

 $\mathsf{D}$ 

Е

### **CONTENTS**

PRECAUTION9
PRECAUTIONS
PREPARATION11
PREPARATION
SYSTEM DESCRIPTION13
COMPONENT PARTS13
POWER DOOR LOCK SYSTEM
INTELLIGENT KEY SYSTEM
INTEGRATED HOMELINK TRANSMITTER
AUTOMATIC BACK DOOR SYSTEM
SYSTEM (POWER DOOR LOCK SYSTEM)20

	System DiagramSystem Description		F
S	YSTEM (INTELLIGENT KEY SYSTEM)	.22	G
	ITELLIGENT KEY SYSTEMINTELLIGENT KEY SYSTEM : System Diagram INTELLIGENT KEY SYSTEM : System Description	.22	Н
	OOR LOCK FUNCTION  DOOR LOCK FUNCTION : System Diagram  DOOR LOCK FUNCTION : System Description	.23	I
	ACK DOOR OPEN FUNCTION  BACK DOOR OPEN FUNCTION: System Diagram  BACK DOOR OPEN FUNCTION: System Description	.26	J DL
	EMOTE KEYLESS ENTRY FUNCTION	.27	L
	EY REMINDER FUNCTION  KEY REMINDER FUNCTION : System Diagram  KEY REMINDER FUNCTION : System Description	.30	N
	REMOTE ENGINE START FUNCTION	.31	O P
	VELCOME LIGHT FUNCTIONWELCOME LIGHT FUNCTION : System Diagram	.33	
	•	.33	

WARNING FUNCTION		ADDITIONAL SERVICE WHEN REMOVING	
WARNING FUNCTION : System Description	. 34	BATTERY NEGATIVE TERMINAL	
SYSTEM (AUTOMATIC BACK DOOR SYS-		Description	
TEM)	38	Work Procedure	. 111
System Diagram		ADDITIONAL SERVICE WHEN REPLACING	
System Description		BCM	
		Description	
SYSTEM (INTEGRATED HOMELINK		Work Procedure	112
TRANSMITTER)			
System Description	. 45	ADDITIONAL SERVICE WHEN REPLACING	
DIAGNOSIS SYSTEM (BCM)	. 46	AUTOMATIC BACK DOOR CONTROL UNIT.  Description	
COMMON ITEM	. 46	Work Procedure	. 113
COMMON ITEM: CONSULT Function (BCM -		CALIBRATION OF AUTOMATIC BACK	
COMMON ITEM)	. 46	DOOR POSITION INFORMATION	444
DOOD I OOK		Description	
DOOR LOCK - CONSULT Function (DOM	. 47	Work Procedure	
DOOR LOCK : CONSULT Function (BCM - DOOR LOCK)	47	Work Flocedule	. 114
DOOR LOCK)	. 47	DTC/CIRCUIT DIAGNOSIS	. 115
INTELLIGENT KEY	. 48		
INTELLIGENT KEY: CONSULT Function (BCM -		U1000 CAN COMM CIRCUIT	
INTELLIGENT KEY)	. 48	Description	
<b>-</b>		DTC Logic	
TRUNK		Diagnosis Procedure	. 115
TRUNK : CONSULT Function (BCM - TRUNK)	. 51	U1010 CONTROL UNIT (CAN)	116
DIAGNOSIS SYSTEM (AUTOMATIC BACK		DTC Logic	
DOOR CONTROL UNIT)	. 52	Diagnosis Procedure	
CONSULT Function		Blagnoolo i 1000daio	
		<b>B2401 IGNITION POWER SUPPLY CIRCUIT.</b>	117
ECU DIAGNOSIS INFORMATION	. 54	DTC Logic	
AUTOMATIC BACK DOOR CONTROL UNIT	-4	Diagnosis Procedure	. 117
Reference Value		B2409 HALF LATCH SWITCH	110
Fail Safe		DTC Logic	
DTC Inspection Priority Chart		Diagnosis Procedure	
DTC Index		Component Inspection	
DTO IIIGOX	. 00	Component inopestion	. 115
BCM	. 60	B2416 TOUCH SENSOR RH	121
List of ECU Reference	. 60	DTC Logic	
WIDING DIACDAM	0.4	Diagnosis Procedure	
WIRING DIAGRAM	. 61	Component Inspection	. 123
POWER DOOR LOCK SYSTEM	. 61	B2417 TOUCH SENSOR LH	124
Wiring Diagram		DTC Logic	
		Diagnosis Procedure	
INTELLIGENT KEY SYSTEM		Component Inspection	
Wiring Diagram	. 74	·	
AUTOMATIC BACK DOOR SYSTEM	05	B2419 OPEN SWITCH	
Wiring Diagram		DTC Logic	
Willing Diagram	. 95	Diagnosis Procedure	
HOMELINK UNIVERSAL TRANSCEIVER	106	Component Inspection	. 128
Wiring Diagram	106	B2420 CLOSE SWITCH	120
		DTC Logic	
BASIC INSPECTION	108	Diagnosis Procedure	
DIAGNOSIS AND REPAIR WORK FLOW	102	Component Inspection	
Work Flow			
**************************************	100	B2422 BACK DOOR STATE	133

DTC Logic133	BCM162	
Diagnosis Procedure	BCM : Diagnosis Procedure162	Δ
B2423 AUTOMATIC BACK DOOR MOTOR	OUTSIDE KEY ANTENNA (PASSENGER	
OPERATION TIME136	SIDE)164	_
DTC Logic	Component Function Check164	Е
Diagnosis Procedure136	Diagnosis Procedure164	
B2426 ENCODER138	OUTSIDE KEY ANTENNA (DRIVER SIDE) 166	C
DTC Logic	Component Function Check	
Diagnosis Procedure	Diagnosis Procedure166	
· ·	•	
B2427 ENCODER141	OUTSIDE KEY ANTENNA (REAR BUMPER). 168	
DTC Logic141 Diagnosis Procedure141	Component Function Check	
Diagnosis i Tocedure141	Diagnosis Procedure100	Е
B2428 AUTOMATIC BACK DOOR CONTROL	DOOR SWITCH170	
UNIT144	Component Function Check170	
DTC Logic	Diagnosis Procedure	F
Diagnosis Procedure144	Component Inspection171	
B242A CLOSURE CONDITION145	BACK DOOR SWITCH172	
DTC Logic145	Component Function Check172	C
Diagnosis Procedure145	Diagnosis Procedure172	
Component Inspection147	Component Inspection173	
B261B REMOTE ENGINE START148	DOOR LOCK AND UNLOCK SWITCH174	H
DTC Logic	DRIVER SIDE174	
Diagnosis Procedure148	DRIVER SIDE: Component Function Check 174	1
<b>B2621 INSIDE ANTENNA</b> 149	DRIVER SIDE : Diagnosis Procedure174	
DTC Logic149	PASSENGER SIDE174	
Diagnosis Procedure149	PASSENGER SIDE :	J
B2622 INSIDE ANTENNA151	Component Function Check174	
DTC Logic	PASSENGER SIDE : Diagnosis Procedure174	
Diagnosis Procedure151	DOOR LOCK ACTUATOR176	DL
B2623 INSIDE ANTENNA153	DOOK LOCK ACTUATOR178	
DTC Logic	DRIVER SIDE176	
Diagnosis Procedure	DRIVER SIDE : Component Function Check176	L
-	DRIVER SIDE : Diagnosis Procedure176	
B26FD SHIFT LOCK SOLENOID155	PASSENGER SIDE177	
DTC Logic	PASSENGER SIDE :	N
Diagnosis Procedure155	Component Function Check177	
<b>B26FE HOOD SWITCH158</b>	PASSENGER SIDE : Diagnosis Procedure177	
DTC Logic158	REAR LH178	Ν
Diagnosis Procedure	REAR LH: Component Function Check178	
Component Inspection159	REAR LH : Diagnosis Procedure178	
B26FF REMOTE KEYLESS ENTRY RECEIV-	REAR RH179	C
ER160	REAR RH : Component Function Check179	
DTC Logic160	REAR RH : Diagnosis Procedure179	P
Diagnosis Procedure160	-	-
POWER SUPPLY AND GROUND CIRCUIT 162	FUEL LID LOCK ACTUATOR	
	Component Function Check	
AUTOMATIC BACK DOOR CONTROL UNIT 162	•	
AUTOMATIC BACK DOOR CONTROL UNIT : Di-	UNLOCK SENSOR183	
agnosis Procedure162	Component Function Check	
	Diagnosis Procedure183	

Component Inspection	184	HALF LATCH SWITCH	207
DOOR KEY CYLINDER SWITCH	405	Component Function Check	
		Diagnosis Procedure	207
Component Function Check		Component Inspection	208
Diagnosis Procedure		TOUGH OFNOOD	
Component Inspection	186	TOUCH SENSOR	209
<b>REMOTE KEYLESS ENTRY RECEIVER</b>	187	RH	209
Component Function Check	187	RH: Component Function Check	
Diagnosis Procedure		RH : Diagnosis Procedure	
-		RH : Component Inspection	
DOOR REQUEST SWITCH		·	
Component Function Check	189	LH	
Diagnosis Procedure		LH : Component Function Check	
Component Inspection	190	LH : Diagnosis Procedure	
BACK BOOR BEOUTEST SWITCH	404	LH : Component Inspection	213
BACK DOOR REQUEST SWITCH		SPINDLE MOTOR	24.4
Component Function Check		SPINDLE MOTOR	214
Diagnosis Procedure		RH	214
Component Inspection	192	RH : Diagnosis Procedure	
BACK DOOR OPENER SWITCH	193	-	
Component Function Check		LH	
Diagnosis Procedure		LH : Diagnosis Procedure	214
Component Inspection		BACK DOOR CLOSURE MOTOR	246
		Diagnosis Procedure	
INTELLIGENT KEY WARNING BUZZER .	195	Diagnosis Procedure	210
Component Function Check	195	<b>AUTOMATIC BACK DOOR WARNING BU</b>	JZZ-
Diagnosis Procedure	195	ER	
Component Inspection	196	Diagnosis Procedure	
INITELLIBERT KEY		Component Inspection	
INTELLIGENT KEY		Component inoposition	210
Component Function Check		GROUND CIRCUIT	219
Diagnosis Procedure	197	Diagnosis Procedure	219
METER BUZZER CIRCUIT	102		
Description		HOOD SWITCH	
Component Function Check		Component Function Check	
Diagnosis Procedure		Diagnosis Procedure	
Diagnosis i rocedure	190	Component Inspection	221
KEY WARNING LAMP	199	INTEGRATED HOMELINK TRANSMITTE	:D 222
Component Function Check	199	Component Function Check	
Diagnosis Procedure			
· ·		Diagnosis Procedure	222
HAZARD FUNCTION		SYMPTOM DIAGNOSIS	224
Component Function Check			
Diagnosis Procedure	200	INTELLIGENT KEY SYSTEM SYMPTOM	S224
AUTOMATIC BACK DOOR CLOSE SWITC	<b>^</b> LL 204	Symptom Table	224
		DOOD DOES NOT LOOK WIND OOK WITH	
Component Function Check		DOOR DOES NOT LOCK/UNLOCK WITH	
Diagnosis Procedure		DOOR LOCK AND UNLOCK SWITCH	225
Component Inspection	202	ALL DOOR	225
<b>AUTOMATIC BACK DOOR MAIN SWITCH</b>	203	ALL DOOR : Description	
Component Function Check			
Diagnosis Procedure		ALL DOOR : Diagnosis Procedure	∠∠5
Component Inspection		DRIVER SIDE	225
Component inoposition	207	DRIVER SIDE : Description	
<b>AUTOMATIC BACK DOOR SWITCH</b>	205	DRIVER SIDE : Diagnosis Procedure	
Component Function Check	205		
Diagnosis Procedure		PASSENGER SIDE	
Component Inspection		PASSENGER SIDE : Description	226

PASSENGER SIDE : Diagnosis Procedure 226	IGN OFF INTERLOCK DOOR UNLOCK
REAR LH226	FUNCTION DOES NOT OPERATE238
REAR LH: Description226	Diagnosis Procedure238
REAR LH : Diagnosis Procedure226	P RANGE INTERLOCK DOOR LOCK/UN-
REAR RH226	LOCK FUNCTION DOES NOT OPERATE 239
REAR RH : Description226	Diagnosis Procedure239
REAR RH : Diagnosis Procedure226	HAZARD AND HORN REMINDER DOES
DOOR DOES NOT LOCK/UNLOCK WITH	NOT OPERATE240
DOOR KEY CYLINDER OPERATION228	Diagnosis Procedure240
Diagnosis Procedure228	HAZARD AND BUZZER REMINDER DOES
DOOR DOES NOT LOCK/UNLOCK WITH	NOT OPERATE241
DOOR REQUEST SWITCH229	Diagnosis Procedure241
DOOK (\L&OLOT OW) OII	KEY DEMINDED FUNCTION DOES NOT OR
ALL DOOR REQUEST SWITCHES229	KEY REMINDER FUNCTION DOES NOT OP-
ALL DOOR REQUEST SWITCHES: Description. 229	ERATE242
ALL DOOR REQUEST SWITCHES : Diagnosis Procedure	Diagnosis Procedure242
1 100Guule	WELCOME LIGHT FUNCTION DOES NOT
DRIVER SIDE DOOR REQUEST SWITCH230	OPERATE243
DRIVER SIDE DOOR REQUEST SWITCH : Description	Diagnosis Procedure243
DRIVER SIDE DOOR REQUEST SWITCH : Diag-	OFF POSITION WARNING DOES NOT OP-
nosis Procedure230	ERATE
PASSENGER SIDE DOOR REQUEST SWITCH 230	Diagnosis Procedure245
PASSENGER SIDE DOOR REQUEST SWITCH 230	ACC WARNING DOES NOT OPERATE 246
Description	Description
PASSENGER SIDE DOOR REQUEST SWITCH:	Diagnosis Procedure246
Diagnosis Procedure230	
	TAKE AWAY WARNING DOES NOT OPER-
BACK DOOR REQUEST SWITCH230	ATE247
BACK DOOR REQUEST SWITCH: Description 230	Description247
BACK DOOR REQUEST SWITCH : Diagnosis	Diagnosis Procedure247
Procedure	KEY ID WARNING DOES NOT OPERATE 249
DOOR DOES NOT LOCK/UNLOCK WITH IN-	
TELLIGENT KEY232	Description
Diagnosis Procedure	Diagnosis Procedure249
Diagnosis Frocedule232	INTELLIGENT KEY LOW BATTERY WARN-
FUEL LID LOCK ACTUATOR DOES NOT OP-	ING DOES NOT OPERATE 250
ERATE233	Description
Diagnosis Procedure	Diagnosis Procedure250
·	
IGNITION POSITION WARNING FUNCTION	DOOR LOCK OPERATION WARNING DOES
DOES NOT OPERATE234	NOT OPERATE251
Diagnosis Procedure	Diagnosis Procedure251
SELECTIVE UNLOCK FUNCTION DOES	AUTOMATIC BACK DOOR OPERATION
NOT OPERATE235	DOES NOT OPERATE252
Diagnosis Procedure	ALL SWITCHES252
AUTO DOOR LOCK OPERATION DOES NOT	ALL SWITCHES: Description252
OPERATE236	ALL SWITCHES: Diagnosis Procedure252
Diagnosis Procedure	•
	AUTOMATIC BACK DOOR SWITCH253
VEHICLE SPEED SENSING AUTO LOCK	AUTOMATIC BACK DOOR SWITCH : Descrip-
OPERATION DOES NOT OPERATE237	tion253
Diagnosis Procedure	

AUTOMATIC BACK DOOR SWITCH : Diagnosis Procedure253	HOOD Exploded View	
AUTOMATIC BACK DOOR CLOSE SWITCH253 AUTOMATIC BACK DOOR CLOSE SWITCH:	HOOD ASSEMBLYHOOD ASSEMBLY : Removal and Installation	
Description253	HOOD ASSEMBLY: Removal and installation	
AUTOMATIC BACK DOOR CLOSE SWITCH : Di-	HOOD ASSEMBLY . Adjustifient	. 270
agnosis Procedure253	HOOD HINGE	. 271
•	HOOD HINGE: Removal and Installation	. 272
INTELLIGENT KEY254	HOOD STAV	272
INTELLIGENT KEY: Description254	HOOD STAY HOOD STAY : Removal and Installation	
INTELLIGENT KEY: Diagnosis Procedure254	HOOD STAY: Removal and installation	
BACK DOOR OPENER SWITCH254		
BACK DOOR OPENER SWITCH: Description254	RADIATOR CORE SUPPORT	
BACK DOOR OPENER SWITCH: Diagnosis Pro-	Exploded View	
cedure254	Removal and Installation	. 274
OPEN/CLOSURE FUNCTION255	FRONT FENDER	276
OPEN/CLOSURE FUNCTION: Description255	Exploded View	
OPEN/CLOSURE FUNCTION : Diagnosis Proce-	·	
dure255	FRONT FENDER	
	FRONT FENDER : Removal and Installation	. 276
OPEN FUNCTION256	FRONT DOOR	278
OPEN FUNCTION : Description256	Exploded View	
OPEN FUNCTION : Diagnosis Procedure256	·	
CLOSURE FUNCTION256	DOOR ASSEMBLY	
CLOSURE FUNCTION : Description256	DOOR ASSEMBLY : Removal and Installation	
CLOSURE FUNCTION : Diagnosis Procedure257	DOOR ASSEMBLY : Adjustment	. 279
ALITOMATIC DACK DOOD WADNING DOCO	DOOR STRIKER	280
AUTOMATIC BACK DOOR WARNING DOES	DOOR STRIKER : Removal and Installation	
NOT OPERATE258	DOOR STRIKER : Adjustment	
BUZZER258	DOOR HINGE	200
BUZZER: Description258	DOOR HINGE : Removal and Installation	
BUZZER : Diagnosis Procedure258		
HAZARD WARNING LAMP258	DOOR CHECK LINK	
HAZARD WARNING LAMP : Description258	DOOR CHECK LINK : Removal and Installation	. 281
HAZARD WARNING LAMP : Diagnosis Proce-	REAR DOOR	202
dure	Exploded View	
	Exploded view	. 202
AUTOMATIC BACK DOOR FUNCTIONS DO	DOOR ASSEMBLY	
NOT CANCEL 260	DOOR ASSEMBLY: Removal and Installation	
Diagnosis Procedure260	DOOR ASSEMBLY : Adjustment	. 283
AUTOMATIC BACK DOOR ANTI-PINCH	DOOR STRIKER	. 284
FUNCTION DOES NOT OPERATE 261	DOOR STRIKER : Removal and Installation	
Diagnosis Procedure261	DOOR STRIKER : Adjustment	
INTEGRATER HOMELING TRANSMITTER	DOOR HINGE	204
INTEGRATED HOMELINK TRANSMITTER	DOOR HINGE : Removal and Installation	
DOES NOT OPERATE262	DOOR HINGE . Removal and installation	. 204
Diagnosis Procedure262	DOOR CHECK LINK	. 285
SQUEAK AND RATTLE TROUBLE DIAG-	DOOR CHECK LINK : Removal and Installation	. 285
NOSES	BACK DOOR	200
Work Flow263	BACK DOOR	
Generic Squeak and Rattle Troubleshooting264	Exploded View	. ∠ၓၒ
Diagnostic Worksheet267	BACK DOOR ASSEMBLY	. 286
•	BACK DOOR ASSEMBLY : Removal and Installa	
REMOVAL AND INSTALLATION269	tion	. 286

BACK DOOR ASSEMBLY : Adjustment288	EMERGENCY LEVER : Unlock procedures303
BACK DOOR STRIKER289 BACK DOOR STRIKER : Removal and Installa-	FUEL FILLER LID OPENER304
tion	Exploded View304 Removal and Installation304
BACK DOOR STRIKER : Adjustment289	KEY CYLINDER
BACK DOOR HINGE290	KEY CYLINDER306
BACK DOOR HINGE : Removal and Installation 290	GLOVE BOX LID KEY CYLINDER306 GLOVE BOX LID KEY CYLINDER : Removal and
SPINDLE UNIT290 SPINDLE UNIT : Removal and Installation290	Installation
	DOOR SWITCH
BACK DOOR WEATHER-STRIP290  BACK DOOR WEATHER-STRIP : Removal and	Removal and Installation307
Installation	DOOR REQUEST SWITCH308
HOOD LOCK292	DRIVER SIDE308
Exploded View	DRIVER SIDE : Removal and Installation308
HOOD LOCK292	PASSENGER SIDE308
HOOD LOCK: Removal and Installation292	PASSENGER SIDE : Removal and Installation308
HOOD LOCK : Inspection292	BACK DOOR308
SECONDARY LATCH293	BACK DOOR : Removal and Installation308
SECONDARY LATCH: Removal and Installation. 293	INSIDE KEY ANTENNA309
HOOD LOCK RELEASE CABLE293	INSTRUMENT CENTER309
HOOD LOCK RELEASE CABLE : Removal and Installation293	INSTRUMENT CENTER : Removal and Installa-
FRONT DOOR LOCK295	
Exploded View	CONSOLE :
DOOR LOCK295	LUCACE BOOM
DOOR LOCK : Removal and Installation295	LUGGAGE ROOM : Removal and Installation309
INSIDE HANDLE296 INSIDE HANDLE : Removal and Installation296	OUTSIDE KEY ANTENNA310 DLK
OUTSIDE HANDLE296	DRIVER SIDE310
OUTSIDE HANDLE : Removal and Installation 296	DRIVER SIDE : Removal and Installation310
REAR DOOR LOCK299	PASSENGER SIDE310
Exploded View	PASSENGER SIDE : Removal and Installation310
DOOR LOCK299	REAR BUMPER310
DOOR LOCK : Removal and Installation299	REAR BUMPER : Removal and Installation310
INSIDE HANDLE299	INTELLIGENT KEY WARNING BUZZER 311
INSIDE HANDLE : Removal and Installation 299	Removal and Installation311
OUTSIDE HANDLE300	BACK DOOR WARNING CHIME312
OUTSIDE HANDLE : Removal and Installation 300	Removal and Installation312
BACK DOOR LOCK302	REMOTE KEYLESS ENTRY RECEIVER 313
Exploded View302	Removal and Installation313
DOOR LOCK302	INTELLIGENT KEY BATTERY314
DOOR LOCK : Removal and Installation302	Removal and Installation314
TOUCH SENSOR302	AUTOMATIC BACK DOOR CONTROL MOD-
TOUCH SENSOR : Removal and Installation 303	ULE
EMERGENCY LEVER303	Removal and Installation315

<b>AUTOMATIC BACK DOOR MAIN SWITCH 316</b>	Removal and Installation317
Removal and Installation316	AUTOMATIC BACK DOOR CLOSE SWITCH.318
AUTOMATIC BACK DOOR SWITCH 317	Removal and Installation

### **PRECAUTION**

#### **PRECAUTIONS**

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRF-TFNSIONER"

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

#### **WARNING:**

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the SR section.
- Do not use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

- When working near the Airbag Diagnosis Sensor Unit or other Airbag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery and wait at least three minutes before performing any service.

Precaution for Servicing Doors and Locks

#### **WARNING:**

Radio waves could adversely affect electric medical equipment. Those who use a pacemaker should contact the electric medical equipment manufacturer for the possible influences before use.

- · After removing and installing the opening/closing parts, be sure to carry out fitting adjustments to check their operation.
- Check the lubrication level, damage, and wear of each part. If necessary, grease or replace it.
- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:
- Water soluble dirt:
- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.
- Oily dirt:
- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

INFOID:0000000009726774

Н

Α

В

D

DLK

N

Р

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.

### **PRECAUTIONS**

<	Р	R	F	$\cap$	Δ	П	П	ГΙ	(	)	N	>

- For genuine leather seats, use a genuine leather seat cleaner.

# **PREPARATION**

### **PREPARATION**

Special Service Tool

INFOID:0000000009132927

Α

В

С

 $\mathsf{D}$ 

Е

F

G

Н

Tool number (Kent-Moore No.) Tool name		Description
 (J-39570) Chassis Ear	SIIAO993E	Locating the noise
— (J-50397) INFINITI Squeak and Rat- tle Kit	ALJIA1232ZZ	Repairing the cause of noise
— (J-43241) Remote Keyless Entry Tester	Big of the state o	Used to test keyfobs
— (J-50190) Signal Tech II	ALEIA0131ZZ	Activate and display TPMS transmitter IDs     Display tire pressure reported by the TPMS transmitter     Read TPMS DTCs     Register TPMS transmitter IDs     Check Intelligent Key relative signal strength     Confirm vehicle Intelligent Key antenna signal strength
— (J-46534) Trim Tool Set		Removing trim components

DLK

J

L

M

Ν

0

### **PREPARATION**

### < PREPARATION >

### Commercial Service Tool

INFOID:0000000009132928

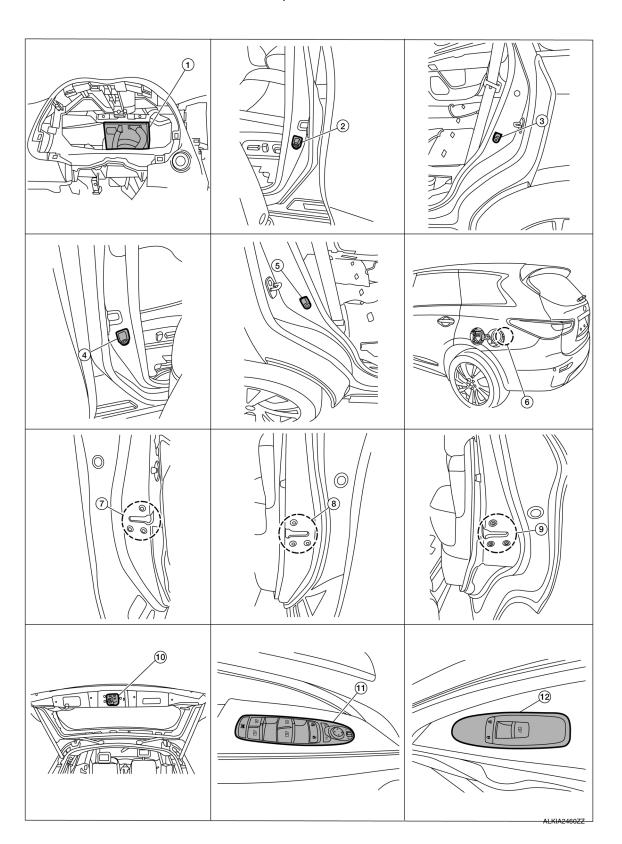
(Kent-Moore No.) Tool name		Description
(J-39565) Engine Ear	SIIA0995E	Locating the noise
Power Tool	PIIB1407E	Loosening nuts, screws and bolts

### SYSTEM DESCRIPTION

COMPONENT PARTS
POWER DOOR LOCK SYSTEM

POWER DOOR LOCK SYSTEM: Component Parts Location

INFOID:0000000009132929



С

Α

В

D

Е

F

G

Н

J

DLK

M

L

N

0

#### **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

1.	BCM (view with combination meter removed)	2.	Front door switch LH	3.	Rear door switch LH
4.	Front door switch RH	5.	Rear door switch RH	6.	Fuel lid door lock actuator (view with luggage side lower finisher LH re- moved)
7.	Front door lock assembly LH	8.	Front door lock actuator RH	9.	Rear door lock actuator RH (LH similar)
10.	Back door lock assembly	11.	Main power window and door lock/ unlock switch	12.	Power window and door lock/unlock switch RH

### POWER DOOR LOCK SYSTEM : Component Description

INFOID:0000000009132930

Item	Function
BCM	Controls the door lock system
Door switch	Inputs door open/close condition to BCM
Door lock and unlock switch	Detects if door lock and unlock switch is press/release     Integrated in the main power window and door lock/unlock switch and power window and door lock/unlock switch (RH)
Door lock actuator	Output lock/unlock signal from BCM and locks/unlocks each door
Fuel lid door lock actuator	Output lock/unlock signal from BCM and locks/unlocks fuel filler lid

### INTELLIGENT KEY SYSTEM

### **INTELLIGENT KEY SYSTEM: Component Parts Location**

INFOID:0000000009132931

Α

В

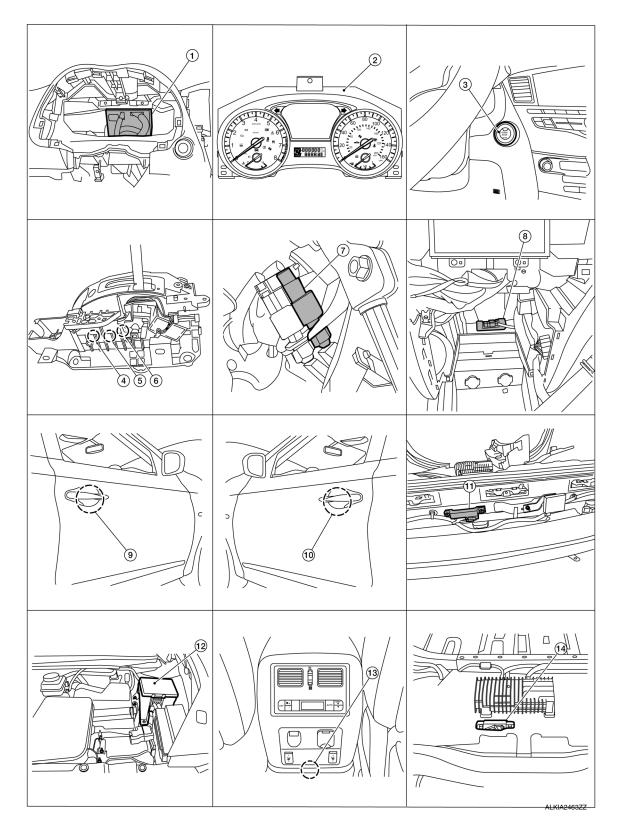
 $\mathsf{D}$ 

Е

F

G

Н



- BCM (view with combination meter removed)
- 4. CVT shift selector [park position switch (shift selector)]
- 2. Combination meter
- CVT shift selector (shift lock solenoid)
- 3. Push-button ignition switch
- 6. CVT shift selector (park position switch)

DLK

J

L

M

Ν

0

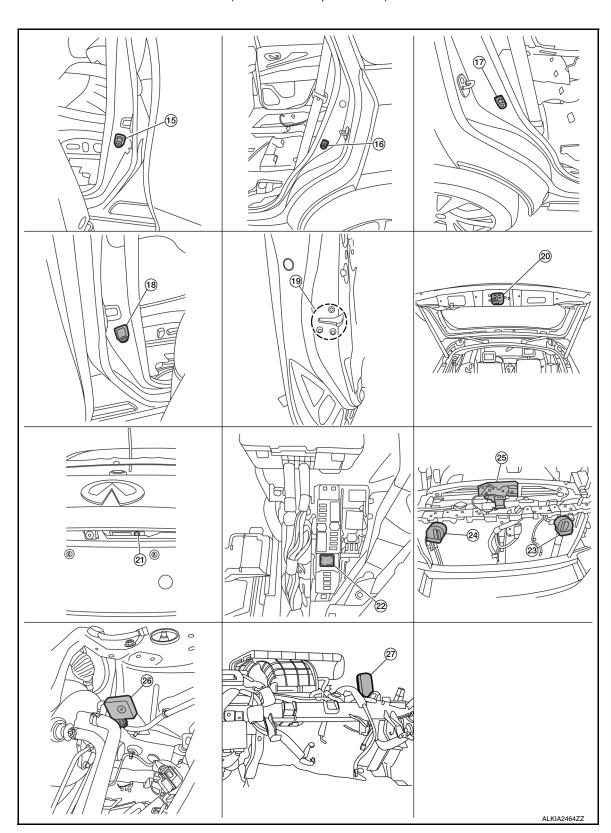
Р

Revision: August 2013 DLK-15 2014 QX60

- Stop lamp switch
- Inside key antenna (instrument cen- 9. ter)
- Front outside handle RH (RH request switch and outside key antenna passenger side)

- switch and outside key antenna drivers side)
- 10. Front outside handle LH (LH request 11. Outside key antenna (rear bumper) 12. IPDM E/R (view with rear bumper cover removed)

- 13. Inside key antenna (console)
- 14. Inside key antenna (luggage room) (view with rear carpet removed)



#### **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

- 15. Front door switch LH 18. Front door switch RH 24. Horn (high)
- 16. Rear door switch LH 19. Front door lock assembly LH

22. Horn relay

25. Hood switch

- 17. Rear door switch RH
- 20. Back door lock assembly
- 23. Horn (low)
  - 26. Intelligent Key warning buzzer

- 21. Back door opener switch
- 27. Remote keyless entry receiver (view with instrument panel removed)

### INTELLIGENT KEY SYSTEM: Component Description

INFOID:0000000009132932

Α

В

D

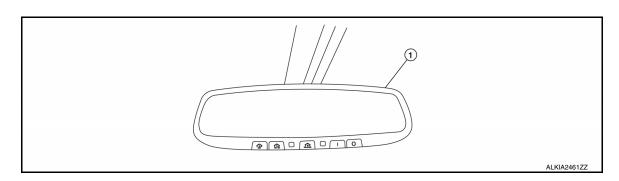
Е

Н

Item	Function
BCM	Controls the Intelligent Key system.
Back door opener switch	Inputs back door open/close condition to BCM.
Door lock actuator	Output lock/unlock signal from BCM and locks/unlocks each door.
Stop lamp switch	Inputs the brake pedal position condition to BCM.
Push-button ignition switch	Inputs the push-button ignition switch ON/OFF condition to BCM.
Hood switch	Inputs hood open/close condition to BCM.
Door switch	Inputs door open/close condition to BCM.
Remote keyless entry receiver	Receives lock/unlock signal from the Intelligent Key, and then transmits to BCM.
Request switch	Inputs lock/unlock operation to BCM.
Intelligent Key	Transmits button operation to remote keyless entry receiver.
Outside key antenna	Detects if Intelligent Key is outside the vehicle.
Inside key antenna	Detects if Intelligent Key is inside the vehicle.
Combination meter	Display, buzzer (combination meter) and KEY warning lamp are installed to combination meter.
Intelligent Key warning buzzer	Warns the user of the lock/unlock condition and inappropriate operations with the buzzer sound.

