

# SECTION **SEC**

## SECURITY CONTROL SYSTEM

A  
B  
C

### CONTENTS

D  
E

**WITH INTELLIGENT KEY SYSTEM**

<b>PRECAUTION</b> .....	5	<b>NISSAN ANTI-THEFT SYSTEM</b> : System Description .....	14
<b>PRECAUTIONS</b> .....	5	<b>VEHICLE SECURITY SYSTEM</b> .....	16
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" .....	5	<b>VEHICLE SECURITY SYSTEM</b> : System Description .....	16
<b>SYSTEM DESCRIPTION</b> .....	6	<b>DIAGNOSIS SYSTEM (BCM)</b> .....	19
<b>COMPONENT PARTS</b> .....	6	<b>COMMON ITEM</b> .....	19
Component Parts Location .....	6	<b>COMMON ITEM</b> : CONSULT Function (BCM - COMMON ITEM) .....	19
Component Description .....	8	<b>INTELLIGENT KEY</b> .....	20
CVT Shift Selector (Park Position Switch) .....	8	<b>INTELLIGENT KEY</b> : CONSULT Function (BCM - INTELLIGENT KEY) .....	20
BCM .....	8	<b>IMMU</b> .....	22
ECM .....	9	<b>IMMU</b> : CONSULT Function (BCM - IMMU) .....	22
IPDM E/R .....	9	<b>THEFT ALM</b> .....	22
NATS Antenna Amp. ....	9	<b>THEFT ALM</b> : CONSULT Function (BCM - THEFT) .....	22
Combination Meter .....	9	<b>ECU DIAGNOSIS INFORMATION</b> .....	24
Door Switch .....	9	<b>ECM, IPDM E/R, BCM</b> .....	24
Outside Key Antenna .....	9	List of ECU Reference .....	24
Inside Key Antenna .....	9	<b>WIRING DIAGRAM</b> .....	25
Remote Keyless Entry Receiver .....	9	<b>INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION</b> .....	25
Intelligent Key .....	9	Wiring Diagram .....	25
Push-button Ignition Switch .....	9	<b>NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS</b> .....	39
Security Indicator Lamp .....	9	Wiring Diagram .....	39
Starter Relay .....	10	<b>VEHICLE SECURITY SYSTEM</b> .....	48
Stop Lamp Switch .....	10	Wiring Diagram .....	48
Transmission Range Switch .....	10	<b>BASIC INSPECTION</b> .....	58
Park/neutral position (PNP) switch (neutral switch) .....	10		
Clutch interlock switch .....	10		
<b>SYSTEM</b> .....	11		
<b>INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION</b> .....	11		
<b>INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION</b> : System Description .....	11		
<b>NISSAN ANTI-THEFT SYSTEM</b> .....	13		

F  
G  
H  
I  
J  
SEC

L  
M  
N  
O  
P

<b>DIAGNOSIS AND REPAIR WORK FLOW</b> .....	<b>58</b>	Diagnosis Procedure .....	79
Work Flow .....	58		
<b>ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT</b> .....	<b>61</b>	<b>B2601 SHIFT POSITION</b> .....	<b>80</b>
<b>ECM</b> .....	<b>61</b>	DTC Logic .....	80
ECM : Description .....	61	Diagnosis Procedure .....	80
ECM : Work Procedure .....	61	<b>B2602 SHIFT POSITION</b> .....	<b>82</b>
<b>BCM</b> .....	<b>61</b>	DTC Logic .....	82
BCM : Description .....	61	Diagnosis Procedure .....	82
BCM : Work Procedure .....	61	Component Inspection .....	84
<b>DTC/CIRCUIT DIAGNOSIS</b> .....	<b>63</b>	<b>B2603 SHIFT POSITION</b> .....	<b>85</b>
<b>P1610 LOCK MODE</b> .....	<b>63</b>	DTC Logic .....	85
Description .....	63	Diagnosis Procedure .....	85
DTC Logic .....	63	Component Inspection (Transmission Range Switch) .....	88
Diagnosis Procedure .....	63	Component Inspection [CVT Shift Selector (Park Position Switch)] .....	88
<b>P1611 ID DISCORD, IMMU-ECM</b> .....	<b>64</b>	<b>B2604 SHIFT POSITION</b> .....	<b>90</b>
DTC Logic .....	64	DTC Logic .....	90
Diagnosis Procedure .....	64	Diagnosis Procedure .....	90
<b>P1612 CHAIN OF ECM-IMMU</b> .....	<b>65</b>	Component Inspection .....	92
DTC Logic .....	65	<b>B2605 SHIFT POSITION</b> .....	<b>93</b>
Diagnosis Procedure .....	65	DTC Logic .....	93
<b>B2192 ID DISCORD, IMMU-ECM</b> .....	<b>66</b>	Diagnosis Procedure .....	93
DTC Logic .....	66	<b>B2608 STARTER RELAY</b> .....	<b>95</b>
Diagnosis Procedure .....	66	DTC Logic .....	95
<b>B2193 CHAIN OF ECM-IMMU</b> .....	<b>67</b>	Diagnosis Procedure .....	95
DTC Logic .....	67	<b>B260F ENGINE STATUS</b> .....	<b>97</b>
Diagnosis Procedure .....	67	Description .....	97
<b>B2195 ANTI-SCANNING</b> .....	<b>68</b>	DTC Logic .....	97
DTC Logic .....	68	Diagnosis Procedure .....	97
Diagnosis Procedure .....	68	<b>B261F ASCD CLUTCH SWITCH</b> .....	<b>98</b>
<b>B2196 DONGLE UNIT</b> .....	<b>69</b>	DTC Logic .....	98
Description .....	69	Diagnosis Procedure .....	98
DTC Logic .....	69	Component Inspection .....	100
Diagnosis Procedure .....	69	<b>B2620 PARK/NEUTRAL POSITION SWITCH</b> .....	<b>101</b>
<b>B2198 NATS ANTENNA AMP.</b> .....	<b>71</b>	DTC Logic .....	101
DTC Logic .....	71	Diagnosis Procedure .....	101
Diagnosis Procedure .....	71	Component Inspection .....	103
<b>B2555 STOP LAMP</b> .....	<b>74</b>	<b>B26E8 CLUTCH INTERLOCK SWITCH</b> .....	<b>104</b>
DTC Logic .....	74	DTC Logic .....	104
Diagnosis Procedure .....	74	Diagnosis Procedure .....	104
Component Inspection .....	75	Component Inspection (Clutch Interlock Switch) .....	107
<b>B2556 PUSH-BUTTON IGNITION SWITCH</b> ....	<b>77</b>	Component Inspection (Clutch Pedal Position Switch) .....	107
DTC Logic .....	77	<b>B26F3 STARTER CONTROL RELAY</b> .....	<b>108</b>
Diagnosis Procedure .....	77	DTC Logic .....	108
Component Inspection .....	78	Diagnosis Procedure .....	108
<b>B2557 VEHICLE SPEED</b> .....	<b>79</b>	<b>B26F4 STARTER CONTROL RELAY</b> .....	<b>109</b>
DTC Logic .....	79	DTC Logic .....	109
		Diagnosis Procedure .....	109

<b>B26F7 BCM</b> .....	<b>110</b>	<b>INTELLIGENT KEY SYSTEM SYMPTOMS</b> ...	<b>133</b>	
DTC Logic .....	110	Diagnosis Procedure .....	133	A
Diagnosis Procedure .....	110	<b>ENGINE CAN NOT START</b> .....	<b>134</b>	
<b>B26F8 BCM</b> .....	<b>111</b>	Description .....	134	B
DTC Logic .....	111	Diagnosis Procedure .....	134	
Diagnosis Procedure .....	111	<b>ENGINE DOES NOT START WHEN INTELLI-</b>		
<b>B26F9 CRANKING REQUEST CIRCUIT</b> .....	<b>112</b>	<b>    GENT KEY IS INSIDE OF VEHICLE</b> .....	<b>135</b>	C
DTC Logic .....	112	Description .....	135	
Diagnosis Procedure .....	112	Diagnosis Procedure .....	135	
<b>B26FA CRANKING REQUEST CIRCUIT</b> .....	<b>114</b>	<b>ENGINE DOES NOT START WHEN INTELLI-</b>		
DTC Logic .....	114	<b>    GENT KEY IS INSIDE OF VEHICLE (ONE</b>		D
Diagnosis Procedure .....	114	<b>    KEY)</b> .....	<b>137</b>	
<b>B26FB CLUTCH SWITCH</b> .....	<b>116</b>	Description .....	137	E
DTC Logic .....	116	Diagnosis Procedure .....	137	
Diagnosis Procedure .....	116	<b>DOOR DOES NOT LOCK/UNLOCK AND EN-</b>		
<b>B26FC KEY REGISTRATION</b> .....	<b>117</b>	<b>    GINE DOES NOT START (REQ SW/PUSH</b>		F
DTC Logic .....	117	<b>    SW) (ONE KEY)</b> .....	<b>138</b>	
Diagnosis Procedure .....	117	Description .....	138	G
<b>B209F CRANKING REQUEST CIRCUIT</b> .....	<b>118</b>	Diagnosis Procedure .....	138	
DTC Logic .....	118	<b>REMOVAL AND INSTALLATION</b> .....	<b>140</b>	H
Diagnosis Procedure .....	118	<b>NATS ANTENNA AMP.</b> .....	<b>140</b>	
<b>B20A0 CRANKING REQUEST CIRCUIT</b> .....	<b>120</b>	Removal and Installation .....	140	I
DTC Logic .....	120	<b>PUSH-BUTTON IGNITION SWITCH</b> .....	<b>141</b>	
Diagnosis Procedure .....	120	Removal and Installation .....	141	J
<b>B210B STARTER CONTROL RELAY</b> .....	<b>122</b>	<b>    WITHOUT INTELLIGENT KEY SYSTEM</b>		
DTC Logic .....	122	<b>PRECAUTION</b> .....	<b>142</b>	
Diagnosis Procedure .....	122	<b>PRECAUTIONS</b> .....	<b>142</b>	SEC
<b>B210C STARTER CONTROL RELAY</b> .....	<b>123</b>	Precaution for Supplemental Restraint System		
DTC Logic .....	123	(SRS) "AIR BAG" and "SEAT BELT PRE-TEN-		
Diagnosis Procedure .....	123	SIONER" .....	142	L
<b>B210D STARTER RELAY</b> .....	<b>125</b>	<b>SYSTEM DESCRIPTION</b> .....	<b>143</b>	
DTC Logic .....	125	<b>COMPONENT PARTS</b> .....	<b>143</b>	M
Diagnosis Procedure .....	125	<b>NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS.</b> 143		
<b>B210E STARTER RELAY</b> .....	<b>127</b>	NISSAN VEHICLE IMMOBILIZER SYSTEM-		
DTC Logic .....	127	NATS : Component Parts Location .....	143	N
Diagnosis Procedure .....	127	NISSAN VEHICLE IMMOBILIZER SYSTEM-		
<b>B210F SHIFT POSITION/CLUTCH INTER-</b>		NATS : Component Description .....	143	
<b>    LOCK SWITCH</b> .....	<b>129</b>	<b>VEHICLE SECURITY SYSTEM</b> .....	<b>144</b>	O
DTC Logic .....	129	VEHICLE SECURITY SYSTEM :		
Diagnosis Procedure (CVT Models) .....	129	Component Parts Location .....	144	
Diagnosis Procedure (M/T Models) .....	130	VEHICLE SECURITY SYSTEM :		
<b>B2110 SHIFT POSITION/CLUTCH INTER-</b>		Component Description .....	144	P
<b>    LOCK SWITCH</b> .....	<b>131</b>	<b>SYSTEM</b> .....	<b>146</b>	
DTC Logic .....	131	<b>NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS.</b> 146		
Diagnosis Procedure (CVT Models) .....	131	NISSAN VEHICLE IMMOBILIZER SYSTEM-		
Diagnosis Procedure (M/T Models) .....	132	NATS : System Diagram .....	146	
<b>SYMPTOM DIAGNOSIS</b> .....	<b>133</b>			

NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description .....	146	<b>U1010 CONTROL UNIT (CAN)</b> .....	<b>181</b>
<b>VEHICLE SECURITY SYSTEM</b> .....	<b>147</b>	DTC Logic .....	181
VEHICLE SECURITY SYSTEM : System Diagram .....	147	Diagnosis Procedure .....	181
VEHICLE SECURITY SYSTEM : System Description .....	147	<b>P1610 LOCK MODE</b> .....	<b>182</b>
<b>DIAGNOSIS SYSTEM (BCM)</b> .....	<b>150</b>	Description .....	182
<b>COMMON ITEM</b> .....	<b>150</b>	DTC Logic .....	182
COMMON ITEM : CONSULT Function (BCM - COMMON ITEM) .....	150	Diagnosis Procedure .....	182
<b>IMMU</b> .....	<b>151</b>	<b>B2190, P1614 NATS ANTENNA AMP.</b> .....	<b>183</b>
IMMU : CONSULT Function (BCM - IMMU) .....	151	Description .....	183
<b>DIAGNOSIS SYSTEM (IPDM E/R)</b> .....	<b>152</b>	DTC Logic .....	183
Diagnosis Description .....	152	Diagnosis Procedure .....	183
CONSULT Function (IPDM E/R) .....	153	<b>B2191, P1615 DIFFERENCE OF KEY</b> .....	<b>186</b>
<b>ECU DIAGNOSIS INFORMATION</b> .....	<b>156</b>	Description .....	186
<b>ECM, IPDM E/R, BCM</b> .....	<b>156</b>	DTC Logic .....	186
List of ECU Reference .....	156	Diagnosis Procedure .....	186
<b>WIRING DIAGRAM</b> .....	<b>157</b>	<b>B2192, P1611 ID DISCORD, IMMU-ECM</b> .....	<b>187</b>
<b>NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)</b> .....	<b>157</b>	Description .....	187
Wiring Diagram .....	157	DTC Logic .....	187
<b>VEHICLE SECURITY SYSTEM</b> .....	<b>165</b>	Diagnosis Procedure .....	187
Wiring Diagram .....	165	<b>B2193, P1612 CHAIN OF ECM-IMMU</b> .....	<b>189</b>
<b>BASIC INSPECTION</b> .....	<b>175</b>	Description .....	189
<b>DIAGNOSIS AND REPAIR WORK FLOW</b> .....	<b>175</b>	DTC Logic .....	189
Work Flow .....	175	Diagnosis Procedure .....	189
<b>ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT</b> .....	<b>178</b>	<b>B2195 ANTI-SCANNING</b> .....	<b>190</b>
<b>ECM</b> .....	<b>178</b>	DTC Logic .....	190
ECM : Description .....	178	Diagnosis Procedure .....	190
ECM : Work Procedure .....	178	<b>B2196 DONGLE UNIT</b> .....	<b>191</b>
<b>BCM</b> .....	<b>178</b>	Description .....	191
BCM : Description .....	178	DTC Logic .....	191
BCM : Work Procedure .....	178	Diagnosis Procedure .....	191
<b>DTC/CIRCUIT DIAGNOSIS</b> .....	<b>180</b>	<b>POWER SUPPLY AND GROUND CIRCUIT</b> ...	<b>193</b>
<b>U1000 CAN COMM</b> .....	<b>180</b>	Diagnosis Procedure .....	193
Description .....	180	<b>VEHICLE SECURITY INDICATOR</b> .....	<b>194</b>
DTC Logic .....	180	Description .....	194
Diagnosis Procedure .....	180	Component Function Check .....	194
		Diagnosis Procedure .....	194
		<b>SYMPTOM DIAGNOSIS</b> .....	<b>196</b>
		<b>NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS</b> .....	<b>196</b>
		Symptom Table .....	196
		<b>REMOVAL AND INSTALLATION</b> .....	<b>197</b>
		<b>NATS ANTENNA AMP.</b> .....	<b>197</b>
		Removal and Installation .....	197

PRECAUTION

PRECAUTIONS

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

INFOID:000000013479399

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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.
- Improper repair, 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 Air Bag Diagnosis Sensor Unit or other Air Bag 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 or batteries, and wait at least three minutes before performing any service.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

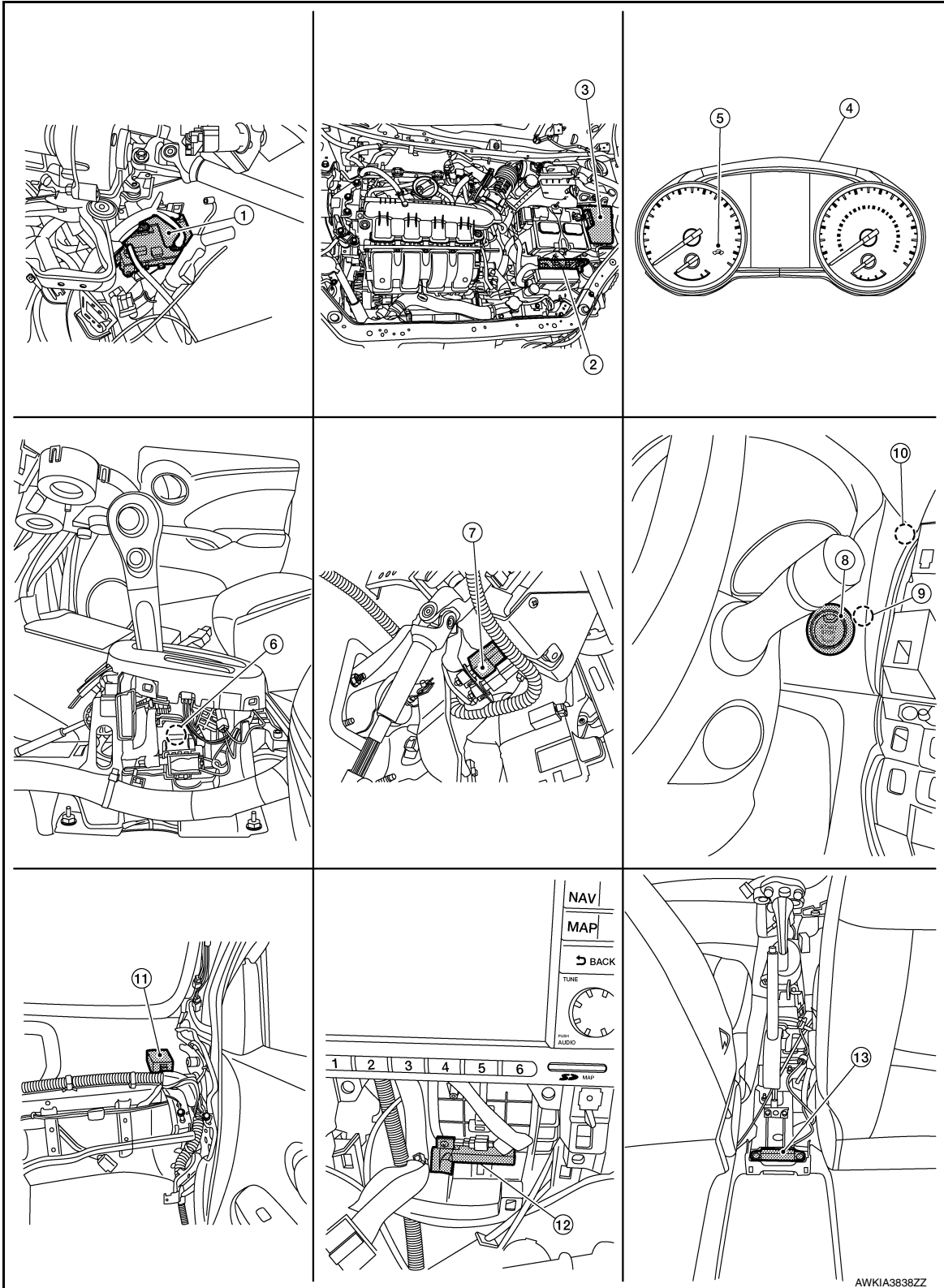
[WITH INTELLIGENT KEY SYSTEM]

## SYSTEM DESCRIPTION

### COMPONENT PARTS

#### Component Parts Location

INFOID:000000012783383

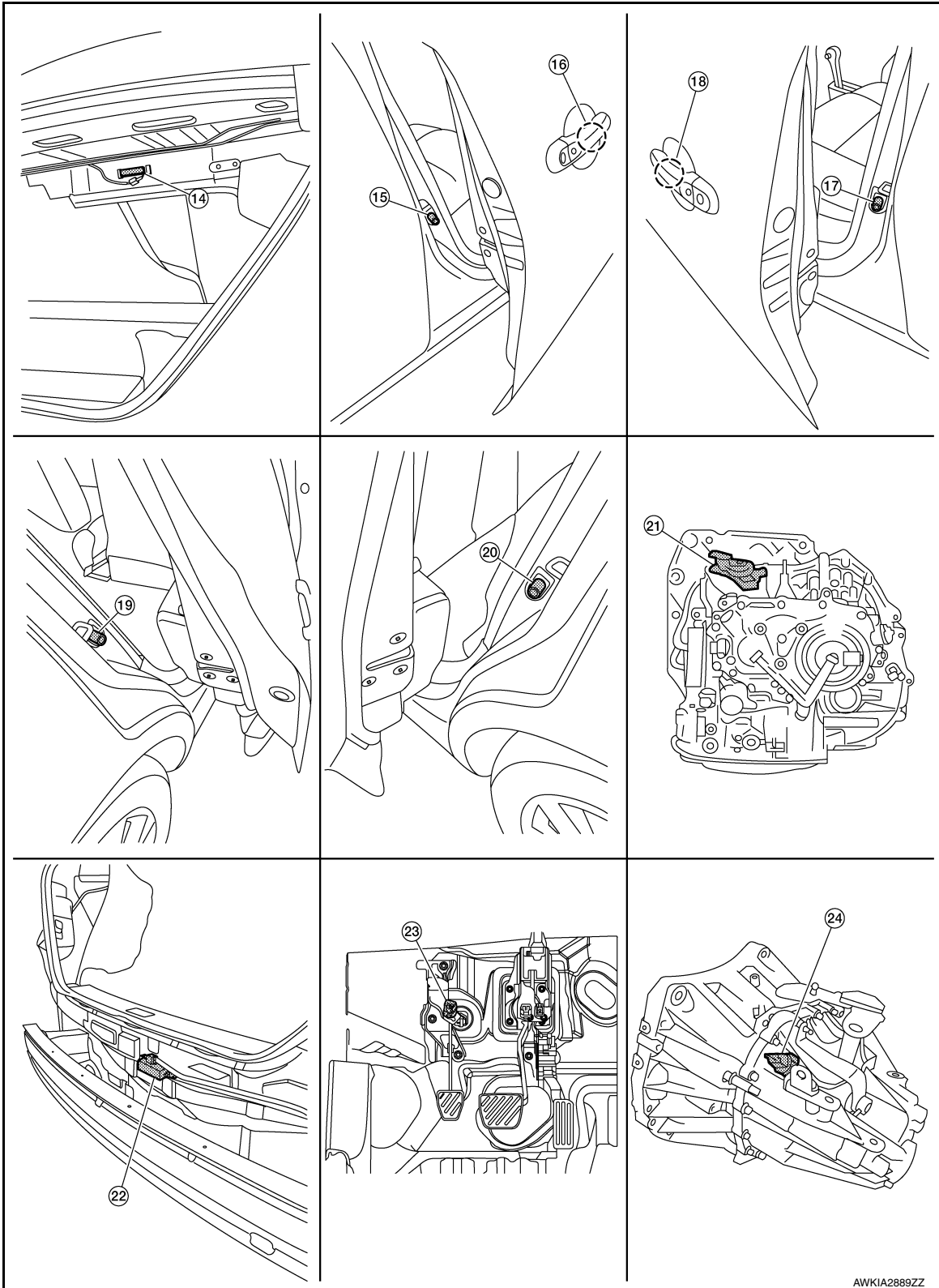


AWKIA3838ZZ

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]



- |   |                                |   |
|---|--------------------------------|---|
| 1. BCM (view with instrument panel removed) | 2. ECM                         | 3. IPDM E/R   |
| 4. Combination meter                        | 5. Security indicator lamp     | 6. CVT shift selector (park position switch) (view with center console removed) |
| 7. Stop lamp switch                         | 8. Push-button ignition switch | 9. NATS antenna amp.  |

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

SEC

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

- |   |  |   |
|---|--|---|
| 10. Dongle unit (Canada only)                                       | 11. Remote keyless entry receiver (view with instrument panel removed) | 12. Inside key antenna (instrument center)                    |
| 13. Inside key antenna (console) (view with center console removed) | 14. Inside key antenna (trunk room)                                    | 15. Front door switch RH                                      |
| 16. Outside key antenna (passenger side)                            | 17. Front door switch LH   | 18. Outside key antenna (driver side)                         |
| 19. Rear door switch RH   | 20. Rear door switch LH  | 21. Transmission range switch (CVT)                           |
| 22. Outside key antenna (rear bumper)                               | 23. Clutch interlock switch (M/T)                                      | 24. Park/neutral position (PNP) switch (neutral switch) (M/T) |

## Component Description

INFOID:0000000012783384

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

## CVT Shift Selector (Park Position Switch)

INFOID:0000000012783385

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:0000000012783386

BCM controls INTELLIGENT KEY SYSTEM (ENGINE START FUNCTION), NISSAN VEHICLE IMMOBILIZER 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.



# COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

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

A

## ECM

INFOID:0000000012783387

ECM controls the engine.

When power supply position is turned ON, BCM starts communication with ECM and performs the ID verification between BCM and ECM.

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

B

C

## IPDM E/R

INFOID:0000000012783388

IPDM E/R has the starter relay and starter control relay inside. Starter relay and starter control relay are used for the engine starting function. IPDM E/R controls these relays while communicating with BCM.

D

## NATS Antenna Amp.

INFOID:0000000012783389

The ID verification is performed between BCM and transponder in Intelligent Key via NATS antenna amp. when Intelligent Key backside is contacted to push-button ignition switch in case that Intelligent Key battery is discharged. If the ID verification result is OK, the operation of starting engine is available.

E

F

## Combination Meter

INFOID:0000000012783390

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

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

G

## Door Switch

INFOID:0000000012783391

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

H

## Outside Key Antenna

INFOID:0000000012783392

Outside key antenna detects whether Intelligent Key is outside the vehicle and transmits the signal to BCM.

Three outside key antennas are installed in the front outside handle LH, front outside handle RH and rear bumper.

I

J

## Inside Key Antenna

INFOID:0000000012783393

Inside key antenna detects whether Intelligent Key is inside the vehicle and transmits the signal to BCM.

Three inside key antennas are installed in the instrument center, console and trunk room.

SEC

## Remote Keyless Entry Receiver

INFOID:0000000012783394

Remote keyless entry receiver receives each button operation signal and electronic key ID signal from Intelligent Key and then transmits the signal to BCM.

L

M

## Intelligent Key

INFOID:0000000012783395

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

Carrying the Intelligent Key whose ID is registered in BCM, the driver can perform, remote start, door lock/unlock operation, remote liftgate, panic alarm and push-button ignition switch operation.

N

## Push-button Ignition Switch

INFOID:0000000012783396

Push-button ignition switch detects that push-button is pressed and then transmits the signal to BCM. BCM changes the power supply position with the operation of push-button ignition switch. BCM maintains the power supply position status while push-button is not operated.

O

P

## Security Indicator Lamp

INFOID:0000000012783397

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.

## COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

### Starter Relay

INFOID:0000000012783398

Engine starting system functions by controlling both starter relay and starter control relay. Both relays are integrated in IPDM E/R. Starter relay is controlled by BCM, and starter control relay is controlled by IPDM E/R on request from BCM. IPDM E/R transmits starter relay and starter control relay status signal to BCM via CAN communication.

### Stop Lamp Switch

INFOID:0000000012783399

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

### Transmission Range Switch

INFOID:0000000012783400

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)

INFOID:0000000012783401

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

INFOID:0000000012783402

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.

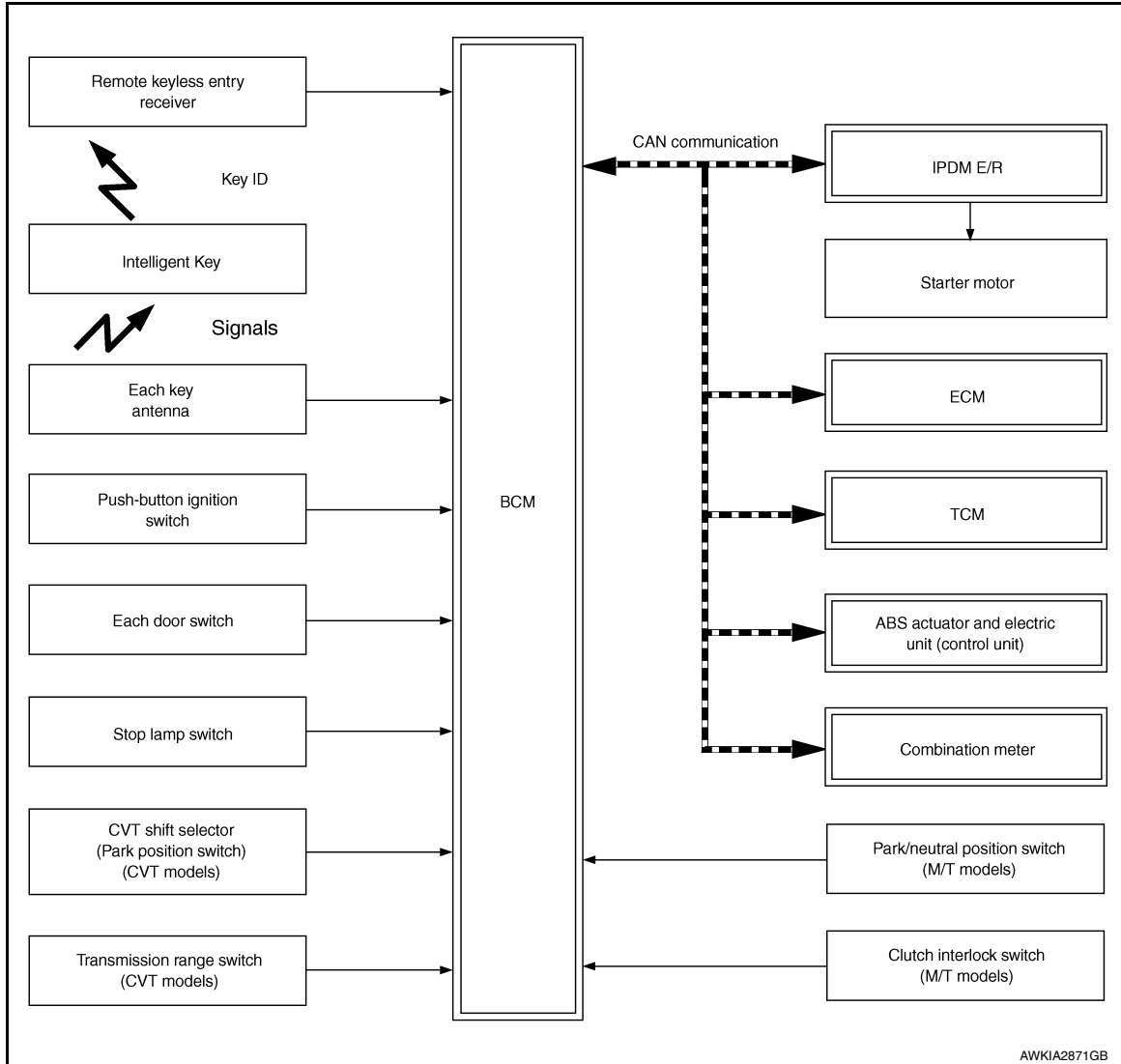
SYSTEM

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description

INFOID:000000012783403

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 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 on-screen instructions.

**NOTE:**

A

B

C

D

E

F

G

H

I

J

SEC

L

M

N

O

P

# SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Refer to [SEC-14, "NISSAN ANTI-THEFT SYSTEM : System Description"](#) 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-BUTTON IGNITION SWITCH OPERATION".

## OPERATION RANGE

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

## ENGINE START OPERATION WHEN INTELLIGENT KEY IS CONTACTED TO PUSH-BUTTON IGNITION 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 OPERATION

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

### **NOTE:**

- 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

[WITH INTELLIGENT KEY SYSTEM]

## < SYSTEM DESCRIPTION >

- Clutch pedal operation condition
- Vehicle speed

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

Power supply position	Condition			Push-button ignition switch operation frequency
	CVT models		M/T models	
	Selector lever	Brake pedal operation condition	Clutch pedal operation condition	
OFF → ACC	—	Not depressed	Not depressed	1
OFF → ACC → ON	—	Not depressed	Not depressed	2
OFF → ACC → ON → OFF	—	Not depressed	Not depressed	3
OFF → START ACC → START ON → START	P or N position	Depressed	Depressed	1
Engine is running → OFF	—	—	—	1

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

Power supply position	Condition			Push-button ignition switch operation frequency
	CVT models		M/T models	
	Selector lever	Brake pedal operation condition	Clutch pedal operation condition	
Engine is running → ACC	—	—	—	Emergency stop operation
Engine stall return operation 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

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# SYSTEM

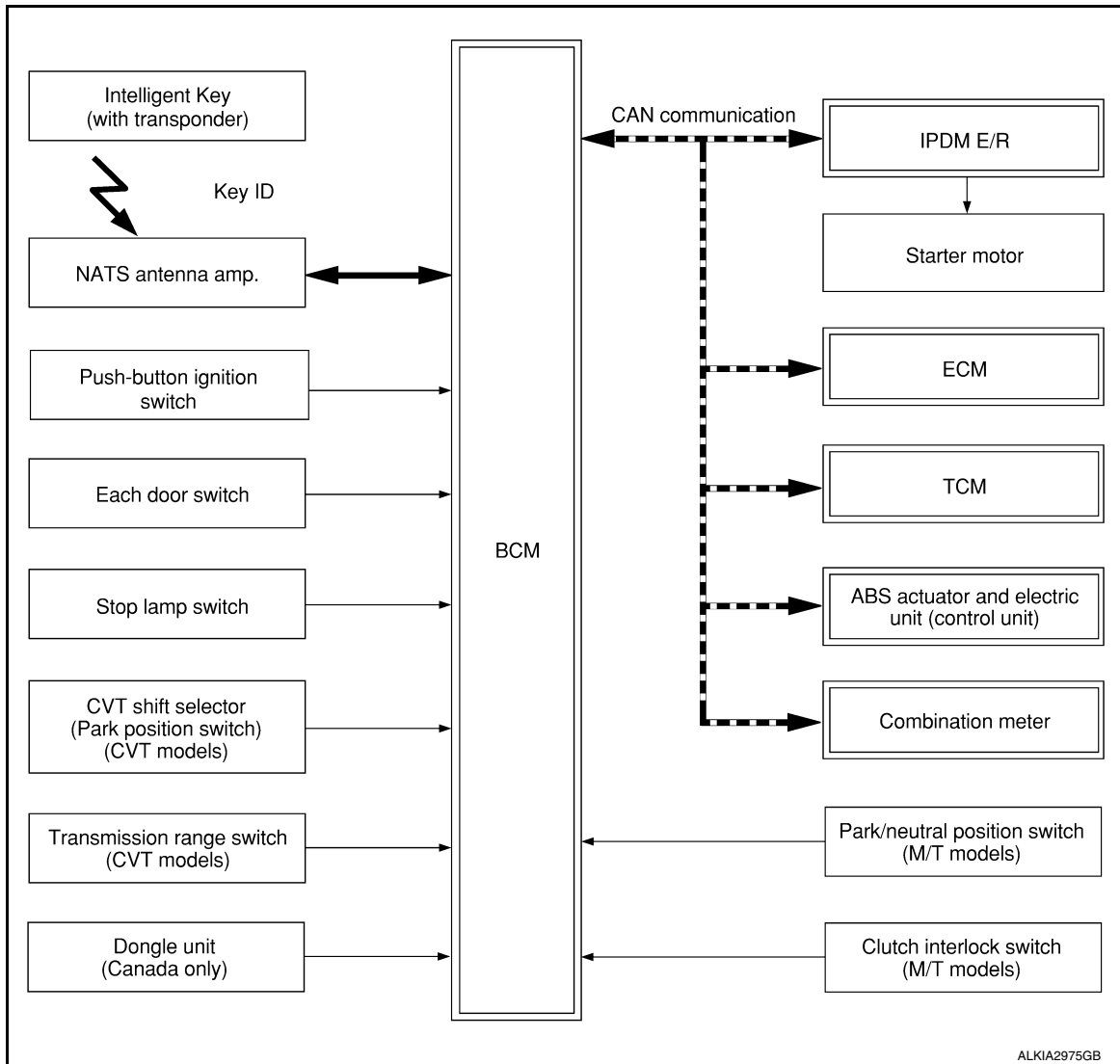
< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

## NISSAN ANTI-THEFT SYSTEM : System Description

INFOID:000000012783404

### 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 on-screen 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 [SEC-58, "Work Flow"](#).
- If ECM other than genuine part is installed, the engine cannot be started. For ECM replacement procedure, refer to [EC-501, "Removal and Installation"](#).

# SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

## PRECAUTIONS FOR KEY REGISTRATION

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

## SECURITY INDICATOR LAMP

- Security indicator lamp warns that the vehicle is equipped with NATS. C
- Security indicator lamp always blinks when the ignition switch is in any position other than ON.

### NOTE:

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

## ENGINE START OPERATION WHEN INTELLIGENT KEY IS CONTACTED TO PUSH-BUTTON IGNITION SWITCH

1. 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. E
2. 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
3. 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.
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. H
7. BCM detects that the selector lever position and brake pedal operation condition (CVT models), or clutch pedal operation condition (M/T models).
8. 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. I
9. Power supply is supplied through the starter relay and the starter control relay to operate the starter motor.
10. 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

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

## IGNITION SWITCH POSITION CHANGE TABLE BY PUSH-BUTTON IGNITION SWITCH OPERATION

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

### NOTE:

- 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. M
- When starting the engine, the BCM monitors under the engine start conditions,

### CVT models

- Brake pedal operation condition N
- Selector lever position
- Vehicle speed

### M/T models

- Clutch pedal operation condition O
- Vehicle speed

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

SEC

# SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Power supply position	Condition			Push-button ignition switch operation frequency
	CVT models		M/T models	
	Selector lever	Brake pedal operation condition	Clutch pedal operation condition	
OFF → ACC	—	Not depressed	Not depressed	1
OFF → ACC → ON	—	Not depressed	Not depressed	2
OFF → ACC → ON → OFF	—	Not depressed	Not depressed	3
OFF → START ACC → START ON → START	P or N position	Depressed	Depressed	1
Engine is running → OFF	—	—	—	1

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

Power supply position	Condition			Push-button ignition switch operation frequency
	CVT models		M/T models	
	Selector lever	Brake pedal operation condition	Clutch pedal operation condition	
Engine is running → ACC	—	—	—	Emergency stop operation
Engine stall return operation 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:000000012783405

- 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.

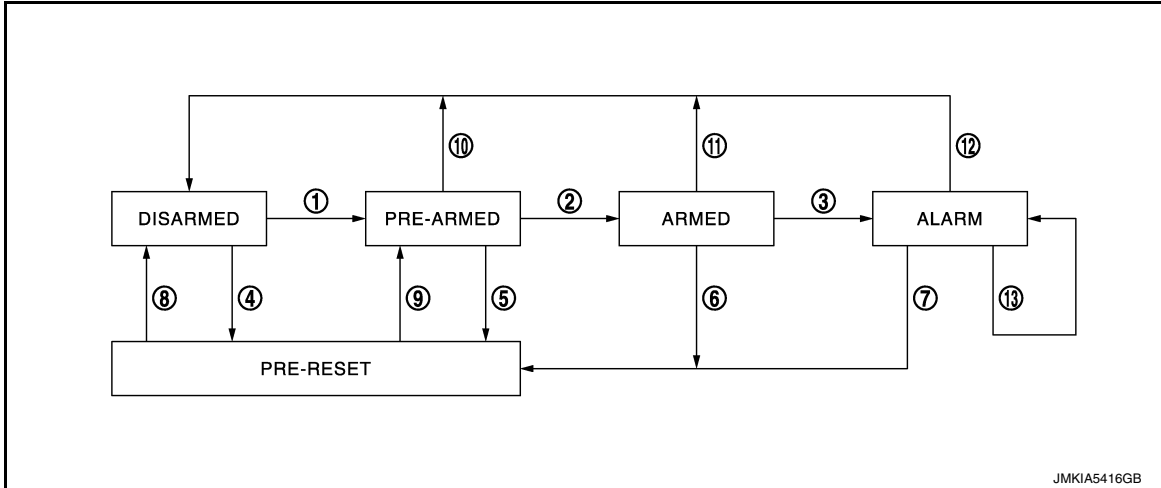


# SYSTEM

< SYSTEM DESCRIPTION >

[WITH INTELLIGENT KEY SYSTEM]

Operation Flow



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

No.	System state	Switching condition					
1	DISARMED to PRE-ARMED	When all conditions of A and one condition of B is satisfied.	<table border="1" style="width: 100%;"> <tr> <th style="width: 50%;">A</th> <th style="width: 50%;">B</th> </tr> <tr> <td> <ul style="list-style-type: none"> <li>Power supply position: OFF/LOCK</li> <li>All doors: Closed</li> </ul> </td> <td> <ul style="list-style-type: none"> <li>All doors are locked by:                             <ul style="list-style-type: none"> <li>Door key cylinder LOCK switch</li> <li>LOCK button of Intelligent Key</li> <li>Door request switch</li> </ul> </li> </ul> </td> </tr> </table>	A	B	<ul style="list-style-type: none"> <li>Power supply position: OFF/LOCK</li> <li>All doors: Closed</li> </ul>	<ul style="list-style-type: none"> <li>All doors are locked by:                             <ul style="list-style-type: none"> <li>Door key cylinder LOCK switch</li> <li>LOCK button of Intelligent Key</li> <li>Door request switch</li> </ul> </li> </ul>
A	B						
<ul style="list-style-type: none"> <li>Power supply position: OFF/LOCK</li> <li>All doors: Closed</li> </ul>	<ul style="list-style-type: none"> <li>All doors are locked by:                             <ul style="list-style-type: none"> <li>Door key cylinder LOCK switch</li> <li>LOCK button of Intelligent Key</li> <li>Door request switch</li> </ul> </li> </ul>						
2	PRE-ARMED to ARMED	When all of the following conditions are satisfied for 30 seconds.	<ul style="list-style-type: none"> <li>Power supply position: OFF/LOCK</li> <li>All doors: Locked</li> </ul>				
3	ARMED to ALARM	When one condition of A and one condition of B are satisfied.	<table border="1" style="width: 100%;"> <tr> <th style="width: 50%;">A</th> <th style="width: 50%;">B</th> </tr> <tr> <td>Intelligent Key: Not used</td> <td> <ul style="list-style-type: none"> <li>Any door: Open</li> </ul> </td> </tr> </table>	A	B	Intelligent Key: Not used	<ul style="list-style-type: none"> <li>Any door: Open</li> </ul>
A	B						
Intelligent Key: Not used	<ul style="list-style-type: none"> <li>Any door: Open</li> </ul>						
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.	<ul style="list-style-type: none"> <li>Power supply position: ACC/ON/CRANKING/RUN</li> <li>Door key cylinder UNLOCK switch: ON</li> <li>UNLOCK button of Intelligent Key: ON</li> <li>TRUNK button of Intelligent Key: ON</li> <li>Door request switch: ON</li> <li>Trunk opener switch: ON</li> <li>Any door: Open</li> </ul>				
11	ARMED to DISARMED	When one of the following conditions is satisfied.	<ul style="list-style-type: none"> <li>Power supply position: ACC/ON/CRANKING/RUN</li> <li>Door key cylinder UNLOCK switch: ON</li> <li>UNLOCK button of Intelligent Key: ON</li> <li>Door request switch: ON</li> <li>Trunk opener switch: ON</li> </ul>				
12	ALARM to DISARMED						
13	RE-ALARM	When one of the following conditions is satisfied after the ALARM operation is finished.	<ul style="list-style-type: none"> <li>Any door: Open</li> </ul>				

NOTE:

# SYSTEM

## < SYSTEM DESCRIPTION >

## [WITH INTELLIGENT KEY SYSTEM]

- 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 [SEC-11, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : System Description"](#).
- To open trunk by operating trunk opener switch, Intelligent Key must be within the detection area of outside key antenna. For details, refer to [SEC-11, "INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION : 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 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

# DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

## DIAGNOSIS SYSTEM (BCM)

### COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000013388180

### 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	<ul style="list-style-type: none"> <li>The vehicle specification can be read and saved.</li> <li>The vehicle specification can be written when replacing BCM.</li> </ul>
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication is displayed.

### SYSTEM APPLICATION

BCM can perform the following functions.

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

# DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

## INTELLIGENT KEY

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

INFOID:000000013388181

#### SELF DIAGNOSTIC RESULT

Refer to [BCS-50. "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 communication 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 communication 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 communication 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 communication 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 operating on Intelligent Key, the numerical value start changing.
RKE OPE COUN2 [0-19]	×	When remote keyless entry receiver receives the signal transmitted while operating 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.

# DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

## ACTIVE TEST

Test Item	Description
INSIDE BUZZER	This test is able to check combination meter warning chime operation [Take Out/Knob/Key/Off].
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].
ENGINE SW ILLUMI	This test is able to check push-button ignition switch START indicator operation [On/Off].
PUSH SWITCH INDICATOR	This test is able to check push-button ignition switch indicator operation [On/Off].
TRUNK/BACK DOOR	This test is able to check trunk actuator operation [Open].
INT LAMP	This test is able to check interior room lamp operation [On/Off].
INDICATOR	This test is able to check combination meter warning lamp operation [KEY ON/KEY IND/Off].
FLASHER	This test is able to check hazard lamp operation [LH/RH/Off].
OUTSIDE BUZZER	This test is able to check Intelligent Key warning buzzer operation [On/Off].
HORN	This test is able to check horn operation [On].
P RANGE	This test is able to check CVT shift selector illumination operation [On/Off].

## WORK SUPPORT

Support Item	Setting	Description	
LOCK/UNLOCK BY I-KEY	On*	Door lock/unlock function from Intelligent Key ON.	
	Off	Door lock/unlock function from Intelligent Key OFF.	
TRUNK/GLASS HATCH OPEN	On*	Buzzer reminder function from trunk opener switch.	
	Off	No buzzer reminder function from trunk opener switch.	
ANTI KEY LOCK IN FUNCTI	On*	Anti lock out setting ON.	
	Off	Anti lock out setting OFF.	
ANS BACK I-KEY UNLOCK	Off	No buzzer reminder when doors are unlocked with request switch.	
	On*	Buzzer reminder when doors are unlocked with request switch.	
ANS BACK I-KEY LOCK	Horn Chirp	Horn chirp reminder when doors are locked with request switch.	
	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.	
	On*	No horn chirp reminder when doors are locked with Intelligent Key.	
HAZARD ANSWER BACK	Lock/Unlock*	Hazard warning lamp activation when doors are locked/unlocked with Intelligent Key or request switch.	
	Unlock Only	Hazard warning lamp activation when doors are unlocked with Intelligent Key or request switch.	
	Lock Only	Hazard warning lamp activation when doors are locked with Intelligent Key or request switch.	
	Off	No hazard warning lamp activation when doors are locked/unlocked with Intelligent Key or request switch.	
INSIDE ANT DIAGNOSIS	—	This function allows inside key antenna self-diagnosis.	
CONFIRM KEY FOB ID	—	Intelligent Key ID code can be checked.	
SHORT CRANKING OUTPUT	Start	70 msec	Starter motor operation duration time setting.
		100 msec	
		200 msec	
	End	—	

# DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

## < SYSTEM DESCRIPTION >

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

\*: Initial Setting

## IMMU

### IMMU : CONSULT Function (BCM - IMMU)

INFOID:000000013388182

### SELF DIAGNOSTIC RESULT

Refer to [BCS-50. "DTC Index"](#).

### DATA MONITOR

Monitor Item [Unit]	Description
CONFIRM ID ALL [Yet/DONE]	Switches to DONE when an Intelligent Key is registered.
CONFIRM ID4 [Yet/DONE]	
CONFIRM ID3 [Yet/DONE]	
CONFIRM ID2 [Yet/DONE]	
CONFIRM ID1 [Yet/DONE]	
NOT REGISTERED	Indicates [ID OK] when key ID that is registered is received or is not yet received. Indicates [ID-NG] when key ID that is not registered is received.
TP 4 [Yet/DONE]	DONE indicates the number of Intelligent Key ID which has been registered.
TP 3 [Yet/DONE]	
TP 2 [Yet/DONE]	
TP 1 [Yet/DONE]	
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.

### WORK SUPPORT

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

## THEFT ALM

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

INFOID:000000013388183

### DATA MONITOR

# DIAGNOSIS SYSTEM (BCM)

[WITH INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

Monitored Item	Description	A
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.	B
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.	
UNLK SEN -DR [On/Off]	Indicates condition of driver door unlock sensor.	C
DOOR SW-DR [On/Off]	Indicates condition of front door switch LH.	
DOOR SW-AS [On/Off]	Indicates condition of front door switch RH.	
DOOR SW-RR [On/Off]	Indicates condition of rear door switch RH.	D
DOOR SW-RL [On/Off]	Indicates condition of rear door switch LH.	
DOOR SW-BK [On/Off]	Indicates condition of trunk switch.	E
CDL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.	
CDL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.	
KEY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.	F
KEY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.	
TR/BD OPEN SW [On/Off]	Indicates condition of trunk open switch.	G
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.	H
RKE-TR/BD [On/Off]	Indicates condition of trunk open signal from Intelligent Key.	

## ACTIVE TEST

Test Item	Description	I
VEHICLE SECURITY HORN	This test is able to check vehicle security horn operation [On].	
FLASHER	This test is able to check turn signal lamp operation [LH/RH/Off].	J
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].	SEC

## WORK SUPPORT

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

\*: Initial setting

**ECU DIAGNOSIS INFORMATION**

## ECM, IPDM E/R, BCM

## List of ECU Reference

INFOID:000000012783410

ECU		Reference
ECM	Reference Value	<a href="#">EC-77, "Reference Value"</a>
	Fail-safe	<a href="#">EC-91, "Fail Safe"</a>
	DTC Inspection Priority Chart	<a href="#">EC-93, "DTC Inspection Priority Chart"</a>
	DTC Index	<a href="#">EC-95, "DTC Index"</a>
BCM	Reference Value	<a href="#">BCS-30, "Reference Value"</a>
	Fail-safe	<a href="#">BCS-48, "Fail-safe"</a>
	DTC Inspection Priority Chart	<a href="#">BCS-49, "DTC Inspection Priority Chart"</a>
	DTC Index	<a href="#">BCS-50, "DTC Index"</a>
IPDM E/R	Reference Value	<a href="#">PCS-13, "Reference Value"</a>
	Fail-safe	<a href="#">PCS-19, "Fail-safe"</a>
	DTC Index	<a href="#">PCS-20, "DTC Index"</a>



# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

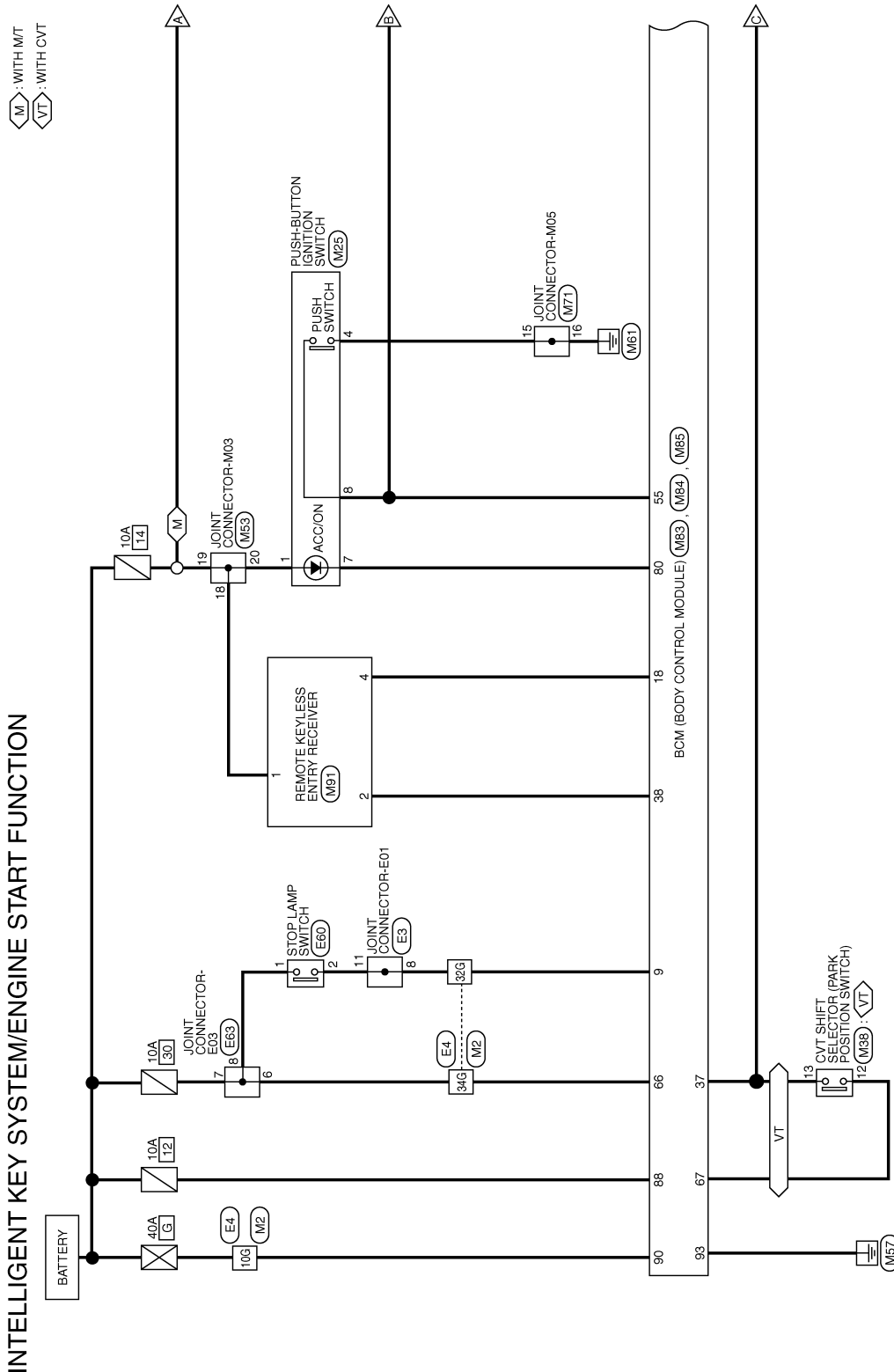
[WITH INTELLIGENT KEY SYSTEM]

## WIRING DIAGRAM

### INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

Wiring Diagram

INFOID:000000012783411



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

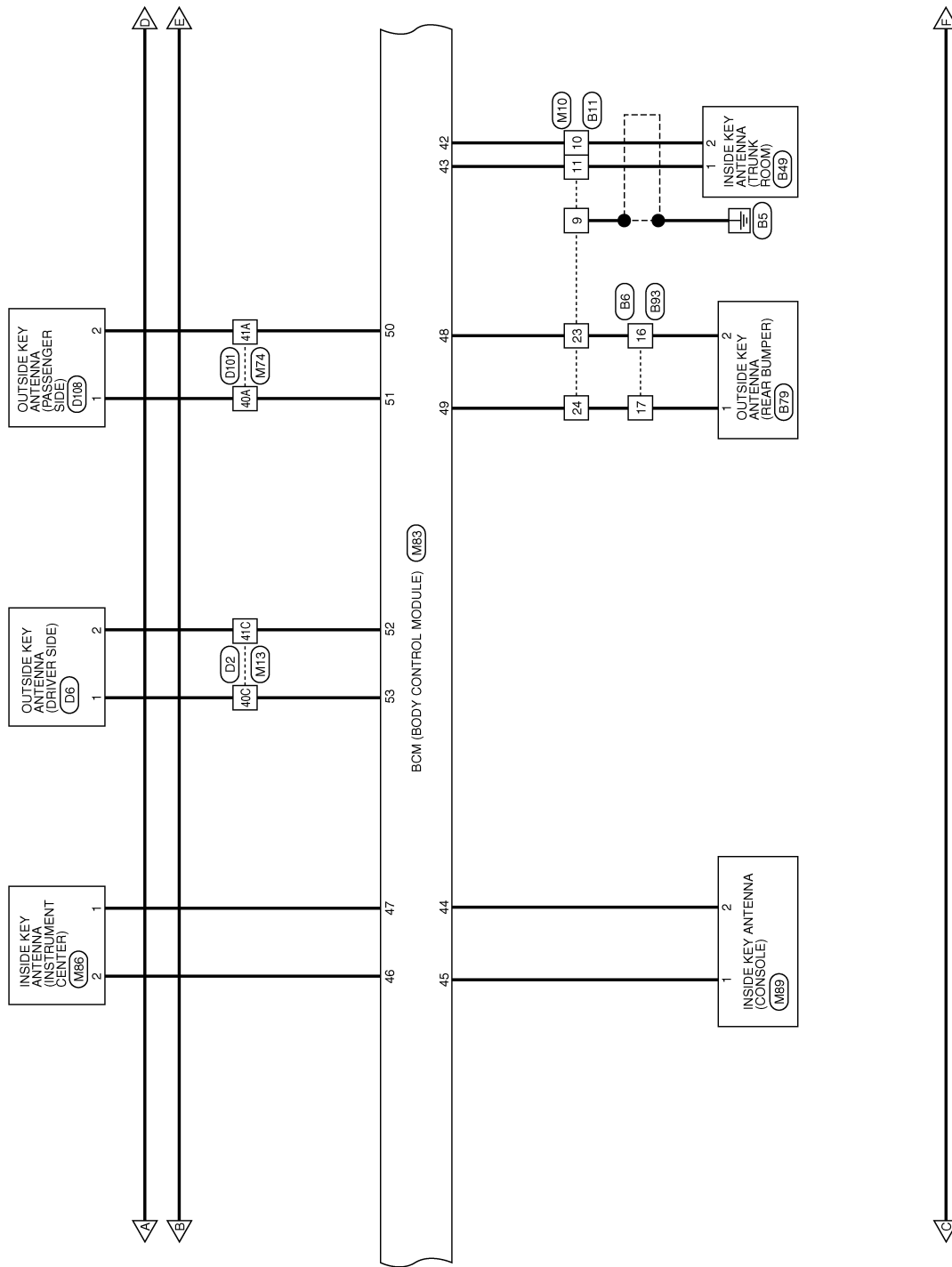
SEC

ABKWA3172GB

# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

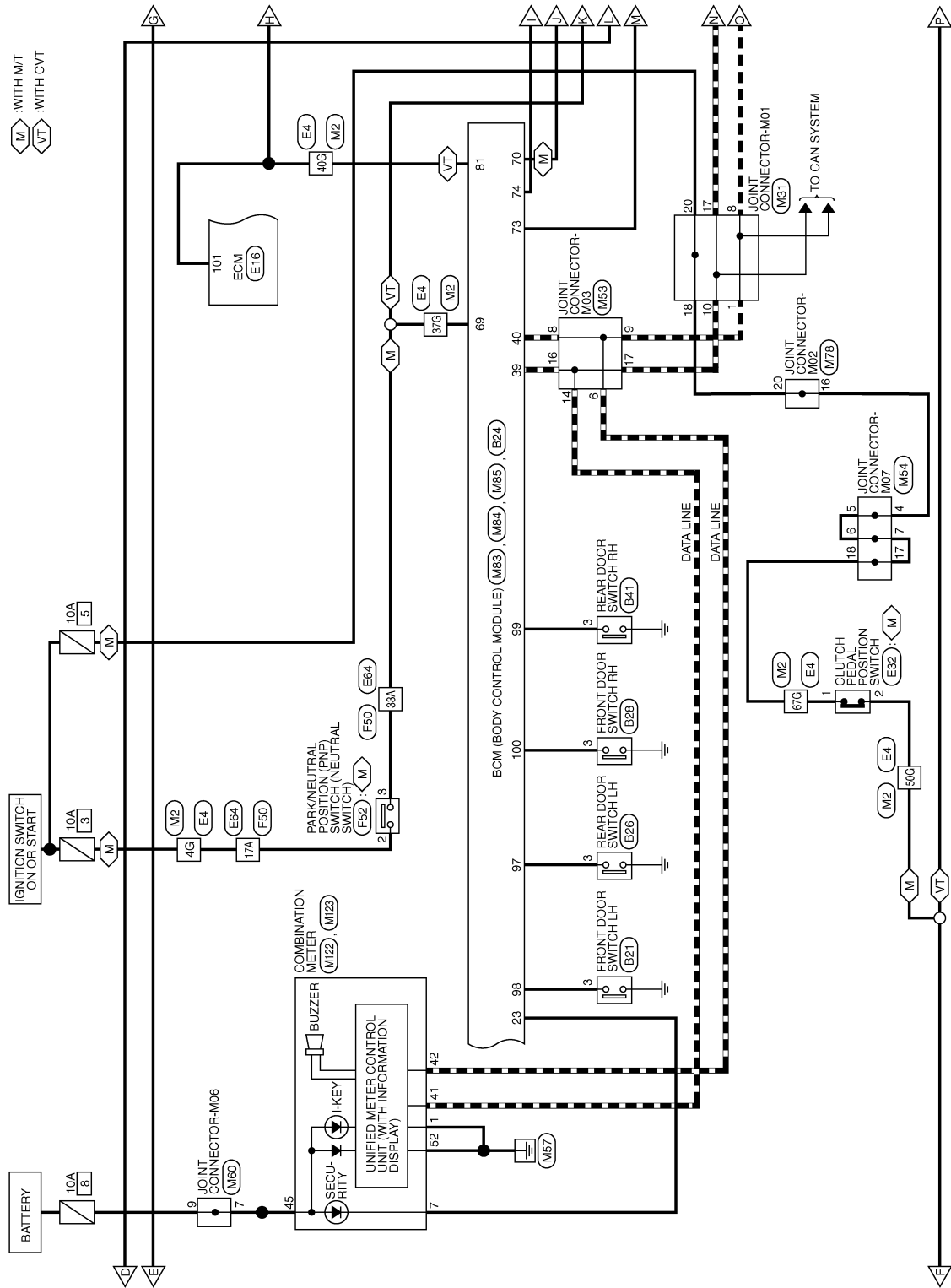


ABKWA3188GB

# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]



ABKWA3173GB

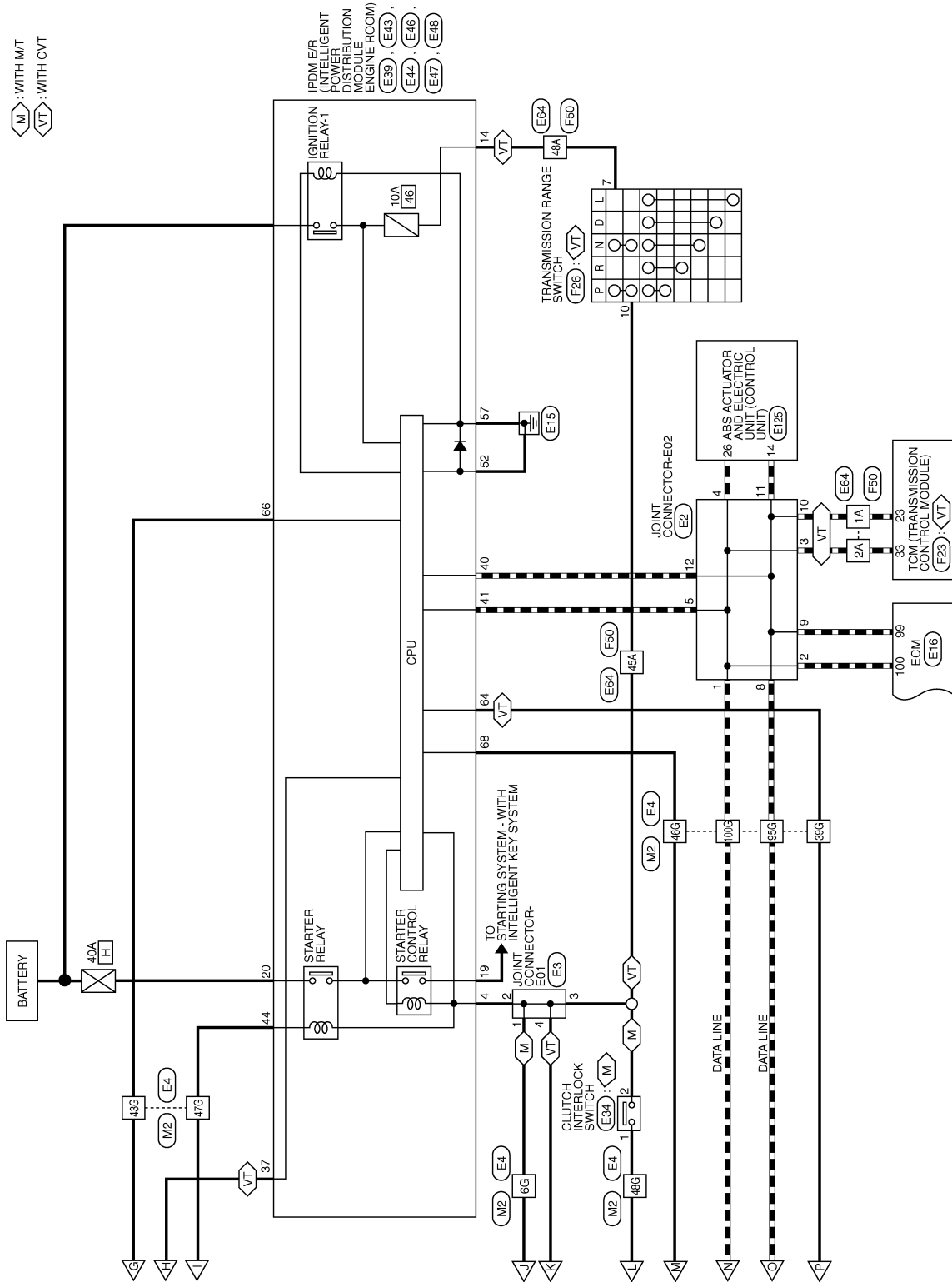
A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

SEC

# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]



ABKWA3174GB

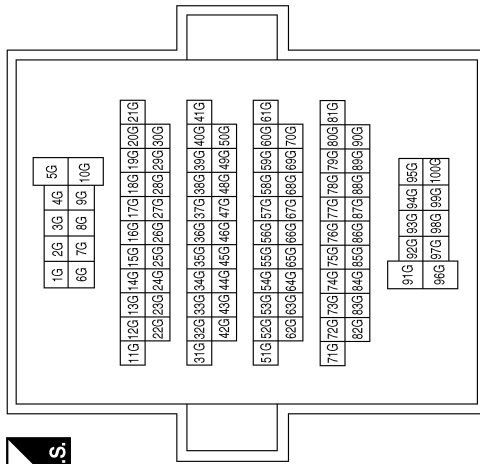
# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

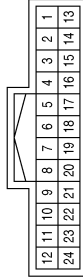
## INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION CONNECTORS

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



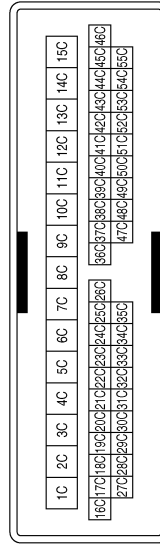
Terminal No.	Color of Wire	Signal Name
4G	GR	-
6G	BG	-
10G	Y	-
32G	R	-
34G	V	-
37G	L	-
39G	P	-
40G	G	-
43G	LG	-
46G	V	-
47G	SB	-
48G	G	-
50G	P	-
67G	GR	-
95G	P	-
100G	L	-

Connector No.	M10
Connector Name	WIRE TO WIRE
Connector Color	WHITE



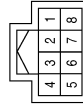
Terminal No.	Color of Wire	Signal Name
10	BR	-
11	Y	-
23	R	-
24	W	-

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Color	WHITE



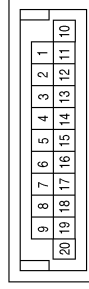
Terminal No.	Color of Wire	Signal Name
40C	P	-
41C	LG	-

Connector No.	M25
Connector Name	PUSH-BUTTON IGNITION SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	SB	-
4	B	-
7	V	-
8	LG	-

Connector No.	M31
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	P	-
8	P	-
10	L	-
17	L	-
18	LG	-
20	LG	-

ABKIA7285GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

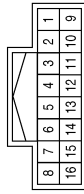
SEC

# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

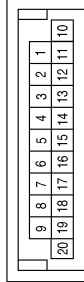
[WITH INTELLIGENT KEY SYSTEM]

Connector No.	M38
Connector Name	CVT SHIFT SELECTOR
Connector Color	WHITE



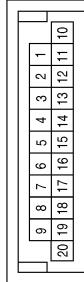
Terminal No.	Color of Wire	Signal Name
12	SB	-
13	P	-

Connector No.	M53
Connector Name	JOINT CONNECTOR-M03
Connector Color	BLUE



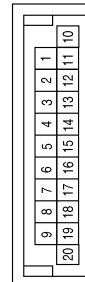
Terminal No.	Color of Wire	Signal Name
6	P	-
8	P	-
9	P	-
14	L	-
16	L	-
17	L	-
18	SB	-
19	SB	-
20	SB	-

Connector No.	M54
Connector Name	JOINT CONNECTOR-M07
Connector Color	GREEN



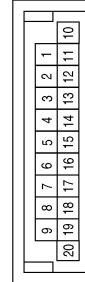
Terminal No.	Color of Wire	Signal Name
4	LG	-
5	Y	-
6	Y	-
7	R	-
17	R	-
18	GR	-

