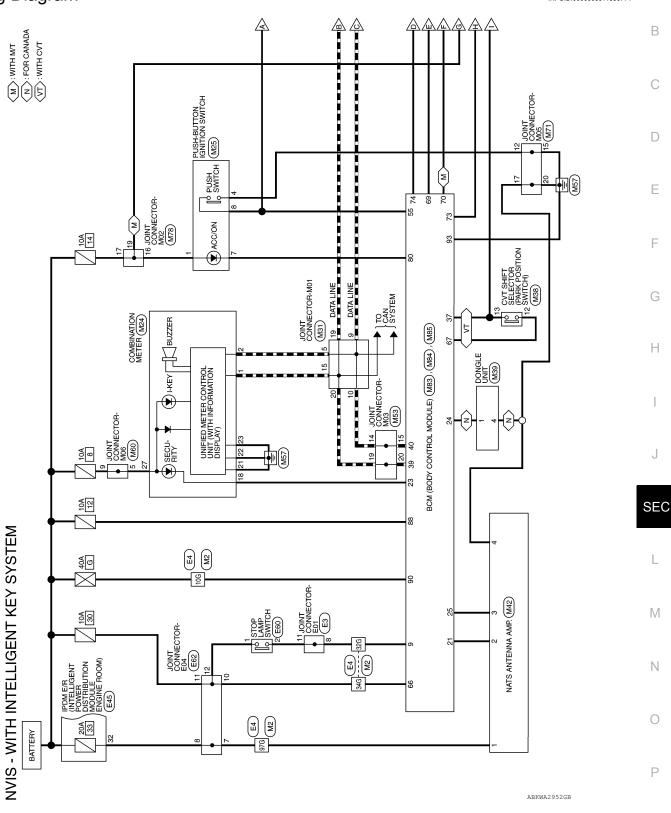
NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS < WIRING DIAGRAM > [WITH INTELLIGENT KEY SYSTEM]

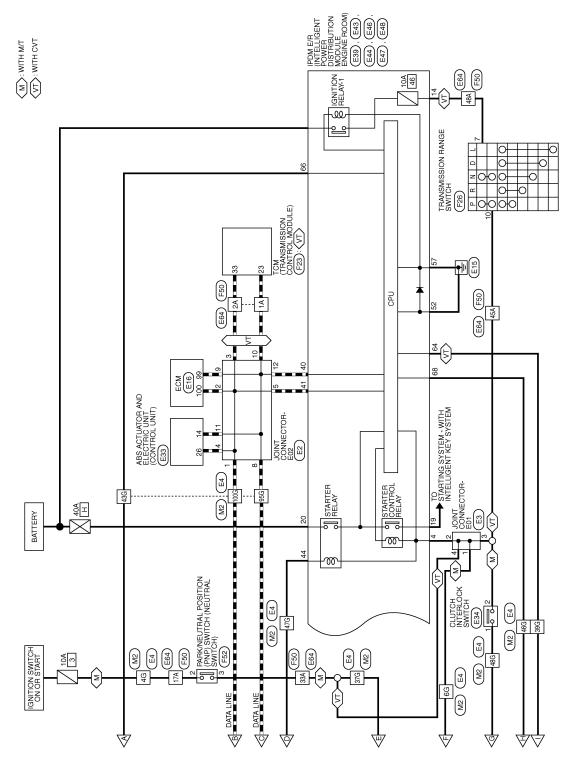
NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

Wiring Diagram



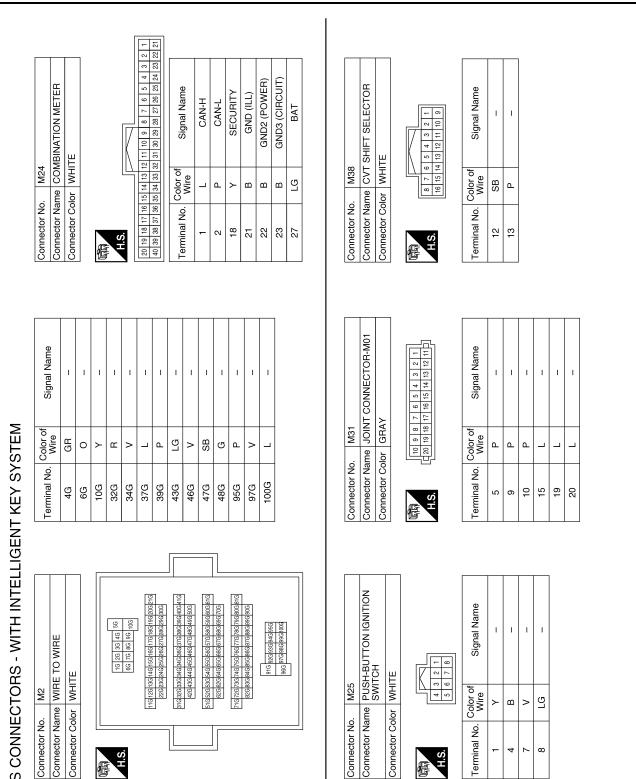
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Revision: December 2014



NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

[WITH INTELLIGENT KEY SYSTEM]

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NVIS CONNECTORS - WITH INTELLIGENT KEY SYSTEM

< WIRING DIAGRAM >

Revision: December 2014

2015 Sentra NAM

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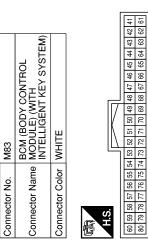
	Connector No.	o. M42		Connector No.	. M53		
Connector Name DUNGLE UNIT	Connector Name Connector Color	ame NAISA olor WHITE	Connector Name INALS AN LENNA AMP. Connector Color WHITE	Connector Name Connector Color	lor PINK	Connector Name JUINI CUNNECTUR-MU3 Connector Color PINK	
12314 H.S.	品 H.S.		23 4	国 H.S.	10 9 8 7 6 4 20 19 18 17 16 1	7 6 5 4 3 2 1 1 17 16 15 14 13 12 11 1	
Terminal No. Color of Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name	
1 SB	- 0	> 0	1	14 15	<u>م</u> ۵	1 1	
)	1 m	- B	- (WITH INTELLIGENT KEY SYSTEM)	19		I	
	4	B	- (WITH INTELLIGENT KEY SYSTEM)				
Connector No. M60	Connector No.	o. M71		Connector No.	. M78		
Connector Name JOINT CONNECTOR-M06 Connector Color BLUE	Connector Name Connector Color		JOINT CONNECTOR-M05 PINK	Connector Name Connector Color	Ine JOINT	JOINT CONNECTOR-M02 PINK	
H.S.	日 H.S.	10 9 8 20 19 18	10 9 8 7 6 5 4 3 2 1 220 19 18 17 16 15 14 13 12 11 2	H S.H	0 9 8 7 6 19 18 17 16	10 9 8 7 6 5 4 3 2 1 1 20 19 18 17 16 15 14 13 12 11 1	
Terminal No. Color of Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No.	Color of Wire	Signal Name	
- LG	12	B	1	16	~	1	
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	17	m I	1	19	IJ	I	
	20	۵	1				

Revision: December 2014

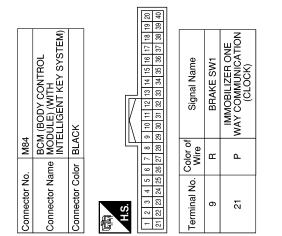
NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [WITH INTELLIGENT KEY SYSTEM]

POWER POSITION LED (LOCK POSITION LED) IGN RELAY OUTPUT1 (USM) STARTER RELAY OUTPUT Signal Name Color of Wire SB > > Terminal No. 73 74 80

Signal Name	ENGINE START SW	BRAKE SW2	AT DEVICE OUTPUT	SHIFT N, P (WITH CVT)	NEUTRAL SW (WITH M/T)	CLUTCH SW (WITH M/T)	
Color of Wire	ГG	٨	SB	L	Γ	0	
Terminal No.	55	66	67	69	69	20	



Signal Name	SECURITY INDICATOR OUTPUT	AUDIO/DONGLE LINK (SERIAL)	IMMOBILIZER TWO WAY COMMUNICATION	SHIFT P POSITION, PARKING POSITION SW (WITH CVT)	CAN-H	CAN-L	
Color of Wire	≻	SB	ГG	٩	Г	٩	
Terminal No.	23	24	25	37	68	40	



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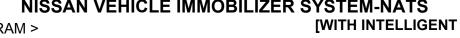
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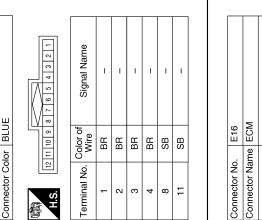
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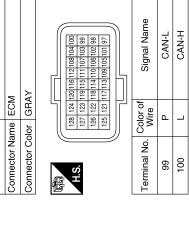
Signal Name	I	I	I	I	I	I	
Color of Wire	Γ	٩	٩	Ь	Ь	Р	
Terminal No. Color of Wire	5	8	6	10	11	12	

Connector Name JOINT CONNECTOR-E0

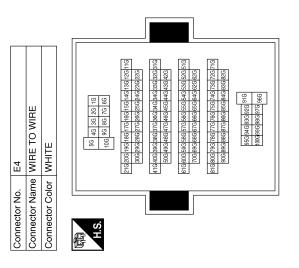
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Connector No.

87654321	Signal Name	I	I	1	I
12 11 10 9	Color of Wire	Γ	_	_	L
际 H.S.	Terminal No. Color of Wire	F	2	3	4



Signal Name	I	I	I	I	I	I	I	I	I	I	I	I	I	1	
Color of Wire	GR	BR	σ	SB	×	BR	٢	_	0	>	ГG	Ь	٢	L	
Terminal No.	4G	6G	10G	32G	34G	37G	39G	43G	46G	47G	48G	95G	97G	100G	



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Connector Name JOINT CONNECTOR-E02

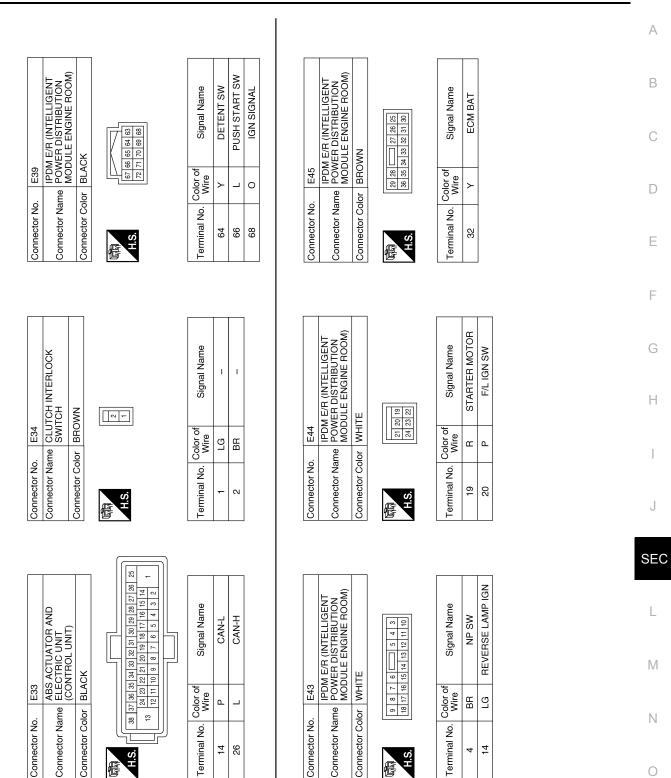
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Connector No.

Connector Color BLUE

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

< WIRING DIAGRAM >



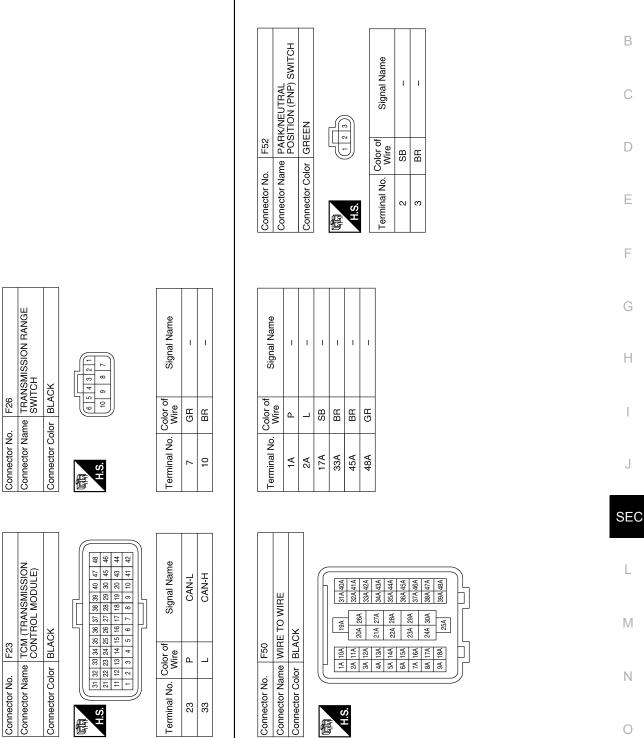
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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS [WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

Connector No.E48Connector NameIPDM E/R (INTELLIGENTConnector NamePODWER DISTRIBUTIONConnector ColorBLACK	(19) 19) 19) 19) 19) 19) 19) 19) 19) 19)	al No. Color of Wire	57 B/Y GND (POWER)		Connector No. E64	+ +	Connector Color BLACK	19A 26A 20A	443 334 Z/A Z/A Z/A 44 444 35A 224 224 144 5A 726 352 24 24 144 5A	29A 23A 15A	30A 24A	45A 39A 25A 18A 9A	Terminal No. Color of Signal Name	Wire	1A P -	2A L –	17A GR –	33A BR –	45A BR –	48A LG –	
Connector No.E47Connector NamePDWER DISTRIBUTIONConnector NamePOWER DISTRIBUTIONMODULE ENGINE ROOM)Connector ColorBROWNBROWN	研究 H.S.	I No. Color of Wire	52 B/Y GND (SIGNAL)		Connector No. E62		Connector Color BLACK	H.S. 21111098765432 1111066141 1111066144 11110066144 <th 11110661<="" td=""><td>Terminal No. Color of Signal Name</td><td>- λ 2</td><td>8</td><td>10 W –</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th>	<td>Terminal No. Color of Signal Name</td> <td>- λ 2</td> <td>8</td> <td>10 W –</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Terminal No. Color of Signal Name	- λ 2	8	10 W –								
Connector No.E46Connector NameIPDM E/R (INTELLIGENTConnector NamePOWER DISTRIBUTIONMODULE ENGINE ROOM)MOTULE ENGINE ROOM)Connector ColorWHITE	H.S.	I No. Color of Sig	40 P CAN-L 41 L CAN-H	44 V START CONT	Connector No. E60	STOF	Connector Color WHITE	1 2 H.S.	Terminal No. Color of Signal Name		2 SB –										

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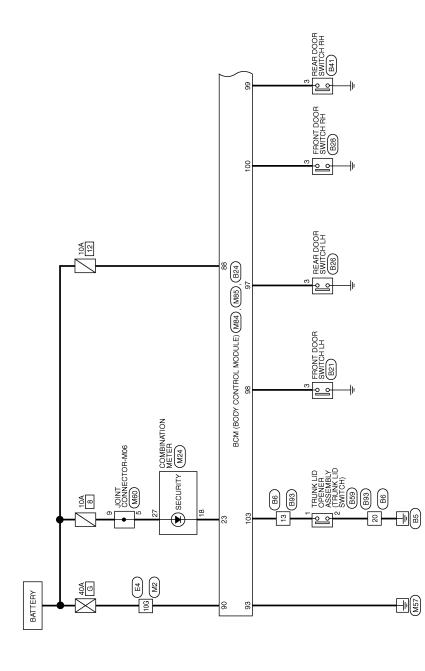
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VEHICLE SECURITY SYSTEM

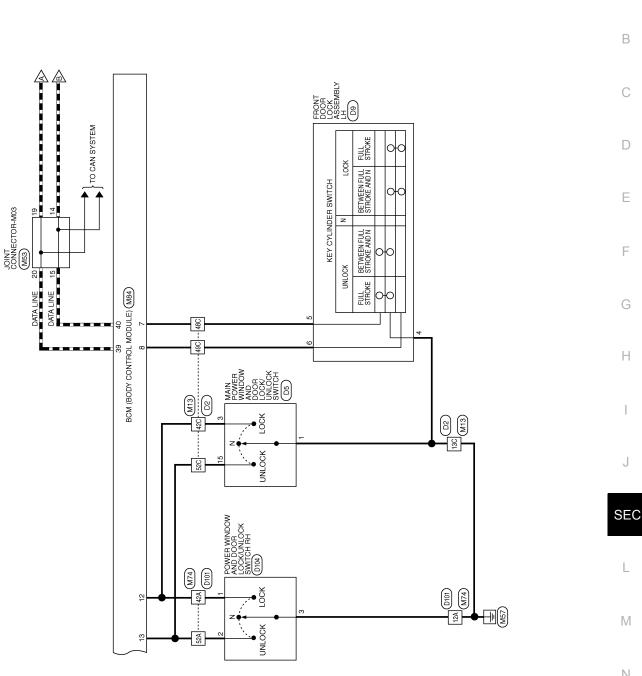
Wiring Diagram

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VEHICLE SECURITY SYSTEM - WITH INTELLIGENT KEY SYSTEM

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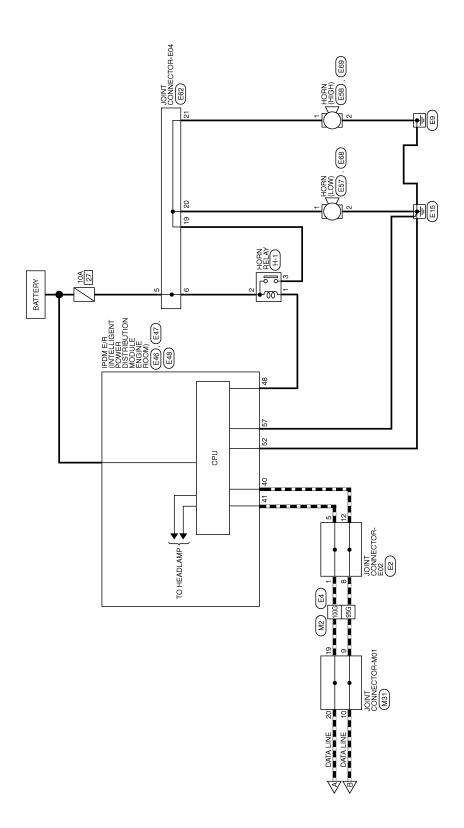


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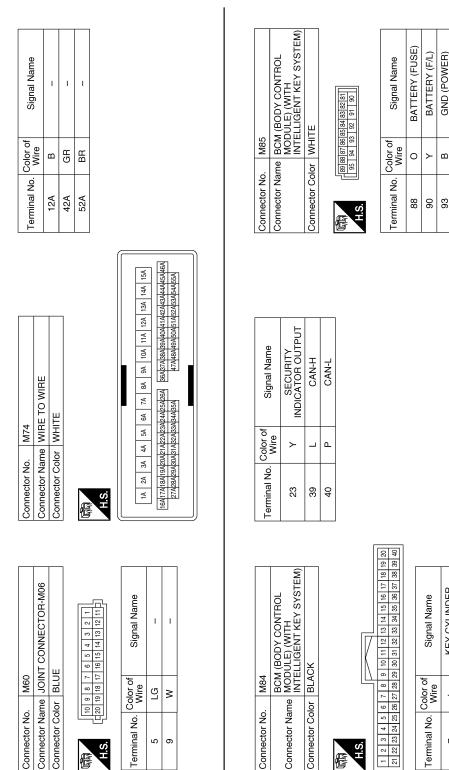
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0 WIRE 70 80 100 110 130 70 80 90 100 110 120 130 80 80 90 100 110 120 130 91 1 100 110 120 130 92 90 100 110 120 130 93 100 100 110 120 130 93 100 100 100 100 100 93 100 100 100 100 100 93 100 100 100 100 100 93 100 100 100 100 100 93 100 100 100 100 100 94 100 100 100 100 100 94 100 100 100 100 100 94 100 100 100 100 100 94 100 100 100 100 100 94 100 100 100 100 100 94 100 100 100 100 100 94 100	M53 JOINT CONNECTOR-M03 JOINT CONNECTOR-M03 PINK B 17 16 15 4 3 2 1 B 17 16 15 14 13 12 11 B 17 16 15 14 13 12 11 C C C C C C C C C C C C C C C C C C	С
r No. M13 r Name WIRE TC r Color WIHIE TC r Color WHITE r Color of M13 r No. Color of M13 r No. Color of M13 r No. Color of M13 BR BR	I No. Colo Viana 1 Vo. Colo Viana 1 Vo. Colo	D
Y SYSTEM Connector No Connector No Contra No Con	Connec Conne Conne	F
Signal Name 	Signal Name	G
MITH INTEL	M31 JOINT CO GRAY III 11 16 15 11 L L	
CTORS - M Terminal No. (10G 100G	Connector No. Connector Name Connector Color H.S. Terminal No. Color 9 7 10 10 10 10 10 10 10 10 10 10 10 10 10	J
Connector No. Main and and and and and and and and and an	M24 COMBINATION METER WHITE WHITE 3 2 31 30 29 28 27 28 28 22 21 3 28 31 30 29 28 27 28 28 22 22 21 cof Signal Name SECURITY SECURITY	SEC L
IICLE SECURITY SYS Connector No. M2 Connector Name WIRE TO WIRE Connector Name WIRE TO WIRE Connector Color WHITE Connector Color WH		Ν
	Connector No. Connector Name Connector Color 18 27 27 27 27 27 27 27 27 27 27 27 27 27	0

VEHICLE SECURITY SYSTEM [WITH INTELLIGENT KEY SYSTEM]

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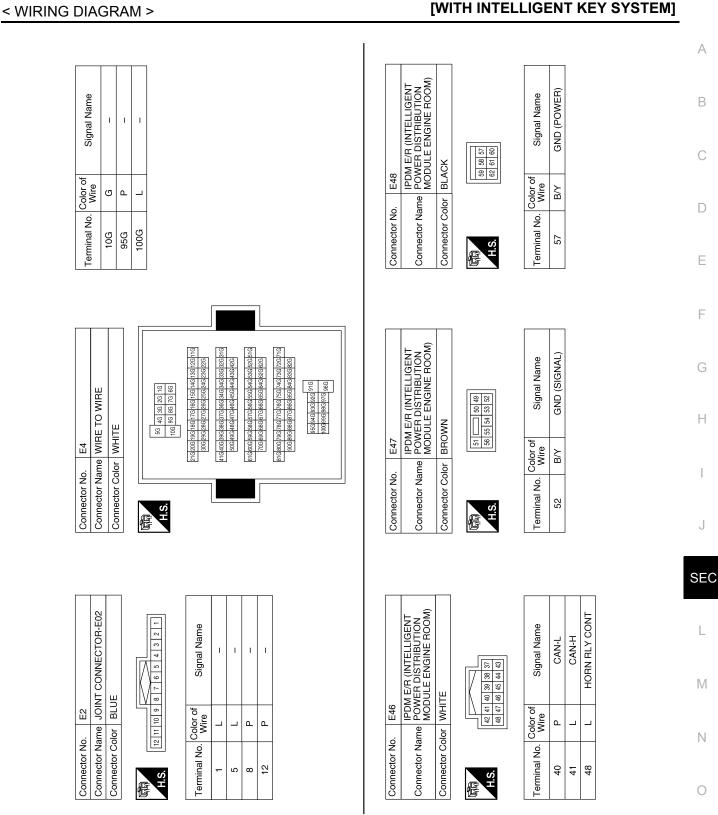
KEY CYLINDER UNLOCK SW KEY CYLINDER LOCK SW CENTRAL DOOR UNLOCK SW CENTRAL DOOR LOCK SW GR ВВ _ > Terminal No. 12 13 ω \sim

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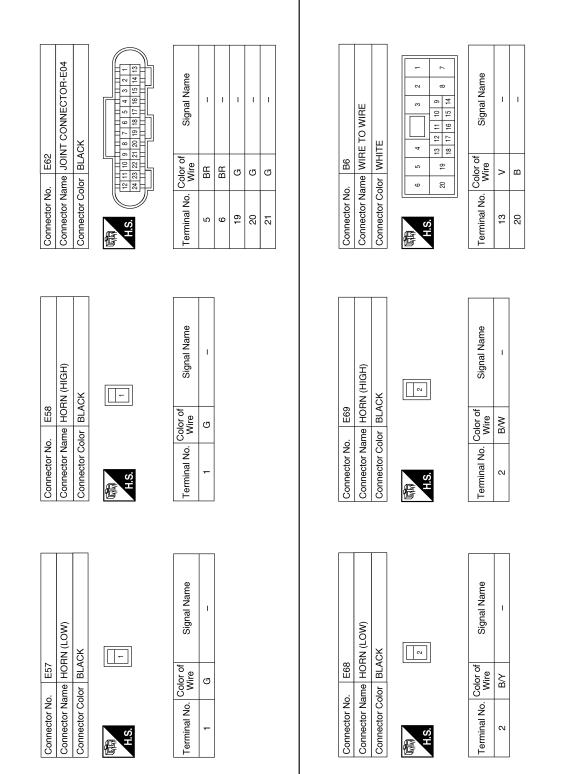
VEHICLE SECURITY SYSTEM

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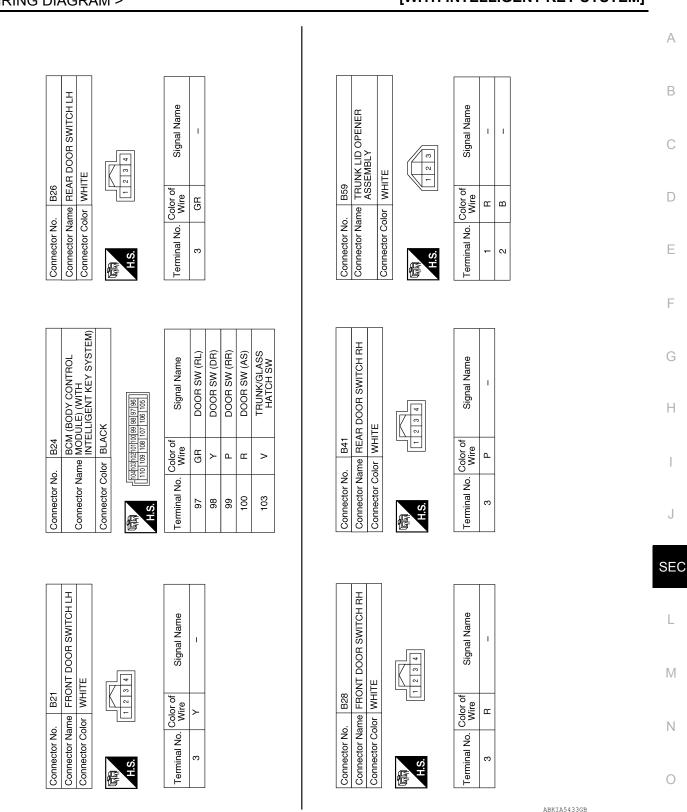
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VEHICLE SECURITY SYSTEM



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< WIRING DIAGRAM >

VEHICLE SECURITY SYSTEM [WITH INTELLIGENT KEY SYSTEM]