#### INTEGRATED HOMELINK TRANSMITTER

### INTEGRATED HOMELINK TRANSMITTER: Component Parts Location



Auto anti-dazzling inside mirror

### INTEGRATED HOMELINK TRANSMITTER: Component Description

INFOID:0000000000	32934

Item	Function
Homelink universal transceiver	A maximum of 3 radio signals can be stored and transmitted to operate the garage door, etc.

#### AUTOMATIC BACK DOOR SYSTEM

**DLK-17 Revision: August 2013** 2014 QX60 DLK

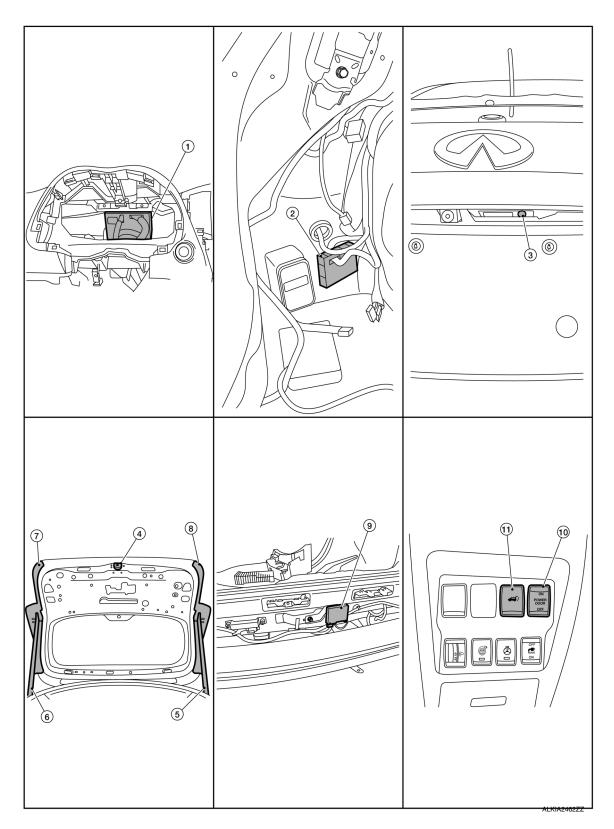
M

Ν

0

## AUTOMATIC BACK DOOR SYSTEM : Component Parts Location

INFOID:0000000009132935



- BCM (view with combination meter removed)
- 4. Back door lock assembly
- Automatic back door control module 3. (view with luggage side lower finisher removed)
- 5. Spindle RH

- Back door opener switch
- 6. Spindle LH

#### **COMPONENT PARTS**

#### < SYSTEM DESCRIPTION >

- 7. Touch sensor LH
- 8. Touch sensor RH
- Back door warning chime (view with rear bumper cover removed)

- 10. Automatic back door main switch
- 11. Automatic back door switch

### AUTOMATIC BACK DOOR SYSTEM : Component Description

INFOID:0000000009132936	
-------------------------	--

Α

В

 $\mathsf{D}$ 

Е

F

G

Н

Item	Function
Automatic back door control module	Controls the automatic back door system.
BCM	Transmits and receives signals to the automatic back door control module.
Combination meter	Transmits vehicle speed signal to CAN communication line.
Automatic back door warning chime	Warns the user of the automatic back door condition and inappropriate operations with the chime sounds.
Touch sensor LH/RH	During back door close operation, the touch sensor detects any trapped foreign material.
Back door opener switch	Detects if back door opener switch is press/release.
Back door request switch	Detects if back door request switch is press/release.
Automatic back door switch	Detects if automatic back door switch is press/release.
Automatic back door main switch	Detects if automatic back door main switch is press/release.
Automatic back door close switch	Detects if automatic back door close switch is press/release.
Back door lock assembly	<ul> <li>Back door closure motor, half latch switch, open switch, close switch and back door switch are installed:</li> <li>Closure motor: Inputs open/close signal from automatic back door control module and activates the back door auto closure operation.</li> <li>Half latch switch: Starts the closure motor close operation.</li> <li>Open switch: Stops the closure motor open operation.</li> <li>Close switch: Stops the closure motor close operation.</li> <li>Back door switch: Inputs back door open/ close condition to BCM.</li> </ul>
Spindle unit	<ul> <li>Encoder and spindle motor are installed:</li> <li>Encoder: Automatic back door control module receives the pulse signals from encoders A and B that occurred due to synchronization with the back door operation. The automatic back door control module calculates the back door position, operation direction, and operation speed according to the received pulse signals.</li> <li>Spindle motor: Inputs open/close signal from automatic back door control module and activates the automatic back door open/close operation.</li> </ul>

DLK

J

L

M

Ν

0

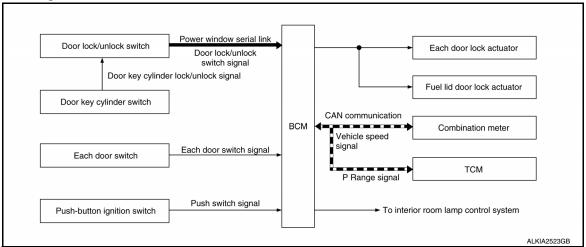
#### SYSTEM (POWER DOOR LOCK SYSTEM)

#### < SYSTEM DESCRIPTION >

### SYSTEM (POWER DOOR LOCK SYSTEM)

#### System Diagram

INFOID:0000000009132937



### System Description

INFOID:0000000009132938

#### DOOR LOCK FUNCTION

Door Lock and Unlock Switch

- The door lock and unlock switch (driver side) is built into power window main switch.
- The door lock and unlock switch (passenger side) is built into front power window switch (passenger side).
- Interlocked with the locking operation of door lock and unlock switch, door lock actuators of all doors and fuel lid lock actuator are locked.
- Interlocked with the unlocking operation of door lock and unlock switch, door lock actuators of all doors actuator and fuel lid lock actuator are unlocked.

#### Door Key Cylinder Switch

- With the mechanical key inserted in the door key cylinder on driver side, turning it to lock position locks door lock actuator of all doors and fuel lid lock actuator.
- With the mechanical key inserted in the door key cylinder on driver side, turning it to unlock position once unlocks the driver side door, turning it to unlock position again within 60 seconds after the first unlock operation unlocks all of the other doors actuator and fuel lid lock actuator. (SELECTIVE UNLOCK OPERATION)

Selective unlock operation mode can be changed using CONSULT.

Refer to BCS-14, "DOOR LOCK: CONSULT Function (BCM - DOOR LOCK)".

#### DOOR KEY CYLINDER SWITCH POWER WINDOW FUNCTION

Driver side door key cylinder LOCK/UNLOCK operation can activate power window. Refer to <a href="PWC-7">PWC-7</a>, "System <a href="Description"</a>.

#### IGNITION POSITION WARNING FUNCTION

When door lock and unlock switch are operated while driver side door is open and ignition position is ACC or ON, door locks once but immediately unlocks.

#### INTERIOR ROOM LAMP CONTROL FUNCTION

Interior room lamp is controlled according to door lock/unlock state, refer to <a href="INL-7">INL-7</a>, "INTERIOR ROOM LAMP CONTROL SYSTEM: System Description".

#### AUTOMATIC DOOR LOCK/UNLOCK FUNCTION (LOCK OPERATION)

The interlock door lock function is the function that locks all doors linked with the vehicle speed or shift position. It has 2 types as per the following items.

#### Vehicle Speed Sensing Auto Door Lock

All doors are locked when the vehicle speed reaches 24 km/h (15 MPH) or more.

BCM outputs the lock signal to all door lock actuators when it detects that the ignition switch is turned ON, all doors are closed and the vehicle speed received from the combination meter via CAN communication becomes 24 km/h (15 MPH) or more.

#### SYSTEM (POWER DOOR LOCK SYSTEM)

#### < SYSTEM DESCRIPTION >

P Range Interlock Door Lock

All doors are locked when shifting the selector lever from the P (Park) position to any position other than P (Park).

BCM outputs the lock signal to all door lock actuators when it detects that the ignition switch is in the ON position, all doors are closed and the shift signal received from the TCM via CAN communication shifted from the P (Park) position to any position other than P (Park).

Setting change of Automatic Door Lock/Unlock Function

The lock operation setting of the automatic door lock/unlock function can be changed.

#### (P) With CONSULT

The ON/OFF switching of the automatic door lock function and the type selection of the automatic door lock/ unlock function can be performed at the WORK SUPPORT setting of CONSULT.

#### Without CONSULT

The automatic door lock function ON/OFF can be switched by performing the following operation.

- Close all doors (door switch OFF)
- Ignition switch: OFF→ON
- Press and hold the door lock and unlock switch for 5 seconds or more in the lock direction within 20 seconds after turning the ignition switch ON.
- The switching complete when the hazard lamp blinks.

 $OFF \rightarrow ON$ : 2 blinks  $ON \rightarrow OFF$ : 1 blink

#### AUTOMATIC DOOR LOCK/UNLOCK FUNCTION (UNLOCK OPERATION)

The automatic door lock/unlock function is the function that unlocks all doors linked with the key position or shift position. It has 2 types as per the following items.

IGN OFF Interlock Door Unlock

All doors are unlocked when the power supply position is changed from ON to OFF.

BCM outputs the unlock signal to all door lock actuators when it detects that the power supply position is changed from ignition switch ON to OFF.

#### P Range Interlock Door Unlock

All doors are unlocked when shifting the selector lever from any position other than the P to P position.

BCM outputs the unlock signal to all door lock actuators when it detects that the ignition switch is in the ON position and the shift signal received from TCM via CAN communication is shifted from any position other than the P to P position.

Setting change of Automatic Door Lock/Unlock Function

The unlock operation setting of the automatic door lock/unlock function can be changed.

#### (P) With CONSULT

The ON/OFF switching of the automatic door lock/unlock function and the type selection of the automatic door lock/unlock function can be performed at the WORK SUPPORT setting of CONSULT.

#### Without CONSULT

The automatic door lock/unlock function ON/OFF can be switched by performing the following operation.

- 1. Close all doors (door switch OFF)
- 2. Ignition switch: OFF→ON
- Press and hold the door lock and unlock switch for 5 seconds or more in the unlock direction within 20 seconds after turning the power supply position ON.
- The switching is complete when the hazard lamp blinks.

 $OFF \rightarrow ON$ : 2 blinks  $ON \rightarrow OFF$ : 1 blink

DLK

J

В

D

Е

L

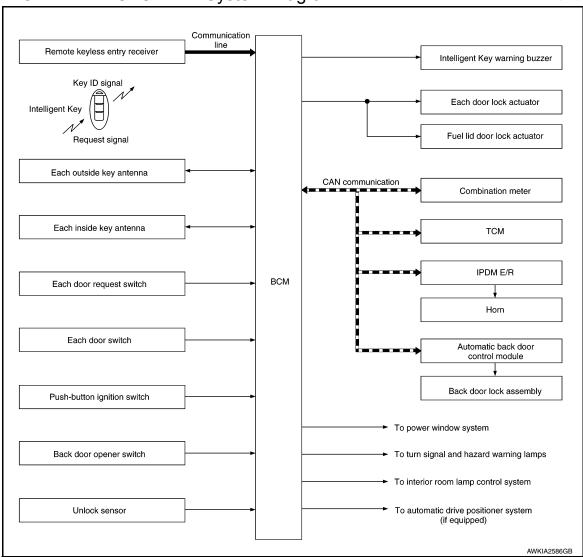
M

Ν

# SYSTEM (INTELLIGENT KEY SYSTEM) INTELLIGENT KEY SYSTEM

### INTELLIGENT KEY SYSTEM: System Diagram

INFOID:0000000009132939



### INTELLIGENT KEY SYSTEM: System Description

INFOID:0000000009132940

 The Intelligent Key system is a system that makes it possible to lock and unlock the door locks (door lock/ unlock function) by carrying the Intelligent Key, which operates based on the results of electronic ID verification using two-way communication between the Intelligent Key and the vehicle (BCM).

#### The driver should always carry the Intelligent Key.

- The settings for each function can be changed with CONSULT.
- If an Intelligent Key is lost, a new Intelligent Key can be registered. A maximum of 4 Intelligent Keys can be registered.
- It is possible to perform a diagnosis on the system and register an Intelligent Key with CONSULT.

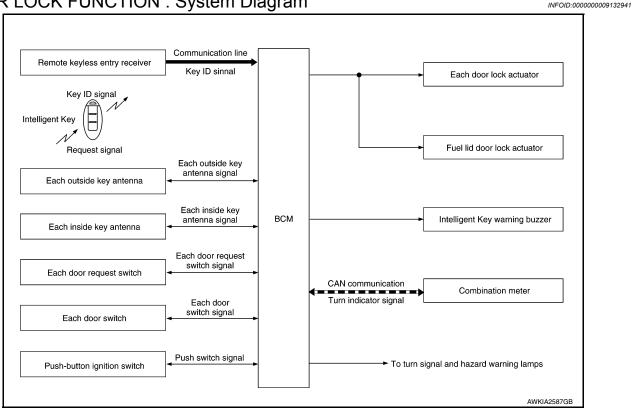
Function	Description	Refer
Door lock	Lock/unlock can be performed by pressing the request switch.	DLK-23
Back door opener	The back door can be opened by carrying the Intelligent Key and pressing the back door opener switch.	DLK-26
Remote keyless entry	Lock/unlock can be performed by pressing the remote controller button of the Intelligent Key.	DLK-27

#### < SYSTEM DESCRIPTION >

Function	Description		Refer
Key reminder	The key reminder buzzer sounds a warning if the door is locked with the key left inside the vehicle.		DLK-30
Welcome light	When the Intelligent Key is carried, and vehicle doors are approached, the BCM illuminates interior room lamps and operates heart beat operation of the push-button ignition switch.		DLK-33
Warning	If an action that does not meet the operating condition of the Intell tem is taken, the buzzer sounds to inform the driver.	ligent Key sys-	DLK-34
Engine start	The engine can be turned on while carrying the Intelligent Key.		SEC-9
Interior room lamp control	room lamp control Interior room lamp is controlled according to door lock/unlock state.		INL-7
Power window	Power window can be operated by Intelligent Key button operation.		PWC-7
Panic alarm	When Intelligent Key panic alarm button is pressed, horn sounds.		SEC-14
	Setting of auto driving position can be automatically set, according to key ID of Intelligent Key to the position that is registered in advance.	Automatic drive posi- tioner	ADP-11
Intelligent Key interlock	Setting of air conditioning system can be set according to key ID of Intelligent Key to the setting value that is set before turning ignition switch OFF.	Air condi- tioning sys- tem	<u>HAC-19</u>
	Setting of multi AV system can be set according to key ID of Intelligent Key to the setting value that is set before turning ignition switch OFF.	Multi AV sys- tem	AV-23

### DOOR LOCK FUNCTION

DOOR LOCK FUNCTION: System Diagram



### DOOR LOCK FUNCTION: System Description

INFOID:0000000009132942

Α

В

D

Е

F

Н

DLK

Ν

Р

Only when pressing the door request switch it is possible to lock and unlock the door by carrying the Intelligent Key.

#### **OPERATION DESCRIPTION**

Revision: August 2013 DLK-23 2014 QX60

#### < SYSTEM DESCRIPTION >

- When the BCM detects that each door request switch is pressed, it activates the outside key antenna and inside key antenna corresponding to the pressed door request switch and transmits the request signal to the Intelligent Key. Then check that the Intelligent Key is near the door.
- If the Intelligent Key is within the outside key antenna detection area, it receives the request signal and transmits the key ID signal to the BCM via remote keyless entry receiver.
- BCM receives the key ID signal and compares it with the registered key ID.
- BCM locks/unlocks each doors (except back door).
- BCM sounds Intelligent Key warning buzzer (lock: 2 times, unlock: 1 time) and blinks hazard warning lamps (lock: 2 times, unlock: 1 time) at the same time as a reminder.

#### OPERATION CONDITION

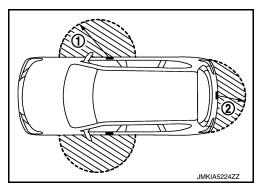
If the following conditions are satisfied, door lock/unlock operation is performed if the door request switch is operated.

Each door request switch operation	Operation condition
Lock	<ul> <li>All doors are closed.</li> <li>Panic alarm is not activated.</li> <li>P (Park) position warning is not activated.</li> <li>Intelligent Key is outside the vehicle.</li> <li>Intelligent Key is within outside key antenna detection area*.</li> </ul>
Unlock	<ul> <li>Panic alarm is not activated.</li> <li>Intelligent Key is outside the vehicle.</li> <li>Intelligent Key is within outside key antenna detection area*.</li> </ul>

<sup>\*:</sup> Even with a registered Intelligent Key remaining inside the vehicle, door locks can be locked/unlocked from outside of the vehicle with a spare Intelligent Key as long as key IDs are different.

#### **OUTSIDE KEY ANTENNA DETECTION AREA**

The outside key antenna detection area of door lock/unlock function is in the range of approximately 80 cm (31.50 in) surrounding the driver, passenger door handles (1) and back door handle (2). However, this operating range depends on the ambient conditions.



#### SELECTIVE UNLOCK FUNCTION

#### Lock Operation

When a LOCK signal is sent from door request switch (driver side, passenger side, back door), all doors and fuel filler lid are locked.

#### **Unlock Operation**

- When an UNLOCK signal from driver side door request switch is transmitted, driver side door and fuel filler lid are unlocked. When another UNLOCK signal is transmitted within 60 seconds, all other doors (except back door) are unlocked.
- When an UNLOCK signal from passenger side door request switch is transmitted, passenger side door is unlocked. When another UNLOCK signal is transmitted within 60 seconds, all other doors (except back door) and fuel filler lid are unlocked.
- When an UNLOCK signal from back door request switch is transmitted, back door open permission is set.
   When another UNLOCK signal is transmitted within 60 seconds, all doors (except back door) and fuel filler lid are unlocked.

#### **How To Change Selective Unlock Operation Mode**

Selective unlock operation mode can be changed using CONSULT.

Refer to BCS-20, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)".

#### HAZARD AND BUZZER REMINDER FUNCTION

During lock or unlock operation by each door request switch, the hazard warning lamps and Intelligent Key warning buzzer blinks or honks as a reminder.

#### < SYSTEM DESCRIPTION >

Operating Function Of Hazard And buzzer Reminder

Operation	Hazard warning lamp blinks	Intelligent Key warning buzzer honks
Unlock	Once	Once
Lock	Twice	Twice

Hazard and buzzer reminder does not operate in the following conditions.

- Ignition switch position is ON.
- Door is open (only lock operation).

#### **How To Change Hazard And Buzzer Reminder Mode**

Hazard and buzzer reminder mode can be changed using CONSULT.

Refer to BCS-20, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)".

#### AUTO DOOR LOCK FUNCTION

After door is unlocked by door request switch operation and if 60 seconds or more passes without performing the following operation, all doors and fuel filler lid are automatically locked. However, operation check function does not activate.

Operating condition	Door switch is ON (door is open).     Door is locked.
, •	Push switch is pressed.

#### **How To Change Auto Door Lock Operation Mode**

Auto door lock operation mode can be changed using CONSULT.

Refer to BCS-20, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)".

#### LIST OF OPERATION RELATED PARTS

Parts marked with  $\times$  are the parts related to operation.

Function	Intelligent Key	Remote keyless entry receiver	Door switch	Door request switch	Door lock actuator	Fuel lid lock actuator	Inside key antenna	Outside key antenna	CAN communication system	BCM	Hazard warning lamp	Intelligent Key warning buzzer	Push-button ignition switch
Door lock/unlock function	×	×	×	×	×	×	×	×		×			
Hazard reminder function									×	×	×	×	
Selective unlock function	×			×	×	×	×	×		×			
Auto door lock function	×				×	×				×			×

#### **BACK DOOR OPEN FUNCTION**

N

Α

В

D

F

Н

0

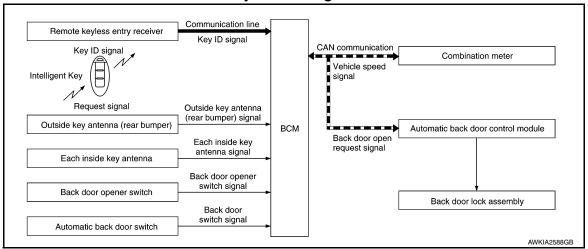
F

Revision: August 2013 DLK-25 2014 QX60

#### < SYSTEM DESCRIPTION >

#### BACK DOOR OPEN FUNCTION: System Diagram

INFOID:0000000009132943



#### BACK DOOR OPEN FUNCTION: System Description

INFOID:0000000009132944

This section describes the operation of the back door opener switch.

- The back door open function can open the back door by pressing the back door opener switch while carrying the Intelligent Key and all doors (except back door) are locked.
- The back door open function enables the back door to be opened by pressing back door opener switch after BCM transmits UNLOCK signal to each door.

#### **BACK DOOR OPEN**

While back door open in the permitted state, back door opens when back door opener switch is pressed after back door request switch is operated. Back door open also can be operated according to the following procedure

- When the BCM detects that back door opener switch is pressed, it activates the outside key antenna (rear bumper) and inside key antenna and transmits the request signal to the Intelligent Key and then, checks that the Intelligent Key is near the back door.
- If the Intelligent Key is within the outside key antenna detection area, it receives the request signal and transmits the key ID signal to the BCM via remote keyless entry receiver.
- BCM receives the key ID signal and compares it with the registered key ID.
- If the verification result is OK, BCM transmits the back door open request signal to automatic back door control module via CAN communication.
- Automatic back door control module transmits back door open request signal to back door lock assembly and back door is open.
- When the back door is open, automatic back door system performs waiting operation for next back door close operation.

The operation of then back door open is the same as the automatic back door system, refer to <a href="DLK-38">DLK-38</a>, <a href="System Description"</a>.

#### **OPERATION CONDITION**

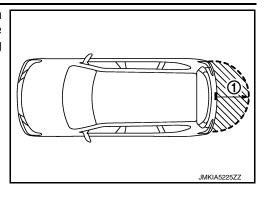
If the following conditions are not satisfied, back door open operation is not performed even if the back door opener switch is operated.

Back door opener switch operation	Operation condition
Back door open	<ul> <li>Vehicle speed is less than 5 km/h (3 MPH).</li> <li>Intelligent Key is within outside key antenna (rear bumper) detection area.</li> <li>Back door is closed.</li> <li>Panic alarm is not activated.</li> </ul>

#### **OUTSIDE KEY ANTENNA DETECTION AREA**

#### < SYSTEM DESCRIPTION >

The outside key antenna detection area of back door open function is in the range of approximately 80 cm (31.50 in) surrounding the outside key antenna (rear bumper) (1). However, this operating range depends on the ambient conditions.



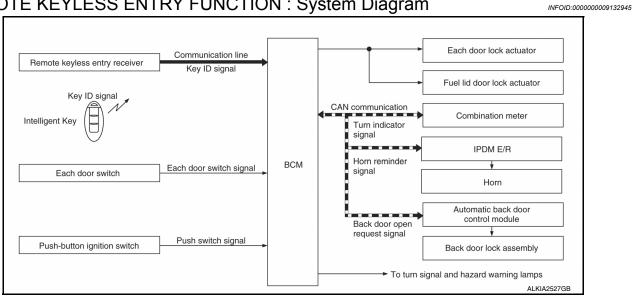
#### LIST OF OPERATION RELATED PARTS

Parts marked with  $\times$  are the parts related to operation.

Function	Intelligent Key	Remote keyless entry receiver	Back door opener switch	Back door lock assembly	Inside key antenna	Outside key antenna (rear bumper)	CAN communication system	BCM	Automatic back door control module
Back door open function	×	×	×	×	×	×	×	×	×

#### REMOTE KEYLESS ENTRY FUNCTION

REMOTE KEYLESS ENTRY FUNCTION: System Diagram



### REMOTE KEYLESS ENTRY FUNCTION: System Description

The Intelligent Key has the same functions as the remote control entry system. Therefore, it can be used in the same manner as the remote controller by operating the door lock/unlock button.

#### OPERATION

Remote keyless entry system controls operation of the following items.

- Door lock/unlock function
- · Selective unlock function

**Revision: August 2013** 

DLK

Α

В

D

Е

Н

Ν

Р

**DLK-27** 2014 QX60

#### < SYSTEM DESCRIPTION >

- · Auto door lock function
- Hazard and horn reminder function
- Automatic back door open/close function
- Remote engine start

#### OPERATION AREA

The remote engine start operating range is approximately 60 m (197 ft) from the vehicle.

#### REMOTE ENGINE START FUNCTION

- When the lock button and then the remote engine start button of the Intelligent Key are pressed within 5 seconds of each other, a start signal is transmitted from Intelligent Key to BCM via remote keyless entry receiver.
- When the BCM receives the remote engine start signal, it locks all doors and the fuel lid, flashes the hazard lamps and chirps the horn and the engine will then start.
- To exit the remote engine start mode from inside the vehicle, depress the brake pedal and press the pushbutton ignition switch at the same time.
- To cancel the remote engine start mode away from the vehicle, press the remote engine start button on the Intelligent Key.
- Once the vehicle has been started using the remote engine start feature it will remain running for 10 minutes. Extended run time can be added to the initial 10 minute running time by pressing the lock button and remote engine start button within 5 seconds of each other. This will add an aditional 10 minutes of running time. Extended time can only be added once, for a total run time of up to 20 minutes.

Remote engine start cancel operation	<ul> <li>Anti-theft alarm - unauthorized entry</li> <li>Maximum time for engine to run by remote start has been exceded.</li> <li>Hazard lamps are turned on.</li> <li>Push-button start button is pressed without the Intelligent Key in the vehicle.</li> <li>Push-button start button is pressed without depressing the brake pedal.</li> <li>The hood is opened while the remote engine start is engaged.</li> </ul>
--------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

#### DOOR LOCK/UNLOCK FUNCTION

- When door lock/unlock button of the Intelligent Key is pressed, lock signal or unlock signal transmitted from Intelligent Key to BCM via remote keyless entry receiver.
- When BCM receives the door lock/unlock signal, it operates all door lock actuators and fuel lid lock actuator, blinks the hazard lamp (lock: 2 time, unlock: 1 times) and horn chirp signal to IPDM E/R at the same time as a reminder.
- IPDM E/R honks horn (lock: 1 time) as a reminder.

#### OPERATION CONDITION

If the following condition are satisfied, remote keyless entry operation is performed when the Intelligent Key is operated.

Remote controller operation	Operation condition
Lock	<ul> <li>Panic alarm is not activated.</li> <li>P (Park) position warning is not activated.</li> </ul>
Unlock	Panic alarm is not activated.

#### SELECTIVE UNLOCK FUNCTION

- When a LOCK signal is transmitted from Intelligent Key, all doors and fuel filler lid are locked.
- When an UNLOCK signal is transmitted from Intelligent Key once, driver side door and fuel filler lid are unlocked.
- Then, if an UNLOCK signal is transmitted from Intelligent Key again within 60 seconds, all other doors (except for back door) are unlocked.

#### How to change selective unlock operation mode.

Selective unlock operation mode can be changed using CONSULT.

Refer to BCS-14, "DOOR LOCK: CONSULT Function (BCM - DOOR LOCK)".

#### AUTO DOOR LOCK FUNCTION

After door is unlocked by Intelligent Key button operation and if 60 seconds or more passes without performing the following operation, all doors are locked. However, operation check function does not activate.

#### < SYSTEM DESCRIPTION >

	Door switch is ON (door is open)
Operating condition	Door is locked
	Push switch is pressed

#### How to change auto door lock operation mode.

Auto door lock mode can be changed using CONSULT.

Refer to BCS-20, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)".

#### HAZARD AND HORN REMINDER FUNCTION

When doors are locked or unlocked by Intelligent Key, BCM blinks hazard warning lamps as a reminder. The hazard and horn reminder has a horn chirp mode (C mode) and a non-horn chirp mode (S mode).

Operating Function of Hazard and Horn Reminder

	C n	node	Sn	node
Intelligent Key operation	Lock	Unlock	Lock	Unlock
Hazard warning lamp blinks	Twice	Once	Twice	_
Horn sound	Once	_	_	_

Hazard and horn reminder does not operate in the following conditions.

- · Ignition switch position is ON.
- Door is open (only lock operation).

#### How to Change Hazard and Horn Reminder Mode

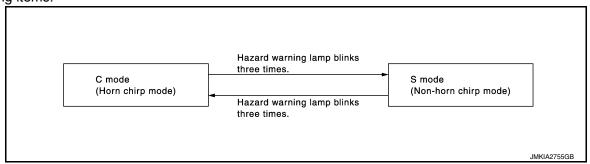
#### (II) With CONSULT

Hazard and horn reminder operation mode can be changed using CONSULT.

Refer to BCS-20, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)".

#### **Without CONSULT**

When LOCK and UNLOCK signals are sent from the Intelligent Key for more than 2 seconds at the same time, the hazard and horn reminder mode is changed and hazard warning lamp blinks and horn sounds as per the following items:



#### AUTOMATIC BACK DOOR OPEN/CLOSE FUNCTION

When back door button of Intelligent Key is pressed for 0.4 second or more, back door open automatically for detailed description, refer to <u>DLK-38</u>, "System <u>Description</u>".

#### LIST OF OPERATION RELATED PARTS

Parts marked with  $\times$  are the parts related to operation.

DLK

Α

В

D

Е

Н

L

M

Ν

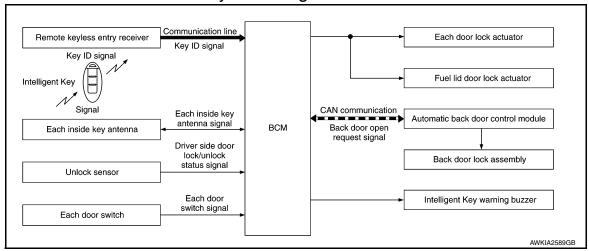
U

Function	Intelligent Key	Door switch	Door lock actuator	Fuel lid lock actuator	Push-button ignition switch	CAN communication system	ВСМ	IPDM E/R	Horn	Combination meter	Hazard warning lamp	Automatic back door control module	Back door lock assembly
Door lock/unlock function	×	×	×	×			×						
Selective unlock function	×	×	×	×			×						
Auto door lock function	×	×	×	×	×		×						
Hazard and horn reminder function						×	×	×	×	×	×		
Automatic back door open/close function						×	×					×	×
Remote engine start function	×			×	×	×	×	×	×		×	×	×

#### KEY REMINDER FUNCTION

### KEY REMINDER FUNCTION: System Diagram

INFOID:0000000009132947



### KEY REMINDER FUNCTION: System Description

INFOID:0000000009132948

Key reminder is the function that prevents the key from being left in the vehicle. Key reminder has the following 3 functions.

Key remainder func- tion	Operation condition	Operation
Driver door closed*	Right after driver side door is closed under the following conditions:  Door lock operation is performed.  Driver side door is open.  Driver side door is in lock state.	All doors (except back door) and fuel filler lid unlock.

#### < SYSTEM DESCRIPTION >

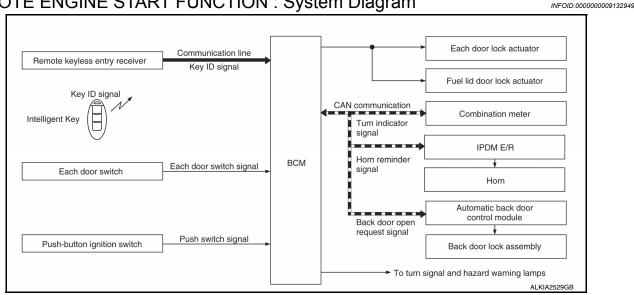
Key remainder func- tion	Operation condition	Operation
Door is open or closed	Right after all doors are closed under the following conditions:  Intelligent Key is inside the vehicle.  Any door is open.  All doors (except back door) are locked by door lock and unlock switch or door lock knob.	All doors (except back door) and fuel filler lid unlock.     Honk Intelligent Key warning buzzer.
Back door is closed	Right after back door is closed under the following conditions:  Intelligent Key is inside vehicle.  All doors (except for back door) are closed.  All doors (except for back door) are locked.	<ul> <li>All doors (except for back door) and fuel filler lid unlock.</li> <li>Back door can open with back door opener switch.</li> <li>Honk Intelligent Key warning buzzer.</li> </ul>

<sup>\*:</sup> If the door closing impact shocks the door lock knob or contacts against baggage with the door lock knob might activate the door locks accidentally but unlock operation is performed in these cases.

 The above function operates when the Intelligent Key is inside the vehicle. However, there may be times when the Intelligent Key cannot be detected. This function does not operate when the Intelligent Key is on the instrument panel, rear parcel shelf or in the glove box. Also, this system sometimes does not operate if the Intelligent Key is in the door pocket for the open door.

#### REMOTE ENGINE START FUNCTION

#### REMOTE ENGINE START FUNCTION: System Diagram



### REMOTE ENGINE START FUNCTION: System Description

INFOID:0000000009132950

#### **OPERATION**

Remote keyless entry system controls operation of the following items.

- Door lock/unlock function
- · Selective unlock function
- Auto door lock function
- · Hazard and horn reminder function
- Automatic back door open/close function
- Remote engine start

#### OPERATION AREA

The remote engine start operating range is approximately 60 m (197 ft) from the vehicle.