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	W	-
9	W	-

Connector No.	M71
Connector Name	JOINT CONNECTOR-M05
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
15	B	-
16	B	-

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
40A	BR	-
41A	Y	-

ABKIA7286GB

# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

Terminal No.	Color of Wire	Signal Name
49	W	BACK DOOR ANTENNA +
50	Y	DOOR ANTENNA (AS) -
51	BR	DOOR ANTENNA (AS) +
52	LG	DOOR ANTENNA (DR) -
53	P	DOOR ANTENNA (DR) +
55	LG	ENGINE START SW
66	V	BRAKE SW2
67	SB	AT DEVICE OUTPUT
69	L	SHIFT N. P. (WITH CVT)
69	L	NEUTRAL SW (WITH M/T)
70	BG	CLUTCH SW (WITH M/T)
73	V	IGN RELAY OUTPUT1 (USM)
74	SB	STARTER RELAY OUTPUT
80	V	POWER POSITION LED (LOCK POSITION LED)

Connector No.	M83
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE



60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41
80	79	78	77	76	75	74	73	72	71	70	69	68	67	66	65	64	63	62	61

Terminal No.	Color of Wire	Signal Name
42	BR	ROOM ANTENNA 3 -
43	Y	ROOM ANTENNA 3 +
44	R	ROOM ANTENNA 2 -
45	G	ROOM ANTENNA 2 +
46	GR	ROOM ANTENNA 1 -
47	BR	ROOM ANTENNA 1 +
48	R	BACK DOOR ANTENNA -

Connector No.	M78
Connector Name	JOINT CONNECTOR-M02
Connector Color	WHITE



9	8	7	6	5	4	3	2	1		
20	19	18	17	16	15	14	13	12	11	10

Terminal No.	Color of Wire	Signal Name
16	LG	-
20	LG	-

Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE



89	88	87	86	85	84	83	82	81
95	94	93	92	91	90			

Terminal No.	Color of Wire	Signal Name
23	Y	SECURITY INDICATOR OUTPUT
37	P	SHIFT P POSITION, PARKING POSITION SW (WITH CVT)
37	P	ASCD CANCEL SW (CLUTCH CANCEL SW) (WITH M/T)
38	LG	INTELLIGENT TUNER
39	L	CAN-H
40	P	CAN-L

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK



1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

Terminal No.	Color of Wire	Signal Name
9	R	BRAKE SW1
18	V	KEYLESS TUNER, AUTO LIGHT SENSOR GND

Terminal No.	Color of Wire	Signal Name
81	G	STARTER OUTPUT ENABLE INPUT
88	BG	BATTERY (FUSE)
90	Y	BATTERY (F/L)
93	B	GND

ABKIA7287GB

A B C D E F G H I J L M N O P

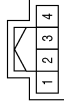
SEC

# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

Connector No.	M89
Connector Name	REMOTE KEYLESS ENTRY RECEIVER (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	SB	-
2	LG	-
4	V	-

Connector No.	M89
Connector Name	INSIDE KEY ANTENNA (CONSOLE)
Connector Color	BLUE



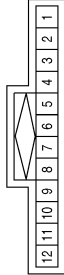
Terminal No.	Color of Wire	Signal Name
1	G	-
2	R	-

Connector No.	M86
Connector Name	INSIDE KEY ANTENNA (INSTRUMENT CENTER)
Connector Color	BLUE



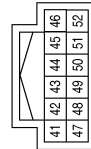
Terminal No.	Color of Wire	Signal Name
1	BR	-
2	GR	-

Connector No.	E2
Connector Name	JOINT CONNECTOR-E02
Connector Color	BLUE



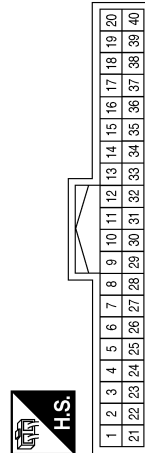
Terminal No.	Color of Wire	Signal Name
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
8	P	-
9	P	-
10	P	-
11	P	-
12	P	-

Connector No.	M123
Connector Name	COMBINATION METER (WITH TYPE B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
41	L	CAN-H
42	P	CAN-L
45	LG	BAT
52	B	GND

Connector No.	M122
Connector Name	COMBINATION METER (WITH TYPE B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	GND
7	Y	SECURITY

ABKIA7288GB

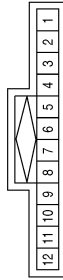


# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

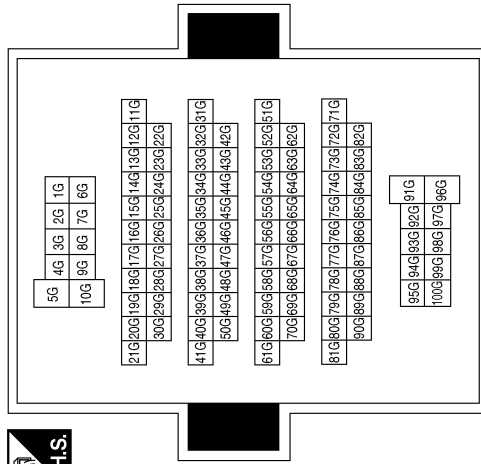
[WITH INTELLIGENT KEY SYSTEM]

Connector No.	E3
Connector Name	JOINT CONNECTOR-E01
Connector Color	BLUE



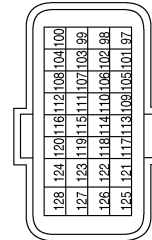
Terminal No.	Color of Wire	Signal Name
1	BR	-
2	BR	-
3	BR	-
4	BR	-
8	SB	-
11	SB	-

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
4G	GR	-
6G	BR	-
10G	G	-
32G	SB	-
34G	W	-
37G	BR	-
39G	Y	-
40G	SB	-
43G	L	-
46G	O	-
47G	V	-
48G	LG	-
50G	GR	-
67G	O	-
95G	P	-
100G	L	-

Connector No.	E16
Connector Name	ECM
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
99	P	CAN-L
100	L	CAN-H
101	SB	STARTER RELAY CUT OFF SIGNAL

Connector No.	E32
Connector Name	CLUTCH PEDAL POSITION SWITCH
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	O	-
2	GR	-

Connector No.	E34
Connector Name	CLUTCH INTERLOCK SWITCH
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
1	LG	-
2	BR	-

ABKIA7289GB

A B C D E F G H I J L M N O P SEC

# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

Connector No.	E44
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



21	20	19
24	23	22

Terminal No.	Color of Wire	Signal Name
19	R	STARTER MOTOR
20	P	F/L IGN SW

Connector No.	E43
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



9	8	7	6	5	4	3
18	17	16	15	14	13	12
11	10					

Terminal No.	Color of Wire	Signal Name
4	BR	NP SW
14	LG	REVERSE LAMP IGN

Connector No.	E39
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



67	66	65	64	63
72	71	70	69	68

Terminal No.	Color of Wire	Signal Name
64	Y	DETENT SW
66	L	PUSH START SW
68	O	IGN SIGNAL

Connector No.	E48
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



59	58	57
62	61	60

Terminal No.	Color of Wire	Signal Name
57	B/Y	POWER GND

Connector No.	E47
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



51	50	49
56	55	54
53	52	

Terminal No.	Color of Wire	Signal Name
52	B/Y	SIGNAL GND

Connector No.	E46
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



42	41	40	39	38	37
48	47	46	45	44	43

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

ABKIA7290GB

# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

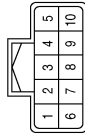
[WITH INTELLIGENT KEY SYSTEM]

Connector No.	E60
Connector Name	STOP LAMP SWITCH
Connector Color	WHITE



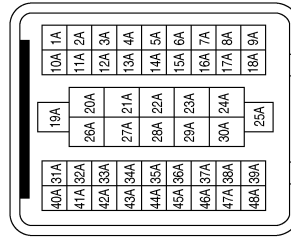
Terminal No.	Color of Wire	Signal Name
1	W	-
2	SB	-

Connector No.	E63
Connector Name	JOINT CONNECTOR-E03
Connector Color	BLACK



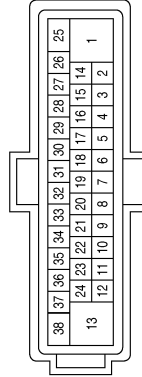
Terminal No.	Color of Wire	Signal Name
6	W	-
7	W	-
8	W	-

Connector No.	E64
Connector Name	WIRE TO WIRE
Connector Color	BLACK



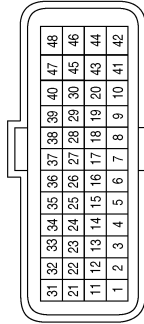
Terminal No.	Color of Wire	Signal Name
1A	P	-
2A	L	-
17A	GR	-
33A	BR	-
45A	BR	-
48A	LG	-

Connector No.	E125
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) (WITH INTELLIGENT CRUISE CONTROL)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
14	P	CAN-L
26	L	CAN-H

Connector No.	F23
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
23	P	CAN-L
33	L	CAN-H

ABKIA7291GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

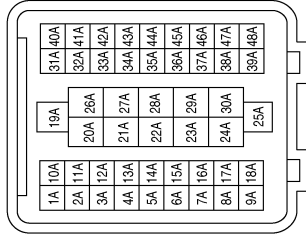
# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

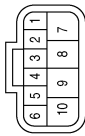
[WITH INTELLIGENT KEY SYSTEM]

Terminal No.	Color of Wire	Signal Name
1A	P	-
2A	L	-
17A	SB	-
33A	BR	-
45A	BR	-
48A	GR	-

Connector No.	F50
Connector Name	WIRE TO WIRE
Connector Color	BLACK

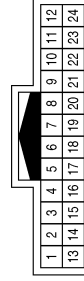


Connector No.	F26
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



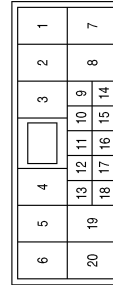
Terminal No.	Color of Wire	Signal Name
7	GR	-
10	BR	-

Connector No.	B11
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
9	SHIELD	-
10	LG	-
11	V	-
23	Y	-
24	W	-

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
16	Y	-
17	W	-

Connector No.	F52
Connector Name	PARK/NEUTRAL POSITION (PNP) SWITCH
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
2	SB	-
3	BR	-

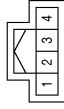
ABKIA7292GB

# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

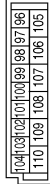
[WITH INTELLIGENT KEY SYSTEM]

Connector No.	B26
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE



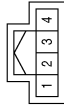
Terminal No.	Color of Wire	Signal Name
3	GR	-

Connector No.	B24
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
97	GR	DOOR SW (RL)
98	Y	DOOR SW (DR)
99	P	DOOR SW (RR)
100	R	DOOR SW (AS)

Connector No.	B21
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	Y	-

Connector No.	B49
Connector Name	INSIDE KEY ANTENNA (TRUNK ROOM)
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	V	-
2	LG	-

Connector No.	B41
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	P	-

Connector No.	B28
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	R	-

ABKIA7293GB

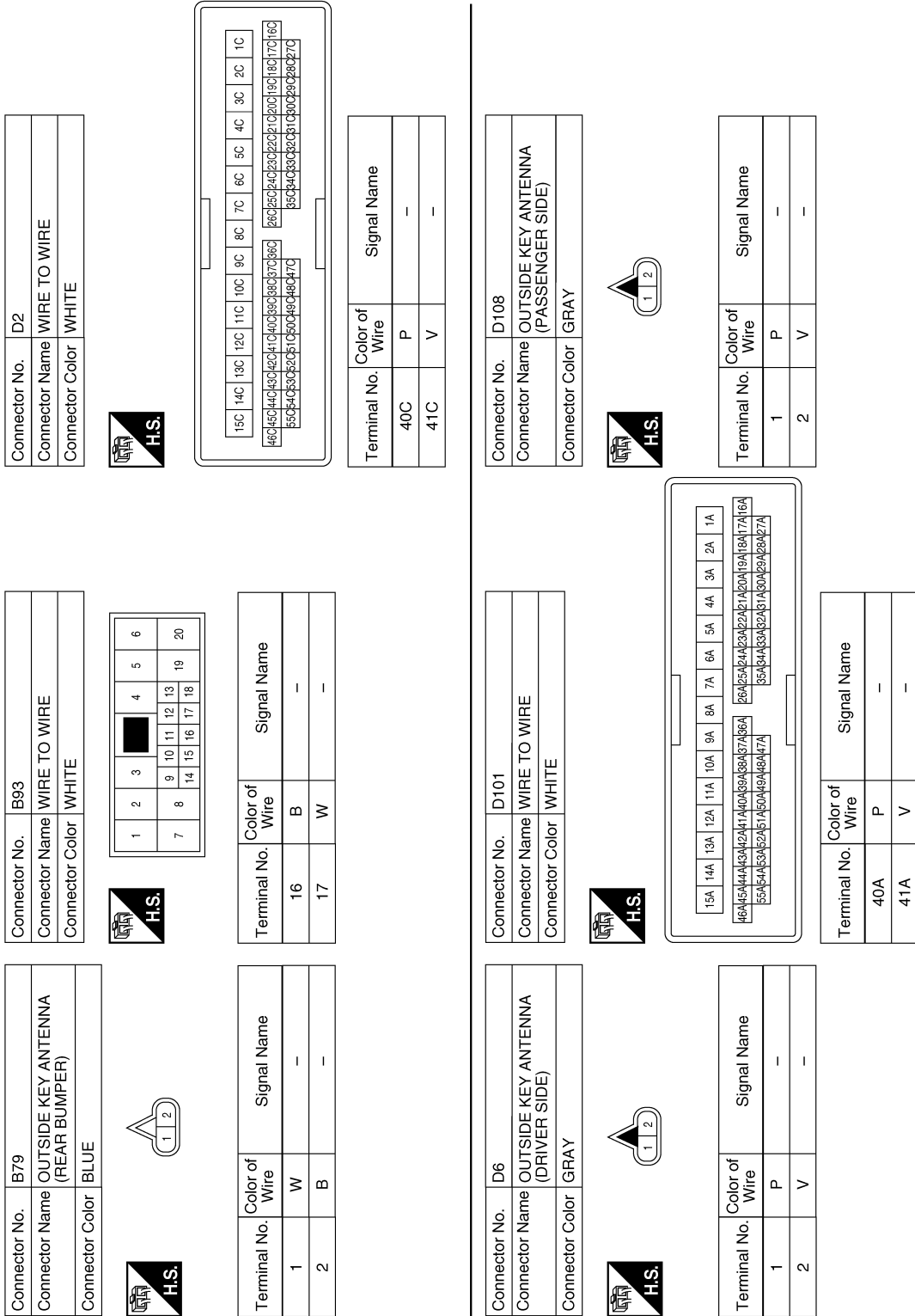
A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# INTELLIGENT KEY SYSTEM/ENGINE START FUNCTION

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]



ABKIA7294GB

# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

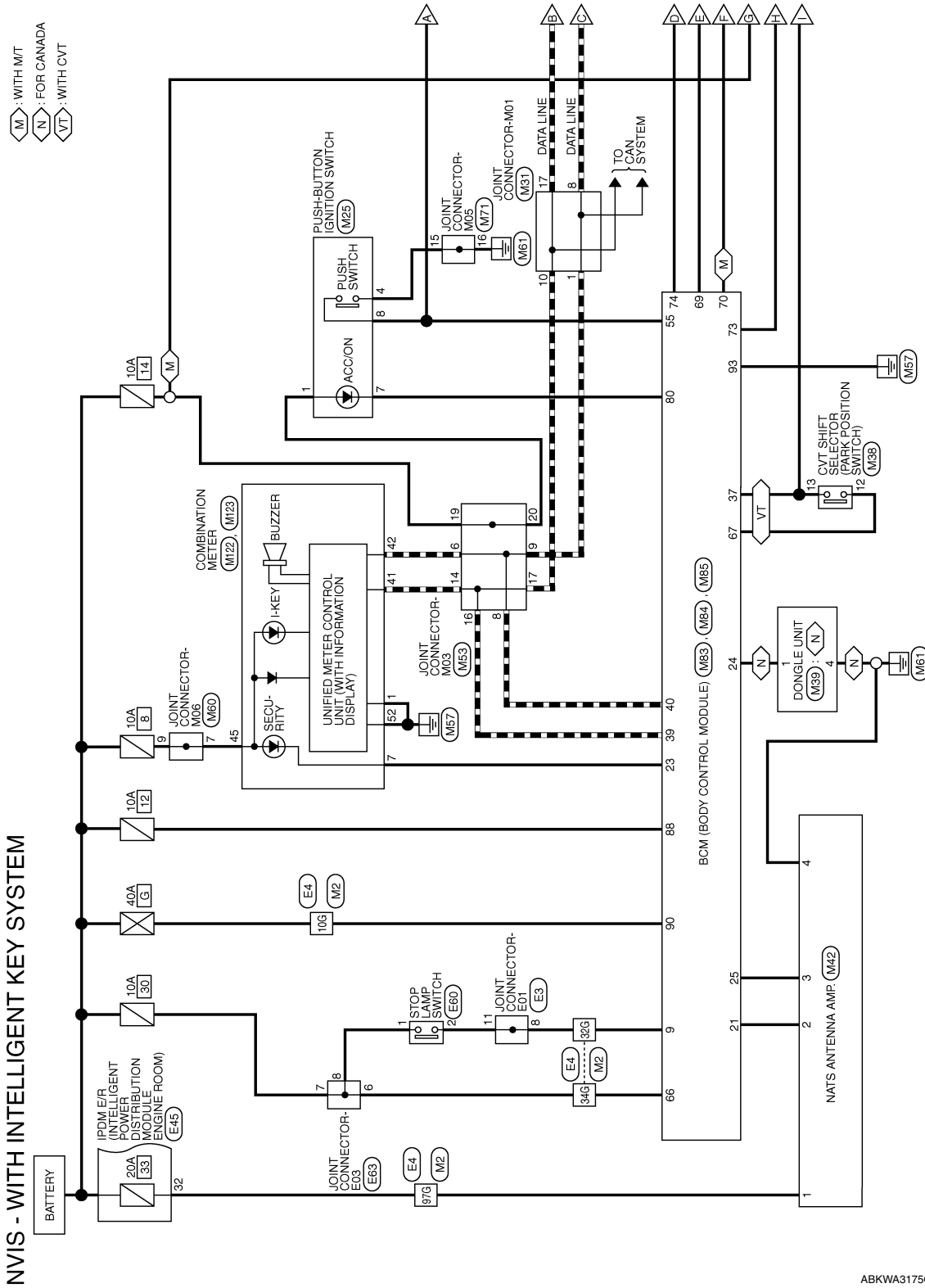
[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

## NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

### Wiring Diagram

INFOID:000000012783412



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

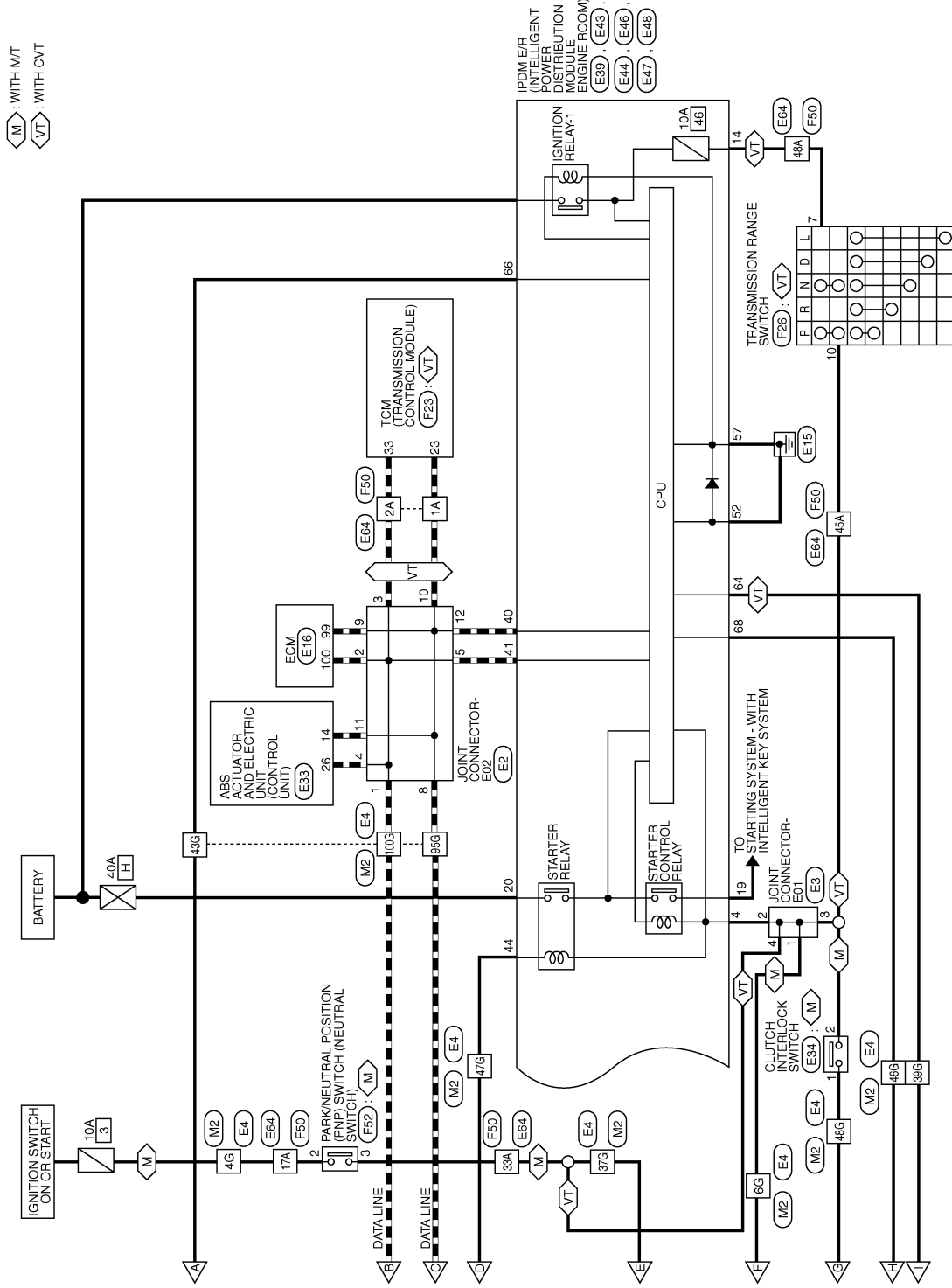
SEC

ABKWA3175GB

# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]



ABKWA3176GB



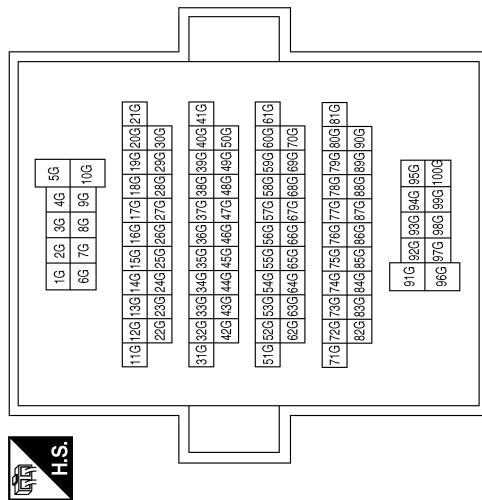
# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

## NVIS CONNECTORS - WITH INTELLIGENT KEY SYSTEM

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



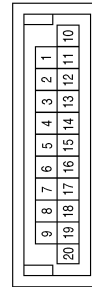
Terminal No.	Color of Wire	Signal Name
4G	GR	-
6G	BG	-
10G	Y	-
32G	R	-
34G	V	-
37G	L	-
39G	P	-
43G	LG	-
46G	V	-
47G	SB	-
48G	G	-
95G	P	-
97G	V	-
100G	L	-

Connector No.	M25
Connector Name	PUSH-BUTTON IGNITION SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	SB	-
4	B	-
7	V	-
8	LG	-

Connector No.	M31
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	P	-
8	P	-
10	L	-
17	L	-

Connector No.	M38
Connector Name	CVT SHIFT SELECTOR
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
12	SB	-
13	P	-

Connector No.	M39
Connector Name	DONGLE UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	SB	-
4	B	-

ABKIA7295GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

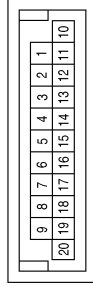
SEC

# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

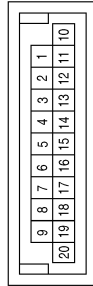
[WITH INTELLIGENT KEY SYSTEM]

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	WHITE



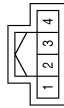
Terminal No.	Color of Wire	Signal Name
7	W	-
9	W	-

Connector No.	M53
Connector Name	JOINT CONNECTOR-M03
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
6	P	-
8	P	-
9	P	-
14	L	-
16	L	-
17	L	-
19	SB	-
20	SB	-

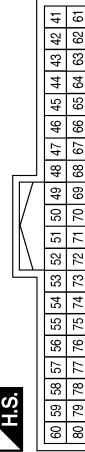
Connector No.	M42
Connector Name	NATS ANTENNA AMP.
Connector Color	WHITE



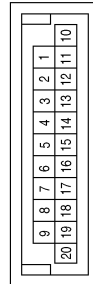
Terminal No.	Color of Wire	Signal Name
1	V	-
2	P	-
3	LG	-(WITH INTELLIGENT KEY SYSTEM)
4	B	-(WITH INTELLIGENT KEY SYSTEM)

Terminal No.	Color of Wire	Signal Name
55	LG	ENGINE START SW
66	V	BRAKE SW2
67	SB	AT DEVICE OUTPUT
69	L	SHIFT N, P (WITH CVT)
69	L	NEUTRAL SW (WITH M/T)
70	BG	CLUTCH SW (WITH M/T)
73	V	IGN RELAY OUTPUT1 (USM)
74	SB	STARTER RELAY OUTPUT
80	V	POWER POSITION LED (LOCK POSITION LED)

Connector No.	M83
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE



Connector No.	M71
Connector Name	JOINT CONNECTOR-M05
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
15	B	-
16	B	-

ABKIA7296GB

# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE

83	88	87	86	85	84	83	82	81
95	94	93	92	91	90			



Terminal No.	Color of Wire	Signal Name
88	BG	BATTERY (FUSE)
90	Y	BATTERY (F/L)
93	B	GND

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

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40



Terminal No.	Color of Wire	Signal Name
9	R	BRAKE SW1
21	P	IMMOBILIZER ONE WAY COMMUNICATION (CLOCK)

Connector No.	E2
Connector Name	JOINT CONNECTOR-E02
Connector Color	BLUE

12	11	10	9	8	7	6	5	4	3	2	1
----	----	----	---	---	---	---	---	---	---	---	---



Terminal No.	Color of Wire	Signal Name
1	L	-
2	L	-
3	L	-
4	L	-
5	L	-
8	P	-
9	P	-
10	P	-
11	P	-
12	P	-

Connector No.	M123
Connector Name	COMBINATION METER (WITH TYPE B)
Connector Color	WHITE

41	42	43	44	45	46
47	48	49	50	51	52



Terminal No.	Color of Wire	Signal Name
41	L	CAN-H
42	P	CAN-L
45	B	BAT
52	Y	GND

Connector No.	M122
Connector Name	COMBINATION METER (WITH TYPE B)
Connector Color	WHITE

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40



Terminal No.	Color of Wire	Signal Name
1	B	GND
7	Y	SECURITY

ABKIA7297GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

SEC

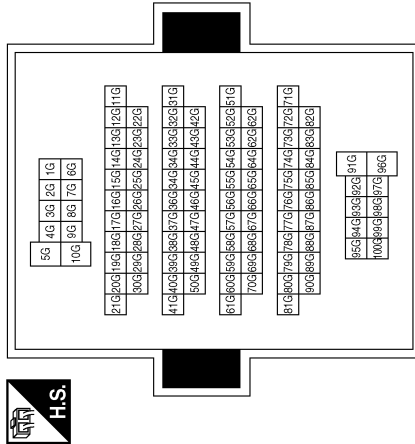
# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

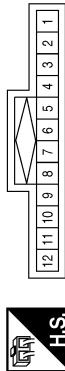
[WITH INTELLIGENT KEY SYSTEM]

Terminal No.	Color of Wire	Signal Name
4G	GR	-
6G	BR	-
10G	G	-
32G	SB	-
34G	W	-
37G	BR	-
39G	Y	-
43G	L	-
46G	O	-
47G	V	-
48G	LG	-
95G	P	-
97G	Y	-
100G	L	-

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE

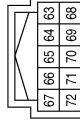


Connector No.	E3
Connector Name	JOINT CONNECTOR-E01
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	BR	-
2	BR	-
3	BR	-
4	BR	-
8	SB	-
11	SB	-

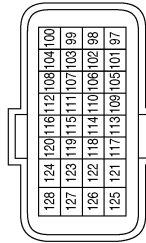
Connector No.	E39
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



Connector No.	E34
Connector Name	CLUTCH INTERLOCK SWITCH
Connector Color	BROWN



Connector No.	E16
Connector Name	ECM
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
64	Y	DETENT SW
66	L	PUSH START SW
68	O	IGN SIGNAL

Terminal No.	Color of Wire	Signal Name
1	LG	-
2	BR	-

Terminal No.	Color of Wire	Signal Name
99	P	CAN-L
100	L	CAN-H

ABKIA7298GB

# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

[WITH INTELLIGENT KEY SYSTEM]

Connector No.	E45
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

29	28	27	26	25		
36	35	34	33	32	31	30



Terminal No.	32	Color of Wire	Y	Signal Name	ECM BAT
--------------	----	---------------	---	-------------	---------

Connector No.	E44
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

21	20	19
24	23	22



Terminal No.	19	Color of Wire	R	Signal Name	STARTER MOTOR
	20	P		F/L IGN SW	

Connector No.	E43
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

9	8	7	6	5	4	3		
18	17	16	15	14	13	12	11	10



Terminal No.	4	Color of Wire	BR	Signal Name	NP SW
	14	LG		REVERSE LAMP	

Connector No.	E48
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK

59	58	57
62	61	60



Terminal No.	57	Color of Wire	B/Y	Signal Name	POWER GND
--------------	----	---------------	-----	-------------	-----------

Connector No.	E47
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

51	50	49		
56	55	54	53	52



Terminal No.	52	Color of Wire	B/Y	Signal Name	SIGNAL GND
--------------	----	---------------	-----	-------------	------------

Connector No.	E46
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

42	41	40	39	38	37
48	47	46	45	44	43



Terminal No.	40	Color of Wire	P	Signal Name	CAN-L
	41	L		CAN-H	
	44	V		START CONT	

ABKIA7299GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

SEC

# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

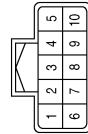
[WITH INTELLIGENT KEY SYSTEM]

Connector No.	E60
Connector Name	STOP LAMP SWITCH
Connector Color	WHITE



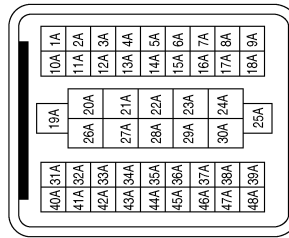
Terminal No.	Color of Wire	Signal Name
1	W	-
2	SB	-

Connector No.	E63
Connector Name	JOINT CONNECTOR-E03
Connector Color	BLACK



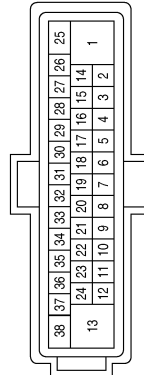
Terminal No.	Color of Wire	Signal Name
6	W	-
7	W	-
8	W	-

Connector No.	E64
Connector Name	WIRE TO WIRE
Connector Color	BLACK



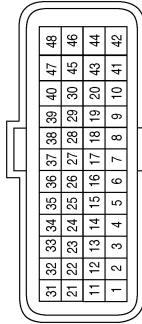
Terminal No.	Color of Wire	Signal Name
1A	P	-
2A	L	-
17A	GR	-
33A	BR	-
45A	BR	-
48A	LG	-

Connector No.	E125
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) (WITH INTELLIGENT CRUISE CONTROL)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
14	P	CAN-L
26	L	CAN-H

Connector No.	F23
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
23	P	CAN-L
33	L	CAN-H

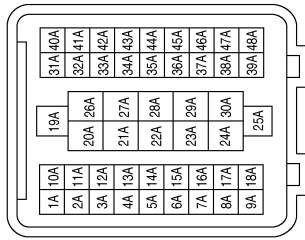
# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

< WIRING DIAGRAM >

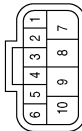
[WITH INTELLIGENT KEY SYSTEM]

Terminal No.	Color of Wire	Signal Name
1A	P	-
2A	L	-
17A	SB	-
33A	BR	-
45A	BR	-
48A	GR	-

Connector No.	F50
Connector Name	WIRE TO WIRE
Connector Color	BLACK



Connector No.	F26
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
7	GR	-
10	BR	-

Connector No.	F52
Connector Name	PARK/NEUTRAL POSITION (PNP) SWITCH
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
2	SB	-
3	BR	-