Revision: December 2014

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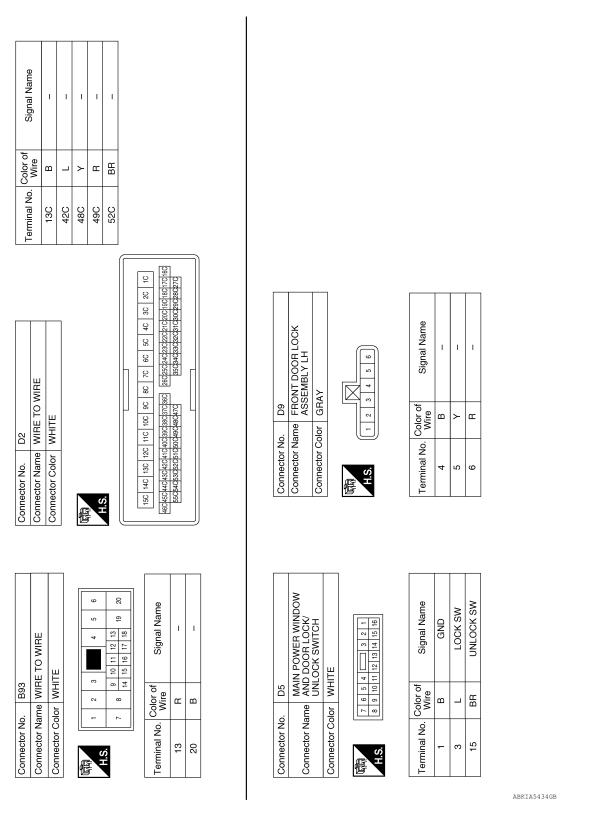
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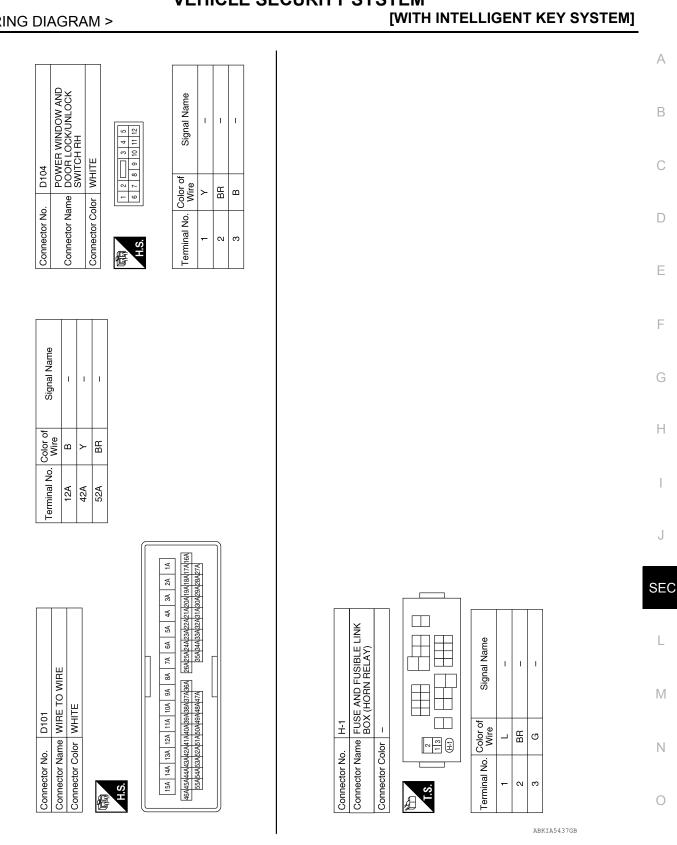
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Revision: December 2014



VEHICLE SECURITY SYSTEM

< WIRING DIAGRAM >

Revision: December 2014

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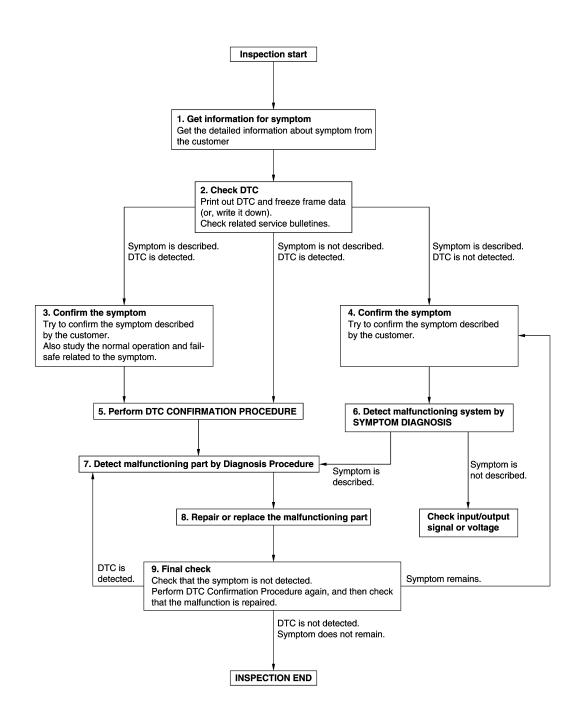
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BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000011536776

OVERALL SEQUENCE



DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

1. GET INFORMATION FOR SYMPTOM	Δ
1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).	~
2. Check operation condition of the function that is malfunctioning.	В
>> GO TO 2.	
2. CHECK DTC	C
1. Check DTC.	0
2. Perform the following procedure if DTC is detected.	
 Record DTC and freeze frame data (Print them out using CONSULT.) Erase DTC. 	D
 Study the relationship between the cause detected by DTC and the symptom described by the customer. Check related service bulletins for information. 	Е
Are any symptoms described and any DTC detected?	
Symptom is described, DTC is detected>>GO TO 3. Symptom is described, DTC is not detected>>GO TO 4.	_
Symptom is not described, DTC is detected>>GO TO 5.	F
3.CONFIRM THE SYMPTOM	
Try to confirm the symptom described by the customer. Also study the normal operation and fail-safe related to the symptom.	G
Verify relation between the symptom and the condition when the symptom is detected.	
	Н
>> 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.	J
5.PERFORM DTC CONFIRMATION PROCEDURE	
Penorm DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected	SEC
again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to <u>BCS-48</u> , " <u>DTC Inspection Priority Chart</u> " and determine trouble	
diagnosis order.	L
 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	Μ
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.	Ν
Is DTC detected?	
YES >> GO TO 7. NO >> Check according to <u>GI-40, "Intermittent Incident"</u> .	0
6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS	0
Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step	P
4, and determine the trouble diagnosis order based on possible causes and symptom.	٢
<u>Is the symptom described?</u> 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 >

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to <u>GI-40, "Intermittent Incident"</u>.

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9.FINAL CHECK

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

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

Is DTC detected and does symptom remain?

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

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

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION > [WITHINTED	
ADDITIONAL SERVICE WHEN REPLACING CONTROL ECM	
ECM : Description	INFOID:000000011536777
Performing the following procedure can automatically activate recommunication of when the ECM is replaced with a new one*. *: New one means an ECM that has never been energized on-board.	f ECM and BCM, but only
(In this step, initialization procedure using CONSULT is not necessary) NOTE:	
 When the replaced ECM is not a brand new, the specified procedure (Initial tration of Intelligent Keys) using CONSULT is necessary. If multiple keys are attached to the key holder, separate them before beginn Distinguish keys with unregistered key IDs from those with registered IDs. 	
ECM : Work Procedure	INFOID:000000011536778
1.PERFORM ECM RECOMMUNICATING FUNCTION	
 Install ECM. Contact backside of the registered Intelligent Key* to push-button ignition s depressed, then turn ignition switch ON. 	witch while brake pedal is
 *: To perform this step, use the key that is used before performing ECM replace 3. Maintain ignition switch in the ON position for at least 5 seconds. 4. Turn ignition switch OFF. 	ement.
5. Check that the engine starts.	F
>> GO TO 2.	
2. PERFORM ADDITIONAL SERVICE WHEN REPLACING ECM	
Perform additional service when replacing ECM. Refer to EC-136. "Work Procedur	<u>e"</u> .
>> Inspection End BCM	J
BCM : Description	INFOID:000000011536779
BEFORE REPLACEMENT When replacing BCM, save or print current vehicle specification with CONSULT coment.	nfiguration before replace-
NOTE: If "Before Replace ECU" cannot be used, use the "After Replace ECU" or "Manual ing BCM.	Configuration" after replac-
AFTER REPLACEMENT	Ν
CAUTION: • When replacing BCM, you must perform "After Replace ECU" with CONSUL - Complete the procedure of "After Replace ECU" in order. - If you set incorrect "After Replace ECU", incidents might occur.	т.
 Configuration is different for each vehicle model. Confirm configuration of When replacing BCM, perform the system initialization (NATS). 	each venicle model.
BCM : Work Procedure	INFOID:000000011536780
1. SAVING VEHICLE SPECIFICATION	

Enter "Re/Programming, Configuration" and perform "Before Replace ECU" to save or print current vehicle specification.

NOTE:

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

[WITH INTELLIGENT KEY SYSTEM]

< BASIC INSPECTION >

If "Before Replace ECU" cannot be used, use the "After Replace ECU" or "Manual Configuration" after replacing BCM.

>> GO TO 2.

2.REPLACE BCM

Replace BCM. Refer to BCS-76, "Removal and Installation".

>> GO TO 3.

3.WRITING VEHICLE SPECIFICATION

CONSULT

- 1. Enter "Re/Programming, Configuration".
- If "Before Replace ECU" operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press "Confirm" to write vehicle specification. Refer to <u>BCS-60, "ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT (BCM) :</u> <u>Work Procedure"</u>.
- 3. If "Before Replace ECU" operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to <u>BCS-60</u>, "<u>ADDITIONAL SERVICE WHEN REPLACING CON-</u> <u>TROL UNIT (BCM): Work Procedure"</u>.

>> GO TO 4.

4.INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

>> Work End.

[WITH INTELLIGENT KEY SYSTEM]

DTC/CIRCUIT DIAGNOSIS P1610 LOCK MODE

< DTC/CIRCUIT DIAGNOSIS >

Description

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

DTC Logic

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	When ECM detects a communication malfunction between ECM and BCM 5 times or more.	_	F
DT	C CONFIRM	MATION PROCEDUR	E		
1.	PERFORM [OTC CONFIRMATION F	PROCEDURE		G
1.		n switch ON.			
2. Is I	Check DTC DTC detected	-	sult" mode of ENGINE using CONSULT.		Н
-		to <u>SEC-63, "Diagnosis</u>	Procedure".		
Ν		pection End.			I
Di	agnosis Pi	rocedure		INFOID:000000011536783	
1.	CHECK ENG	GINE START FUNCTIO	N		.1
1.	Check that	DTC except for DTC P1	610 is not detected.		0
S	If detected,	erase the DTC after fixing switch OFF.			SEC
2. 3.	Depress br	ake pedal and contact	the registered Intelligent Key backside to push-b	outton ignition switch,	SEC
4.	then wait 5	seconds. n switch ON.			
. 5.	Turn ignitio	n switch OFF and wait 5			L
6. 7.		os 3 and 5 twice (a total engine can start.	of 3 times).		
1.		engine can start.			M
	>> Insp	pection End.			
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INFOID:000000011536781

INFOID:000000011536782

P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

P1611 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:000000011536784

INFOID:000000011536785

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

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

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 <u>SEC-64. "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. CHECK SELF DIAGNOSTIC RESULT

- 1. Select Self Diagnostic Result mode of ENGINE using CONSULT.
- 2. Erase DTC.
- 3. Perform DTC CONFIRMATION PROCEDURE for DTC P1611. Refer to SEC-64, "DTC Logic".

Is DTC detected?

YES >> GO TO 3.

NO >> Inspection End

3.REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-76, "Removal and Installation"</u>.
- 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

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

- YES >> Inspection End.
- NO >> GO TO 4.

4.REPLACE ECM

- Replace ECM. Refer to <u>EC-488</u>, "Removal and Installation".
- Perform "ADDITIONAL SERVICE WHEN REPLACING ECM". Refer to <u>EC-136</u>, "Work Procedure".

>> Inspection End.

P1612 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

P1612 CHAIN OF ECM-IMMU

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC P1612 is displayed with DTC U1000 (for BCM), first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65. "DTC Logic"</u>.
- If DTC P1612 is displayed with DTC U1010 (for BCM), first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1612	CHAIN OF ECM-IMMU	Inactive communication between ECM and BCM	 Harness or connectors (The CAN communication line is open or shorted.) BCM ECM
	FIRMATION PROCE	DURE	
1.PERFO	RM DTC CONFIRMATIO	ON PROCEDURE	
	•	Result mode of ENGINE using CO	NSULT.
	 Go to <u>SEC-65, "Diagno</u> Inspection End. 	osis Procedure".	
Diagnosi	s Procedure		INFOID:000000011536787
1.REPLAC	CE BCM		
2. Perforr		6. "Removal and Installation". nd registration of all Intelligent Key	s using CONSULT.
YES >>	 Inspection End. GO TO 2. 		
1. Replac	CE ECM ce ECM. o <u>EC-488, "Removal an</u>	d Installation".	
2. Perforr		CE WHEN REPLACING ECM".	
>>	Inspection End.		

[WITH INTELLIGENT KEY SYSTEM]

Revision: December 2014

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B2192 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

B2192 ID DISCORD, IMMU-ECM

DTC Logic

INFOID:000000011536788

INFOID:000000011536789

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

- YES >> Go to <u>SEC-66. "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. CHECK SELF-DIAGNOSIS RESULT

- 1. Select "Self Diagnostic Result" mode of "BCM" using CONSULT.
- 2. Erase DTC.
- 3. Perform DTC CONFIRMATION PROCEDURE for DTC B2192. Refer to SEC-66, "DTC Logic".

Is DTC detected?

YES >> GO TO 3.

NO >> Inspection End

3.REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-76, "Removal and Installation"</u>.
- 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

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

- YES >> Inspection End.
- NO >> GO TO 4.

4.REPLACE ECM

- Replace ECM. Refer to <u>EC-488</u>, "Removal and Installation".
- Perform "ADDITIONAL SERVICE WHEN REPLACING ECM". Refer to <u>EC-136</u>, "Work Procedure".

>> Inspection End.

B2193 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

B2193 CHAIN OF ECM-IMMU

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65. "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2193	CHAIN OF BCM-ECM	Inactive communication between BCM and ECM	 Harness or connectors (The CAN communication line is open or shorted.) BCM ECM
TC CONF	IRMATION PROCED	URE	
.PERFOR	M DTC CONFIRMATIO	ON PROCEDURE	
	ition switch ON.		и т
2. Check E s DTC dete	•	Result mode of BCM using CONSU	JLI.
YES >>	Go to <u>SEC-67, "Diagno</u>	osis Procedure".	
	Inspection End.		
Diagnosis	Procedure		INFCID:00000001153679
1.REPLAC	E BCM		
		6. "Removal and Installation"	
 Perform Does the en 		nd registration of all Intelligent Keys	s using CONSULT.
YES >>	Inspection End.		
	GO TO 2.		
2.REPLAC			
 Replace Refer to 	ECIVI. EC-488, "Removal and	d Installation".	
	"ADDITIONAL SERVIO EC-136, "Work Proceed	CE WHEN REPLACING ECM".	
		<u>ועוכ</u> .	
>>	Inspection End.		

[WITH INTELLIGENT KEY SYSTEM]

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B2195 ANTI-SCANNING

DTC Logic

INFOID:0000000011536792

INFOID:000000011536793

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

DTC 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

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 >> Refer to <u>SEC-68, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

Diagnosis Procedure

1. CHECK SELF DIAGNOSTIC RESULT 1

- 1. Select Self Diagnostic Result mode of BCM using CONSULT.
- 2. Erase DTC.
- 3. Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to SEC-68, "DTC Logic".

Is DTC detected?

- YES >> GO TO 2.
- NO >> Inspection End.

2.CHECK EQUIPMENT OF THE VEHICLE

Check that unspecified accessory part related to engine start is not installed.

Is unspecified accessory part related to engine start installed?

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

3.CHECK SELF DIAGNOSTIC RESULT 2

- Obtain the customers approval to remove unspecified accessory part related to engine start, and then remove it.
- 2. Select Self Diagnostic Result of BCM using CONSULT.
- 3. Erase DTC.
- Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to <u>SEC-68, "DTC Logic"</u>.

Is DTC detected?

- YES >> GO TO 4.
- NO >> Inspection End.

4.REPLACE BCM

- 1. Replace BCM. Refer to BCS-76, "Removal and Installation".
- 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

< DTC/CIRCUIT DIAGNOSIS > **B2196 DONGLE UNIT** А Description INFOID:000000011536794 BCM performs ID verification between BCM and dongle unit. В When verification result is OK, BCM permits cranking. DTC Logic INFOID-000000011536795 DTC DETECTION LOGIC DTC No. Trouble diagnosis name DTC detecting condition Possible cause D Harness or connectors The ID verification results between BCM B2196 DONGLE NG (Dongle unit circuit is open or shorted.) and dongle unit is invalid. · Dongle unit Ε DTC CONFIRMATION PROCEDURE 1.PERFORM DTC CONFIRMATION PROCEDURE 1. Turn ignition switch ON. 2. Turn ignition switch OFF. 3. Turn ignition switch ON. Check DTC in Self-diagnosis result mode of BCM using CONSULT. 4. Is the DTC detected? YES >> Refer to <u>SEC-69</u>, "Diagnosis Procedure". Н NO >> Inspection End. Diagnosis Procedure INFOID:000000011536796 Regarding Wiring Diagram information, refer to SEC-39, "Wiring Diagram". **1.**PERFORM INITIALIZATION SEC 1. Perform initialization of BCM and registration of all mechanical keys using CONSULT. For initialization and registration procedures, refer to CONSULT Immobilizer mode and follow the onscreen instructions. Start the engine. L Does the engine start? YES >> Inspection End. NO >> GO TO 2. Μ 2.CHECK DONGLE UNIT CIRCUIT 1. Turn ignition switch OFF. Ν 2. Disconnect BCM connector and dongle unit connector. 3. Check continuity between BCM harness connector and dongle unit harness connector.

BC	BCM		Dongle unit		
Connector	Terminal	Connector	Terminal	Continuity	
M84	24	M39	1	Yes	D

Check continuity between BCM harness connector and ground. 4

-	BCM Connector Terminal		Ground	Continuity
_				Continuity
-	M84	24		No

Is the inspection result normal?

B2196 DONGLE UNIT

< DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 3.

NO >> Repair or replace harness.

3. CHECK DONGLE UNIT GROUND CIRCUIT

Check continuity between dongle unit harness connector and ground.

Dong	le unit		Continuity	
Connector	Connector Terminal		Continuity	
M39	4		Yes	

Is the inspection result normal?

YES >> Replace dongle unit.

NO >> Repair or replace harness.

B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

B2198 NATS ANTENNA AMP.

DTC Logic

INFOID:0000000011536797

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[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

	Trouble diagnosis name	DTC detecting condition	Possible cause
B2198	NATS ANTENNA AMP	Inactive communication between NATS antenna amp. and BCM is detected when BCM enters in the low power consumption mode (BCM sleep condition)	 Harness or connectors (NATS antenna amp. circuit is open or shorted.) NATS antenna amp. BCM
TC CONFI	RMATION PROCEDU	JRE	
.PERFORM	I DTC CONFIRMATION	I PROCEDURE	
Refer to	BCS-8, "BODY CONTR	nters in the low power consumption r OL SYSTEM : System Description".	node (BCM sleep condition).
Check D <u>DTC detec</u> /ES >> C	•	esult mode of BCM using CONSULT. is Procedure".	
Check D <u>DTC detec</u> /ES >> 0 IO >> II	TC in Self Diagnostic Re <u>ted?</u> So to <u>SEC-71, "Diagnosi</u>	, and the second s	INFOID:00000001153675

1.CHECK FUSE

- 1. Turn power switch OFF.
- 2. Check that the following fuse in IPDM E/R is not blown.

Signal name	Fuse No.	SEC
Battery power supply	33 (20 A)	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the cause of blowing.

2.CHECK NATS ANTENNA AMP. POWER SUPPLY

1. Disconnect NATS antenna amp. connector.

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

(+)					-	
	NATS antenna amp. Connector Terminal		(–)	Voltage (V) (Approx.)	0	
	M42	1	Ground	Battery voltage	_	

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

3.CHECK NATS ANTENNA AMP. POWER SUPPLY CIRCUIT

1. Disconnect IPDM E/R connector.

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

B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

IPDM E/R		NATS antenna amp.		Continuity	
Connector	Terminal Connector Terminal		Terminal	Continuity	
E45	32	M42	1	Yes	

Is the inspection result normal?

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

NO >> Repair or replace harness.

4.CHECK NATS ANTENNA AMP. GROUND CIRCUIT

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

NATS ante	enna amp.	Ground	Continuity
Connector	Terminal		Continuity
M42	4		Yes

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

${f 5.}$ CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL 1

Check voltage signal between NATS antenna amp. harness connector and ground using an oscilloscope.

(+) NATS antenna amp.		(-)	(–) Condition		Voltage (V) (Approx.)
Connector	Terminal				
M42	2	Ground	Intelligent Key: Intelligent Key battery is removed	Brake pedal: Depressed NOTE: Waveform varies each time when brake pedal is depressed	(V) 15 10 5 0 • • • • • • • • • • • • • • • • • • •
				Brake pedal: Not depressed	12

Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 6.

${f 6}.$ CHECK NATS ANTENNA AMP. OUTPUT SIGNAL CIRCUIT 1

1. Disconnect BCM connector.

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

NATS ant	NATS antenna amp.		BCM	
Connector	Terminal	Connector	Terminal	- Continuity
M42	2	M84	21	Yes

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

NATS ant	enna amp.	Ground	Continuity
Connector	Terminal		
M42	2		No

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace harness.

CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL 2

B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Check voltage signal between NATS antenna amp. harness connector and ground using an oscilloscope.

+) NATS ante	enna amp.	(—)		Condition	Voltage (V) (Approx.)
connector	Terminal				<u> </u>
M42	3	Ground	During waiting	Brake pedal: Depressed NOTE: Waveform varies each time when brake pedal is depressed	(V) 15 10 5 0 + 40ms JMKIA6233JP
				Brake pedal: Not depressed	12
he inspe	ction resu	It normal?			
ES >> 0 >>	Replace GO TO 8	NATS ante		SEC-135, "Removal and Insta	<u>illation"</u> .
CHECK	NATS AN	I ENNA AI	MP. OUTPUT SIGN	IAL CIRCUIT 2	

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

NATS ant	NATS antenna amp.		BCM		
Connector	Terminal	Connector	Terminal	Continuity	
M42	3	M84	25	Yes	

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

	NATS ante	enna amp.		Continuity	
	Connector	Terminal	Ground	Continuity	J
_	M42	3		No	

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace harness.

9.REPLACE BCM

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

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

>> Inspection End

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< DTC/CIRCUIT DIAGNOSIS >

B2555 STOP LAMP

DTC Logic

INFOID:0000000011536799

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

- YES >> Go to SEC-74. "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000011536800

Regarding Wiring Diagram information, refer to SEC-39, "Wiring Diagram".

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.

(+) CM	()	Voltage (V) (Approx.)	
Connector	Terminal			
M83	66	Ground	Battery voltage	

Is the inspection normal?

YES >> GO TO 2.

NO-1 >> Check 10 A fuse [No. 30, 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 switch harness connector and ground.

(+)			Voltage (V) (Approx.)
Stop lamp	switch	()	
Connector	Terminal		
E60	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

B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

1. Connect stop lamp switch connector.

(+)		_			Voltage (V)
BCM		(-)	Con	Condition	
Connector	Terminal				
M84	9	Ground	Brake pedal	Depressed Not depressed	Battery voltage
e inspecting resul	t normal?				
S >> GO TO 4					
) >> GO TO 5. REPLACE BCM					
	for to DCC 76	"Domoval and Ir	atellation"		
Replace BCM. Re Perform initializat	ion of BCM and	registration of a	Il Intelligent Keys u	ising CONSULT.	
		5	0 ,	5	
>> Inspection					
CHECK STOP LAN	MP SWITCH C	RCUIT			
Disconnect stop I					
Check continuity	between stop la	amp switch harne	ess connector and l	BCM harness cor	inector.
S	Stop lamp switch		BCM		
Connecto	r	Terminal	Connector	Terminal	- Continuity
E60		2	M84	9	Yes
Check continuity	between stop la	amp switch harne	ess connector and	ground.	-
	Stop lamp switcl	1			
Connecto		Terminal	Grou	ind	Continuity
E60		2			No
=••	t normal?				
ne inspection resul	<u>t normal :</u>				
ne inspection resul					
ne inspection results S >> GO TO 6 >> Repair or	replace harnes	SS.			
ne inspection results S >> GO TO 6 D >> Repair or CHECK STOP LAN	replace harnes				
ne inspection results S >> GO TO 6. D >> Repair or CHECK STOP LAN er to <u>SEC-75, "Co</u>	replace harnes MP SWITCH				
ne inspection results S >> GO TO 6 >> Repair or CHECK STOP LAN er to <u>SEC-75, "Co</u> the inspection results	replace harnes MP SWITCH mponent Inspe t normal?				
the inspection result S >> GO TO 6 >> Repair or CHECK STOP LAN er to <u>SEC-75, "Co</u> the inspection result S >> GO TO 7	replace harnes MP SWITCH mponent Inspe t normal?	ction".	1, "Exploded View"		
the inspection result S >> GO TO 6. D >> Repair or CHECK STOP LAN ter to <u>SEC-75, "Con- the inspection result</u> S >> GO TO 7. D >> Replace s	replace harnes MP SWITCH mponent Inspe t normal? stop lamp switc	<u>ction"</u> . h. Refer to <u>BR-2</u> ′	1, "Exploded View"		
the inspection result S >> GO TO 6 D >> Repair or CHECK STOP LAN ter to <u>SEC-75, "Con- the inspection result</u> S >> GO TO 7 D >> Replace so CHECK INTERMIT	replace harnes MP SWITCH mponent Inspe t normal? stop lamp switc TENT INCIDE	<u>ction"</u> . h. Refer to <u>BR-21</u> NT	1. "Exploded View"		
the inspection result S >> GO TO 6. D >> Repair or CHECK STOP LAN ter to <u>SEC-75, "Con- the inspection result</u> S >> GO TO 7. D >> Replace s	replace harnes MP SWITCH mponent Inspe t normal? stop lamp switc TENT INCIDE	<u>ction"</u> . h. Refer to <u>BR-21</u> NT	1, "Exploded View"		
the inspection result S >> GO TO 6 D >> Repair or CHECK STOP LAN ter to <u>SEC-75, "Con- the inspection result</u> S >> GO TO 7 D >> Replace so CHECK INTERMIT	replace harnes MP SWITCH mponent Inspe t normal? stop lamp switc TENT INCIDE nittent Incident	<u>ction"</u> . h. Refer to <u>BR-21</u> NT	1. "Exploded View"		
ne inspection results S >> GO TO 6 D >> Repair or CHECK STOP LAN er to <u>SEC-75, "Con- ne inspection results</u> S >> GO TO 7 D >> Replace so CHECK INTERMIT er to <u>GI-40, "Interrr</u> >> Inspection	replace harnes MP SWITCH mponent Inspe t normal? stop lamp switc TENT INCIDE nittent Incident	<u>ction"</u> . h. Refer to <u>BR-21</u> NT	1. "Exploded View"		INFOID:0000000
ne inspection results S >> GO TO 6 D >> Repair or CHECK STOP LAN er to <u>SEC-75, "Content inspection results</u> S >> GO TO 7 D >> Replace so CHECK INTERMIT er to <u>GI-40, "Interr</u>	replace harnes MP SWITCH mponent Inspe t normal? stop lamp switc TENT INCIDE nittent Incident n End. ection	<u>ction"</u> . h. Refer to <u>BR-21</u> NT	1, "Exploded View"		

2. Disconnect stop lamp switch connector.

3. Check continuity between stop lamp switch terminals.

B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

Stop lamp switch		Condition		Continuity	
Terr	Terminal		Condition		
1	2	Brake pedal	Not depressed	No	
	Z	Diake pedai	Depressed	Yes	

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace stop lamp switch. Refer to <u>BR-21, "Exploded View"</u>.

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

< DTC/CIRCUIT DIAGNOSIS >

B2556 PUSH-BUTTON IGNITION SWITCH

DTC Logic

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DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause		
B2556 ENG START SW BCM detects the push-button ignition switch stuck at ON for 100 seconds or more. • Harness or connectors (Push-button ignition switch circuit is shorted.) • Push-button ignition switch • BCM					
	FIRMATION PROCE	DURE			
PERFOR	RM DTC CONFIRMATI	ON PROCEDURE			
Brake p Releas Check	bedal: Not depressed e push-button ignition s	tch under the following condition. witch and wait 100 seconds or more. Result mode of BCM using CONSULT	- -		
i C dete	Go to <u>SEC-77, "Diagn</u>	osis Procedure".			
S >>	Inspection End.				
ES >>) >>			INFOID:0000000115368		

1. CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNAL

1.	Turn	ignition	switch	OFF
	10111	ignition	0111011	U

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

(+	-)			
Push-button i	gnition switch	()	Voltage (V) (Approx.)	1
Connector	Terminal	_	(, ()	
M25	8	Ground	12	-
the inspection result norma	al?			M

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 2.

2.CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT

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

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

Push-button ignition switch		BCM		Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
M25	8	M83	55	Yes	

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

Push-button	ignition switch		Continuity
Connector	Terminal	Ground	Continuity
M25	8		No

B2556 PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.REPLACE BCM

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

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

>> Inspection End.

4.CHECK PUSH-BUTTON IGNITION SWITCH GROUND CIRCUIT

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

Push-button	gnition switch		Continuity
Connector	Terminal	Ground	Continuity
M25	4		Yes

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.CHECK PUSH-BUTTON IGNITION SWITCH

Refer to SEC-78, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace push-button ignition switch. Refer to <u>SEC-136. "Removal and Installation"</u>.