#### REMOTE ENGINE START FUNCTION

Н

Α

В

D

Е

F

DLK

Ν

#### < SYSTEM DESCRIPTION >

- When the lock button and then the remote engine start button of the Intelligent Key are pressed within 5 seconds of each other, a start signal is transmitted from Intelligent Key to BCM via remote keyless entry receiver.
- When the BCM receives the remote engine start signal, it locks all doors and the fuel lid, flashes the hazard lamps and chirps the horn and the engine will then start.
- To exit the remote engine start mode from inside the vehicle, depress the brake pedal and press the pushbutton ignition switch at the same time.
- To cancel the remote engine start mode away from the vehicle, press the remote engine start button on the Intelligent Key.
- Once the vehicle has been started using the remote engine start feature it will remain running for 10 minutes. Extended run time can be added to the initial 10 minute running time by pressing the lock button and remote engine start button within 5 seconds of each other. This will add an aditional 10 minutes of running time. Extended time can only be added once, for a total run time of up to 20 minutes.

Remote engine start cancel operation	<ul> <li>Anti-theft alarm - unauthorized entry</li> <li>Maximum time for engine to run by remote start has been exceded.</li> <li>Hazard lamps are turned on.</li> <li>Push-button start button is pressed without the Intelligent Key in the vehicle.</li> <li>Push-button start button is pressed without depressing the brake pedal.</li> <li>The hood is opened while the remote engine start is engaged.</li> </ul>
--------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

#### HAZARD AND HORN REMINDER FUNCTION

When remote engine start is initiated by Intelligent Key, BCM blinks hazard warning lamps as a reminder. The hazard and horn reminder has a horn chirp mode (C mode) and a non-horn chirp mode (S mode).

Operating Function of Hazard and Horn Reminder

	C m	node	Sm	node
Intelligent Key operation	Lock	Unlock	Lock	Unlock
Hazard warning lamp blinks	Twice	Once	Twice	_
Horn sound	Once	_	_	_

Hazard and horn reminder does not operate in the following conditions.

- Ignition switch position is ON.
- Door is open (only lock operation)

#### How to Change Hazard and Horn Reminder Mode

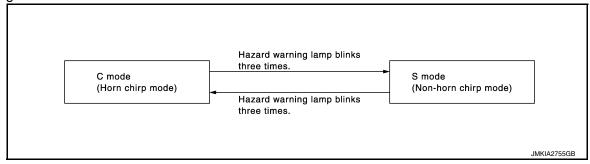
#### (II) With CONSULT

Hazard and horn reminder operation mode can be changed using CONSULT.

Refer to BCS-20, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)".

#### Without CONSULT

When LOCK and UNLOCK signals are sent from the Intelligent Key for more than 2 seconds at the same time, the hazard and horn reminder mode is changed and hazard warning lamp blinks and horn sounds as per the following items:



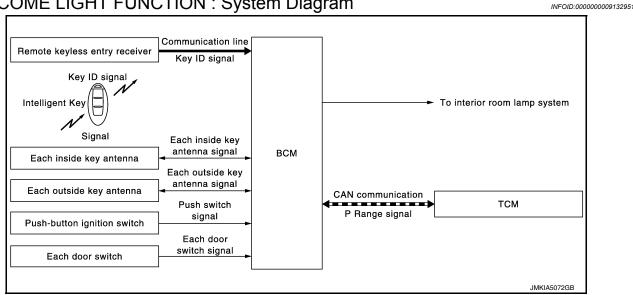
#### LIST OF OPERATION RELATED PARTS

Parts marked with  $\times$  are the parts related to operation.

Function	Intelligent Key	Door switch	Door lock actuator	Fuel lid lock actuator	Push-button ignition switch	CAN communication system	BCM	IPDM E/R	Horn	Combination meter	Hazard warning lamp	Automatic back door control module	Back door lock assembly
Door lock/unlock function		×	×	×			×						
Selective unlock function		×	×	×			×						
Auto door lock function		×	×	×	×		×						
Hazard and horn reminder function						×	×	×	×	×	×		
Automatic back door open/close function						×	×					×	×
Remote engine start function				×	×	×	×	×	×		×	×	×

#### WELCOME LIGHT FUNCTION

#### WELCOME LIGHT FUNCTION: System Diagram



### WELCOME LIGHT FUNCTION: System Description

The welcome light function operates as per the following. When the Intelligent Key is within the outside key antenna detection area, the BCM turns on interior room lamp\* and operates heart beat operation of the pushbutton ignition switch.

\*: Settings for map lamp, foot lamp, personal lamp, and puddle lamp are available.

#### OPERATION DESCRIPTION

- When the BCM detects that the Intelligent Key is within the outside key antenna detection area. BCM transmits the request signal to the Intelligent Key and check it is near the door.
- Intelligent Key receives the request signal and transmits the key ID signal to the BCM via remote keyless entry receiver.
- BCM receives the key ID signal and compares it with the registered key ID.
- BCM illuminates lamps that are set, when key ID verification is OK.

#### TIMER FUNCTION

BCM can operate welcome light function using the timer function for 9 days after key switch is turned OFF.

**DLK-33 Revision: August 2013** 2014 QX60

DLK

Α

В

D

Е

Н

Ν

0

INFOID:0000000009132952

#### < SYSTEM DESCRIPTION >

The timer function resets when the engine is started\*. Operating period of timer function may differ depending on battery size.

\*: Timer function does not stop if another Intelligent Key that has a different key ID is detected within the interior antenna detection area when starting the engine.

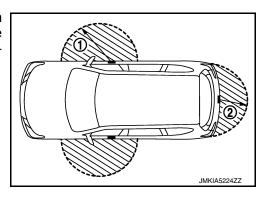
#### **OPERATION CONDITION**

If the following condition are satisfied, welcome light function is operated.

Function	Operation condition				
Welcome light function	<ul> <li>All door are closed.</li> <li>All doors are locked.</li> <li>Ignition switch: OFF position.</li> <li>Shift position: P (Park) position.</li> <li>Intelligent Key is outside the vehicle.</li> <li>Timer function is activated.</li> </ul>				

#### **OUTSIDE KEY ANTENNA DETECTION AREA**

The outside key antenna detection area of door lock/unlock function is in the range of approximately 80 cm (31.50 in) surrounding the driver, passenger door handles (1) and back door handle (2). However, this operating range depends on the ambient conditions.



#### WELCOME LIGHT FUNCTION SETTING

Welcome light function operation mode can be changed using CONSULT

(P) With CONSULT

Refer to BCS-20, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)".

#### N Without CONSULT

The welcome light function ON/OFF can be switched by performing the following operation.

- 1. Turn ignition switch: OFF→ON
- 2. Press and hold the driver side door request switch for 5 seconds or more within 20 seconds after turning the ignition switch ON.
- 3. The switching is complete when combination meter buzzer sounds.

#### WARNING FUNCTION

#### WARNING FUNCTION: System Description

INFOID:0000000009132953

#### **OPERATION DESCRIPTION**

The warning function are as per the following items and are given to the user as warning information and warnings using combinations of Intelligent Key warning buzzer, combination meter buzzer, KEY warning lamp and information display in combination meter.

- Intelligent Key system malfunction
- OFF position warning
- P position warning
- ACC warning
- Take away warning
- · Door lock operation warning
- Engine start information
- Intelligent Key low battery warning
- Key ID warning
- · Key ID verification information

#### **OPERATION CONDITION**

Once the following condition from below is established, alert or warning is executed.

Revision: August 2013 DLK-34 2014 QX60

#### < SYSTEM DESCRIPTION >

Warning/Information functions		Operation procedure				
Intelligent Key system malfunction		When a malfunction is detected on BCM, "KEY" warning lamp illuminates.				
OFF position warning	For internal	<ul> <li>When condition A, B or condition C is satisfied</li> <li>Condition A</li> <li>Ignition switch: ACC position</li> <li>Door switch (driver side): ON (Door is open)</li> <li>Condition B</li> <li>Turn ignition switch from ON to OFF while door is open</li> <li>Condition C</li> <li>Intelligent Key backside is contacted to ignition switch while brake pedal is depressed and ignition switch is LOCK or OFF (When the Intelligent Key battery is discharged)</li> <li>Door switch (driver side): ON (Door is open)</li> </ul>				
	For external	OFF position warning (For internal) is in active mode, driver side door is closed.  NOTE:  OFF position (For external) active only when each of the sequence occurs as below: P position warning $\rightarrow$ ACC warning $\rightarrow$ OFF position warning (For internal) $\rightarrow$ OFF position warning (For internal)				
P nosition warning	For internal	Shift position: Except P (Park) position     Engine is running to stopped (ignition switch is ON to OFF)				
P position warning	For external	Warning is activated when driver door is closed from the open position while the P (Park) position warning (for inside vehicle) is ON.				
ACC warning		<ul> <li>When P (Park) position warning is in active mode, shift position changes P (Park) position</li> <li>Ignition switch: ACC position</li> </ul>				
Take away warning	Door is open to close	<ul> <li>Ignition switch: Except Lock position</li> <li>Door switch: ON to OFF (Door is open to close)</li> <li>Intelligent Key cannot be detected inside the vehicle</li> </ul>				
	Door is open	<ul> <li>Ignition switch: Except Lock position</li> <li>Door switch: ON (Door is open)</li> <li>Key ID verification every 5 seconds when registered Intelligent Key cannot be detected inside the vehicle</li> </ul>				
	Push-button ignition switch operation	<ul> <li>Ignition switch: Except Lock position</li> <li>Press push-button ignition switch</li> <li>Intelligent Key cannot be detected inside the vehicle</li> </ul>				
Door lock operation warning		When door lock operation is requested while door lock operating conditio of door request switch or Intelligent Key are not satisfied				
Engine start information	Ignition switch is ON position	Ignition switch: ON position     Shift position: P (Park) position*     Engine is stopped				
	Ignition switch is except ON position	<ul> <li>Ignition switch: Except ON position</li> <li>Shift position: P (Park) position*</li> <li>Intelligent Key is inserted in key slot or Intelligent Key can be detected inside the vehicle</li> </ul>				
Intelligent Key low battery warning		When Intelligent Key is low battery, BCM is detected after ignition switch is turned ON				
Key ID warning		When registered Intelligent Key cannot be detected inside the vehicle after ignition switch is turned ON				
Key ID verification information		<ul> <li>When registered Intelligent Key cannot be detected inside the vehicle</li> <li>Intelligent Key battery is discharged</li> <li>When NATS antenna amp cannot be detected NATS ID</li> </ul>				

#### WARNING METHOD

The following table shows the alarm or warning methods with chime.

Revision: August 2013 DLK-35 2014 QX60

DLK

Α

В

С

 $\mathsf{D}$ 

Е

F

G

Н

M

Ν

 $\circ$ 

#### < SYSTEM DESCRIPTION >

Warning/Information functions		"KEY"		Warning chime			
		warning lamp	Information display (combination meter)	Combination meter buzzer	Intelligent Key warning buzzer		
Intelligent Key system malfunction		Indicate	_	_	_		
OFF position For internal		_	_	Activate	_		
warning	For external		_	_	Activate		
	For internal			Activate	_		
P position warning	For external	_	Shift to Park	_	Active		
			ALKIA2515GB				
ACC warning		_	Push ignition to OFF  ALKIA2516GB	Activate	_		
Take away warning	Door is open to close			Activate	Activate		
	Door is open	_		_	_		
	Push-button ignition switch operation		No Key Detected	Activate	_		
Door lock op- eration warn-	Request switch operation			_	Activate		
ing	Intelligent Key	_	<del>-</del>	_	Activate		
Key ID warning	9	_	Key ID Incorrect	_	_		
Engine start information		_	Push brake and start button to drive	_	_		

# **SYSTEM (INTELLIGENT KEY SYSTEM)**

## < SYSTEM DESCRIPTION >

	"KEY"	Information display	Warning chime			
Warning/Information functions	warning lamp	(combination meter)	Combination meter buzzer	Intelligent Key warning buzzer		
Intelligent Key low battery warning		Key low battery  ALKIA2520GB	_	_		
Key ID verification information	_	(I) (II F)  ALKIA2521ZZ	_	_		

#### LIST OF OPERATION RELATED PARTS

Parts marked with  $\times$  are the parts related to operation.

Warning function		Intelligent Key	Ignition switch	Door switch	Door request switch	Inside key antenna	Outside key antenna	Intelligent Key warning buzzer	Combination meter buzzer	CAN communication system	BCM	Information display	"KEY" warning lamp
Intelligent Key system malfunction										×	×		×
OFF position warning	For internal			×					×	×	×		
For external				×				×			×		
P (Park) position warning	P (Park) position warning		×						×	×	×	×	×
ACC warning			×						×	×	×	×	
	Door is open or close	×		×		×		×	×	×	×	×	×
Take away warning	Door is open	×		×		×				×	×	×	×
rake away warning	Push-button ignition switch operation	×	×			×			×	×	×	×	×
Door lock operation warning	)	×		×	×	×	×	×			×		
Key ID warning			×			×				×	×	×	×
Ignition switch is ON position		×	×			×				×	×	×	
ACC warning  Take away warning  Door lock operation warning	Ignition switch is except ON position	×	×			×				×	×	×	
Intelligent Key low battery w	varning	×				×				×	×	×	×
Key ID verification informati	on	×				×				×	×	×	

DLK

J

Α

В

 $\mathsf{D}$ 

Е

F

G

Н

L

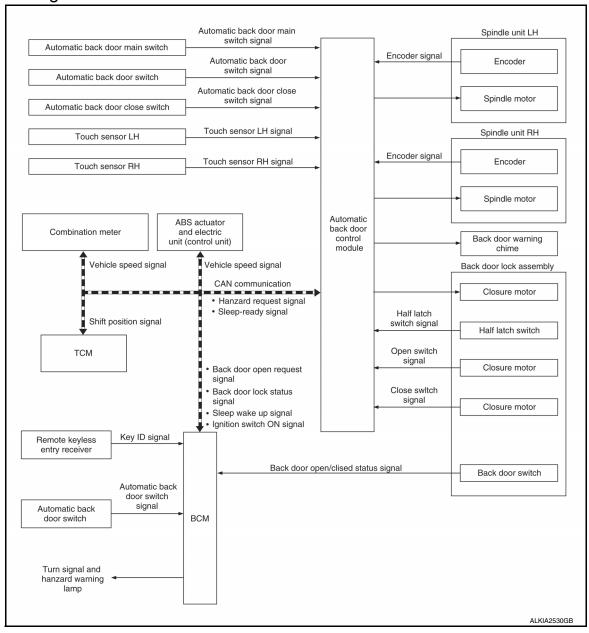
M

Ν

0

System Diagram

INFOID:0000000009132954



# **System Description**

INFOID:0000000009132955

The automatic back door system performs the automatic open/close operation of the back door by operating the automatic back door switch, the automatic back door close switch, the back door opener switch, and Intelligent Key.

#### AUTOMATIC BACK DOOR OPEN/CLOSE FUNCTION

- In the case of the back door fully closed, operate the automatic back door switch, Intelligent Key or back door opener switch with the back door unlock. The back door closure motor releases the latch, then the spindle motor opens the back door to the fully open position. The closure motor reverses to the neutral position simultaneously.
- In the case of the back door fully open, operate the automatic back door switch, Intelligent Key or automatic
  back door close switch. The spindle motor closes the back door to the half-latch position, then the back door
  closure motor to the full latch position. Then, the closure motor reverses to the neutral position.

#### AUTOMATIC OPEN/CLOSE TEMPORARY STOP FUNCTION

#### < SYSTEM DESCRIPTION >

Automatic open/close temporary stop function temporarily stops the open/close operation by operating back door opener switch during automatic open/close operation or by turning automatic back door main switch OFF.

#### Back Door Opener Switch Operation

- Automatic open/close operation stops when back door opener switch is operated during automatic open/ close operation.
- Back door performs automatic open operation in an open direction when back door opener switch is operated again during automatic open/close temporary stop function operation.
- Back door performs automatic close operation in a close direction when automatic back door close switch is operated during automatic open/close temporary stop function operation.
- · Automatic operation is performed again, in the direction that automatic back door switch operated before stopping, when automatic back door switch or Intelligent Key button is operated during automatic open/close temporary stop function operation.

#### Automatic Back Door Main Switch Operation

- While automatic back door main switch is ON, automatic open/close operation stops when automatic back door main switch is turned OFF during automatic open/close operation.
- While automatic back door main switch is OFF, automatic open/close operation stops when automatic back door main switch is turned ON then turned OFF during automatic open/close operation.
- Back door performs automatic open operation in an open direction when back door opener switch is operated again during auto open/close temporary stop function operation.
- · Back door performs automatic close operation in a close direction when automatic back door close switch is operated during automatic open/close temporary stop function operation.
- Automatic operation is performed again, in the direction that automatic back door switch operated before stopping, when automatic back door switch or Intelligent Key button is operated during automatic open/close temporary stop function operation.

#### BACK DOOR OPEN POSITION SETTING FUNCTION

Back door open position setting function enables a user to set stop position for automatic open operation.

#### Setting Procedure

Stop position for back door open position setting function can be set by the following procedure.

- 1. Manually move the back door to a stop setting position.
- Press and hold the automatic back door close switch for 3 seconds while maintaining the back door posi-
- 3. The switching is complete when the buzzer sounds (pattern E).
- 4. Fully close the back door.

#### Cancellation Procedure

Setting of back door open position setting function can be cancelled by the following procedure.

- 1. Manually move the back door to a fully open position.
- 2. Press and hold the automatic back door close switch for 3 seconds.
- The switching is complete when the buzzer sounds (pattern E).
- 4. Fully close the back door.

#### BACK DOOR AUTO CLOSURE FUNCTION

#### Open Function

When back door opener switch is pressed and automatic back door main switch in the OFF position, BCM transmits the back door open request signal to automatic back door control module via CAN communication. and automatic back door control module opens back door lock assembly.

#### Closure Function

When the back door is closed to the half-latch position, the motor drives to rotate the latch lever and pulls it in from half latched to fully latched and automatically closes the door. Then, the closure motor reverses to the neutral position.

#### WARNING FUNCTION

The warning function is as follows and gives the user warning information using automatic back door warning chime and hazard warning lamps.

Chime Operation Condition

DLK

Н

В

D

Ν

#### < SYSTEM DESCRIPTION >

	Pattern	Time	Description			
А	ON 200ms OFF JMKIA1862ZZ	0.75 sec.	Operation start announcement  Anti-pinch operation start announcement			
В	Pi	2.0 sec.	Closure function operates when automatic back door main switch is in OFF position  During the closure operation, when touch sensor detects any trapped foreign material, the back door stops halfway			
С	Pi	Back door fully closed or vehi- cle is stopped	The conditions are not satisfied in the fully open position or during the operation, and then the operation continues			
D	OFF JMKIA1863ZZ	During open/close operation	During operation announcement			
E	ON 500ms OFF	2.5 sec.	<ul> <li>Calibration of automatic back door position information is complete</li> <li>Back door open position setting procedure is complete</li> </ul>			

#### **ANTI-PINCH FUNCTION**

During auto open operation, if an object is detected by encoder pulse in the door's path, a warning chime sounds and the back door operates in the reverse direction to prevent pinching.

During auto close operation, if an object is detected by the touch sensors and encoder pulse in the door's path, a warning chime sounds and the back door operates in the open direction until it is fully open.

#### **Operation Condition**

Detection method		Encoder pulse	Touch sensor				
Applicable operation		Open/close operation	Close operation				
Operation when any trapped for-	Stop the vehicle	Chime sounds (pattern A) and reverse operation	<ul> <li>Buzzer sounds (pattern A) and the back door stops in the fully-open position after reverse operation</li> <li>During closure (close) operation (at main switch OFF): Closure [open (neutral position return)] operation</li> </ul>				
eign material is de- tected	Running the vehicle	No reverse operation (chime sounds, pattern C)	<ul> <li>The back door reverses a certain amount, and then it reverses automatically to perform the auto close operation</li> <li>During closure (close) operation (at main switch ON): Closure (open) operation</li> </ul>				
Non-reverse area		<ul> <li>Just after starting the motor operation</li> <li>Full range of closure operation</li> <li>Driving</li> </ul>	Back door open operation     Closure [open (return the latch to the neutral position)]				

#### < SYSTEM DESCRIPTION >

Detection method	Encoder pulse	Touch sensor				
Switch operation during reverse operation	Receive					
Number of allowable reverse operations	Perform the automatic open/close temporary stop function after 2 reverse operations gardless of the operation direction					

#### AUTOMATIC BACK DOOR OPEN/CLOSE OPERATION CONDITION

	Automa	atic back doo	or switch	Intellig	ent Key			or opener vitch	
Operating direction	Fully close	ed → Open	Fully open →Closed	$ \begin{array}{c} \text{Fully} \\ \text{closed} \rightarrow \\ \text{Open} \end{array} \rightarrow \begin{array}{c} \text{Fully open} \\ \rightarrow \text{Closed} \end{array} $		Fully open → Closed	Fully closed $\rightarrow$ Open		
Main switch	_	_	_	_	_	ON	ON		
Ignition position	ON/ACC/ LOCK	OFF	_	_		_	ON/ACC/ LOCK	OFF	
Shift selector lever	P position	_	_	_	_	_	P position	_	
Vehicle speed			l .	0 k	m/h	<del> </del>	+		
Back door lock condition	_	_	_	_	_	_	Unio	ock*	
Touch sensor			1	No	rmal				
Power supply (Automatic power back door control module)		Approx. 11 V or more							

<sup>\*:</sup> If the registered Intelligent Key is used, the operation can be performed even if the back door is in the LOCK position.

CONTROL IF NOT WITHIN THE OPERATION CONDITIONS DURING THE OPERATION If the back door is not within the operation conditions during the operation, the automatic back door control module performs the control as follows.

Item (Condition)	Back door condition					
Vehicle stop condition (open operation)  • IGN ON and shift P (Park) position→IGN ON and other than P (Park) position	The operation is continu	ued				
Operation condition release during the operation start announcement condition	Automatic back door function does not operate					
Vehicle speed	Open operation	Operation stop [Back door fully closed or chime sounds until the vehicle stops (pattern C)]				
$(0 \text{ km/h} \rightarrow \text{More than } 0 \text{ km/h})$	Close operation	The operation is continued [chime sounds (pattern 0 until back door fully closed]				
	Open operation	The operation is continued (If the pinch is detected after that, the system switches to the automatic open/close temporary stop function)				
Touch sensor	Close operation	Automatic open/close temporary stop function				
(Normal → Open)	Closure (close) operation	Closure (open) operation and chime sounds (pattern B)				
	Closure [open (return the latch to the neutral position)]	The operation is continued				
Operation time (More than approx. 180 sec.)	Inhibit automatic back door operation					

DLK

J

Α

В

D

Е

F

Н

N /I

Ν

 $\circ$ 

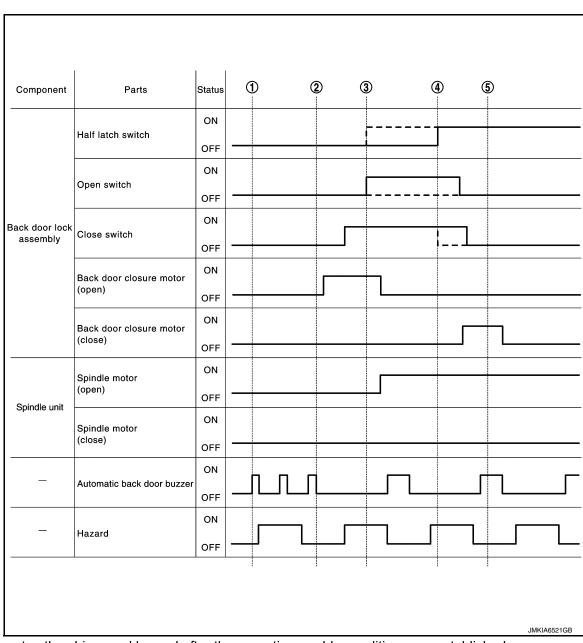
#### < SYSTEM DESCRIPTION >

Item (Condition)	Back door condition				
Pack door appear quitch	Closure (close) operation	Closure (open) operation and back door open			
Back door opener switch (OFF → ON)	Closure [open (return the latch to the neutral position)]	Back door open			
Malfunction detected	IGN circuit	Automatic open/close temporary stop function			
Manufiction detected	Half latch switch	Operation is possible up to 3 times			

#### TIME CHART FOR AUTOMATIC BACK DOOR SYSTEM

Fully Closed to Fully Open Operation

When operating the automatic back door switch, automatic back door opener switch and Intelligent Key in the fully closed position, the system operates as follows.



- 1. Operates the chime and hazard after the operation enable conditions are established.
- 2. The back door closure motor performs the open operation after the chime (pattern A) stops sounding.
- Stops the back door closure motor open operation after turning the open switch to ON

#### < SYSTEM DESCRIPTION >

Then, operate the spindle motor to perform the back door open operation.

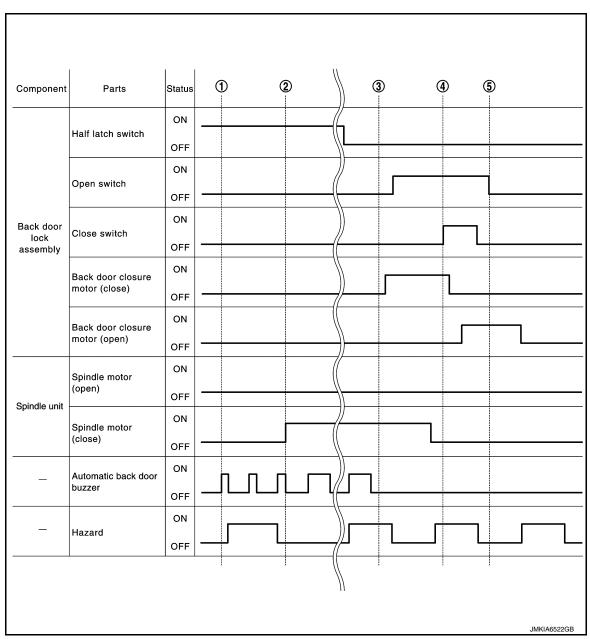
- 4. The back door closure motor performs the close operation after turning the half latch switch to ON.
- Stop the back door closure motor close operation and return the latch to the neutral position after turning the close switch to OFF.

#### NOTE:

In the operation of steps 3 and 4, the inputs of half latch switch, open switch, and close switch may be different according to the reaction force of the back door weatherstrip. Refer to the area encircled by a broken line in the Time chart (fully closed to fully open operation).

Fully Open to Fully Closed Operation

When operating the automatic back door switch, automatic back door close switch and Intelligent Key, the automatic back door system operates as follows.



- Operates the chime and hazard after the operation enable conditions are established.
- 2. After the chime (pattern A) stops sounding, operates the spindle motor to perform the back door close operation.
- 3. The back door closure motor performs the close operation in 300 msec. or more after turning the half latch switch to OFF.
- 4. The back door closure motor performs the open operation after turning the close switch to ON.

Revision: August 2013 DLK-43 2014 QX60

DLK

Α

В

D

Е

Н

IVI

Ν

0

<u>&lt; 5</u>	SYSTEM DESCRIPTION >		
5.	Stop the back door closure motor open operation and return the latch to the neutral	position after turnir	g

the close switch to OFF.

Revision: August 2013 DLK-44 2014 QX60

# **SYSTEM (INTEGRATED HOMELINK TRANSMITTER)**

< SYSTEM DESCRIPTION >

# SYSTEM (INTEGRATED HOMELINK TRANSMITTER)

# **System Description**

INFOID:0000000009132956

Item	Function
Integrated Homelink <sup>®</sup> transmitter	A maximum of 3 radio signals can be stored and transmitted to operate the garage door, etc.

D

C

Α

В

Е

F

G

Н

-

J

DLK

L

M

Ν

0

#### < SYSTEM DESCRIPTION >

# **DIAGNOSIS SYSTEM (BCM)**

**COMMON ITEM** 

COMMON ITEM: CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000009724055

#### CAUTION:

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF  $\rightarrow$  ON (for at least 5 seconds)  $\rightarrow$  OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.

#### 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> <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.

				Direct [	Diagnosti	c Mode		
System	Sub System	Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×	×		
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Air conditioner	AIR CONDITIONER			×				
Intelligent Key system	INTELLIGENT KEY		×	×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×			
Back door open	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×				

#### < SYSTEM DESCRIPTION >

		Direct Diagnostic Mode						
System	Sub System	Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Signal buffer system	SIGNAL BUFFER			×				
TPMS	AIR PRESSURE MONITOR		×	×	×	×		

## **DOOR LOCK**

DOOR LOCK: CONSULT Function (BCM - DOOR LOCK)

INFOID:0000000009724056

Α

В

D

Е

Н

Ν

0

#### **CAUTION:**

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF  $\rightarrow$  ON (for at least 5 seconds)  $\rightarrow$  OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.

SELF DIAGNOSTIC RESULT

Refer to BCS-51, "DTC Index".

**DATA MONITOR** 

Monitor Item [Unit]	Description	
EQ SW-DR [On/Off]	Indicates condition of door request switch LH.	
EQ SW-AS [On/Off]	Indicates condition of door request switch RH.	
EQ SW-BD/TR [On/Off]	Indicates condition of back door request switch.	
OOR SW-DR [On/Off]	Indicates condition of front door switch LH.	
OOR SW-AS [On/Off]	Indicates condition of front door switch RH.	
OOR SW-RR [On/Off]	Indicates condition of rear door switch RH.	DLK
OOR SW-RL [On/Off]	Indicates condition of rear door switch LH.	
OOR SW-BK [On/Off]	Indicates condition of back door switch.	
DL LOCK SW [On/Off]	Indicates condition of lock signal from door lock and unlock switch.	
DL UNLOCK SW [On/Off]	Indicates condition of unlock signal from door lock and unlock switch.	
EY CYL LK-SW [On/Off]	Indicates condition of lock signal from door key cylinder switch.	M
EY CYL UN-SW [On/Off]	Indicates condition of unlock signal from door key cylinder switch.	

#### **ACTIVE TEST**

Test Item	Description
DOOR LOCK	This test is able to check door lock operation [ALL LOCK/ALL UNLK].

#### **WORK SUPPORT**

Support Item	Setting	Description
DOOR LOCK-UNLOCK SET	On*	Automatic door locks function ON.
	Off	Automatic door locks function OFF.
AUTO UNLOCK TYPE	MODE2	Driver door only unlocks automatically.
	MODE1*	All doors unlock automatically.

#### < SYSTEM DESCRIPTION >

Support Item	Setting	Description
AUTO LOCK FUNCTION	MODE3	This mode is not used.
	MODE2	Doors lock automatically when shifted out of P (park).
	MODE1*	Doors lock automatically when vehicle speed reaches 24 km/h (15 mph).
	Off	_
AUTO UNLOCK FUNCTION	MODE3	This mode is not used.
	MODE2	Doors unlock automatically when shifted into P (park).
	MODE1*	Doors unlock automatically when ignition is switched from ON to OFF.
	Off	_

<sup>\*:</sup> Initial setting

#### INTELLIGENT KEY

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

INFOID:0000000009724059

#### **CAUTION:**

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF  $\rightarrow$  ON (for at least 5 seconds)  $\rightarrow$  OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.

# SELF DIAGNOSTIC RESULT Refer to <u>BCS-51</u>, "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 back door request switch.
PUSH SW [On/Off]		Indicates condition of push-button ignition switch.
SHIFTLOCK SOLENOID PWR SUPPLY [On/Off]	×	Indicates condition of power supply to shiftlock solenoid.
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 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.

#### < SYSTEM DESCRIPTION >

IGN CONT2

Monitor Item [Unit]	Main	Description	
VEH SPEED 2 [mph/km/h]	×	Indicates condition of vehicle speed signal received from combination meter of 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.	
DOOR STAT -RR [LOCK/READY/UNLK]	×	Indicates condition of rear right side door status.	
DOOR STAT -RL [LOCK/READY/UNLK]	×	Indicates condition of rear left side door status.	
BK DOOR STATE [LOCK/READY/UNLK]	×	Indicates condition of back door status.	
ID OK FLAG [Set/Reset]		Indicates condition of Intelligent Key ID.	
PRMT ENG STRT [Set/Reset]		Indicates condition of engine start possibility.	
PRMT RKE STRT [Set/Reset]		Indicates condition of engine start possibility from Intelligent Key.	
I-KEY OK FLAG [Key ON/Key OFF]	×	Indicates condition of Intelligent Key OK flag.	
PRBT ENG STRT [Set/Reset]		Indicates condition of engine start prohibit.	
ID AUTHENTICATION CANCEL TIMER [under a stop]		Indicates condition of Intelligent Key ID authentication.	
ACC BATTERY SAVER [under a stop]		Indicates condition of battery saver.	
CRNK PRBT TMR [On/Off]		Indicates condition of crank prohibit timer.	
AUT CRNK TMR [On/Off]		Indicates condition of automatic engine crank timer from Intelligent Key.	
CRNK PRBT TME [sec]		Indicates condition of engine crank prohibit time.	
CRANKING TME [sec]		Indicates condition of engine cranking time from Intelligent Key.	
DETE SW PWR [On/Off]		Indicates condition of detent switch voltage.	
ACC RLY -REQ [On/Off]		Indicates condition of accessory relay control request.	
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 room lamp 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 back door 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.	
ACTIVE TEST			
Test Item		Description	
INTELLIGENT KEY LINK (CAN)	This test is No4/ID No5	able to check Intelligent Key identification number [Off/ID No1/ID N02/ID No3/ID 5].	
INT LAMP	This test is	able to check interior room lamp operation [On/Off].	
FLASHER	This test is	able to check hazard lamp operation [LH/RH/Off].	
HORN	This test is	able to check horn operation [On].	
BATTERY SAVER	This test is	able to check battery saver operation [On/Off].	
TRUNK/BACK DOOR	This test is	able to check back door actuator operation [Open].	
OUTSIDE BUZZER	This test is	able to check Intelligent Key warning buzzer operation [On/Off].	
INSIDE BUZZER		able to check combination meter warning chime operation [Take Out/Knob/Key/	
MODE BOZZET	Off].		

This test is able to check ignition relay-2 control operation [On/Off].