ABKIA7301GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

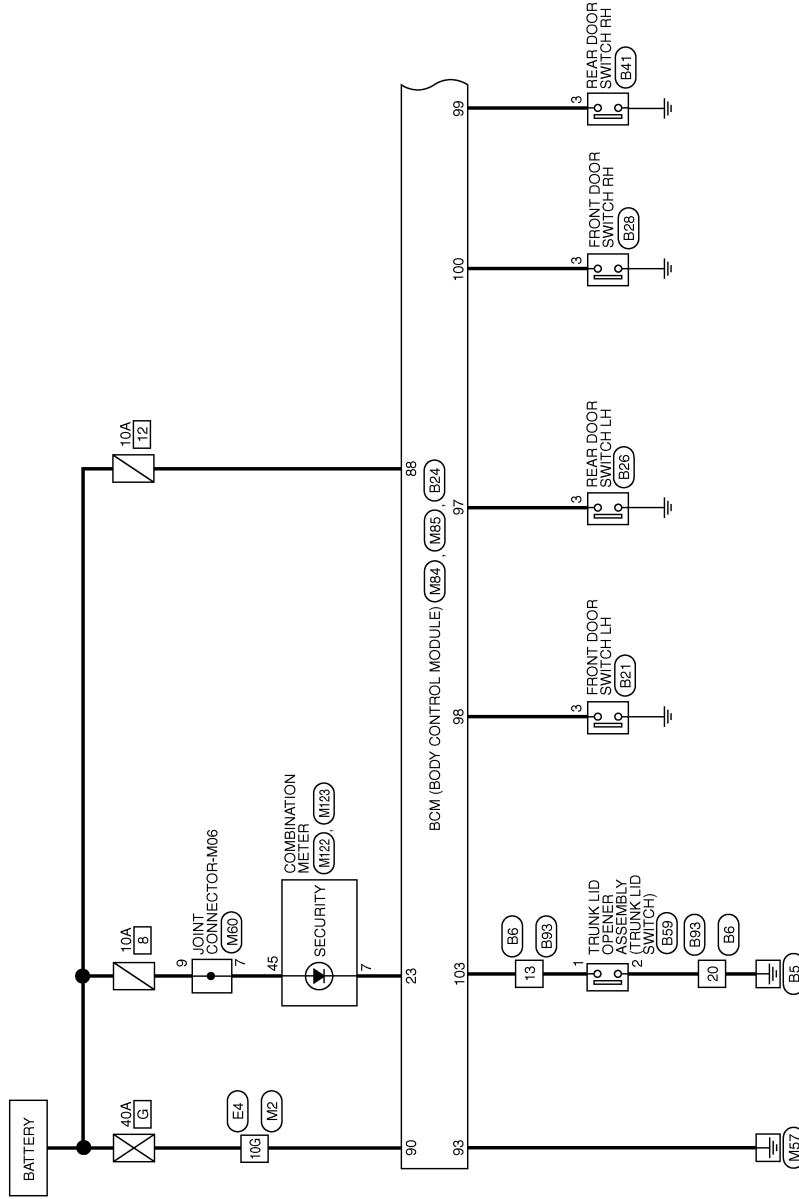
< WIRING DIAGRAM >

## VEHICLE SECURITY SYSTEM

Wiring Diagram

INFOID:000000012783413

### VEHICLE SECURITY SYSTEM - WITH INTELLIGENT KEY SYSTEM



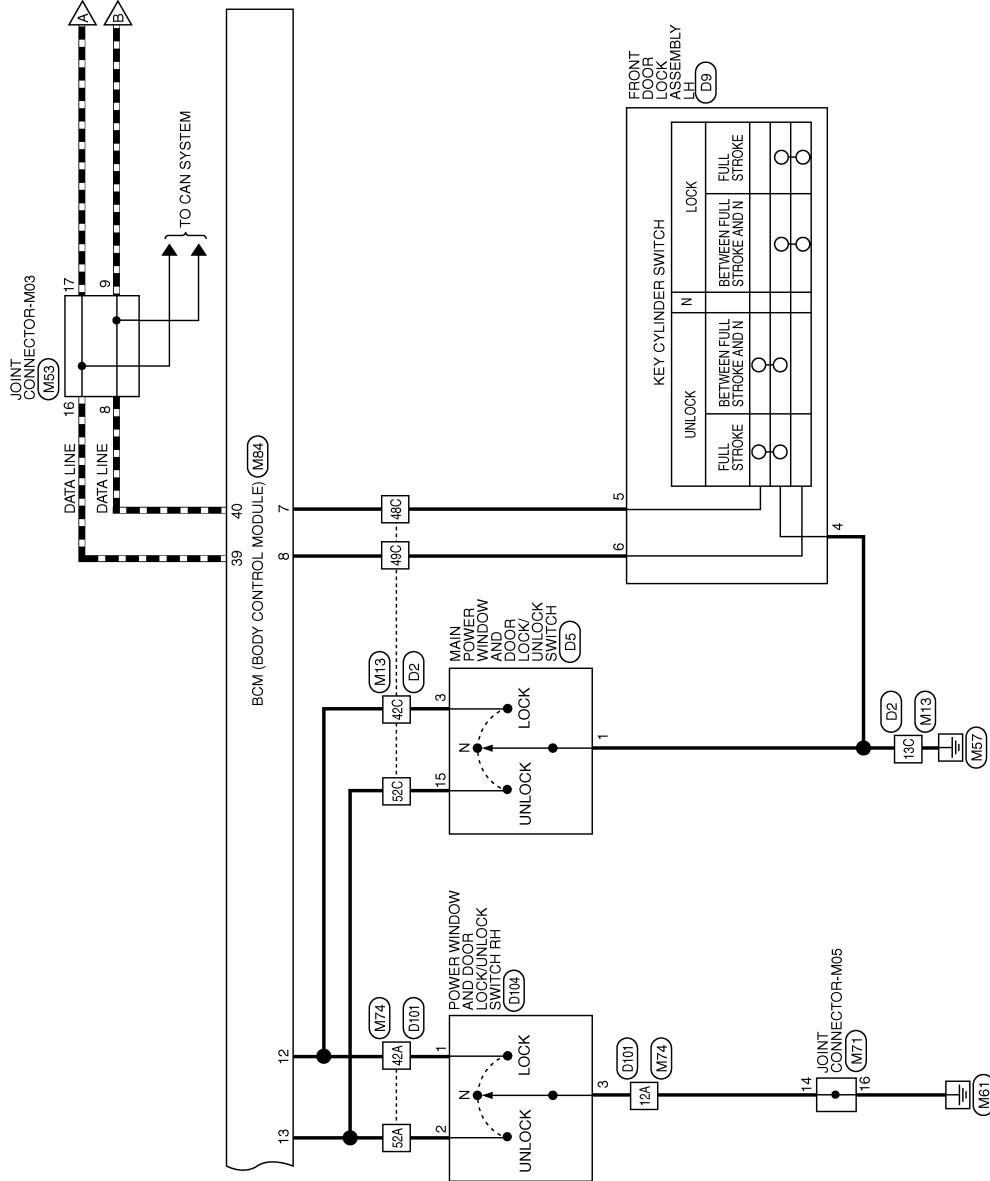
ABKWA3178GB



# VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >



ABKWA3179GB

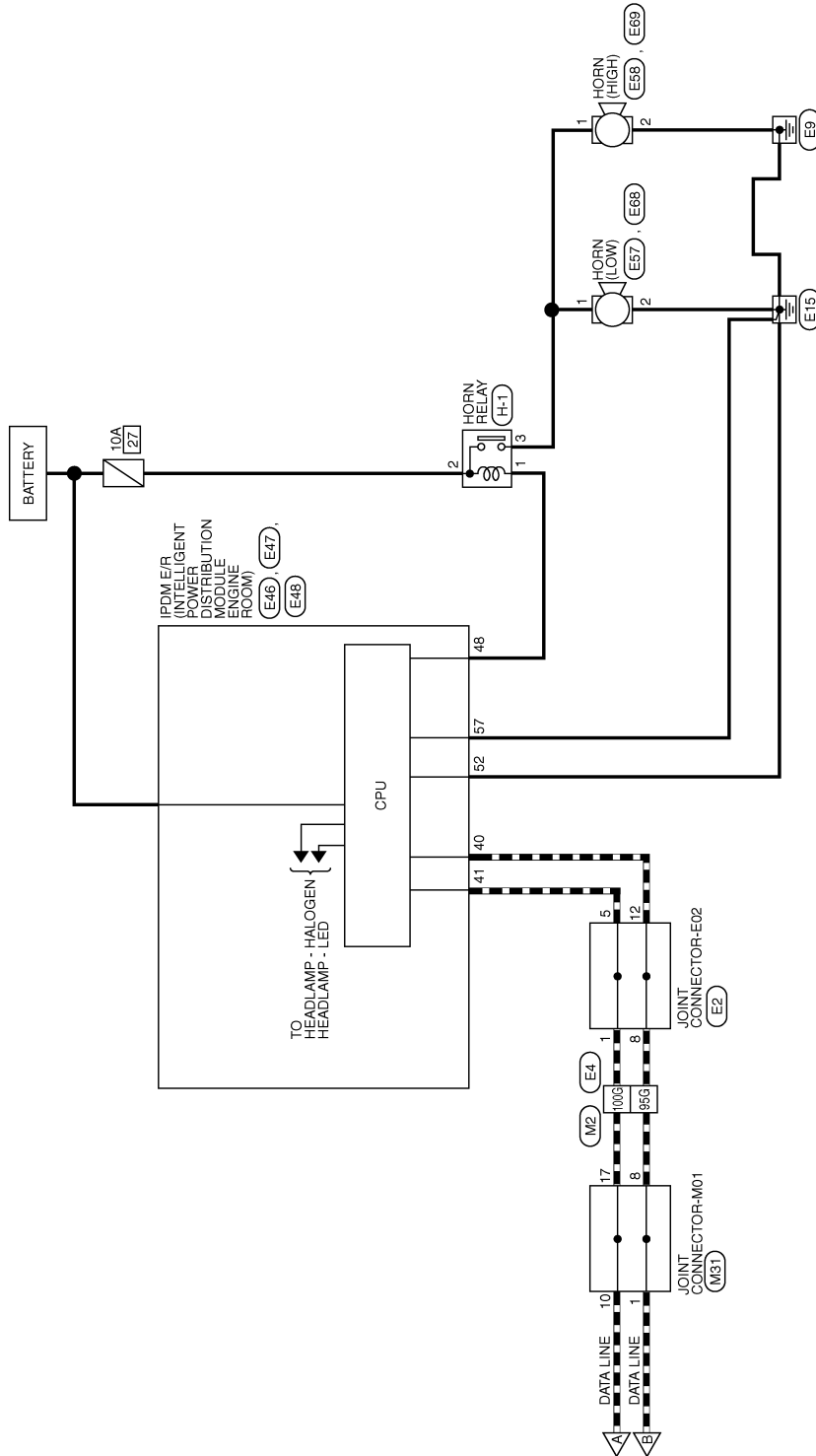
A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

SEC

# VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >



ABKWA3180GB

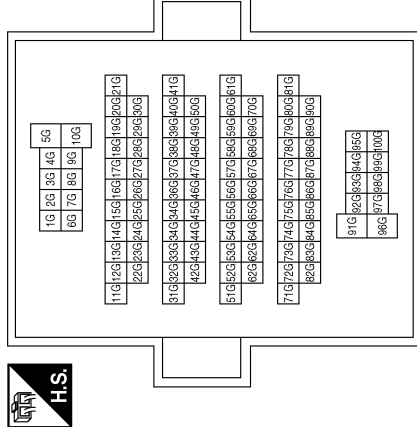
# VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

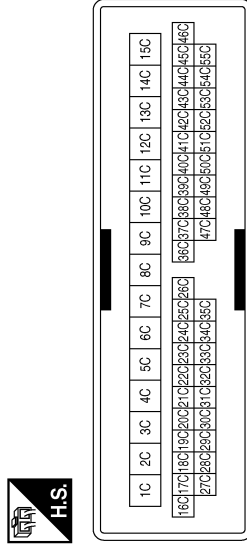
## VEHICLE SECURITY SYSTEM CONNECTORS - WITH INTELLIGENT KEY SYSTEM

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



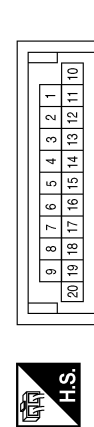
Terminal No.	Color of Wire	Signal Name
10G	Y	-
95G	P	-
100G	L	-

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Color	WHITE



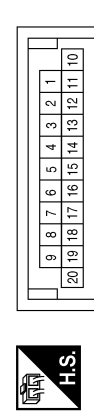
Terminal No.	Color of Wire	Signal Name
13C	B	-
42C	GR	-
48C	L	-
49C	V	-
52C	BR	-

Connector No.	M31
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE



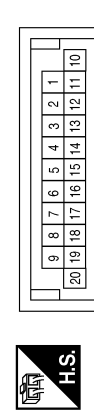
Terminal No.	Color of Wire	Signal Name
1	P	-
8	P	-
10	L	-
17	L	-

Connector No.	M53
Connector Name	JOINT CONNECTOR-M03
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
8	P	-
9	P	-
16	L	-
17	L	-

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	W	-
9	W	-

ABKIA7308GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

SEC

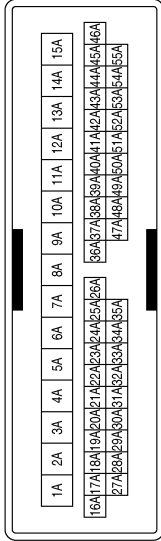
# VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

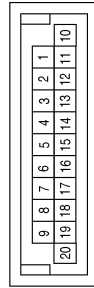
< WIRING DIAGRAM >

Terminal No.	Color of Wire	Signal Name
12A	B	-
42A	GR	-
52A	BR	-

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE

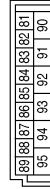


Connector No.	M71
Connector Name	JOINT CONNECTOR-M05
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
14	B	-
16	B	-

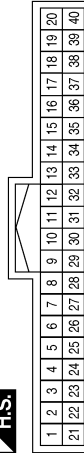
Connector No.	M85
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
88	BG	BATTERY (FUSE)
90	Y	BATTERY (F/L)
93	B	GND

Terminal No.	Color of Wire	Signal Name
23	Y	SECURITY INDICATOR OUTPUT
39	L	CAN-H
40	P	CAN-L

Connector No.	M84
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
7	L	KEY CYLINDER UNLOCK SW
8	V	KEY CYLINDER LOCK SW
12	GR	CENTRAL DOOR LOCK SW
13	BR	CENTRAL DOOR UNLOCK SW

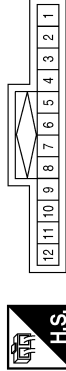
ABKIA7309GB

# VEHICLE SECURITY SYSTEM

< WIRING DIAGRAM >

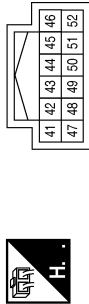
[WITH INTELLIGENT KEY SYSTEM]

Connector No.	E2
Connector Name	JOINT CONNECTOR-E02
Connector Color	BLUE



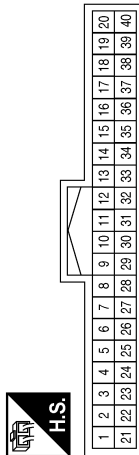
Terminal No.	Color of Wire	Signal Name
1	L	-
5	L	-
8	P	-
12	P	-

Connector No.	M123
Connector Name	COMBINATION METER (WITH TYPE B)
Connector Color	WHITE



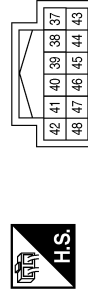
Terminal No.	Color of Wire	Signal Name
45	LG	BAT

Connector No.	M122
Connector Name	COMBINATION METER (WITH TYPE B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	Y	SECURITY

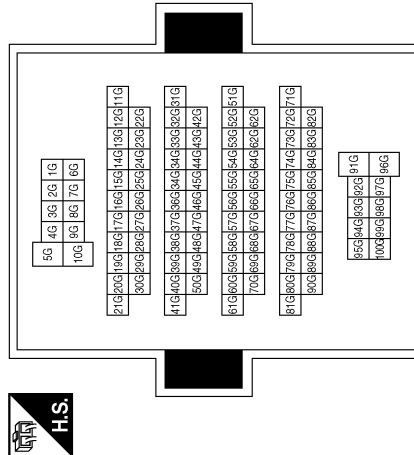
Connector No.	E46
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
40	P	CAN-L
41	L	CAN-H
48	L	HORN RLY CONT

Terminal No.	Color of Wire	Signal Name
10G	G	-
95G	P	-
100G	L	-

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE



ABKIA7310GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

Connector No.	E57
Connector Name	HORN (LOW)
Connector Color	BLACK



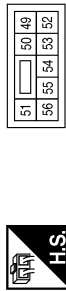
Terminal No.	1	Color of Wire	G	Signal Name	-
--------------	---	---------------	---	-------------	---

Connector No.	E48
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



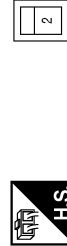
Terminal No.	57	Color of Wire	B/Y	Signal Name	POWER GND
--------------	----	---------------	-----	-------------	-----------

Connector No.	E47
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



Terminal No.	52	Color of Wire	B/Y	Signal Name	SIGNAL GND
--------------	----	---------------	-----	-------------	------------

Connector No.	E69
Connector Name	HORN (HIGH)
Connector Color	BLACK



Terminal No.	2	Color of Wire	B/W	Signal Name	-
--------------	---	---------------	-----	-------------	---

Connector No.	E68
Connector Name	HORN (LOW)
Connector Color	BLACK



Terminal No.	2	Color of Wire	B/R	Signal Name	-
--------------	---	---------------	-----	-------------	---

Connector No.	E58
Connector Name	HORN (HIGH)
Connector Color	BROWN



Terminal No.	1	Color of Wire	G	Signal Name	-
--------------	---	---------------	---	-------------	---

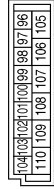
ABKIA7311GB

# VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

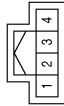
< WIRING DIAGRAM >

Connector No.	B24
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY SYSTEM)
Connector Color	BLACK



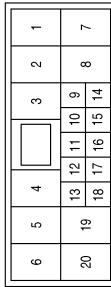
Terminal No.	Color of Wire	Signal Name
97	GR	DOOR SW (RL)
98	Y	DOOR SW (DR)
99	P	DOOR SW (RR)
100	R	DOOR SW (AS)
103	V	TRUNK

Connector No.	B21
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE



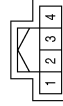
Terminal No.	Color of Wire	Signal Name
3	Y	-

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE



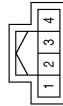
Terminal No.	Color of Wire	Signal Name
13	V	-
20	B	-

Connector No.	B41
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE



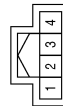
Terminal No.	Color of Wire	Signal Name
3	P	-

Connector No.	B28
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	R	-

Connector No.	B26
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	GR	-

ABKIA7312GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

Connector No.	B93
Connector Name	WIRE TO WIRE
Connector Color	WHITE

1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20				



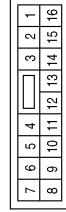
Terminal No.	Color of Wire	Signal Name
13	R	-
20	B	-

Connector No.	B59
Connector Name	TRUNK LID OPENER ASSEMBLY
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	R	-
2	B	-

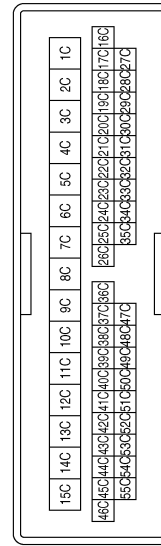
Connector No.	D5
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	GND
3	L	LOCK SW
15	BR	UNLOCK SW

Terminal No.	Color of Wire	Signal Name
13C	B	-
42C	L	-
48C	Y	-
49C	R	-
52C	BR	-

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



ABKIA7313GB



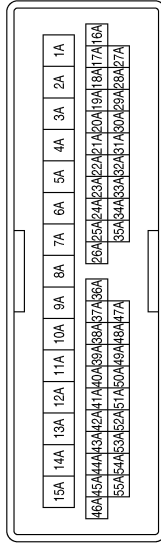
# VEHICLE SECURITY SYSTEM

[WITH INTELLIGENT KEY SYSTEM]

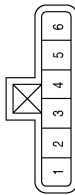
< WIRING DIAGRAM >

Terminal No.	Color of Wire	Signal Name
12A	B	-
42A	Y	-
52A	BR	-

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	D9
Connector Name	FRONT DOOR LOCK ASSEMBLY LH
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
4	B	-
5	Y	-
6	R	-

Connector No.	D104
Connector Name	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	-
2	BR	-
3	B	-

ABKIA7314GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

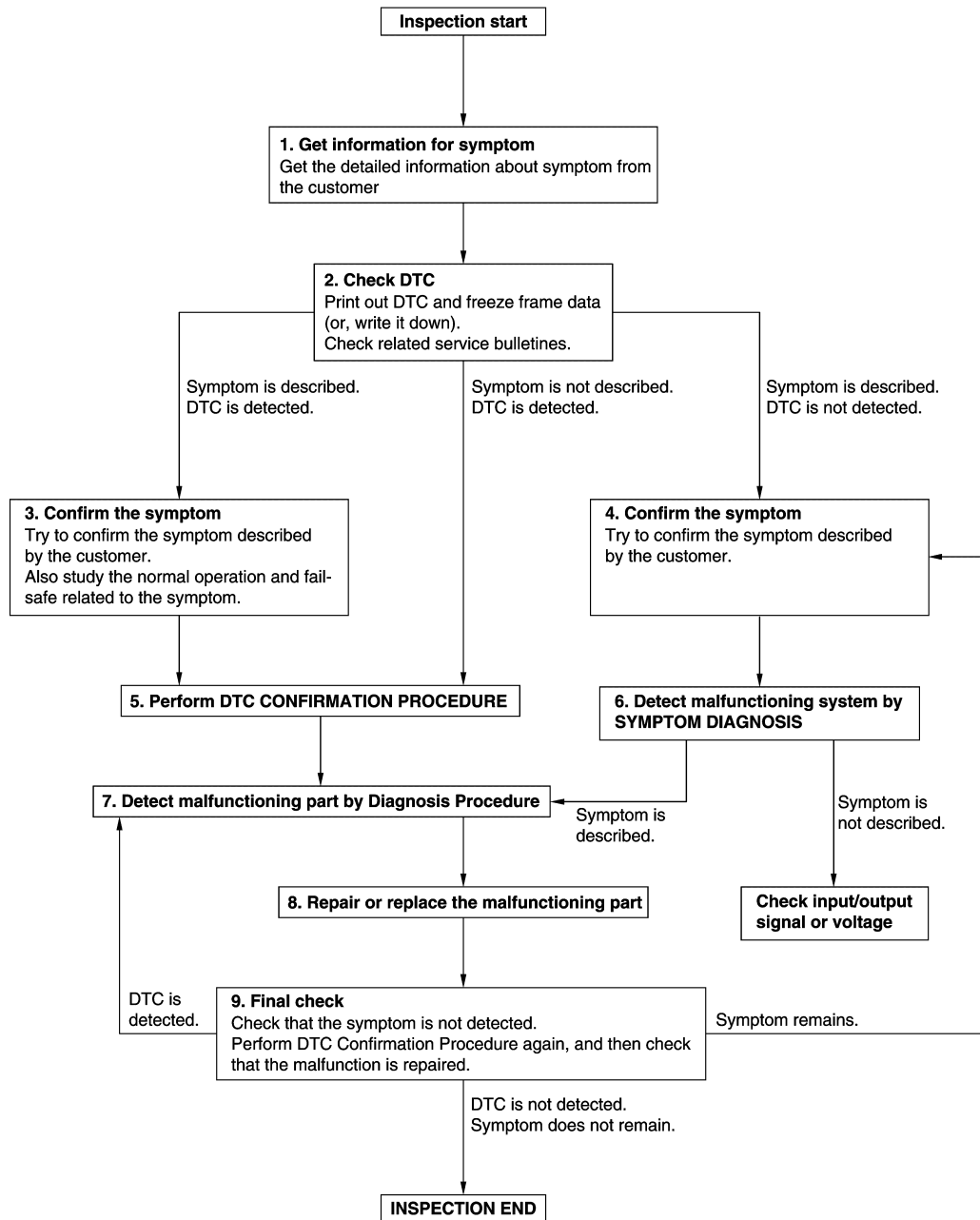
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000012783414

OVERALL SEQUENCE



JMKIA8652GB

DETAILED FLOW

Revision: December 2015

SEC-58

2016 Sentra NAM

# DIAGNOSIS AND REPAIR WORK FLOW

[WITH INTELLIGENT KEY SYSTEM]

< BASIC INSPECTION >

## 1. GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

## 2. CHECK DTC

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

Are any symptoms described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3.

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

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

## 3. CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

Also study the normal operation and fail-safe related to the symptom.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

## 4. CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

## 5. PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to [BCS-49. "DTC Inspection Priority Chart"](#) and determine trouble diagnosis order.

**NOTE:**

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

Is DTC detected?

YES >> GO TO 7.

NO >> Check according to [GI-41. "Intermittent Incident"](#).

## 6. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

Is the symptom described?

YES >> GO TO 7.

NO >> Monitor input data from related sensors or check voltage of related module terminals using CONSULT.

## 7. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

## DIAGNOSIS AND REPAIR WORK FLOW

[WITH INTELLIGENT KEY SYSTEM]

< BASIC INSPECTION >

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to [GI-41. "Intermittent Incident"](#).

### 8. REPAIR OR REPLACE THE MALFUNCTIONING PART

---

1. Repair or replace the malfunctioning part.
2. 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 >

[WITH INTELLIGENT KEY SYSTEM]

## ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

### ECM

#### ECM : Description

INFOID:0000000012783415

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

\*: New one means an ECM that has never been energized on-board.

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

#### NOTE:

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

#### ECM : Work Procedure

INFOID:0000000012783416

### 1.PERFORM ECM RECOMMUNICATING FUNCTION

1. Install ECM.
2. Contact backside of the registered Intelligent Key\* to push-button ignition switch while brake pedal is depressed, then turn ignition switch ON.  
\*: To perform this step, use the key that is used before performing ECM replacement.
3. Maintain ignition switch in the ON position for at least 5 seconds.
4. Turn ignition switch OFF.
5. Check that the engine starts.

>> GO TO 2.

### 2.PERFORM ADDITIONAL SERVICE WHEN REPLACING ECM

Perform additional service when replacing ECM. Refer to [EC-139, "Work Procedure"](#).

>> Inspection End

### BCM

#### BCM : Description

INFOID:0000000013388232

#### BEFORE REPLACEMENT

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

#### NOTE:

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

#### AFTER REPLACEMENT

#### 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).

#### BCM : Work Procedure

INFOID:0000000013388233

### 1.SAVING VEHICLE SPECIFICATION

#### CONSULT

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

#### NOTE:

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

## ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION >

[WITH INTELLIGENT KEY SYSTEM]

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-78, "Removal and Installation"](#).

>> GO TO 3.

### 3. WRITING VEHICLE SPECIFICATION

---

#### ⓐ CONSULT

1. Enter "Re/Programming, Configuration".
2. 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 [SEC-61, "BCM : Work Procedure"](#).
3. If "Before Replace ECU" operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to [SEC-61, "BCM : Work Procedure"](#).

>> GO TO 4.

### 4. REGISTER INTELLIGENT KEYS

---

For initialization and registration of Intelligent Keys, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

>> Work End.

# DTC/CIRCUIT DIAGNOSIS

## P1610 LOCK MODE

### Description

INFOID:0000000012783419

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

### DTC Logic

INFOID:0000000012783420

### 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.	—

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

- YES >> Go to [SEC-63. "Diagnosis Procedure"](#).
- NO >> Inspection End.

### Diagnosis Procedure

INFOID:0000000012783421

#### 1. CHECK ENGINE START FUNCTION

1. Check that DTC except for DTC P1610 is not detected.  
If detected, erase the DTC after fixing.
2. Turn ignition switch OFF.
3. Depress brake pedal and contact the registered Intelligent Key backside to push-button ignition switch, then wait 5 seconds.
4. Turn ignition switch ON.
5. Turn ignition switch OFF and wait 5 seconds.
6. Repeat steps 3 and 5 twice (a total of 3 times).
7. Check that engine can start.

>> Inspection End.



# P1611 ID DISCORD, IMMUECM

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## P1611 ID DISCORD, IMMUECM

### DTC Logic

INFOID:000000012783422

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1611	ID DISCORD, IMMUECM	The ID verification results between BCM and ECM are invalid.	<ul style="list-style-type: none"><li>• BCM</li><li>• ECM</li></ul>

#### DTC CONFIRMATION PROCEDURE

##### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

##### Is DTC detected?

- YES >> Go to [SEC-64, "Diagnosis Procedure"](#).  
NO >> Inspection End.

#### Diagnosis Procedure

INFOID:000000012783423

##### 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 [BCS-78, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

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

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

##### 4. REPLACE ECM

1. Replace ECM.  
Refer to [EC-501, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM".  
Refer to [EC-139, "Work Procedure"](#).

>> Inspection End.



# P1612 CHAIN OF ECM-IMMU

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

## P1612 CHAIN OF ECM-IMMU

### DTC Logic

INFOID:000000012783424

### DTC DETECTION LOGIC

#### NOTE:

- If DTC P1612 is displayed with DTC U1000 (for BCM), first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC P1612 is displayed with DTC U1010 (for BCM), first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
P1612	CHAIN OF ECM-IMMU	Inactive communication between ECM and BCM	<ul style="list-style-type: none"><li>• Harness or connectors (The CAN communication line is open or shorted.)</li><li>• BCM</li><li>• ECM</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Go to [SEC-65, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783425

#### 1.REPLACE BCM

1. Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

#### Does the engine start?

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

#### 2.REPLACE ECM

1. Replace ECM.  
Refer to [EC-501, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM".  
Refer to [EC-139, "Work Procedure"](#).

>> Inspection End.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B2192 ID DISCORD, IMMUECM

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2192 ID DISCORD, IMMUECM

### DTC Logic

INFOID:000000012783426

### 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.	<ul style="list-style-type: none"><li>• BCM</li><li>• ECM</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Go to [SEC-66, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783427

#### 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 [BCS-78, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

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

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

#### 4. REPLACE ECM

1. Replace ECM.  
Refer to [EC-501, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM".  
Refer to [EC-139, "Work Procedure"](#).

>> Inspection End.

# B2193 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2193 CHAIN OF ECM-IMMU

### DTC Logic

INFOID:000000012783428

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2193	CHAIN OF BCM-ECM	Inactive communication between BCM and ECM	<ul style="list-style-type: none"><li>• Harness or connectors (The CAN communication line is open or shorted.)</li><li>• BCM</li><li>• ECM</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Go to [SEC-67, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783429

#### 1.REPLACE BCM

1. Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

#### Does the engine start?

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

#### 2.REPLACE ECM

1. Replace ECM.  
Refer to [EC-501, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM".  
Refer to [EC-139, "Work Procedure"](#).

>> Inspection End.

# B2195 ANTI-SCANNING

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2195 ANTI-SCANNING

### DTC Logic

INFOID:000000012783430

#### 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 [SEC-68, "Diagnosis Procedure"](#).  
NO >> Inspection End.

#### Diagnosis Procedure

INFOID:000000012783431

##### 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

1. 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.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to [SEC-68, "DTC Logic"](#).

##### Is DTC detected?

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

##### 4. REPLACE BCM

1. Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

# B2196 DONGLE UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2196 DONGLE UNIT

### Description

INFOID:0000000012783432

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

### DTC Logic

INFOID:0000000012783433

#### 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 invalid.	<ul style="list-style-type: none"><li>• Harness or connectors (Dongle unit circuit is open or shorted.)</li><li>• Dongle unit</li></ul>

#### 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 [SEC-69, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:0000000012783434

Regarding Wiring Diagram information, refer to [SEC-39, "Wiring Diagram"](#).

##### 1.PERFORM INITIALIZATION

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 on-screen 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.

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

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M84	24		No

##### Is the inspection result normal?

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

## B2196 DONGLE UNIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

YES >> GO TO 3.

NO >> Repair or replace harness.

### 3. CHECK DONGLE UNIT GROUND CIRCUIT

Check continuity between dongle unit harness connector and ground.

Dongle unit		Ground	Continuity
Connector	Terminal		
M39	4		Yes

Is the inspection result normal?

YES >> Replace dongle unit.

NO >> Repair or replace harness.

# B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2198 NATS ANTENNA AMP.

### DTC Logic

INFOID:000000012783435

### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2198	NATS ANTENNA AMP	Inactive communication between NATS antenna amp. and BCM is detected when BCM enters in the low power consumption mode (BCM sleep condition)	<ul style="list-style-type: none"> <li>• Harness or connectors (NATS antenna amp. circuit is open or shorted.)</li> <li>• NATS antenna amp.</li> <li>• BCM</li> </ul>

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Make the conditions that BCM enters in the low power consumption mode (BCM sleep condition). Refer to [BCS-8. "BODY CONTROL SYSTEM : System Description"](#).
2. Turn ignition switch ON.
3. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

#### Is DTC detected?

- YES >> Go to [SEC-71. "Diagnosis Procedure"](#).  
 NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783436

Regarding Wiring Diagram information, refer to [SEC-39. "Wiring Diagram"](#).

#### 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.
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.

(+)		(-)	Voltage (V) (Approx.)
NATS antenna amp.			
Connector	Terminal		
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.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

IPDM E/R		NATS antenna amp.		Continuity
Connector	Terminal	Connector	Terminal	
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 antenna amp.		Ground	Continuity
Connector	Terminal		
M42	4		Yes

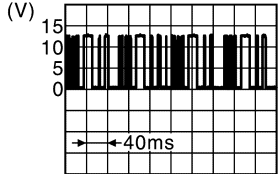
Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

## 5.CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL 1

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

(+)		(-)	Condition	Voltage (V) (Approx.)
NATS antenna amp.				
Connector	Terminal			
M42	2	Ground	Intelligent Key: Intelligent Key battery is removed	
			Brake pedal: Not depressed	12

Is the inspection result normal?

YES >> GO TO 7.

NO >> GO TO 6.

## 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 antenna amp.		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M42	2	M84	21	Yes

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

NATS antenna amp.		Ground	Continuity
Connector	Terminal		
M42	2		No

Is the inspection result normal?

YES >> GO TO 9.

NO >> Repair or replace harness.

## 7.CHECK NATS ANTENNA AMP. COMMUNICATION SIGNAL 2

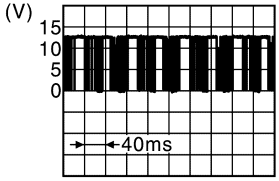


## B2198 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

(+)		(-)	Condition	Voltage (V) (Approx.)
NATS antenna amp.				
Connector	Terminal			
M42	3	Ground	During waiting	Brake pedal: Depressed <b>NOTE:</b> Waveform varies each time when brake pedal is depressed
				 <div style="text-align: right; font-size: small;">JMkia6233JP</div>
				Brake pedal: Not depressed 12

Is the inspection result normal?

- YES >> Replace NATS antenna amp. Refer to [SEC-140, "Removal and Installation"](#).  
 NO >> GO TO 8.

### 8. CHECK NATS ANTENNA AMP. OUTPUT SIGNAL CIRCUIT 2

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

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

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

NATS antenna amp.		Ground	Continuity
Connector	Terminal		
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 [BCS-78, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End

# B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2555 STOP LAMP

### DTC Logic

INFOID:000000012783437

### 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.	<ul style="list-style-type: none"> <li>• Harness or connectors (Stop lamp switch circuit is open or shorted.)</li> <li>• Stop lamp switch</li> <li>• Fuse</li> <li>• BCM</li> </ul>

### 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:000000012783438

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.

(+)		(-)	Voltage (V) (Approx.)
BCM			
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 >

[WITH INTELLIGENT KEY SYSTEM]

1. Connect stop lamp switch connector.
2. Check voltage between BCM harness connector and ground.

(+)		(-)	Condition		Voltage (V) (Approx.)
BCM					
Connector	Terminal				
M84	9	Ground	Brake pedal	Depressed	Battery voltage
				Not depressed	0

Is the inspecting result normal?

- YES >> GO TO 4.  
NO >> GO TO 5.

## 4. REPLACE BCM

1. Replace BCM. Refer to [BCS-78. "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

## 5. CHECK STOP LAMP SWITCH CIRCUIT

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

Stop lamp switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E60	2	M84	9	Yes

3. Check continuity between stop lamp switch harness connector and ground.

Stop lamp switch		Ground	Continuity
Connector	Terminal		
E60	2		No

Is the inspection result normal?

- YES >> GO TO 6.  
NO >> Repair or replace harness.

## 6. CHECK STOP LAMP SWITCH

Refer to [SEC-75. "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 7.  
NO >> Replace stop lamp switch. Refer to [BR-23. "Exploded View"](#).

## 7. CHECK INTERMITTENT INCIDENT

Refer to [GI-41. "Intermittent Incident"](#).