6.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End.

Component Inspection

1. CHECK PUSH-BUTTON IGNITION SWITCH

1. Turn ignition switch OFF.

2. Disconnect push-button ignition switch connector.

3. Check continuity between push-button ignition switch terminals.

-	Push-button	ignition switch	Con	dition	Continuity
-	Terr	minal	Con	ulion	Continuity
-	4	Q	Push-button ignition	Pressed	Yes
_	+	0	switch	Not pressed	No

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace push-button ignition switch. Refer to <u>SEC-136. "Removal and Installation"</u>.

INFOID:000000011536804

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-65, "DTC Logic".
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC No	. Trouble diagnosis name	DTC detecting condition	Possible causes	C
B2557	VEHICLE SPEED	 BCM detects one of the following conditions for 10 seconds continuously. Vehicle speed signal from "combination meter" is 10 km/h (6.2 MPH) or more and vehicle speed signal from "ABS actuator and electric unit (control unit)" is 4 km/h (2.5 MPH) or less Vehicle speed signal from "combination meter" is 4 km/h (2.5 MPH) or less and vehicle speed signal from "ABS actuator and electric unit (control unit)" is 10 km/h (6.2 MPH) or more 	 Harness or connectors (The CAN communication line is open or shorted.) Combination meter ABS actuator and electric unit (control unit) 	F
DTC CON	IFIRMATION PROCED	URE		
1 .PERFO	RM DTC CONFIRMATIC	ON PROCEDURE		Н
2. Drive t 3. Check Is DTC det YES >>	DTC in Self Diagnostic	beed of 10 km/h (6.2 MPH) or more for 10 Result mode of BCM using CONSULT.	seconds or more.	
Diagnosi	is Procedure		INFOID:000000011536806	-
1. снеск	DTC OF "ABS ACTUAT	OR AND ELECTRIC UNIT (CONTROL UI	NIT)"	SI
		Ilt mode of ABS using CONSULT.	·	
Is DTC det				L
	Perform the trouble dia GO TO 2.	gnosis related to the detected DTC. Refer	to <u>BRC-43, "DTC Index"</u> .	
2.снеск	DTC OF COMBINATION	NMETER		ľ
Check DTC	C in Self Diagnostic Resu	It mode of METER/M&A using CONSULT		
<u>Is DTC det</u>				
YES >>	Perform the trouble dia	gnosis related to the detected DTC. Refer	to <u>MWI-26, "DTC Index"</u> .	ľ

YES >> GO TO 3. NO

3. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End.

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< DTC/CIRCUIT DIAGNOSIS >

B2601 SHIFT POSITION

DTC Logic

INFOID:000000011536807

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65, "DTC Logic"</u>.
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Shift the selector lever to the Park (P) position.
- 2. Turn ignition switch ON and wait 2 seconds or more.
- 3. Shift the selector lever to any position other than Park (P) and wait 2 seconds or more.
- 4. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

- YES >> Go to SEC-80, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000011536808

Regarding Wiring Diagram information, refer to SEC-39, "Wiring Diagram".

1. CHECK CVT SHIFT SELECTOR CIRCUIT (BCM)

- 1. Turn ignition switch OFF.
- 2. Disconnect CVT shift selector (park position switch) connector.
- 3. Disconnect BCM connector.
- 4. Check continuity between CVT shift selector (park position switch) harness connector and BCM harness connector.

CVT shift selector (park position switch)	B	СМ	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M38	13	M84	37	Yes

5. Check continuity between CVT shift selector (park position switch) harness connector and ground.

CVT shift selector (park position switch)		Continuity
 Connector	Terminal	Ground	Continuity
M38	13		No

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

- 1. Disconnect IPDM E/R connector.
- 2. Check continuity between CVT shift selector (park position switch) harness connector and IPDM E/R harness connector.

CVT shift selector (p	park position switch)	IPDM	I E/R	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M38	13	E39	64	Yes
Is the inspection result r	normal?			
YES >> GO TO 3.				
NO >> Repair or re	place harness.			
3. REPLACE BCM				
1. Replace BCM, Refe	er to <u>BCS-76, "Remov</u>	al and Installation".		
 Perform initialization 	n of BCM and registra	tion of all Intelligent		
Perform DTC CONF	FIRMATION PROCED	URE for DTC B260	1. Refer to <u>SEC-80, '</u>	<u>'DTC Logic"</u> .
Is DTC B2601 detected	again?			
YES >> Replace IPI	DM E/R. Refer to PCS	-31, "Removal and I	Installation".	
NO >> Inspection E	End.			

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< DTC/CIRCUIT DIAGNOSIS >

B2602 SHIFT POSITION

DTC Logic

INFOID:0000000011536809

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65, "DTC Logic"</u>.
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2602	SHIFT P DIAG	 BCM detects the following status for 10 seconds. Selector lever is in the Park (P) position Vehicle speed is 4 km/h (2.5 MPH) or more Ignition switch is in the ON position 	 Harness or connectors (The CAN communication line is open or shorted.) Harness or connectors [CVT shift selector (park position switch) circuit is open or shorted.] CVT shift selector (park position switch) Combination meter

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start engine.
- 2. Drive vehicle at a speed of 4 km/h (2.5 MPH) or more for 10 seconds or more.
- 3. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

- YES >> Go to SEC-82, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000011536810

Regarding Wiring Diagram information, refer to SEC-39, "Wiring Diagram".

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

Check DTC in Self Diagnostic Result mode of ABS using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to <u>BRC-43</u>, "<u>DTC Index</u>".

NO >> GO TO 2.

2.CHECK DTC OF COMBINATION METER

Check DTC in Self Diagnostic Result mode of METER/M&A using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to <u>MWI-26, "DTC Index"</u>. NO >> GO TO 3.

3.check CVT shift selector power supply

1. Turn ignition switch OFF.

- 2. Disconnect CVT shift selector (park position switch) connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between CVT shift selector (park position switch) harness connector and ground.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

	(+)			Voltage (V)
	ector (park position switch		()	(Approx.)
Connector	Termina	al		
M38	12		Ground	12
he inspection result ES >> GO TO 6. O >> GO TO 4. CHECK CVT SHIFT	SELECTOR POWER	R SUPPLY CI	RCUIT	
Turn ignition switch Disconnect BCM c	n OFF. onnector.		osition switch) harnes	s connector and BCM
CVT shift selector (park position switch)		BCM	2
Connector	Terminal	Connect	tor Termina	Continuit
M38	12	M83	67	Yes
Check continuity be	etween CVT shift sele	ector (park po	sition switch) harness	connector and grour
CVT shift sel	ector (park position switch)		Continuity
Connector	Termina	al	Ground	Continuity
	10			No
ES >> GO TO 5. O >> Repair or r	normal? eplace harness.			NU
the inspection result ES >> GO TO 5. IO >> Repair or re REPLACE BCM Replace BCM. Ref	normal? eplace harness. er to <u>BCS-76, "Remo</u>	val and Instal ation of all Int	l <u>ation"</u> . elligent Keys using C	
the inspection result ES >> GO TO 5. O >> Repair or re REPLACE BCM Replace BCM. Ref Perform initialization >> Inspection	normal? eplace harness. er to <u>BCS-76, "Remo</u> on of BCM and registr End.	ation of all Inf	l <u>ation"</u> . elligent Keys using C	
he inspection result ES >> GO TO 5. O >> Repair or re REPLACE BCM Replace BCM. Ref Perform initializatio >> Inspection CHECK CVT SHIFT Turn ignition switch Disconnect BCM co	normal? eplace harness. er to <u>BCS-76, "Remo</u> on of BCM and registr End. SELECTOR CIRCUI on OFF. onnector and IPDM E	ation of all Inf IT E/R connector	telligent Keys using C	ONSULT.
he inspection result ES >> GO TO 5. O >> Repair or re REPLACE BCM Replace BCM. Ref Perform initializatio >> Inspection CHECK CVT SHIFT Turn ignition switch Disconnect BCM co Check continuity be connector.	normal? eplace harness. er to <u>BCS-76, "Remo</u> on of BCM and registr End. SELECTOR CIRCUI on OFF. onnector and IPDM E	ation of all Inf IT E/R connector	telligent Keys using C	ONSULT.
he inspection result ES >> GO TO 5. O >> Repair or result REPLACE BCM Replace BCM. Ref Perform initialization >> Inspection CHECK CVT SHIFT Turn ignition switch Disconnect BCM cond Check continuity by connector.	normal? eplace harness. er to <u>BCS-76, "Remo</u> on of BCM and registr End. SELECTOR CIRCUI o OFF. onnector and IPDM E etween CVT shift sele	ation of all Inf IT E/R connector	telligent Keys using C	ONSULT. s connector and BCM
ne inspection result S >> GO TO 5. D >> Repair or result REPLACE BCM Replace BCM. Reference BCM. Reference BCM. Reference BCM. Reference BCM constraints and the second secon	normal? eplace harness. er to <u>BCS-76, "Remo</u> on of BCM and registr End. SELECTOR CIRCUI of OFF. onnector and IPDM E etween CVT shift sele	ation of all Inf IT E/R connector ector (park po	telligent Keys using C	ONSULT. s connector and BCM
ne inspection result S >> GO TO 5. D >> Repair or result REPLACE BCM Replace BCM. Reference BCM. Reference BCM. Reference BCM. Reference BCM constraints and the second secon	normal? eplace harness. er to <u>BCS-76, "Remo</u> on of BCM and registr End. SELECTOR CIRCUI on OFF. onnector and IPDM E etween CVT shift sele park position switch) Terminal 13	ation of all Inf IT E/R connector ector (park po Connect M84	telligent Keys using C Solution switch) harnes BCM tor Termina	ONSULT. s connector and BCM Continuit Yes
he inspection result ES >> GO TO 5. O >> Repair or re REPLACE BCM Replace BCM. Ref Perform initialization >> Inspection CHECK CVT SHIFT Turn ignition switch Disconnect BCM contended of the continuity by connector. CVT shift selector (Connector M38 Check continuity by	normal? eplace harness. er to <u>BCS-76, "Remo</u> on of BCM and registr End. SELECTOR CIRCUI on OFF. onnector and IPDM E etween CVT shift sele park position switch) Terminal 13	ation of all Int IT E/R connector ector (park po Connect M84 ector (park po	telligent Keys using C	ONSULT. s connector and BCM Continuit Yes connector and grour
he inspection result ES >> GO TO 5. O >> Repair or re REPLACE BCM Replace BCM. Ref Perform initializatio >> Inspection CHECK CVT SHIFT Turn ignition switch Disconnect BCM co Check continuity be connector. CVT shift selector (Connector M38 Check continuity be	normal? eplace harness. fer to <u>BCS-76, "Remo</u> on of BCM and registr End. SELECTOR CIRCUI o OFF. onnector and IPDM E etween CVT shift sele 13 etween CVT shift sele	ation of all Int IT E/R connector ector (park po Connect M84 ector (park po	telligent Keys using C	ONSULT. s connector and BCM Continuit Yes

Refer to SEC-84, "Component Inspection".

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace CVT shift selector. Refer to <u>TM-256</u>, "Removal and Installation".

8. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End.

Component Inspection

1. CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

- 1. Turn ignition switch OFF.
- 2. Disconnect CVT shift selector connector.
- 3. Check continuity between CVT shift selector (park position switch) terminals.

CVT shift selector (park position switch)	Con	dition	Continuity
Terr	minal	Con		Continuity
		Selector lever: P position	Selector button: Released	No
12	13	Selector level. P position	Selector button: Pressed	Yes
		Selector lever: Other than P	position	165

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace CVT shift selector. Refer to <u>TM-256</u>, "Removal and Installation".

INFOID:0000000011536811

< DTC/CIRCUIT DIAGNOSIS >

B2603 SHIFT POSITION

DTC Logic

DTC DETECTION LOGIC

NOTE:

• If DTC B2603 is displayed with DTC B2601, first perform the trouble diagnosis for DTC B2601. Refer to <u>SEC-80, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible causes
B2603	SHIFT POSITION	 BCM detects the following status when switch is in the ON position. Transmission range switch signal: ap CVT shift selector (park position swit nal: approx. 0 V 	prox. 0 V (Transmission range switch circuit is
	FIRMATION PROCI	EDURE	
.PERFO	RM DTC CONFIRMAT	TION PROCEDURE 1	
2. Turn ig 3. Check <u>s DTC det</u> YES >>	DTC in Self Diagnosti <u>ected?</u> > Go to <u>SEC-85, "Diag</u>	wait 1 second or more. c Result mode of BCM using CO	NSULT.
	> GO TO 2. RM DTC CONFIRMAT		
		position other than Park (P) and	Noutral (N), and wait 1 second or more
. 0111111			
2. Check	DTC in Self Diagnosti	c Result mode of BCM using CO	
s DTC det	ected?	c Result mode of BCM using CO	
<u>s DTC det</u> YES >>	<u>ected?</u> > Go to <u>SEC-85, "Diag</u>	c Result mode of BCM using CO	NSULT.
<u>s DTC det</u> YES >> NO >>	ected? > Go to <u>SEC-85, "Diag</u> > Inspection End.	c Result mode of BCM using CO	NSULT.
<u>s DTC det</u> YES >> NO >>	<u>ected?</u> > Go to <u>SEC-85, "Diag</u>	c Result mode of BCM using CO	NSULT.
<u>s DTC det</u> YES >> NO >> Diagnosi	ected? > Go to <u>SEC-85, "Diag</u> > Inspection End. s Procedure	c Result mode of BCM using CO nosis Procedure".	NSULT.
<u>s DTC det</u> YES >> NO >>)iagnosi	ected? > Go to <u>SEC-85, "Diag</u> > Inspection End. s Procedure	c Result mode of BCM using CO	NSULT.
<u>s DTC det</u> YES >> NO >> Diagnosi	ected? > Go to <u>SEC-85, "Diag</u> > Inspection End. s Procedure	c Result mode of BCM using CO nosis Procedure".	NSULT.
<u>s DTC det</u> YES >> NO >> Diagnosi Regarding	ected? > Go to <u>SEC-85, "Diag</u> > Inspection End. S Procedure Wiring Diagram inform CTION START	c Result mode of BCM using CO nosis Procedure".	NSULT. INFOID.000000011536813 Diagram".
s DTC det YES >> NO >> Diagnosi Regarding	ected? > Go to <u>SEC-85, "Diag</u> > Inspection End. S Procedure Wiring Diagram inform CTION START	c Result mode of BCM using CO nosis Procedure". nation, refer to <u>SEC-39, "Wiring E</u>	NSULT. INFOID.000000011536813 Diagram".
s DTC det YES >> NO >> Diagnosi Regarding I.INSPEC Perform ins <u>Vhich proc</u> DTC conf	ected? > Go to <u>SEC-85, "Diag</u> > Inspection End. s Procedure Wiring Diagram inform CTION START spection in accordance <u>sedure confirms DTC?</u> irmation procedure 1>	c Result mode of BCM using CO nosis Procedure". nation, refer to <u>SEC-39, "Wiring E</u> e with procedure that confirms D ⁻ >GO TO 2.	NSULT. INFOID.000000011536813 Diagram".
s DTC det YES >> NO >> Diagnosi Regarding I.INSPEC Perform ins <u>Vhich proc</u> DTC conf DTC conf	ected? > Go to <u>SEC-85, "Diag</u> > Inspection End. s Procedure Wiring Diagram inform CTION START spection in accordance cedure confirms DTC? irmation procedure 1> irmation procedure 2>	c Result mode of BCM using CO nosis Procedure". nation, refer to <u>SEC-39, "Wiring E</u> e with procedure that confirms D ⁻ >GO TO 2.	NSULT. INFOID.000000011536813 Diagram".
<u>s DTC det</u> YES >> NO >> Diagnosi Regarding I.INSPEC Perform ins <u>Vhich proc</u> DTC conf DTC conf DTC conf CCHECK	ected? > Go to <u>SEC-85, "Diag</u> > Inspection End. s Procedure Wiring Diagram inform CTION START spection in accordance cedure confirms DTC? irmation procedure 1> irmation procedure 2> FUSE	c Result mode of BCM using CO nosis Procedure". nation, refer to <u>SEC-39, "Wiring E</u> e with procedure that confirms D ⁻ >GO TO 2.	NSULT. INFOID.000000011536813 Diagram".
s DTC det YES >> NO >> Diagnosi Regarding I.INSPEC Perform ins <u>Vhich proc</u> DTC conf DTC conf DTC conf CHECK	ected? > Go to <u>SEC-85, "Diag</u> > Inspection End. s Procedure Wiring Diagram inform CTION START spection in accordance <u>sedure confirms DTC?</u> irmation procedure 1> irmation procedure 2> FUSE ower switch OFF.	c Result mode of BCM using CO nosis Procedure". nation, refer to <u>SEC-39, "Wiring E</u> e with procedure that confirms D ⁻ >GO TO 2.	NSULT. INFOID.000000011536813 Diagram".
s DTC det YES >> NO >> Diagnosi Regarding I.INSPEC Perform ins <u>Vhich proc</u> DTC conf DTC conf DTC conf CHECK	ected? > Go to <u>SEC-85, "Diag</u> > Inspection End. s Procedure Wiring Diagram inform CTION START spection in accordance <u>sedure confirms DTC?</u> irmation procedure 1> irmation procedure 2> FUSE ower switch OFF.	c Result mode of BCM using CO nosis Procedure". nation, refer to <u>SEC-39, "Wiring E</u> e with procedure that confirms D ⁻ >GO TO 2. >GO TO 2. >GO TO 8.	NSULT. INFOID.000000011536813 Diagram".

Is the inspection result normal?

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< DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 3.

NO >> Replace the blown fuse after repairing the cause of blowing.

\mathbf{3}. CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY

1. Disconnect transmission range switch connector.

2. Turn ignition switch ON.

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

Transmissio	(+) Transmission range switch		Voltage (V) (Approx.)
Connector	Terminal		
F26	7	Ground	Battery voltage

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4. CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY CIRCUIT

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

Transmissior	n range switch	IPDM E/R		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
F26	7	E43	14	Yes	

Is the inspection result normal?

- YES >> Replace IPDM E/R. Refer to PCS-31. "Removal and Installation".
- NO >> Repair or replace harness.

5. CHECK BCM INPUT SIGNAL

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

	+) CM	(–) Condition		Condition		
Connector	Terminal				(Approx.)	
M83	69	Ground	Selector lever	P or N position	Battery voltage	
1000	09	Ground	Selector level	Other than above	0	

Is the inspection result normal?

YES >> GO TO 13.

NO >> GO TO 6.

6.CHECK BCM INPUT SIGNAL CIRCUIT

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

Transmission range switch		BCM		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
F26	10	M83	69	Yes	

Is the inspection result normal?

DTC/CIRCUIT DIAG	NOSIS >		[WITH INTELI	
ES >> GO TO 7. O >> Repair or r				
1	eplace harness. SION RANGE SWITC	·LI		
			N	
the inspection result	ponent Inspection (Tra	ansmission Range a	<u>Switch)</u> .	
ES >> GO TO 12.				
	ansmission range swite	ch.		
CHECK CVT SHIFT	SELECTOR POWER	SUPPLY		
Turn ignition switch				
Disconnect CVT st Turn ignition switch	nift selector (park positi	ion switch) connecte	or.	
	ween CVT shift selecto	or (park position swit	ch) harness connec	ctor and ground.
ç				
	(+)			Voltage (V)
	lector (park position switch)		(-)	(Approx.)
Connector M38	Terminal		Ground	12
the inspection result			Ground	12
O >> GO TO 9. CHECK CVT SHIFT Turn ignition switch	SELECTOR POWER	SUPPLY CIRCUIT		
CHECK CVT SHIFT Turn ignition switch Disconnect BCM c Check continuity b connector. CVT shift selector (Connector M38	n OFF. onnector.	ctor (park position s B Connector M83	CM Terminal 67	nector and BCM harnes Continuity Yes nector and ground.
CHECK CVT SHIFT Turn ignition switch Disconnect BCM c Check continuity b connector. CVT shift selector (Connector M38 Check continuity be	n OFF. onnector. etween CVT shift sele (park position switch) Terminal 12 etween CVT shift selec	ctor (park position s B Connector M83	CM Terminal 67	Continuity Yes
CHECK CVT SHIFT Turn ignition switch Disconnect BCM c Check continuity b connector. CVT shift selector (Connector M38 Check continuity be CVT shift selector	o OFF. onnector. etween CVT shift sele (park position switch) Terminal 12 etween CVT shift selected lector (park position switch)	ctor (park position s B Connector M83 Ctor (park position s	CM Terminal 67 witch) harness conr	Continuity Yes
CHECK CVT SHIFT Turn ignition switch Disconnect BCM c Check continuity b connector. CVT shift selector (Connector M38 Check continuity be	n OFF. onnector. etween CVT shift sele (park position switch) Terminal 12 etween CVT shift selec	ctor (park position s B Connector M83 Ctor (park position s	CM Terminal 67	Continuity Yes nector and ground.
CHECK CVT SHIFT Turn ignition switch Disconnect BCM c Check continuity b connector. CVT shift selector (Connector M38 Check continuity be CVT shift sel Connector M38	n OFF. onnector. etween CVT shift sele (park position switch) Terminal 12 etween CVT shift selected lector (park position switch) Terminal 12	ctor (park position s B Connector M83 Ctor (park position s	CM Terminal 67 witch) harness conr	Continuity Yes nector and ground. Continuity
CHECK CVT SHIFT Turn ignition switch Disconnect BCM c Check continuity b connector. CVT shift selector (Connector M38 Check continuity be CVT shift sel Connector M38 the inspection result ES >> GO TO 12. O >> Repair or r D.CHECK CVT SHII Turn ignition switch Disconnect BCM c	por OFF. onnector. etween CVT shift sele (park position switch) Terminal 12 etween CVT shift select lector (park position switch) Certain Selection Switch) Terminal 12 normal? eplace harness. FT SELECTOR CIRCU	ctor (park position s Connector M83 Ctor (park position s	CM Terminal 67 witch) harness conr Ground	Continuity Yes nector and ground. Continuity
CHECK CVT SHIFT Turn ignition switch Disconnect BCM c Check continuity b connector. CVT shift selector (Connector M38 Check continuity b CVT shift sel Connector M38 the inspection result ES >> GO TO 12. O >> Repair or r D.CHECK CVT SHII Turn ignition switch Disconnect BCM c Check continuity b connector.	A OFF. onnector. etween CVT shift sele (park position switch) Terminal 12 etween CVT shift select lector (park position switch) Certain Selector (park position switch) Terminal 12 normal? eplace harness. FT SELECTOR CIRCL n OFF. onnector. etween CVT shift selector	ctor (park position s Connector M83 Ctor (park position s JIT Ctor (park position s	CM Terminal 67 witch) harness conr Ground	Continuity Yes nector and ground. Continuity No
CHECK CVT SHIFT Turn ignition switch Disconnect BCM c Check continuity b connector. CVT shift selector (Connector M38 Check continuity b CVT shift sel Connector M38 the inspection result ES >> GO TO 12. O >> Repair or r D.CHECK CVT SHII Turn ignition switch Disconnect BCM c Check continuity b connector.	por OFF. onnector. etween CVT shift sele (park position switch) Terminal 12 etween CVT shift select lector (park position switch) Certain Selection Switch) Terminal 12 normal? eplace harness. FT SELECTOR CIRCU	ctor (park position s Connector M83 Ctor (park position s JIT Ctor (park position s	CM Terminal 67 witch) harness conr Ground	Continuity Yes nector and ground. Continuity No

< DTC/CIRCUIT DIAGNOSIS >

CVT shift selector	(park position switch)		Continuity
Connector	Terminal	Ground	
M38	13		No
s the inspection result norr	nal?		
YES >> GO TO 11.			
NO >> Repair or repla			
11. CHECK CVT SHIFT S	ELECTOR (PARK F	POSITION SWITCH)	
Refer to <u>SEC-88, "Compon</u>	ent Inspection [CVT	Shift Selector (Park Position S	Switch)]".
s the inspection result norr	<u>nal?</u>		
YES >> GO TO 13.			
		o TM-256, "Removal and Insta	<u>llation"</u> .
12. CHECK INTERMITTE	NT INCIDENT		
Refer to GI-40, "Intermitten	t Incident".		
>> Inspection End			
3. REPLACE BCM			
. Replace BCM. Refer to	BCS-76, "Removal	and Installation".	
		on of all Intelligent Keys using	CONSULT.
>> Inspection End			
Component Inspectic	on (Transmissior	n Range Switch)	INFOID:000000011536814
1			
.CHECK TRANSMISSIO	N RANGE SWITCH		
. Turn ignition switch OF			
 Disconnect transmission Check continuity between 			
. Oneok continuity betwe		ge switch terminals.	
Transmission ra	nge switch		
Termina	al	Condition	Continuity
_	40	P or N position	Yes
7	10	Other than above	No
s the inspection result norr	nal?		
YES >> Inspection End			

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 (park position switch) terminals.

	CVT shift selector	(detention switch)	D) Condition		Continuity
_	Terminal				Condition
_			Selector lever: P position	Selector button: Released	No
	12	12 13		Selector button: Pressed	Yes
_			Selector lever: Other than P	position	Tes

Is the inspection result normal?

< DTC/	CIRCUIT DIAGNOSIS >	[WITH INTELLIGENT KEY SYSTEM]
YES NO	 >> Inspection End. >> Replace CVT shift selector. Refer to <u>TM-256</u>, ' 	Removal and Installation".

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< DTC/CIRCUIT DIAGNOSIS >

B2604 SHIFT POSITION

DTC Logic

INFOID:000000011536816

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65, "DTC Logic"</u>.
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2604	SHIFT PN DIAG CAN	 The following states are detected for 5 seconds while ignition switch is ON. P/N position signal is sent from transmission range switch but shift position signal input (CAN) from TCM is other than P and N P/N position signal is not sent from transmission range switch but shift position signal input (CAN) from TCM is P or N 	 Harness or connectors (The CAN communication line is open or shorted.) Harness or connectors (Transmission range switch circuit is open or shorted.) TCM BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Shift the selector lever to the Park (P) position.
- 2. Turn ignition switch ON and wait 5 seconds or more.
- 3. Shift the selector lever to the Neutral (N) position and wait 5 seconds or more.
- 4. Shift the selector lever to any position other than Park (P) and Neutral (N), and wait 5 seconds or more.
- 5. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

- YES >> Go to SEC-90, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000011536817

Regarding Wiring Diagram information, refer to SEC-39, "Wiring Diagram".

1. CHECK DTC OF TCM

Check DTC in Self Diagnostic Result mode of TCM using CONSULT.

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to TM-127, "DTC Index".

NO >> GO TO 2.

2.CHECK FUSE

- 1. Turn power switch OFF.
- 2. Check that the following fuse in IPDM E/R is not blown.

Signal name	Fuse No.
Ignition power supply	46 (10 A)

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the blown fuse after repairing the cause of blowing.

 $\mathbf{3}$.check transmission range switch power supply

1. Disconnect transmission range switch connector.

2. Turn ignition switch ON.

[WITH INTELLIGENT KEY SYSTEM]

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B2604 SHIFT POSITION < DTC/CIRCUIT DIAGNOSIS > 3. Check voltage between transmission range switch harness connector and ground. (+) Voltage (V) Transmission range switch (-) (Approx.) Connector Terminal F26 7 Battery voltage Ground Is the inspection result normal? YES >> GO TO 5. NO >> GO TO 4. 4.CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY CIRCUIT 1. Turn ignition switch OFF. 2. Disconnect IPDM E/R connector. Check continuity between transmission range switch harness connector and IPDM E/R harness connec-3. tor. **IPDM E/R** Transmission range switch Continuity Connector Terminal Terminal Connector 7 F26 E43 14 Yes Is the inspection result normal?

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

NO >> Repair or replace harness.

5.CHECK BCM INPUT SIGNAL

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

(+) BCM		(–)	Con	Condition		
Connector	Terminal				(Approx.)	SI
M83	69	Ground	Selector lever	P or N position	Battery voltage	
WOO	09	Ground	Selector level	Other than above	0	

Is the inspection result normal?

YES >> GO TO 9.

NO >> GO TO 6.

6.CHECK BCM INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.

Disconnect transmission range switch connector. 2.

Disconnect BCM connector.

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

Transmission	range switch	B	СМ	Continuity	(
Connector	Terminal	Connector	Terminal	Continuity	
F26	10	M83	69	Yes	

Check continuity between transmission range switch harness connector and ground. 5.

 Transmissior	n range switch		Continuity	
 Connector	Terminal	Ground		
 F26	10		No	

Is the inspection result normal?

< DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 7.