## < SYSTEM DESCRIPTION >

Test Item	Description
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].
ACC CONT	This test is able to check accessory relay control operation [On/Off].
IGN CONT1	This test is able to check ignition relay-1 control operation [On/Off].
ST CONT LOW	This test is able to check starter control relay operation [On/Off].
IGNITION RELAY	This test is able to check ignition relay operation [On/Off].
REVERSE LAMP TEST	This test is able to check reverse lamp illumination operation [On/Off].
DOOR HANDLE LAMP TEST	This test is able to check door handle lamp illumination operation [On/Off].
TRUNK/LUGGAGE LAMP TEST	This test is able to check cargo lamp illumination operation [On/Off].
KEYFOB PW TEST	This test is able to check power window operation using the Intelligent Key [P/W up/down OFF/Send P/W down ON/Send P/W up ON].
SHIFTLOCK SOLENOID TEST	This test is able to check shift lock solenoid operation [On/Off].

# **WORK SUPPORT**

Support Item	Setting	Description
ICNIACC Pottory Sover	On*	Battery saver function ON.
IGN/ACC Battery Saver	Off	Battery saver function OFF.
REMOTE ENGINE STARTER	On*	Remote engine start function ON.
REMOTE ENGINE STARTER	Off	Remote engine start function OFF.
	BUZZER	Buzzer reminder function by door lock/unlock request switch ON.
ANSWERBACK I-KEY LOCK UNLOCK	HORN	Horn chirp reminder function by door lock request switch ON.
ANSWERBACK I-RET LOCK UNLOCK	Off*	No reminder function by door lock/unlock request switch.
	INVALID	This mode is not used.
ANSWERBACK KEYLESS LOCK UN-	On	Buzzer or horn chirp reminder when doors are locked/unlocked with Intelligent Key.
LOCK	Off*	No buzzer or horn chirp reminder when doors are locked/unlocked with Intelligent Key.
WELCOME LIGHT OF SET	On*	Door handle lamp function from request switch ON.
WELCOME LIGHT OP SET	Off	Door handle lamp function from request switch OFF.
ANSWER BACK	On*	Horn chirp reminder when doors are locked with Intelligent Key.
ANSWER BACK	Off	No horn chirp reminder when doors are locked with Intelligent Key.
RETRACTABLE MIRROR SET	On	Retractable mirror set ON.
RETRACTABLE WIRROR SET	Off*	Retractable mirror set OFF.
LOCK/UNLOCK BY I-KEY	On*	Door lock/unlock function from Intelligent Key ON.
LOCK UNLOCK BY I-KEY	Off	Door lock/unlock function from Intelligent Key OFF.
ENGINE START BY I-KEY	On*	Engine start function from Intelligent Key ON.
ENGINE START BY I-RET	Off	Engine start function from Intelligent Key OFF.
TRUNK/GLASS HATCH OPEN	On*	Buzzer reminder function by back door request switch ON.
MONNOLASS HATCH OFEN	Off	Buzzer reminder function by back door request switch OFF.
INTELLIGENT KEY LINK SET	On	Intelligent Key link set ON.
INTLLLIGENT RET LINK SET	Off*	Intelligent Key link set OFF.
CONFIRM KEY FOB ID	<del>-</del>	Intelligent Key ID code can be checked.

#### < SYSTEM DESCRIPTION >

Support Item	Setting		Description	
		70 msec		
SHORT CRANKING OUTPUT	Start	100 msec	Starter motor operation duration times.	
		200 msec		
	End		<del>-</del>	
INSIDE ANT DIAGNOSIS		_	This function allows inside key antenna self-diagnosis.	
	MODE7	5 min		
	MODE6	4 min		
	MODE5	3 min		
AUTO LOCK SET	MODE4	2 min	Auto door lock time can be set in this mode.	
	MODE3*	1 min		
	MODE2	30 sec		
	MODE1	Off		

<sup>\*:</sup> Initial Setting

#### **TRUNK**

TRUNK: CONSULT Function (BCM - TRUNK)

INFOID:0000000009724061

#### **CAUTION:**

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF  $\rightarrow$  ON (for at least 5 seconds)  $\rightarrow$  OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and no-start condition.

**DATA MONITOR** 

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
UNLK SEN -DR [On/Off]	Indicates condition of door unlock sensor.
VEH SPEED 1 [km/h]	Indicates vehicle speed signal received from ABS on CAN communication line.
TR/BD OPEN SW [On/Off]	Indicates condition of back door opener switch.
RKE-TR/BD [On/Off]	Indicates condition of back door open signal from Intelligent Key.
TRNK/HAT MNTR [On/Off]	Indicates condition of trunk room lamp switch.

DLK

F

Н

M

Ν

0

## DIAGNOSIS SYSTEM (AUTOMATIC BACK DOOR CONTROL UNIT)

< SYSTEM DESCRIPTION >

# DIAGNOSIS SYSTEM (AUTOMATIC BACK DOOR CONTROL UNIT)

#### **CONSULT Function**

#### INFOID:0000000009132961

#### **CAUTION:**

After disconnecting the CONSULT vehicle interface (VI) from the data link connector, the ignition must be cycled OFF  $\rightarrow$  ON (for at least 5 seconds)  $\rightarrow$  OFF. If this step is not performed, the BCM may not go to "sleep mode", potentially causing a discharged battery and a no-start condition.

#### APPLICATION ITEMS

CONSULT performs the following functions via CAN communication with automatic back door control module.

Diagnosis mode	Function Description
Self diagnostic result	Displays the diagnosis results judged by automatic back door control module
Data monitor	The automatic back door control module input/output signals are displayed
Work support	Changes the setting for each setting function.
ECU identification	The automatic back door control module part number is displayed

#### SELF DIAGNOSTIC RESULTS

Refer to DLK-58, "DTC Index".

#### **DATA MONITOR**

Monitor Item	Unit	Description
SPINDLE SENSOR LH	[Pulse]	Displays the condition of the LH encoder
SPINDLE LH SPEED	[mm/s]	Displays the LH spindle operation speed
SPINDLE MOTOR LH DUTY	[%]	Displays the condition of the spindle motor LH duty
VHCL SPEED MTR	[km/h]	Displays the vehicle speed signal received from combination meter by numerical value
VHCL SPEED ABS	[km/h]	Displays the vehicle speed signal received from ABS actuator and electrical unit by numerical value
MAIN SW	[ON/OFF]	Indicates condition of automatic back door main switch
AUTO BD SW	[ON/OFF]	Indicates condition of automatic back door switch
BK DOOR CL SW	[ON/OFF]	Indicates condition of automatic back door close switch
PKB SW	[ON/OFF]	Indicates condition of parking brake switch
BACK DOOR LOCK STATUS	[ON/OFF]	Indicates condition of back door lock status
OPEN SW	[ON/OFF]	Indicates condition of open switch
CLOSE SW	[ON/OFF]	Indicates condition of close switch
HALF LATCH SW	[ON/OFF]	Indicates condition of half latch switch
TOUCH SEN RH	[ON/OFF/OPEN]	Indicates condition of touch sensor RH
TOUCH SEN LH	[ON/OFF/OPEN]	Indicates condition of touch sensor LH
P RANGE IND	[ON/OFF]	Indicates condition of P range signal from combination meter
RKE REQ	[OFF/MOVE/ REV]	Indicates condition of remote keyless entry signal from BCM
IGN SW	[ON/OFF]	Indicates condition of IGN power supply
SPINDLE LH ENCODER A	[LO/HI]	Indicates condition of encoder signal from encoder A
SPINDLE LH ENCODER B	[LO/HI]	Indicates condition of encoder signal from encoder B
DESTINATION	[JPN/NAM]	Indicates specification of destination of the automatic back door system
AUTO BCK DR POS INITIAL	[YET/DONE]	Indicates condition of calibration of automatic back door position information
AUTO BCK DR POS LEARN	[YET/DONE]	Indicates condition of additional service when removing battery negative cable

# **DIAGNOSIS SYSTEM (AUTOMATIC BACK DOOR CONTROL UNIT)**

# < SYSTEM DESCRIPTION >

Monitor Item	Unit	Description
SPINDLE SENSOR RH	[Pulse]	Displays the condition of the RH encoder
SPINDLE RH SPEED	[mm/s]	Displays the RH spindle operation speed
SPINDLE MOTOR RH DUTY	[%]	Displays the condition of the spindle motor RH duty
SPINDLE RH ENCODER A	[LO/HI]	Indicates condition of encoder signal from encoder A
SPINDLE RH ENCODER B	[LO/HI]	Indicates condition of encoder signal from encoder B

# **WORK SUPPORT**

Work item	Description	Refer to
RESET AUTO BACK DOOR STATUS	This item is for calibration of automatic back door position information.	DLK-114, "Work Procedure"

F

Е

 $\mathsf{D}$ 

Α

В

G

Н

J

DLK

L

M

Ν

0

< ECU DIAGNOSIS INFORMATION >

# **ECU DIAGNOSIS INFORMATION**

# AUTOMATIC BACK DOOR CONTROL UNIT

Reference Value

#### VALUES ON THE DIAGNOSIS TOOL

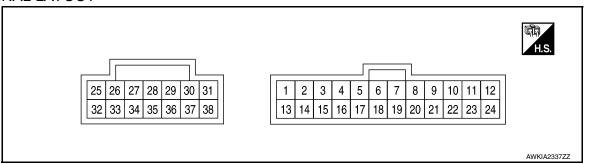
CONSULT MONITOR ITEM

Monitor Item	Conditio	Value/Status	
SPINDLE SENSOR LH	Back door: Moving	0 – 65535	
SPINDLE LH SPEED	Back door: Moving	0 - 6553.5	
SPINDLE MOTOR LH DUTY	Back door: Moving		0 – 255
VHCL SPEED MTR	While driving		Equivalent to speedometer reading
VHCL SPEED ABS	While driving		Equivalent to speedometer reading
MAIN SW	Automatic back door main switch	OFF	OFF
WAIN SW	Automatic back door main switch	ON	ON
AUTO BD SW	Automatic back door switch	Release	OFF
AUTO BD SW	Automatic back door switch	Press	ON
BK DOOR CL SW	Automatic back door close switch	Release	OFF
BR DOOR GL SW	Automatic back door close switch	Press	ON
PKB SW	Parking brake switch	Release	OFF
FRD SW	Faiking blake Switch	Press	ON
DACK DOOD LOCK STATUS	Back door lock	Lock	OFF
BACK DOOR LOCK STATUS	Back door lock	Unlock	ON
OPEN SW	Back door	Half latch/fully closed	OFF
OPEN SW	Back door	Open	ON
CLOSE SW	Back door	Open/half latch	OFF
CLOSE 3W	Back door	Fully closed	ON
HALF LATCH SW	Back door	Half latch/fully closed	OFF
HALI LATOTTOW	Back door	Open	ON
TOUCH SEN RH	Touch sensor RH	Other than bellow	OFF
TOUCH SEN KH	Touch sensor Kn	Detect obstruction	ON
TOUCH SEN LH	Touch sensor LH	Other than bellow	OFF
TOOCH SEN EH	Touch sensor Lit	Detect obstruction	ON
P RANGE IND	Selector lever	Other than P position	OFF
F NANGE IND	Selector level	P position	ON
		Release	OFF
RKE REQ	Intelligent Key button (back door)	Press (more than 0.5 second)	MOVE
		Press (just after)	REV
IGN SW	Ignition switch	Other than ON position	OFF
IGIN SVV	Ignition switch	ON position	ON
SPINDLE LH ENCODER A	Automatic back door	Not operate	No change HI or LO
SCHADLE LE ENCODER A	Automatic back 000f	Operate	Change HI or LO
CDINDLE LU ENCODED D	Automatia haak daar	Not operate	No change HI or LO
SPINDLE LH ENCODER B	Automatic back door	Operate	Change HI or LO

## < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status		
DESTINATION	_		OTHER	
AUTO BCK DR POS INITIAI	Calibration of automatic back door	Not complete	YET	
AO TO BON DIX FOO INITIAL	position information	Complete	DONE	
AUTO BCK DR POS LEARN	Additional service when removing	Not complete	YET	
AUTO BOK DR POS LEARN	battery negative terminal	Complete	DONE	
SPINDLE SENSOR RH	Back door: Moving	0 – 65535		
SPINDLE RH SPEED	Back door: Moving	Back door: Moving		
SPINDLE MOTOR RH DUTY	Back door: Moving		0 – 255	
SPINDLE RH ENCODER A	Automatic back door	Not operate	No change HI or LO	
SPINDLE KIT ENCODER A	Automatic back door	Operate	Change HI or LO	
SPINDLE RH ENCODER B	Automatic back door	Not operate	No change HI or LO	
STINDLE KIT ENCODER B	Automatic back door	Operate	Change HI or LO	

# TERMINAL LAYOUT



# PHYSICAL VALUES

	inal No. e color)	Description		Condition		Voltage	
(+)	(–)	Signal name	Input/ Output	Condition		(Approx.)	
1 (BR)	13 (SB)	Touch sensor RH sig-	Input	Touch sensor RH	Detect obstruc- tion	1.8 – 5 V	
(DK)	(36)	IIai			Other than above	2.72 – 7.27 V	
2		Input	Touch sensor LH	Detect obstruc- tion	1.8 – 5 V		
(LG)	(SB)	nal			Other than above	2.72 – 7.27 V	
3					Open	0 V	
(L)	Ground	Half latch switch signal	Input	Back door	Fully closed/half latch	Battery voltage	
4* (GR)	Ground	Ground	_	_		0 V	
5	5 Ground	Close switch signal Input Back door	lanut	Dools door	Fully closed	0 V	
(LG)	Ground		Dack Gool	Open/half latch	Battery voltage		

Α

В

С

D

Е

F

G

Н

J

DLK

L

N /I

Ν

 $\circ$ 

# < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description		Condition		Voltage
(+)	(-)	Signal name	Input/ Output			(Approx.)
6 (V)	Ground	Encoder LH A signal	Input	Back door	Moving (auto or manual)	(V) 15 10 5 0 JMKIA1864ZZ  NOTE: Waveform width changes according to back door open/close speed
					When stopped	0 V or Battery voltage
7 (Y)	Ground	Encoder LH B signal	Input	Back door	Moving (auto or manual)	(V) 15 10 5 0 JMKIA1864ZZ  NOTE: Waveform width changes according to back door open/close speed
					When stopped	0 V or 12 V
8 (BR)	Ground	Encoder RH A signal	Input	Back door	Moving (auto or manual)	(V) 15 10 5 0 JMKIA1864ZZ  NOTE: Waveform width changes according to back door open/close speed
					When stopped	0 V or 12 V
9 (L)	Ground	Encoder RH B signal	Input	Back door	Moving (auto or manual)	NOTE: Waveform width changes according to back door open/close speed
					When stopped	0 V or 12 V
10	Craund	Automatic back door	los: 4	Automatic back	ON	Battery voltage
(LG)	Ground	main switch	Input	door main switch	OFF	0 V
11 (BR)	Ground	Open switch signal	Input	Back door	Open Half latch/fully closed	0 V  Battery voltage
12 (W)	Ground	CAN - L	Input/ Output	-	_	_

## < ECU DIAGNOSIS INFORMATION >

	inal No. e color)	Description		Condition		Voltage
(+)	(-)	Signal name	Input/ Output			(Approx.)
13 (SB)	Ground	Touch sensor ground	Input	-	_	0.01 – 0 V
18 (—)	Ground	Ground (noise shield)	_	-	_	0.01 – 0 V
19 (SB)	Ground	Encoder LH power supply	Output	-		Battery voltage
20 (Y)	Ground	Encoder RH power supply	Output	-	_	Battery voltage
21 (LG)	Ground	Encoder ground	_	-		0 V
22	Ground	Automatic back door	Input	Automatic back	Pressed	Battery voltage
(SB)	Oround	switch	iliput	door switch	Released	0 V
23	Ground	Automatic back door	Input	Automatic back	Pressed	Battery voltage
(Y)	Ground	close switch	iliput	door close switch	Released	0 V
24 (B)	Ground	CAN - H	Input/ Output	_		_
25 (B)	Ground	Power supply (BAT)	Input	-	_	Battery voltage
27 (B)	Ground	Spindle motor LH (open)	Output	Back door Auto open operation		Battery voltage
28 (—)	Ground	Ground (noise shield)	_	-	_	0.01 – 0 V
29 (B)	Ground	Spindle motor RH (open)	Output	Back door	Auto open operation	Battery voltage
31	Ground	Back door closure mo-	Output	Back door	Open operation	Battery voltage
(B)	Ground	tor (open)	Output	Dack door	Other than above	0 V
32 (B)	Ground	Ground	_	_		0 V
34 (W)	Ground	Spindle motor LH (close)	Output	Back door	Auto close operation	Battery voltage
36 (W)	Ground	Spindle motor RH (close)	Output	Back door	Auto close operation	Battery voltage
37	_	Back door warning	_	Automatic back	Sounding	0 V
(LG)	Ground	chime	Output	door warning chime	Not sounding	Battery voltage
38	Ground	Back door closure mo-	Output	Back door	Close operation	Battery voltage
(W)	Cidana	tor (close)	Carpar	2401. 4001	Other than above	0 V

<sup>\*:</sup> Except Mexico

Fail Safe

Display contents of CONSULT	Fail-safe	Cancellation
U1000 CAN COMM	Inhibit automatic back door operation	Return to normal status.
U1010 CONTROL UNIT (CAN)	Inhibit automatic back door operation	Return to normal status.
B2401 IGN OPEN	Inhibit automatic back door operation	Automatic back door control module detects ignition switch ON signal via CAN communication.

Revision: August 2013 DLK-57 2014 QX60

В

Α

С

D

Ε

F

G

Н

DLK

M

Ν

0

#### < ECU DIAGNOSIS INFORMATION >

Display contents of CONSULT	Fail-safe	Cancellation
B2409 HALF LATCH SW	Inhibit automatic back door operation	Automatic back door control module detects that half latch switch changes from ON to OFF when back door fully closes.
B2416 TOUCH SEN R OPEN	Inhibit automatic back door operation	Return to normal status.
B2417 TOUCH SEN L OPEN	Inhibit automatic back door operation	Return to normal status.
B2419 OPEN SW	Inhibit automatic back door operation	Reconnect battery.
B2420 CLOSE SW	Inhibit automatic back door operation	Reconnect battery.
B2422 BACK DOOR STATE	Inhibit automatic back door operation	Half latch switch is ON from OFF.
B2423 ABD MTR TIME OUT	Inhibit automatic back door operation	At least 180 seconds are passed after automatic back door operation is inhibited.
B2426 SPINDLE SENSOR LH	Inhibit automatic back door operation	Return to normal status.
B2427 SPINDLE SENSOR RH	Inhibit automatic back door operation	Return to normal status.
B2428 AUTO BACK DR CNT MODULE	Inhibit automatic back door operation	Return to normal status.
B242A CLSR CONDITION	Inhibit automatic back door operation	Reconnect battery.

# DTC Inspection Priority Chart

INFOID:0000000009132964

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

Priority	DTC
1	B2428 AUTO BK DR CNT UNIT U1000 CAN COMM U1010 CONTROL UNIT (CAN) B2401 IGN OPEN
2	B2409 HALF LATCH SW B2416 TOUCH SEN R OPEN B2417 TOUCH SEN L OPEN B2419 OPEN SW B2420 CLOSE SW B2422 BACK DOOR STATE B2423 ABD MTR TIME OUT B2426 SPINDLE SENSOR LH B2427 SPINDLE SENSOR RH B242A CLSR CONDITION

DTC Index

#### NOTE:

Details of time display

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

CONSULT display	Fail-safe	Reference page
U1000: CAN COMM	×	DLK-115, "DTC Logic"
U1010: CONTROL UNIT(CAN)	×	DLK-116, "DTC Logic"
B2401: IGN OPEN	×	DLK-117, "DTC Logic"
B2409: HALF LATCH SW	×	DLK-118, "DTC Logic"
B2416: TOUCH SEN R OPEN	×	DLK-121, "DTC Logic"
B2417: TOUCH SEN L OPEN	×	DLK-124, "DTC Logic"

# < ECU DIAGNOSIS INFORMATION >

CONSULT display	Fail-safe	Reference page
B2419: OPEN SW	X	DLK-127, "DTC Logic"
B2420: CLOSE SW	×	DLK-130, "DTC Logic"
B2422: BACK DOOR STATE	×	DLK-133, "DTC Logic"
B2423: ABD MTR TIME OUT	×	DLK-136, "DTC Logic"
B2426: SPINDLE SENSOR LH	X	DLK-138, "DTC Logic"
B2427: SPINDLE SENSOR RH	×	DLK-141, "DTC Logic"
B2428: AUTO BACK DR CNT UNIT	×	DLK-144, "DTC Logic"
B242A: CLSR CONDITION	×	DLK-145, "DTC Logic"

Α

В

С

D

Е

F

G

Н

J

DLK

L

 $\mathbb{N}$ 

Ν

0

# **BCM**

# List of ECU Reference

INFOID:0000000009132966

ECU	Reference
	BCS-29, "Reference Value"
BCM	BCS-49, "Fail Safe"
BCIVI	BCS-49. "DTC Inspection Priority Chart"
	BCS-51, "DTC Index"

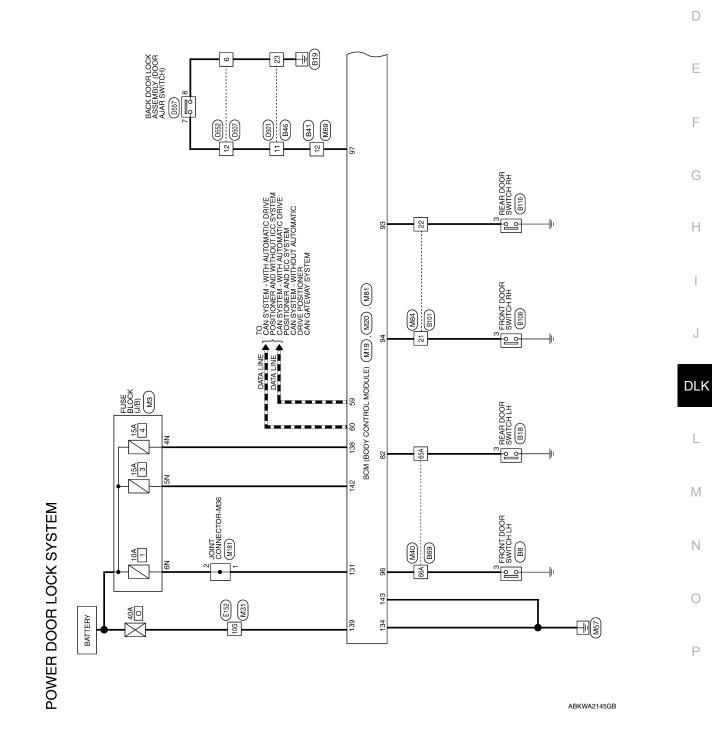
# **WIRING DIAGRAM**

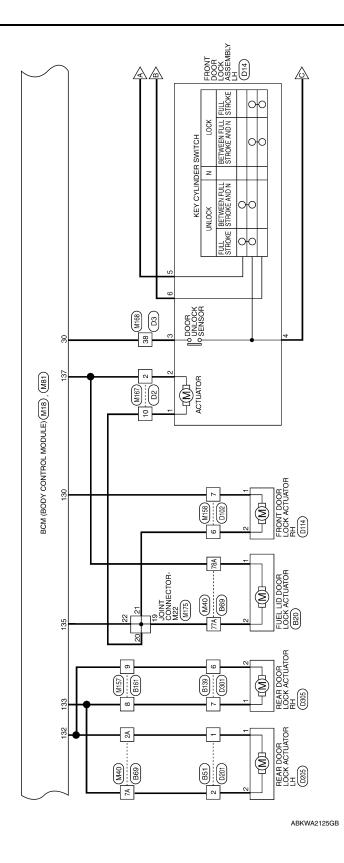
# POWER DOOR LOCK SYSTEM

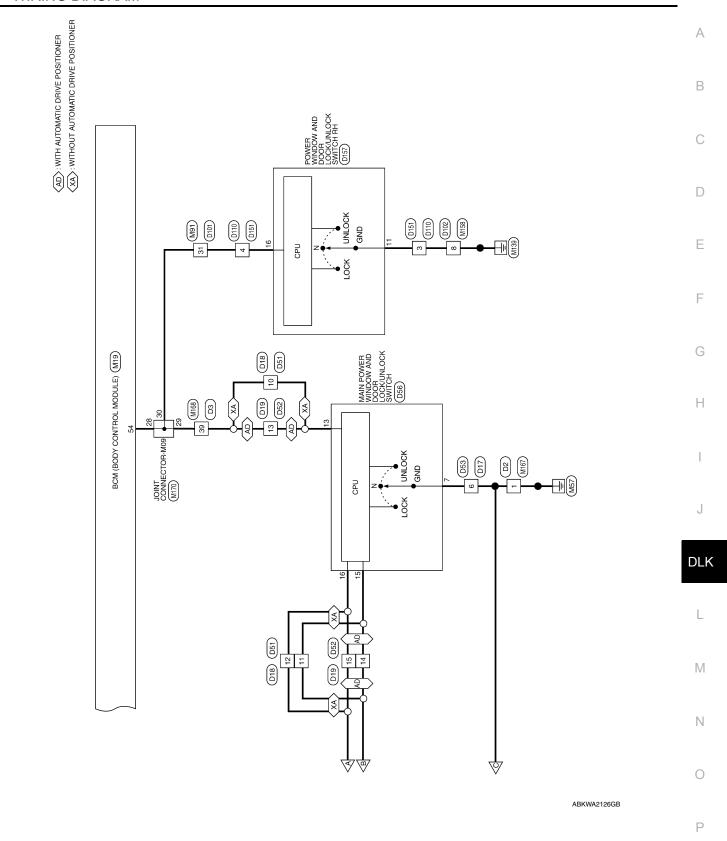
Wiring Diagram

Α

С







# POWER DOOR LOCK SYSTEM CONNECTORS

	ATROL  Connector Name BCM (BODY CONTROL  Connector Color BLACK	4 8 8 8 2 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1
NECTORS	Connector No. M18 Connector Name BCM (BODY CONTROL MODULE) Connector Color GREEN	#S.  20 19 18 17 16 15 14 19 12 11 10 9 8 7 7 6 5 4 4 40 38 38 73 38 38 34 38 32 31 30 28 27 26 25 2 2 4 40 38 37 38 6 5 4 40 40 8 8 77 38 6 5 4 40 40 8 8 7 7 38 6 5 8 4 40 40 8 40 8 40 8 40 8 40 8 40 8
OWER DOOR LOCK SYSTEM CONNECTORS	SE BLOCK (J/B)	r of Signal Name
WER DOOR LC	Connector No. M3 Connector Name FUSE BLOCK (J/B) Connector Color WHITE	Terminal No. Color of Wire 4N V 5N Y 6N W

Revision: August 2013 DLK-64 2014 QX60

ABKIA3513GB

Р

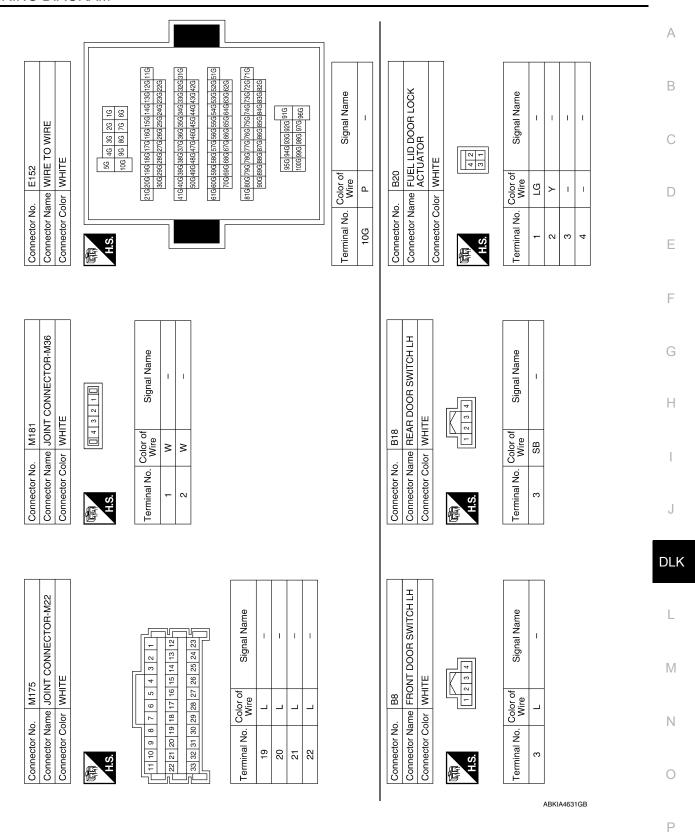
Connector No. M69		Connector Color   WHITE			H.S.			16         15         14         13         12         11         10         9         8         7         6         5         4         3         2         1           32         31         30         29         28         27         26         25         24         23         22         21         20         19         18         17			Terminal No. Color of Wire Signal Name	12 W =							Connector No. M84	Connector Name WIRE TO WIRE	Connector Color   WHITE	a	N. T. Ling	H.S.		8 7 6 5	32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17	Color of	Terminal No. Wire Signal Name	21 G –	22 R –			A B C D
								ı													_							1						F
Signal Name		1				1	ı												Signal Name	DOOR UNI OCK BR/BI	GND 2	DOOR LOCK DR/AS/FI	DOOR UNLOCK DR/FL	BAT REAR DOOR	BAT POWER F/L	BAT FRONT DOOR	GND 1							G
Jo 0																					)	1000	Dood	BA	B/	BA								Н
o. Color of Wire	HE HE	<u> </u>	*	» BB	2	_	>												o. Color of Wire	>	-   62	) <u> </u>	>	>	>	>	В							I
Terminal No.	2A	7 A	A 2 A	66A	5	77A	78A												Terminal No.	133	134	135	137	138	139	142	143							J
			Гі															$\exists$																DLK
	I O WIRE			-	1A 2A 3A 4A 5A	6A 7A 8A 9A 10A		224 234 244 154 164 174 184 194 204 214	7	31A 32A 33A 34A 35A 36A 37A 38A 39A 40A 41A	42A 43A 44A 45A 46A 47A 48A 49A 50A	A 54A 55A 56A 57A 58A 59A 60A 61A	62A 63A 64A 65A 66A 67A 68A 69A 70A	71A 72A 73A 74A 75A 76A 77A 78A 79A 80A 81A	4 844 854 864 874 88A 89A 90A	91A goa gaa gaa gaa	96A 97A 98A 99A100A		THE CONTRACTOR OF THE CONTRACT	Connector Name   BCIM (BCD1 CONTROL   MODULE)			137138138134133132131130129	42   141   140   139   138   ]		Signal Name	DOOR UNLOCK AS	BAT BCM FUSE	DOOR LOCK RR/RL					L
M40	WIRE 0.13	or GRAY						11A 12A 13A	107 W27	31A 32A 33/	42A 43	51A 52A 53A	62A 63	71A 72A 73A	82A 834				M81		WHITE	_	1371361	143 14		Color of Wire	re	>	BB					h.'
Connector No.	Connector Name WIRE 10 WIRE	Connector Color		山山	H.S.														Connector No.	Connector Nam	Connector Color		E	H.S.		Terminal No.	130	131	132					N O
																													AB	BKIA4	16290	ЭB		Р

**DLK-65** Revision: August 2013 2014 QX60

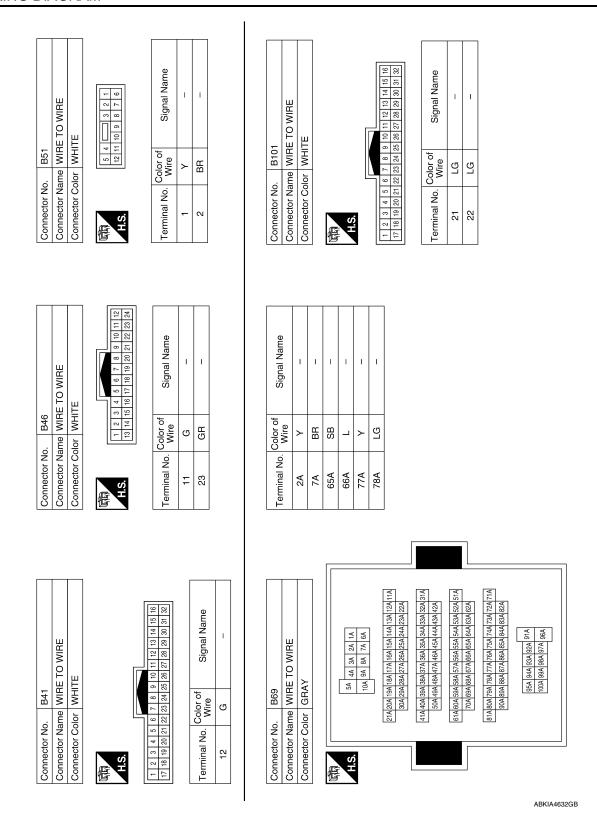
Connector No. Connector Color	Connector No. M91 Connector Name WIRE TO WIRE Connector Color WHITE	щ	Connector No. M157 Connector Name WIRE TO WIRE Connector Color WHITE	o. M157 ame WIRE	TO WIRE	[8 8 8]	Connector No. M158 Connector Name WIRE TO WIRE Connector Color WHITE	. M158 me WIRE T lor WHITE	TO WIRE
是 H.S.			H.S.	7 6 5 14 .	7 6 5 4 3 2 1 16 15 14 13 12 11 10 9 8		H.S.	- 5	7 8 9 10
1 2 3 4 5 6 17 18 19 20 21 22	7 8 9 10 11 12 23 24 25 26 27 28	13 14 15 16 29 30 31 32	Terminal No.	Color of Wire	Signal Name	Te	al No.	Color of Wire	Signal Name
			0 6	- BB	1 1		0 2	- G	1 1
Terminal No.	Color of Signs Wire	Signal Name -					ω	85	1
Connector No. Connector Name	Connector No. M167 Connector Name WIRE TO WIRE Connector Color WHITE	Li Li	Connector No. M168 Connector Name WIRE TO WIRE Connector Color WHITE	o. M168 ame WIRE T	TO WIRE	[8 8 8]	Connector No. Connector Name Connector Color	. M170 me JOINT (	Connector No. M170  Connector Name JOINT CONNECTOR-M09  Connector Color WHITE
S.E.	2 3 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	6 7 15 16	H.S. 1 2 3 4 5 21 22 23 24 25	6 7 8 9 26 27 28 29	10 11 12 13 14 15 16 17 18 19 20 30 31 32 33 34 35 36 37 38 39 40		S. T.	22 21 20 19 8 33 32 31 30	7 6 5 4 3 2 1 9 18 17 16 15 14 13 12 2 2 2 2 2 2 2 2 2 2 2 2 2
Terminal No.	Color of Sign:	Signal Name	Terminal No.	Color of Wire	Signal Name	Ter	Terminal No.	Color of Wire	Signal Name
-	В	1	38	۵	ı		28	M	ı
2	>	1	39	*	ı		29	8	1
10	_	1					30	>	ı