>> Inspection End.

## Component Inspection

INFOID:0000000012783439

### 1. CHECK STOP LAMP SWITCH

1. Turn ignition switch OFF.
2. Disconnect stop lamp switch connector.
3. Check continuity between stop lamp switch terminals.

## B2555 STOP LAMP

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

Stop lamp switch		Condition		Continuity
Terminal				
1	2	Brake pedal	Not depressed	No
			Depressed	Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace stop lamp switch. Refer to [BR-23, "Exploded View"](#).

# B2556 PUSH-BUTTON IGNITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2556 PUSH-BUTTON IGNITION SWITCH

### DTC Logic

INFOID:000000012783440

### DTC DETECTION LOGIC

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.	<ul style="list-style-type: none"> <li>Harness or connectors (Push-button ignition switch circuit is shorted.)</li> <li>Push-button ignition switch</li> <li>BCM</li> </ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

- Press push-button ignition switch under the following condition.
  - Brake pedal: Not depressed
- Release push-button ignition switch and wait 100 seconds or more.
- Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

#### Is DTC detected?

- YES >> Go to [SEC-77. "Diagnosis Procedure"](#).  
 NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783441

Regarding Wiring Diagram information, refer to [SEC-39. "Wiring Diagram"](#).

#### 1. CHECK PUSH-BUTTON IGNITION SWITCH INPUT SIGNAL

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

(+)		(-)	Voltage (V) (Approx.)
Push-button ignition switch			
Connector	Terminal	Ground	12
M25	8		

#### Is the inspection result normal?

- YES >> GO TO 4.  
 NO >> GO TO 2.

#### 2. CHECK PUSH-BUTTON IGNITION SWITCH CIRCUIT

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

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

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

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

# B2556 PUSH-BUTTON IGNITION SWITCH

[WITH INTELLIGENT KEY SYSTEM]

< 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 [BCS-78, "Removal and Installation"](#).
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 ignition switch		Ground	Continuity
Connector	Terminal		
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 [SEC-141, "Removal and Installation"](#).

## 6.CHECK INTERMITTENT INCIDENT

Refer to [GI-41, "Intermittent Incident"](#).

>> Inspection End.

## Component Inspection

INFOID:0000000012783442

## 1.CHECK PUSH-BUTTON IGNITION SWITCH

1. Turn ignition switch OFF.
2. Disconnect push-button ignition switch connector.
3. Check continuity between push-button ignition switch terminals.

Push-button ignition switch		Condition	Continuity
Terminal			
4	8	Push-button ignition switch	Pressed Yes
			Not pressed No

Is the inspection result normal?

- YES >> Inspection End.
- NO >> Replace push-button ignition switch. Refer to [SEC-141, "Removal and Installation"](#).

# B2557 VEHICLE SPEED

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2557 VEHICLE SPEED

### DTC Logic

INFOID:000000012783443

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2557 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B2557 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible causes
B2557	VEHICLE SPEED	BCM detects one of the following conditions for 10 seconds continuously. <ul style="list-style-type: none"><li>• 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</li><li>• 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</li></ul>	<ul style="list-style-type: none"><li>• Harness or connectors (The CAN communication line is open or shorted.)</li><li>• Combination meter</li><li>• ABS actuator and electric unit (control unit)</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Start engine and wait 10 seconds or more.
2. Drive the vehicle at a vehicle speed of 10 km/h (6.2 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-79, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783444

#### 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 [BRC-217, "DTC Index"](#).  
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 [MWI-100, "DTC Index"](#).  
NO >> GO TO 3.

#### 3. CHECK INTERMITTENT INCIDENT

Refer to [GI-41, "Intermittent Incident"](#).

>> Inspection End.

# B2601 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2601 SHIFT POSITION

### DTC Logic

INFOID:000000012783445

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2601 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B2601 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

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).	<ul style="list-style-type: none"> <li>• Harness or connectors (CAN communication line is open or shorted.)</li> <li>• Harness or connectors [CVT shift selector (park position switch) circuit is open or shorted.]</li> <li>• IPDM E/R</li> <li>• BCM</li> </ul>

### 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:000000012783446

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)		BCM		Continuity
Connector	Terminal	Connector	Terminal	
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)		Ground	Continuity
Connector	Terminal		
M38	13		No

#### Is the inspection result normal?

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



# B2601 SHIFT POSITION

< 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 (park position switch)		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
M38	13	E39	64	Yes

Is the inspection result normal?

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

## 3. REPLACE BCM

1. Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B2601. Refer to [SEC-80, "DTC Logic"](#).

Is DTC B2601 detected again?

- YES >> Replace IPDM E/R. Refer to [PCS-31, "Removal and Installation"](#).  
NO >> Inspection End.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B2602 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2602 SHIFT POSITION

### DTC Logic

INFOID:000000012783447

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2602 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B2602 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2602	SHIFT P DIAG	BCM detects the following status for 10 seconds. <ul style="list-style-type: none"><li>• Selector lever is in the Park (P) position</li><li>• Vehicle speed is 4 km/h (2.5 MPH) or more</li><li>• Ignition switch is in the ON position</li></ul>	<ul style="list-style-type: none"><li>• Harness or connectors (The CAN communication line is open or shorted.)</li><li>• Harness or connectors [CVT shift selector (park position switch) circuit is open or shorted.]</li><li>• CVT shift selector (park position switch)</li><li>• Combination meter</li></ul>

### 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:000000012783448

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 [BRC-217, "DTC Index"](#).  
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 [MWI-100, "DTC Index"](#).  
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.

# B2602 SHIFT POSITION

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

(+)		(-)	Voltage (V) (Approx.)
CVT shift selector (park position switch)			
Connector	Terminal	Ground	12
M38	12		

Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 4.

## 4. CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

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

CVT shift selector (park position switch)		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M38	12	M83	67	Yes

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

CVT shift selector (park position switch)		Ground	Continuity
Connector	Terminal		
M38	12		No

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

## 5. REPLACE BCM

1. Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

## 6. CHECK CVT SHIFT SELECTOR CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and IPDM E/R connector.
3. Check continuity between CVT shift selector (park position switch) harness connector and BCM harness connector.

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

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

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

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

## 7. CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

Refer to [SEC-84, "Component Inspection"](#).

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B2602 SHIFT POSITION

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace CVT shift selector. Refer to [TM-256, "Removal and Installation"](#).

## 8. CHECK INTERMITTENT INCIDENT

Refer to [GI-41, "Intermittent Incident"](#).

>> Inspection End.

## Component Inspection

INFOID:0000000012783449

### 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)		Condition		Continuity
Terminal				
12	13	Selector lever: P position	Selector button: Released	No
			Selector button: Pressed	Yes
		Selector lever: Other than P position		

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace CVT shift selector. Refer to [TM-256, "Removal and Installation"](#).

# B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2603 SHIFT POSITION

### DTC Logic

INFOID:0000000012783450

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2603 is displayed with DTC B2601, first perform the trouble diagnosis for DTC B2601. Refer to [SEC-80, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible causes
B2603	SHIFT POSITION	BCM detects the following status when ignition switch is in the ON position. <ul style="list-style-type: none"> <li>• Transmission range switch signal: approx. 0 V</li> <li>• CVT shift selector (park position switch) signal: approx. 0 V</li> </ul>	<ul style="list-style-type: none"> <li>• Harness or connector [CVT shift selector (park position switch) circuit is open or shorted.]</li> <li>• Harness or connectors (Transmission range switch circuit is open or shorted.)</li> <li>• CVT shift selector (park position switch)</li> <li>• Transmission range switch</li> <li>• BCM</li> </ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE 1

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

#### Is DTC detected?

- YES >> Go to [SEC-85, "Diagnosis Procedure"](#).  
 NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE 2

1. Shift the selector lever to the position other than Park (P) and Neutral (N), 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-85, "Diagnosis Procedure"](#).  
 NO >> Inspection End.

### Diagnosis Procedure

INFOID:0000000012783451

Regarding Wiring Diagram information, refer to [SEC-39, "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 8.

#### 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?

## B2603 SHIFT POSITION

[WITH INTELLIGENT KEY SYSTEM]

### < DTC/CIRCUIT DIAGNOSIS >

YES >> GO TO 3.

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

### 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.

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

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

Transmission range switch		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
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.

(+)		(-)	Condition		Voltage (V) (Approx.)
BCM					
Connector	Terminal	Ground	Selector lever	P or N position	Battery voltage
M83	69				

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	
F26	10	M83	69	Yes

Is the inspection result normal?

## B2603 SHIFT POSITION

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

- YES >> GO TO 7.  
NO >> Repair or replace harness.

### 7. CHECK TRANSMISSION RANGE SWITCH

Refer to [SEC-88. "Component Inspection \(Transmission Range Switch\)"](#).

Is the inspection result normal?

- YES >> GO TO 12.  
NO >> Replace transmission range switch.

### 8. 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.

(+)		(-)	Voltage (V) (Approx.)
Connector	Terminal		
M38	12	Ground	12

Is the inspection result normal?

- YES >> GO TO 10.  
NO >> GO TO 9.

### 9. CHECK CVT SHIFT SELECTOR POWER SUPPLY CIRCUIT

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

CVT shift selector (park position switch)		BCM		Continuity
Connector	Terminal	Connector	Terminal	
M38	12	M83	67	Yes

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

CVT shift selector (park position switch)		Ground	Continuity
Connector	Terminal		
M38	12		No

Is the inspection result normal?

- YES >> GO TO 12.  
NO >> Repair or replace harness.

### 10. CHECK CVT SHIFT SELECTOR CIRCUIT

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

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

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

# B2603 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

Is the inspection result normal?

- YES >> GO TO 11.
- NO >> Repair or replace harness.

## 11.CHECK CVT SHIFT SELECTOR (PARK POSITION SWITCH)

Refer to [SEC-88. "Component Inspection \[CVT Shift Selector \(Park Position Switch\)\]"](#).

Is the inspection result normal?

- YES >> GO TO 13.
- NO >> Replace CVT shift selector. Refer to [TM-256. "Removal and Installation"](#).

## 12.CHECK INTERMITTENT INCIDENT

Refer to [GI-41. "Intermittent Incident"](#).

>> Inspection End.

## 13.REPLACE BCM

1. Replace BCM. Refer to [BCS-78. "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

## Component Inspection (Transmission Range Switch)

INFOID:0000000012783452

### 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 range switch		Condition	Continuity
Terminal			
7	10	P or N position	Yes
		Other than above	No

Is the inspection result normal?

- YES >> Inspection End
- NO >> Replace transmission range switch.

## Component Inspection [CVT Shift Selector (Park Position Switch)]

INFOID:0000000012783453

### 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)		Condition		Continuity
Terminal				
12	13	Selector lever: P position	Selector button: Released	No
			Selector button: Pressed	Yes
		Selector lever: Other than P position		

Is the inspection result normal?



# B2603 SHIFT POSITION

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

- YES >> Inspection End.
- NO >> Replace CVT shift selector. Refer to [TM-256, "Removal and Installation"](#).

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B2604 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2604 SHIFT POSITION

### DTC Logic

INFOID:000000012783454

#### DTC DETECTION LOGIC

##### NOTE:

- If DTC B2604 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B2604 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

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. <ul style="list-style-type: none"><li>• P/N position signal is sent from transmission range switch but shift position signal input (CAN) from TCM is other than P and N</li><li>• P/N position signal is not sent from transmission range switch but shift position signal input (CAN) from TCM is P or N</li></ul>	<ul style="list-style-type: none"><li>• Harness or connectors (The CAN communication line is open or shorted.)</li><li>• Harness or connectors (Transmission range switch circuit is open or shorted.)</li><li>• TCM</li><li>• BCM</li></ul>

#### 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:000000012783455

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.

##### 3. CHECK TRANSMISSION RANGE SWITCH POWER SUPPLY

1. Disconnect transmission range switch connector.
2. Turn ignition switch ON.

## B2604 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

(+)		(-)	Voltage (V) (Approx.)
Transmission range switch			
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.
3. Check continuity between transmission range switch harness connector and IPDM E/R harness connector.

Transmission range switch		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
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. Reconnect transmission range switch connector.
3. Turn ignition switch ON.
4. Check voltage between BCM harness connector and ground.

(+)		(-)	Condition	Voltage (V) (Approx.)	
BCM					
Connector	Terminal				
M83	69	Ground	Selector lever	P or N position	Battery voltage
				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.
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	
F26	10	M83	69	Yes

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

Transmission range switch		Ground	Continuity
Connector	Terminal		
F26	10		No

Is the inspection result normal?

SEC

## B2604 SHIFT POSITION

[WITH INTELLIGENT KEY SYSTEM]

< 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-41. "Intermittent Incident"](#).

>> Inspection End.

### 9.REPLACE BCM

1. Replace BCM. Refer to [BCS-78. "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

## Component Inspection

INFOID:0000000012783456

### 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 range switch		Condition	Continuity
Terminal			
7	10	P or N position	Yes
		Other than above	No

Is the inspection result normal?

- YES >> Inspection End.  
NO >> Replace transmission range switch.

# B2605 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2605 SHIFT POSITION

### DTC Logic

INFOID:000000012783457

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2605 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B2605 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	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.	<ul style="list-style-type: none"> <li>• Harness or connectors (The CAN communication line is open or shorted.)</li> <li>• Harness or connectors (Transmission range switch circuit is open or shorted.)</li> <li>• Transmission range switch</li> <li>• IPDM E/R</li> <li>• BCM</li> </ul>

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

#### Is DTC detected?

- YES >> Go to [SEC-93, "Diagnosis Procedure"](#).  
 NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783458

SEC

Regarding Wiring Diagram information, refer to [SEC-39, "Wiring Diagram"](#).

#### 1. CHECK IPDM E/R INPUT SIGNAL

1. Turn ignition switch ON.
2. Check voltage between IPDM E/R harness connector and ground.

(+)		(-)	Condition	Voltage (V) (Approx.)
IPDM E/R				
Connector	Terminal			
E43	4	Ground	Selector lever	P or N position Battery voltage
				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.

## B2605 SHIFT POSITION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

4. 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	
E43	4	F26	10	Yes

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
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.

(+)		(-)	Condition	Voltage (V) (Approx.)	
BCM					
Connector	Terminal				
M83	69	Ground	Selector lever	P or N position	Battery voltage
				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.

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

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

BCM		Ground	Continuity
Connector	Terminal		
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-78, "Removal and Installation"](#).
2. Perform initialization of BCM 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.

# B2608 STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2608 STARTER RELAY

### DTC Logic

INFOID:000000012783459

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B2608 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B2608 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).
- 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).	<ul style="list-style-type: none"><li>• Harness or connectors (The CAN communication line is open or shorted.)</li><li>• Harness or connectors (Starter relay circuit is open or shorted.)</li><li>• IPDM E/R</li><li>• Starter relay</li></ul>

### 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

INFOID:000000012783460

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 [PCS-20, "DTC Index"](#).
- NO >> GO TO 2.

#### 2. CHECK STARTER RELAY POWER SUPPLY CIRCUIT

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

# B2608 STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

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

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
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-78, "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 >

[WITH INTELLIGENT KEY SYSTEM]

## B260F ENGINE STATUS

### Description

INFOID:000000012783461

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

### DTC Logic

INFOID:000000012783462

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B260F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B260F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B260F	ECM CAN COMM	BCM has not yet received the engine status signal from ECM when ignition switch is in the ON position.	<ul style="list-style-type: none"><li>• Harness or connectors (The CAN communication line is open or shorted.)</li><li>• ECM</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Go to [SEC-97, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783463

#### 1. INSPECTION START

1. Turn ignition switch ON.
2. Select Self Diagnostic Result mode of BCM using CONSULT.
3. Touch ERASE.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B260F. Refer to [SEC-97, "DTC Logic"](#).

#### Is DTC detected?

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

#### 2. REPLACE ECM

1. Replace ECM.  
Refer to [EC-501, "Removal and Installation"](#).
2. Perform "ADDITIONAL SERVICE WHEN REPLACING ECM".  
Refer to [EC-139, "Work Procedure"](#).

>> Inspection End.

# B261F ASCD CLUTCH SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B261F ASCD CLUTCH SWITCH

### DTC Logic

INFOID:0000000012783464

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B261F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B261F is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

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 <ul style="list-style-type: none"><li>• Clutch pedal position switch input: 0 V</li><li>• Vehicle speed: 40 km/h (24.8 MPH) or more</li></ul>	<ul style="list-style-type: none"><li>• Harness or connectors. (CAN communication line is open or shorted.)</li><li>• Harness or connectors. (Clutch pedal position switch circuit is open or shorted)</li><li>• Clutch pedal position switch</li><li>• Combination meter</li><li>• BCM</li></ul>

### 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:0000000012783465

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 [MWI-100, "DTC Index"](#).

#### Is the inspection result normal?

- 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

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

## 3. CHECK CLUTCH PEDAL POSITION SWITCH POWER SUPPLY

1. Disconnect clutch pedal position switch connector.
2. Turn ignition switch ON.
3. Check voltage between clutch pedal position switch harness connector and ground.

(+)		(-)	Voltage (V) (Approx.)
Clutch pedal position switch			
Connector	Terminal	Ground	Battery voltage
E32	1		

Is the inspection result normal?

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

## 4. CHECK CLUTCH PEDAL POSITION SWITCH SIGNAL

1. Connect clutch pedal position switch connector.
2. Check voltage between BCM harness connector and ground.

(+)		(-)	Condition	Voltage
BCM				
Connector	Terminal	Ground	Clutch pedal	Released Depressed
M84	37			

Is the inspection result normal?

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

## 5. REPLACE BCM

1. Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End

## 6. CHECK CLUTCH PEDAL POSITION SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between clutch pedal position switch harness connector and BCM harness connector.

Clutch pedal position switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E32	2	M84	37	Yes

Is the inspection result normal?

- YES >> GO TO 7.  
NO >> Repair or replace harness.

## 7. CHECK CLUTCH PEDAL POSITION SWITCH

Refer to [SEC-100, "Component Inspection"](#).

Is the inspection result normal?

- YES >> GO TO 8.  
NO >> Replace clutch pedal position switch. Refer to [CL-10, "Exploded View"](#).

## 8. CHECK INTERMITTENT INCIDENT

Refer to [GI-41, "Intermittent Incident"](#).

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B261F ASCD CLUTCH SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

>> Inspection End

## Component Inspection

INFOID:000000012783466

### 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 position switch		Condition		Continuity
Terminal				
1	2	Clutch pedal	Not depressed	Yes
			Depressed	No

Is the inspection result normal?

YES >> Inspection End

NO >> Replace clutch pedal position switch. Refer to [CL-10, "Exploded View"](#).

# B2620 PARK/NEUTRAL POSITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B2620 PARK/NEUTRAL POSITION SWITCH

### DTC Logic

INFOID:000000012783467

#### NOTE:

- If DTC B2620 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B2620 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "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 <ul style="list-style-type: none"><li>• Park/neutral position switch input: Battery voltage</li><li>• Vehicle speed: 40 km/h (24.8 MPH) or more</li></ul>	<ul style="list-style-type: none"><li>• Harness or connector (CAN communication line is open or shorted.)</li><li>• Harness or connector (Park/neutral position switch circuit is open or shorted)</li><li>• Park/neutral position switch</li><li>• Combination meter</li><li>• BCM</li></ul>

### 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-101, "Diagnosis Procedure"](#).  
NO >> Inspection End

### Diagnosis Procedure

INFOID:000000012783468

SEC

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 [MWI-100, "DTC Index"](#).

#### Is the inspection result normal?

- 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	3 (10 A)

#### Is the inspection result normal?

- YES >> GO TO 3.  
NO >> Replace the blown fuse after repairing the cause of blowing.

## B2620 PARK/NEUTRAL POSITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

### 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.

(+)		(-)	Voltage (V) (Approx.)
Park/neutral position switch			
Connector	Terminal		
F52	2	Ground	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.

(+)		(-)	Condition	Voltage	
BCM					
Connector	Terminal				
M83	69	Ground	Shift lever	Neutral position	Battery voltage
				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 [BCS-78, "Removal and Installation"](#).
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		Continuity
Connector	Terminal	Connector	Terminal	
F52	3	M83	69	Yes

Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

### 7. 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 [TM-21, "Removal and Installation"](#) (With 6MT: RS6F94R).

# B2620 PARK/NEUTRAL POSITION SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## 8. CHECK INTERMITTENT INCIDENT

Refer to [GI-41, "Intermittent Incident"](#).

>> Inspection End

## Component Inspection

INFOID:000000012783469

## 1. CHECK PARK/NEUTRAL POSITION SWITCH

1. Turn ignition switch OFF.
2. Disconnect park/neutral position switch connector.
3. Check continuity between park/neutral position switch terminals.

Park/neutral position switch		Condition	Continuity	
Terminal				
2	3	Shift lever	Neutral position	Yes
			Except neutral position	No

Is the inspection result normal?

YES >> Inspection End

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

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B26E8 CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B26E8 CLUTCH INTERLOCK SWITCH

### DTC Logic

INFOID:000000012783470

### 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. <ul style="list-style-type: none"><li>Clutch pedal position switch: ON (Clutch pedal is released)</li><li>Clutch interlock switch: ON (Clutch pedal is depressed)</li></ul>	<ul style="list-style-type: none"><li>Harness or connector (Clutch interlock switch circuit is open or shorted)</li><li>Harness or connector (Clutch pedal position switch circuit is open or shorted)</li><li>Clutch interlock switch</li><li>Clutch pedal position switch</li><li>BCM</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE 1

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

#### Is DTC detected?

- YES >> Go to [SEC-104, "Diagnosis Procedure"](#).  
NO >> GO TO 2.

#### 2. PERFORM DTC CONFIRMATION PROCEDURE 2

- Release clutch pedal and wait 2 seconds or more.
- Check DTC in "Self Diagnostic Result" mode of "BCM" using CONSULT.

#### Is DTC detected?

- YES >> Go to [SEC-104, "Diagnosis Procedure"](#).  
NO >> Inspection End

### Diagnosis Procedure

INFOID:000000012783471

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

- Turn power switch OFF.
- 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

[WITH INTELLIGENT KEY SYSTEM]

## < DTC/CIRCUIT DIAGNOSIS >

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

### 3. CHECK CLUTCH PEDAL POSITION SWITCH POWER SUPPLY

1. Disconnect clutch pedal position switch connector.
2. Turn ignition switch ON.
3. Check voltage between clutch pedal position switch harness connector and ground.

(+)		(-)	Voltage (V) (Approx.)
Clutch pedal position switch			
Connector	Terminal	Ground	Battery voltage
E32	1		

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

### 4. CHECK CLUTCH PEDAL POSITION SWITCH SIGNAL

1. Connect clutch pedal position switch connector.
2. Check voltage between BCM harness connector and ground.

(+)		(-)	Condition	Voltage
BCM				
Connector	Terminal	Ground	Clutch pedal	Depressed
M84	37			Ground
		0 – 1.5 V		
				Battery voltage

Is the inspection result normal?

YES >> GO TO 13.

NO >> GO TO 5.

### 5. CHECK CLUTCH PEDAL POSITION SWITCH CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check continuity between clutch pedal position switch harness connector and BCM harness connector.

Clutch pedal position switch		BCM		Continuity
Connector	Terminal	Connector	Terminal	
E32	2	M84	37	Yes

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

### 6. CHECK CLUTCH PEDAL POSITION SWITCH

Refer to [SEC-107. "Component Inspection \(Clutch Pedal Position Switch\)".](#)

Is the inspection result normal?

YES >> GO TO 12.

NO >> Replace clutch pedal position switch. Refer to [CL-10. "Exploded View"](#).

### 7. 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.
Battery power supply	14 (10 A)

Is the inspection result normal?

YES >> GO TO 8.

# B26E8 CLUTCH INTERLOCK SWITCH

[WITH INTELLIGENT KEY SYSTEM]

< 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.

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

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.

(+)		(-)	Condition	Voltage
BCM				
Connector	Terminal	Ground	Clutch pedal	Depressed Not depressed
M83	70			

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		BCM		Continuity
Connector	Terminal	Connector	Terminal	
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 [CL-10, "Exploded View"](#).

## 12. CHECK INTERMITTENT INCIDENT

Refer to [GI-41, "Intermittent Incident"](#).

>> Inspection End

## 13. REPLACE BCM

1. Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

# B26E8 CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

>> Inspection End

## Component Inspection (Clutch Interlock Switch)

INFOID:0000000012783472

### 1. CHECK CLUTCH INTERLOCK SWITCH

1. Turn ignition switch OFF.
2. Disconnect clutch interlock switch connector.
3. Check continuity between clutch interlock switch terminals.

Clutch interlock switch		Condition		Continuity
Terminal				
1	2	Clutch pedal	Depressed	Yes
			Not depressed	No

Is the inspection result normal?

YES >> Inspection End

NO >> Replace clutch interlock switch. Refer to [CL-10. "Exploded View"](#).

## Component Inspection (Clutch Pedal Position Switch)

INFOID:0000000012783473

### 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 position switch		Condition		Continuity
Terminal				
1	2	Clutch pedal	Depressed	No
			Not depressed	Yes

Is the inspection result normal?

YES >> Inspection End

NO >> Replace clutch pedal position switch. Refer to [CL-10. "Exploded View"](#).

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B26F3 STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B26F3 STARTER CONTROL RELAY

### DTC Logic

INFOID:0000000012783474

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B26F3 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B26F3 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26F3	START CONT RLY ON	BCM requests IPDM E/R to turn starter control relay OFF, but BCM cannot receive starter control relay OFF state signal from IPDM E/R (CAN).	<ul style="list-style-type: none"><li>• Harness or connectors (The CAN communication line is open or shorted.)</li><li>• IPDM E/R</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

#### 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 [SEC-108, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:0000000012783475

#### 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 [PCS-20, "DTC Index"](#).  
NO >> GO TO 2.

#### 2. CHECK INTERMITTENT INCIDENT

Refer to [GI-41, "Intermittent Incident"](#).

>> Inspection End.

# B26F4 STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B26F4 STARTER CONTROL RELAY

### DTC Logic

INFOID:0000000012783476

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B26F4 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B26F4 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

DTC No.	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).	<ul style="list-style-type: none"><li>• Harness or connectors (The CAN communication line is open or shorted.)</li><li>• IPDM E/R</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

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

#### Is DTC detected?

- YES >> Go to [SEC-109, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:0000000012783477

SEC

#### 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 [PCS-20, "DTC Index"](#).  
NO >> GO TO 2.

#### 2. CHECK INTERMITTENT INCIDENT

Refer to [GI-41, "Intermittent Incident"](#).

>> Inspection End.

**B26F7 BCM****DTC Logic**

INFOID:000000012783478

**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 [SEC-110, "Diagnosis Procedure"](#).  
 NO >> Inspection End.

**Diagnosis Procedure**

INFOID:000000012783479

**1.INSPECTION START**

1. Turn ignition switch ON.
2. Select Self Diagnostic Result mode of BCM using CONSULT.
3. Touch ERASE.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B26F7. Refer to [SEC-110, "DTC Logic"](#).

**Is DTC B26F7 detected again?**

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

**2.REPLACE BCM**

1. Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

&gt;&gt; Inspection End.

B26F8 BCM

DTC Logic

INFOID:000000012783480

DTC DETECTION LOGIC

DTC No.	CONSULT screen items (Trouble diagnosis content)	DTC detecting condition	Possible cause
B26F8	BCM (Body control module)	Starter control replay control signal and feedback circuit signal (inside BCM) does not match.	BCM

DTC CONFIRMATION PROCEDURE

1.PERFORM DTC CONFIRMATION PROCEDURE

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

Is DTC detected?

- YES >> Go to [SEC-111, "Diagnosis Procedure"](#).
- NO >> Inspection End

Diagnosis Procedure

INFOID:000000012783481

1.INSPECTION START

1. Turn ignition switch ON.
2. Select Self Diagnostic Result mode of BCM using CONSULT.
3. Touch ERASE.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B26F8.  
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-78, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B26F9 CRANKING REQUEST CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B26F9 CRANKING REQUEST CIRCUIT

### DTC Logic

INFOID:000000012783482

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B26F9 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B26F9 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

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. <ul style="list-style-type: none"><li>• Cranking request signal from ECM</li><li>• Starter control relay control signal from ECM (CAN)</li></ul>	<ul style="list-style-type: none"><li>• Harness or connectors (Can communication line is open or shorted.)</li><li>• Harness or connectors (Cranking request signal circuit is open or shorted.)</li><li>• ECM</li><li>• BCM</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION

1. Perform DTC CONFIRMATION PROCEDURE for DTC P1650. Refer to [EC-408, "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 [SEC-112, "Diagnosis Procedure"](#).  
NO >> Inspection End

### Diagnosis Procedure

INFOID:000000012783483

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.

(+)		(-)	Condition	Voltage
BCM				
Connector	Terminal			
M85	81	Ground	Ignition switch ON	<ul style="list-style-type: none"><li>• Engine: Stopped</li><li>• Selector lever position: P</li></ul> 0 – 0.5 V
				<ul style="list-style-type: none"><li>• Engine: Stopped</li><li>• Selector lever position: Other than P</li></ul> Battery voltage
				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.



# B26F9 CRANKING REQUEST CIRCUIT

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

2. Disconnect BCM connector.
3. Disconnect ECM connector.
4. Check continuity between BCM harness connector and ECM harness connector.

BCM		ECM		Continuity
Connector	Terminal	Connector	Terminal	
M85	81	E16	101	Yes

5. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M85	81		No

Is the inspection result normal?

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

## 3.REPLACE BCM

1. Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B26F9. Refer to [SEC-112, "DTC Logic"](#).

Is DTC detected?

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

## 4.REPLACE ECM

Replace ECM.  
Refer to [EC-501, "Removal and Installation"](#).

>> Inspection End

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B26FA CRANKING REQUEST CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B26FA CRANKING REQUEST CIRCUIT

### DTC Logic

INFOID:000000012783484

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B26FA is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B26FA is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

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. <ul style="list-style-type: none"><li>• Cranking request signal from ECM</li><li>• Starter control relay control signal from ECM (CAN)</li></ul>	<ul style="list-style-type: none"><li>• Harness or connectors (Can communication line is open or shorted.)</li><li>• Harness or connectors (Cranking request signal circuit is open or shorted.)</li><li>• BCM</li><li>• ECM</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION

1. Perform DTC CONFIRMATION PROCEDURE for DTC P1650. Refer to [EC-408, "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 [SEC-114, "Diagnosis Procedure"](#).  
NO >> Inspection End

### Diagnosis Procedure

INFOID:000000012783485

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.

(+)		(-)	Condition	Voltage
BCM				
Connector	Terminal			
M85	81	Ground	Ignition switch ON	<ul style="list-style-type: none"><li>• Engine: Stopped</li><li>• Selector lever position: P</li></ul> 0 – 0.5 V
				<ul style="list-style-type: none"><li>• Engine: Stopped</li><li>• Selector lever position: Other than P</li></ul> Battery voltage
				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.

## B26FA CRANKING REQUEST CIRCUIT

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

2. Disconnect BCM connector.
3. Disconnect ECM connector.
4. Check continuity between BCM harness connector and ECM harness connector.

BCM		ECM		Continuity
Connector	Terminal	Connector	Terminal	
M85	81	E16	101	Yes

5. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M85	81		No

Is the inspection result normal?

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

### 3.REPLACE BCM

1. Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Perform DTC CONFIRMATION PROCEDURE for DTC B26F9. Refer to [SEC-112, "DTC Logic"](#).

Is DTC detected?

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

### 4.REPLACE ECM

Replace ECM.  
Refer to [EC-501, "Removal and Installation"](#).

>> Inspection End

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B26FB CLUTCH SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B26FB CLUTCH SWITCH

### DTC Logic

INFOID:000000012783486

### DTC DETECTION LOGIC

#### NOTE:

- If DTC B26FB is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).
- If DTC B26FB is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-68, "DTC Logic"](#).

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.	<ul style="list-style-type: none"><li>• Harness or connector (CAN communication line is open or shorted)</li><li>• ECM</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Go to [SEC-116, "Diagnosis Procedure"](#).  
NO >> Inspection End

### Diagnosis Procedure

INFOID:000000012783487

#### 1.INSPECTION START

1. Turn ignition switch ON.
2. Select Self diagnostic result mode of BCM using CONSULT.
3. Touch ERASE.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B26FB. Refer to [SEC-116, "DTC Logic"](#).

#### Is DTC detected?

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

#### 2.REPLACE ECM

Replace ECM. Refer to [EC-501, "Removal and Installation"](#)

>> Inspection End

# B26FC KEY REGISTRATION

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B26FC KEY REGISTRATION

### DTC Logic

INFOID:000000012783488

### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26FC	KEY REGISTRATION	Intelligent Key that does not match the vehicle is registered.	<ul style="list-style-type: none"><li>• Improper registration operation</li><li>• Intelligent Key</li><li>• BCM</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1.PERFORM DTC CONFIRMATION PROCEDURE

1. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
2. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

#### Is DTC detected?

- YES >> Go to [SEC-117. "Diagnosis Procedure"](#)  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783489

#### 1.REPLACE INTELLIGENT KEY

1. Prepare Intelligent Key that matches the vehicle.
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.
3. Check DTC in Self Diagnostic Result mode of BCM using CONSULT.

#### Is DTC detected?

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

#### 2.REPLACE BCM

1. Replace BCM. Refer to [BCS-78. "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all Intelligent Keys using CONSULT.

>> Inspection End.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B209F CRANKING REQUEST CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B209F CRANKING REQUEST CIRCUIT

### DTC Logic

INFOID:000000012783490

### DTC DETECTION LOGIC

#### NOTE:

If DTC B209F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).

DTC No.	CONSULT screen items (Trouble diagnosis content)	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. <ul style="list-style-type: none"><li>• Cranking request signal from ECM</li><li>• Starter control relay control signal from ECM (CAN)</li></ul>	<ul style="list-style-type: none"><li>• Harness or connectors (CAN communication line is open or shorted.)</li><li>• Harness or connectors (Cranking request signal circuit is open or shorted.)</li><li>• IPDM E/R</li><li>• ECM</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Perform DTC CONFIRMATION PROCEDURE for DTC P1650. Refer to [EC-408, "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 [SEC-118, "Diagnosis Procedure"](#).  
NO >> Inspection End

### Diagnosis Procedure

INFOID:000000012783491

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.

(+)		(-)	Condition	Voltage
IPDM E/R				
Connector	Terminal			
E46	37	Ground	Ignition switch OFF	0 – 1 V
			Ignition switch ON	
				• Engine: Stopped • Selector lever position: Other than P
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.

## B209F 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.

IPDM E/R		ECM		Continuity
Connector	Terminal	Connector	Terminal	
E46	37	E16	101	Yes

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E46	37		No

Is the inspection result normal?

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

### 3.REPLACE IPDM E/R

1. Replace IPDM E/R. Refer to [PCS-31, "Removal and Installation"](#).
2. Perform DTC CONFIRMATION PROCEDURE for DTC B209F. Refer to [SEC-118, "DTC Logic"](#).

Is DTC detected?