NO >> Repair or replace harness.

7. CHECK TRANSMISSION RANGE SWITCH

Refer to SEC-92, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace transmission range switch.

8. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End.

9.REPLACE BCM

- 1. Replace BCM. Refer to BCS-76, "Removal and Installation".
- 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

Component Inspection

1. CHECK TRANSMISSION RANGE SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect transmission range switch connector.
- 3. Check continuity between transmission range switch terminals.

Transmission	n range switch	Condition	Continuity	
Terr	minal	Condition	Continuity	
7	10	P or N position	Yes	
1	10	Other than above	No	

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace transmission range switch.

Revision: December 2014

INFOID:000000011536818

< 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-65, "DTC Logic".
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

	-	DTC detecting condition	Possible cause
B2605	SHIFT PN DIAG IPDM	When ignition switch is ON, P/N position signal input from transmission range switch and P/N position signal (CAN) input from IPDM E/R do not match.	 Harness or connectors (The CAN communication line is open or shorted.) Harness or connectors (Transmission range switch circuit is open or shorted.) Transmission range switch IPDM E/R BCM
C CONF	IRMATION PROCE	DURE	
PERFOR	M DTC CONFIRMATIO	ON PROCEDURE	
Shift the	e selector lever to the F	ark (P) position.	
Shift the Shift the Check I <u>OTC dete</u> ES >>	e selector lever to any p DTC in Self Diagnostic	leutral (N) position and wait 1 second position other than Park (P) and Neut Result mode of BCM using CONSUL	al (N), and wait 1 second or more.
	Dragadura		
agnosis	Procedure		INFOID:00000001153682
garding V	Viring Diagram informa	tion, refer to <u>SEC-39, "Wiring Diagrar</u>	
garding V			

 (+) M E/R	(-)	Condition		Voltage (V) (Approx.)	Ν
 Connector	Terminal				(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
 E43	4	Ground	Selector lever	P or N position	Battery voltage	0
 E43	4	Ground	Selector level	Other than above	0	

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK IPDM E/R INPUT SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect IPDM E/R connector.
- 3. Disconnect transmission range switch connector.

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INFOID:000000011536819

< DTC/CIRCUIT DIAGNOSIS >

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

IPDI	IPDM E/R Transmission range switch		range switch	Continuity	
Connector	Terminal	Terminal Connector Terminal		Continuity	
E43	4	F26	10	Yes	

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

-	IPDN	/IE/R		Continuity	
_	Connector Terminal		Ground	Continuity	
_	E43	4		No	

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

3. CHECK BCM INPUT SIGNAL

Check voltage between BCM harness connector and ground.

(+) BCM Connector Terminal		(-)	Condition		Voltage (V) (Approx.)	
M83	69	Orreurd	Ground	Selector lever	P or N position	Battery voltage
W03	09	Ground	Selector level	Other than above	0	

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

4.CHECK BCM INPUT SIGNAL CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM connector.

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

B	BCM		Transmission range switch		
Connector	Terminal	Connector	Terminal	Continuity	
M83	69	F26	10	Yes	

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

В	CM		Continuity	
Connector	Terminal	Ground	Continuity	
M83	69		No	

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.REPLACE BCM

- 1. Replace BCM. Refer to BCS-76, "Removal and Installation".
- 2. Perform initialization of BCM using CONSULT.
- Perform DTC CONFIRMATION PROCEDURE for B2605. Refer to <u>SEC-93, "DTC Logic"</u>.

Is DTC B2605 detected again?

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

NO >> 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-65, "DTC Logic".
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.
- If DTC B2608 is displayed with other DTC (BCM), first perform the trouble diagnosis for other DTC detected.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	
B2608	STARTER RELAY	BCM outputs starter relay OFF signal but BCM receives starter relay ON signal from IPDM E/R (CAN).	 Harness or connectors (The CAN communication line is open or shorted.) Harness or connectors (Starter relay circuit is open or shorted.) IPDM E/R Starter relay 	F

DTC CONFIRMATION PROCEDURE
1. PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch under the following conditions to start engine.

CVT models

- Selector lever: In the Park (P) position
- Brake pedal: Depressed

M/T models

- Shift lever: in the neutral position
- Clutch pedal: Depressed
- 2. Wait 1 second after engine started.
- 3. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

- YES >> Go to SEC-95, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-39, "Wiring Diagram".

1.CHECK DTC OF IPDM E/R

Check DTC in Self Diagnostic Result mode of IPDM E/R using CONSULT. Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to <u>PCS-20, "DTC Index"</u>. NO >> GO TO 2.

2.CHECK STARTER RELAY POWER SUPPLY CIRCUIT

2. Check voltage between BCM harness connector and ground.

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B2608 STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

(+) BCM		(-)	Condition		Voltage (V) (Approx.)	
Connector	Terminal				(
			CVT selector lever	N or P position	Battery voltage	
M83	74	Oracia d		Other than above	0	
IVIOS	74	Ground	M/T clutch nodel	Depressed	Battery voltage	
			M/T clutch pedal	Released	0	

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

3. CHECK STARTER RELAY CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect IPDM E/R.

3. Disconnect BCM connector.

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

IPDN	IPDM E/R		BCM		
Connector	Terminal	Connector Terminal		Continuity	
E46	44	M83	74	Yes	

5. Check continuity between starter relay harness connector and ground.

IPDN	M E/R		Continuity	
Connector	Connector Terminal		Continuity	
E46	44		No	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.REPLACE BCM

1. Replace BCM. Refer to BCS-76, "Removal and Installation".

- 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
- 3. Perform DTC CONFIRMATION PROCEDURE for B2605. Refer to SEC-93, "DTC Logic".

Is DTC B2605 detected again?

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

NO >> Inspection End.

B260F ENGINE STATUS

< DTC/CIRCUIT DIAGNOSIS >

B260F ENGINE STATUS

Description

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

DTC Logic

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DTC DETECTION LOGIC

NOTE:

- If DTC B260F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65, "DTC Logic"</u>.
- If DTC B260F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	E
B260F	ECM CAN COMM	BCM has not yet received the engine status signal from ECM when ignition switch is in the ON position.	 Harness or connectors (The CAN communication line is open or shorted.) ECM 	F
DTC CONFI	RMATION PROCED	URE		(
1.PERFORM	I DTC CONFIRMATIO	N PROCEDURE		
2. Check D Is DTC detect YES >> C	<u>ted?</u> So to <u>SEC-97, "Diagnos</u>	esult mode of BCM using CONSULT.		ŀ
	nspection End.			
Diagnosis	Procedure		INFOID:000000011536825	
1.INSPECTI	ON START			,
 Select Se Touch EF 	RASE.	ode of BCM using CONSULT.		S
4. Perform I		PROCEDURE for DTC B260F. Refer	to <u>SEC-97, DTC Logic</u> .	1
	GO TO 2.			L
NO >> Ir 2.REPLACE	nspection End.			
1. Replace				Ν
Refer to <u>I</u> 2. Perform ⁶	EC-488, "Removal and	E WHEN REPLACING ECM".		١
	nspection End.			(
				I

B261F ASCD CLUTCH SWITCH

< DTC/CIRCUIT DIAGNOSIS >

B261F ASCD CLUTCH SWITCH

DTC Logic

INFOID:000000011536826

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

NOTE:

- If DTC B261F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65, "DTC Logic"</u>.
- If DTC B261F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B261F	ASCD CNCL/CLTCH SW (ASCD cancel/clutch switch)	BCM detects the following status for 10 seconds 3 times • Clutch pedal position switch input: 0 V • Vehicle speed: 40 km/h (24.8 MPH) or more	 Harness or connectors. (CAN communication line is open or shorted.) Harness or connectors. (Clutch pedal position switch cir- cuit is open or shorted) Clutch pedal position switch Combination meter BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Start the engine.
- 2. Drive vehicle at a speed of 40 km/h (24.8 MPH) or more for 10 seconds.
- 3. Decrease the vehicle speed to below 40 km/h (24.8 MPH).
- 4. Repeat steps 2 and 3 twice (total of 3 times).
- 5. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

Is DTC detected?

- YES >> Go to SEC-98. "Diagnosis Procedure".
- NO >> Inspection End

Diagnosis Procedure

INFOID:000000011536827

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1. CHECK DTC OF COMBINATION METER

Check DTC in "Self Diagnostic Result" mode of "METER/M&A" using CONSULT.

Refer to <u>MWI-26, "DTC Index"</u>. <u>Is the inspection result normal?</u>

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CHECK FUSE

1. Turn power switch OFF.

2. Check that the following fuse in the fuse block (J/B) is not blown.

Signal name	Fuse No.	
Ignition power supply	5 (10 A)	

Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace the blown fuse after repairing the cause of blowing.

B261F ASCD CLUTCH SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Turn ignition swi Check voltage b	ch pedal position : itch ON. petween clutch pe			nector and groun	d.
	(+)				
Clu	tch pedal position sw	itch	(-)		Voltage (V)
Connector		Terminal			(Approx.)
E32		1	Grou	nd	Battery voltage
the inspection resi	ult normal?				
•	or replace harnes		CNAL		
CHECK CLUTCH			GNAL		
	pedal position swi etween BCM har		and ground.		
			J		
(+					
BC		(-)	(Condition	Voltage
Connector	Terminal			Released	Battery voltage
M84	37	Ground	Clutch pedal	Depressed	0 – 1.5 V
the inspection resi	ult normal?				
IO >> GO TO 6 REPLACE BCM. Replace BCM. F	Refer to <u>BCS-76.</u>				
IO >> GO TO (REPLACE BCM Replace BCM. F Perform initializa >> Inspectio .CHECK CLUTCH	Refer to <u>BCS-76,</u> ation of BCM and on End I PEDAL POSITIC	registration of a	all Intelligent Key	s using CONSUL	
IO >> GO TO 6 REPLACE BCM Replace BCM. F Perform initializa >> Inspectio CHECK CLUTCH Turn ignition swi Disconnect BCM Check continuity	Refer to <u>BCS-76,</u> ation of BCM and on End I PEDAL POSITIC itch OFF. / connector. / between clutch	registration of a	all Intelligent Key RCUIT	_	
NO >> GO TO G REPLACE BCM Replace BCM. F Perform initializa >> Inspection CHECK CLUTCH Turn ignition swith Disconnect BCM Check continuity Clutch performance	Refer to <u>BCS-76.</u> ation of BCM and on End I PEDAL POSITIO itch OFF. / connector. / between clutch	registration of a	all Intelligent Key RCUIT switch harness co	onnector and BCI	
IO >> GO TO G .REPLACE BCM Replace BCM. F Perform initializa >> Inspectio .CHECK CLUTCH Turn ignition swi Disconnect BCM Check continuity Clutch peo Connector	Refer to <u>BCS-76,</u> ation of BCM and on End I PEDAL POSITIC itch OFF. / connector. / between clutch dal position switch	registration of a	all Intelligent Key RCUIT switch harness co BCM onnector	onnector and BCI	M harness connect
IO >> GO TO 6 REPLACE BCM Replace BCM. F Perform initializa >> Inspection CHECK CLUTCH Turn ignition swith Disconnect BCM Check continuity Clutch performed Connector E32	Refer to <u>BCS-76.</u> ation of BCM and on End I PEDAL POSITIO itch OFF. A connector. between clutch dal position switch Terminal 2	registration of a	all Intelligent Key RCUIT switch harness co	onnector and BCI	VI harness connect
IO >> GO TO G REPLACE BCM Replace BCM. F Perform initializa >> Inspection CHECK CLUTCH Turn ignition swi Disconnect BCM Check continuity Clutch perform E32 the inspection result (ES >> GO TO 1)	Refer to <u>BCS-76.</u> ation of BCM and on End I PEDAL POSITIO itch OFF. A connector. between clutch dal position switch dal position switch 2 ult normal? 7. or replace harness	registration of a	all Intelligent Key RCUIT switch harness co BCM onnector	onnector and BCI	M harness connect
NO >> GO TO G REPLACE BCM Replace BCM. F Perform initializat >> Inspection CHECK CLUTCH Turn ignition swith Disconnect BCM Check continuity Clutch perform E32 the inspection result NO >> Repair of NO >> Repair of NO >>	Refer to <u>BCS-76</u> , ation of BCM and on End I PEDAL POSITIC itch OFF. A connector. between clutch dal position switch dal position switch <u>Terminal</u> 2 <u>ult normal?</u> 7. or replace harness I PEDAL POSITIC	registration of a	all Intelligent Key RCUIT switch harness co BCM onnector	onnector and BCI	M harness connect
IO >> GO TO G REPLACE BCM Replace BCM. F Perform initializat >> Inspection CHECK CLUTCH Turn ignition swith Disconnect BCM Check continuity Clutch performance Connector E32 the inspection result (ES >> GO TO TO IO >> Repair of CHECK CLUTCH efer to <u>SEC-100, "()</u>	Refer to <u>BCS-76</u> , ation of BCM and on End I PEDAL POSITIC itch OFF. A connector. between clutch dal position switch dal position switch <u>terminal</u> 2 <u>ult normal?</u> 7. or replace harness I PEDAL POSITIC <u>Component Inspec</u> <u>ult normal?</u>	registration of a	all Intelligent Key RCUIT switch harness co BCM onnector	onnector and BCI	M harness connect
IO >> GO TO 6 REPLACE BCM Replace BCM. F Perform initialization >> Inspection .CHECK CLUTCH Turn ignition swith Disconnect BCM Check continuity Clutch peet Connector E32 E32 the inspection resident of the inspectio	Refer to <u>BCS-76</u> , ation of BCM and on End I PEDAL POSITIC itch OFF. A connector. between clutch dal position switch dal position switch dal position switch 2 dult normal? 7. or replace harness I PEDAL POSITIC <u>Component Inspe</u> ult normal? 8.	registration of a DN SWITCH Cl pedal position s ca s. DN SWITCH ection".	All Intelligent Key RCUIT Switch harness co BCM Dnnector M84	onnector and BCI	M harness connect
IO >> GO TO 6 REPLACE BCM Replace BCM. F Perform initialization >> Inspection .CHECK CLUTCH Turn ignition swith Disconnect BCM Check continuity Clutch peet Connector E32 E32 the inspection resident of the inspectio	Refer to <u>BCS-76.</u> ation of BCM and on End I PEDAL POSITIO itch OFF. / connector. / between clutch dal position switch dal position switch dal position switch 2 dult normal? 7. or replace harness I PEDAL POSITIO <u>Component Inspe</u> ult normal? 8. e clutch pedal pos	registration of a DN SWITCH Cl pedal position s ca s. DN SWITCH action".	All Intelligent Key RCUIT Switch harness co BCM Dnnector M84	onnector and BCI	M harness connect

B261F ASCD CLUTCH SWITCH

< DTC/CIRCUIT DIAGNOSIS >

>> Inspection End

Component Inspection

INFOID:000000011536828

[WITH INTELLIGENT KEY SYSTEM]

1. CHECK CLUTCH PEDAL POSITION SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect clutch pedal position switch connector.
- 3. Check continuity between clutch pedal position switch terminals.

Clutch pedal	Clutch pedal position switch Terminal		Condition	
Ter				
1	4		Not depressed	Yes
I	1 2		Depressed	No

Is the inspection result normal?

- YES >> Inspection End
- NO >> Replace clutch pedal position switch. Refer to <u>CL-10, "Exploded View"</u>.

B2620 PARK/NEUTRAL POSITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

B2620 PARK/NEUTRAL POSITION SWITCH

DTC Logic

NOTE:

- If DTC B2620 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65, "DTC Logic"</u>.
- If DTC B2620 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-66, "DTC Logic".

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B2620	NEUTRAL SW (Neutral switch)	 BCM detects the following status for 10 seconds 3 times Park/neutral position switch input: Battery voltage Vehicle speed: 40 km/h (24.8 MPH) or more 	 Harness or connector (CAN communication line is open or shorted.) Harness or connector (Park/neutral position switch circuit is open or shorted) Park/neutral position switch Combination meter BCM
	IRMATION PROCEDU	JRE	
.PERFOR	M DTC CONFIRMATION	N PROCEDURE	
 Drive ve Decrease Repeate Check E <u>S DTC dete</u> YES >> 	se the vehicle speed to be steps 2 and 3 twice (tota DTC in "Self Diagnostic R <u>cted?</u> Go to <u>SEC-101, "Diagno</u>	Result" mode of "BCM" using CONSUL	
NO >>	Inspection End		
	Inspection End Procedure		INFOID:000000011536830
Diagnosis	Procedure	on, refer to <u>SEC-25, "Wiring Diagram"</u> .	INFOID:000000011536830
Diagnosis Regarding V	Procedure		INFOID:000000011536830
Diagnosis Regarding V 1.CHECK I Check DTC	Procedure Viring Diagram informatic DTC OF COMBINATION		
Diagnosis Regarding V 1.CHECK I Check DTC Refer to <u>MW</u> s the inspec	Frocedure Viring Diagram information DTC OF COMBINATION in "Self Diagnostic Result <u>/I-26, "DTC Index"</u> . <u>ction result normal?</u>	METER	
Diagnosis Regarding V 1.CHECK I Check DTC Refer to <u>MW</u> s the inspec YES >>	Frocedure Viring Diagram information DTC OF COMBINATION in "Self Diagnostic Result <u>/I-26, "DTC Index"</u> . <u>ction result normal?</u> GO TO 2.	METER t" mode of "METER/M&A" using CON	
Diagnosis Regarding V 1.CHECK I Check DTC Refer to <u>MW</u> s the inspec YES >>	Frocedure Viring Diagram information DTC OF COMBINATION in "Self Diagnostic Result /I-26, "DTC Index". Ction result normal? GO TO 2. Repair or replace the ma	METER t" mode of "METER/M&A" using CON	
Diagnosis Regarding V 1.CHECK I Check DTC Refer to <u>MW</u> s the inspect YES >> NO >> 2.CHECK F	Frocedure Viring Diagram information DTC OF COMBINATION in "Self Diagnostic Result /I-26, "DTC Index". ction result normal? GO TO 2. Repair or replace the ma FUSE wer switch OFF.	METER t" mode of "METER/M&A" using CON	
Diagnosis Regarding V 1.CHECK I Check DTC Refer to <u>MW</u> s the inspect YES >> NO >> 2.CHECK F	Frocedure Viring Diagram information DTC OF COMBINATION in "Self Diagnostic Result /I-26, "DTC Index". ction result normal? GO TO 2. Repair or replace the ma FUSE wer switch OFF.	METER t" mode of "METER/M&A" using CONS	

NO >> Replace the blown fuse after repairing the cause of blowing.

SEC-101

[WITH INTELLIGENT KEY SYSTEM]

INFOID:000000011536829

А

В

С

B2620 PARK/NEUTRAL POSITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

$\overline{\mathbf{3}}$.check park/neutral position switch power supply

- 1. Turn ignition switch OFF.
- 2. Disconnect park/neutral position switch connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between park/neutral position switch harness connector and ground.

Park/neutral	(+) Park/neutral position switch Connector Terminal		Voltage (V) (Approx.)	
Connector			(Approx.)	
F52			Battery voltage	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK PARK/NEUTRAL POSITION SWITCH INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Connect park/neutral position switch connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between BCM harness connector and ground.

	+) CM	()	Condition		Voltage
Connector	Terminal				
M83	69	Ground	Shift lever	Neutral position	Battery voltage
COIVI	09	Ground	Shint level	Except neutral position	0 – 1.5 V

Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 6.

5.REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-76, "Removal and Installation"</u>.
- 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End

6.CHECK PARK/NEUTRAL POSITION SWITCH SIGNAL CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect park/neutral position switch connector.
- 3. Disconnect BCM connector.
- 4. Check continuity between park/neutral position switch harness connector and BCM harness connector.

Park/neutral	position switch	BCM Connector Terminal		Continuity
Connector	Terminal			Continuity
F52	3	M83	69	Yes

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

1.CHECK PARK/NEUTRAL POSITION SWITCH

Refer to SEC-103, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace park/neutral position switch. Refer to <u>TM-21, "Removal and Installation"</u> (With 6MT: RS6F94R).

SEC-102

B2620 PARK/NEUTRAL POSITION SWITCH

WITH INTELLIGENT KEV SVSTEMI

DTC/CIRCUIT DIAGN)SIS >			
CHECK INTERMITTEN	NT INCIDENT			
er to <u>GI-40, "Intermitte</u>				
>> Increation En	d			
>> Inspection En				
mponent Inspecti				INFOID:000000011536
CHECK PARK/NEUTR		SWITCH		
Turn ignition switch O Disconnect park/neut		itch connector.		
Check continuity betw			erminals.	
Park/neutral pos	ition switch			
Termin	al		Condition	Continuity
2	3	Shift lever	Neutral position	Yes
e inspection result no			Except neutral position	No

B26E8 CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

B26E8 CLUTCH INTERLOCK SWITCH

DTC Logic

INFOID:000000011536832

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B26E8	CLUTCH SW (Clutch switch)	 BCM detects the following conditions for 2 seconds or more. Clutch pedal position switch: ON (Clutch pedal is released) Clutch interlock switch: ON (Clutch pedal is depressed) 	 Harness or connector (Clutch interlock switch circuit is open or shorted) Harness or connector (Clutch pedal position switch circuit is open or shorted) Clutch interlock switch Clutch pedal position switch BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE 1

1. Turn ignition switch ON.

- 2. Wait 2 seconds or more under the following conditions.
- Shift lever: In the neutral position.
- Clutch pedal: Depressed
- 3. Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

Is DTC detected?

- YES >> Go to <u>SEC-104</u>, "Diagnosis Procedure".
- NO >> GO TO 2.

2. PERFORM DTC CONFIRMATION PROCEDURE 2

- 1. Release clutch pedal 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-104</u>, "Diagnosis Procedure".
- NO >> Inspection End

Diagnosis Procedure

INFOID:000000011536833

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

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 7.

2.CHECK FUSE

1. Turn power switch OFF.

2. Check that the following fuse in the fuse block (J/B) is not blown.

Signal name	Fuse No.	
Ignition power supply	5 (10 A)	

Is the inspection result normal?

YES >> GO TO 3.

B26E8 CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

IO >> Replac	e the blown fuse a	after repairing th	e cause of blow	ina.	
	H PEDAL POSITI			•	
	ch pedal position				
Turn ignition sv		Switch connect	л.		
Check voltage	between clutch pe	dal position swi	tch harness con	nector and ground.	
	(+)				
CI	utch pedal position sw	itch	(-)	Voltage (V)
Connecto	r l	Terminal			(Approx.)
E32		1	Grou	und	Battery voltage
the inspection rea	sult normal?				
ES >> GO TO		_			
•	or replace harnes				
	H PEDAL POSITI		GNAL		
	pedal position sw between BCM har		and ground		
Check vollage			and ground.		
((+)				
В	СМ	(—)		Condition	Voltage
Connector	Terminal				
M84	37	Ground	Clutch pedal	Depressed	0 – 1.5 V
				Not depressed	Battery voltage
O >> GO TO CHECK CLUTC	5. H PEDAL POSITI	ON SWITCH CI	RCUIT		
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC	5. H PEDAL POSITI vitch OFF. M connector.			onnector and BCM	harness connecto
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit	5. H PEDAL POSITIO vitch OFF. M connector. ty between clutch		witch harness c	onnector and BCM	harness connecto
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit	5. H PEDAL POSITION vitch OFF. M connector. ty between clutch edal position switch	pedal position s	witch harness c		harness connecto
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pe Connector	5. H PEDAL POSITION vitch OFF. M connector. ty between clutch edal position switch Termina	pedal position s	witch harness c BCM onnector	Terminal	Continuity
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pa Connector E32	5. H PEDAL POSITION vitch OFF. M connector. ty between clutch edal position switch Termina 2	pedal position s	witch harness c		
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pe Connector E32 the inspection res	5. H PEDAL POSITION vitch OFF. M connector. ty between clutch edal position switch termina 2 sult normal?	pedal position s	witch harness c BCM onnector	Terminal	Continuity
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pe Connector E32 the inspection res 'ES >> GO TO	5. H PEDAL POSITION vitch OFF. M connector. ty between clutch edal position switch termina 2 sult normal?	pedal position s	witch harness c BCM onnector	Terminal	Continuity
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pe Connector E32 the inspection res (ES >> GO TO IO >> Repair	5. H PEDAL POSITION vitch OFF. M connector. ty between clutch edal position switch cedal	pedal position s	witch harness c BCM onnector	Terminal	Continuity
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pe Connector E32 the inspection res (ES >> GO TO IO >> Repair CHECK CLUTC	5. H PEDAL POSITION vitch OFF. M connector. ty between clutch edal position switch deal position switch call position switch deal position switch correplace harnes	pedal position s	witch harness c BCM onnector M84	Terminal 37	Continuity
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pe Connector E32 the inspection res (ES >> GO TO IO >> Repair CHECK CLUTC	5. H PEDAL POSITION witch OFF. M connector. ty between clutch edal position switch Component Inspection Component Inspection H PEDAL POSITION Component Inspection H Dependent Inspection Component Inspection C	pedal position s	witch harness c BCM onnector M84	Terminal 37	Continuity
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pe Connector E32 the inspection res CHECK CLUTC Efer to <u>SEC-107.</u> the inspection res (ES >> GO TO	5. H PEDAL POSITION vitch OFF. M connector. ty between clutch edal position switch edal position switch and a construction construction of the second H PEDAL POSITION Component Inspects Sult normal? 12.	pedal position s	witch harness c BCM onnector M84	Terminal 37 vitch)".	Continuity
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pe Connector E32 the inspection res (ES >> GO TO IO >> Repair CHECK CLUTC efer to <u>SEC-107, C</u> the inspection res (ES >> GO TO IO >> Replac	5. H PEDAL POSITION witch OFF. M connector. ty between clutch edal position switch edal position switch cedal position switch edal position switch edal position switch correplace harnes H PEDAL POSITION Component Inspec- sult normal?	pedal position s	witch harness c BCM onnector M84	Terminal 37 vitch)".	Continuity
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pe Connector E32 the inspection res (ES >> GO TO IO >> Repair CHECK CLUTC efer to <u>SEC-107, (</u> the inspection res (ES >> GO TO IO >> Replac CHECK FUSE	5. H PEDAL POSITION vitch OFF. M connector. ty between clutch edal position switch edal position switch con replace harness H PEDAL POSITION Component Inspect sult normal? 12. e clutch pedal position	pedal position s	witch harness c BCM onnector M84	Terminal 37 vitch)".	Continuity
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pe Connector E32 the inspection res CES >> GO TO IO >> Repair CHECK CLUTC efer to <u>SEC-107.</u> the inspection res CES >> GO TO IO >> Replac CHECK FUSE Turn power swi	5. H PEDAL POSITION vitch OFF. M connector. ty between clutch edal position switch edal position switch Termina 2 sult normal? 6. or replace harnes H PEDAL POSITION 'Component Inspec- sult normal? 12. e clutch pedal pose tch OFF.	pedal position s	witch harness c BCM onnector M84 edal Position Sw fer to <u>CL-10. "E</u>	Terminal 37 vitch)". xploded View".	Continuity
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pe Connector E32 the inspection res CES >> GO TO IO >> Repair CHECK CLUTC efer to <u>SEC-107.</u> the inspection res CES >> GO TO IO >> Replac CHECK FUSE Turn power swi	5. H PEDAL POSITION vitch OFF. M connector. ty between clutch edal position switch edal position switch con replace harness H PEDAL POSITION Component Inspect sult normal? 12. e clutch pedal position	pedal position s	witch harness c BCM onnector M84 edal Position Sw fer to <u>CL-10. "E</u>	Terminal 37 vitch)". xploded View".	Continuity
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pe Connector E32 the inspection res CES >> GO TO IO >> Repair CHECK CLUTC efer to <u>SEC-107.</u> the inspection res CES >> GO TO IO >> Replac CHECK FUSE Turn power swi	5. H PEDAL POSITION vitch OFF. M connector. ty between clutch edal position switch edal position switch Termina 2 sult normal? 6. or replace harnes H PEDAL POSITION 'Component Inspec- sult normal? 12. e clutch pedal pose tch OFF.	pedal position s	witch harness c BCM onnector M84 edal Position Sw fer to <u>CL-10. "E</u>	Terminal 37 vitch)". xploded View".	Continuity
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pe Connector E32 the inspection res CES >> GO TO IO >> Repair CHECK CLUTC efer to <u>SEC-107.</u> the inspection res CES >> GO TO IO >> Replac CHECK FUSE Turn power swi	5. H PEDAL POSITION vitch OFF. M connector. ty between clutch edal position switch edal position switch consection switch 2 Sult normal? 6. or replace harnes H PEDAL POSITION Component Inspective Sult normal? 12. e clutch pedal position tch OFF. following fuse in the section of the secti	pedal position s	witch harness c BCM onnector M84 edal Position Sw fer to <u>CL-10. "E</u>	Terminal 37 vitch)". xploded View".	Continuity
IO >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pe Connector E32 the inspection res CES >> GO TO IO >> Repair CHECK CLUTC efer to <u>SEC-107.</u> the inspection res CES >> GO TO IO >> Replac CHECK FUSE Turn power swi	5. H PEDAL POSITION vitch OFF. M connector. ty between clutch edal position switch edal position switch consection switch 2 Sult normal? 6. or replace harnes H PEDAL POSITION Component Inspection Sult normal? 12. e clutch pedal position tch OFF. following fuse in the Signal name Battery power supply	pedal position s	witch harness c BCM onnector M84 edal Position Sw fer to <u>CL-10. "E</u>	Terminal 37 vitch)". xploded View".	Continuity
O >> GO TO CHECK CLUTC Turn ignition sw Disconnect BC Check continuit Clutch pe Connector E32 he inspection res ES >> GO TO O >> Repair CHECK CLUTC fer to <u>SEC-107.</u> he inspection res ES >> GO TO O >> Replac CHECK FUSE Turn power swi Check that the	5. H PEDAL POSITION vitch OFF. M connector. ty between clutch edal position switch edal position switch Termina 2 sult normal? 6. or replace harnes H PEDAL POSITION 'Component Inspect sult normal? 12. e clutch pedal pose tch OFF. following fuse in the Signal name Battery power supply sult normal?	pedal position s	witch harness c BCM onnector M84 edal Position Sw fer to <u>CL-10. "E</u>	Terminal 37 vitch)". xploded View".	Continuity

Revision: December 2014

B26E8 CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

NO >> Replace the blown fuse after repairing the cause of blowing.