ABKIA4630GB

#### < WIRING DIAGRAM >



Revision: August 2013 DLK-67 2014 QX60



## < WIRING DIAGRAM >

tor No.	Connector No.   D3	A B C D
Connector No. B116 Connector Name REAR DOOR SWITCH RH Connector Color WHITE  Terminal No. Color of Signal Name  3 LG -	Connector No.   D2	F G H
Connector No. B108 Connector Name FRONT DOOR SWITCH RH Connector Color WHITE  Terminal No. Color of Signal Name 3 LG -	Connector No. B161 Connector Name WIRE TO WIRE Connector Color WHITE  Connector Color of 1 2 3 1 14 15 16  REPRESENTABLE TO WIRE Signal Name  8 Y  9 BR  9 BR	DLK  L  M  N  O

Revision: August 2013 DLK-69 2014 QX60

	\\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	Connector Co	Connector Color WHITE	Connector Color WHITE	Connect	Connector Name WIRE TO WIRE Connector Color WHITE	WHITE	ariw E
(内)	2 3 4 5 6	是 H.S.	8 3	□ 0 □ 0 □ 4	€ S.H.		8 7 8 14 11 14 11 11 11 11 11 11 11 11 11 11	13 5 14 5 15 10 0 10 0 0 10 0 0
Terminal No. Wire	of Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No.	I No. Color of Wire	or of re	Signal Name
>	ı	9	В	1	10	٨		1
2 +	ı				11	B	BR	-
3 FG	1				12		SB	1
4 B	ı							
5 SB	-							
6 BR	1							
Connector No. D19	6	Connector No.	. D51		Connector No.	or No.	D52	
Connector Name WIRE TO WIRE	IRE TO WIRE	Connector Name WIRE TO WIRE	me WIRE	TO WIRE	Connect	or Name	Connector Name WIRE TO WIRE	WIRE
Connector Color WI	WHITE	Connector Color WHITE	lor WHITE		Connect	Connector Color	WHITE	
原 E		E SH			唐 SH			
12 11 10 9 24 23 22 21	8 7 6 5 4 3 2 1 20 19 18 17 16 15 14 13		1 2 3 9 10 11	3 4 5 6 7 8 11 12 13 14 15 16		13 14 15	13 14 15 16 17 18 19 20	8 9 10 11 12 20 21 22 23 24
Terminal No. Wire	f Signal Name	Terminal No.	Color of Wire	Signal Name	Terminal No.	I No. Wire	or of re	Signal Name
13 Y	1	10	<b>\</b>	I	13	٨	,	1
14 BR	I	=	BR	1	14	M		ı
15 SB	ı	C+	c		70	(	_	

ABKIA4700GB

Α

В

С

D

Е

F

G

Н

J

DLK

L

M

Ν

0

Р

## < WIRING DIAGRAM >

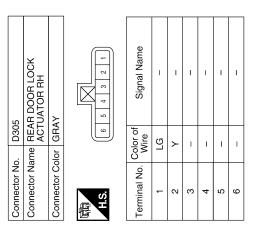
Connector Name WIRE TO WIRE  Connector Color WHITE  H.S.  16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 11 11 10 9 8 7 8 5 24 23 22 21 20 19 18 17	Terminal No. Color of Signal Name 31 BR –				Connector No. D114		Connector Color GRAY	H.S. 6 5 4 3 2 1	Terminal No. Color of Signal Name	- 1 FG		ا د	+	2	- 9	
MAIN POWER WINDOW AND DOOR LOCK/UNLOCK SWITCH WHITE 3 4	Signal Name GND	LOCK SW (WITHOUT AUTOMATIC DRIVE POSITIONER)	AUTOMATIC DRIVE POSITIONER)	UNLOCK SW		E TO WIRE	!	8 7 2 2 1	Signal Name	1	1					
Connector Name AND DC LOCK/L  Connector Color WHITE      2   3   4	Terminal No. Color of Wire 7 B Y	_	15 W	16 SB	Connector No. D110	Connector Name WIRE TO WIRE Connector Color WHITE		H.S.	Terminal No. Wire	3 B	4 BB					
WIRE TO WIRE WHITE	r of Signal Name				D102	WIRE TO WIRE WHITE		10 9 8 7 6 5	r of Signal Name	1	-	ı				
Connector Name WIRE TO WIRE  Connector Color WHITE  THE TO THE TO THE TO THE TO THE	Terminal No. Wire 6 B				Connector No.	Connector Name WIRE TO WIRE Connector Color WHITE		H.S.	Terminal No. Wire	У 9	7 LG	8 B				

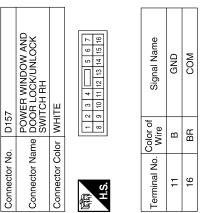
Revision: August 2013 DLK-71 2014 QX60

Connector No. D201	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S. (1   2   3   1   4   5   6   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   11   12   7   8   9   10   10   10   10   10   10   10
	W AND		6 7 8 16 16 16 16 16 16 16 16 16 16 16 16 16

Signal Name	I	I
Color of Wire	BR	Г
Terminal No.	1	7

ı	1	
BR	_	
-	2	
		BB T





_	_	_	
Signal Name	GND	COM	
Color of Wire	В	BR	
erminal No. Wire	11	16	

1	IE TO WIRE	TE	2 3 mm 4 5 7 8 9 10 11 12	Signal Name	ı	ı
). D301	ıme WIF	olor WH	1 2 7	Color of Wire	>	LG
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No.	9	7

Connector No.	D151
Connector Name WIRE TO WIRE	WIRE TO WIRE
Connector Color WHITE	WHITE
H.S.	1 2 m 3 4 5 6 7 8 9 10

Signal Name	1	ı
Color of Wire	В	BB
Terminal No.	3	4

			ı					_		
5	REAR DOOR LOCK ACTUATOR LH	٨t	1 2 3 4 5 6	Signal Name	1	1	1	1	1	1
. D205		lor GRAY		Color of Wire	BR	_	ı	ı	ı	ı
Connector No.	Connector Name	Connector Color	南 H.S.	Terminal No.	1	2	3	4	5	9

ABKIA4697GB

### **POWER DOOR LOCK SYSTEM**

### < WIRING DIAGRAM >

Connector No. D501 Connector Name WIRE TO WIRE	E TO WIRE	Connector No. D507 Connector Name WIRE TO WIRE	o. D507 ame WIRE	TO WIRE	Connector No. D552 Connector Name WIRE TO WIRE	o. D552 ame WIRE	E TO WIRE	
Connector Color WHITE	IE	Connector Color WHITE	olor WHITE	111	Connector Color WHITE	olor WHI	TE	
H.S. 24 28 22	10 9 8 7 6 5 4 3 2 1 1 22 21 20 19 18 17 16 15 14 13	H.S.	8 7 8 16 15 1.	14 13 12 1 1 1 0 0 0 1 1 1 1 1 0 0 0 1 1 1 1	语 H.S.	2 01	3 4 5 6 7 8 112 13 14 15 16	
Terminal No. Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name	
۵	ı	9	>	1	9	В	-	
23 Y	ı	12	۵	I	12	G	-	

2.5	BACK DOOR LOCK ASSEMBLY	ПЕ	2 L 8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Signal Name	ı	
. D557		lor WH	- 4	Color of Wire	g	
Connector No.	Connector Name	Connector Color WHITE	副 H.S.	Terminal No.	7	

ω

ABKIA4701GB

Α

В

С

 $\mathsf{D}$ 

Е

F

G

Н

J

DLK

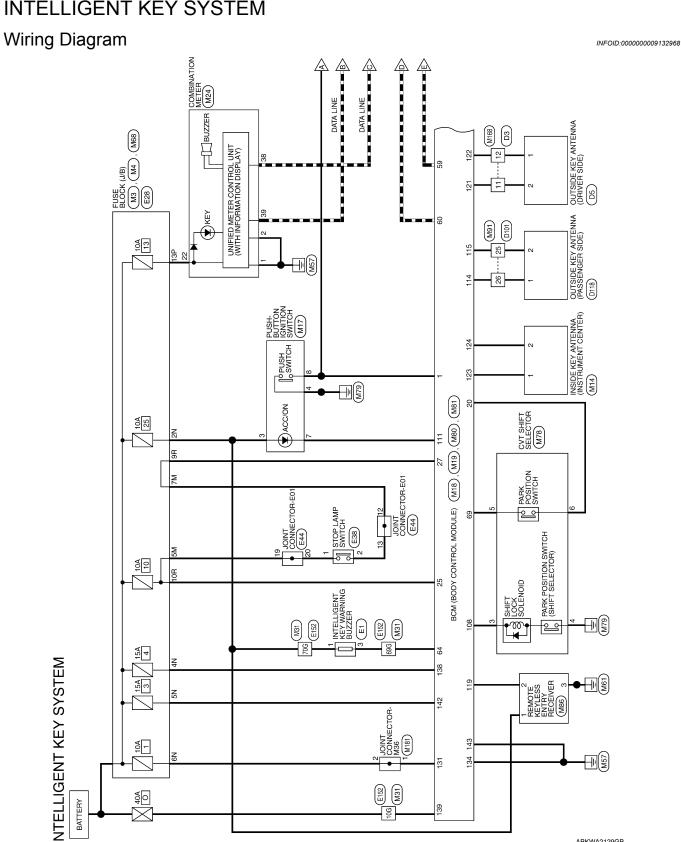
L

 $\mathbb{N}$ 

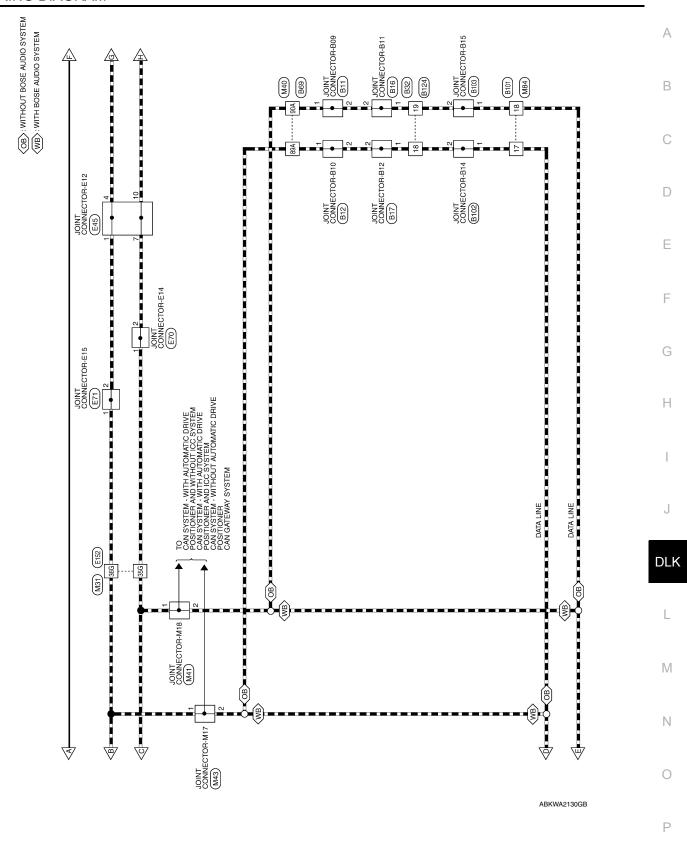
Ν

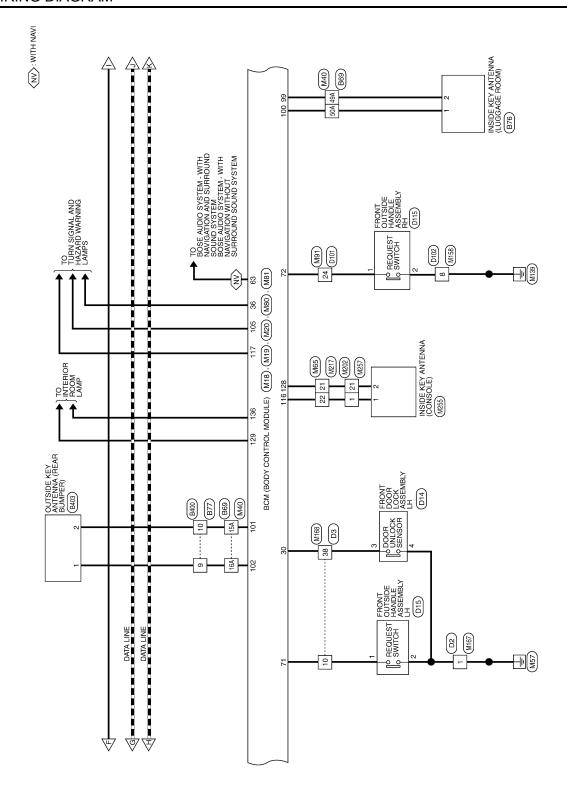
0

Ρ

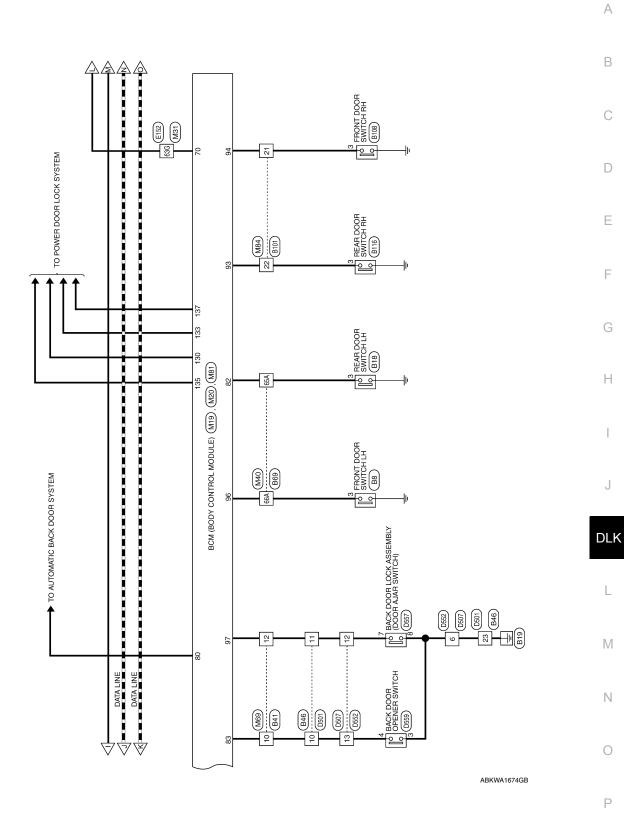


ABKWA2129GB

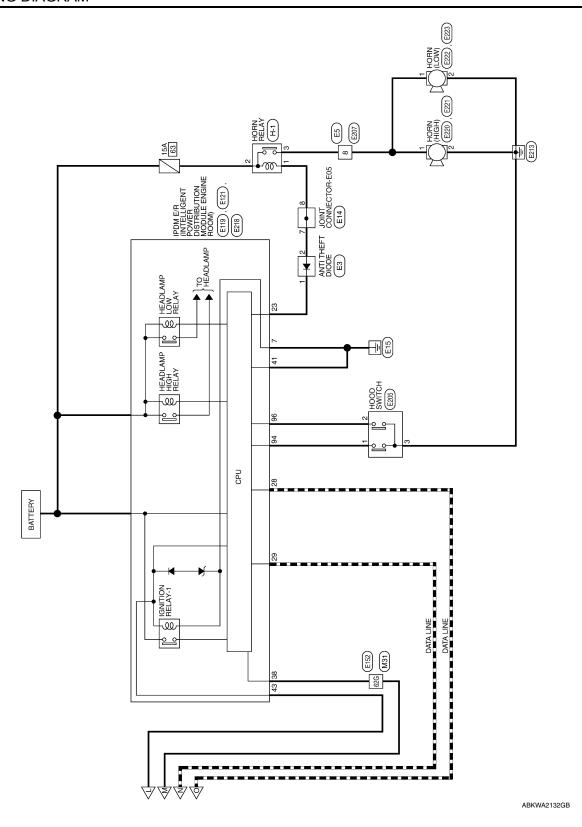




ABKWA2131GB



Revision: August 2013 DLK-77 2014 QX60



Connector Name INSIDE KEY ANTENNA (INSTRUMENT CENTER)

M14

Connector No.

GRAY

Connector Color

7P 6P 5P 4P 3P 2P 1P 1P 1P 1SP 15P 1P 9P 8P

Signal Name

Color of Wire

Terminal No.

Signal Name

Color of Wire

Terminal No. 13P

≥

## INTELLIGENT KEY SYSTEM CONNECTORS

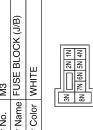
Connector No.	M3
Connector Name	Connector Name FUSE BLOCK (J/B)
Connector Color WHITE	WHITE

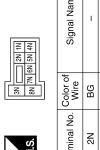
Connector Name FUSE BLOCK (J/B)

Α

Connector No.

Connector Color | WHITE

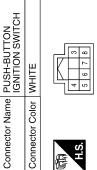




	Signal Name	_	I	-	_	
]	Color of Wire	BG	۸	Y	Μ	
	Terminal No. Wire	2N	4N	2N	N9	

	- 9		M19	Connector Name BCM (BODY CONTROL MODULE)	BLACK
>				Vame	Color
_	2		Connector No.	Connector I	Connector Color BLACK

Connector Name BCM (BODY CONTROL MODULE) Connector Color GREEN	Connector No.	M18
Connector Color   GREEN	Connector Name	BCM (BODY CONTROL MODULE)
	Connector Color	GREEN



M17

Connector No.



Signal Name	ı	ı	Ι	1	
Color of Wire	BG	В	Ь	G	
Terminal No. Wire	3	4	7	8	

60 59 58 57 56	55 54 53	52 51 50 49 48 47 46 45 44 43 42	4
79 78 77	75 74 73 7	68 67 66 65 64 63	
Terminal No.	Color of Wire	Signal Name	
59	۵	CAN-L	
09	٦	CAN-H	
63	bВ	I-KEY LINK SIGNAL	
64	۵	BUZZER OUT	
69	5	AT DEVICE OUT	
02	Ы	IGN USM OUT1	
71	æ	DR REQUEST SW	
72	5	AS REQUEST SW	
80	Н	BACK DOOR OPEN SW	

BRAKE SW FUSE **BRAKE SW LAMP** 

SHIFT P

20 25 DR DOOR LOCK STATUS HAZARD SW

Ŋ

36 30

ABKIA4651GB

ENG START SW

≥ ≥ G ۵

Signal Name

Color of Wire

Terminal No.

J DLK

Α

В

С

D

Е

F

G

Н

L

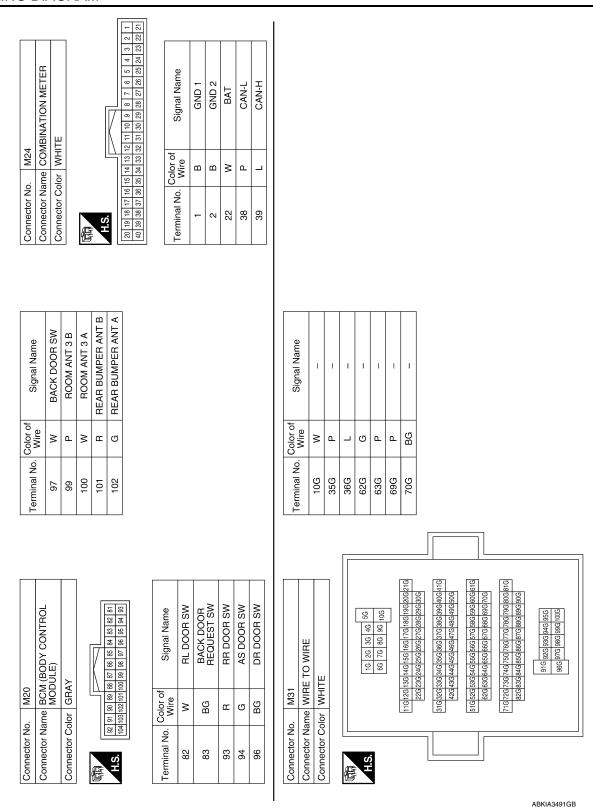
M

Ν

0

Р

**DLK-79 Revision: August 2013** 2014 QX60



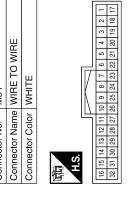
Revision: August 2013 DLK-80 2014 QX60

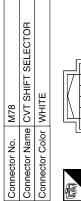
Of Signal Name Connector No. M41	Collification Name and Collification Name and Collification Collificatio					ı	- Color of	Terminal No. Wire		2 P							Mes Connector No Mes	Connector Name		TRI MR MR MR   MR MR MR MR MR MR MR MR MR MR MR MR MR	H.S.	9 8 7 6 5 4 3 2 1	5 24 23 22 21 20 19 18 17	of Signal Name Terminal No. Color of	- 98			
Terminal No. Wire	15A R	16A G	49A P	50A W	65A W	66A BG	89A L	90A									Connector No	e	Connector Color W		H.S.	16 15 14 13 12 11 10 8	32 31 30 29 28 27 26 25	Terminal No. Color of Wire	21 R			
Connector No. M40		_		4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	74 88 A7		11A 12A 13A 14A 15A 16A 17A 18A 19A 20A 21A	22A 23A 24A 25A 26A 27A 28A 29A 30A	31A 32A 33A 34A 35A 36A 37A 38A 39A 40A 41A	42A 43A 44A 45A 46A 47A 48A 49A 50A	514 524 534 544 554 564 574 584 594 604 614 624 634 644 654 664 674 684 694 704	718728738788788758758178	82A 83A 84A 85A 86A 87A 88A 89A 90A	V+C	92A 93A 94A 95A 96A 97A 98A 99A 100A		M43	Connector Name JOINT CONNECTOR-M17	WHITE					Color of Signal Name			_	
Connector No.	Connector Color			0 -	2												Connector No	Connector Name	Connector Color		H.S.			Terminal No.	-	2		

Revision: August 2013 DLK-81 2014 QX60

M84 WIRE TO WIRE	WHITE		8 7 6 5 4 3 2 1 24 23 22 21 20 19 18 17	Signal Name	1	ı	I	-
9	+		27 26 25 27 26 25	Color of Wire	_	۵	ŋ	Ж
Connector No.	Connector Color	H.S.	16 15 14 13 12 11 32 31 30 29 28 27	Terminal No. Color of Wire	17	18	21	22

M84	Connector Name WIRE TO WIRE	WHITE	
Connector No.	Connector Name	Connector Color WHITE	

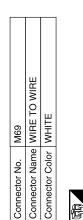


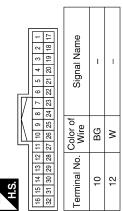


Signal Name	1	_	1	I	
Color of Wire	g	GR	Э	Ν	
Terminal No. Wire	3	4	9	9	

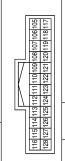
M81	Connector Name   BCM (BODY CONTROL   MODULE)	WHITE	
Connector No.	Connector Name	Connector Color WHITE	

ì													т
	Signal Name	BATTERY SAVER OUTPUT	DOOR UNLOCK AS	BAT BCM FUSE	DOOR UNLOCK RR/RL	GND 2	DOOR LOCK DR/AS/FL	ROOM LAMP CONT	DOOR UNLOCK DR/FL	BAT REAR DOOR	BAT POWER F/L	BAT FRONT DOOR	
	Color of Wire	SB	LG	W	<b>\</b>	В	Т	LG	>	^	M	Υ	
	Terminal No. Wire	129	130	131	133	134	135	136	137	138	139	142	





M80	Connector Name   BCM (BODY CONTROL MODULE)	BLACK	
Connector No.	Connector Name	Connector Color BLACK	



		I	I	I	I	
į	128	127	126	126 125 1	124	
	l					
•						
		Ç	3	بميمام		

Signal Name	FR FLASHER	SHIFT LOCK SOLENOID OUT	ACC LED	AS DOOR ANT A	AS DOOR ANT B	ROOM ANT 2 A	FL FLASHER	RF NIMOCO	DR DOOR ANT B	DR DOOR ANT A	ROOM ANT 1 A	ROOM ANT 1 B	B S TNA MOOR
Color of Wire	ГG	g	۵	*	BG	8	SB	Œ	ŋ	Ь	8	g	α
rminal No.	105	108	111	114	115	116	117	119	121	122	123	124	128

ABKIA4642GB

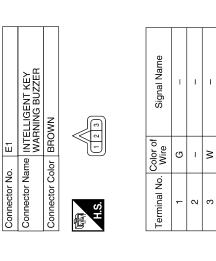
### < WIRING DIAGRAM >

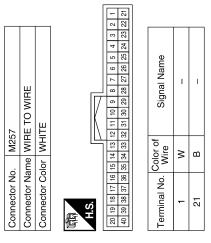
Connector No. M158  Connector Name WIRE TO WIRE  Connector Color WHITE	Terminal No.   Color of   Signal Name   8   GR   -	Connector No. M181 Connector Name JOINT CONNECTOR-M36 Connector Color WHITE  H.S.  Terminal No. Color of Signal Name  1 W -  2 W -	A B C D
		15 16 17 18 19 20 35 36 37 38 39 40	F
E TO WIRE	Signal Name		G H
Connector No. M91  Connector Name WIRE TO WIRE  Connector Color WHITE  H.S.  1 2 3 4 5 6 7 8 9 10 11 12 13 1 15 19 20 12 23 24 23 26 27 28 28 28	Terminal No. Wire 24 G 25 BG 26 W	Connector No.   M168	J
			DLŁ
M86 REMOTE KEYLESS ENTRY RECEIVER BLACK	Signal Name	WIRE    4   5   6   7     14   15   16     15   16   7     14   15   16     15   16   7     15   16   7     16   17     17   18   18     18   18   18     19   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18     10   18	L
	Vo. Color of Wire BG BG RA	M167   Connector No.   M167   Connector Name   WIRE TO WIRE	N
Connector No. Connector Name Connector Color H.S.	Terminal No.	Connector No.  Connector Nam Connector Cold Terminal No.	0

Revision: August 2013 DLK-83 2014 QX60

Connector No. M202	o. M202		Connector No.	). M217	7		Connector No. M255	, M25.	5
Connector Name WIRE TO WIRE	ame WIRE	E TO WIRE	Connector Name WIRE TO WIRE	me WIRi	E TO WIRE		Connector Na	INSI	Connector Name INSIDE KEY ANTENNA
Connector Color WHITE	olor WHIT	Щ	Connector Color WHITE	lor WHI				<u>0</u>	(CONSOLE)
							Connector Color GRAY	olor GRA	<u>&gt;</u>
是 H.S.	L		·S'H						
1 2 3 4 5	2 8 7	10   11   12   13   14   15   16   17   18   19   20		N			H.S.	IJ	1 2
21 22 23 24 25	26 27 28 29	30 31 32 33 34 35 36 37 38	1 2 3 4 5 17 18 19 20 21	6 7 8 9 22 23 24 25	9 10 11 12 13 14 15 16 5 26 27 28 29 30 31 32				
						•			
Terminal No. Wire	Color of Wire	Signal Name	Terminal No. Wire	Color of Wire	Signal Name		Terminal No. Wire	Color of Wire	Signal Name
1	Μ	1	21	В	ı		-	>	1
21	В	1	22	>	ı		2	В	ı

	Connector Name ANTI THEFT DIODE	Š	1 2	Signal Name	ı	_
. E3	me AN	lor BL/		Color of Wire	re	<b>\</b>
Connector No.	Connector Na	Connector Color BLACK	明 H.S.	Terminal No. Wire	-	2
			· ——			





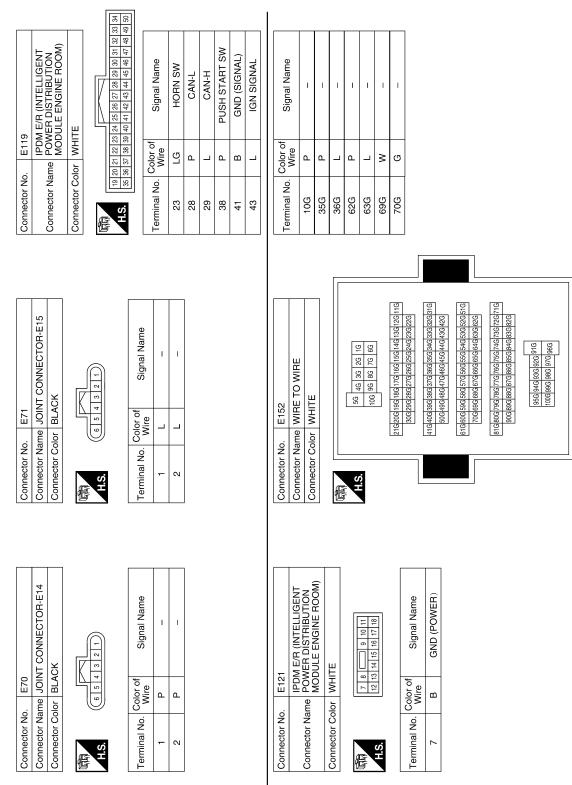
ABKIA4644GB

### < WIRING DIAGRAM >

Connector No. E28 Connector Name FUSE BLOCK (J/B) Connector Color WHITE	Terminal No. Color of Signal Name  SM Y -  7M P -	Connector No.   E45   Connector Name   JOINT CONNECTOR-E12   Connector Color   BLUE	A B C D
Connector No. E14 Connector Name JOINT CONNECTOR-E05 Connector Color BLACK	Terminal No. Wire Signal Name 7 Y	Connector No. E44  Connector Name JOINT CONNECTOR-E01  Connector Color WHITE  Til 10 9 8 7 6 5 4 3 2 11  33 22 31 30 29 28 27 26 25 24 23  Terminal No. Wire Signal Name  12 P	F G H
Connector No. E5  Connector Name WIRE TO WIRE  Connector Color WHITE    1 2 3   10   11   12   13   14   15   16   16   16   16   16   16   16	Terminal No. Wire Signal Name 8 G -	Connector No. E38 Connector Name STOP LAMP SWITCH Connector Color WHITE  Terminal No. Color of Signal Name  1	L M

Revision: August 2013 DLK-85 2014 QX60

### < WIRING DIAGRAM >



ABKIA4646GB

### < WIRING DIAGRAM >

Connector No. E218 IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) Connector Color WHITE  RES	No. Color of Signal Name LG HOODSW 2 R HOODSW	Connector No. E222 Connector Name HORN (LOW) Connector Color BLACK	al No. Color of Signal Name G G -	
Connector Nar Connector Col	Terminal No. 94 96	Connector No. Connector Colc	Terminal No.	
O WIRE	Signal Name	(HIGH)	Signal Name	
Connector No.   E207  Connector Name   WIRE TO WIRE  Connector Color   WHITE	Color of Wire G	Connector No. E221 Connector Name HORN (HIGH) Connector Color BLACK	Color of Wire B	
Connector No. E207 Connector Name WIRE T Connector Color WHITE T 6 5 4 H.S.	Terminal No. C	Connector No. Connector Color Connector Color	Z 2 2	
Conne Conne H.S.	Tem	Conne Conne (Conne (Conne	Hen Hen	
МТСН	Signal Name	IIGH)	Signal Name	
		E220 HORN (HI BLACK		
HOOD S BROWN	or of if		p =   a	
Connector No. E205 Connector Name HOOD SWITCH Connector Color BROWN H.S.	Terminal No. Color of Wire 1 LG 2 R 3 B	Connector No. E220 Connector Name HORN (HIGH) Connector Color BLACK	Terminal No. Color of Wire 1 G	

Revision: August 2013 DLK-87 2014 QX60

Р

Connector No. E223 Connector Name HORN (LOW) Connector Color BLACK	E223 HORN ( BLACK	(rOM)	[ၓ]ၓ]ၓ	Connector No. B8 Connector Name FRONT Connector Color WHITE	D. B8 ame FRON	Connector No. B8  Connector Name FRONT DOOR SWITCH LH  Connector Color WHITE		Connector No. B11 Connector Name JOINT Connector Color WHITE	b. B11 ame JOIN	Connector No. B11  Connector Name JOINT CONNECTOR-B09  Connector Color WHITE
原 H.S.	5		E E	H.S.		2 3 4		H.S.	4 3	3 2 1 1
Terminal No. Cole	Color of Wire B	Signal Name -	T L	Terminal No.	Color of Wire	Signal Name	[ <b>+</b> ]]	Terminal No.	Color of Wire P	Signal Name - -
Connector No. B12 Connector Name JOINT CONNECTOR-Connector Color WHITE	B12 JOINT C WHITE	CONNECTOR-B10	[ၓ]ၓ႞ၓ႞	Connector No. B16 Connector Name JOINT ( Connector Color WHITE	o. B16 ame JOIN'	Connector No. B16 Connector Name JOINT CONNECTOR-B11 Connector Color WHITE		Connector No. B17 Connector Name JOINT Connector Color WHITE	o. B17 ame JOIN olor WHI	Connector No. B17 Connector Name JOINT CONNECTOR-B12 Connector Color WHITE
Lis.	1 4 3 2			H.S.	6			司 H.S.	4	3 2 1
Terminal No. Wire	or of ire	Signal Name	Te	Terminal No.	Color of Wire	Signal Name	<u> </u>	Terminal No.	Color of Wire	Signal Name
1 L		ı		1	۵	ı		-	_	1
2 L		ı		2	Ъ	ı		2		ı

ABKIA4694GB

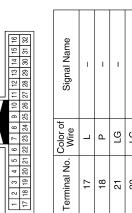
### < WIRING DIAGRAM >

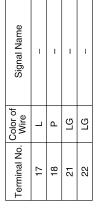
TO WIRE		10 11 12 13 14 15 16 26 27 28 29 30 31 32	Signal Name	1 1	:	Signal Name	1	1 1	1	ı	ı	ı	ı						
Connector Name WIRE TO WIRE Connector Color WHITE		6 7 8 9 22 23 24 25	Vo. Color of Wire	ш о	Color of	>	<u>ح</u> ک	s	*	SB	_	7	<u> </u>						
Connector Name Connector Color	原 H.S.	1 2 3 4 5 17 18 19 20 21	Terminal No.	12		l erminal No.	15A	49A	50A	65A	66A	89A	90A						
RE		4 3 2 1 20 19 18 17	Signal Name	1 1		#   			2A 1A	X		304 204 284 274 264 254 244 234 224	41A 40A 39A 38A 37A 36A 35A 34A 33A 32A 31A	45A 44A 43A 42A	61A 60A 59A 58A 57A 56A 55A 54A 53A 52A 51A	4 65A 64A 63A 62A	81A 80A 79A 78A 77A 78A 75A 74A 73A 72A 71A 90A 89A 88A 87A 86A 85A 84A 83A 82A	928 918 978 968	
Connector Color WHITE		10 9 8 7 6 5 26 25 24 23 22 21	Color of Sig	_   _	B69	Connector Name WIRE TO WIRE	GRAY		5A 4A 3A	9A 8A		30A 29A 28A 27A 26A	40A 39A 38A 37A 36A	50A 49A 48A 47A 46A 45A 44A 43A 42A	60A 59A 58A 57A 56A	70A 69A 68A 67A 66A 65A 64A 63A 62A	80A 79A 78A 77A 76A 75A 74A 73A 72A 90A 89A 88A 87A 86A 85A 84A 83A 82A	95a   94a   93a   92a   91a   91a	
Connector Color WHITE	H.S.	16 15 14 13 12 11 1 32 31 30 29 28 27 2	Terminal No. W	81 61	Connector No.	nector Name	Connector Color		SI			AIZ]	414		61A		818		
8   3   3		16	Б Н		Ö	Ö	Ö		T	1									ı
H			e e						12	24			Φ						
Connector Name REAR DOOR SWITCH LH Connector Color WHITE	4		Signal Nam	1		O WIRE			8 9 10 11	20 21 22 23			Signal Name	1	1	1			
ame REAR [	~		<u>ٽ</u> _	SB	). B46	ame WIRE 1	olor WHITE		2 3 4 5 6 7	14 15 16 17 1			Color of Wire	æ	G	GR			
Connector Name	原 H.S.		Terminal No.	က	Connector No.	Connector Name WIRE TO WIRE	Connector Color		I SH	5 5			Terminal No.	10	£	23			
										-								ABKIA4647GB	

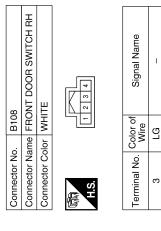
Revision: August 2013 DLK-89 2014 QX60



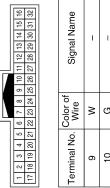
偃







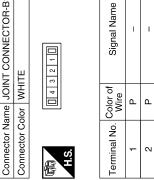




Signal Name	ı	ı	
Color of Wire	*	ប	
Terminal No.	6	10	

Connector Name JOINT CONNECTOR-B Connector Color WHITE	Connector No. B103	33
Connector Color   WHITE	Connector Name JO	NT CONNECTOR-B
	Connector Color WF	ITE

15

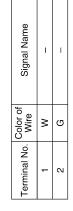




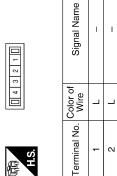
Connector No.