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

### 4.REPLACE ECM

Replace ECM.  
Refer to [EC-501, "Removal and Installation"](#).

>> Inspection End

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B20A0 CRANKING REQUEST CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B20A0 CRANKING REQUEST CIRCUIT

### DTC Logic

INFOID:000000012783492

### DTC DETECTION LOGIC

#### NOTE:

If DTC B20A0 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [PCS-27. "DTC Logic"](#).

DTC No.	CONSULT screen items (Trouble diagnosis content)	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. <ul style="list-style-type: none"><li>• Cranking request signal from ECM</li><li>• Starter control relay control signal from ECM (CAN)</li></ul>	<ul style="list-style-type: none"><li>• Harness or connectors (CAN communication line is open or shorted.)</li><li>• Harness or connectors (Cranking request signal circuit is open or shorted.)</li><li>• IPDM E/R</li><li>• ECM</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

1. Perform DTC CONFIRMATION PROCEDURE for DTC P1650. Refer to [EC-408. "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 [SEC-120. "Diagnosis Procedure"](#).  
NO >> Inspection End

### Diagnosis Procedure

INFOID:000000012783493

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.

(+)		(-)	Condition	Voltage
IPDM E/R				
Connector	Terminal			
E46	37	Ground	Ignition switch FF	0 – 1 V
			Ignition switch ON	
				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.



# 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.

IPDM E/R		ECM		Continuity
Connector	Terminal	Connector	Terminal	
E46	37	E16	101	Yes

5. Check continuity between BCM harness connector and ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E46	37		No

Is the inspection result normal?

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

### 3.REPLACE IPDM E/R

1. Replace IPDM E/R. Refer to [PCS-31, "Removal and Installation"](#).
2. Perform DTC CONFIRMATION PROCEDURE for DTC B20A0. Refer to [SEC-120, "DTC Logic"](#).

Is DTC detected?

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

### 4.REPLACE ECM

Replace ECM.  
Refer to [EC-501, "Removal and Installation"](#).

>> Inspection End

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B210B STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B210B STARTER CONTROL RELAY

### DTC Logic

INFOID:000000012783494

### DTC DETECTION LOGIC

#### NOTE:

If DTC B210B is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67, "DTC Logic"](#).

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. <ul style="list-style-type: none"><li>• Starter control relay signal (CAN) from BCM</li><li>• Starter relay status signal (CAN) from BCM</li><li>• Starter control relay and starter relay status signal (IPDM E/R input)</li><li>• Starter control relay control signal (IPDM E/R output)</li></ul>	<ul style="list-style-type: none"><li>• IPDM E/R</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

#### 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 [SEC-122, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783495

#### 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 [GI-41, "Intermittent Incident"](#).

# B210C STARTER CONTROL RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B210C STARTER CONTROL RELAY

### DTC Logic

INFOID:000000012783496

### 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. <ul style="list-style-type: none"> <li>• Starter control relay signal (CAN) from BCM</li> <li>• Starter relay status signal (CAN) from BCM</li> <li>• Starter control relay and starter relay status signal (IPDM E/R input)</li> <li>• Starter control relay control signal (IPDM E/R output)</li> </ul>	<ul style="list-style-type: none"> <li>• IPDM E/R</li> <li>• BCM</li> <li>• Battery</li> </ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

#### 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 [SEC-123, "Diagnosis Procedure"](#).
- NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783497

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 [GI-41, "Intermittent Incident"](#).

#### 2. CHECK STARTER CONTROL RELAY CONTROL CIRCUITS VOLTAGE

Check voltage between IPDM E/R connectors and ground.

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

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B210C STARTER CONTROL RELAY

[WITH INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

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.

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

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

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

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.

# B210D STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B210D STARTER RELAY

### DTC Logic

INFOID:000000012783498

### DTC DETECTION LOGIC

#### NOTE:

If DTC B210D is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-67. "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210D	STARTER RELAY ON CIRC	When comparing the following items, IPDM E/R detects that starter control relay is stuck in the ON position for 5 second or more. <ul style="list-style-type: none"> <li>• Starter control relay signal (CAN) from BCM</li> <li>• Starter relay status signal (CAN) from BCM</li> <li>• Starter control relay and starter relay status signal (IPDM E/R input)</li> <li>• Starter control relay control signal (IPDM E/R output)</li> </ul>	<ul style="list-style-type: none"> <li>• Harness or connectors (starter motor relay control circuit open or short)</li> <li>• IPDM E/R</li> <li>• BCM</li> </ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

#### CVT models

- CVT selector lever is in the P (Park) or N (Neutral) position
- Do not 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 [SEC-125. "Diagnosis Procedure"](#).  
 NO >> Inspection End

### Diagnosis Procedure

INFOID:000000012783499

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 B210D CRNT?

- YES >> GO TO 2.  
 NO >> Refer to [GI-41. "Intermittent Incident"](#).

#### 2. CHECK STARTER CONTROL RELAY CONTROL CIRCUITS VOLTAGE

Check voltage between IPDM E/R connectors and ground.

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

#### Is the inspection result normal?

## B210D STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

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

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

Is the inspection result normal?

YES >> Refer to [SEC-95, "Diagnosis Procedure"](#).

NO >> Repair or replace harness or connectors.

# B210E STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B210E STARTER RELAY

### DTC Logic

INFOID:000000012783500

### 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 [SEC-93, "DTC Logic"](#).
- When IPDM E/R power supply voltage is low (Approx. 7 - 8 V for about 1 second), the DTC B210F may be detected.

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210E	STARTER RELAY OFF	When comparing the following items, IPDM E/R detects that starter control relay is stuck in the OFF position for 5 second or more. <ul style="list-style-type: none"><li>• Starter control relay signal (CAN) from BCM</li><li>• Starter relay status signal (CAN) from BCM</li><li>• Starter control relay and starter relay status signal (IPDM E/R input)</li><li>• Starter control relay control signal (IPDM E/R output)</li></ul>	<ul style="list-style-type: none"><li>• IPDM E/R</li><li>• BCM</li><li>• Battery</li></ul>

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

#### CVT models

- CVT selector lever is in the P (Park) or N (Neutral) position
- Do not 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 [SEC-127, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783501

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 B210E CRNT?

- YES >> GO TO 2.  
NO >> Refer to [GI-41, "Intermittent Incident"](#).

#### 2. CHECK STARTER CONTROL RELAY CONTROL CIRCUITS VOLTAGE

Check voltage between IPDM E/R connectors and ground.

## B210E STARTER RELAY

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

IPDM E/R		Ground	Voltage (Approx.)
Connector	Terminal		
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.

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

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).

NO >> Repair or replace harness or connectors.



# B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

### DTC Logic

INFOID:000000012783502

### DTC DETECTION LOGIC

#### NOTE:

If DTC B210F is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [PCS-27. "DTC Logic"](#).

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 <ul style="list-style-type: none"><li>• P/N position signal from transmission range switch and P/N position signal (CAN) from BCM (CVT models)</li><li>• Clutch pedal operation signal from clutch interlock switch and interlock signal (CAN) from BCM (M/T models)</li></ul>	<ul style="list-style-type: none"><li>• Harness or connectors (The CAN communication line is open or shorted.)</li><li>• Harness or connectors (Transmission range switch circuit is open or shorted.) (Clutch interlock switch circuit is open or shorted.)</li><li>• Transmission range switch</li><li>• Clutch interlock switch</li><li>• IPDM E/R</li><li>• BCM</li></ul>

### DTC CONFIRMATION PROCEDURE

#### CVT MODELS

##### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Go to [SEC-129. "Diagnosis Procedure \(CVT Models\)"](#).  
NO >> Inspection End.

#### M/T MODELS

##### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Go to [SEC-130. "Diagnosis Procedure \(M/T Models\)"](#).  
NO >> INSPECTION END

### Diagnosis Procedure (CVT Models)

INFOID:000000012783503

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 [BCS-50. "DTC Index"](#).  
NO >> GO TO 2.

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

# B210F SHIFT POSITION/CLUTCH INTERLOCK SWITCH

[WITH INTELLIGENT KEY SYSTEM]

## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Disconnect transmission range switch connector.
4. 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	
E43	14	F26	7	Yes

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

(+)		(-)	Continuity
IPDM E/R			
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:0000000012783504

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 [BCS-50, "DTC Index"](#).  
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 interlock switch		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	2	E43	4	Yes

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

Clutch interlock switch		Ground	Continuity
Connector	Terminal		
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 >

[WITH INTELLIGENT KEY SYSTEM]

## B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

### DTC Logic

INFOID:000000012783505

### DTC DETECTION LOGIC

#### NOTE:

If DTC B2110 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [PCS-27. "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B210F	INTRLCK/PNP 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)	<ul style="list-style-type: none"><li>• Harness or connectors (The CAN communication line is open or shorted.)</li><li>• Harness or connectors (Transmission range switch circuit is open or shorted.) (Clutch interlock switch circuit is open or shorted.)</li><li>• Transmission range switch</li><li>• Clutch interlock switch</li><li>• IPDM E/R</li><li>• BCM</li></ul>

### DTC CONFIRMATION PROCEDURE

#### CVT MODELS

##### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Go to [SEC-131. "Diagnosis Procedure \(CVT Models\)"](#).  
NO >> Inspection End.

#### M/T MODELS

##### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Go to [SEC-132. "Diagnosis Procedure \(M/T Models\)"](#).  
NO >> INSPECTION END

### Diagnosis Procedure (CVT Models)

INFOID:000000012783506

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 [BCS-50. "DTC Index"](#).  
NO >> GO TO 2.

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

# B2110 SHIFT POSITION/CLUTCH INTERLOCK SWITCH

[WITH INTELLIGENT KEY SYSTEM]

## < DTC/CIRCUIT DIAGNOSIS >

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Disconnect transmission range switch connector.
4. 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	
E43	14	F26	7	Yes

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

(+)		(-)	Continuity
IPDM E/R			
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:0000000012783507

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 [BCS-50, "DTC Index"](#).  
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 interlock switch		IPDM E/R		Continuity
Connector	Terminal	Connector	Terminal	
E34	2	E43	4	Yes

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

Clutch interlock switch		Ground	Continuity
Connector	Terminal		
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.

# INTELLIGENT KEY SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## SYMPTOM DIAGNOSIS

### INTELLIGENT KEY SYSTEM SYMPTOMS

#### Diagnosis Procedure

INFOID:0000000013358629

**NOTE:**

Perform the self-diagnosis with CONSULT before the symptom diagnosis. Perform the trouble diagnosis if any DTC is detected.

**SYMPTOM TABLE 1 (BOTH INTELLIGENT KEYS HAVE THE SAME SYMPTOMS)**

No.	Door lock operation (remote keyless entry)	Door lock operation (request switch) or trunk open operation (opener switch)	Engine started with push-button ignition switch operation (registered Intelligent Key is within the detection area of inside key antenna)	Engine started with push-button ignition switch operation (registered Intelligent Key placed next to push-button ignition switch)	Symptom
1	OK	OK	No start	No start	<a href="#">SEC-134</a>
2	OK	NG	OK	OK	<a href="#">DLK-127</a>
3	OK	NG	No crank, No start	OK	<a href="#">DLK-129</a>
4	NG	NG	No crank, No start	OK	<a href="#">DLK-131</a>
5	NG	NG	No start	No start	<a href="#">DLK-132</a>
6	OK	OK	No crank, No start	OK	<a href="#">SEC-135</a>
7	NG	OK	OK	OK	<a href="#">DLK-134</a>
8	NG	NG	OK	OK	<a href="#">DLK-135</a>
9	Poor range	OK	OK	OK	<a href="#">DLK-136</a>

**SYMPTOM TABLE 2 (ONE INTELLIGENT KEY HAS THE SYMPTOM, OTHER KEYS OPERATE NORMALLY)**

No.	Door lock operation (remote keyless entry)	Door lock operation (request switch) or trunk open operation (opener switch)	Engine started with push-button ignition switch operation (Intelligent Key is within the detection area of inside key antenna)	Engine started with push-button ignition switch operation (registered Intelligent Key placed next to push-button ignition switch)	Symptom
1	NG	OK	OK	OK	<a href="#">DLK-138</a>
2	NG	NG	No crank, No start	OK	<a href="#">DLK-139</a>
3	NG	NG	No crank, No start	No crank, No start	<a href="#">DLK-141</a>
4	OK	OK	No crank, No start	No crank, No start	<a href="#">SEC-137</a>
5	OK	NG	No crank, No start	OK	<a href="#">SEC-138</a>
6	Poor range	OK	OK	OK	<a href="#">DLK-143</a>

SEC

# ENGINE CAN NOT START

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## ENGINE CAN NOT START

### Description

INFOID:000000013358630

Engine does not start when push-button ignition switch is pressed.

SYMPTOM TABLE (BOTH INTELLIGENT KEYS HAVE THE SAME SYMPTOMS)

Door lock operation (remote keyless entry)	Door lock operation (request switch) or trunk open operation (opener switch)	Engine started with push-button ignition switch operation (registered Intelligent Key is within the detection area of inside key antenna)	Engine started with push-button ignition switch operation (registered Intelligent Key placed next to push-button ignition switch)
OK	OK	No start	No start

### CONDITIONS OF VEHICLE (OPERATING CONDITIONS)

“ENGINE START BY I-KEY” setting in “Work support” mode of “INTELLIGENT KEY” of “BCM” is ON.

### DIAGNOSIS PROCEDURE

Refer to [SEC-134, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000013358631

#### 1. CHECK INTELLIGENT KEY SYSTEM SYMPTOM TABLE

Check Intelligent Key system symptom table.

Refer to [DLK-126, "Diagnosis Procedure"](#).

>> GO TO 2.

#### 2. PERFORM SELF-DIAGNOSIS RESULT

Select “Self Diagnostic Result” mode of all systems, and check if DTC is detected.

>> Follow troubleshooting for each DTC.

# ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE [WITH INTELLIGENT KEY SYSTEM]

< SYMPTOM DIAGNOSIS >

## ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE

### Description

INFOID:000000013358632

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

#### NOTE:

- Before starting diagnosis check that vehicle condition is as shown in “Conditions of vehicle”, 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.

### SYMPTOM TABLE (BOTH INTELLIGENT KEYS HAVE THE SAME SYMPTOMS)

Door lock operation (remote keyless entry)	Door lock operation (request switch) or trunk open operation (opener switch)	Engine started with push-button ignition switch operation (registered Intelligent Key is within the detection area of inside key antenna)	Engine started with push-button ignition switch operation (registered Intelligent Key placed next to push-button ignition switch)
OK	OK	No crank, No start	OK

### 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 Intelligent Keys with a registered Intelligent Key ID are in the vehicle.

### DIAGNOSIS PROCEDURE

Refer to [SEC-135. "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000013358633

#### 1. CHECK INTELLIGENT KEY SYSTEM SYMPTOM TABLE

Check Intelligent Key system symptom table.  
Refer to [DLK-126. "Diagnosis Procedure"](#).

>> GO TO 2.

#### 2. PERFORM SELF-DIAGNOSIS RESULT

Select “Self Diagnostic Result” mode of “BCM”, and check if DTC is detected.

Is DTC detected?

- YES >> Perform the trouble diagnosis for the detected DTC.
- NO >> GO TO 3.

#### 3. CHECK “ENGINE START BY I-KEY” SETTING IN “WORK SUPPORT”

1. Select “INTELLIGENT KEY” of “BCM” using CONSULT.
2. Select “ENGINE START BY I-KEY” of “Work support” mode.
3. Check “ENGINE START BY I-KEY” in “Work support”.

Is the inspection result normal?

- YES >> GO TO 4.
- NO >> Set “On” in “ENGINE START BY I-KEY”.

#### 4. CHECK INSIDE KEY ANTENNA

Use SIGNAL TECH II to check each inside key antenna. For the inspection method and how to use SIGNAL TECH II, refer to “NISSAN/INFINITI SIGNAL TECH II USER GUIDE”.

Is the inspection result normal?

- YES >> GO TO 5.
- NO >> Repair or replace malfunctioning parts.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

---

## 5. REPLACE BCM

---

1. Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).
2. Check operation after replacement.

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-41, "Intermittent Incident"](#).



# ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE (ONE KEY)

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## ENGINE DOES NOT START WHEN INTELLIGENT KEY IS INSIDE OF VEHICLE (ONE KEY)

### Description

INFOID:000000013358634

Engine does not start when push-button ignition switch is pressed. (One Intelligent Key has the symptom, other keys operate normally.)

SYMPTOM TABLE (ONE INTELLIGENT KEY HAS THE SYMPTOM, OTHER KEYS OPERATE NORMALLY)

Door lock operation (remote keyless entry)	Door lock operation (request switch) or trunk open operation (opener switch)	Engine started with push-button ignition switch operation (Intelligent Key is within the detection area of inside key antenna)	Engine started with push-button ignition switch operation (registered Intelligent Key placed next to push-button ignition switch)
OK	OK	No crank, No start	No crank, No start

### DIAGNOSIS PROCEDURE

Refer to [SEC-137, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000013358635

#### 1. CHECK INTELLIGENT KEY SYSTEM SYMPTOM TABLE

Check Intelligent Key system symptom table.  
Refer to [DLK-126, "Diagnosis Procedure"](#).

>> GO TO 2.

#### 2. REGISTER INTELLIGENT KEY

1. Register the Intelligent Key.
2. Check operation after replacement.

Is the inspection result normal?

YES >> Inspection End.  
NO >> GO TO 3.

#### 3. REPLACE INTELLIGENT KEY

1. Replace the Intelligent Key and perform registration again.
2. Check operation after replacement.

Is the inspection result normal?

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

#### 4. REPLACE BCM

1. Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).
2. Check operation after replacement.

Is the inspection result normal?

YES >> Inspection End.  
NO >> Check intermittent incident. Refer to [GI-41, "Intermittent Incident"](#).

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# DOOR DOES NOT LOCK/UNLOCK AND ENGINE DOES NOT START (REQ SW/PUSH SW) (ONE KEY)

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

## DOOR DOES NOT LOCK/UNLOCK AND ENGINE DOES NOT START (REQ SW/PUSH SW) (ONE KEY)

### Description

INFOID:000000013358636

Door does not lock/unlock with door request switch, and engine does not start when push-button ignition switch is pressed while carrying Intelligent Key. (One Intelligent Key has the symptom, other keys operate normally.)

SYMPTOM TABLE (ONE INTELLIGENT KEY HAS THE SYMPTOM, OTHER KEYS OPERATE NORMALLY)

Door lock operation (remote keyless entry)	Door lock operation (request switch) or trunk open operation (opener switch)	Engine started with push-button ignition switch operation (Intelligent Key is within the detection area of inside key antenna)	Engine started with push-button ignition switch operation (registered Intelligent Key placed next to push-button ignition switch)
OK	NG	No crank, No start	OK

### DIAGNOSIS PROCEDURE

Refer to [SEC-138. "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000013358637

#### 1. CHECK INTELLIGENT KEY SYSTEM SYMPTOM TABLE

Check Intelligent Key system symptom table.

Refer to [DLK-126. "Diagnosis Procedure"](#).

>> GO TO 2.

#### 2. CHECK INTELLIGENT KEY LOW BATTERY WARNING

Check that the Intelligent Key low battery warning operates.

Is the Intelligent Key low battery warning operated?

YES >> Replace Intelligent Key battery. Refer to [DLK-194. "Removal and Installation"](#).

NO >> GO TO 3.

#### 3. CHECK INTELLIGENT KEY BATTERY

Check the Intelligent Key battery.

Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace Intelligent Key battery. Refer to [DLK-194. "Removal and Installation"](#).

#### 4. REGISTER INTELLIGENT KEY

1. Register the Intelligent Key.
2. Check operation after replacement.

Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 5.

#### 5. REPLACE INTELLIGENT KEY

1. Replace the Intelligent Key and perform registration again.
2. Check operation after replacement.

Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 6.

#### 6. REPLACE BCM

# DOOR DOES NOT LOCK/UNLOCK AND ENGINE DOES NOT START (REQ SW/ PUSH SW) (ONE KEY)

< SYMPTOM DIAGNOSIS >

[WITH INTELLIGENT KEY SYSTEM]

1. Replace BCM. Refer to [BCS-78, "Removal and Installation"](#).
2. Check operation after replacement.

Is the inspection result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to [GI-41, "Intermittent Incident"](#).

A

B

C

D

E

F

G

H

I

J

SEC

L

M

N

O

P

## REMOVAL AND INSTALLATION

### NATS ANTENNA AMP.

#### Removal and Installation

INFOID:000000012783512

#### 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 push-button ignition switch.

#### INSTALLATION

Installation is in the reverse order of removal.

# PUSH-BUTTON IGNITION SWITCH

< REMOVAL AND INSTALLATION >

[WITH INTELLIGENT KEY SYSTEM]

## PUSH-BUTTON IGNITION SWITCH

### Removal and Installation

INFOID:000000012783513

#### REMOVAL

1. Remove the NATS antenna amp. Refer to [SEC-140. "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.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

## PRECAUTIONS

< PRECAUTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

### PRECAUTION

#### PRECAUTIONS

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

INFOID:000000013479400

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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.
- Improper repair, 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 Air Bag Diagnosis Sensor Unit or other Air Bag 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 or batteries, and wait at least three minutes before performing any service.

# COMPONENT PARTS

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

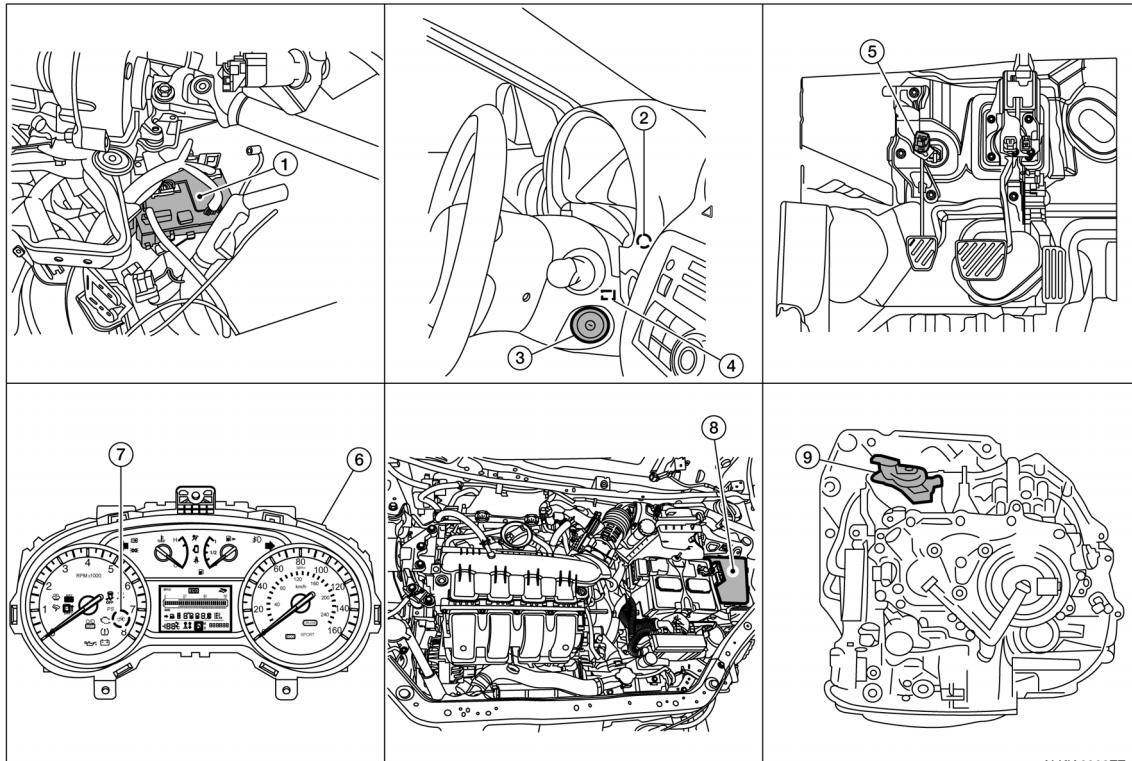
## SYSTEM DESCRIPTION

### COMPONENT PARTS

#### NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

#### NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Component Parts Location

INFOID:000000012783515



ALKIA2963ZZ

- |  |  |  |
|--|--|--|
| 1. BCM<br>(view with instrument panel removed)   | 2. Dongle unit (Canada only)<br>(behind instrument panel LH) | 3. Ignition switch                           |
| 4. NATS antenna amp.<br>(inside steering column) | 5. Clutch interlock switch<br>(M/T models)                   | 6. Combination meter                         |
| 7. Security indicator lamp                       | 8. IPDM E/R  | 9. Transmission range switch<br>(CVT models) |

#### NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : Component Description

INFOID:000000012783516

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.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J

SEC

L  
M  
N  
O  
P

# COMPONENT PARTS

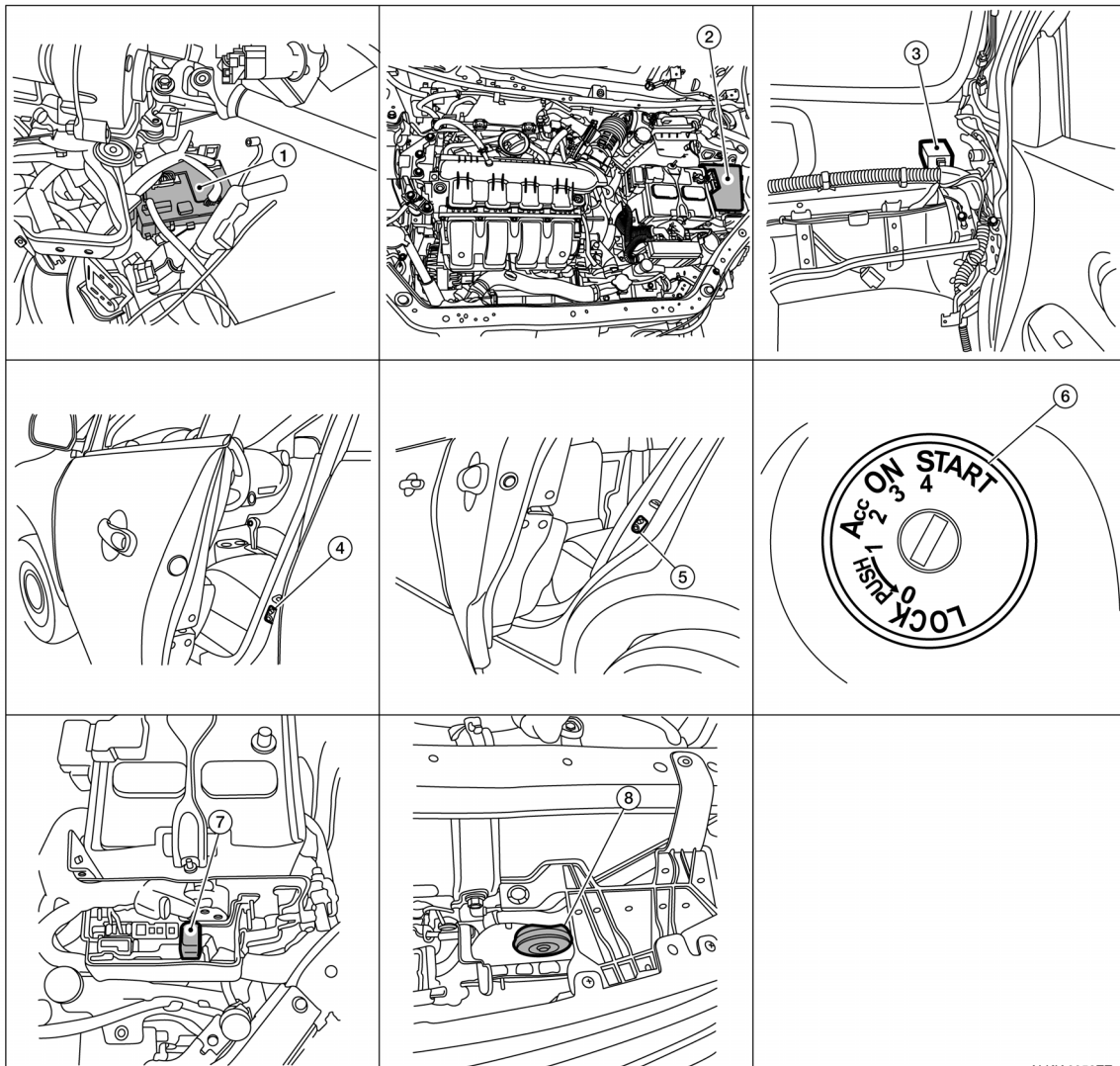
< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

## VEHICLE SECURITY SYSTEM

### VEHICLE SECURITY SYSTEM : Component Parts Location

INFOID:000000012783517



ALKIA2953ZZ

- |  |  |  |
|--|--|--|
| 1. BCM<br>(view with instrument panel removed) | 2. IPDM E/R                            | 3. Remote keyless entry receiver<br>(view with instrument panel removed) |
| 4. Front door switch LH<br>(RH similar)        | 5. Rear door switch LH<br>(RH similar) | 6. Key switch  |
| 7. Horn relay                                  | 8. Horn                                |  |

### VEHICLE SECURITY SYSTEM : Component Description

INFOID:000000012783518

Item	Function
BCM	Controls the door lock function.
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.
Remote keyless entry receiver	Receives lock/unlock signal from the keyfob, and then transmits to BCM.



# 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.

A

B

C

D

E

F

G

H

I

J

SEC

L

M

N

O

P

# SYSTEM

< SYSTEM DESCRIPTION >

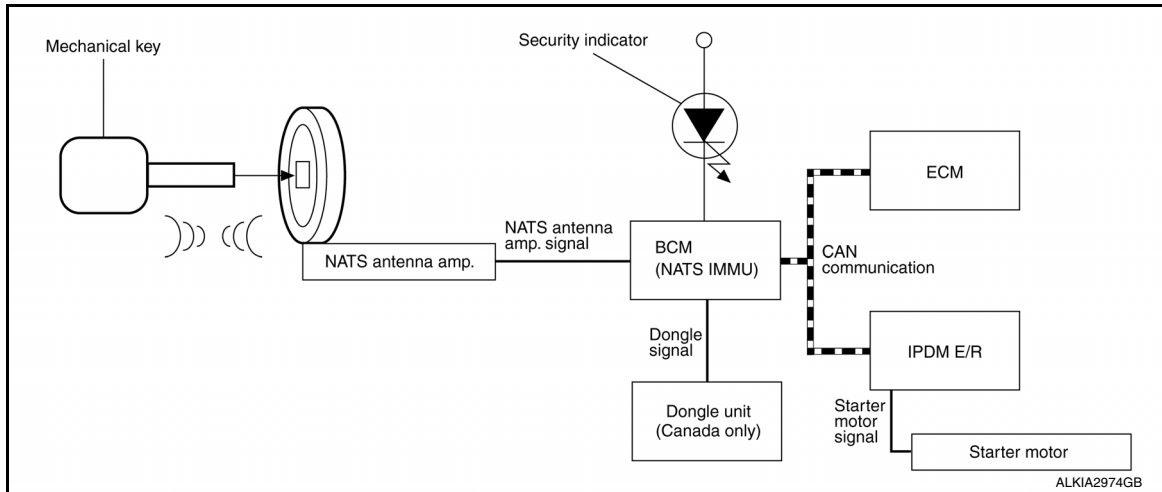
[WITHOUT INTELLIGENT KEY SYSTEM]

## SYSTEM

### NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS

#### NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Diagram

INFOID:000000012783519



#### NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS : System Description

INFOID:000000012783520

#### INPUT/OUTPUT SIGNAL CHART

##### BCM

Switch/Input signal	Input signal to BCM	BCM function	Actuator/Output signal
NATS antenna amp.	Key ID	NATS	<ul style="list-style-type: none"> <li>Security indicator lamp</li> <li>Starter request</li> </ul>
ECM	Engine status signal		

#### SYSTEM DESCRIPTION

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

- 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\*<sup>1</sup> is required.

\*<sup>1</sup>: All keys 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-175, "Work Flow"](#).
- If ECM other than Genuine NISSAN is installed, the engine cannot be started. For ECM replacement procedure, refer to [EC-501, "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:

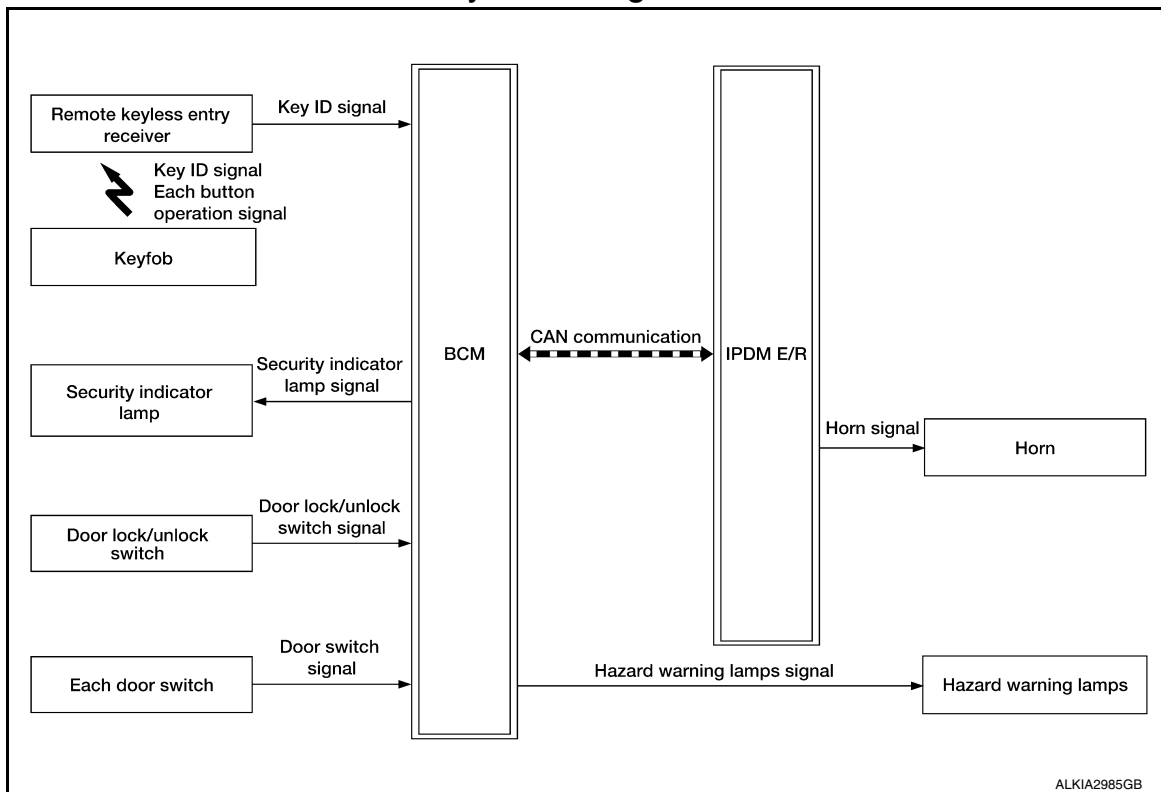
It is necessary to perform NATS ID registration when replacing any of the following parts.  
If ID registration is not performed the electrical system may not operate properly.