8.CHECK CLUTCH INTERLOCK SWITCH POWER SUPPLY

1. Disconnect clutch interlock switch connector.

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

(+) Clutch interlock	switch	(-)	Voltage (V) (Approx.)	
Connector	Terminal			
E34	1	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace harness.

9.CHECK CLUTCH INTERLOCK SWITCH SIGNAL

1. Connect clutch interlock switch connector.

2. Check voltage between BCM harness connector and ground.

(+) BCM		(-)	Condition		Voltage	
Connector	Terminal					
M83	3 70 Ground Clutch pedal		Depressed	Battery voltage		
IM03	70	Ground Clutch pedal		Not depressed	0 – 0.5 V	

Is the inspection result normal?

YES >> GO TO 13.

NO >> GO TO 10.

10.CHECK CLUTCH INTERLOCK SWITCH SIGNAL CIRCUIT

1. Disconnect clutch interlock switch connector.

2. Disconnect BCM connector.

3. Check continuity between clutch interlock switch harness connector and BCM harness connector.

Clutch interlock	switch	В	Continuity	
Connector	Terminal	Connector	Terminal	Continuity
E34	2	M83	70	Yes

Is the inspection result normal?

YES >> GO TO 11.

NO >> Repair or replace harness.

11. CHECK CLUTCH INTERLOCK SWITCH

Refer to SEC-107, "Component Inspection (Clutch Interlock Switch)".

Is the inspection result normal?

YES >> GO TO 12.

NO >> Replace clutch interlock switch. Refer to <u>CL-10, "Exploded View"</u>.

12.CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End

13.REPLACE BCM

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

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

DTC/CIRCUIT DI/ >> Inspection					GENT KEY SYSTEM
component Insp	ection (Clutc	h Interlock S	Switch)		INFOID:0000000115368
.CHECK CLUTCH	INTERLOCK SV	VITCH			
. Turn ignition swi . Disconnect cluto		n connector.	terminals.		
Clutch inte	rlock switch				
Terr	ninal	-	Condition		Continuity
1	2	Clutch pedal	Clutch pedal Depressed Not depressed		Yes
	L	olaton pedal			No
		ON SWITCH	or.		INFOID:000000011536
Clutch ped	al position switch				
Terminal			- Condition		Continuity
	2		Clutch pedal		No
1	2	Cit	itch pedal	Not depressed	Yes
	ult normal?				

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B26F3 STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

B26F3 STARTER CONTROL RELAY

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B26F3 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65, "DTC Logic"</u>.
- If DTC B26F3 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F3	START CONT RLY ON	BCM requests IPDM E/R to turn starter control relay OFF, but BCM cannot receive starter control relay OFF state signal from IPDM E/R (CAN).	 Harness or connectors (The CAN communication line is open or shorted.) IPDM E/R

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press push-button ignition switch under the following conditions to start engine.

CVT models

- Selector lever: In the Park (P) position
- Brake pedal: Not depressed

M/T models

- Shift lever: in the neutral position
- Clutch pedal: Not depressed
- 2. Wait 2 seconds after engine started.
- 3. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

- YES >> Go to <u>SEC-108</u>, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

1.CHECK DTC OF IPDM E/R

Check DTC in Self Diagnostic Result mode of IPDM E/R using CONSULT.

Is DTC detected?

YES >> Perform the diagnosis procedure related to the detected DTC. Refer to <u>PCS-20, "DTC Index"</u>. NO >> GO TO 2.

2. CHECK INTERMITTENT INCIDENT

Refer to GI-40, "Intermittent Incident".

>> Inspection End.

[WITH INTELLIGENT KEY SYSTEM]

INFOID:000000011536837

B26F4 STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

B26F4 STARTER CONTROL RELAY

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B26F4 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B26F4 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F4	START CONT RLY OFF	BCM requests IPDM E/R to turn starter control relay ON, but BCM cannot receive starter control relay ON state signal from IPDM E/R (CAN).	 Harness or connectors (The CAN communication line is open or shorted.) IPDM E/R
TC CONF	IRMATION PROCEDU	JRE	
.PERFOR	M DTC CONFIRMATION	N PROCEDURE	
. Press p more.	ush-button ignition swite	ch under the following conditions to	start engine, and wait 1 second o
	⁻ lever: In the Park (P) po edal: Not depressed	osition	
Clutch p Check E	-	n esult mode of BCM using CONSULT	
<u>s DTC dete</u> YES >>		sis Procedure"	
YES >>	<u>cted?</u> Go to <u>SEC-109, "Diagno</u> Inspection End.	osis Procedure".	
YES >> NO >>	Go to SEC-109, "Diagno	osis Procedure".	INFCID:0000000115368
YES >> NO >> Diagnosis	Go to <u>SEC-109, "Diagno</u> Inspection End.	osis Procedure".	INFCID:0000000115368.
YES >> NO >> Diagnosis .CHECK [Check DTC s DTC dete	Go to <u>SEC-109, "Diagno</u> Inspection End. 5 Procedure DTC OF IPDM E/R in Self Diagnostic Result cted?	t mode of IPDM E/R using CONSUL	Т.
YES >> NO >> Diagnosis .CHECK I Check DTC s DTC dete YES >>	Go to <u>SEC-109, "Diagno</u> Inspection End. 5 Procedure DTC OF IPDM E/R in Self Diagnostic Result cted?		Т.
YES >> NO >> Diagnosis .CHECK I Check DTC s DTC deter YES >> NO >>	Go to <u>SEC-109, "Diagno</u> Inspection End. F Procedure OTC OF IPDM E/R in Self Diagnostic Result <u>cted?</u> Perform the diagnosis pr	t mode of IPDM E/R using CONSUL	Т.
YES >> NO >> Diagnosis .CHECK I Check DTC s DTC deter YES >> NO >> .CHECK I	Go to <u>SEC-109, "Diagno</u> Inspection End. F Procedure DTC OF IPDM E/R in Self Diagnostic Result <u>cted?</u> Perform the diagnosis pr GO TO 2.	t mode of IPDM E/R using CONSUL rocedure related to the detected DTC NT	Т.
YES >> NO >> Diagnosis .CHECK I Check DTC s DTC deter YES >> NO >> CHECK I Refer to GI-4	Go to <u>SEC-109, "Diagno</u> Inspection End. F Procedure DTC OF IPDM E/R in Self Diagnostic Result <u>cted?</u> Perform the diagnosis pr GO TO 2. NTERMITTENT INCIDE	t mode of IPDM E/R using CONSUL rocedure related to the detected DTC NT	Т.

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[WITH INTELLIGENT KEY SYSTEM]

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INFOID:000000011536838

< DTC/CIRCUIT DIAGNOSIS >

B26F7 BCM

DTC Logic

INFOID:000000011536840

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F7	BCM	Inside key antenna output circuit in BCM is malfunctioning.	BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Press door request switch.

- 2. Turn ignition switch ON.
- 3. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

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

Diagnosis Procedure

INFOID:000000011536841

1.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Select Self Diagnostic Result mode of BCM using CONSULT.
- 3. Touch ERASE.
- Perform DTC CONFIRMATION PROCEDURE for DTC B26F7. Refer to <u>SEC-110, "DTC Logic"</u>.

Is DTC B26F7 detected again?

- YES >> GO TO 2.
- NO >> Inspection End.

2.REPLACE BCM

- 1. Replace BCM. Refer to BCS-76, "Removal and Installation".
- 2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

B26F8 BCM

< DTC/CIRCUIT DIAGNOSIS >

B26F8 BCM

DTC Logic

INFOID:000000011536842

[WITH INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC CONSULT screen items DTC No. DTC detecting condition Possible cause (Trouble diagnosis content) BCM Starter control replay control signal and feedback circuit B26F8 BCM (Body control module) signal (inside BCM) does not match. DTC CONFIRMATION PROCEDURE **1.**PERFORM DTC CONFIRMATION PROCEDURE Turn ignition switch ON and wait 1 second. 1. Check DTC in Self Diagnostic Result mode of BCM using CONSULT. 2. Is DTC detected? >> Go to SEC-111, "Diagnosis Procedure". YES >> Inspection End NO Diagnosis Procedure INFOID:000000011536843 **1.**INSPECTION START 1. Turn ignition switch ON. 2. Select Self Diagnostic Result mode of BCM using CONSULT. Touch ERASE. 3. Perform DTC CONFIRMATION PROCEDURE for DTC B26F8. 4. Refer to SEC-111, "DTC Logic". Is DTC detected? YES >> GO TO 2. NO >> Inspection End 2.REPLACE BCM 1. Replace BCM. Refer to BCS-76, "Removal and Installation". SEC Perform initialization of BCM and registration of all Intelligent Keys using CONSULT. 2. >> Inspection End

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B26F9 CRANKING REQUEST CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B26F9 CRANKING REQUEST CIRCUIT

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B26F9 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65, "DTC Logic"</u>.
- If DTC B26F9 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B26F9	CRANK REQ CIR SHORT (Cranking request circuit short)	 BCM detects that the status of the following signals does not match. Cranking request signal from ECM Starter control relay control signal from ECM (CAN) 	 Harness or connectors (Can communication line is open or shorted.) Harness or connectors (Cranking request signal circuit is open or shorted.) ECM BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION

- 1. Perform DTC CONFIRMATION PROCEDURE for DTC P1650. Refer to EC-395, "DTC Logic".
- 2. Turn ignition switch ON.
- 3. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

- YES >> Go to <u>SEC-112, "Diagnosis Procedure"</u>.
- NO >> Inspection End

Diagnosis Procedure

INFOID:000000011536845

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1. CHECK CRANKING REQUEST SIGNAL

1. Turn ignition switch ON.

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

	(+) BCM			Condition	Voltage
Connector	Terminal				
				Engine: StoppedSelector lever position: P	0 – 0.5 V
M85	81	Ground	Ignition switch ON	 Engine: Stopped Selector lever position: Other than P 	9 – 16 V
				Engine running	9 – 16 V

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK CRANKING REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.

B26F9 CRANKING REQUEST CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

- 2. Disconnect BCM connector.
- 3. Disconnect ECM connector.

4. Check continuity between BCM harness connector and ECM harness connector.

Connector M85 5. Check continuity b	Terminal 81	Connector E16	Terminal 101	Continuity
		E16	101	Yes
5. Check continuity b	otwoon PCM barnoos			
		connector and ground	d.	
	BCM			Continuity
Connector	Terminal	(Ground	Continuity
M85	81			No
 REPLACE BCM Replace BCM. Ref Perform initialization 	eplace harness. Fer to <u>BCS-76, "Remov</u> on of BCM and registra IFIRMATION PROCEI	ation of all Intelligent k		
Replace ECM. Refer to <u>EC-488, "Rem</u>	oval and Installation".			
>> Inspection	End			

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[WITH INTELLIGENT KEY SYSTEM]

B26FA CRANKING REQUEST CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B26FA CRANKING REQUEST CIRCUIT

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B26FA is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65, "DTC Logic"</u>.
- If DTC B26FA is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B26FA	CRANK REQ CIR OPEN (Cranking request circuit open)	 BCM detects that the status of the following signals does not match. Cranking request signal from ECM Starter control relay control signal from ECM (CAN) 	 Harness or connectors (Can communication line is open or shorted.) Harness or connectors (Cranking request signal circuit is open or shorted.) BCM ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION

- 1. Perform DTC CONFIRMATION PROCEDURE for DTC P1650. Refer to EC-395, "DTC Logic".
- 2. Turn ignition switch ON.
- 3. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

Is DTC detected?

- YES >> Go to <u>SEC-114</u>, "Diagnosis Procedure".
- NO >> Inspection End

Diagnosis Procedure

INFOID:000000011536847

INFOID:000000011536846

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1. CHECK CRANKING REQUEST SIGNAL

1. Turn ignition switch ON.

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

(+) BCM		()	Condition		Voltage	
Connector	Terminal					
				Engine: StoppedSelector lever position: P	0 – 0.5 V	
M85	81	Ground	Ignition switch ON	 Engine: Stopped Selector lever position: Other than P 	9 – 16 V	
				Engine running	9 – 16 V	

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2. CHECK CRANKING REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.

B26FA CRANKING REQUEST CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

2.

[WITH INTELLIGENT KEY SYSTEM]

Disconnect BCM connector. 3. Disconnect ECM connector.

4. Check continuity between BCM harness connector and ECM harness connector.

BC	M	E	CM	Continuiti
Connector	Terminal	Connector	Terminal	Continuity
M85	81	E16	101	Yes
5. Check continuity b	etween BCM harness	s connector and ground	d.	
	BCM			Continuity
Connector	Termina	al (Ground	Continuity
M85	81			No
3.REPLACE BCM 1. Replace BCM. Ref 2. Perform initializatio	IFIRMATION PROCE	val and Installation". ation of all Intelligent F DURE for DTC B26F9		
Replace ECM. Refer to <u>EC-488, "Rem</u>	noval and Installation"			
>> Inspection	End			

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B26FB CLUTCH SWITCH

< DTC/CIRCUIT DIAGNOSIS >

B26FB CLUTCH SWITCH

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B26FB is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-65, "DTC Logic".
- If DTC B26FB is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-66, "DTC Logic"</u>.

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B26FB	CLUTCH SWITCH (Clutch switch)	BCM receives the abnormal signal of clutch pedal position switch from ECM via CAN communication.	 Harness or connector (CAN communication line is open or shorted) ECM

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-116, "Diagnosis Procedure".
- NO >> Inspection End

Diagnosis Procedure

INFOID:0000000011536849

INFOID:000000011536848

1.INSPECTION START

- 1. Turn ignition switch ON.
- 2. Select Self diagnostic result mode of BCM using CONSULT.
- 3. Touch ERASE.
- Perform DTC CONFIRMATION PROCEDURE for DTC B26FB. Refer to <u>SEC-116, "DTC Logic"</u>.

Is DTC detected?

- YES >> GO TO 2.
- NO >> Inspection End

2.REPLACE ECM

Replace ECM. Refer to EC-488, "Removal and Installation"

>> Inspection End

B26FC KEY REGISTRATION

< DTC/CIRCUIT DIAGNOSIS >

B26FC KEY REGISTRATION

DTC Logic

INFOID:0000000011536850

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26FC	KEY REGISTRATION	Intelligent Key that does not match the vehicle is registered.	Improper registration operationIntelligent KeyBCM
TC CONF	IRMATION PROCED	URE	
.PERFOR	M DTC CONFIRMATIC	ON PROCEDURE	
Perform	initialization of BCM ar	nd registration of all Intelligent Keys using	CONSULT.
Check E DTC dete	•	Result mode of BCM using CONSULT.	
/ES >>	Go to <u>SEC-117, "Diagn</u>	osis Procedure"	
	Inspection End.		
lagnosis	Procedure		INFCID:00000001153685
REPLAC	E INTELLIGENT KEY		
	Intelligent Key that ma		
Perform	initialization of BCM ar	tches the vehicle. nd registration of all Intelligent Keys using Result mode of BCM using CONSULT.	CONSULT.
Perform Check I DTC dete	initialization of BCM ar DTC in Self Diagnostic F <u>cted?</u>	nd registration of all Intelligent Keys using	CONSULT.
Perform Check I <u>DTC dete</u> (ES >>	initialization of BCM ar DTC in Self Diagnostic F <u>cted?</u> GO TO 2.	nd registration of all Intelligent Keys using	CONSULT.
Perform Check I <u>DTC dete</u> (ES >>	initialization of BCM ar DTC in Self Diagnostic F <u>cted?</u> GO TO 2. Inspection End.	nd registration of all Intelligent Keys using	CONSULT.
Perform Check E DTC dete (ES >> NO >> .REPLAC Replace	initialization of BCM ar DTC in Self Diagnostic F <u>cted?</u> GO TO 2. Inspection End. E BCM BCM. Refer to <u>BCS-76</u>	nd registration of all Intelligent Keys using Result mode of BCM using CONSULT. 6. "Removal and Installation".	
Perform Check E DTC dete (ES >> NO >> .REPLAC Replace	initialization of BCM ar DTC in Self Diagnostic F <u>cted?</u> GO TO 2. Inspection End. E BCM BCM. Refer to <u>BCS-76</u>	nd registration of all Intelligent Keys using Result mode of BCM using CONSULT.	
Perform Check E DTC dete (ES >> NO >> .REPLAC Replace Perform	initialization of BCM ar DTC in Self Diagnostic F <u>cted?</u> GO TO 2. Inspection End. E BCM BCM. Refer to <u>BCS-76</u>	nd registration of all Intelligent Keys using Result mode of BCM using CONSULT. 6. "Removal and Installation".	
Perform Check E DTC dete (ES >> NO >> .REPLAC Replace Perform	initialization of BCM ar DTC in Self Diagnostic F <u>cted?</u> GO TO 2. Inspection End. E BCM BCM. Refer to <u>BCS-76</u> initialization of BCM ar	nd registration of all Intelligent Keys using Result mode of BCM using CONSULT. 6. "Removal and Installation".	
Perform Check E DTC dete (ES >> NO >> .REPLAC Replace Perform	initialization of BCM ar DTC in Self Diagnostic F <u>cted?</u> GO TO 2. Inspection End. E BCM BCM. Refer to <u>BCS-76</u> initialization of BCM ar	nd registration of all Intelligent Keys using Result mode of BCM using CONSULT. 6. "Removal and Installation".	
Perform Check E DTC dete (ES >> NO >> .REPLAC Replace Perform	initialization of BCM ar DTC in Self Diagnostic F <u>cted?</u> GO TO 2. Inspection End. E BCM BCM. Refer to <u>BCS-76</u> initialization of BCM ar	nd registration of all Intelligent Keys using Result mode of BCM using CONSULT. 6. "Removal and Installation".	
Perform Check E DTC dete (ES >> NO >> .REPLAC Replace Perform	initialization of BCM ar DTC in Self Diagnostic F <u>cted?</u> GO TO 2. Inspection End. E BCM BCM. Refer to <u>BCS-76</u> initialization of BCM ar	nd registration of all Intelligent Keys using Result mode of BCM using CONSULT. 6. "Removal and Installation".	
Perform Check E DTC dete (ES >> NO >> .REPLAC Replace Perform	initialization of BCM ar DTC in Self Diagnostic F <u>cted?</u> GO TO 2. Inspection End. E BCM BCM. Refer to <u>BCS-76</u> initialization of BCM ar	nd registration of all Intelligent Keys using Result mode of BCM using CONSULT. 6. "Removal and Installation".	

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B209F CRANKING REQUEST CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B209F CRANKING REQUEST CIRCUIT

DTC Logic

DTC DETECTION LOGIC

NOTE:

If DTC B209F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65. "DTC Logic"</u>.

DTC No.	CONSULT screen items (Trouble diagnosis con- tent)	DTC detecting condition	Possible cause
B209F	STR CUT OFF OPEN (Starter cut off open)	 When the following items do not match, a malfunction is detected. Cranking request signal from ECM Starter control relay control signal from ECM (CAN) 	 Harness or connectors (CAN communication line is open or shorted.) Harness or connectors (Cranking request signal circuit is open or shorted.) IPDM E/R ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Perform DTC CONFIRMATION PROCEDURE for DTC P1650. Refer to EC-395, "DTC Logic".

- 2. Turn ignition switch ON.
- 3. Check DTC in Self Diagnostic Result mode of IPDM E/R using CONSULT.

Is DTC detected?

- YES >> Refer to <u>SEC-118. "Diagnosis Procedure"</u>.
- NO >> Inspection End

Diagnosis Procedure

INFOID:000000011536853

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1. CHECK CRANKING REQUEST SIGNAL

- 1. Turn ignition switch ON.
- 2. Check voltage between IPDM E/R harness connector and ground under the following conditions.

	+) /I E/R	(-)	Condition		Voltage
Connector	Terminal				
			Ignition switch OFF		
				Engine: StoppedSelector lever position: P	0 – 1 V
E46	37	Ground	Ignition switch ON	 Engine: Stopped Selector lever position: Other than P 	9 – 16 V
				Engine running	

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK CRANKING REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.

INFOID:000000011536852

B209F CRANKING REQUEST CIRCUIT GIS > [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

2. Disconnect IPDM E/R connector.

3. Disconnect ECM connector.

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

IPDN	/I E/R	EC	CM	Continuiti	
Connector	Terminal	Connector	Terminal	Continuity	
E46	37	E16	101	Yes	
5. Check continuity b	petween IPDM E/R har	ness connector and g	round.		
	IPDM E/R				
Connector	Termina	I (Ground	Continuity	
E46	37			No	
Is the inspection result	t normal?				
YES >> GO TO 3.					
_ ·	replace harness.				
3. REPLACE IPDM E	/R				
1. Replace IPDM E/I 2. Perform DTC COI	R. Refer to <u>PCS-31, "R</u> NFIRMATION PROCE	emoval and Installatio	<u>n"</u> . Defer to SEC 119	"DTC Logia"	
Is DTC detected?		DURE IN DIC B209F	Relei lo <u>SEC-110,</u>	DICLOUIC.	
YES >> GO TO 4.					
NO >> Inspection					
4 .REPLACE ECM					
Replace ECM.					
	noval and Installation".				
>> Inspectior	n End				

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B20A0 CRANKING REQUEST CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

B20A0 CRANKING REQUEST CIRCUIT

DTC Logic

DTC DETECTION LOGIC

NOTE:

If DTC B20A0 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.	CONSULT screen items (Trouble diagnosis con- tent)	DTC detecting condition	Possible cause
B20A0	STR CUT OFF SHORT (Starter cut off short)	 When the following items do not match, a malfunction is detected. Cranking request signal from ECM Starter control relay control signal from ECM (CAN) 	 Harness or connectors (CAN communication line is open or shorted.) Harness or connectors (Cranking request signal circuit is open or shorted.) IPDM E/R ECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Perform DTC CONFIRMATION PROCEDURE for DTC P1650. Refer to EC-395, "DTC Logic".

- 2. Turn ignition switch ON.
- 3. Check DTC in Self Diagnostic Result mode of IPDM E/R using CONSULT.

Is DTC detected?

- YES >> Refer to <u>SEC-120, "Diagnosis Procedure"</u>.
- NO >> Inspection End

Diagnosis Procedure

INFOID:000000011536855

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1. CHECK CRANKING REQUEST SIGNAL

- 1. Turn ignition switch ON.
- 2. Check voltage between IPDM E/R harness connector and ground under the following conditions.

(+) IPDM E/R		(-)		Condition	
Connector	Terminal				-
E46 37			Ignition switch FF		
				Engine: StoppedSelector lever position: P	0 – 1 V
	Ground	Ignition switch ON	 Engine: Stopped Selector lever position: Other than P 	9 – 16 V	
				Engine running	

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

2.CHECK CRANKING REQUEST SIGNAL CIRCUIT

1. Turn ignition switch OFF.

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B20A0 CRANKING REQUEST CIRCUIT [WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

2. Disconnect IPDM E/R connector.

3. Disconnect ECM connector.

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

IPDN	/I E/R	E	CM	Continuit
Connector	Terminal	Connector	Terminal	Continuity
E46	37	E16	101	Yes
5. Check continuity b	between BCM harness	connector and ground	d.	
	IPDM E/R			0
Connector	Termina	1 (Ground	Continuity
E46	37			No
Is the inspection result	t normal?		÷.	
YES >> GO TO 3.				
· ·	replace harness.			
3. REPLACE IPDM E	/R			
1. Replace IPDM E/I	R. Refer to <u>PCS-31, "F</u>	Removal and Installation	<u>on"</u> .	
	NFIRMATION PROCE	DURE for DTC B20A0). Refer to <u>SEC-120,</u>	"DTC Logic".
Is DTC detected?				
YES >> GO TO 4.				
NO >> Inspection	n End			
4. REPLACE ECM				
Replace ECM.				
Refer to EC-488, "Rer	noval and Installation"			
>> Inspectior	n End			

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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>BCS-65. "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210B	START CONT RLY ON	 When comparing the following items, IPDM E/R detects that starter control relay is stuck in the ON position for 1 second or more. Starter control relay signal (CAN) from BCM Starter relay status signal (CAN) from BCM Starter control relay and starter relay status signal (IPDM E/R input) Starter control relay control signal (IPDM E/R output) 	• IPDM E/R

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.

CVT models

- CVT selector lever is in the P (Park) position.
- Depress the brake pedal

M/T models

- Shift lever: in the neutral position
- Clutch pedal: Not depressed
- 2. Check DTC in Self Diagnostic Result mode of IPDM E/R using CONSULT.

Is DTC detected?

YES >> Go to <u>SEC-122, "Diagnosis Procedure"</u>.

NO >> Inspection End.

Diagnosis Procedure

1.INSPECTION START

Perform Self Diagnostic Result of IPDM E/R using CONSULT.

Is display history of DTC B210B CRNT?

- YES >> Replace IPDM E/R. Refer to PCS-31, "Removal and Installation".
- NO >> Refer to <u>GI-40, "Intermittent Incident"</u>.

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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	
B210C	START CONT RLY OFF CIRC	 When comparing the following items, IPDM E/R detects that starter control relay is stuck in the OFF position for 1 second or more. Starter control relay signal (CAN) from BCM Starter relay status signal (CAN) from BCM Starter control relay and starter relay status sig- 	 IPDM E/R BCM Battery 	
		 nal (IPDM E/R input) Starter control relay control signal (IPDM E/R output) 		

1.PERFORM DTC CONFIRMATION PROCEDURE

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

CVT models

- CVT selector lever is in the P (Park) position.
- Depress the brake pedal

M/T models

- Shift lever: in the neutral position
- Clutch pedal: Not depressed
- 2. Check DTC in Self Diagnostic Result mode of IPDM E/R using CONSULT.

Is DTC detected?

- YES >> Go to <u>SEC-123</u>, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1.PERFORM SELF DIAGNOSTIC RESULT

Perform Self Diagnostic Result of IPDM E/R using CONSULT.

Is display history of DTC B210C CRNT?

YES >> GO TO 2.

NO >> Refer to <u>GI-40, "Intermittent Incident"</u>.

2. CHECK STARTER CONTROL RELAY CONTROL CIRCUITS VOLTAGE

Check voltage between IPDM E/R connectors and ground.

IPDM E/R		Ground	Voltage
Connector	Terminal	Croana	(Approx.)
E46	44	—	Battery voltage

[WITH INTELLIGENT KEY SYSTEM]

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B210C STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

<u>Is the inspection result normal?</u> YES >> Replace IPDM E/R. Refer to <u>PCS-31, "Removal and Installation"</u>.

NO >> GO TO 3.

3. check starter control relay control circuit continuity

1. Disconnect IPDM E/R connector E46 and BCM connector M83.

2. Check continuity between IPDM E/R connector E46 and BCM connector M83.

IPDI	IPDM E/R		BCM		
Connector	Terminal	Connector	Terminal	Continuity	
E46	44	M83	74	Yes	

3. Check continuity between IPDM E/R connector E46 and ground.

IPDM E/R		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
E46	44	—	No	

Is the inspection result normal?