H.S. E



	CONNECTOR-B14	==	
Connector No. B102	Connector Name JOINT CONNECTOR-B14	Connector Color WHITE	
Conne	Conne	Conne	



ABKIA4695GB

### < WIRING DIAGRAM >

Connector No.   B400   Connector Name   WIRE TO WIRE   Connector Color   WHITE   Connector Color   WHITE	9 W	#\$.    A   18   17   16   14   13   12   11   10   9   8   7   6   5   4   3   2   1	A B C C D D E
Connector No. B124  Connector Color WHITE  Connector Color WHITE  H.S.  1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 12 12 23 24 25 28 27 28 29 30 31 22 30 Wire  Terminal No. Wire Signal Name	18	Terminal No. Color of Signal Name  Terminal No. Wire Signal Name  Terminal No. B	G H J
ER DOOR SWITCH RH TE 2   3 4	3 SIDE KEY ANTENNA AR BUMPER)	Signal Name	L
Connector No. B116 Connector Name REAR DOOR SWITCH Connector Color WHITE  H.S. Terminal No. Color of Wire Signal Name	Connector No. B403  Connector Name OUTSIDE KEY ANTENNA (REAR BUMPER)	H.S. Color of Terminal No. Wire	0 N
		- <u>-                                  </u>	ABKIA4648GB

Revision: August 2013 DLK-91 2014 QX60

Connector No. D5 Connector Color GRAY Connector Color GRAY H.S. Color of 1 LG 2 Y	OUTSIDE KEY ANTENNA GRAY  GRAY  r of Signal Name  3	Connector No. D14 Connector Name FRONT DOOR LOCK ASSEMBLY LH ASSEMBLY LH ASSEMBLY LH Connector Color GRAY  Terminal No. Color of Signal Name 3 LG - 4 B -	Connector No. D15 Connector Name FRONT OUTSIDE HANDLE ASSEMBLY LH ASSEMBLY LH ASSEMBLY LH Connector Color WHITE  1 BR 2 B -  2 B -  1
Connector No. D101 Connector Name WIRE TO WIRE Connector Color WHITE  H.S.  15 14 13 12 11 10 9 8 7 6 5 4 8 2 13 13 13 13 13 13 13 13 13 13 13 13 13	WIRE	Connector No. D102 Connector Name WIRE TO WIRE Connector Color WHITE    4 3   2   1     10 9 8 7 6 5 5	Connector No. D115 Connector Name FRONT OUTSIDE HANDLE ASSEMBLY RH Connector Color WHITE
Terminal No. Color of Wire 24 BR 25 Y 26 LG	Signal Name	Terminal No. Wire Signal Name 8 B -	Terminal No. Color of Signal Name  1 BR 2 B

ABKIA4649GB

را ر	10	'I V	VIVI -				
7	E TO WIRE	TE	S   4   3   2   1   1   1   1   1   1   1   1   1	Signal Name	ı	ı	1
. D50	me WIF	lor WH	8 7 6 14 15 14	Color of Wire	>	Д	8
Connector No. D507	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S.	Terminal No. Wire	9	12	13
-	RE TO WIRE	ITE	22 21 20 19 18 17 16 15 14 13	Signal Name	I	I	1
. D5C	me WIF	lor WH	2 =	Color of Wire	>	۵	>
Connector No. D501	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S. [12]	Terminal No. Wire	10	#	23

Connector Name OUTSIDE KEY ANTENNA (PASSENGER SIDE)
Connector Color GRAY

D118

Connector No.

Color of Vire         Signal Name           10         W           11         P           23         Y	Color of Wire V Wire Y		Terminal No. Wire 10 W 11 P 23 Y
Color of Wire 10 W 11 P P 23 Y	Terminal No. Color of Wire 10 W 23 Y		Signal Name
Terminal No. 10 11 23	Terminal No. 10 11 23		Signal Name
		Signal Name	

			_			
6	BACK DOOR OPENER SWITCH	韭	4	Signal Name	-	_
). D559		lor WH		Color of Wire	В	M
Connector No.	Connector Name	Connector Color WHITE	H.S.	Terminal No.	8	7

7	Connector Name BACK DOOR LOCK ASSEMBLY	ITE	5 6 7 8	Signal Name	ı	I
. D557	me BAG	lor WH	<u>- 4</u>	Color of Wire	တ	В
Connector No.	Connector Na	Connector Color WHITE	H.S.	Terminal No. Wire	7	8
			<u> </u>			

D552	WIRE TO WIRE	WHITE	2 3 4 5 6 7 8 10 11 12 13 14 15 16	
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	H.S. 1 2 9 10	

Signal Name	ı	ı	Ι
Color of Wire	В	ŋ	Μ
Terminal No.	9	12	13

ABKIA4650GB

Α

В

С

D

Е

F

G

Н

J

DLK

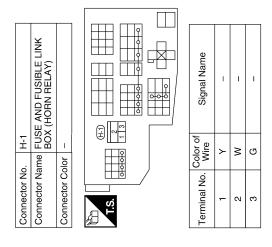
L

 $\mathbb{N}$ 

Ν

0

Ρ

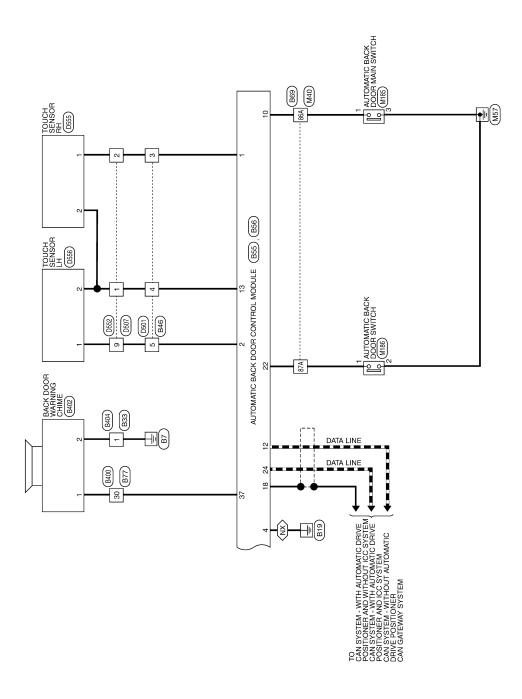


ABKIA4696GB

### **AUTOMATIC BACK DOOR SYSTEM** Α Wiring Diagram INFOID:0000000009132969 JOINT CONNECTOR-B16 (B87) В JOINT CONNECTOR-D01 (D554) С \$ D566 D551 JOINT CONNECTOR-B01 D BACK DOOR LOCK ASSEMBLY (D557) Е SPINDLE UNIT LH (B70) 21 CINCH LATCH MOTOR F B49 B49 , B56 D562 D507 D501 B46 D501 D507 (B46) 20 8 9 29 36 AUTOMATIC BACK DOOR CONTROL MODULE (B55) \$ Н SPINDLE UNIT RH (B162) CLOSE J (M31) DLK OPEN DOOR AJAR SWITCH JOINT CONNECTOR-B01 (B63) L JOINT CONNECTOR-E10 (E55) JOINT CONNECTOR-M44 (M183) AUTOMATIC BACK DOOR SYSTEM M 32 139 BCM (BODY CONTROL MODULE) (M19), (M20), (M81) 134 143 97 80 83 D201 Ν D552 D207 10 M69 B41 0 M31 BATTERY 12 Р

ABKWA2127GB

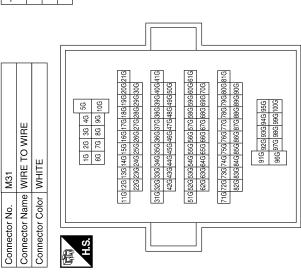
(NX): EXCEPT MEXICO



ABKWA2128GB

tor No.         M19         Connector Name         M20           tor Name         BCM (BODY CONTROL MODULE)         Connector Name         BCM (BODY CONTROL MODULE)           tor Color         BLACK         Connector Name         BCM (BODY CONTROL MODULE)           Connector Name         BCONTROL CONTROL MODULE)         Connector Color         CRAY           An individual color of mode in a signal Name         Individual color of mode in a signal Name         Individual color of mode in a signal Name           In No.         Wire         Signal Name         Signal Name           B ACK DOOR OPEN SW         97         W BACK DOOR SW								
M19   MODULE)   BLACK   BLAC		A (BODY CONTROL JULE)	, At	83 82 95 94		Signal Name	BACK DOOR REQUEST SW	BACK DOOR SW
M19   MODULE)   BLACK   BLAC	. M20	me BCN MOI	lor GR/	91 90 89		Color of Wire	BG	>
M19   MODULE)   BLACK   BLACK   BLACK   BLACK   St   St   St   46   46   45   44   43   45   47   46   46   48   44   43   48   47   46   48   48   48   48   48   48   48	Connector No.	Connector Na	Connector Col	Ø.		Terminal No.	83	26
20   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960   1960	Connector No. M19	Connector Name   BCM (BODY CONTROL   MODULE)	Connector Color BLACK		57 56 55 54 53 52 51 50 49 48 47 46 45 44 43	77   76   75   74   73   72   71   70   69   68   67   66   65   64   63		æ

Signal Name			ſ		ı		I			
Color of	Wire	141	^		n	0 10110	STILELD			
Terminal No. Color of		007	ا00 م	(10	956	400C	וממפ			
						Г				
								25	5	
	냁	.						2G 3G 4G <sup>5G</sup>	7G 8G 9G 10G	$\frac{1}{2}$
	WIRE							26 30	76 80	1
1 1		٠I				1	1		-	4



DLK

J

Α

В

С

 $\mathsf{D}$ 

Е

F

G

Н

L

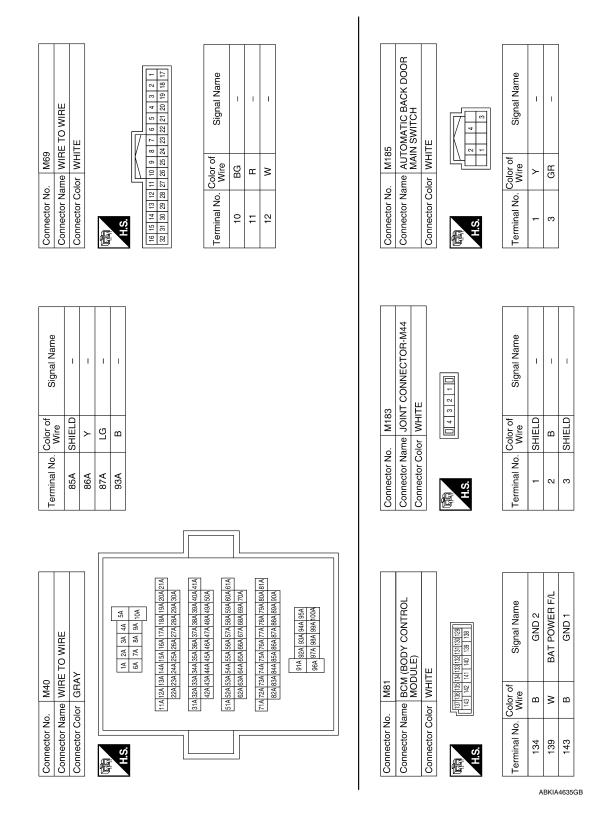
 $\mathbb{N}$ 

Ν

0

Ρ

ABKIA3505GB

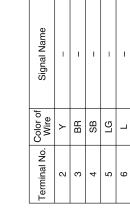


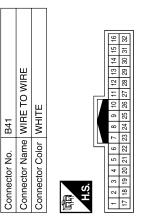
			А
Connector No. E55 Connector Name JOINT CONNECTOR-E10 Connector Color WHITE	Signal Name	Signal Name	В
E55 JOINT CONN WHITE		WINE TO WIF	С
No. E55 Name JOIN Color WHI	Color of Wire B B SHIELD	No. B33 Color of B4 Wire B4 Wire B4 Wire B4	D
Connector No. E55 Connector Name JOINT ( Connector Color WHITE	Terminal No.	Connector No. B33 Connector Name WIRE TO WIRE Connector Color BLACK  A.S.  Terminal No. Wire  1 B Signa	Е
			F
1EAKER	Signal Name	Signal Name	G
M187 CIRCUIT BE WHITE			Н
No. Mame Cl	Color of Wire B	O Color of Wire SHIELD SHIELD	I
Connector No. M187 Connector Name CIRCUIT BREAKER Connector Color WHITE	Terminal No.	Terminal No. 10G 95G 95G 100G	J
			DLK
M186 AUTOMATIC BACK DOOR SWITCH BLACK	Signal Name	E152   WINE TO WIRE   56 46 36 26 16   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   100   1	L
OMATIC B		E152   S	M
No. M186 Name AUTO Color BLACI	Color of Wire LG B	No.   E152     Name   WIRE T     Color   WHITE	N
Connector No. M186 Connector Name AUTOM SWITCI Connector Color BLACK H.S.	Terminal No.	Connector No.   E152	0
		ABKIA3507GB	1
			1.3

Revision: August 2013 DLK-99 2014 QX60

Signal Name	1	1	ı	ı	ı	ı
Color of Wire	ГG	BR	8	ш	ŋ	GR
Terminal No. Wire	7	8	6	10	11	23

Connector No.	2		ш	B46									
Connector Name WIRE TO WIRE	Na	me	>	₹	끭	$ \mathcal{L} $	>	Ħ	Щ				
Connector Color WHITE	ပိ	ō	_	₹	E								
Ą				Ľ					_				
				ī	١	١							
Ě	-	7	က	4	5	9	7	8	6	9 10 11 12	Ξ	12	
6	13	13 14 15 16 17 18 19 20 21 22 23 24	15	16	17	18	19	20	21	22	23	54	
_		ı	П	П	ı	П	П	П	П	П	П		





Signal Name	-	1	1
Color of Wire	В	8	g
Terminal No.	10	11	12

Signal Name	1	_	ı	1
Color of Wire	LG	Γ	BR	<b>&gt;</b>
Terminal No. Wire	4	5	9	7

Connector No.	_	B49	6						
Connector Name WIRE TO WIRE	е ,	₹	쀭	ĭ	>	III.			
Connector Color WHITE	_	₹		ш					
<b>E</b>	_	9	2	4		8	2	-	
¥	16	15	7	13	27	16 15 14 13 12 11 10	6	œ	
	l	ı	ı	ı	l		ı	ı	

WIRE TO V	WHITE	7 6 5 4	16 15 14 13 12	
Connector Name WIRE TO V	Connector Color		Į.	

Signal Name	ı	-	1
Color of Wire	SHIELD	M	В
Terminal No.	-	2	3

	me	lor (				
B47	I₩	GRAY		1	S	
	삝	¥		2	9	1
	2			3	7	1
	>		Г	4	œ	1
	WIRE TO WIRE					



Signal Name	I	1	1
Color of Wire	SHIELD	Μ	В
Terminal No. Color of Wire	9	2	8

ABKIA4652GB

Signal Name	POWER LH	POWER RH	GND HALL	DRIVER SW	INSIDE CLOSE SW	CAN-H
	SB	<b>&gt;</b>	re	SB S	ISNI Y	В
Terminal No. Wire	19	20	21	22	23	24

Signal Name	A SIGN LH	B SIGN LH	A SIGN RH	B SIGN RH	MAIN SW	OPEN SW	CAN-L	TOUCH SENS GND	ı	-	I	I	CAN SHIELD
Color of Wire	^	>	BR	٦	ГG	BR	Μ	SB	ı	_	-	1	SHIELD
Terminal No.	9	7	8	6	10	11	12	13	14	15	16	17	18

	œ		
	8		24 12
	Сщ		1 2 2
	らざ		9 10 11 12 21 22 23 24
	AUTOMATIC BACK I CONTROL MODULE		1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
	ల≱		8 8
	무리		7 6
	ŽĶ.	$\mathbf{x}$	9 8
-	오늘	Ş	7 2 4
B55	I⊋R	긆	4 91
1	40	ш.	3 3
	Ĕ	<u>ō</u>	2 4
οN	Za	ပိ	1 5
Connector No.	Connector Name   AUTOMATIC BACK DOOR   CONTROL MODULE	Connector Color BLACK	H.S.

Signal Name	TOUCH SENS RH	TOUCH SENS LH	HALF-LATCH-SW	LOGIC	CLOSE SW	
Color of Wire	BR	LG	Τ	GR	LG	
Terminal No. Wire	1	2	3	4	5	

			ı											_	
	JOINT CONNECTOR-B01	IIE III		8 7 6 5 4 3 2 1	19 18 17 16 15 14 13 12	20 20 22 22 22 23	42 62 62 72 62		Signal Name	1	ı	=	1	-	_
. B63		lor WHITE		11 10 9 8	21 20	90 04	20		Color of Wire	SHIELD	В	В	LG	LG	ГG
Connector No.	Connector Name	Connector Color		SI			ή  L	]	Terminal No.	8	6	10	12	13	14

Signal Name	ı	LATCH MTR OPEN	GND	ı	LH MTR CLOSE	ı	RH MTR CLOSE	BUZZER	LATCH MTR CLOSE
Color of Wire	ı	В	В	ı	8	ı	Α	ГG	8
Terminal No. Color of Wire	30	31	32	33	34	35	36	37	38

B56	Connector Name AUTOMATIC BACK DOOR CONTROL MODULE	r GRAY	25 26 27 28 29 30 31 32 33 34 35 36 37 38
Connector No.	Connector Nam	Connector Color GRAY	(国) H.S.



Signal Name	+B	ı	LH MTR OPEN	SHIELD NOISE SHIELD LATCH	RH MTR OPEN	
Color of Wire	В	-	В	SHIELD	В	
Terminal No. Wire	25	56	27	28	29	

ABKIA4636GB

Α

В

С

 $\mathsf{D}$ 

Е

F

G

Н

J

DLK

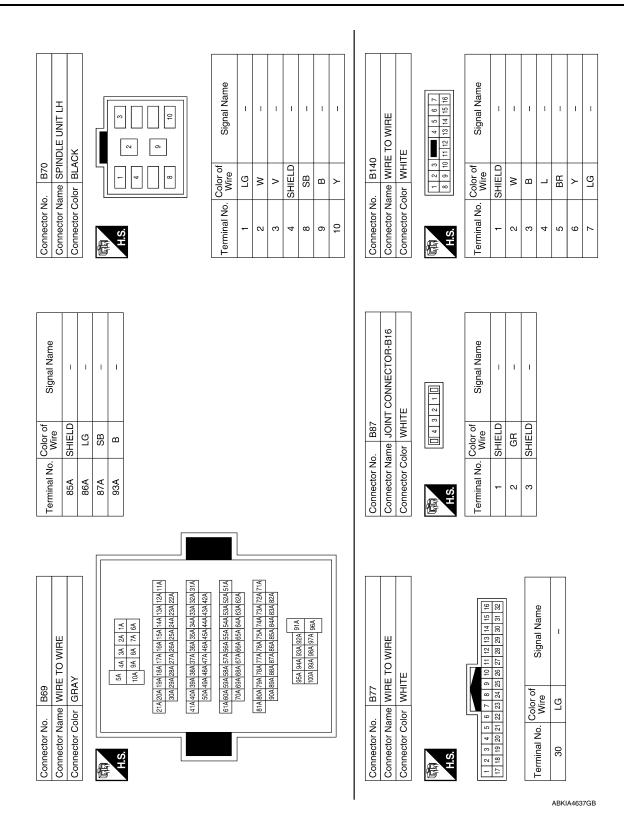
L

M

Ν

0

Ρ



### < WIRING DIAGRAM >

BACK DOOR WARNING CHIME BROWN	of Signal Name	Signal Name	
Connector Name BACK DOOR WARNING CHIME Connector Color BROWN H.S.	Terminal No. Color of 1 LG 2 B	Terminal No. Color of Wire 6 SB 6 SB 8 B 8 B 9 G 9 G 11 P P 11 P P 23 Y	
Connector Name WIRE TO WIRE  Connector Color WHITE  H.S.    16   15   14   13   12   11   10   9   8   7   6   5   4   3   2   1     22   31   30   29   29   27   26   29   29   29   29   19   19   17	Terminal No. Color of Wire 30 LG -	Connector No.   D501	ĺ
Connector Name SPINDLE UNIT RH Connector Color BLACK  H.S.  1 2 3 4 4 2 6 9 10	Terminal No. Color of Wire 2 W - 2 W - 3 Y - 4 SHIELD - 6 BR - 10 BR - 10 BR	Connector No. B404 Connector Name WIRE TO WIRE Connector Color BLACK  Terminal No. Color of Signal Name  1 B	

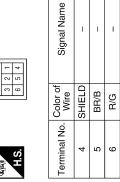
Revision: August 2013 DLK-103 2014 QX60

ctor No. D506	J506	Connector No. D507	D507
tor Name	ctor Name WIRE TO WIRE	Connector Name	Connector Name WIRE TO WIRE
ctor Color WHITE	WHITE	Connector Color WHITE	WHITE
	3 2 1 1 2 4 4 1	B B	8 7 8 9 2 1

13 2 1 1 1 2 1 1 1 1 2 1 1 1 1 1 1 1 1 1	Signal Name	ı	_	_	I	_	_	-	I	_	ı	_
8 7 6 15 14	Color of Wire	LG	>	В	Τ	SB	٨	g	BG	Ь	Μ	ŋ
(内内) H.S.	Terminal No.	-	2	3	4	5	9	6	11	12	13	14

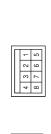
		_	_	_	_	_	_	_
Signal Name	ı	I	ı	ı	ı	-	I	ĺ
Color of Wire	٦	SB	В	ŋ	ш	9	Μ	g
Terminal No. Wire	4	5	9	6	11	12	13	14

D506	WIRE TO WIRE	WHITE	6
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	



21	E TO WIRE	믿	2 3 4 5 6 7 8 10 11 12 13 14 15 16	Signal Name
. D552	me WIR	lor WHI	9 10 11	Color of Wire
Connector No.	Connector Name WIRE TO WIRE	Connector Color WHITE	EIS.	Terminal No.

	ro wire		<u> </u>	-	2
D502	VIRE 1	зВАУ		3 2	9 /
Connector No.	Connector Name WIRE TO WIRE	Connector Color GRAY		4	H.S.



Signal Name	1	-	I
Color of Wire	SHIELD	BR/B	R/G
Terminal No.	9	7	8

1	r	
Connector No.	U551	_
nector Na	me WIF	Connector Name WIRE TO WIRE
Connector Color WHITE	lor WH	TE
H.S.	- 4	8 9 8 9
Terminal No.	Color of Wire	Signal Name
4	SHIELD	1
5	Μ	I
ç	ď	ı

ABKIA4639GB

B < E

0 0

### < WIRING DIAGRAM >

	A
TOUCH SENSOR LH WHITE  Fire Signal Name  G	Signal Name
D556  TOUCH SENK WHITE  In of a sign	
No. D556  Color of Color BLAC	O. Color of A. Wire of
Connector No. D556  Connector Name TOUCH SENSOR LH Connector Color of Touch SENSOR LH  Terminal No. Color of Signal Nam 1 G - 2 LG -  Connector No. D560  Connector Name AUTOMATIC BACK D  Connector Color BLACK	Terminal No.
	F
Connector No. D555  Connector Name TOUCH SENSOR RH Connector Color of Signal Name  1	Signal Name
Connector No. D555  Connector Name TOUCH SENSOR RH Connector Color of Signal Nam  Terminal No. Wire Signal Nam  1 V - 2 LG -  Connector Name BACK DOOR OPENEI Switch Connector Color WHITE	H
Connector No. D555  Connector Color GRAY  Terminal No. Wire  1 V  2 LG  Connector No. D559  Connector No. D559  Connector No. BACK I  SWITCI  Connector Color WHITE	S S S S S S S S S S S S S S S S S S S
Connector No.	H.S. H.S. 1 1 1 2 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
	DLK
Connector No.   D554	Signal Name
Connector No.   D554	
Connector No. D554  Connector Color WHITE  Connector Color of Marie  1 B B 2  2 B B 3  SHIELD  Connector Name BACK I  Connector Name BACK I  Connector Color WHITE	No. Color of Alice of
Connector No.	Terminal No. 3 3 3 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6
	ADMAGGOOD

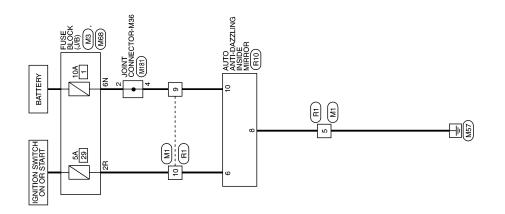
ABKIA4640GB

Ρ

Revision: August 2013 DLK-105 2014 QX60

### HOMELINK UNIVERSAL TRANSCEIVER

Wiring Diagram



HOMELINK UNIVERSAL TRANSCEIVER

ABKWA1676GB

# HOMELINK UNIVERSAL TRANSCEIVER CONNECTORS

Connector No.	M1		Connector No.	. M3		Connector No.		M68
Connector Name WIRE TO WIRE	ne WIRE TO	) WIRE	Connector Name FUSE BLOCK (J/B)	me FUSE	BLOCK (J/B)	Connecto	or Name F	Connector Name FUSE BLOCK (J/B)
Connector Color WHITE	or WHITE		Connector Color WHITE	lor WHITE		Connecto	Connector Color BROWN	ROWN
H.S.	2 3 4 4 5 6 17 18 18 18 18 18 18 18 18 18 18 18 18 18	7 8 9 10 11 12 19 20 21 22 23 24	H.S.	NE 8N ZV	77   SN   SN   4N	S.H.	78 (BR) (BR) (BR) (BR) (BR) (BR) (BR) (BR)	7R   6R   5R   4R     3R   2R   1R   16R   5R   4R     3R   2R   1R   16R   5R   5R   5R   5R   5R   5R   5R
Terminal No. Wire	Solor of Wire	Signal Name	Terminal No.   Color of Wire	Color of Wire	Signal Name	Terminal	Terminal No. Wire	of Signal Name
2	GR	ı	N9	>	ı	2R	re	ı
6	×	1						
10	LG	1						

Signal Name
-   0
Connector Color BLACK
Connector Name   AUTO ANTI-DAZZLING   INSIDE MIRROR

ABKIA4628GB

G

9

≥

10

Signal Name

Color of Wire

Terminal No.

N

0

Α

В

С

 $\mathsf{D}$ 

Е

F

G

Н

J

DLK

L

 $\mathbb{N}$ 

Р

Connector Name JOINT CONNECTOR-M36 Connector Color WHITE

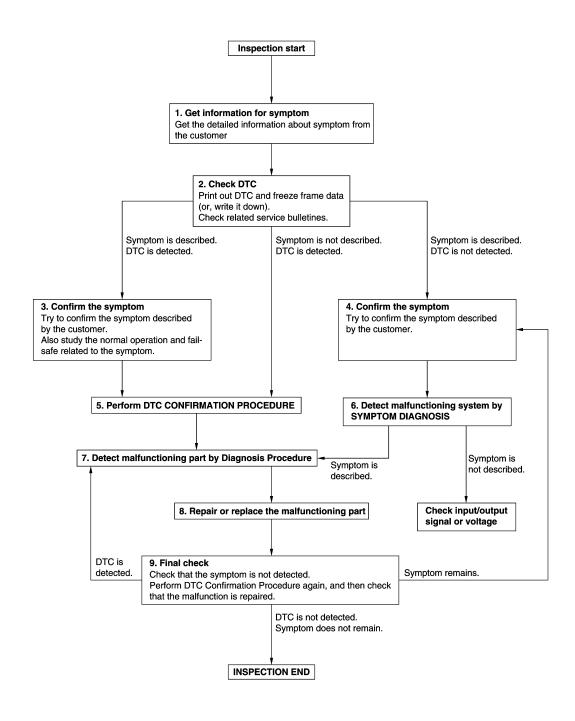
Connector No. M181

## **BASIC INSPECTION**

### DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

**OVERALL SEQUENCE** 



JMKIA8652GB

#### DIAGNOSIS AND REPAIR WORK FLOW

#### < 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).
- 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.
- 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 <a href="BCS-49">BCS-49</a>, "DTC Inspection Priority Chart" (BCM) and determine trouble diagnosis order.

#### NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.

If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIR-MATION PROCEDURE.

#### Is DTC detected?

YES >> GO TO 7.

NO >> Check according to GI-53, "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 CON-SULT.

### 7. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

DLK

Α

В

D

Е

Н

R. Л

Ν

0

#### **DIAGNOSIS AND REPAIR WORK FLOW**

#### < BASIC INSPECTION >

Inspect according to Diagnosis Procedure of the system.

#### Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to GI-53. "Intermittent Incident".

# 8.REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

# 9. FINAL CHECK

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

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

#### Is DTC detected and does symptom remain?

YES-1 >> DTC is detected: GO TO 7.

YES-2 >> Symptom remains: GO TO 4.

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

#### ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

< BASIC INSPECTION >

# ADDITIONAL SERVICE WHEN REMOVING BATTERY NEGATIVE TERMINAL

Description INFOID:0000000009132972

When the battery is disconnected from the negative terminal, it is necessary to perform initial setting to operate automatic back door control system normally.

#### NOTE:

The following specified operations are not performed under the non-initialized condition.

- Automatic back door open/close function
- Anti-pinch function

Work Procedure

INFOID:0000000009132973

# 1.INITIALIZATION

- Fully close the back door manually. (When back door is already fully closed, this operation is not necessary).
- 2. Perform automatic back door open/close operation of back door.
- 3. Check for noise or malfunctioning during operation.
- 4. Check that hazard lamp blinks and that warning buzzer operates.