- 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:000000012783521



### VEHICLE SECURITY SYSTEM : System Description

INFOID:000000012783522

- 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

## < SYSTEM DESCRIPTION >

**[WITHOUT INTELLIGENT KEY SYSTEM]**

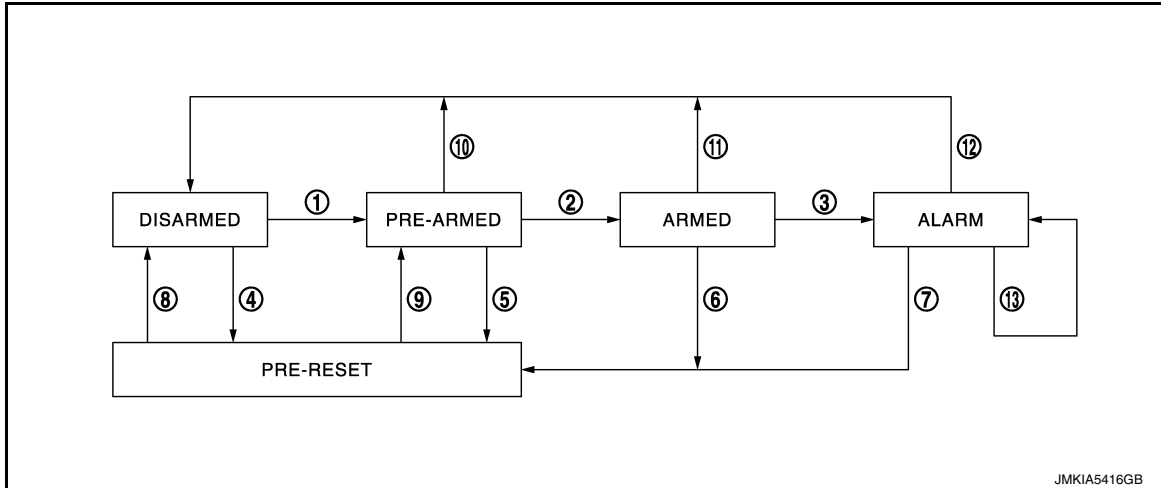
The priority of the functions are as per the following.

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 satisfied.	A	B
			<ul style="list-style-type: none"> <li>• Ignition switch: OFF</li> <li>• All doors: Closed</li> </ul>	<ul style="list-style-type: none"> <li>All doors are locked by:</li> <li>• Door key cylinder LOCK switch</li> <li>• LOCK button of Keyfob</li> <li>• Door lock and unlock switch</li> </ul>
2	PRE-ARMED to ARMED	When all of the following conditions are satisfied for 30 seconds.	<ul style="list-style-type: none"> <li>• Ignition switch: OFF</li> <li>• All doors: Locked</li> </ul>	
3	ARMED to ALARM	When all conditions of A and B are satisfied.	A	B
			Keyfob: Not used	<ul style="list-style-type: none"> <li>• Any door: Open</li> </ul>
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	When one of the following condition is satisfied.		
10	PRE-ARMED to DISARMED			<ul style="list-style-type: none"> <li>• Ignition switch: ACC/ON</li> <li>• Door key cylinder UNLOCK switch: ON</li> <li>• UNLOCK button of Keyfob: ON</li> <li>• UNLOCK switch of door lock and unlock switch: ON</li> <li>• Any door: Open</li> </ul>

# SYSTEM

< SYSTEM DESCRIPTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

No.	System state	Switching condition	
11	ARMED to DISARMED	When one of the following condition is satisfied.	<ul style="list-style-type: none"><li>• Ignition switch: ACC/ON</li><li>• Door key cylinder UNLOCK switch: ON</li><li>• UNLOCK button of Keyfob: ON</li></ul>
12	ALARM to DISARMED		
13	RE-ALARM	When the following condition is satisfied after the ALARM operation is finished.	<ul style="list-style-type: none"><li>• Any door: Open</li></ul>

## NOTE:

- BCM ignores the door key cylinder UNLOCK switch signal input for 1 second after the door key cylinder LOCK switch signal input.
- To lock/unlock all doors by operating remote controller button of Keyfob, the Keyfob must be within the detection area of remote keyless entry receiver. For details, refer to [SEC-146, "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:000000013388302

### 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	<ul style="list-style-type: none"> <li>The vehicle specification can be read and saved.</li> <li>The vehicle specification can be written when replacing BCM.</li> </ul>
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication is displayed.

### SYSTEM APPLICATION

BCM can perform the following functions.

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

# DIAGNOSIS SYSTEM (BCM)

[WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

## IMMU

IMMU : CONSULT Function (BCM - IMMU)

INFOID:0000000013388303

### SELF DIAGNOSTIC RESULT

Refer to [BCS-115. "DTC Index"](#).

### 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.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# DIAGNOSIS SYSTEM (IPDM E/R)

[WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

## DIAGNOSIS SYSTEM (IPDM E/R)

### Diagnosis Description

INFOID:000000013388308

#### AUTO ACTIVE TEST

##### 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
- Front fog lamp (if equipped)
- Headlamp (LO, HI)
- A/C compressor (magnet clutch) (if equipped)
- 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.

2. Turn the ignition switch OFF.
3. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF.
4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
5. After a series of the following operations is repeated 3 times, auto active test is completed.

###### 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-248](#), "[Component Inspection](#)".

##### Inspection in Auto Active Test

When auto active test is actuated, the following operation sequence is repeated 3 times.

Operation sequence	Inspection location	Operation
1	Front wiper	LO for 5 seconds → HI for 5 seconds
2	<ul style="list-style-type: none"><li>• Parking lamp</li><li>• License plate lamp</li><li>• Tail lamp</li><li>• Front fog lamp (if equipped)</li></ul>	10 seconds
3	Headlamp	LO for 10 seconds → HI ON ⇔ OFF 5 times
4	A/C compressor (magnet clutch) (if equipped)	ON ⇔ OFF 5 times
5	Cooling fan	LO for 5 seconds → MID for 3 seconds → HI for 2 seconds

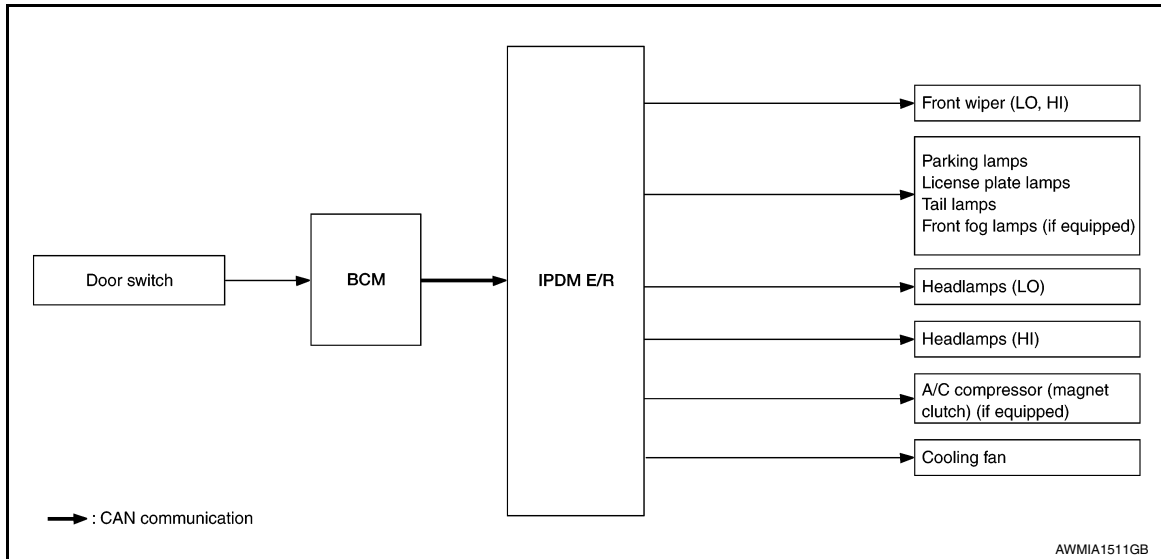


# DIAGNOSIS SYSTEM (IPDM E/R)

[WITHOUT INTELLIGENT KEY SYSTEM]

## < 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 <ul style="list-style-type: none"> <li>• Parking lamp</li> <li>• License plate lamp</li> <li>• Tail lamp</li> <li>• Front fog lamp (if equipped)</li> <li>• Headlamp (HI, LO)</li> <li>• Front wiper (HI, LO)</li> </ul>	Perform auto active test. Does the applicable system operate?	YES BCM signal input circuit
		NO <ul style="list-style-type: none"> <li>• Lamp or motor</li> <li>• Lamp or motor ground circuit</li> <li>• Harness or connector between IPDM E/R and applicable system</li> <li>• IPDM E/R</li> </ul>
A/C compressor does not operate	Perform auto active test. Does the magnet clutch operate?	YES <ul style="list-style-type: none"> <li>• BCM signal input circuit</li> <li>• CAN communication signal between BCM and ECM</li> <li>• CAN communication signal between ECM and IPDM E/R</li> </ul>
		NO <ul style="list-style-type: none"> <li>• Magnet clutch</li> <li>• Harness or connector between IPDM E/R and magnet clutch</li> <li>• IPDM E/R</li> </ul>
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	YES <ul style="list-style-type: none"> <li>• ECM signal input circuit</li> <li>• CAN communication signal between ECM and IPDM E/R</li> </ul>
		NO <ul style="list-style-type: none"> <li>• Cooling fan motor</li> <li>• Harness or connector between IPDM E/R and cooling fan motor</li> <li>• IPDM E/R</li> </ul>

## CONSULT Function (IPDM E/R)

INFOID:000000013388309

### 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.

# DIAGNOSIS SYSTEM (IPDM E/R)

**[WITHOUT INTELLIGENT KEY SYSTEM]**

## < SYSTEM DESCRIPTION >

Direct Diagnostic Mode	Description
Active Test	The IPDM E/R activates outputs to test components.
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 communication line
TAIL&CLR REQ [On/Off]	×	Indicates position light request signal received from BCM on CAN communication 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 communication 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/INH RLY [Off/ ST /INH]		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 communication line
THFT HRN REQ [On/Off]		Indicates theft warning horn request signal received from BCM on CAN communication line
HORN CHIRP [On/Off]		Indicates horn reminder signal received from BCM on CAN communication line

### ACTIVE TEST

Test item	Description
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].

# DIAGNOSIS SYSTEM (IPDM E/R)

[WITHOUT INTELLIGENT KEY SYSTEM]

< SYSTEM DESCRIPTION >

CAN DIAG SUPPORT MNTR

Refer to [LAN-14. "CAN Diagnostic Support Monitor"](#).

A

B

C

D

E

F

G

H

I

J

SEC

L

M

N

O

P

# ECU DIAGNOSIS INFORMATION

## ECM, IPDM E/R, BCM

### List of ECU Reference

INFOID:000000012783527

	ECU	Reference
ECM	Reference Value	<a href="#">EC-77, "Reference Value"</a>
	Fail Safe	<a href="#">EC-91, "Fail Safe"</a>
	DTC Inspection Priority	<a href="#">EC-93, "DTC Inspection Priority Chart"</a>
	DTC Index	<a href="#">EC-95, "DTC Index"</a>
IPDM E/R	Reference Value	<a href="#">PCS-42, "Reference Value"</a>
	Fail Safe	<a href="#">PCS-47, "Fail-Safe"</a>
	DTC Index	<a href="#">PCS-48, "DTC Index"</a>
BCM	Reference Value	<a href="#">BCS-103, "Reference Value"</a>
	Fail Safe	<a href="#">BCS-114, "Fail-safe"</a>
	DTC Inspection Priority	<a href="#">BCS-115, "DTC Inspection Priority Chart"</a>
	DTC Index	<a href="#">BCS-115, "DTC Index"</a>

# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

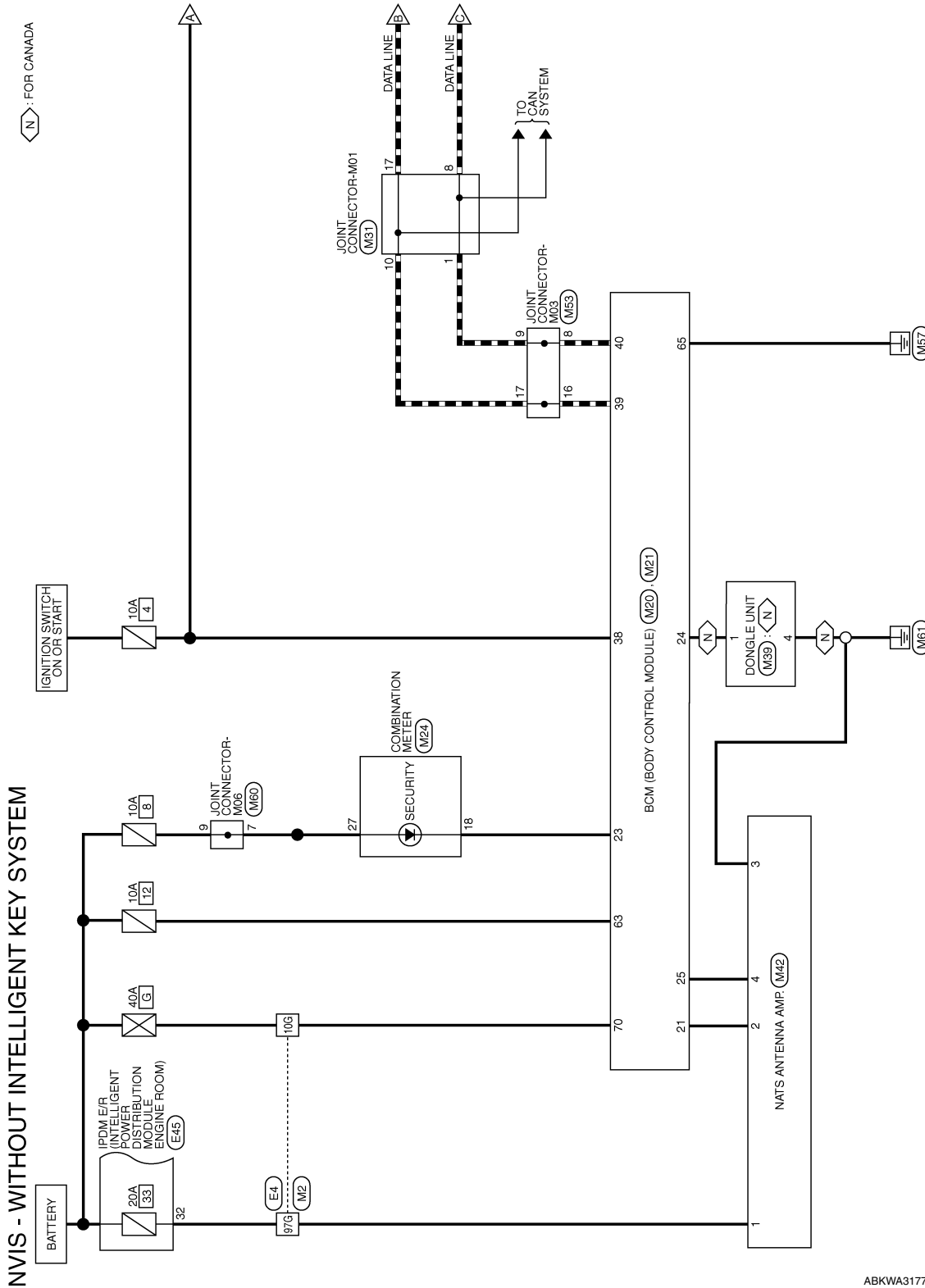
[WITHOUT INTELLIGENT KEY SYSTEM]

## WIRING DIAGRAM

### NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

#### Wiring Diagram

INFOID:0000000012783528



ABKWA3177GB

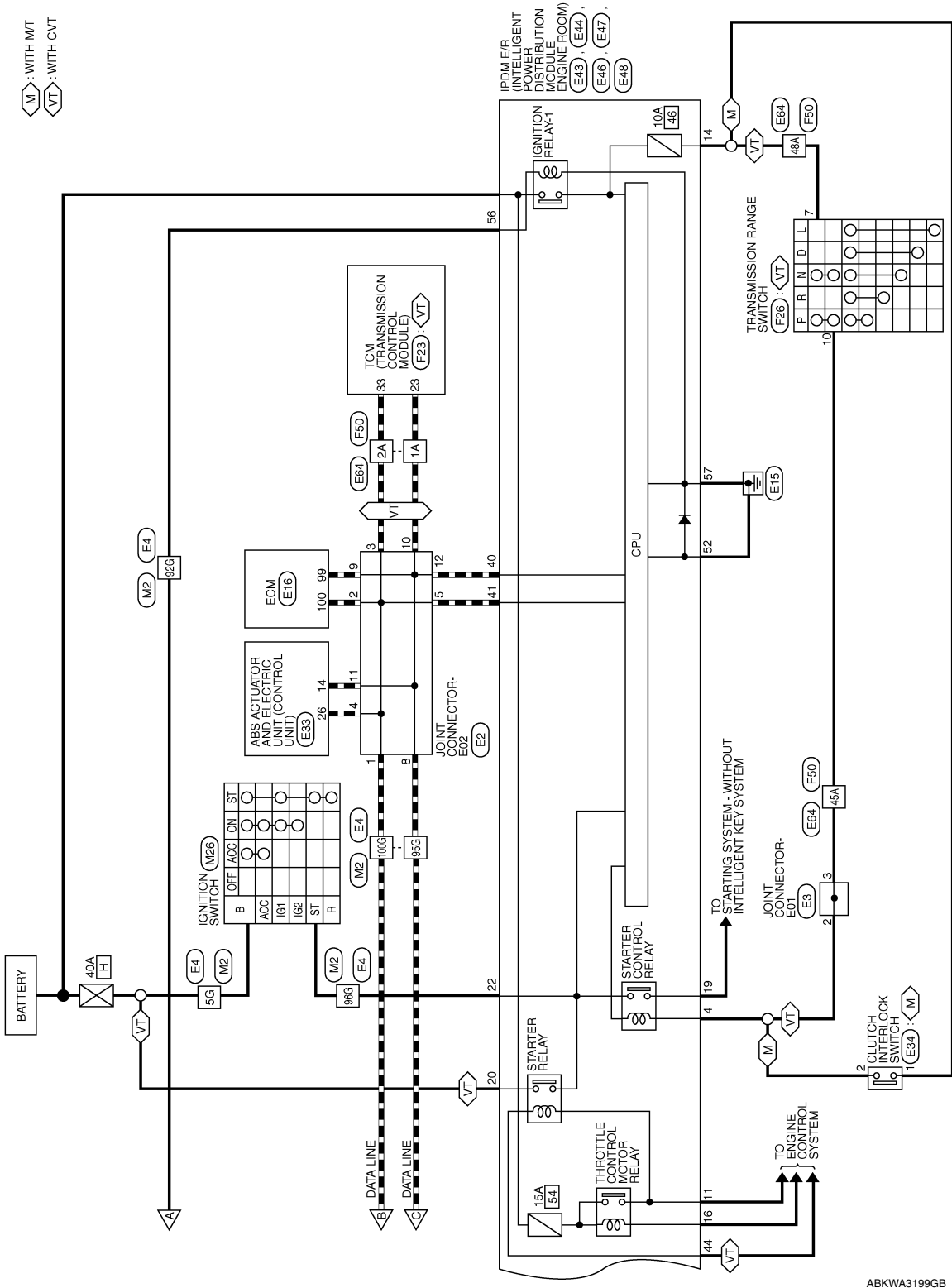
A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

[WITHOUT INTELLIGENT KEY SYSTEM]



ABKWA3199GB

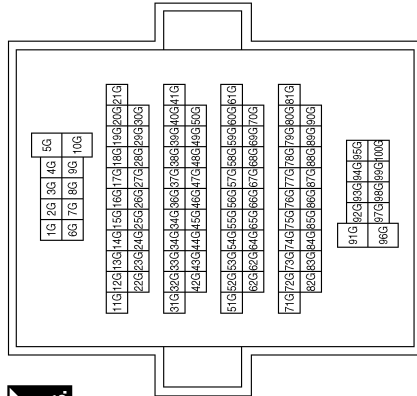
# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

[WITHOUT INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

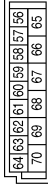
## NVIS CONNECTORS - WITHOUT INTELLIGENT KEY SYSTEM

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



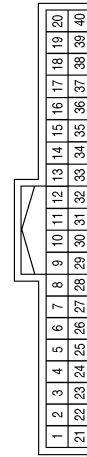
Terminal No.	Color of Wire	Signal Name
5G	G	-
10G	Y	-
92G	R	-
95G	P	-
96G	L	-
97G	V	-
100G	L	-

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE



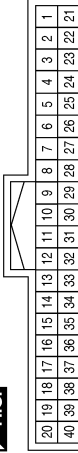
Terminal No.	Color of Wire	Signal Name
63	BG	BATTERY (FUSE)
65	B	GND
70	Y	BATTERY (F/L)

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
21	P	IMMOBILIZER ONE WAY COMMUNICATION (CLOCK)
23	Y	SECURITY INDICATOR OUTPUT
24	SB	AUDIO/DONGLE LINK (SERIAL)
25	LG	IMMOBILIZER TWO WAY COMMUNICATION
38	R	IGN SW
39	L	CAN-H
40	P	CAN-L

Connector No.	M24
Connector Name	COMBINATION METER (WITH TYPE A)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
18	Y	SECURITY
27	LG	BAT

ABKIA7302GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

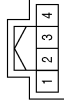
SEC

# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

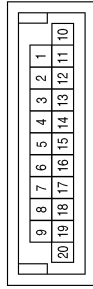
[WITHOUT INTELLIGENT KEY SYSTEM]

Connector No.	M39
Connector Name	DONGLE UNIT
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	SB	-
4	B	-

Connector No.	M31
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE



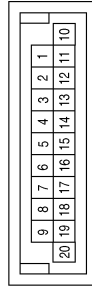
Terminal No.	Color of Wire	Signal Name
1	P	-
8	P	-
10	L	-
17	L	-

Connector No.	M26
Connector Name	IGNITION SWITCH
Connector Color	WHITE



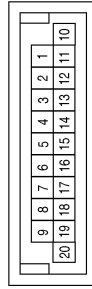
Terminal No.	Color of Wire	Signal Name
B	G	-
ST	L	-

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	WHITE



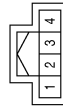
Terminal No.	Color of Wire	Signal Name
7	W	-
9	W	-

Connector No.	M53
Connector Name	JOINT CONNECTOR-M03
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
8	P	-
9	P	-
16	L	-
17	L	-

Connector No.	M42
Connector Name	NATS ANTENNA AMP.
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	V	-
2	P	-
3	B	-(WITHOUT INTELLIGENT KEY SYSTEM)
4	LG	-(WITHOUT INTELLIGENT KEY SYSTEM)

ABKIA7303GB

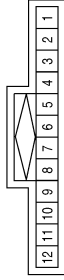


# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

[WITHOUT INTELLIGENT KEY SYSTEM]

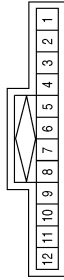
Connector No.	E3
Connector Name	JOINT CONNECTOR-E01
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
2	BR	-
3	BR	-

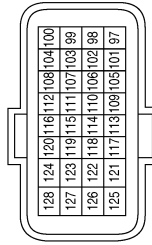
Terminal No.	Color of Wire	Signal Name
5	L	-
8	P	-
9	P	-
10	P	-
11	P	-
12	P	-

Connector No.	E2
Connector Name	JOINT CONNECTOR-E02
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
1	L	-
2	L	-
3	L	-
4	L	-

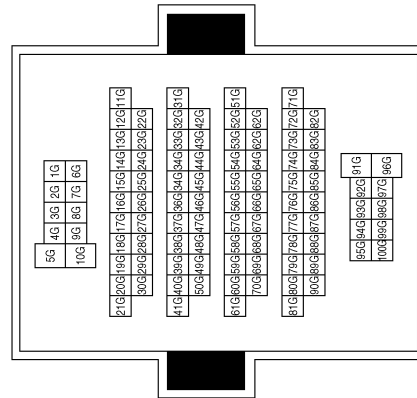
Connector No.	E16
Connector Name	ECM
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
99	P	CAN-L
100	L	CAN-H

Terminal No.	Color of Wire	Signal Name
5G	P	-
10G	G	-
92G	G	-
95G	P	-
96G	GR	-
97G	Y	-
100G	L	-

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE



ABKIA7304GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

SEC

# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

[WITHOUT INTELLIGENT KEY SYSTEM]

Connector No.	E43
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

9	8	7	6	5	4	3
18	17	16	15	14	13	12
11	10					



Terminal No.	Color of Wire	Signal Name
4	BR	NP SW
11	GR	ETC
14	LG	REVERSE LAMP IGN
16	SB	ETC RLY CONT

Connector No.	E34
Connector Name	CLUTCH INTERLOCK SWITCH
Connector Color	BROWN

2	1
---	---



Terminal No.	Color of Wire	Signal Name
1	LG	-
2	BR	-

Connector No.	E33
Connector Name	ABS ACTUATOR AND ELECTRIC UNIT (CONTROL UNIT) (WITHOUT INTELLIGENT CRUISE CONTROL)
Connector Color	BLACK

38	37	36	35	34	33	32	31	30	29	28	27	26	25
24	23	22	21	20	19	18	17	16	15	14			
13	12	11	10	9	8	7	6	5	4	3	2	1	



Terminal No.	Color of Wire	Signal Name
14	P	CAN-L
26	L	CAN-H

Connector No.	E46
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

42	41	40	39	38	37
48	47	46	45	44	43



Terminal No.	Color of Wire	Signal Name
40	P	CAN-L
41	L	CAN-H
44	V	START CONT

Connector No.	E45
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN

29	28	27	26	25
36	35	34	33	32
31	30			



Terminal No.	Color of Wire	Signal Name
32	Y	ECM BAT

Connector No.	E44
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE

21	20	19
24	23	22



Terminal No.	Color of Wire	Signal Name
19	R	STARTER MOTOR
20	P	F/L IGN SW
22	GR	IGN SW (ST)

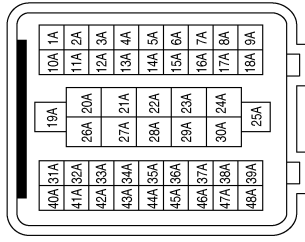
ABKIA7305GB

# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

[WITHOUT INTELLIGENT KEY SYSTEM]

Connector No.	E64
Connector Name	WIRE TO WIRE
Connector Color	BLACK



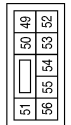
Terminal No.	Color of Wire	Signal Name
1A	P	-
2A	L	-
45A	BR	-
48A	LG	-

Connector No.	E48
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



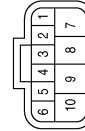
Terminal No.	Color of Wire	Signal Name
57	B/Y	POWER GND

Connector No.	E47
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



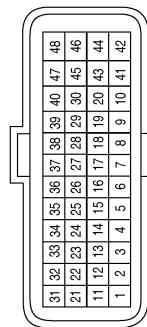
Terminal No.	Color of Wire	Signal Name
52	B/Y	SIGNAL GND
56	G	IGN SW (IG1)

Connector No.	F26
Connector Name	TRANSMISSION RANGE SWITCH
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
7	GR	-
10	BR	-

Connector No.	F23
Connector Name	TCM (TRANSMISSION CONTROL MODULE)
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
23	P	CAN-L
33	L	CAN-H

ABKIA7306GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

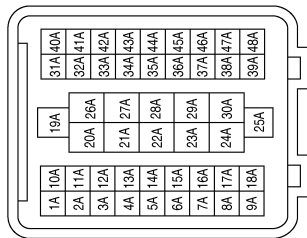
SEC

# NVIS (NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS)

< WIRING DIAGRAM >

[WITHOUT INTELLIGENT KEY SYSTEM]

Connector No.	F50
Connector Name	WIRE TO WIRE
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1A	P	-
2A	L	-
45A	BR	-
48A	GR	-

ABKIA7307GB

# VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

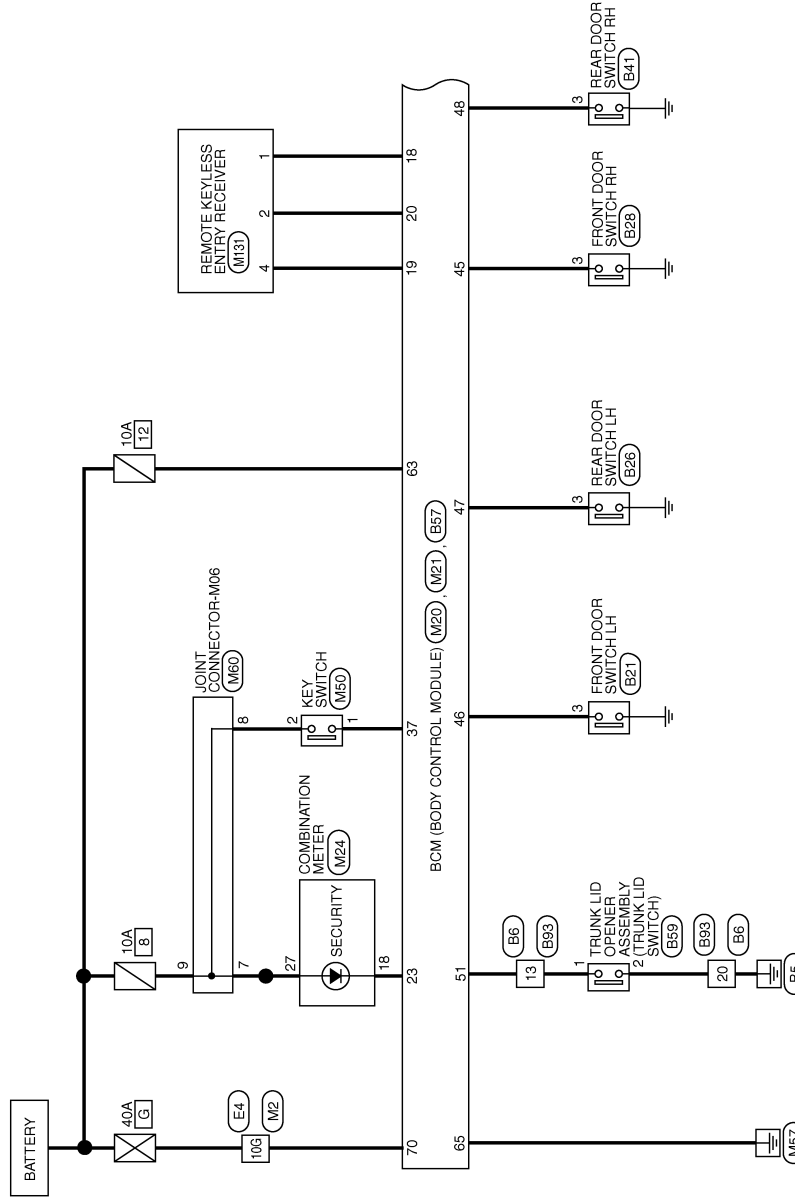
< WIRING DIAGRAM >

## VEHICLE SECURITY SYSTEM

Wiring Diagram

INFOID:000000012783529

### VEHICLE SECURITY SYSTEM - WITHOUT INTELLIGENT KEY SYSTEM



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

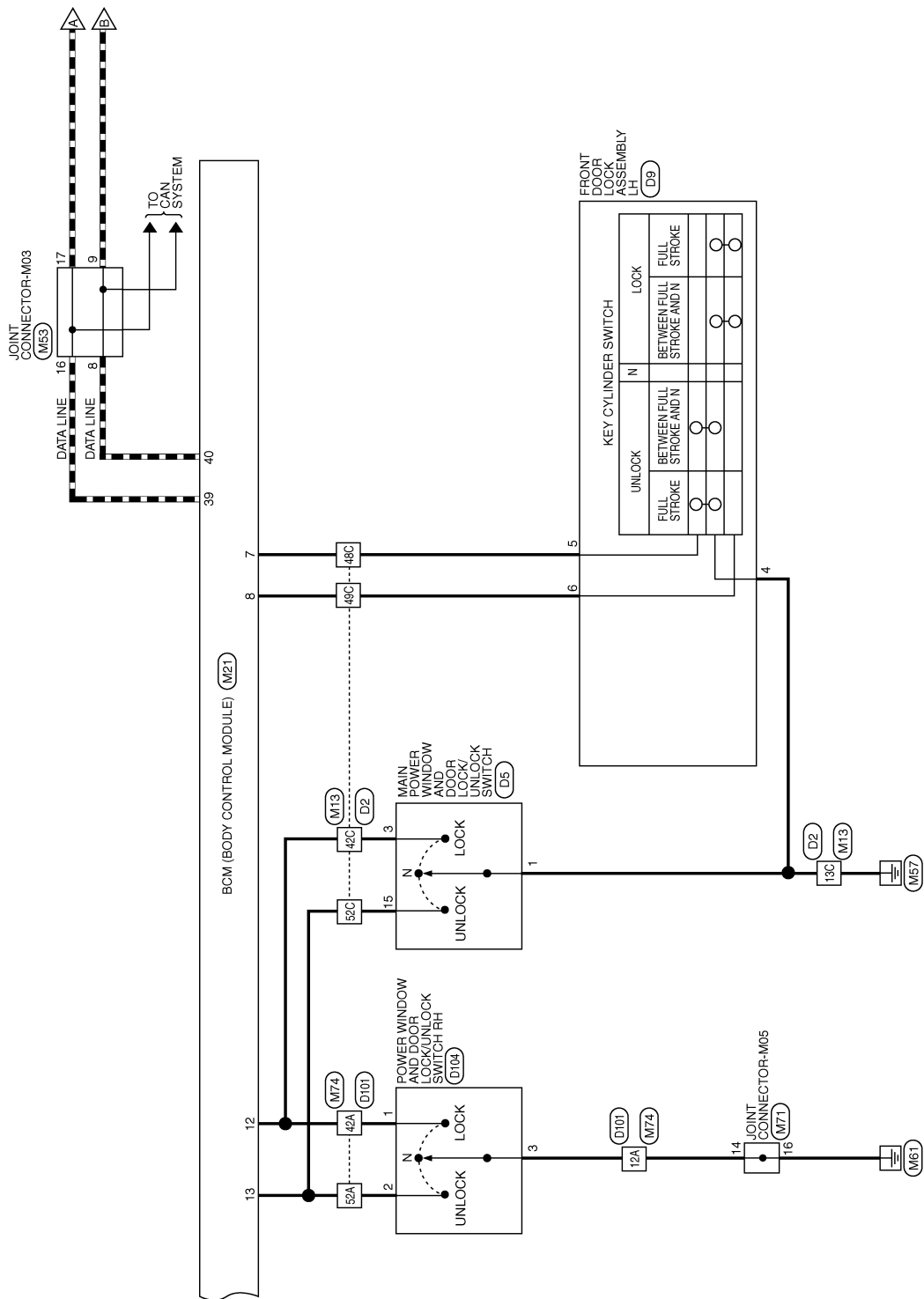
SEC

ABKWA3181GB

# VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

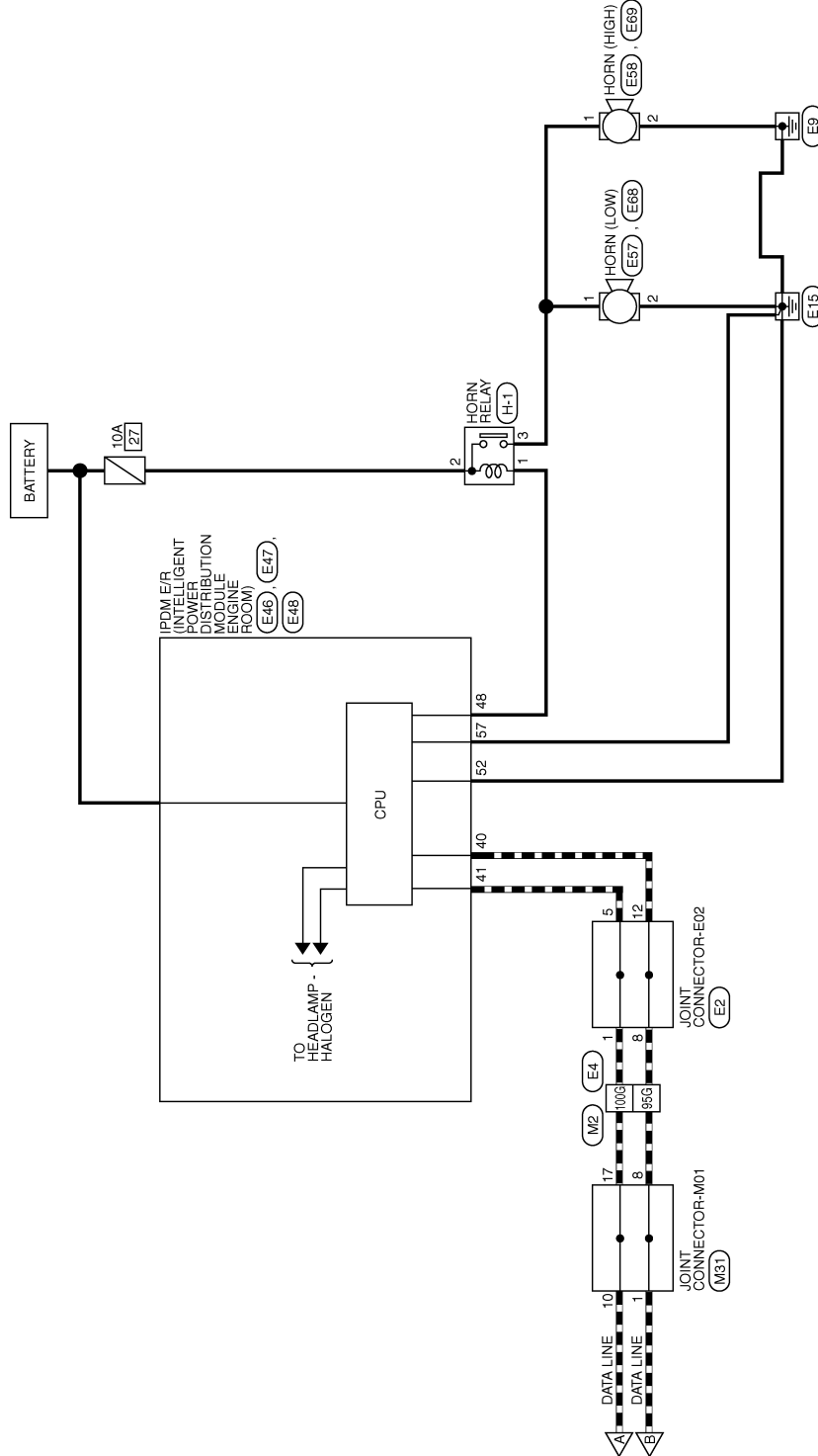


ABKWA3182GB

# VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >



ABKWA3183GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

SEC

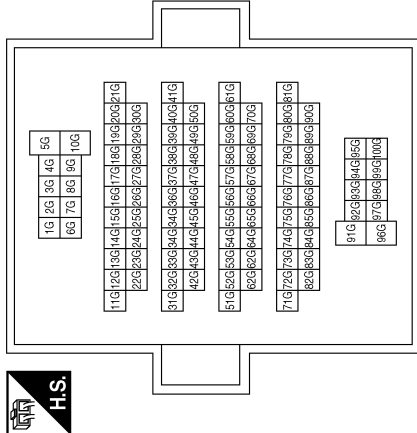
# VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