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

NO >> Repair or replace harness or connectors.

B210D STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

B210D STARTER RELAY

DTC Logic

DTC DETECTION LOGIC

NOTE:

If DTC B210D is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-65. "DTC Logic"</u>.

	Trouble diagnosis name	DTC detecti	ng condition	Possible cause
B210D	STARTER RELAY ON CIRC	 When comparing the follor tects that starter control re sition for 5 second or mor Starter control relay sig Starter relay status sign Starter control relay and nal (IPDM E/R input) Starter control relay cor output) 	elay is stuck in the ON po- e. nal (CAN) from BCM al (CAN) from BCM d starter relay status sig-	 Harness or connectors (starter mo- tor relay control circuit open or short) IPDM E/R BCM
TC CONFIF	RMATION PRO	CEDURE		
.PERFORM	I DTC CONFIRM	ATION PROCEDURE		
. Press pus more.	sh-button ignition	switch under the follow	wing conditions to sta	art engine, and wait 1 second or
	ctor lever is in the press the brake p	P (Park) or N (Neutral) bedal	position	
Clutch peo	-		VI E/R using CONSU	_T.
~ ~	o to SEC-125 "F	iagnosis Procedure".		
		lagricolo i roccaaro .		
NO >> In	spection End	<u>agnolo riccoddio</u> .		INFCID:000000011536861
NO >> In Diagnosis F	spection End Procedure	rmation, refer to <u>SEC-2</u>	5, "Wiring Diagram".	INFOID:000000011536861
NO >> In Diagnosis F Regarding Wir	spection End Procedure ring Diagram info	rmation, refer to <u>SEC-2</u>	5, "Wiring Diagram".	INFOID:000000011536861
NO >> In Diagnosis F Regarding Wir	spection End Procedure ring Diagram info A SELF DIAGNO	rmation, refer to <u>SEC-2</u>		INFCID:000000011536861
NO >> In Diagnosis F Regarding Wir . PERFORM Perform Self E	spection End Procedure ring Diagram info A SELF DIAGNO Diagnostic Result	rmation, refer to <u>SEC-2</u> STIC RESULT of IPDM E/R using COI		INFCID:000000011536861
NO >> In Diagnosis F Regarding Wir Perform Self E s display histor YES >> G	spection End Procedure ring Diagram info A SELF DIAGNO Diagnostic Result ory of DTC B2101 O TO 2.	rmation, refer to <u>SEC-2</u> STIC RESULT of IPDM E/R using COI <u>CRNT?</u>		INFCID:000000011536861
NO >> In Piagnosis F egarding Wir . PERFORM erform Self E display histo YES >> G NO >> Ro	spection End Procedure ring Diagram info A SELF DIAGNO Diagnostic Result Dry of DTC B2101 O TO 2. efer to <u>GI-40, "Inf</u>	rmation, refer to <u>SEC-28</u> STIC RESULT of IPDM E/R using COI <u>D CRNT?</u> ermittent Incident".	NSULT.	INFOID:000000011536861
NO >> In Diagnosis F Regarding Wir Perform Self E s display histo YES >> G NO >> Ro CHECK ST	spection End Procedure ring Diagram info A SELF DIAGNO Diagnostic Result ory of DTC B2101 O TO 2. efer to <u>GI-40. "Inf</u> ARTER CONTRO	rmation, refer to <u>SEC-2</u> STIC RESULT of IPDM E/R using COI <u>CRNT?</u>	NSULT. CIRCUITS VOLTAGE	INFOID:000000011536861
NO >> In Diagnosis F Regarding Wir Perform Self E s display histo YES >> G NO >> Ro CHECK ST	spection End Procedure ring Diagram info A SELF DIAGNO Diagnostic Result ory of DTC B2101 O TO 2. efer to <u>GI-40, "Inf</u> ARTER CONTR between IPDM I	rmation, refer to <u>SEC-2</u> STIC RESULT of IPDM E/R using COI <u>D CRNT?</u> <u>ermittent Incident"</u> . DL RELAY CONTROL (E/R connectors and grou	NSULT. CIRCUITS VOLTAGE	
NO >> In Diagnosis F Regarding Wir I. PERFORM Perform Self E s display histo YES >> G NO >> Ro 2.CHECK ST	spection End Procedure ring Diagram info A SELF DIAGNO Diagnostic Result Dry of DTC B2101 O TO 2. efer to <u>GI-40, "Inf</u> ARTER CONTRO between IPDM I	rmation, refer to <u>SEC-2</u> STIC RESULT of IPDM E/R using COI <u>D CRNT?</u> <u>ermittent Incident"</u> . DL RELAY CONTROL (E/R connectors and grou	NSULT. CIRCUITS VOLTAGE	Voltage (Approx.)

Is the inspection result normal?

[WITH INTELLIGENT KEY SYSTEM]

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INFOID:000000011536860

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B210D STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

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

NO >> GO TO 3.

3.CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connectors E46 and BCM connector M83.

2. Check continuity between IPDM E/R connector E46 and ground.

IPDM E/R		Ground	Continuity	
Connector	Terminal	Ground	Continuity	
E46	44	—	No	

Is the inspection result normal?

YES >> Refer to <u>SEC-95</u>, "Diagnosis Procedure".

NO >> Repair or replace harness or connectors.

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 PCS-27, "DTC Logic".
- If DTC B210E is displayed with DTC B2605, first perform the trouble diagnosis for DTC B2605. Refer to <u>SEC-93, "DTC Logic"</u>.
- When IPDM E/R power supply voltage is low (Approx. 7 8 V for about 1 second), the DTC B210F may be detected.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause	E
B210E	STARTER RELAY OFF	 When comparing the following items, IPDM E/R detects that starter control relay is stuck in the OFF position for 5 second or more. Starter control relay signal (CAN) from BCM Starter relay status signal (CAN) from BCM Starter control relay and starter relay status signal (IPDM E/R input) Starter control relay control signal (IPDM E/R output) 	 IPDM E/R BCM Battery 	F
DTC CON	FIRMATION PRO	CEDURE		Η
1.PERFOR	RM DTC CONFIRM	ATION PROCEDURE		
1. Press more.	push-button ignition	switch under the following conditions to st	art engine, and wait 1 second or	
		P (Park) or N (Neutral) position bedal		J
- Clutch 2. Check <u>Is DTC dete</u>	ected?		LT.	SEC
NO >>	Inspection End.			M
Diagnosi	s Procedure		INFOID:000000011536863	IVI
Regarding	Wiring Diagram info	rmation, refer to <u>SEC-25, "Wiring Diagram"</u> .		Ν
1. PERFO	RM SELF DIAGNO	STIC RESULT		0
	-	of IPDM E/R using CONSULT.		
	istory of DTC B210E GO TO 2.	<u>E CRNI?</u>		Ρ
	• GO TO 2. • Refer to <u>GI-40, "Int</u>	ermittent Incident".		
-		OL RELAY CONTROL CIRCUITS VOLTAGE		
Check volta	age between IPDM E	E/R connectors and ground.		

INFOID:000000011536862

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B210E STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

IPDM E/R		Ground	Voltage	
Connector	Terminal	Ground	(Approx.)	
E46	44	—	Battery voltage	

Is the inspection result normal?

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

NO >> GO TO 3.

3.CHECK STARTER CONTROL RELAY CONTROL CIRCUIT CONTINUITY

1. Disconnect IPDM E/R connector E46 and BCM connector M83

2. Check continuity between IPDM E/R connector E46 and BCM connector M83.

IPDI	IPDM E/R		BCM	
Connector	Terminal	Connector	Terminal	Continuity
E46	44	M83	74	Yes

Is the inspection result normal?

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

NO >> Repair or replace harness or connectors.

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-</u> <u>27. "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210F	INTRLCK/PNP SW ON	 IPDM E/R detects a difference between the following signals P/N position signal from transmission range switch and P/N position signal (CAN) from BCM (CVT models) Clutch pedal operation signal from clutch interlock switch and interlock signal (CAN) from BCM (M/T models) 	 Harness or connectors (The CAN communication line is open or shorted.) Harness or connectors (Transmission range switch circuit is open or shorted.) (Clutch interlock switch circuit is open or shorted.) Transmission range switch Clutch interlock switch IPDM E/R BCM
FC CONF	FIRMATION PROCED	URE	
	LS		
.PERFOR	M DTC CONFIRMATIC	ON PROCEDURE	
Shift sel Check I DTC dete YES >> NO >>	lector lever to the positi DTC in Self Diagnostic I <u>cted?</u> Go to <u>SEC-129, "Diagr</u> Inspection End.	al (N) position and wait 1 second or r on other than Park (P) and Neutral (N Result mode of IPDM E/R using CON nosis Procedure (CVT Models)".	N), and wait 1 second or more.
.PERFOR	L S RM DTC CONFIRMATIO	ON PROCEDURE	
. Turn igr . Depress . Check [<u>. DTC dete</u> YES >>	nition switch ON and wa s the clutch pedal and w DTC in "Self Diagnostic <u>cted?</u>	it 1 second or more.	ONSULT.
-	Procedure (CVT	Models)	INFQID:000000011536865
egarding V	Viring Diagram informat	tion, refer to <u>SEC-25, "Wiring Diagrar</u>	<u>n"</u> .
.CHECK I	DTC OF BCM		
heck DTC	in Self Diagnostic Resu	It mode of BCM using CONSULT.	
<u>BDTC dete</u>			
YES >>	Perform the trouble dia	gnosis related to the detected DTC.	Reter to <u>BCS-49, "DTC_Index"</u> .

 $r \ge > Perform tr$ NO >> GO TO 2.

2.CHECK IPDM E/R SIGNAL CIRCUIT OPEN AND SHORT

[WITH INTELLIGENT KEY SYSTEM]

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B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

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

IPDM E/R		Transmission range switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E43	14	F26	7	Yes

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

(+)		
IPDN	IPDM E/R		Continuity
Connector	Connector Terminal		
E43	14	Ground	No

Is the inspection result normal?

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

NO >> Repair or replace harness.

Diagnosis Procedure (M/T Models)

INFOID:000000011536866

Regarding Wiring Diagram information, refer to SEC-25. "Wiring Diagram".

1.CHECK DTC OF BCM

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

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to <u>BCS-49. "DTC Index"</u>. NO >> GO TO 2.

2. CHECK CLUTCH INTERLOCK SWITCH SIGNAL CIRCUIT

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

Clutch inte	Clutch interlock switch		IPDM E/R		
Connector	Terminal	Connector	Terminal	Continuity	
E34	2	E43	4	Yes	

5. Check continuity between clutch interlock switch harness connector and ground.

Clutch inte	rlock switch		Continuity
Connector	Terminal	Ground	Continuity
E34	2		No

Is the inspection result normal?

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

NO >> Repair or replace harness.

B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< 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-27, "DTC Logic"</u>.

DTC No. Trouble d	iagnosis name	DTC detecting condition	Possible cause
B210F INTRLCK/F	NP SW OFF	 IPDM E/R detects a difference between the following signals P/N position signal from transmission range switch and P/N position signal (CAN) from BCM (CVT models) Clutch pedal operation signal from clutch interlock switch and interlock signal (CAN) from BCM (M/T models) 	 Harness or connectors (The CAN communication line is open or shorted.) Harness or connectors (Transmission range switch circuit is open or shorted.) (Clutch interlock switch circuit is open or shorted.) Transmission range switch Clutch interlock switch IPDM E/R BCM
C CONFIRMATIO	ON PROCED	URE	
T MODELS			
PERFORM DTC C	ONFIRMATIC	N PROCEDURE	
Shift selector leve Check DTC in Se DTC detected?	er to the position If Diagnostic F <u>C-131, "Diagn</u>	al (N) position and wait 1 second or n on other than Park (P) and Neutral (N Result mode of IPDM E/R using CON Posis Procedure (CVT Models)".), and wait 1 second or more.
T MODELS			
.PERFORM DTC C	ONFIRMATIC	IN PROCEDURE	
Depress the cluto Check DTC in "So DTC detected?	h pedal and w elf Diagnostic	it 1 second or more. /ait 1 second or more. Result" mode of "IPDM E/R" using CC	DNSULT.
/ES >> Go to <u>SE</u> \O >> INSPECT		osis Procedure (M/T Models)".	
iagnosis Proced	dure (CVT	Models)	INFOID:0000000115
egarding Wiring Dia	gram informat	ion, refer to <u>SEC-25. "Wiring Diagram</u>	<u>.</u>
.CHECK DTC OF E	BCM		
neck DTC in Self Dia	agnostic Resu	It mode of BCM using CONSULT.	

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to <u>BCS-49, "DTC Index"</u>. NO >> GO TO 2.

2.CHECK IPDM E/R SIGNAL CIRCUIT OPEN AND SHORT

[WITH INTELLIGENT KEY SYSTEM]

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B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.

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

IPDM E/R		Transmissior	n range switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E43	14	F26	7	Yes

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

(+)			
IPD	IPDM E/R		Continuity
Connector	Connector Terminal		
E43	14	Ground	No

Is the inspection result normal?

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

NO >> Repair or replace harness.

Diagnosis Procedure (M/T Models)

INFOID:000000011536869

Regarding Wiring Diagram information, refer to SEC-25, "Wiring Diagram".

1.CHECK DTC OF BCM

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

Is DTC detected?

YES >> Perform the trouble diagnosis related to the detected DTC. Refer to <u>BCS-49. "DTC Index"</u>. NO >> GO TO 2.

2. CHECK CLUTCH INTERLOCK SWITCH SIGNAL CIRCUIT

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

Clutch inte	Clutch interlock switch		IPDM E/R		
Connector	Terminal	Connector	Terminal	Continuity	
E34	2	E43	4	Yes	

5. Check continuity between clutch interlock switch harness connector and ground.

Clutch inte	rlock switch		Continuity
Connector	Terminal	Ground	Continuity
E34	2		No

Is the inspection result normal?

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

NO >> Repair or replace harness.

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 VE-HICLE

Description

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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 in "WORK SUPPORT" mode of "INTELLIGENT KEY" of "BCM" is ON.
- One or more of Intelligent Keys with registered Intelligent Key ID is in the vehicle.

Diagnosis Procedure

1.PERFORM WORK SUPPORT

Perform "INSIDE ANT DIAGNOSIS" in "Work Support" mode of "INTELLIGENT KEY" of "BCM" using CON-SULT. Refer to BCS-22, "INTELLIGENT KEY : CONSULT Function (BCM - INTELLIGENT KEY)".

>> GO TO 2.

2. PERFORM SELF-DIAGNOSIS RESULT

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

Is DTC detected?

YES >> Perform the trouble diagnosis for detected DTC. Refer to <u>BCS-49, "DTC Index"</u>.

NO >>	GO	ТΟ	3
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 $\mathbf{3}$.check push-button ignition switch

Check push-button ignition switch. Refer to <u>SEC-78, "Component Inspection"</u>.

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

< SYMPTOM DIAGNOSIS >

SECURITY INDICATOR LAMP DOES NOT TURN ON OR BLINK

Description

Security indicator lamp does not blink when power supply position is other than the ON position. **NOTE:**

- Before performing the diagnosis, perform "Work Flow". Refer to SEC-58, "Work Flow".
- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and check each symptom.

Conditions of Vehicle (Operating Conditions) Power supply position is other than the ON position.

Diagnosis Procedure

INFOID:000000011536873

INFOID:000000011536872

[WITH INTELLIGENT KEY SYSTEM]

1.CHECK SECURITY INDICATOR LAMP

Check security indicator lamp. Refer to <u>SEC-9, "Security Indicator Lamp"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

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

NO >> GO TO 1.

REMOVAL AND INSTALLATION А NATS ANTENNA AMP. Removal and Installation INFOID:000000011536874 В REMOVAL 1. Remove instrument finisher B. Refer to IP-14, "Exploded View". С 2. Using a suitable tool release the pawls on either side and remove the NATS antenna amp. from the pushbutton ignition switch. D **INSTALLATION** Installation is in the reverse order of removal. Ε F Н J SEC L Μ Ν Ο Ρ

PUSH-BUTTON IGNITION SWITCH

Removal and Installation

INFOID:000000011536875

REMOVAL

- 1. Remove the NATS antenna amp. Refer to SEC-135, "Removal and Installation".
- 2. Using a suitable tool release the pawls and remove the push-button ignition switch from instrument finisher B.

INSTALLATION

Installation is in the reverse order of removal.

< PRECAUTION > PRECAUTION

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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. Information necessary to service the system safely is included in the SR and SB section of this Service Manual.

WARNING:

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which 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 the SR section.
- Do not 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:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT 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 three minutes before performing any service.

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COMPONENT PARTS

< SYSTEM DESCRIPTION >

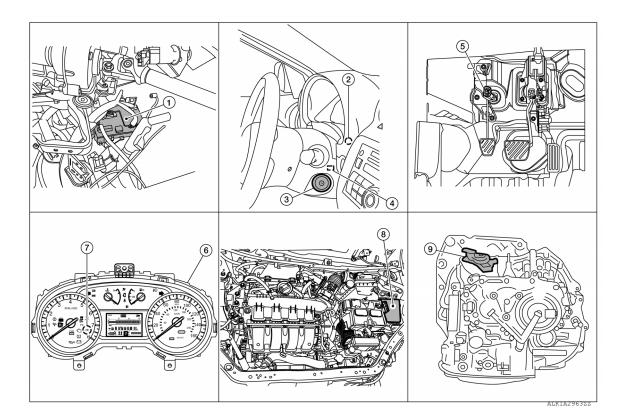
[WITHOUT INTELLIGENT KEY SYSTEM]

SYSTEM DESCRIPTION

COMPONENT PARTS NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Component Parts Location

INFOID:0000000011536877



1. BCM

7.

(view with instrument panel removed)4. NATS antenna amp.

(inside steering column)

Security indicator lamp

- 2. Dongle unit (Canada only) (behind instrument panel LH)
- 5. Clutch interlock switch (M/T models)
- 8. IPDM E/R

- 3. Ignition switch
- 6. Combination meter
- 9. Transmission range switch (CVT models)

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Component Description

INFOID:000000011536878

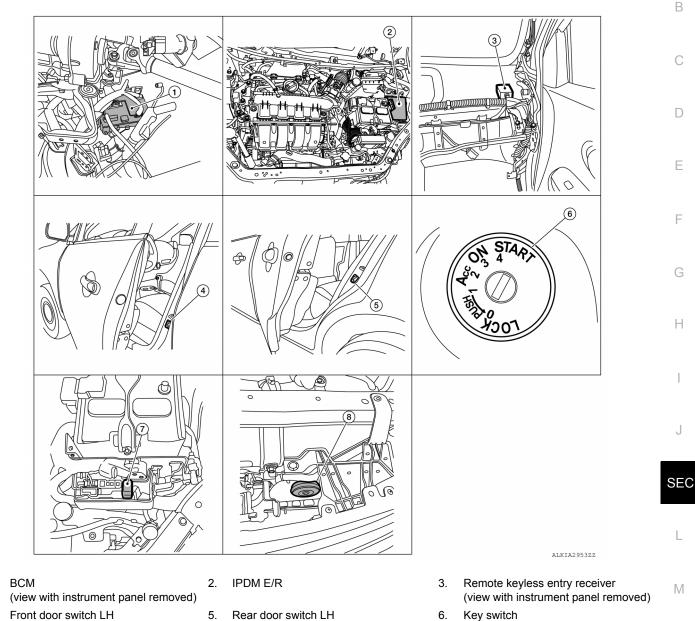
Item	Function	
BCM	Verifies the received signal from the ignition key ID, then informs ECM whether to allow engine start.	
Transmission range switch (CVT models)	Detects whether the shift lever is in park.	
Clutch interlock switch (M/T models)	Detects whether the clutch pedal is depressed.	
Dongle unit (Canada only)	Sends ID verification signal to the BCM.	
Starter relay	Supplies battery voltage to the starter motor when enabled.	
NATS antenna amp.	Detects the ignition key presence in the ignition key cylinder.	
Security indicator	Indicates the status of the security system.	
IPDM E/R	Supplies battery voltage from integrated starter control relay to the starter motor.	

VEHICLE SECURITY SYSTEM

VEHICLE SECURITY SYSTEM : Component Parts Location

INFOID:000000011536879

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Front door switch LH 4.

Horn relay

1.

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- (RH similar)
- - 8.

VEHICLE SECURITY SYSTEM : Component Description

- Rear door switch LH (RH similar)
- Horn

INFOID:000000011536880

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Function Item BCM Controls the door lock function. Ρ Door lock and unlock switch Input lock or unlock signal to BCM. Door switch Input door open/close condition to BCM. Key switch Input key switch condition to BCM. Receives lock/unlock signal from the keyfob, and then transmits to BCM. Remote keyless entry receiver

COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

Item	Function
Key switch	Input key switch ON/OFF condition to BCM.
Horn	Provides audible warning in panic mode.

SYSTEM

SYSTEM NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Diagram

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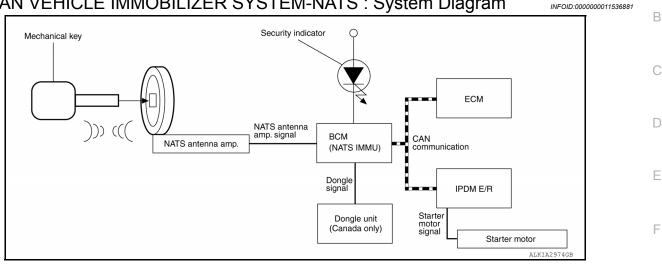
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NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description INFOID:000000011536882

INPUT/OUTPUT SIGNAL CHART

BCM

Switch/Input signal	Input signal to BCM	BCM function	Actuator/Output signal	
NATS antenna amp.	Key ID	NATS	Security indicator lamp	
ECM	Engine status signal		Starter request	

SYSTEM DESCRIPTION

NATS (Nissan Anti-Theft System) has the following immobilizer functions:

- SEC • Engine immobilizer shows high anti-theft performance to prevent engine from starting by anyone other than the owner.
- Only a key with key ID registered in BCM and ECM can start engine, and shows high anti-theft performance to prevent key from being copied or stolen.
- Security indicator always flashes with mechanical key removed condition (key switch: OFF)
- Therefore, NATS warns outsiders that the vehicle is equipped with the anti-theft system.
- If system detects malfunction, security indicator illuminates when ignition switch is turned to ON position.
- If the owner requires, ignition key ID or mechanical key ID can be registered for up to 5 keys.
- During trouble diagnosis or when the following parts have been replaced, and if ignition key is added, registration^{*1} is required.

^{*1}: All kevs kept by the owner of the vehicle should be registered with mechanical key.

- ECM
- BCM
- Ignition key
- Remote keyless entry receiver
- NATS trouble diagnosis, system initialization and additional registration of other mechanical key IDs must be carried out using CONSULT.
- · When NATS initialization has been completed, the ID of the inserted mechanical key or mechanical key IDs can be carried out.
- Possible symptom of NATS malfunction is "Engine cannot start". Identify the possible causes according to "Work Flow", Refer to SEC-170, "Work Flow".
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to EC-488, "Removal and Installation".

PRECAUTIONS FOR KEY REGISTRATION

SYSTEM

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

- The key registration is a procedure that erases the current NATS ID once, and then re-registers a new ID. Therefore the registered key is necessary for this procedure. Before starting the registration procedure, collect all registered Keys from the customer.
- The NATS ID registration is the procedure that registers the ID stored into the transponder (integrated in mechanical key) to BCM.
- The key ID registration is the procedure that registers the ID to the BCM.
- When performing the key system registration only, the engine cannot be started by inserting the key into the key cylinder. When performing the NATS registration only, the engine cannot be started by using the ignition key.

SECURITY INDICATOR

· Always flashes with ignition key in the OFF position.

MAINTENANCE INFORMATION

CAUTION:

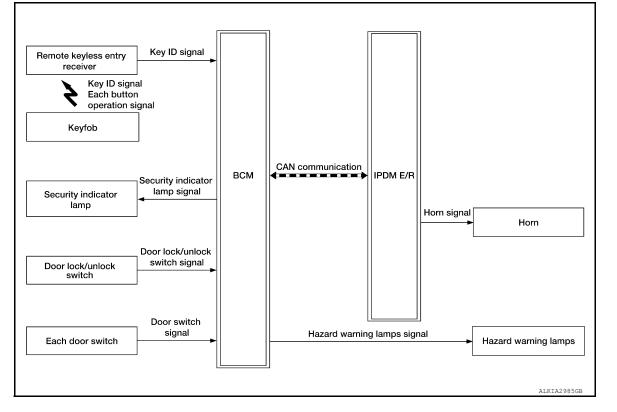
It is necessary to perform NATS ID registration when replacing any of the following parts. If ID registration is mot performed the electrical system may not operate properly.

- BCM
- ECM
- IPDM E/R
- Ignition key
- NATS antenna amp.
- Dongle unit (Canada only)
- Combination meter

VEHICLE SECURITY SYSTEM

VEHICLE SECURITY SYSTEM : System Diagram

INFOID:000000011536883



VEHICLE SECURITY SYSTEM : System Description

INFOID:000000011536884

- 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.

< SYSTEM DESCRIPTION >

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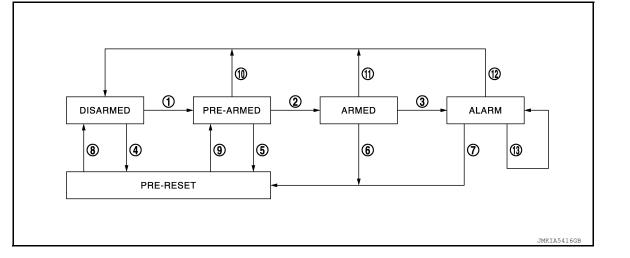
The priority of the functions are as per the following.

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 is opened by unauthorized means, while the system is in the ARMED state.
- Security indicator lamp on combination meter always blinks when ignition switch is in 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 PRE-ARMED	When all conditions of A and one condition of B is satis- fied.	A Ignition switch: OFF All doors: Closed 	B All doors are locked by: • Door key cylinder LOCK switch • LOCK button of Keyfob • Door lock and unlock switch
2	PRE-ARMED to ARMED	When all of the following conditions are satisfied for 30 seconds.	 Ignition switch: OFF All doors: Locked	
3	ARMED to		А	В
	ALARM B are satisfied.	B are satisfied.	Keyfob: Not used	Any door: Open
4	DISARMED to PRE-RESET	No conditions.		
5	PRE-ARMED to PRE-RESET			
6	ARMED to PRE-RESET			
7	ALARM to PRE-RESET			
8	PRE-RESET to DISARMED	1		
9	PRE-RESET to PRE-ARMED			
10	PRE-ARMED to DISARMED	When one of the following condition is satisfied.	 Ignition switch: ACC/ON Door key cylinder UNLOCK switch: ON UNLOCK button of Keyfob: ON UNLOCK switch of door lock and unlock switch: ON Any door: Open 	

SYSTEM

< SYSTEM DESCRIPTION >

No.	System state	Switching condition		
11	ARMED to DISARMED	When one of the following condition is satisfied.	 Ignition switch: ACC/ON Door key cylinder UNLOCK switch: ON UNLOCK button of Keyfob: ON 	
12	ALARM to DISARMED			
13	RE-ALARM	When the following condition is satisfied after the ALARM operation is finished.	Any door: Open	

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 by operating remote controller button of Keyfob, the Keyfob must be within the detection area of remote keyless entry receiver. For details, refer to <u>SEC-141</u>, "NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description".

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 is opened without using Keyfob, vehicle security system switches to the ALARM phase. Security indicator lamp blinks every 2.4 seconds.

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 timing 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. PRE-ARMED phase is not available for this models.

PANIC ALARM

- The panic alarm function activates horns and headlamps intermittently when the owner presses the PANIC ALARM button of Keyfob outside the vehicle while the ignition switch is OFF.
- When BCM receives panic alarm signal from Keyfob, 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 Keyfob 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.
- LOCK button of Keyfob: ON
- UNLOCK button of Keyfob: ON
- PANIC ALARM button of Keyfob: Long pressed

DIAGNOSIS SYSTEM (BCM) [WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION > DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000011900764

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APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description	
ECU Identification	The BCM part number is displayed.	
Self Diagnostic Result	The BCM self diagnostic results are displayed.	
Data Monitor	The BCM input/output data is displayed in real time.	
Active Test	The BCM activates outputs to test components.	
Work support	The settings for BCM functions can be changed.	
Configuration	The vehicle specification can be read and saved.The vehicle specification can be written when replacing BCM.	
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication is displayed.	

SYSTEM APPLICATION

BCM can perform the following functions.