#### NOTE:

Never touch back door or allow foreign materials to be pinched in door when performing automatic back door open/close operation of back door until it is in the fully closed or fully open position.

>> Inspection End.

Н

Α

В

D

Е

F

DLK

Ν

0

Р

Revision: August 2013 DLK-111 2014 QX60

# ADDITIONAL SERVICE WHEN REPLACING BCM

< BASIC INSPECTION >

# ADDITIONAL SERVICE WHEN REPLACING BCM

Description INFOID:000000009132974

Perform the system initialization when replacing BCM, replacing Intelligent Key or registering an additional Intelligent Key.

Work Procedure

Refer to the CONSULT Immobilizer mode and follow the on-screen instructions.

# ADDITIONAL SERVICE WHEN REPLACING AUTOMATIC BACK DOOR CONTROL UNIT

#### < BASIC INSPECTION >

# ADDITIONAL SERVICE WHEN REPLACING AUTOMATIC BACK DOOR CONTROL UNIT

Description INFOID:0000000009132976

When replacing control module or removing connector terminal, it is necessary to perform initial setting to operate automatic back door system normally.

#### NOTE:

The following specified operations are not performed under the non-initialized condition.

- Automatic back door open/close function
- Anti-pinch function

Work Procedure

INFOID:0000000009132977

Α

В

D

Е

F

Н

# 1.INITIALIZATION

- 1. Fully close the back door manually. (When back door is already fully closed, this operation is not necessary.)
- 2. Perform automatic back door open/close operation of back door.
- 3. Check for noise or malfunctioning during operation.
- 4. Check that hazard lamp blinks and that warning buzzer operates.

#### NOTE:

Never touch back door or allow foreign materials to be pinched in door when performing automatic back door open/close operation of back door until it is in the fully closed or fully open position.

>> Inspection End.

DLK

. .

Ν

0

Р

Revision: August 2013 DLK-113 2014 QX60

#### CALIBRATION OF AUTOMATIC BACK DOOR POSITION INFORMATION

< BASIC INSPECTION >

# CALIBRATION OF AUTOMATIC BACK DOOR POSITION INFORMATION

Description INFOID:000000009132978

When the following work is performed, it is necessary to perform initial setting of automatic back door position information to operate automatic back door system.

- · After removing and installing or replacing back door assembly
- · After removing and installing or replacing spindle unit
- After adjustment or position change of the back door hinges or striker

Work Procedure

# **1**.STEP 1

Fully close the back door manually.

>> GO TO 2.

# 2.STEP 2

- 1. Select "AUTO BACK DOOR" using CONSULT.
- 2. Select "RESET AUTO BACK DOOR STATUS" of "WORK SUPPORT" mode.
- 3. Touch "START" to erase automatic back door position information.

>> GO TO 3.

### **3.**STEP 3

Operate back door opener switch and perform automatic open operation.

#### NOTE:

At this time, automatic operation of back door is performed at half speed.

>> GO TO 4.

### **4**.STEP 4

- 1. The back door fully opens.
- Check that hazard warning lamp blinks and automatic back door warning buzzer sounds normally.

Does hazard warning lamp blink and automatic back door warning buzzer sound normally?

YES >> GO TO 5.

NO >> GO TO 1.

#### **5.**STEP 5

Fully close the back door.

>> Inspection End.

#### **U1000 CAN COMM CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

# DTC/CIRCUIT DIAGNOSIS

### U1000 CAN COMM CIRCUIT

Description INFOID:0000000009132980

CAN (Controller Area Network) is a serial communication line for real time applications. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Modern vehicle is equipped with many electronic control unit, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H-line, CAN L-line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

CAN Communication Signal Chart. Refer to <u>LAN-43</u>, "CAN COMMUNICATION SYSTEM: CAN Communication Signal Chart".

DTC Logic

#### DTC DETECTION LOGIC

DTC	CONSULT display de- scription	DTC detecting condition	Possible cause
U1000	CAN COMM	When automatic back door control module cannot communicate CAN communication signal continuously for 2 seconds or more.	CAN communication system

### Diagnosis Procedure

1.PERFORM SELF DIAGNOSTIC

- 1. Turn ignition switch ON and wait for 2 seconds or more.
- 2. Check "Self Diagnostic Result".

#### Is "CAN COMM CIRCUIT" displayed?

YES >> Refer to LAN-26, "Trouble Diagnosis Flow Chart".

NO >> Refer to GI-53, "Intermittent Incident".

INFOID:0000000009132982

DLK

Н

Α

В

D

Ν

0

Р

Revision: August 2013 DLK-115 2014 QX60

# **U1010 CONTROL UNIT (CAN)**

#### < DTC/CIRCUIT DIAGNOSIS >

# U1010 CONTROL UNIT (CAN)

DTC Logic

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
U1010	CONTROL UNIT (CAN)	Automatic back door control module detected internal CAN communication circuit malfunction	Automatic back door control module

### Diagnosis Procedure

INFOID:0000000009132984

# 1. REPLACE AUTOMATIC BACK DOOR CONTROL MODULE

When DTC [U1010] is detected, replace automatic back door control module.

>> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

#### **B2401 IGNITION POWER SUPPLY CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

### **B2401 IGNITION POWER SUPPLY CIRCUIT**

DTC Logic

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
B2401	IGN OPEN	Automatic back door control module cannot detect ignition switch ON signal via CAN communication with BCM.	BCM     Automatic back door control module     CAN communication system

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Operate automatic back door.
- 3. Check Self Diagnostic Result mode of AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.

#### Is DTC detected?

YES >> Refer to <u>DLK-117</u>, "<u>Diagnosis Procedure</u>".

NO >> Inspection End.

# Diagnosis Procedure

1. CHECK BCM OUTPUT SIGNAL

- 1. Select IPDM E/R using CONSULT.
- Select IGN RLY1-REQ in DATA MONITOR mode.
- 3. Check that the function operates normally according to the following conditions.

Monitor item	Condition		Status
IGN RLY1-REQ	Ignition switch	ON	On
IGN NET I-NEQ		OFF	Off

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

NO >> Replace BCM. Refer to <u>BCS-79</u>. "Removal and Installation".

DLK

Α

В

D

Е

Н

INFOID:0000000009132986

Ν

0

Р

Revision: August 2013 DLK-117 2014 QX60

#### **B2409 HALF LATCH SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

## **B2409 HALF LATCH SWITCH**

DTC Logic

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
B2409	HALF LATCH SW	Automatic back door control module detects a mal- function of half latch switch during automatic oper- ation of back door.	

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- Operate automatic back door.
- Check Self Diagnostic Result mode of AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.

INFOID:0000000009132988

#### Is DTC detected?

YES >> Refer to <u>DLK-118</u>, "<u>Diagnosis Procedure</u>".

NO >> Inspection End.

### Diagnosis Procedure

Regarding Wiring Diagram information, refer to DLK-95, "Wiring Diagram".

# 1. CHECK FOR FOREIGN MATERIALS IN BACK DOOR LOCK ASSEMBLY

Check for entry of foreign materials in back door lock assembly.

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Remove foreign materials.

# 2.CHECK BACK DOOR OPEN/CLOSE OPERATION

Manually check open and close operation of back door.

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunction parts.

# 3.CHECK HALF LATCH SWITCH MONITOR ITEM

- Select AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.
- Select HALF LATCH SW in DATA MONITOR mode.
- 3. Check that the function operates normally according to the following conditions.

Monitor item	Condition		Status
HALF LATCH SW	Back door	Fully closed/Half latch	OFF
HALI LATOH SW		Open	ON

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 4.

f 4.CHECK HALF LATCH SWITCH INPUT SIGNAL

#### **B2409 HALF LATCH SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

- Turn ignition switch OFF.
- 2. Disconnect back door lock assembly connector.
- Check voltage between back door lock assembly harness connector and ground.

(+)	)			
Back door loc	k assembly	(–)	Voltage (Approx.)	
Connector Terminal			( ) ; ; ; ;	
D557	6	Ground	16 – 8 V	

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 5.

# 5.CHECK HALF LATCH SWITCH CIRCUIT

Disconnect automatic back door control module connector.

Check continuity between automatic back door control module harness connector and back door lock assembly harness connector.

Automatic back door control module		Back door lock	Continuity		
Connector	Terminal	Connector Terminal			
B55	3	D557	6	Yes	

Check continuity between automatic back door control module harness connector and ground.

Automatic back d	oor control module		Continuity
Connector Terminal		Ground	Continuity
B55	3		No

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <a href="DLK-315">DLK-315</a>, "Removal and Installation".

NO >> Repair or replace harness.

### **O.**CHECK HALF LATCH SWITCH GROUND CIRCUIT

Check continuity between back door lock assembly harness connector and ground.

Back door lock	assembly		Continuity
Connector Terminal		Ground	Continuity
D557	8		Yes

#### Is the inspection result normal?

YFS >> GO TO 7.

NO >> Repair or replace back door lock assembly ground circuit.

### 7.CHECK HALF LATCH SWITCH

Refer to DLK-119, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace back door lock assembly. Refer to DLK-302, "DOOR LOCK: Removal and Installation".

# 8. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

#### Component Inspection

COMPONENT INSPECTION

**DLK-119 Revision: August 2013** 2014 QX60 DLK

J

Α

В

D

Е

F

Н

Ν

Р

INFOID:0000000009132989

### **B2409 HALF LATCH SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

# $\overline{1}$ .check switch

- 1. Turn ignition switch OFF.
- Disconnect back door lock assembly connector. Check continuity between back door lock assembly terminals.

Back door lock assembly		Condition		Continuity
Termi	nal	Condition		Continuity
4			Open	Yes
4	8	Back door lock	Fully closed/Half latch	No
5			Fully close	Yes
3			Open/Half latch	No
6			Open	Yes
O			Fully closed/Half latch	No
7		Back door switch	On	Yes
1			Off	No

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace back door lock assembly. Refer to <a href="DLK-302">DLK-302</a>, "DOOR LOCK: Removal and Installation".

#### **B2416 TOUCH SENSOR RH**

#### < DTC/CIRCUIT DIAGNOSIS >

#### **B2416 TOUCH SENSOR RH**

DTC Logic INFOID:0000000009132990

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
B2416	TOUCH SEN R OPEN	Automatic back door control module detects a mal- function of touch sensor RH during automatic oper- ation of back door.	I ● Touch sensor RH

#### DTC CONFIRMATION PROCEDURE

# 1.PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON.
- Check Self-Diagnostic Result mode of AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.

#### Is DTC detected?

YES >> Refer to <u>DLK-121</u>, "<u>Diagnosis Procedure</u>".

NO >> Inspection End.

### Diagnosis Procedure

Regarding Wiring Diagram information, refer to <a href="DLK-95">DLK-95</a>, "Wiring Diagram".

# 1. CHECK INSTALLATION OF TOUCH SENSOR RH

Check that touch sensor RH is installed normally.

Refer to DLK-303, "TOUCH SENSOR: Removal and Installation".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Refer to DLK-303, "TOUCH SENSOR: Removal and Installation".

### 2.CHECK TOUCH SENSOR MONITOR ITEM

- Select AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.
- Select TOUCH SEN RH in DATA MONITOR mode.
- Check that the function operates normally according to the following conditions.

Monitor item	C	Status	
TOUCH SEN RH	Touch sensor RH	Other than below	OFF
	TOUCH SENSOF KIT	Detect obstruction	ON

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 3.

# 3.CHECK TOUCH SENSOR INPUT SIGNAL

- Turn ignition switch OFF.
- Check voltage between touch sensor RH harness connector and automatic back door control module harness connector.

DLK

Α

В

D

Е

INFOID:0000000009132991

M

Ν

0

**DLK-121 Revision: August 2013** 2014 QX60

#### **B2416 TOUCH SENSOR RH**

#### < DTC/CIRCUIT DIAGNOSIS >

(	(+)	(-	-)			
Touch s	ensor RH		door control mod- le	Condition		Voltage (Approx.)
Connector	Terminal	Connector	Terminal			
D555	1	B55	13	Touch sensor	Detect obstruc- tion	1.8 – 5 V
	<b>!</b>	D00	13	RH	Other than above	2.72 – 7.27 V

#### Is the inspection result normal?

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

# 4.CHECK TOUCH SENSOR RH CIRCUIT

- 1. Disconnect automatic back door control module and touch sensor RH connector.
- Check continuity between automatic back door control module harness connector and touch sensor RH harness connector.

Automatic back do	or control module	Touch sensor RH		Continuity
Connector	Terminal	Connector Terminal		Continuity
B55	1	D555	1	Yes

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back do	or control module		Continuity	
Connector	Terminal	Ground	Continuity	
B55	1		No	

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315. "Removal and Installation"</u>.

NO >> Repair or replace harness.

# 5.check touch sensor RH grond circuit

- Disconnect automatic back door control module and touch sensor RH connector.
- Check continuity between automatic back door control module harness connector and touch sensor RH harness connector.

Automatic back do	Automatic back door control module		Touch sensor RH		
Connector	Terminal	Connector	Terminal	Continuity	
B55	13	D555	2	Yes	

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back do	or control module		Continuity
Connector	Terminal	Ground	Continuity
B55	13		No

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

### 6. CHECK TOUCH SENSOR RH GROND CIRCUIT 2

- Connect automatic back door control module and touch sensor RH connector.
- 2. Check voltage between automatic back door control module harness connector and ground.

#### **B2416 TOUCH SENSOR RH**

#### < DTC/CIRCUIT DIAGNOSIS >

	(+)		Malla e a	
Automatic back of	Automatic back door control module		Voltage (Approx.)	
Connector	Terminal		,	
B55	13	Ground	0.01 – 0 V	

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace automatic back door control module. Refer to <u>DLK-315</u>, "Removal and Installation".

# 7.CHECK TOUCH SENSOR RH

Refer to DLK-123, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace touch sensor RH. Refer to <u>DLK-303</u>, "TOUCH SENSOR: Removal and Installation".

#### 8. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

# Component Inspection

1. CHECK TOUCH SENSOR RH

- 1. Turn ignition switch OFF.
- 2. Disconnect touch sensor RH connector.
- Check resistance between touch sensor RH terminals.

Touch sensor RH		Condition		Resistance	
Terr	ninal	Contai		(Approx.)	
1	2	Touch sensor RH	Detect obstruction	380 – 420 kΩ	
'	2	TOUCH SENSOI IXIT	Other than above	0.95 – 1.05 kΩ	

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace touch sensor RH. Refer to <u>DLK-303</u>, "TOUCH SENSOR: Removal and Installation".

DLK

Α

В

D

Е

F

INFOID:0000000009132992

M

Ν

C

Р

#### **B2417 TOUCH SENSOR LH**

#### < DTC/CIRCUIT DIAGNOSIS >

#### **B2417 TOUCH SENSOR LH**

DTC Logic

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
B2417	TOUCH SEN L OPEN	Automatic back door control module detects a mal- function of touch sensor LH during automatic oper- ation of back door.	• louch sensor I H

#### DTC CONFIRMATION PROCEDURE

# 1.PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Check Self-Diagnostic Result mode of AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.

#### Is DTC detected?

YES >> Refer to <u>DLK-124</u>, "<u>Diagnosis Procedure</u>".

NO >> Inspection End.

### Diagnosis Procedure

INFOID:0000000009132994

Regarding Wiring Diagram information, refer to DLK-95, "Wiring Diagram".

# 1. CHECK INSTALLATION OF TOUCH SENSOR LH

Check that touch sensor LH is installed normally.

Refer to DLK-303, "TOUCH SENSOR: Removal and Installation".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Refer to <u>DLK-303</u>, "TOUCH SENSOR: Removal and Installation".

# 2.CHECK TOUCH SENSOR MONITOR ITEM

- 1. Select AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.
- Select TOUCH SEN LH in DATA MONITOR mode.
- Check that the function operates normally according to the following conditions.

Monitor item	Condition		Status
TOUCH SEN LH	Touch sensor LH	Other than below	OFF
	TOUCH Sensor Ln	Detect obstruction	ON

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 3.

# 3.CHECK TOUCH SENSOR INPUT SIGNAL

- 1. Turn ignition switch OFF.
- Check voltage between touch sensor LH harness connector and automatic back door control module harness connector.

#### **B2417 TOUCH SENSOR LH**

#### < DTC/CIRCUIT DIAGNOSIS >

(	(+)	(-	-)	Condition		
Touch s	ensor LH		door control mod- le			Voltage (Approx.)
Connector	Terminal	Connector	Terminal			
D556	1	B55	12	Touch sensor	Detect obstruc- tion	1.8 – 5 V
D330	'	B00	13	13 Touch sensor LH		2.72 – 7.27 V

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> GO TO 4.

# 4. CHECK TOUCH SENSOR LH CIRCUIT

1. Disconnect automatic back door control module and touch sensor LH connector.

Check continuity between automatic back door control module harness connector and touch sensor LH harness connector.

Automatic back do	Automatic back door control module		Touch sensor LH		
Connector	Terminal	Connector Terminal		Continuity	
B55	2	D556	1	Yes	

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back do	Automatic back door control module		Continuity
Connector	Connector Terminal		Continuity
B55	2		No

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315</u>, "Removal and Installation".

NO >> Repair or replace harness.

# 5. CHECK TOUCH SENSOR LH GROND CIRCUIT

Disconnect automatic back door control module and touch sensor LH connector.

Check continuity between automatic back door control module harness connector and touch sensor LH harness connector.

Automatic back door control module To		Touch se	ensor LH	Continuity
Connector	Terminal	Connector Terminal		Continuity
B55	13	D556	2	Yes

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back door control module			Continuity
Connector Terminal		Ground	Continuity
B55	13		No

### Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

### 6.CHECK TOUCH SENSOR LH GROND CIRCUIT 2

- Connect automatic back door control module and touch sensor LH connector.
- Check voltage between automatic back door control module harness connector and ground.

DLK

Α

В

D

Е

F

Н

M

Ν

0

Р

#### **B2417 TOUCH SENSOR LH**

#### < DTC/CIRCUIT DIAGNOSIS >

(+) Automatic back door control module		(-)	Voltage (Approx.)
Connector	Connector Terminal		(πρριολ.)
B55	B55 13		0.01 – 0 V

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

# 7.CHECK TOUCH SENSOR LH

Refer to DLK-123, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace touch sensor LH. Refer to <a href="DLK-303">DLK-303</a>, "TOUCH SENSOR: Removal and Installation"

#### 8. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

# Component Inspection

INFOID:0000000009132995

# 1. CHECK TOUCH SENSOR LH

- 1. Turn ignition switch OFF.
- Disconnect touch sensor LH connector.
- Check resistance between touch sensor LH terminals.

Touch sensor LH		Condition		Resistance (Approx.)
Terminal				
1 2		Touch sensor LH	Detect obstruction	380 – 420 kΩ
	2	TOUGH SENSOI EN	Other than above	0.95 – 1.05 kΩ

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace touch sensor LH. Refer to <u>DLK-303</u>, "TOUCH SENSOR: Removal and Installation".

#### **B2419 OPEN SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

#### **B2419 OPEN SWITCH**

**DTC** Logic INFOID:0000000009132996

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
B2419	OPEN SW	Automatic back door control module detects a mal- function of open switch during automatic operation of back door.	Entry of foreign materials to back door lock assembly     Back door mechanism     Automatic back door control module     Open switch     Harness or connectors

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON.
- Operate automatic back door.
- Check Self-Diagnostic Result mode of AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.

#### Is DTC detected?

YES >> Refer to <u>DLK-127</u>, "<u>Diagnosis Procedure</u>".

>> Inspection End. NO

### Diagnosis Procedure

Regarding Wiring Diagram information, refer to <a href="DLK-95">DLK-95</a>, "Wiring Diagram".

# 1.CHECK FOR FOREIGN MATERIALS IN BACK DOOR LOCK ASSEMBLY

Check for entry of foreign materials in back door lock assembly.

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Remove foreign materials.

# 2.CHECK BACK DOOR OPEN/CLOSE OPERATION

Manually check open and close operation of back door.

#### Is the inspection result normal?

YFS >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

### 3.CHECK OPEN SWITCH SIGNAL

- Select AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.
- Select OPEN SW in DATA MONITOR mode.
- Check that the function operates normally according to the following conditions.

Monitor item	Condit	Status	
OPEN SW	Back door	Fully closed/Half latch	OFF
	Dack door	Open	ON

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 4.

### 4.CHECK OPEN SWITCH INPUT SIGNAL

DLK

Α

В

D

Е

Н

INFOID:0000000009132997

Ν

0

Р

#### **B2419 OPEN SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

- 1. Turn ignition switch OFF.
- 2. Disconnect back door lock assembly connector.
- 3. Check voltage between back door lock assembly harness connector and ground.

(+) Back door lock assembly		(-)	Voltage (Approx.)	
Connector	Terminal		( 44)	
D557	4	Ground	16 – 8 V	

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 5.

# 5. CHECK OPEN SWITCH CIRCUIT

- 1. Disconnect automatic back door control module connector.
- Check continuity between automatic back door control module harness connector and back door lock assembly harness connector.

Automatic back d	oor control module	Back door lock assembly		Continuity
Connector	Terminal	Connector Terminal		Continuity
B55	11	D557	4	Yes

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back door control module			Continuity
Connector Terminal		Ground	Continuity
B55	11		No

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

NO >> Repair or replace harness.

#### $\mathsf{6}.$ CHECK OPEN SWITCH GROUND CIRCUIT

Check continuity between back door lock assembly harness connector and ground.

Back door lock assembly			Continuity
Connector	Connector Terminal		Continuity
D557	8		Yes

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

### 7. CHECK OPEN SWITCH

Refer to DLK-119, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace back door lock assembly. Refer to <u>DLK-302, "DOOR LOCK: Removal and Installation"</u>.

# 8. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

#### Component Inspection

INFOID:0000000009132998

#### COMPONENT INSPECTION

#### **B2419 OPEN SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

# 1. CHECK SWITCH

- 1. Turn ignition switch OFF.
- Disconnect back door lock assembly connector.
   Check continuity between back door lock assembly terminals.

Back door lock assembly Terminal		- Condition		Continuity
				Continuity
4			Open	Yes
4			Fully closed/Half latch	No
5		Back door lock	Fully close	Yes
3			Open/Half latch	No
6	8		Open	Yes
O			Fully closed/Half latch	No
7		Back door	On	Yes
		switch	Off	No

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace back door lock assembly. Refer to <u>DLK-302</u>, "<u>DOOR LOCK</u>: <u>Removal and Installation</u>".

DLK

J

В

С

 $\mathsf{D}$ 

Е

F

Н

M

Ν

0

Р

### **B2420 CLOSE SWITCH**

DTC Logic

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
B2420	CLOSE SW	Automatic back door control module detects a mal- function of close switch during automatic operation of back door.	Entry of foreign materials to back door lock assembly     Back door mechanism     Automatic back door control module     Close switch     Harness or connectors

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON.
- 2. Check Self-Diagnostic Result mode of AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.

INFOID:0000000009133000

#### Is DTC detected?

YES >> Refer to <u>DLK-130</u>, "<u>Diagnosis Procedure</u>".

NO >> Inspection End.

### Diagnosis Procedure

Regarding Wiring Diagram information, refer to DLK-95, "Wiring Diagram".

# 1. CHECK FOR FOREIGN MATERIALS IN BACK DOOR LOCK ASSEMBLY

Check for entry of foreign materials in back door lock assembly.

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Remove foreign materials.

### 2.CHECK BACK DOOR OPEN/CLOSE OPERATION

Manually check open and close operation of back door.

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

### CHECK CLOSE SWITCH SIGNAL

- 1. Select AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.
- Select CLOSE SW in DATA MONITOR mode.
- 3. Check that the function operates normally according to the following conditions.

Monitor item	Condition		Status
CLOSE SW	Rack door	Open/Half latch	OFF
CLOSE SVV	Back door	Fully closed	ON

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> GO TO 4.

### 4. CHECK CLOSE SWITCH INPUT SIGNAL

1. Turn ignition switch OFF.

#### **B2420 CLOSE SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

- 2. Disconnect back door lock assembly connector.
- Check voltage between back door lock assembly harness connector and ground.

(+)			Voltage (Approx.)	
Back door loc	k assembly	(–)		
Connector	Terminal		,	
D557	5	Ground	16 – 8 V	

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 5.

# 5. CHECK CLOSE SWITCH CIRCUIT

- 1. Disconnect automatic back door control module connector.
- Check continuity between automatic back door control module harness connector and back door lock assembly harness connector.

Automatic back door control module		Back door lock	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
B55	5	D557	5	Yes	

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back d	oor control module		Continuity
Connector	Terminal	Ground	Continuity
B55	5		No

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to DLK-315, "Removal and Installation".

NO >> Repair or replace harness.

#### 6.CHECK CLOSE SWITCH GROUND CIRCUIT

Check continuity between back door lock assembly harness connector and ground.

Back door lock	assembly		Continuity	
Connector Terminal		Ground	Continuity	
D557	8		Yes	

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

#### **/.**CHECK CLOSE SWITCH

Refer to DLK-119, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace back door lock assembly. Refer to <u>DLK-302, "DOOR LOCK: Removal and Installation"</u>.

### 8. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

### Component Inspection

COMPONENT INSPECTION

DLK

Α

В

D

F

IV

Ν

0

Р

INFOID:0000000009133001

### **B2420 CLOSE SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

# 1. CHECK SWITCH

- 1. Turn ignition switch OFF.
- Disconnect back door lock assembly.
  Check continuity between back door lock assembly terminals.

Back door lock assembly		Condition		Continuity	
Terminal			Condition	Continuity	
4			Open	Yes	
4			Fully closed/Half latch	No	
5	- 8	Back door lock	Fully close	Yes	
J			Open/Half latch	No	
6			Open	Yes	
0			Fully closed/Half latch	No	
7		Back door switch	On	Yes	
7			Off	No	

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace back door lock assembly. Refer to <a href="DLK-302">DLK-302</a>, "DOOR LOCK: Removal and Installation".

#### **B2422 BACK DOOR STATE**

#### < DTC/CIRCUIT DIAGNOSIS >

#### **B2422 BACK DOOR STATE**

DTC Logic INFOID:0000000009133002

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
B2422	BACK DOOR STATE	When the automatic back door control module detects back door position malfunction according to the pulse signal.	Improper installation of back door assembly     [CALIBRATION OF AUTOMATIC BACK DOOR POSITION INFORMATION]: not complete     Back door mechanism     Encoder     Automatic back door control module     Harness or connectors

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON.
- Operate automatic back door.
- Check "Self Diagnostic Result" mode of "AUTOMATIC BACK DOOR CONTROL MODULE" using CON-SULT.

#### Is DTC detected?

YES >> Refer to DLK-133, "Diagnosis Procedure".

NO >> Inspection End.

## Diagnosis Procedure

Regarding Wiring Diagram information, refer to <a>SEC-27</a>, "Wiring Diagram".

# 1. CALIBRATION OF AUTOMATIC BACK DOOR POSITION INFORMATION

- Perform initialization setting of automatic back door position information. Refer to DLK-113, "Work Procedure".
- Erase DTC, and then repeat "PERFORM DTC CONFIRMATION PROCEDURE".

#### Is DTC detected?

YES >> GO TO 2.

NO >> Inspection End.

# 2.CHECK INSTALLATION OF BACK DOOR ASSEMBLY

- Check that back door assembly is installed normally. Refer to DLK-288, "BACK DOOR ASSEMBLY: Adjustment".
- Check back door assembly mechanism deformation, looseness, rattle, interference with other parts and pinched foreign materials.

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

# 3. CHECK ENCODER SIGNAL

- Select "AUTOMATIC BACK DOOR CONTROL MODULE" using CONSULT.
- Select "SPINDLE SENSOR LH" and "SPINDLE SENSOR RH" in "DATA MONITOR" mode. 2.
- Check that the function operates normally according to the following conditions.

DLK

Α

В

D

Е

Н

INFOID:0000000009133003

Ν

Р

#### **B2422 BACK DOOR STATE**

#### < DTC/CIRCUIT DIAGNOSIS >

Monitor item	Status
SPINDLE SENSOR LH	0 – 65535
SPINDLE SENSOR RH	0 – 65535

#### Is the difference between the 2 monitor items 10 or more?

YES >> GO TO 4.

NO >> Replace automatic back door control module. Refer to <u>DLK-315</u>, "Removal and Installation".

# 4. CHECK ENCODER POWER SUPPLY

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

(+)			(-)	Voltage (Approx.)
Spindle unit  Connector Terminal				
LH	B70	0	Crawad	16.7F G.V
RH	B162	8	Ground	16.75 – 6 V

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 5.

### 5. CHECK ENCODER CIRCUIT

- 1. Disconnect automatic back door control module connector.
- Check continuity between automatic back door control module harness connector and spindle unit harness connector.

Automatic back door control module		Spindle unit			Continuity
Connector	Terminal	Connector Terminal		Continuity	
B55	19	LH	B70	Q	Yes
В33	20	RH	B162	0	165

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back d	oor control module		Continuity	
Connector	Terminal	Ground	Continuity	
B55	19	Ground	No	
600	20		No	

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

NO >> Repair or replace harness.

### 6. CHECK ENCODER CIRCUIT 2

- 1. Disconnect automatic back door control module connector.
- Check continuity between automatic back door control module harness connector and spindle unit harness connector.

#### **B2422 BACK DOOR STATE**

#### < DTC/CIRCUIT DIAGNOSIS >

Automatic back d	oor control module	Spindle unit		Continuity		
Connector	Terminal	Connector Terminal		Terminal	Continuity	
	6	LH	D70	D70	3	
DEE	7	LH B70	10	V		
B55	8	BU	B162	3	Yes	
	9	RH		10		

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back of	door control module		Continuity
Connector	Terminal		Continuity
B55	6	Ground	
	7	- Glound	No
	8		INO
	9		

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

# 7. CHECK ENCODER CIRCUIT 3

- 1. Connect automatic back door control module and spindle unit connector
- 2. Check continuity between automatic back door control module harness connector and ground.

Automatic back do	oor control module		Voltage
Connector Terminal		Ground	(Approx.)
B55	21		0 V

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace automatic back door control module. Refer to <u>DLK-315</u>, "Removal and Installation".

# 8. CHECK INTERMITTENT INCIDENT

#### Refer to GI-53, "Intermittent Incident".

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

NO >> Repair or replace the malfunctioning parts.

DLK

Α

В

D

Е

. . .

Ν

C

Р

#### **B2423 AUTOMATIC BACK DOOR MOTOR OPERATION TIME**

< DTC/CIRCUIT DIAGNOSIS >

### B2423 AUTOMATIC BACK DOOR MOTOR OPERATION TIME

DTC Logic

#### DTC DETECTION LOGIC

DTC	CONSULT display de- scription	DTC detecting condition	Possible cause
B2423	ABD MTR TIME OUT	When the automatic back door control module and spindle motor operate in the same direction for 180 seconds or more continuously.	Spindle motor     Automatic back door control module     Harness or connector

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Operate automatic back door.
- Check "Self-Diagnostic Result" mode of "AUTOMATIC BACK DOOR CONTROL MODULE" using CON-SULT.

#### Is DTC detected?

YES >> Refer to <u>DLK-136</u>, "<u>Diagnosis Procedure</u>".

NO >> Inspection End.

### Diagnosis Procedure

INFOID:0000000009133005

Regarding Wiring Diagram information, refer to <u>DLK-95, "Wiring Diagram"</u>.

# 1.ERASE DTC

- 1. At least 180 seconds are passed after automatic back door operation is inhibited.
- 2. Erase DTC, and then repeat "PERFORM DTC CONFIRMATION PROCEDURE".

#### Is DTC detected?

YES >> GO TO 2.

NO >> Inspection End.

# 2.CHECK SPINDLE MOTOR CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect automatic back door control module and spindle unit connector.
- Check continuity between automatic back door control module harness connector and spindle unit harness connector.

Automatic back door control module		Spindle unit			Continuity
Connector	Terminal	Connector Terminal		Continuity	
	27	LH	B70 9	9	Yes
B56	34	LII		2	
B30	29	DII	B162 9 2	9	
	36	RH		2	

4. Check continuity between automatic back door control module harness connector and ground.

### **B2423 AUTOMATIC BACK DOOR MOTOR OPERATION TIME**

#### < DTC/CIRCUIT DIAGNOSIS >

Automatic back	door control module		Continuity	
Connector	Terminal		Continuity	
	27	Ground		
B56	29	Glound	No	
D30	34		INO	
	36			

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

NO >> Repair or replace harness.

Α

В

С

D

Е

F

G

Н

J

DLK

L

M

Ν

0

Р

### **B2426 ENCODER**

DTC Logic

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
B2426	SPINDLE SENSOR LH	When the automatic back door control module can not receive the pulse signal from the encoder just after starting the open/close operation.	Improper installation of back door assembly  [CALIBRATION OF AUTOMATIC BACK DOOR POSITION INFORMATION]: not complete Back door mechanism Automatic back door control module Encoder Harness or connectors

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Turn ignition switch ON.
- 2. Operate automatic back door.
- Check "Self-Diagnostic Result" mode of "AUTOMATIC BACK DOOR CONTROL MODULE" using CON-SULT.

INFOID:0000000009133007

#### Is DTC detected?

YES >> Refer to <u>DLK-138</u>, "<u>Diagnosis Procedure</u>".

NO >> Inspection End.

### Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>DLK-95</u>, "Wiring Diagram".

# 1. CALIBRATION OF AUTOMATIC BACK DOOR POSITION INFORMATION

- Perform initialization setting of automatic back door position information. Refer to DLK-113, "Work Procedure".
- Erase DTC, and then repeat "PERFORM DTC CONFIRMATION PROCEDURE".

#### Is DTC detected?

YES >> GO TO 2.

NO >> Inspection End.