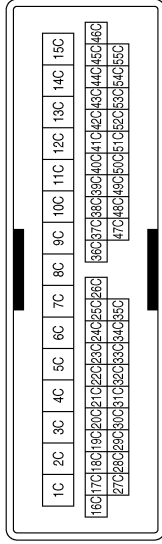
## VEHICLE SECURITY SYSTEM CONNECTORS - WITHOUT INTELLIGENT KEY SYSTEM

Connector No.	M2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



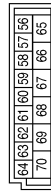
Terminal No.	Color of Wire	Signal Name
10G	Y	-
95G	P	-
100G	L	-

Connector No.	M13
Connector Name	WIRE TO WIRE
Connector Color	WHITE



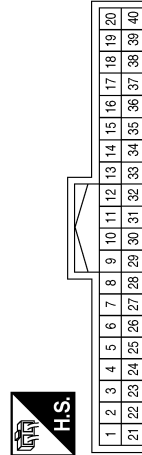
Terminal No.	Color of Wire	Signal Name
13C	B	-
42C	GR	-
48C	L	-
49C	V	-
52C	BR	-

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
63	BG	BATTERY (FUSE)
65	B	GND
70	Y	BATTERY (F/L)

Connector No.	M21
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	L	KEY CYLINDER UNLOCK SW
8	V	KEY CYLINDER LOCK SW
12	GR	CENTRAL DOOR LOCK SW
13	BR	CENTRAL DOOR UNLOCK SW
18	V	KEYLESS & AUTO LIGHT SENSOR GND
19	BR	KEYLESS TUNER POWER SUPPLY
20	LG	KEYLESS TUNER SIGNAL
23	Y	SECURITY INDICATOR OUTPUT
37	GR	KEY SW
39	L	CAN-H
40	P	CAN-L

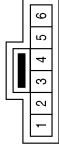


# VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

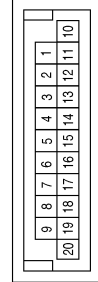
< WIRING DIAGRAM >

Connector No.	M50
Connector Name	KEY SWITCH
Connector Color	GRAY



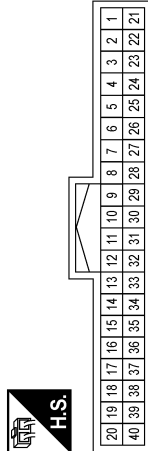
Terminal No.	Color of Wire	Signal Name
1	GR	-
2	BR	-

Connector No.	M31
Connector Name	JOINT CONNECTOR-M01
Connector Color	BLUE



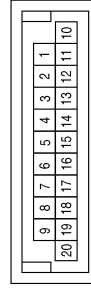
Terminal No.	Color of Wire	Signal Name
1	P	-
8	P	-
10	L	-
17	L	-

Connector No.	M24
Connector Name	COMBINATION METER (WITH TYPE A)
Connector Color	WHITE



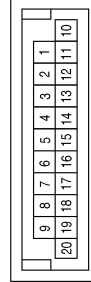
Terminal No.	Color of Wire	Signal Name
18	Y	SECURITY
27	LG	BAT

Connector No.	M71
Connector Name	JOINT CONNECTOR-M05
Connector Color	BLUE



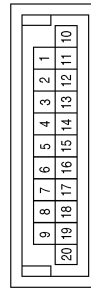
Terminal No.	Color of Wire	Signal Name
14	B	-
16	B	-

Connector No.	M60
Connector Name	JOINT CONNECTOR-M06
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
7	W	-
8	BR	-
9	W	-

Connector No.	M53
Connector Name	JOINT CONNECTOR-M03
Connector Color	BLUE



Terminal No.	Color of Wire	Signal Name
8	P	-
9	P	-
16	L	-
17	L	-

ABKIA7316GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

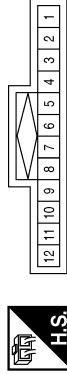
SEC

# VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

Connector No.	E2
Connector Name	JOINT CONNECTOR-E02
Connector Color	BLUE



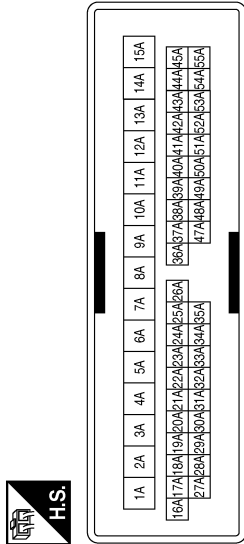
Terminal No.	Color of Wire	Signal Name
1	L	-
5	L	-
8	P	-
12	P	-

Connector No.	M131
Connector Name	REMOTE KEYLESS ENTRY RECEIVER (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	WHITE



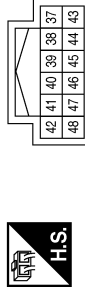
Terminal No.	Color of Wire	Signal Name
1	V	-
2	LG	-
4	BR	-

Connector No.	M74
Connector Name	WIRE TO WIRE
Connector Color	WHITE



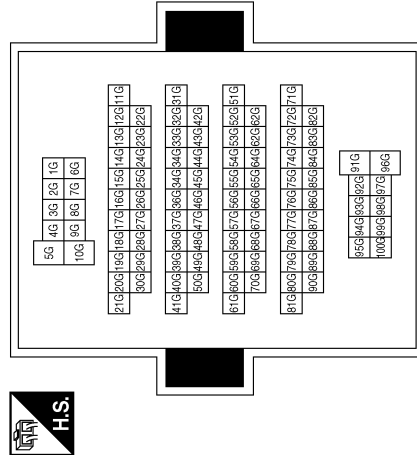
Terminal No.	Color of Wire	Signal Name
12A	B	-
42A	GR	-
52A	BR	-

Connector No.	E46
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
10G	G	-
95G	P	-
100G	L	-

Connector No.	E4
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
40	P	CAN-L
41	L	CAN-H
48	L	HORN RLY CONT

ABKIA7325GB

# VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

< WIRING DIAGRAM >

Connector No.	E57
Connector Name	HORN (LOW)
Connector Color	BLACK



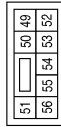
Terminal No.	1	Color of Wire	G	Signal Name	-
--------------	---	---------------	---	-------------	---

Connector No.	E48
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BLACK



Terminal No.	57	Color of Wire	B/Y	Signal Name	POWER GND
--------------	----	---------------	-----	-------------	-----------

Connector No.	E47
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	BROWN



Terminal No.	52	Color of Wire	B/Y	Signal Name	SIGNAL GND
--------------	----	---------------	-----	-------------	------------

Connector No.	E69
Connector Name	HORN (HIGH)
Connector Color	BLACK



Terminal No.	2	Color of Wire	B/W	Signal Name	-
--------------	---	---------------	-----	-------------	---

Connector No.	E68
Connector Name	HORN (LOW)
Connector Color	BLACK



Terminal No.	2	Color of Wire	B/R	Signal Name	-
--------------	---	---------------	-----	-------------	---

Connector No.	E58
Connector Name	HORN (HIGH)
Connector Color	BROWN



Terminal No.	1	Color of Wire	G	Signal Name	-
--------------	---	---------------	---	-------------	---

ABKIA7317GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

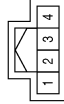
SEC

# VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

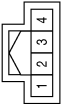
< WIRING DIAGRAM >

Connector No.	B26
Connector Name	REAR DOOR SWITCH LH
Connector Color	WHITE



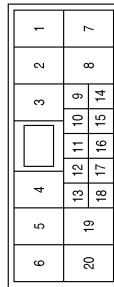
Terminal No.	Color of Wire	Signal Name
3	GR	-

Connector No.	B21
Connector Name	FRONT DOOR SWITCH LH
Connector Color	WHITE



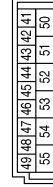
Terminal No.	Color of Wire	Signal Name
3	Y	-

Connector No.	B6
Connector Name	WIRE TO WIRE
Connector Color	WHITE



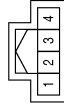
Terminal No.	Color of Wire	Signal Name
13	V	-
20	B	-

Connector No.	B57
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY SYSTEM)
Connector Color	BLACK



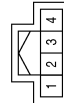
Terminal No.	Color of Wire	Signal Name
45	R	DOOR SW (AS)
46	Y	DOOR SW (DR)
47	GR	DOOR SW (RL)
48	P	DOOR SW (RR)
51	V	TRUNK SW

Connector No.	B41
Connector Name	REAR DOOR SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	P	-

Connector No.	B28
Connector Name	FRONT DOOR SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
3	R	-

ABKIA7318GB

# VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

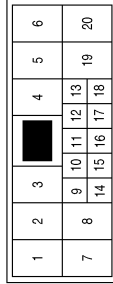
< WIRING DIAGRAM >

Connector No.	B59
Connector Name	TRUNK LID OPENER ASSEMBLY
Connector Color	WHITE



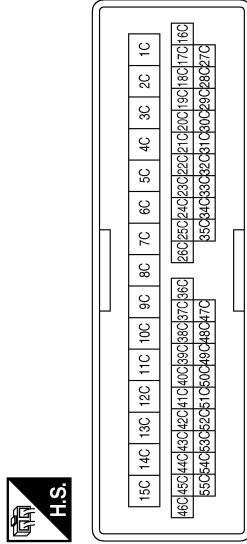
Terminal No.	Color of Wire	Signal Name
1	R	-
2	B	-

Connector No.	B93
Connector Name	WIRE TO WIRE
Connector Color	WHITE



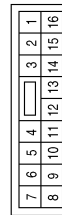
Terminal No.	Color of Wire	Signal Name
13	R	-
20	B	-

Connector No.	D2
Connector Name	WIRE TO WIRE
Connector Color	WHITE



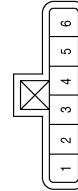
Terminal No.	Color of Wire	Signal Name
13C	B	-
42C	L	-
48C	Y	-
49C	R	-
52C	BR	-

Connector No.	D5
Connector Name	MAIN POWER WINDOW AND DOOR LOCK/ UNLOCK SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	GND
3	L	LOCK SW
15	BR	UNLOCK SW

Connector No.	D9
Connector Name	FRONT DOOR LOCK ASSEMBLY LH
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
4	B	-
5	Y	-
6	R	-

ABKIA7319GB

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P

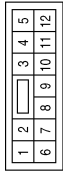
SEC

# VEHICLE SECURITY SYSTEM

[WITHOUT INTELLIGENT KEY SYSTEM]

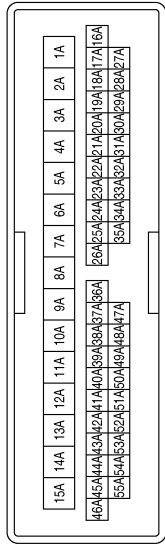
< WIRING DIAGRAM >

Connector No.	D104
Connector Name	POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH RH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	Y	-
2	BR	-
3	B	-

Connector No.	D101
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
12A	B	-
42A	Y	-
52A	BR	-

ABKIA7326GB

# DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

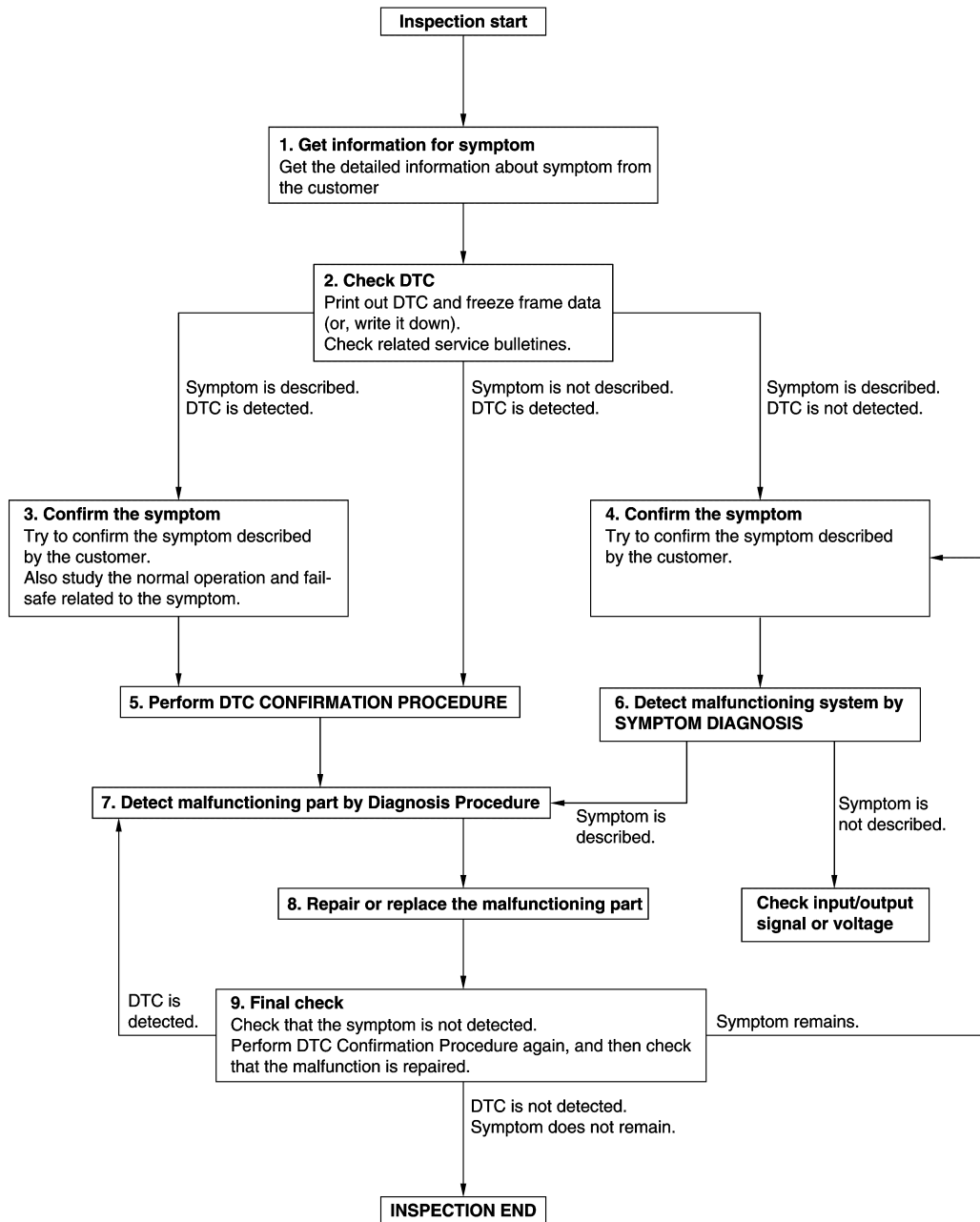
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000012783530

OVERALL SEQUENCE



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

DETAILED FLOW

# 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).
2. Check operation condition of the function that is malfunctioning.

>> GO TO 2.

---

## 2. CHECK DTC

---

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

### Are any symptoms described and any DTC detected?

Symptom is described, DTC is detected>>GO TO 3.

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

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

---

## 3. CONFIRM THE SYMPTOM

---

Try to confirm the symptom described by the customer.

Also study the normal operation and fail-safe related to the symptom.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

---

## 4. CONFIRM THE SYMPTOM

---

Try to confirm the symptom described by the customer.

Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 6.

---

## 5. PERFORM DTC CONFIRMATION PROCEDURE

---

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time.

If two or more DTCs are detected, refer to [BCS-115. "DTC Inspection Priority Chart"](#) and determine trouble diagnosis order.

### **NOTE:**

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

### Is DTC detected?

YES >> GO TO 7.

NO >> Check according to [GI-41. "Intermittent Incident"](#).

---

## 6. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

---

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

### Is the symptom described?

YES >> GO TO 7.

NO >> Monitor input data from related sensors or check voltage of related module terminals using CONSULT.

---

## 7. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

---



# DIAGNOSIS AND REPAIR WORK FLOW

[WITHOUT INTELLIGENT KEY SYSTEM]

< BASIC INSPECTION >

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to [GI-41. "Intermittent Incident"](#).

## 8. REPAIR OR REPLACE THE MALFUNCTIONING PART

1. Repair or replace the malfunctioning part.
2. 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.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

## ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

< BASIC INSPECTION >

[WITHOUT INTELLIGENT KEY SYSTEM]

### ADDITIONAL SERVICE WHEN REPLACING CONTROL UNIT

#### ECM

##### ECM : Description

INFOID:000000012783531

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:

- 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.

##### ECM : Work Procedure

INFOID:000000012783532

#### 1.PERFORM ECM RECOMMUNICATING FUNCTION

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

>> GO TO 2.

#### 2.PERFORM ADDITIONAL SERVICE WHEN REPLACING ECM

Perform [EC-139, "Work Procedure"](#).

>> Inspection End

#### BCM

##### BCM : Description

INFOID:000000013388329

##### BEFORE REPLACEMENT

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

##### NOTE:

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

##### AFTER REPLACEMENT

##### 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).

##### BCM : Work Procedure

INFOID:000000013388330

#### 1.SAVING VEHICLE SPECIFICATION

##### Ⓟ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-135, "Removal and Installation"](#).

>> GO TO 3.

### 3. WRITING VEHICLE SPECIFICATION

#### CONSULT

1. Enter "Re/Programming, Configuration".
2. 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 [BCS-122, "CONFIGURATION \(BCM\) : Work Procedure"](#).
3. If "Before Replace ECU" operation was not performed, select "After Replace ECU" or "Manual Configuration" to write vehicle specification. Refer to [BCS-122, "CONFIGURATION \(BCM\) : Work Procedure"](#).

>> GO TO 4.

### 4. REGISTER IGNITION KEYS

For initialization and registration of ignition keys, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

>> GO TO 5.

### 5. REGISTER KEYFOB ID

For registration of keyfob ID, refer to [DLK-278, "ID Code Entry Procedure"](#).

>> Work End.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# U1000 CAN COMM

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

## DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM

#### Description

INFOID:0000000012783535

Refer to [LAN-8, "CAN COMMUNICATION SYSTEM : System Description"](#).

#### DTC Logic

INFOID:0000000012783536

#### 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 malfunctioning. <ul style="list-style-type: none"><li>• Transmission</li><li>• Receiving (ECM)</li><li>• Receiving (VDC/TCS/ABS)</li><li>• Receiving (METER/M&amp;A)</li><li>• Receiving (TCM)</li><li>• Receiving (IPDM E/R)</li></ul>

#### Diagnosis Procedure

INFOID:0000000012783537

### 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.  
NO >> Refer to [GI-41, "Intermittent Incident"](#).

# U1010 CONTROL UNIT (CAN)

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

## U1010 CONTROL UNIT (CAN)

### DTC Logic

INFOID:000000012783538

### DTC DETECTION LOGIC

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

### Diagnosis Procedure

INFOID:000000012783539

#### 1. REPLACE BCM

When DTC "U1010" is detected, replace BCM.

>> Replace BCM. Refer to [BCS-135. "Removal and Installation"](#).

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# P1610 LOCK MODE

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

## P1610 LOCK MODE

### Description

INFOID:000000012783540

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

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

### DTC Logic

INFOID:000000012783541

### 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. <ul style="list-style-type: none"><li>• Unregistered mechanical key</li><li>• BCM or ECM malfunctioning.</li></ul>	<ul style="list-style-type: none"><li>• Mechanical key</li><li>• BCM</li><li>• ECM</li></ul>

### 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 [SEC-182, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783542

#### 1.CHECK ENGINE START FUNCTION

1. Perform the check for DTC except DTC P1610.
2. Use CONSULT to erase DTC after fixing.
3. Check that engine can start with registered mechanical key.

#### Does the engine start?

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

#### 2.CHECK INTERMITTENT INCIDENT

Refer to [GI-41, "Intermittent Incident"](#).

>> Inspection End.

# B2190, P1614 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

## B2190, P1614 NATS ANTENNA AMP.

### Description

INFOID:0000000012783543

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:0000000012783544

#### DTC DETECTION LOGIC

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

#### 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 [SEC-183, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:0000000012783545

Regarding Wiring Diagram information, refer to [SEC-157, "Wiring Diagram"](#).

##### 1. CHECK NATS ANTENNA AMP. INSTALLATION

Check NATS antenna amp. installation. Refer to [SEC-197, "Removal and Installation"](#).

##### 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?

## B2190, P1614 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

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

### 4.CHECK NATS ANTENNA AMP. GROUND LINE CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect NATS antenna amp. connector.
3. Check continuity between NATS antenna amp. connector M42 terminal 3 and ground.

**3 - Ground : Continuity should exist.**

Is the inspection result normal?

- YES >> GO TO 5  
NO >> • Repair or replace harness.

**NOTE:**

If harness is OK, replace BCM [BCS-135, "Removal and Installation"](#). Perform initialization with CONSULT. For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

### 5.CHECK NATS ANTENNA AMP. SIGNAL LINE- 1

1. Connect NATS antenna amp. connector.
2. Turn ignition switch ON.
3. Check voltage between NATS antenna amp. connector M42 terminal 2 and ground with analog tester.

Terminals		Position of ignition key cylinder	Voltage (V) (Approx.)
( + )	( - )		
2	Ground	Before inserting ignition key	Battery voltage
		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?

- YES >> GO TO 6  
NO >> • Repair or replace harness.

**NOTE:**

If harness is OK, replace BCM [BCS-135, "Removal and Installation"](#). Perform initialization with CONSULT. For initialization, refer to CONSULT Immobilizer mode and follow the on-screen 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.)
( + )	( - )		
4	Ground	Before inserting ignition key	Battery voltage
		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?

- YES >> NATS antenna amp. is malfunctioning. Replace NATS antenna amp. Refer to [SEC-197, "Removal and Installation"](#).  
NO >> • Repair or replace harness.

**NOTE:**



# B2190, P1614 NATS ANTENNA AMP.

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

If harness is OK, replace BCM, refer to [BCS-135. "Removal and Installation"](#). Perform initialization with CONSULT. For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

- A
- B
- C
- D
- E
- F
- G
- H
- I
- J
- SEC
- L
- M
- N
- O
- P

# B2191, P1615 DIFFERENCE OF KEY

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

## B2191, P1615 DIFFERENCE OF KEY

### Description

INFOID:000000012783546

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

INFOID:000000012783547

### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2191 P1615	DIFFERENCE OF KEY	The ID verification results between BCM and mechanical key are NG. The registration is necessary.	Mechanical key

### DTC CONFIRMATION PROCEDURE

#### 1. PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

- YES >> Refer to [SEC-186. "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783548

#### 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 on-screen 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 [BCS-135. "Removal and Installation"](#).
  - Perform initialization again.

# B2192, P1611 ID DISCORD, IMMUECM

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

## B2192, P1611 ID DISCORD, IMMUECM

### Description

INFOID:000000012783549

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:000000012783550

#### DTC DETECTION LOGIC

##### NOTE:

- If DTC B2192 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-126, "DTC Logic"](#).
- If DTC B2192 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-127, "DTC Logic"](#).

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

#### 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 [SEC-187, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783551

##### 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 on-screen 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 [BCS-135, "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 >> BCM is malfunctioning.  
NO >> GO TO 3

##### 3. REPLACE ECM

1. Replace ECM. Refer to [EC-501, "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

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

## B2192, P1611 ID DISCORD, IMMU-ECM

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

---

### 4.CHECK INTERMITTENT INCIDENT

---

Refer to [GI-41, "Intermittent Incident"](#).

>> Inspection End.

# B2193, P1612 CHAIN OF ECM-IMMU

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

## B2193, P1612 CHAIN OF ECM-IMMU

### Description

INFOID:0000000012783552

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:0000000012783553

#### DTC DETECTION LOGIC

##### NOTE:

- If DTC B2193 is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to [BCS-126, "DTC Logic"](#).
- If DTC B2193 is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to [BCS-127, "DTC Logic"](#).

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2193	CHAIN OF BCM-ECM	Inactive communication between ECM and BCM	<ul style="list-style-type: none"><li>• Harness or connectors (The CAN communication line is open or short)</li><li>• BCM</li><li>• ECM</li></ul>
P1612			

#### 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 [SEC-189, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:0000000012783554

##### 1. REPLACE BCM

1. Replace BCM. Refer to [BCS-135, "Removal and Installation"](#).
2. Perform initialization with CONSULT.  
For initialization, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

##### Does the engine start?

- YES >> Inspection End.  
NO >> ECM is malfunctioning.
  - Replace ECM.
  - Perform ECM re-communicating function.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# B2195 ANTI-SCANNING

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

## B2195 ANTI-SCANNING

### DTC Logic

INFOID:000000012783555

### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B2195	ANTI SCANNING	ID verification between BCM and ECM is detected out of specification	ID verification request out of 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 [SEC-190, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:000000012783556

#### 1. CHECK SELF DIAGNOSTIC RESULT 1

1. Select "Self Diagnostic Result" of "BCM" using CONSULT.
2. Erase DTC.
3. Perform DTC Confirmation Procedure for DTC P2195. Refer to [SEC-190, "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

1. Obtain the customer's 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.
4. Perform DTC CONFIRMATION PROCEDURE for DTC B2195. Refer to [SEC-190, "DTC Logic"](#).

#### Is DTC detected?

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

#### 4. REPLACE BCM

1. Replace BCM. Refer to [BCS-135, "Removal and Installation"](#).
2. Perform initialization of BCM and registration of all ignition keys using CONSULT.  
For initialization and registration procedures, refer to CONSULT Immobilizer mode and follow the on-screen instructions.

>> Inspection End.

# B2196 DONGLE UNIT

[WITHOUT INTELLIGENT KEY SYSTEM]

< DTC/CIRCUIT DIAGNOSIS >

## B2196 DONGLE UNIT

### Description

INFOID:0000000012783557

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

### DTC Logic

INFOID:0000000012783558

#### 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.	<ul style="list-style-type: none"><li>• Harness or connectors (Dongle unit circuit is open or shorted.)</li><li>• Dongle unit</li></ul>

#### 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 [SEC-191, "Diagnosis Procedure"](#).  
NO >> Inspection End.

### Diagnosis Procedure

INFOID:0000000012783559

Regarding Wiring Diagram information, refer to [SEC-157, "Wiring Diagram"](#).

##### 1.PERFORM INITIALIZATION

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 on-screen 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.

BCM		Dongle unit		Continuity
Connector	Terminal	Connector	Terminal	
M21	24	M39	1	Yes

4. Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
M21	24		No

##### Is the inspection result normal?

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

## B2196 DONGLE UNIT

[WITHOUT INTELLIGENT KEY SYSTEM]

< 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.

Dongle unit		Ground	Continuity
Connector	Terminal		
M39	4		Yes

Is the inspection result normal?

YES >> Replace dongle unit.

NO >> Repair or replace harness.



# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

## POWER SUPPLY AND GROUND CIRCUIT

### Diagnosis Procedure

INFOID:000000013388332

Regarding Wiring Diagram information, refer to [BCS-117. "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	Battery power supply	12 (10A)
70		G (40A)
11	Ignition switch ACC or ON	18 (10A)
38	Ignition switch ON or START	4 (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		Ground	Ignition switch position		
Connector	Terminal		OFF	ACC	ON
M20	63	—	Battery voltage	Battery voltage	Battery voltage
	70				
M21	11		0 V	0 V	
	38				

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.

BCM		Ground	Continuity
Connector	Terminal		
M20	65	—	Yes

Is the inspection result normal?

YES >> Inspection End.

NO >> Repair harness or connector.

# VEHICLE SECURITY INDICATOR

< DTC/CIRCUIT DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

## VEHICLE SECURITY INDICATOR

### Description

INFOID:000000012783561

- 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

INFOID:000000012783562

#### 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	Vehicle security indicator	ON
	OFF		OFF

#### Is the inspection result normal?

- YES >> Inspection End.  
NO >> Refer to [SEC-194, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000012783563

Regarding Wiring Diagram information, refer to [SEC-157, "Wiring Diagram"](#).

#### 1.CHECK SECURITY INDICATOR LAMP POWER SUPPLY CIRCUIT

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

(+)		(-)	Voltage (V)
Combination meter			
Connector	Terminal	Ground	Battery voltage
M24	27		

#### Is the inspection result normal?

- YES >> GO TO 2.  
NO-1 >> Check 10 A fuse [No. 8, located in the fuse block (J/B)].  
NO-2 >> Check harness for open or short between combination meter and fuse.

#### 2.CHECK SECURITY INDICATOR LAMP SIGNAL

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

(+)		(-)	Voltage (V)
BCM			
Connector	Terminal	Ground	Battery voltage
M21	23		

#### Is the inspection result normal?

- YES >> Replace BCM. Refer to [BCS-135, "Removal and Installation"](#).  
NO >> GO TO 3.

#### 3.CHECK SECURITY INDICATOR LAMP CIRCUIT

1. Disconnect combination meter connector.

# 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	
M24	18	M21	23	Yes

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

Combination meter		Ground	Continuity
Connector	Terminal		
M24	18		No

Is the inspection result normal?

YES >> Replace combination meter. Refer to [MWI-74, "Removal and Installation"](#).

NO >> Repair or replace harness.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC

# NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

< SYMPTOM DIAGNOSIS >

[WITHOUT INTELLIGENT KEY SYSTEM]

## SYMPTOM DIAGNOSIS

### NISSAN VEHICLE IMMOBILIZER SYSTEM-NATS SYMPTOMS

#### Symptom Table

INFOID:000000012783564

#### NOTE:

- Before performing the diagnosis in the following table, check "[SEC-175. "Work Flow"](#)".
- Check that vehicle is under the condition shown in "Conditions of vehicle" before starting diagnosis, and 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
Security indicator does not turn ON or flash.	1. Check vehicle security indicator	<a href="#">SEC-194</a>
	2. Check Intermittent Incident	<a href="#">GI-41</a>

# NATS ANTENNA AMP.

< REMOVAL AND INSTALLATION >

[WITHOUT INTELLIGENT KEY SYSTEM]

## REMOVAL AND INSTALLATION

### NATS ANTENNA AMP.

#### Removal and Installation

INFOID:0000000012783565

#### REMOVAL

1. Remove steering column covers. Refer to [JP-16. "Removal and Installation"](#).
2. Remove the NATS antenna amp. screw.
3. Disconnect the harness connector from the NATS antenna amp. and remove.

#### INSTALLATION

Installation is in the reverse order of removal.

#### NOTE:

- If NATS antenna amp. is not installed correctly, NVIS (NATS) system will not operate properly and "SELF-DIAG RESULTS" on CONSULT screen will show "LOCK MODE" or "CHAIN OF IMMU-KEY".
- Initialization is not necessary when only the NATS antenna amp. is replaced with a new one.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M  
N  
O  
P

SEC