				Direct [Diagnosti	c Mode			Н
System	Sub System	ECU Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN DIAG SUPPORT MNTR	J
Door lock	DOOR LOCK			×	×	×			SEC
Rear window defogger	REAR DEFOGGER			×	×				
Warning chime	BUZZER			×	×				L
Interior room lamp timer	INT LAMP			×	×	×			
Remote keyless entry system	MULTI REMOTE ENT			×	×	×			N.4
Exterior lamp	HEAD LAMP			×	×	×			M
Wiper and washer	WIPER			×	×	×			
Turn signal and hazard warning lamps	FLASHER			×	×				Ν
Air conditioner	AIR CONDITIONER			×					
Combination switch	COMB SW			×					
BCM	BCM	×	×			×	×	×	0
Immobilizer	IMMU		×		×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×	×			Р
Trunk open	TRUNK			×					
RAP system	RETAINED PWR			×		×			
Signal buffer system	SIGNAL BUFFER			×					
TPMS	AIR PRESSURE MONITOR		×	×	×	×			
Panic alarm system	PANIC ALARM				×				

Revision: December 2014

IMMU

IMMU : CONSULT Function (BCM - IMMU)

SELF DIAGNOSTIC RESULT

Refer to <u>BCS-113, "DTC Index"</u>.

ACTIVE TEST

Test Item	Description
THEFT IND	This test is able to check security indicator operation [On/Off].

WORK SUPPORT

Support Item	Setting	Description
CONFIRM DONGLE ID	—	Dongle ID code can be read.

INFOID:000000011900765

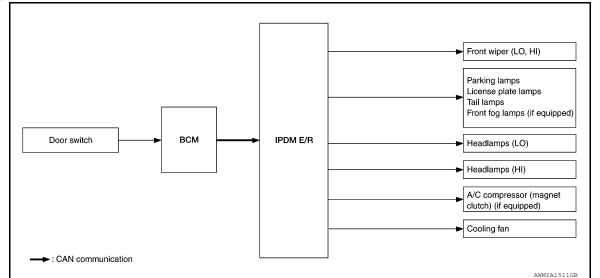
[WITHOUT INTELLIGENT KEY SYSTEM]

DIAGNOSIS SYSTEM (IPDM E/R) А Diagnosis Description INFOID:000000011900766 AUTO ACTIVE TEST В Description In auto active test, the IPDM E/R sends a drive signal to the following systems to check their operation. Front wiper (LO, HI) Parking lamp License plate lamp Tail lamp D · Front fog lamp (if equipped) Headlamp (LO, HI) A/C compressor (magnet clutch) (if equipped) Е Cooling fan **Operation Procedure** NOTE: Never perform auto active test in the following conditions. Passenger door is open CONSULT is connected 1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation) NOTE: When auto active test is performed with hood opened, sprinkle water on windshield beforehand. Н 2. Turn the ignition switch OFF. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the 3. ignition switch OFF. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test 4. starts. 5. After a series of the following operations is repeated 3 times, auto active test is completed. J NOTE: When auto active test has to be cancelled halfway through test, turn the ignition switch OFF. When auto active test is not activated, door switch may be the cause. Check door switch. Refer to DLK-262 SEC "Component Inspection". Inspection in Auto Active Test When auto active test is actuated, the following operation sequence is repeated 3 times. Operation se-Inspection location Operation quence NЛ

1	Front wiper	LO for 5 seconds \rightarrow HI for 5 seconds	
2	 Parking lamp License plate lamp Tail lamp Front fog lamp (if equipped) 	10 seconds	_
3	Headlamp	LO for 10 seconds \rightarrow HI ON \Leftrightarrow OFF 5 times	-
4	A/C compressor (magnet clutch) (if equipped)	$ON \Leftrightarrow OFF 5$ times	_
5	Cooling fan	LO for 5 seconds \rightarrow MID for 3 seconds \rightarrow HI for 2 seconds	

< SYSTEM DESCRIPTION >

Concept of Auto Active Test



- IPDM E/R starts the auto active test with the door switch signals transmitted by BCM via CAN communication. Therefore, the CAN communication line between IPDM E/R and BCM is considered normal if the auto active test starts successfully.
- The auto active test facilitates troubleshooting if any systems controlled by IPDM E/R cannot be operated.

Diagnosis Chart in Auto Active Test

Symptom	Inspection contents	Possible cause	
 Any of the following components do not operate Parking lamp License plate lamp Tail lamp Front fog lamp (if equipped) 	Perform auto active test. Does the applicable system op- erate?	YES	 BCM signal input circuit Lamp or motor Lamp or motor ground circuit Harness or connector between
Headlamp (HI, LO)Front wiper (HI, LO)			IPDM E/R and applicable systemIPDM E/R
A/C compressor does not operate	Perform auto active test. Does the magnet clutch oper-	YES	 BCM signal input circuit CAN communication signal be- tween BCM and ECM CAN communication signal be- tween ECM and IPDM E/R
	ate?		 Magnet clutch Harness or connector between IPDM E/R and magnet clutch IPDM E/R
	Perform auto active test	YES	 ECM signal input circuit CAN communication signal be- tween ECM and IPDM E/R
Cooling fan does not operate	Does the cooling fan operate?	NO	 Cooling fan motor Harness or connector between IPDM E/R and cooling fan motor IPDM E/R

CONSULT Function (IPDM E/R)

INFOID:000000011900767

APPLICATION ITEM

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

Direct Diagnostic Mode	Description
Ecu Identification	The IPDM E/R part number is displayed.
Self Diagnostic Result	The IPDM E/R self diagnostic results are displayed.
Data Monitor	The IPDM E/R input/output data is displayed in real time.

Revision: December 2014

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

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Direct Diagnostic Mode	Description	_
Active Test	The IPDM E/R activates outputs to test components.	A
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.	_

ECU IDENTIFICATION

The IPDM E/R part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to PCS-48, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Main Signals	Description	
MOTOR FAN REQ [%]	×	Indicates cooling fan speed signal received from ECM on CAN communication line	
AC COMP REQ [On/Off]	×	Indicates A/C compressor request signal received from ECM on CAN commu- nication line	
TAIL&CLR REQ [On/Off]	×	Indicates position light request signal received from BCM on CAN communica- tion line	
HL LO REQ [On/Off]	×	Indicates low beam request signal received from BCM on CAN communication line	
HL HI REQ [On/Off]	×	Indicates high beam request signal received from BCM on CAN communication line	
FR FOG REQ [On/Off]	×	Indicates front fog light request signal received from BCM on CAN communica- tion line	
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Indicates front wiper request signal received from BCM on CAN communication line	
WIP AUTO STOP [STOP P/ACT P]	×	Indicates condition of front wiper auto stop signal	
WIP PROT [Off/BLOCK]	×	Indicates condition of front wiper fail-safe operation	
IGN RLY1 -REQ [On/Off]		Indicates ignition switch ON signal received from BCM on CAN communication line	
IGN RLY [On/Off]	×	Indicates condition of ignition relay	
INTER/NP SW [On/Off]		Indicates condition of CVT shift position	
ST RLY CONT [On/Off]		Indicates starter relay status signal received from BCM on CAN communication line	
IHBT RLY -REQ [On/Off]		Indicates starter control relay signal received from BCM on CAN communication line	
ST/INHI RLY [Off/ ST /INHI]		Indicates condition of starter relay and starter control relay	
DETENT SW [On/Off]		Indicates condition of CVT shift selector (park position switch)	
DTRL REQ [Off]		Indicates daytime running light request signal received from BCM on CAN com- munication line	
THFT HRN REQ [On/Off]		Indicates theft warning horn request signal received from BCM on CAN commu- nication line	
HORN CHIRP [On/Off]		Indicates horn reminder signal received from BCM on CAN communication line	

ACTIVE TEST

Test item	Description	P
HORN	This test is able to check horn operation [On].	
REAR DEFOGGER	This test is able to check rear window defogger operation [On/Off].	
FRONT WIPER	This test is able to check wiper motor operation [Hi/Lo/Off].	
MOTOR FAN	This test is able to check cooling fan operation [4/3/2/1].	
EXTERNAL LAMPS	This test is able to check external lamp operation [Fog/Hi/Lo/TAIL/Off].	

Revision: December 2014

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DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

CAN DIAG SUPPORT MNTR Refer to <u>LAN-13</u>, "CAN Diagnostic Support Monitor".

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION ECM, IPDM E/R, BCM

List of ECU Reference

INFOID:000000011536889 B

ECU		Reference
	Reference Value	EC-77, "Reference Value"
ECM	Fail Safe	EC-90. "Fail Safe"
	DTC Inspection Priority	EC-93. "DTC Inspection Priority Chart"
	DTC Index	EC-94, "DTC Index"
IPDM E/R	Reference Value	PCS-42, "Reference Value"
	Fail Safe	PCS-47, "Fail-Safe"
	DTC Index	PCS-48, "DTC Index"
	Reference Value	BCS-101, "Reference Value"
CM	Fail Safe	BCS-112, "Fail-safe"
BCM	DTC Inspection Priority	BCS-113. "DTC Inspection Priority Chart"
	DTC Index	BCS-113, "DTC Index"

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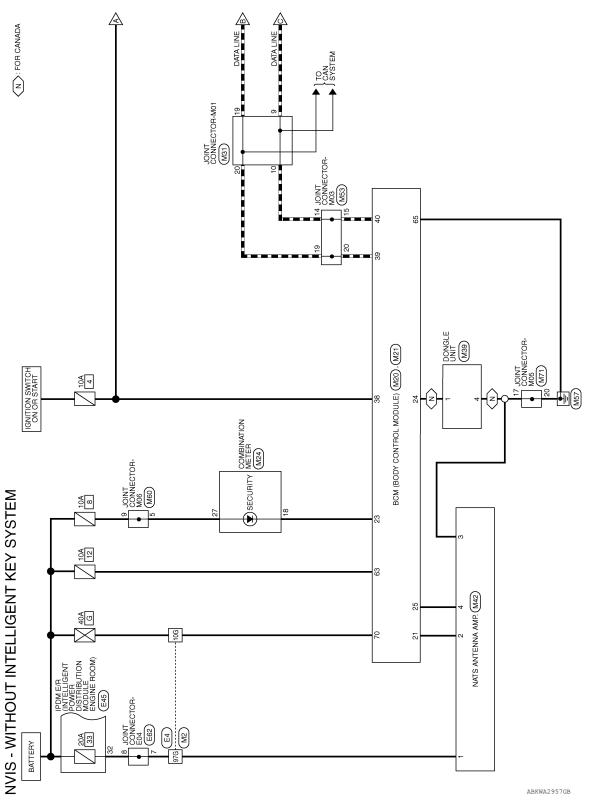
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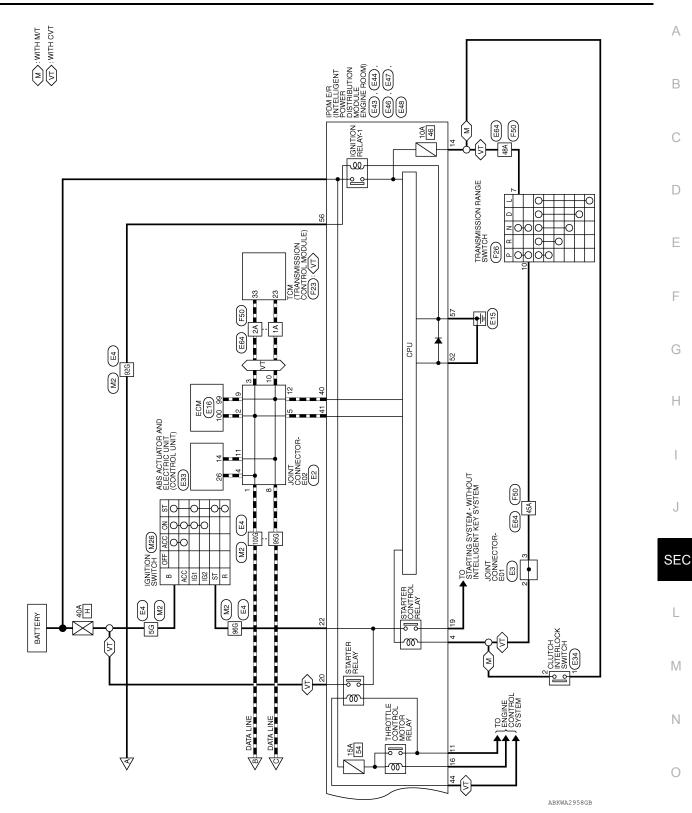
WIRING DIAGRAM

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

Wiring Diagram

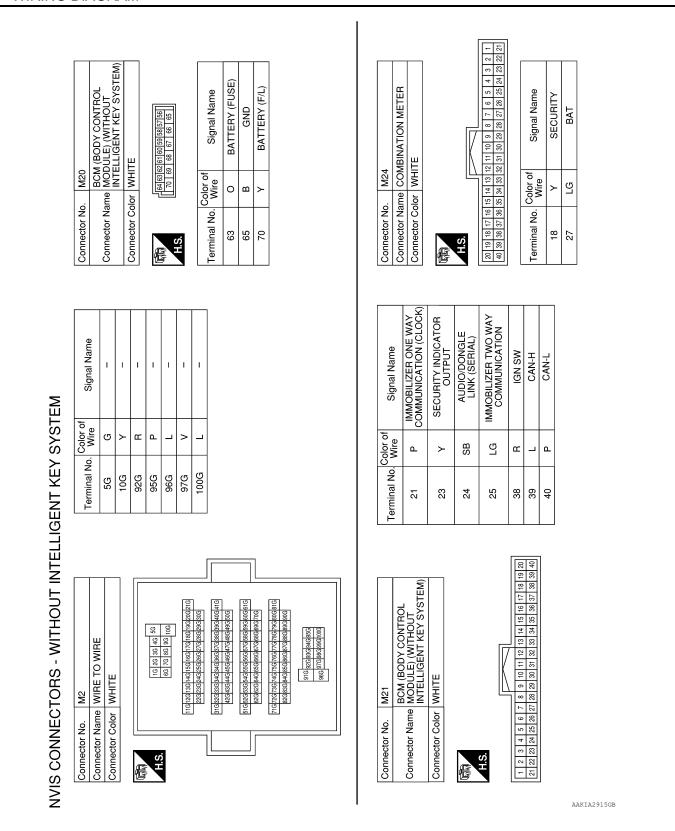
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NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS) < WIRING DIAGRAM > [WITHOUT INTELLIGENT KEY SYSTEM]

Revision: December 2014



IRING DIAGRAM >		[WITHOUT INTELLIGENT KEY SYSTEM]
Connector No. M39 Connector Name DONGLE UNIT Connector Color WHITE Image: The second s	Terminal No. Color of Wire Signal Name 1 SB - 4 B - Connector No. M60 Connector Name JOINT CONNECTOR-M06	Terminal No. Color of 2019 Signal Name 5 LG - 9 W -
Connector No. M31 Connector Name JOINT CONNECTOR-M01 Connector Color GRAY Connector Color Grav Image: State of the state	Terminal No. Color of Wire Signal Name 9 P - 10 P - 19 L - 20 L - 20 L - Connector No. M53 Connector Name JOINT CONNECTOR-M03	Terminal No. Color of 13 Signal Name 14 P - 19 L - 20 L -
Connector No. M26 Connector Name IGNITION SWITCH Connector Color WHITE	Terminal No. Color of Wire Signal Name B G - ST L - Connector No. M42 Connector Name NATENNA AMP.	
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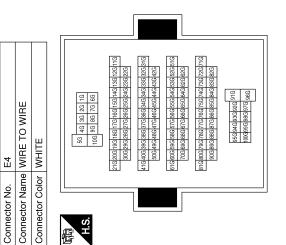
NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

Revision: December 2014

NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS) [WITHOUT INTELLIGENT KEY SYSTEM]

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Terminal No. Color of Wire	5	8	6	10	11	12

Signal Name	I	I	I	I	I	I	I
Color of Wire	Р	ŋ	σ	Р	GR	≻	Γ
Terminal No. Color of Wire	5G	10G	92G	95G	996	97G	100G



E2	Connector Name JOINT CONNECTOR-E02	BLUE	11 10 9 8 7 6 5 4 3 2 1
Connector No. E2	Connector Name	Connector Color BLUE	雨 H.S.
Connector No. M71	Connector Name JOINT CONNECTOR-M05	Connector Color PINK	

Теі		
Signal Name	I	I
Color of Wire	В	в

Terminal No.

Signal Name

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Connector Color BLUE	BLUE
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2 11 10	Color of Wire
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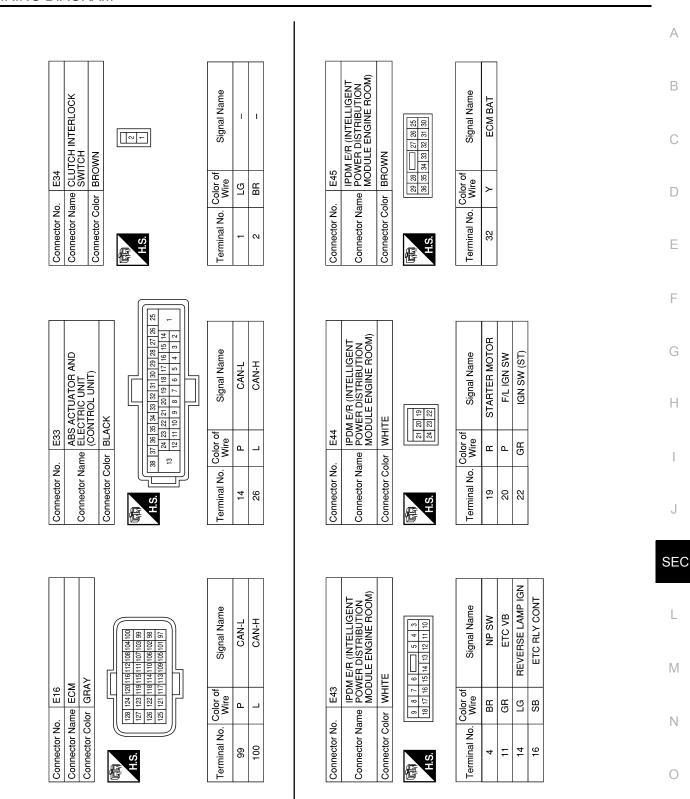
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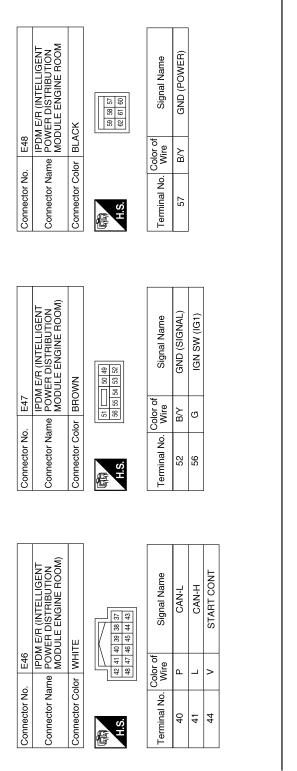
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< WIRING DIAGRAM >

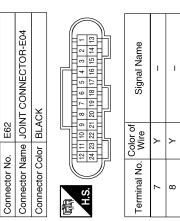
NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS) < WIRING DIAGRAM > [WITHOUT INTELLIGENT KEY SYSTEM]



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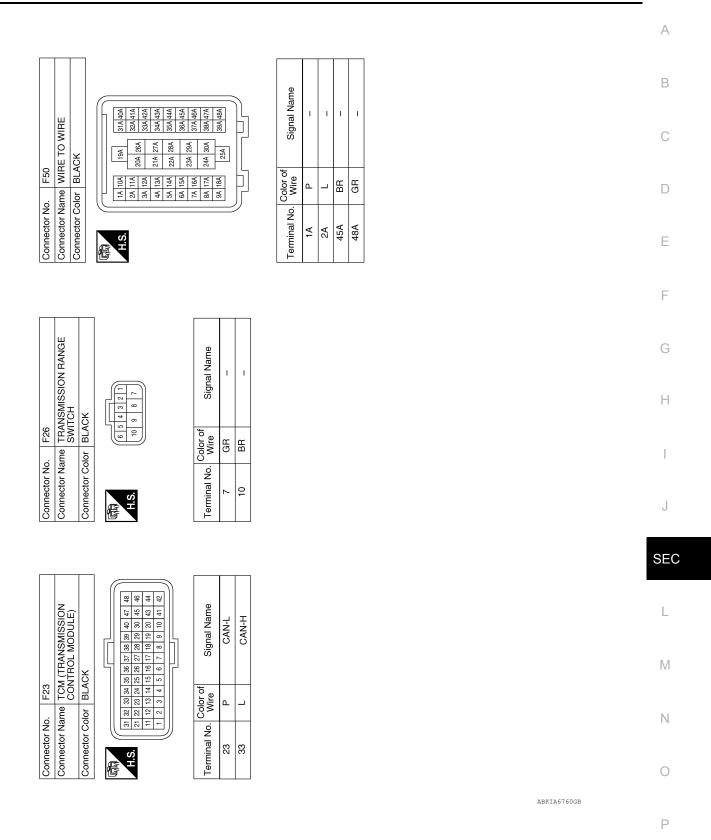
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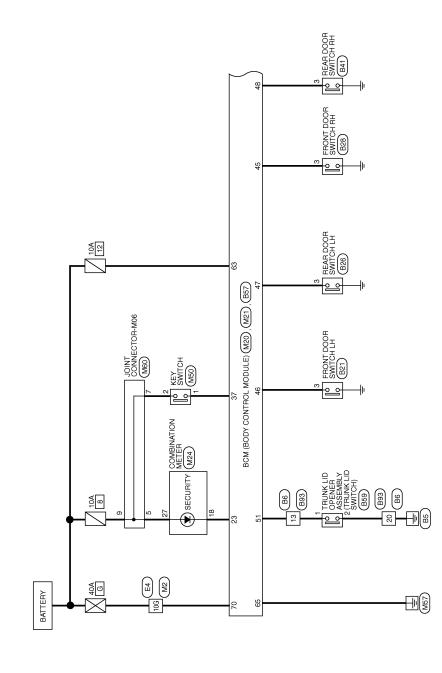
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VEHICLE SECURITY SYSTEM

Wiring Diagram

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VEHICLE SECURITY SYSTEM - WITHOUT INTELLIGENT KEY SYSTEM

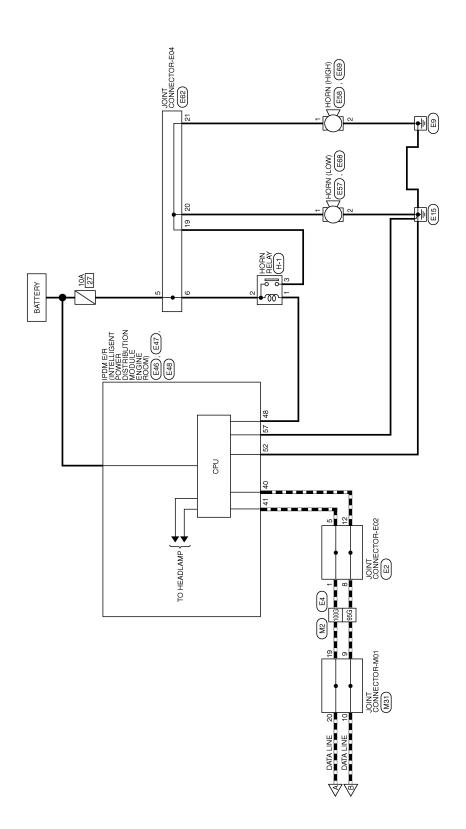
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VEHICLE SECURITY SYSTEM [WITHOUT INTELLIGENT KEY SYSTEM]

А A В FRONT DOOR LOCK ASSEMBLY D9 CAN SYSTEM С FULL STROKE JOINT CONNECTOR-M03 (M53) 119 LOCK BETWEEN FULL STROKE AND N D KEY CYLINDER SWITCH OHC 50 ß z Ε BETWEEN FULL STROKE AND N DATA LINE E NE DATA UNLOCK 엯 F FULL STROKE 33 48C G 49C Н M21 BCM (BODY CONTROL MODULE) (M20), M13 LOCK M13 42C J UNLOCK 52C SEC L M74 D101 LOCK 12A M74 42A Μ 2 UNLOCK 52A β Ν

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VEHICLE SECURITY SYSTEM [WITHOUT INTELLIGENT KEY SYSTEM]

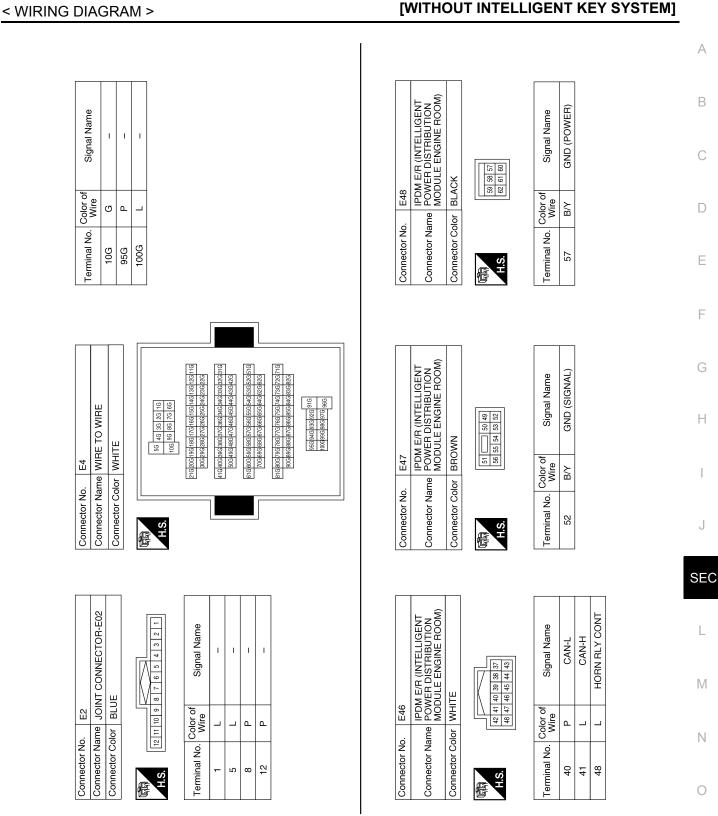
< WIRING DIAGRAM >

Revision: December 2014

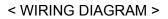
VEHICLE SECURITY SYSTEM [WITHOUT INTELLIGENT KEY SYSTEM]

Connector No. M50 Connector Name KEY SWITCH Connector Color GRAY	Terminal No. Color of Wire Signal Name 1 GR - 2 BR -	Connector No. M74 Connector Name WIRE TO WIRE Connector Color WHITE	1A 2A 3A 4A 5A 6A 7A 8A 9A 10A 11A 12A 13A 14A 15A fra4 15A 15A 14A 15A 14A 15A 14A 15A fra4 15A 14A 15A 14A 15A <	Terminal No.Color of WireSignal Name12AB-42AGR-52ABR-
Connector No. M31 Connector Name JOINT CONNECTOR-M01 Connector Color GRAY	Signal Name	M60 JOINT CONNECTOR-M06 BLUE 8 7 6 6 4 3 2 1 1 18 7 16 15 14 13 12 11	Signal Name	
r No. M31 r Name JOINT CC r Color GRAY	Color of Wire P L L L		Color of Wire LG W	-
Connector No. Connector Name Connector Color	Terminal No. 9 10 19 20	Connector No. Connector Name Connector Color	Terminal No. 5 7	
23 2 2				
M24 COMBINATION METER WHITE 13 12 11 10 9 8 7 6 5 4 13 22 31 30 29 28 27 26 24 24	Signal Name SECURITY BAT	Connector No. M53 Connector Name JOINT CONNECTOR-M03 Max JOINT CONNECTOR-M	Signal Name	1
	Color of Wire LG	Vo. M53 Vame JOINT Solor PINK 2019 18 17 16	Color of Wire P	
Connector No. Connector Name Connector Color H.S. (10 19 18 17 16 15 14 40 39 38 37 38 38 34	Terminal No. 18 27	Connector No. Connector Name Connector Color	Terminal No. 14 15 19	20

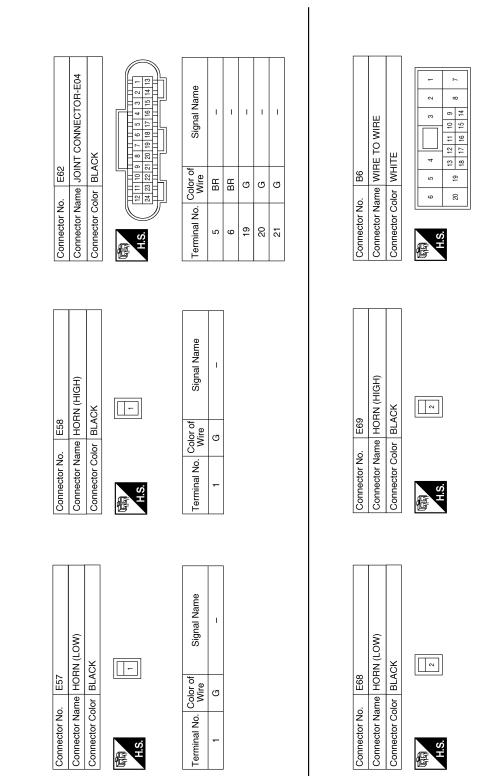
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VEHICLE SECURITY SYSTEM

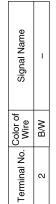


VEHICLE SECURITY SYSTEM [WITHOUT INTELLIGENT KEY SYSTEM]



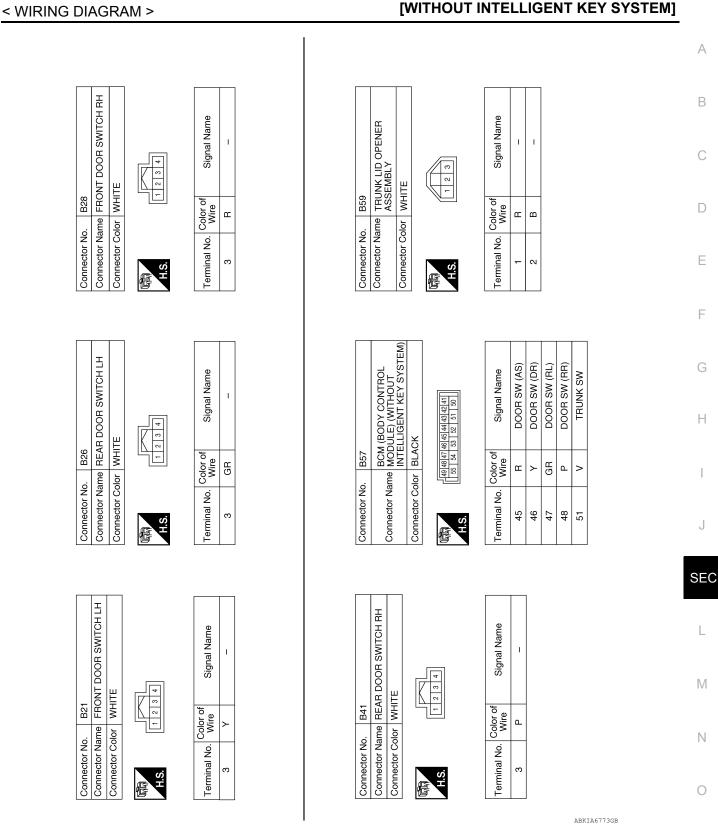
Signal Name Color of Wire ш > Terminal No. 13 20

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Revision: December 2014

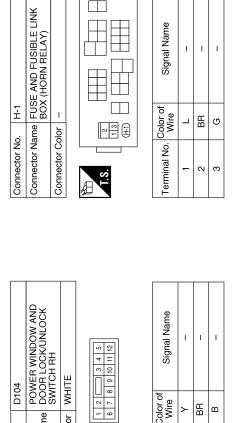
Terminal No. Color of Virie Signal Name 13C B - 42C L - 43C Y - 43C P - 43C R - 43C N - 43C R - 43C R - 52C BR - 53 Nine Signal Name Connector Name WIFE TO WIFE 53 Y -	· @ >-
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VEHICLE SECURITY SYSTEM

Revision: December 2014

[WITHOUT INTELLIGENT KEY SYSTEM]

VEHICLE SECURITY SYSTEM [WITHOUT INTELLIGENT KEY SYSTEM]



WHITE

Connector Color

佢

Connector Name

D104

Connector No.

8 9 10 11 12	Signal Name	I	I	Ι
	Color of Wire	Y	BR	В
H.S.	Terminal No. Wire	-	2	Е

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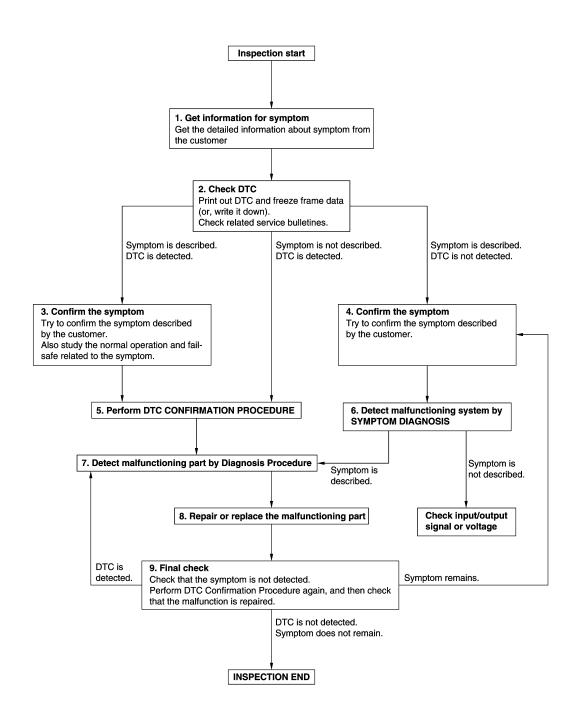
[WITHOUT INTELLIGENT KEY SYSTEM]

BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000011536892

OVERALL SEQUENCE



DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

1. GET INFORMATION FOR SYMPTOM	^
1. Get detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurs).	A
2. Check operation condition of the function that is malfunctioning.	В
>> GO TO 2.	
2. CHECK DTC	C
1. Check DTC.	0
 Perform the following procedure if DTC is detected. Record DTC and freeze frame data (Print them out using CONSULT.) Erase DTC. 	D
 Study the relationship between the cause detected by DTC and the symptom described by the customer. Check related service bulletins for information. 	Е
Are any symptoms described and any DTC detected?	
Symptom is described, DTC is detected>>GO TO 3. Symptom is described, DTC is not detected>>GO TO 4. Symptom is not described, DTC is detected>>GO TO 5.	F
3. CONFIRM THE SYMPTOM	
Try to confirm the symptom described by the customer. Also study the normal operation and fail-safe related to the symptom. Verify relation between the symptom and the condition when the symptom is detected.	G
>> GO TO 5.	
4.CONFIRM THE SYMPTOM	
Try to confirm the symptom described by the customer. Verify relation between the symptom and the condition when the symptom is detected.	I
>> GO TO 6.	J
5.PERFORM DTC CONFIRMATION PROCEDURE	
	SEC
again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to <u>BCS-113, "DTC Inspection Priority Chart"</u> and determine trouble diagnosis order.	L
 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. 	M
If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIR- MATION PROCEDURE.	Ν
Is DTC detected?	
YES >> GO TO 7. NO >> Check according to <u>GI-40. "Intermittent Incident"</u> .	0
6. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS	0
Detect malfunctioning system according to SYMPTOM DIAGNOSIS based on the confirmed symptom in step	_
4, and determine the trouble diagnosis order based on possible causes and symptom. <u>Is the symptom described?</u>	Ρ
YES >> GO TO 7.	
NO >> Monitor input data from related sensors or check voltage of related module terminals using CON- SULT.	
7. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE	

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to <u>GI-40, "Intermittent Incident"</u>.

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9.FINAL CHECK

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

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

Is DTC detected and does symptom remain?

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

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

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT < BASIC INSPECTION > [WITHOUT INTELLIGENT KEY SYSTEM] ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT ECM	А
ECM : Description	D
Performing the following procedure can automatically activate re-communication of ECM and BCM, but only when the ECM is replaced with a new one*. *: New one means an ECM that has never been energized on-board. NOTE:	B
 When the replaced ESM is not a brand new, the specified procedure (Initialization of BCM and registration of ignition keys) using CONSULT is necessary. If multiple keys are attached to the key holder, separate them before beginning work. Distinguish keys with unregistered key IDs from those with registered IDs. 	D
ECM : Work Procedure	Е
1.PERFORM ECM RECOMMUNICATING FUNCTION	
 Install ECM. Insert the registered ignition key* into key cylinder, then turn ignition switch ON. *: To perform this step, use the key that is used before performing ECM replacement. 	F
 Maintain ignition switch in the ON position for at least 5 seconds. Turn ignition switch OFF. Start the engine. 	G
>> GO TO 2. 2.PERFORM ADDITIONAL SERVICE WHEN REPLACING ECM	Η
Perform <u>EC-136, "Work Procedure"</u> .	I
>> Inspection End BCM	J
BCM : Description	
BEFORE REPLACEMENT	SEC
When replacing BCM, save or print current vehicle specification with CONSULT configuration before replace- ment.	
NOTE: If "Before Replace ECU" cannot be used, use the "After Replace ECU" or "Manual Configuration" after replac- ing BCM.	L
AFTER REPLACEMENT	Μ
 CAUTION: When replacing BCM, you must perform "After Replace ECU" with CONSULT. Complete the procedure of "After Replace ECU" in order. If you set incorrect "After Replace ECU", incidents might occur. Configuration is different for each vehicle model. Confirm configuration of each vehicle model. When replacing BCM, perform the system initialization (NATS). 	N
BCM : Work Procedure	
1.SAVING VEHICLE SPECIFICATION	Ρ
CONSULT	

Enter "Re/Programming, Configuration" and perform "Before Replace ECU" to save or print current vehicle specification. **NOTE:**

If "Before Replace ECU" cannot be used, use the "After Replace ECU" or "Manual Configuration" after replacing BCM.

ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

>> GO TO 2.

2.REPLACE BCM

Replace BCM. Refer to BCS-133, "Removal and Installation".

>> GO TO 3.

3. WRITING VEHICLE SPECIFICATION

- 1. Enter "Re/Programming, Configuration".
- If "Before Replace ECU" operation was performed, automatically an "Operation Log Selection" screen will be displayed. Select the applicable file from the "Saved Data List" and press "Confirm" to write vehicle specification. Refer to <u>BCS-120</u>, "<u>CONFIGURATION (BCM)</u>: <u>Work Procedure</u>".
- 3. If "Before Replace ECU" operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to <u>BCS-120</u>, "CONFIGURATION (BCM) : Work Procedure".

>> GO TO 4.

4.INITIALIZE BCM (NATS)

Perform BCM initialization. (NATS)

>> Work End.

[WITHOUT INTELLIGENT KEY SYSTEM]

INFOID:000000011536897

< DTC/CIRCUIT DIAGNOSIS >
DTC/CIRCUIT DIAGNOSIS

U1000 CAN COMM

Description

Refer to LAN-7, "CAN COMMUNICATION SYSTEM : System Description".

DTC Logic

DTC DETECTION LOGIC

NOTE:

U1000 can be set if a module harness was disconnected and reconnected, perhaps during a repair. Confirm that there are actual CAN diagnostic symptoms and a present DTC by performing the Self Diagnostic Result procedure.

CONSULT Display	DTC Detection Condition	Possible Cause	
CAN COMM CIRCUIT [U1000]	When any listed module cannot communicate with CAN communication signal continuously for 2 seconds or more with ignition switch ON	In CAN communication system, any item (or items) of the following listed below is malfunc- tioning. • Transmission • Receiving (ECM) • Receiving (VDC/TCS/ABS) • Receiving (METER/M&A) • Receiving (TCM) • Receiving (IPDM E/R)	_

Diagnosis Procedure

1. PERFORM SELF DIAGNOSTIC RESULT

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

2. Check "SELF- DIAG RESULTS".

Is "CAN COMM CIRCUIT" displayed?

YES >> Perform CAN Diagnosis as described in DIAGNOSIS section of CONSULT operation manual.

SEC-175

NO >> Refer to GI-40, "Intermittent Incident".



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U1010 CONTROL UNIT (CAN)

DTC Logic

INFOID:000000011536900

INFOID:000000011536901

[WITHOUT INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

CONSULT Display	DTC Detection Condition	Possible Cause
CONTROL UNIT (CAN) [U1010]	BCM detected internal CAN communication cir- cuit malfunction.	ВСМ

Diagnosis Procedure

1.REPLACE BCM

When DTC "U1010" is detected, replace BCM.

>> Replace BCM. Refer to BCS-133, "Removal and Installation".

< DTC/CIRCUIT DIAGNOSIS >

P1610 LOCK MODE

Description

When the starting operation is carried more than five times consecutively under the following conditions, NATS $_{\rm B}$ will shift to the mode which prevents the engine from being started.

- Unregistered mechanical key is used.
- BCM or ECM malfunctioning.

DTC Logic

INFOID:000000011536903

INFOID:000000011536902

[WITHOUT INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1610	LOCK MODE	 When the starting operation is carried out five or more times consecutively under the following conditions. Unregistered mechanical key BCM or ECM malfunctioning. 	 Mechanical key BCM ECM
DTC CONFI	RMATION PROCE	DURE	
1.PERFORM	I DTC CONFIRMAT	ION PROCEDURE	
	tion switch ON. Self diagnostic result" ted?	with CONSULT.	
	Refer to <u>SEC-177, "D</u> nspection End.	iagnosis Procedure".	
Diagnosis	Procedure		INFOID:000000011536904
1. снеск е	NGINE START FUN	CTION	
2. Use CON	the check for DTC ex NSULT to erase DTC at engine can start w		
	<u>ine start?</u> nspection End. SO TO 2		
2.CHECK IN	ITERMITTENT INCI	DENT	
Refer to <u>GI-4</u>	0, "Intermittent Incide	ent".	
>> lı	nspection End.		

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B2190, P1614 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

B2190, P1614 NATS ANTENNA AMP.

Description

Performs ID verification through BCM and NATS antenna amplifier when ignition key is inserted and ignition switch turned ON.

Prohibits the start of engine when an unregistered ID of ignition key is used.

DTC Logic

INFOID:000000011536906

INFOID:000000011536905

[WITHOUT INTELLIGENT KEY SYSTEM]

DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2190			Harness or connectors (The NATE of Connectors)
P1614	NATS ANTENNA AMP	 Inactive communication between NATS antenna amp. and BCM. Ignition key is malfunctioning. 	(The NATS antenna amp. circuit is open or shorted)Ignition keyNATS antenna amp.BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

- YES >> Refer to <u>SEC-178. "Diagnosis Procedure"</u>.
- NO >> Inspection End.

Diagnosis Procedure

INFOID:000000011536907

Regarding Wiring Diagram information, refer to <u>SEC-152, "Wiring Diagram"</u>.

1.CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to <u>SEC-192. "Removal and Installation"</u>.

Is the inspection result normal?

- YES >> GO TO 2
- NO >> Reinstall NATS antenna amp. correctly.

2.CHECK NVIS (NATS) IGNITION KEY ID CHIP

Start engine with another registered NATS ignition key.

Does the engine start?

- YES >> Ignition key ID chip is malfunctioning.
 - Replace the ignition key.
 - Perform initialization with CONSULT.
 - For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

NO >> GO TO 3

3.CHECK POWER SUPPLY FOR NATS ANTENNA AMP.

1. Turn ignition switch ON.

2. Check voltage between NATS antenna amp. connector M42 terminal 1 and ground.

1 - Ground

: Battery voltage

Is the inspection result normal?

< DTC/CIRC	UIT DIAGNO	•	S ANTENNA AMP. [WITHOUT INTELLIGENT KEY SY	STEM]
YES >> (GO TO 4			
	• •	ce fuse or harness.		A
4.CHECK N	IATS ANTENN	ia amp. Ground line cii	RCUIT	
2. Disconne		nna amp. connector.	nnector M42 terminal 3 and ground.	В
3 - Gi	round	: Continuity should ex	xist.	С
YES >> (<u>tion result norr</u> GO TO 5			D
NO >>•	Repair or rep	lace harness.		D
	If harness is		<u>3. "Removal and Installation"</u> . Perform initializat ONSULT Immobilizer mode and follow the or	
5.CHECK N	IATS ANTENN	IA AMP. SIGNAL LINE- 1		
2. Turn igni	tion switch ON		ector M42 terminal 2 and ground with analog te	ster . G
Ter	minals		Voltage (V)	
(+)	(-)	Position of ignition key cylinder	(Approx.)	H
		Before inserting ignition key	Battery voltage	
2	Ground	After inserting ignition key	Pointer of tester should move for approx. 30 seconds, then return to battery voltage	I
		Just after turning ignition switch ON	Pointer of tester should move for approx. 1 second, then return to battery voltage	J
Is the inspec	tion result norr	mal?		
-	GO TO 6 Repair or rep NOTE:			SEC
			3, "Removal and Installation". Perform initializat ONSULT Immobilizer mode and follow the or	

instructions.

6. CHECK NATS ANTENNA AMP. SIGNAL LINE-2

Check voltage between NATS antenna amp. connector M42 terminal 4 and ground with analog tester.

Terminals		- Position of ignition key cylinder	Voltage (V)	
(+)	(-)		(Approx.)	
		Before inserting ignition key	Battery voltage	
4	Ground	After inserting ignition key	Pointer of tester should move for approx. 30 seconds, then return to battery voltage	
		Just after turning ignition switch ON	Pointer of tester should move for approx. 1 second, then return to battery voltage	

Is the inspection result normal?

NO >>• Repair or replace harness. NOTE: Μ

YES >> NATS antenna amp. is malfunctioning. Replace NATS antenna amp. Refer to <u>SEC-192, "Removal</u> <u>and Installation"</u>.

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

If harness is OK, replace BCM, refer to <u>BCS-133</u>, "<u>Removal and Installation</u>". Perform initialization with CONSULT. For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

< DTC/CIRCUIT DIAGNOSIS >

B2191, P1615 DIFFERENCE OF KEY

Description

Performs ID verification through BCM when mechanical key is inserted in the ignition key cylinder. Prohibits the release of steering lock or start of engine when an unregistered ID of mechanical key is used.

DTC Logic

DTC DETECTION LOGIC

	name	DTC detecting condition	Possible cause	
B2191 DIF	FERENCE OF	The ID verification results between BCM and me-	Mechanical key	
P1615 KEY	(chanical key are NG. The registration is necessary.	Mechanical Key	E

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

- Insert mechanical key into the key cylinder. 1.
- 2. Check "Self diagnostic result" with CONSULT.

Is DTC detected?

YES >> Refer to SEC-181, "Diagnosis Procedure". NO >> Inspection End.

Diagnosis Procedure

1.PERFORM INITIALIZATION

Perform initialization with CONSULT. Re-register all mechanical keys.

For initialization and registration of mechanical key. Refer to CONSULT Immobilizer mode and follow the onscreen instructions.

Can the system be initialized and can the engine be started with re-registered mechanical key?

- YES >> Mechanical key was unregistered.
- NO >> BCM is malfunctioning.
 - Replace BCM. Refer to <u>BCS-133</u>, "Removal and Installation".
 - Perform initialization again.

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< DTC/CIRCUIT DIAGNOSIS >

B2192, P1611 ID DISCORD, IMMU-ECM

Description

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

DTC Logic

DTC DETECTION LOGIC

NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>BCS-124, "DTC Logic"</u>.
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-125, "DTC Logic".

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

- YES >> Refer to <u>SEC-182</u>, "Diagnosis Procedure".
- NO >> Inspection End.

Diagnosis Procedure

1.PERFORM INITIALIZATION

Perform initialization with CONSULT. Re-register all mechanical keys.

For initialization and registration of mechanical key, refer to CONSULT Immobilizer mode and follow the onscreen instructions.

Can the system be initialized and can the engine be started with re-registered mechanical key?

- YES >> ID was unregistered.
- NO >> GO TO 2

2.REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-133, "Removal and Installation"</u>.
- 2. Perform initialization with CONSULT. Re-register all mechanical keys.
- For initialization and registration of mechanical key, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

Can the system be initialized and can the engine be started with re-registered mechanical key?

YES >> BCM is malfunctioning.

NO >> GO TO 3

3.REPLACE ECM

- 1. Replace ECM. Refer to EC-488, "Removal and Installation".
- 2. Perform initialization with CONSULT. Re-register all mechanical keys.
- For initialization and registration of mechanical key, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

Can the system be initialized and can the engine be started with re-registered mechanical key?

YES >> ECM is malfunctioning.

NO >> GO TO 4

INFOID:000000011536911

INFOID:000000011536912

INFOID:000000011536913

	B2192, P1611 ID DISCORD, IMMU-ECM DTC/CIRCUIT DIAGNOSIS > [WITHOUT INTELLIGENT KEY SYSTEM]			
4.CHECK INTERMITTENT INCIDENT				
Refer to GI-40. "Intermittent Incident".	A			
>> Inspection End.	В			
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< DTC/CIRCUIT DIAGNOSIS >

B2193, P1612 CHAIN OF ECM-IMMU

Description

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

DTC Logic

INFOID:000000011536915

INFOID:000000011536916

INFOID:000000011536914

DTC DETECTION LOGIC

- NOTE:
- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-124, "DTC Logic".
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to <u>BCS-125, "DTC Logic"</u>.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2193			Harness or connectors
P1612	CHAIN OF BCM- ECM	Inactive communication between ECM and BCM	(The CAN communication line is open or short)BCMECM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

- YES >> Refer to <u>SEC-184, "Diagnosis Procedure"</u>.
- NO >> Inspection End.

Diagnosis Procedure

1.REPLACE BCM

- 1. Replace BCM. Refer to <u>BCS-133, "Removal and Installation"</u>.
- Perform initialization with CONSULT.
 For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

Does the engine start?

NO

- YES >> Inspection End.
 - >> ECM is malfunctioning.
 - Replace ECM.
 - Perform ECM re-communicating function.

B2195 ANTI-SCANNING [WITHOUT INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

B2195 ANTI-SCANNING

DTC Logic

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DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2195	ANTI SCANNING	ID verification between BCM and ECM is de- tected out of specification	ID verification request out of specification
DTC CONF	IRMATION PROCED	URE	
1.PERFORM	M DTC CONFIRMATIO	N PROCEDURE	
2. Check D Is DTC detec YES >> F		Result" mode of "BCM" using CONSULT	-
Diagnosis	Procedure		INFOID:0000000115369
1. CHECK S	ELF DIAGNOSTIC RE	SULT 1	
2. Erase D 3. Perform Is DTC detect YES >> 0 NO >> 1	TC. DTC Confirmation Proc	of "BCM" using CONSULT. cedure for DTC P2195. Refer to <u>SEC-18</u> /EHICLE	<u>5, "DTC Logic"</u> .
		art related to engine start is not installed	
YES >> (NO >> (<u>d accessory part related</u> GO TO 3. GO TO 4. ELF DIAGNOSTIC RE	<u>d to engine start installed?</u> SULT 2	
		I to remove unspecified accessory part	related to engine start, and the
3. Erase D	Self Diagnostic Result" (TC. DTC CONFIRMATION	of "BCM" using CONSULT. PROCEDURE for DTC B2195. Refer to	SEC-185, "DTC Logic".
	GO TO 4.		
NO >> I	nspection End.		
4	EBCM		
4.REPLACE			
 REPLACE Replace Perform For initia 	initialization of BCM an	3, "Removal and Installation". d registration of all ignition keys using C n procedures, refer to CONSULT Imm	

B2196 DONGLE UNIT

Description

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

DTC Logic

DTC DETECTION LOGIC

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

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

1. Turn ignition switch ON.

- 2. Turn ignition switch OFF.
- 3. Turn ignition switch ON.
- 4. Check DTC in "Self-diagnosis result" mode of "BCM" using CONSULT.

Is the DTC detected?

YES >> Refer to <u>SEC-186. "Diagnosis Procedure"</u>.

NO >> Inspection End.

Diagnosis Procedure

INFOID:000000011536921

Regarding Wiring Diagram information, refer to SEC-152. "Wiring Diagram".

1.PERFORM INITIALIZATION

- Perform initialization of BCM and registration of all mechanical keys using CONSULT. For initialization and registration procedures, refer to CONSULT Immobilizer mode and follow the onscreen instructions.
- 2. Start the engine.

Does the engine start?

YES >> Inspection End. NO >> GO TO 2.

2. CHECK DONGLE UNIT CIRCUIT

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

В	BCM Dong		le unit	Continuity	
Connector	Terminal	Connector Terminal		Continuity	
M21	24	M39	1	Yes	

4. Check continuity between BCM harness connector and ground.

BC	CM		Continuity	
Connector Terminal		Ground	Continuity	
M21	24		No	

Is the inspection result normal?

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INFOID:000000011536920

B2196 DONGLE UNIT

WITHOUT INTELLIGENT KEY SYSTEM1

COTC/CIRCUIT DIAGNOSIS	>	[WITHOUT INT	ELLIGENT KEY SYSTEM]
YES >> GO TO 3.			
NO >> Repair or replace h CHECK DONGLE UNIT GR			
		an and many a	
Check continuity between dong	le unit narness connect	for and ground.	
Dongle u	nit		Continuity
Connector	Terminal	Ground	Continuity
M39	4		Yes
s the inspection result normal?			
YES >> Replace dongle uni	t.		
NO >> Repair or replace h	amess.		

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

POWER SUPPLY AND GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000011900867

Regarding Wiring Diagram information, refer to BCS-115, "Wiring Diagram".

1. CHECK FUSES AND FUSIBLE LINK

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

Terminal No.	Signal name	Fuses and fusible link No.
63	Potton, power supply	12 (10A)
70	Battery power supply	G (40A)
11	Ignition switch ACC or ON	18 (10A)

Is the fuse blown?

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

NO >> GO TO 2.

2. CHECK POWER SUPPLY CIRCUIT

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

BCM			Ignition switch position		
Connector	Terminal	Cround	OFF	ACC	ON
M20	63	Ground	Battery voltage	Battery voltage	Battery voltage
WZO	70				
M21	11	—	0 V	Battery voltage	Battery voltage

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

Check continuity between BCM connector and ground.

B	СМ	Ground	Continuity	
Connector	Connector Terminal		Continuity	
M20	65	_	Yes	

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair harness or connector.

VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

VEHICLE SECURITY INDICATOR

Description

- Vehicle security indicator is built in combination meter.
- NATS (Nissan Anti-Theft System) condition is indicated by blink or illumination of vehicle security indicator.

Component Function Check

1.CHECK FUNCTION

- 1. Perform Active Test of THEFT IND in the IMMU mode with CONSULT.
- 2. Check vehicle security indicator operation.

Test item		Description	
THEFT IND	ON OFF	Vehicle security indicator	ON OFF
		ure".	
iagnosis Procedure egarding Wiring Diagram	information, refer to <u>SE</u>	EC-152, "Wiring Diagram".	INFOID:000000011536925
.CHECK SECURITY IND	ICATOR LAMP POWE	R SUPPLY CIRCUIT	
Turn ignition switch OF			
Disconnect combination	n meter connector. n combination meter ha	arness connector and ground	
	(+)		
	ation meter	(-)	Voltage (V)
Connector M24	Terminal 27	Ground	Battery voltage
the inspection result norn		Cround	Dattery voltage
	NCATOR LAMP SIGNA	een combination meter and f	use.
	(+)		
BCM		(-)	Voltage (V)
	Terminal		
Connector			
Connector M21	23	Ground	Battery voltage
		Ground	Battery voltage
M21 the inspection result norm	nal?	emoval and Installation".	Battery voltage

1. Disconnect combination meter connector.

[WITHOUT INTELLIGENT KEY SYSTEM]

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VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

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

Combination meter		BCM		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M24	18	M21	23	Yes

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

Combination meter			Continuity
Connector	Terminal	Ground	Continuity
M24	18		No

Is the inspection result normal?

YES >> Replace combination meter. Refer to <u>MWI-77, "Removal and Installation"</u>.

NO >> Repair or replace harness.

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

Symptom Table

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[WITHOUT INTELLIGENT KEY SYSTEM]

NOTE:

- Before performing the diagnosis in the following table, check "SEC-170, "Work Flow"".
- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and C check each symptom.
- If the following symptoms are detected, check systems shown in the "Diagnosis/service procedure" column in this order.

CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

· Mechanical key is not inserted into key cylinder.

Symptom	Diagnosis/service procedure	Reference page		
Coourity indicator doos not turn ON or flack	1. Check vehicle security indicator	<u>SEC-189</u>		
Security indicator does not turn ON or flash.	2. Check Intermittent Incident	<u>GI-40</u>	F	

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REMOVAL AND INSTALLATION NATS ANTENNA AMP.

Removal and Installation

REMOVAL

- 1. Remove instrument finisher B. Refer to IP-14, "Exploded View".
- 2. Using a suitable tool release the pawls on either side and remove the NATS antenna amp. from the pushbutton ignition switch.

INSTALLATION

Installation is in the reverse order of removal.