# 2.check installation of back door assembly

- Check that back door assembly is installed normally. Refer to <u>DLK-288</u>, "<u>BACK DOOR ASSEMBLY</u>: Adjustment".
- Check back door assembly mechanism deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

# 3.check encoder signal

- Select "AUTOMATIC BACK DOOR CONTROL MODULE" using CONSULT.
- 2. Select "SPINDLE LH ENCODER A" and "SPINDLE LH ENCODER B" in "DATA MONITOR" mode.
- Check that the function operates normally according to the following conditions.

#### **B2426 ENCODER**

#### < DTC/CIRCUIT DIAGNOSIS >

Monitor item	Condition		Status
SPINDLE LH ENCODER A		Moving (auto or manual)	HI ⇔ LO
	Back door	When stopped	HI or LO
SPINDLE LH ENCODER B	- Dack door	Moving (auto or manual)	HI⇔LO
		When stopped	HI or LO

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

### 4. CHECK ENCODER POWER SUPPLY

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

(+ Spindle	unit LH	(-)	Voltage (Approx.)	
Connector	Terminal		( )	
B70	8	Ground	16.75 – 6 V	

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 5.

### 5. CHECK ENCODER CIRCUIT

- 1. Disconnect automatic back door control module connector.
- 2. Check continuity between automatic back door control module harness connector and spindle unit LH harness connector.

Automatic back do	oor control module	Spindle unit LH		Continuity
Connector	Terminal	Connector Terminal		Continuity
B55	19	B70	8	Yes

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back d	oor control module		Continuity	
Connector Terminal		Ground	Continuity	
B55	19		No	

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315</u>, "Removal and Installation".

NO >> Repair or replace harness.

### **6.**CHECK ENCODER CIRCUIT 2

- 1. Disconnect automatic back door control module connector.
- Check continuity between automatic back door control module harness connector and spindle unit LH harness connector.

Automatic back door control module Spindle unit LH			Continuity	
Connector	Terminal	Connector	Terminal	Continuity
B55	6	B70	3	Yes
Вээ	7	70	10	165

3. Check continuity between automatic back door control module harness connector and ground.

DLK

Α

В

D

Е

M

Ν

0

Ρ

#### **B2426 ENCODER**

#### < DTC/CIRCUIT DIAGNOSIS >

Automatic back door control module			Continuity
Connector	Terminal	Ground	Continuity
B55	6	Ground	No
<b>B</b> 33	7		INO

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

# 7.CHECK ENCODER CIRCUIT 3

- 1. Connect automatic back door control module and spindle unit LH connector.
- 2. Check continuity between automatic back door control module harness connector and ground.

Automatic back door control module			Voltage
Connector	Terminal	Ground	(Approx.)
B55	21		0 V

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

# 8. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

NO >> Repair or replace the malfunctioning parts.

#### **B2427 ENCODER**

#### < DTC/CIRCUIT DIAGNOSIS >

## **B2427 ENCODER**

**DTC** Logic INFOID:000000009133008

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
B2427	SPINDLE SENSOR RH	When the automatic back door control module can not receive the pulse signal from the encoder just after starting the open/close operation.	Improper installation of back door assembly  [CALIBRATION OF AUTOMATIC BACK DOOR POSITION INFORMATION]: not complete  Back door mechanism  Automatic back door control module  Encoder  Harness or connectors

#### DTC CONFIRMATION PROCEDURE

# 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON.
- Operate automatic back door.
- Check "Self-Diagnostic Result" mode of "AUTOMATIC BACK DOOR CONTROL MODULE" using CON-SULT.

#### Is DTC detected?

YES >> Refer to DLK-141, "Diagnosis Procedure".

NO >> Inspection End.

## Diagnosis Procedure

Regarding Wiring Diagram information, refer to <a href="DLK-95">DLK-95</a>, "Wiring Diagram".

# 1. CALIBRATION OF AUTOMATIC BACK DOOR POSITION INFORMATION

- Perform initialization setting of automatic back door position information. Refer to DLK-113, "Work Procedure".
- Erase DTC, and then repeat "PERFORM DTC CONFIRMATION PROCEDURE".

#### Is DTC detected?

YES >> GO TO 2.

NO >> Inspection End.

# 2.CHECK INSTALLATION OF BACK DOOR ASSEMBLY

- Check that back door assembly is installed normally. Refer to DLK-288, "BACK DOOR ASSEMBLY: Adjustment".
- Check back door assembly mechanism deformation, looseness, rattle, interference with other parts, and pinched foreign materials.

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

# 3.check encoder signal

- Select "AUTOMATIC BACK DOOR CONTROL MODULE" using CONSULT.
- Select "SPINDLE RH ENCODER A" and "SPINDLE RH ENCODER B" in "DATA MONITOR" mode. 2.
- Check that the function operates normally according to the following conditions.

DLK

Α

В

D

Е

Н

INFOID:0000000009133009

Ν

Р

**DLK-141 Revision: August 2013** 2014 QX60

#### **B2427 ENCODER**

#### < DTC/CIRCUIT DIAGNOSIS >

Monitor item	Condition		Status
SPINDLE RH ENCODER A		Moving (auto or manual)	HI ⇔ LO
		When stopped	HI or LO
SPINDLE RH ENCODER B	- Back door	Moving (auto or manual)	HI ⇔ LO
		When stopped	HI or LO

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

# 4. CHECK ENCODER POWER SUPPLY

- 1. Turn ignition switch OFF.
- Disconnect spindle unit RH connector.
- Check voltage between spindle unit RH harness connector and ground.

(+	•)		Mallan a	
Spindle unit RH		(–)	Voltage (Approx.)	
Connector	Terminal		, , ,	
B162	8	Ground	16.75 – 6 V	

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> GO TO 5.

### 5. CHECK ENCODER CIRCUIT

- 1. Disconnect automatic back door control module connector.
- Check continuity between automatic back door control module harness connector and spindle unit RH harness connector.

Automatic back d	Automatic back door control module		Spindle unit RH	
Connector	Terminal	Connector	Terminal	Continuity
B55	20	B162	8	Yes

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back door control module			Continuity
Connector	Terminal	Ground	Continuity
B55	20		No

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315</u>, "Removal and Installation".

NO >> Repair or replace harness.

# 6. CHECK ENCODER CIRCUIT 2

- 1. Disconnect automatic back door control module connector.
- Check continuity between automatic back door control module harness connector and spindle unit RH harness connector.

Automatic back d	oor control module	Spindle unit RH		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B55	8		3	Yes
	9	B162	10	165

3. Check continuity between automatic back door control module harness connector and ground.

#### **B2427 ENCODER**

#### < DTC/CIRCUIT DIAGNOSIS >

Automatic back door control module			Continuity
Connector	Terminal	Ground	Continuity
B55	8	Ground	No
633	9		INO

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace harness.

# 7. CHECK ENCODER CIRCUIT 3

- 1. Connect automatic back door control module spindle unit RH connector.
- 2. Check continuity between automatic back door control module harness connector and ground.

Automatic back door control module			Voltage
Connector	Terminal	Ground	(Approx.)
B55	21		0 V

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

# 8. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

NO >> Repair or replace the malfunctioning parts.

DLK

J

Α

В

D

Е

F

Н

Ν

C

Р

Revision: August 2013 DLK-143 2014 QX60

#### **B2428 AUTOMATIC BACK DOOR CONTROL UNIT**

< DTC/CIRCUIT DIAGNOSIS >

# **B2428 AUTOMATIC BACK DOOR CONTROL UNIT**

DTC Logic

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
B2428	AUTO BACK DR CNT UNIT	Automatic back door control module detected CPU malfunction	Automatic back door control module

# Diagnosis Procedure

INFOID:0000000009133011

# 1. REPLACE AUTOMATIC BACK DOOR CONTROL MODULE

When DTC [B2428] is detected, replace automatic back door control module.

>> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

#### **B242A CLOSURE CONDITION**

#### < DTC/CIRCUIT DIAGNOSIS >

### **B242A CLOSURE CONDITION**

Α **DTC** Logic INFOID:0000000009133012

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
B242A	CLSR CONDITION	Automatic back door control module detects mal- functions of open switch, close switch and half latch switch when auto closure of back door operates.	Entry of foreign materials to back door lock assembly     Back door mechanism     Automatic back door control module     Open switch     Close switch     Half latch switch     Harness or connectors

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON.
- Operate back door auto closure operation.
- Check Self-Diagnostic Result mode of AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.

### Is DTC detected?

YES >> Refer to <u>DLK-145</u>, "<u>Diagnosis Procedure</u>".

NO >> Inspection End.

## Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>DLK-95</u>, "Wiring <u>Diagram"</u>.

## 1. CHECK FOR FOREIGN MATERIALS IN BACK DOOR LOCK ASSEMBLY

Check for entry of foreign materials in back door lock assembly.

## Is the inspection result normal?

YES >> GO TO 2.

NO >> Remove foreign materials.

## 2.CHECK BACK DOOR OPEN/CLOSE OPERATION

Manually check open and close operation of back door.

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

## 3.CHECK MONITOR ITEM

- Select AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.
- Select HALF LATCH SW, OPEN SW and CLOSE SW in DATA MONITOR mode.
- Check that the function operates normally according to the following conditions.

DLK

Ν

Р

В

D

Е

F

Н

INFOID:0000000009133013

**DLK-145 Revision: August 2013** 2014 QX60

### **B242A CLOSURE CONDITION**

#### < DTC/CIRCUIT DIAGNOSIS >

Monitor item	Condi	Status	
HALF LATCH SW		Fully closed/Half latch	OFF
	Back door	Open	ON
OPEN SW		Fully closed/Half latch	OFF
OPEN SW		Open	ON
CLOSE SW		Open/Half latch	OFF
		Fully closed	ON

#### Is the inspection result normal?

YES >> GO TO 8. NO >> GO TO 4.

## 4. CHECK SWITCH INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect back door lock assembly connector.
- 3. Check voltage between back door lock assembly harness connector and ground.

(-	-)			
Back door lo	ck assembly	(–)	Voltage (Approx.)	
Connector	Terminal		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	4			
D557	5	Ground	16 – 8 V	
	6			

#### Is the inspection result normal?

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

## 5. CHECK SWITCH CIRCUIT

- 1. Disconnect automatic back door control module connector.
- Check continuity between automatic back door control module harness connector and back door lock assembly harness connector.

Automatic back door control module		Back door lock assembly		Continuity
Connector	Terminal	Connector Terminal		Continuity
	3		6	
B55	5	D557	5	Yes
	11		4	

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back d	oor control module		Continuity	
Connector	Connector Terminal		Continuity	
	3	Ground		
B55	5		No	
	11			

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to DLK-315, "Removal and Installation".

NO >> Repair or replace harness.

#### O.CHECK SWITCH GROUND CIRCUIT

Check continuity between back door lock assembly harness connector and ground.

### **B242A CLOSURE CONDITION**

#### < DTC/CIRCUIT DIAGNOSIS >

Back door lock	assembly		Continuity
Connector Terminal		Ground	Continuity
D557	8		Yes

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace back door lock assembly ground circuit.

### 7. CHECK SWITCH

Refer to DLK-119, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> Replace back door lock assembly. Refer to <u>DLK-302, "DOOR LOCK: Removal and Installation".</u>

## 8.CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

### Component Inspection

#### COMPONENT INSPECTION

## 1. CHECK SWITCH

1. Turn ignition switch OFF.

2. Disconnect back door lock assembly connector.

3. Check continuity between back door lock assembly terminals.

Back door lock assembly		Condition		Continuity
Termi	nal	Condition		Continuity
4			Open	Yes
4	8		Fully closed/Half latch	No
5		Back door lock	Fully close	Yes
5			Open/Half latch	No
6			Open	Yes
0			Fully closed/Half latch	No
7		Back door	On	Yes
		switch	Off	No

### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace back door lock assembly. Refer to <u>DLK-302</u>, "<u>DOOR LOCK</u>: <u>Removal and Installation</u>".

0

Р

Revision: August 2013 DLK-147 2014 QX60

Α

В

D

Е

\_

F

INFOID:0000000009133014

G

Н

.

DLK

 $\mathbb{N}$ 

Ν

0

### **B261B REMOTE ENGINE START**

#### < DTC/CIRCUIT DIAGNOSIS >

### **B261B REMOTE ENGINE START**

DTC Logic (INFOID:0000000009133015

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC B261B is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to <u>DLK-115. "DTC Logic"</u>.
- If DTC B261B is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to DLK-116, "DTC Logic".

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B261B	ВСМ	The BCM has requested ignition OFF but ECM keeps the engine running for more than 10 seconds after the OFF request was made.	• ECM

### Diagnosis Procedure

INFOID:0000000009133016

## 1. CHECK ECM IGNITION, POWER AND GROUND CIRCUITS

Check ECM ignition power and ground circuits. Refer to EC-179, "Diagnosis Procedure".

#### Is the inspection result normal?

YES >> Replace ECM. Refer to EC-484, "Removal and Installation". GO TO 2.

NO >> Repair or replace harness or connectors.

## 2. INSPECTION

- Turn ignition switch ON.
- Select "Self-diagnostic result" mode with CONSULT.
- 3. Touch "ERASE".
- Perform vehicle remote start operation.

#### Does DTC B261B return?

YES >> Replace BCM. Refer to <u>BCS-79</u>, "Removal and Installation".

NO >> Inspection End..

#### **B2621 INSIDE ANTENNA**

#### < DTC/CIRCUIT DIAGNOSIS >

### **B2621 INSIDE ANTENNA**

DTC Logic

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
B2621	INSIDE ANTENNA	An excessive high or low voltage from inside antenna (instrument center) is sent to BCM.	Inside key antenna (instrument center) Harness or connector [Inside key antenna (instrument center) circuit is open or shorted]

### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- Select "INTELLIGENT KEY" of "BCM" using CONSULT.
- 2. Select "INSIDE ANT DIAGNOSIS" in "WORK SUPPORT" mode.
- 3. Perform inside key antenna ("INSIDE ANT DIAGNOSIS") on "WORK SUPPORT" of "INTELLIGENT KEY".
- 4. Check BCM for DTC.

#### Is inside key antenna DTC detected?

YES >> Refer to <u>DLK-149</u>, "<u>Diagnosis Procedure</u>".

NO >> Inside key antenna (instrument center) is OK.

### Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>DLK-74, "Wiring Diagram"</u>.

## 1. CHECK INSIDE KEY ANTENNA INPUT SIGNAL 1

- Turn ignition switch OFF.
- Check signal between BCM harness connector and ground using oscilloscope.

(+) BCM		(–)	Condition	Signal (Reference value)
Connector	Terminal			(Noterense value)
M80	123, 124	Ground	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA3839GB
.moo	120, 121	Glound	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA5951GB

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

Revision: August 2013 DLK-149 2014 QX60

DLK

Α

В

D

Е

F

Н

INFOID:0000000009133018

N /I

N

 $\circ$ 

### **B2621 INSIDE ANTENNA**

#### < DTC/CIRCUIT DIAGNOSIS >

NO >> GO TO 2.

## 2. CHECK INSIDE KEY ANTENNA CIRCUIT

- 1. Disconnect BCM connector and inside key antenna (instrument center) connector.
- 2. Check continuity between BCM harness connector and inside key antenna (instrument center) harness connector.

ВСМ		Inside key antenna (instrument center)		Continuity
Connector	Terminal	Connector Terminal		Continuity
M80	123	M14	1	Yes
IVIOU	124	10114	2	165

3. Check continuity between BCM harness connector and ground.

В	CM		Continuity	
Connector	Connector Terminal		Continuity	
M80	123	Ground	No	
IVIOU	124		INU	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3.CHECK INSIDE KEY ANTENNA INPUT SIGNAL 2

- 1. Replace inside key antenna (instrument center). (New antenna or other antenna)
- 2. Connect BCM connector and inside key antenna (instrument center) connector.
- 3. Check signal between BCM harness connector and ground using oscilloscope.

	(+) BCM		Condition	Signal (Reference value)
Connector	Terminal			(1.6.6.6.166.74.166)
M80	123, 124	Ground	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0  JMKIA3839GB
WOO	123, 124	Ground	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA5951GB

### Is the inspection result normal?

YES >> Replace inside key antenna (instrument center).

NO >> Replace BCM. Refer to BCS-79, "Removal and Installation".

### **B2622 INSIDE ANTENNA**

#### < DTC/CIRCUIT DIAGNOSIS >

### **B2622 INSIDE ANTENNA**

DTC Logic

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
B2622	INSIDE ANTENNA	An excessive high or low voltage from inside antenna (console) is sent to BCM.	Inside key antenna (console)     Harness or connector     [Inside key antenna (console) circuit is open or shorted]

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Select INTELLIGENT KEY of BCM using CONSULT.
- 2. Select INSIDE ANT DIAGNOSIS in WORK SUPPORT mode.
- 3. Perform inside key antenna (INSIDE ANT DIAGNOSIS) on WORK SUPPORT of INTELLIGENT KEY.
- Check BCM for DTC.

#### Is inside key antenna DTC detected?

YES >> Refer to <u>DLK-151</u>, "<u>Diagnosis Procedure</u>".

NO >> Inside key antenna (console) is OK.

### Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>DLK-74, "Wiring Diagram"</u>.

# 1. CHECK INSIDE KEY ANTENNA INPUT SIGNAL 1

- 1. Turn ignition switch OFF.
- 2. Check signal between BCM harness connector and ground using oscilloscope.

(+) BCM Connector Terminal		(-)	Condition	Signal (Reference value)
M80	116, 128	Ground	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA3839GB
IVIOU	110, 120	Glound	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA5951GB

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

NO >> GO TO 2.

Revision: August 2013 DLK-151 2014 QX60

DLK

Α

В

D

Е

INFOID:0000000009133020

Ν

0

#### **B2622 INSIDE ANTENNA**

#### < DTC/CIRCUIT DIAGNOSIS >

# $\overline{2}$ .check inside key antenna circuit

- 1. Disconnect BCM connector and inside key antenna (console) connector.
- 2. Check continuity between BCM harness connector and inside key antenna (console) harness connector.

В	CM	Inside key ante		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M80	116	M255	1	Yes
IVIOU	128	IVIZOO	2	165

3. Check continuity between BCM harness connector and ground.

В	CM		Continuity	
Connector	Terminal	Ground	Continuity	
M80	116	Ground	No	
IVIOU	128		INU	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3.CHECK INSIDE KEY ANTENNA INPUT SIGNAL 2

- 1. Replace inside key antenna (console). (New antenna or other antenna)
- 2. Connect BCM connector and inside key antenna (console) connector.
- 3. Check signal between BCM harness connector and ground using oscilloscope.

(+) BCM		(-)	Condition	Signal (Reference value)
Connector	Terminal			
M80	116, 128	Ground	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA3839GB
			When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA5951GB

#### Is the inspection result normal?

YES >> Replace inside key antenna (console). Refer to <u>DLK-309</u>, "<u>CONSOLE</u>: <u>Removal and Installation</u>".

NO >> Replace BCM. Refer to BCS-79, "Removal and Installation".

### **B2623 INSIDE ANTENNA**

#### < DTC/CIRCUIT DIAGNOSIS >

### **B2623 INSIDE ANTENNA**

DTC Logic

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
B2622	INSIDE ANTENNA	An excessive high or low voltage from inside antenna (luggage room) is sent to BCM.	Inside key antenna (luggage room)     Harness or connector     [Inside key antenna (luggage room) circuit is open or shorted]

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

- 1. Select INTELLIGENT KEY of BCM using CONSULT.
- 2. Select INSIDE ANT DIAGNOSIS in WORK SUPPORT mode.
- 3. Perform inside key antenna (INSIDE ANT DIAGNOSIS) on WORK SUPPORT of INTELLIGENT KEY.
- Check BCM for DTC.

#### Is inside key antenna DTC detected?

YES >> Refer to <u>DLK-153</u>, "<u>Diagnosis Procedure</u>".

NO >> Inside key antenna (luggage room) is OK.

### Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>DLK-74, "Wiring Diagram"</u>.

# 1. CHECK INSIDE KEY ANTENNA INPUT SIGNAL 1

- 1. Turn ignition switch OFF.
- 2. Check signal between BCM harness connector and ground using oscilloscope.

(+) BCM Connector Terminal		(-)	Condition	Signal (Reference value)
Connector	Terrima			(V)
			When Intelligent Key is in the antenna detection area	15 10 5 0 1 s JMKIA3839GB
M20	100, 99	Ground	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA5951GB

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

NO >> GO TO 2.

Revision: August 2013 DLK-153 2014 QX60

DLK

Α

В

D

Е

INFOID:0000000009133022

Ν

0

#### **B2623 INSIDE ANTENNA**

#### < DTC/CIRCUIT DIAGNOSIS >

# $\overline{2}$ .check inside key antenna circuit

- 1. Disconnect BCM connector and inside key antenna (luggage room) connector.
- 2. Check continuity between BCM harness connector and inside key antenna (luggage room) harness connector.

В	CM	Inside key antenr	na (luggage room)	Continuity
Connector	Terminal	Connector Terminal		Continuity
M20	100 B76		1	Yes
IVIZU	99	670	2	165

3. Check continuity between BCM harness connector and ground.

F	BCM		Continuity
Connector	Terminal	Ground	Continuity
M20	100	Ground	No
IVIZU	99		NU

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3. CHECK INSIDE KEY ANTENNA INPUT SIGNAL 2

- 1. Replace inside key antenna (luggage room). (New antenna or other antenna)
- 2. Connect BCM connector and inside key antenna (luggage room) connector.
- 3. Check signal between BCM harness connector and ground using oscilloscope.

(+) BCM		(-)	Condition	Signal (Reference value)
Connector	Terminal			(1.16.6.6.166.166)
M20	100, 99	Ground	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA3839GB
IVIZU	100, 99	Ground	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1   S   JMKIA5951GB

#### Is the inspection result normal?

YES >> Replace inside key antenna (luggage room). Refer to <u>DLK-309, "LUGGAGE ROOM : Removal</u> and Installation".

NO >> Replace BCM. Refer to BCS-79, "Removal and Installation".

#### **B26FD SHIFT LOCK SOLENOID**

#### < DTC/CIRCUIT DIAGNOSIS >

## **B26FD SHIFT LOCK SOLENOID**

DTC Logic INFOID:0000000009133023

#### DTC DETECTION LOGIC

DTC	CONSULT display description	DTC detecting condition	Possible cause
B26FD	SHIFT LOCK SOLE- NOID	BCM shift lock solenoid output control is OFF but shift lock solenoid output feedback is ON.	Shift lock solenoid     Harness or connector     Shift lock solenoid circuit is open or shorted

#### DTC CONFIRMATION PROCEDURE

## 1.PERFORM DTC CONFIRMATION PROCEDURE

- Turn ignition switch ON.
- Check "Self Diagnostic Result" mode of "BCM" using CONSULT.

#### Is DTC detected?

YES >> Refer to DLK-155, "Diagnosis Procedure".

NO >> Shift lock solenoid is OK.

## Diagnosis Procedure

Regarding Wiring Diagram information, refer to DLK-74, "Wiring Diagram".

## 1. CHECK POWER SOURCE (STOP LAMP SWITCH)

- Turn ignition switch OFF.
- 2. Disconnect stop lamp switch connector.
- Check voltage between stop lamp switch connector E38 terminal 1 and ground.

Stop lamp switch			Voltage (Approx.)
Connector	Terminal	Ground	Voltage (Approx.)
E38	1		Battery voltage

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Check the following:

- · Harness for short or open between fuse block (J/B) and stop lamp switch
- 10A fuse (No. 10, located in fuse block [J/B])

### 2.CHECK STOP LAMP SWITCH

Check stop lamp switch. Refer to TM-178, "Component Inspection (Stop Lamp Switch)".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Replace stop lamp switch. Refer to BR-20, "Exploded View".

## 3.CHECK GROUND CIRCUIT (BCM)

- Disconnect BCM connector M81.
- Check continuity between BCM connector M81 terminals 134,143 and ground.

DLK

Α

В

D

Е

F

Н

INFOID:0000000009133024

Ν

### **B26FD SHIFT LOCK SOLENOID**

#### < DTC/CIRCUIT DIAGNOSIS >

ВСМ			Continuity
Connector	Terminal (+)	Ground	Continuity
M81	134	Yes	Ves
IVIO I	143		165

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace damaged parts.

## 4. CHECK HARNESS BETWEEN BCM AND STOP LAMP SWITCH FOR OPEN

- Disconnect BCM connector M18.
- 2. Check continuity between BCM connector M18 terminal 27 and stop lamp switch connector E38 terminal 2.

В	СМ	Stop I	amp switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M18	27	E38	2	Yes

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace damaged parts.

## 5. CHECK HARNESS BETWEEN BCM AND STOP LAMP SWITCH FOR SHORT CIRCUIT

Check continuity between BCM connector M18 terminal 27 and ground.

всм			Continuity
Connector	Terminal	Ground	Continuity
M18	27		No

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace damaged parts.

### 6.CHECK HARNESS BETWEEN BCM AND CVT SHIFT SELECTOR FOR OPEN

- 1. Disconnect CVT shift selector connector M78 and BCM connector M80.
- Check continuity between BCM connector M80 terminal 108 and CVT shift selector connector M78 terminal 3.

В	BCM		CVT shift selector	
Connector	Terminal	Connector	Terminal	Continuity
M80	108	M78	3	Yes

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace damaged parts.

## 7.CHECK HARNESS BETWEEN BCM AND CVT SHIFT SELECTOR FOR SHORT CIRCUIT

Check continuity between BCM connector M80 terminal 108 and ground.

ВСМ			Continuity
Connector	Terminal	Ground	Continuity
M80	108		No

#### Is the inspection result normal?

YES >> GO TO 8.

NO >> Repair or replace damaged parts.

### **B26FD SHIFT LOCK SOLENOID**

### < DTC/CIRCUIT DIAGNOSIS >

## 8. CHECK GROUND CIRCUIT (CVT SHIFT SELECTOR)

Check continuity between CVT shift selector connector M78 terminal 4 and ground.

CVT shift selector			Continuity
Connector	Terminal	Ground	Continuity
M78	4		Yes

#### Is the inspection result normal?

YES >> Replace shift lock solenoid. Refer to TM-188, "Exploded View".

NO >> Repair or replace damaged parts.

В

С

D

Е

F

G

Н

J

DLK

L

M

Ν

0

#### **B26FE HOOD SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

### **B26FE HOOD SWITCH**

DTC Logic

#### DTC DETECTION LOGIC

#### NOTE:

- If DTC B26FE is displayed with DTC U1000, first perform the trouble diagnosis for DTC U1000. Refer to BCS-67, "DTC Logic".
- If DTC B26FE is displayed with DTC U1010, first perform the trouble diagnosis for DTC U1010. Refer to BCS-68, "DTC Logic".

DTC	CONSULT display description	DTC detecting condition	Possible cause
B26FE	HOOD SWITCH	BCM detects that the hood switch input is malfunctioning.	Hood switch     Harness or connector     [hood switch circuit is open or shorted]

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

YES >> Refer to <u>DLK-158</u>, "<u>Diagnosis Procedure</u>".

NO >> Hood switch is OK.

### Diagnosis Procedure

INFOID:0000000009133026

Regarding Wiring Diagram information, refer to <a href="DLK-74">DLK-74</a>, "Wiring Diagram".

## 1. CHECK HOOD SWITCH SIGNAL CIRCUITS

- Turn ignition switch OFF.
- 2. Disconnect hood switch connector.
- Check voltage between hood switch harness connector and ground.

(+) Hood switch		(–)	Voltage (V) (Approx.)
Connector	Terminal		(Αρρίολ.)
E205	1	Cround	Pattony voltago
E205	2	Ground	Battery voltage

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## 2.CHECK HOOD SWITCH SIGNAL CIRCUITS

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

IPDI	M E/R	Hood s	switch	Continuity
Connector	Terminal	Connector	Terminal	Continuity
E218	94	E205	1	Yes
LZTO	96	L203	2	165

#### **B26FE HOOD SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

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

IPDM E/R			Continuity
Connector	Terminal	Ground	Continuity
E218	94	No	No
LZTO	96		NO

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".

NO >> Repair or replace harness.

## 3.CHECK HOOD SWITCH GROUND CIRCUIT

Check continuity between hood switch harness connector and ground.

Hood switch			Continuity
Connector	Terminal	Ground	Continuity
E205	3		Yes

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

### 4. CHECK HOOD SWITCH

Refer to DLK-159, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace hood switch. Refer to <u>DLK-293</u>, "HOOD LOCK RELEASE CABLE : Removal and Installation".

## 5. CHECK BCM CONFIGURATION

Refer to BCS-65, "CONFIGURATION (BCM): Configuration List".

>> Inspection End.

## Component Inspection

1. CHECK HOOD SWITCH

- 1. Turn ignition switch OFF.
- Disconnect hood switch connector.

3. Check continuity between hood switch terminals.

Hood switch		Condition		Continuity
Te	rminal	,	Continuity	
1	3	Hood switch	Press	No
1	3	Hood switch	Release	Yes
2	3	Hood switch	Press	No
2	3	Hood switch	Release	Yes

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace hood switch. Refer to <u>DLK-293</u>, "<u>HOOD LOCK RELEASE CABLE</u>: Removal and Installation".

DLK

INFOID:0000000009133027

Α

В

D

Е

Н

1

M

Ν

0

Р

Revision: August 2013 DLK-159 2014 QX60

### **B26FF REMOTE KEYLESS ENTRY RECEIVER**

< DTC/CIRCUIT DIAGNOSIS >

### **B26FF REMOTE KEYLESS ENTRY RECEIVER**

DTC Logic

#### DTC DETECTION LOGIC

DTC No.	Trouble diagnosis name	DTC detecting condition	Possible cause
B26FF	INTELLIGENT TUNER COMMUNICATION FAIL	Inactive communication between BCM and remote keyless entry receiver.	Harness or connector     Remote keyless entry receiver     BCM

#### DTC CONFIRMATION PROCEDURE

## 1. PERFORM DTC CONFIRMATION PROCEDURE

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

#### Is DTC detected?

YES >> Refer to <u>DLK-160</u>, "<u>Diagnosis Procedure</u>".

NO >> Inspection End.

### Diagnosis Procedure

INFOID:0000000009133029

Regarding Wiring Diagram information, refer to <u>DLK-74, "Wiring Diagram"</u>.

## 1. CHECK REMOTE KEYLESS ENTRY RECEIVER OUTPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Check signal between BCM harness connector and ground using oscilloscope.

(+) BCM		(-)	Condition	Signal (Reference value)
Connector	Terminal			
M80	119	Ground	Standby state	(V) 6 4 2 0 + 0.2s OCC3881D
			Press the Intelligent Key lock or unlock button	(V) 6 4 2 0 ••• 0.2s OCC3880D

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

NO >> GO TO 2.

## 2.CHECK REMOTE KEYLESS ENTRY RECEIVER CIRCUIT 1

- 1. Disconnect BCM and remote keyless entry receiver connectors.
- 2. Check continuity between BCM harness connector and remote keyless entry receiver harness connector.

### **B26FF REMOTE KEYLESS ENTRY RECEIVER**

#### < DTC/CIRCUIT DIAGNOSIS >

В	CM	Remote keyless entry receiver				Continuity
Connector	Terminal	Connector Terminal		Continuity		
M80	119	M86	2	Yes		

3. Check continuity between BCM harness connector and ground.

(+)			
BCM		(–)	Continuity
Connector	Terminal		
M80	119	Ground	No

### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3.CHECK REMOTE KEYLESS ENTRY RECEIVER POWER SUPPLY

Check voltage between remote keyless entry receiver harness connector and ground.

(+)  Remote keyless entry receiver			Voltage (Approx)
		(–)	
Connector	Terminal		( PF - 7
M86	1	Ground	Battery voltage

#### Is the inspection result normal?

YES >> GO TO 4.

NO-1 >> Check 10A fuse No. 25 [located in fuse block J/B].

NO-2 >> Repair or replace harness between remote keyless entry receiver and 10A fuse No. 25.

## 4. CHECK REMOTE KEYLESS ENTRY RECEIVER GROUND CIRCUIT

Check continuity between remote keyless entry receiver harness connector and ground.

Remote keyless entry receiver			Continuity
Connector	Terminal	Ground	Continuity
M86	3		Yes

#### Is the inspection result normal?

YES >> Replace remote keyless entry receiver. Refer to <u>DLK-313, "Removal and Installation"</u>.

NO >> Repair or replace harness.

DLK

L

J

Α

В

D

Е

F

Н

M

Ν

C

Р

Revision: August 2013 DLK-161 2014 QX60

### POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

# POWER SUPPLY AND GROUND CIRCUIT AUTOMATIC BACK DOOR CONTROL UNIT

## AUTOMATIC BACK DOOR CONTROL UNIT : Diagnosis Procedure

INFOID:0000000009133030

Regarding Wiring Diagram information, refer to <u>DLK-95</u>, "Wiring Diagram".

## 1. CHECK FUSIBLE LINK

Check that the following fusible link is not open.

Fusible link No.	Signal name
N (40A)	Battery power supply

#### Is the fusible link open?

YES >> Replace the open fusible link after repairing the affected circuit.

NO >> GO TO 2.

## 2.CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect automatic back door control module connector.
- 3. Check voltage between automatic back door control module harness connector and ground.

(+)			
Automatic back door control module		(-)	Voltage
Connector	Terminal		
B56	25	Ground	Battery voltage

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3.CHECK GROUND CIRCUIT

Check continuity between automatic back door control module harness connector and ground.

Automatic back door control module			Continuity
Connector	Terminal		Continuity
B56	32	Ground	Yes
	28		
B55	4 (except Mexico)		

#### Does continuity exist?

YES >> Inspection End.

NO >> Repair or replace harness.

BCM

## **BCM**: Diagnosis Procedure

INFOID:0000000009726230

Regarding Wiring Diagram information, refer to BCS-54, "Wiring Diagram".

## 1. CHECK FUSE AND FUSIBLE LINK

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

Revision: August 2013 DLK-162 2014 QX60

#### POWER SUPPLY AND GROUND CIRCUIT

#### < DTC/CIRCUIT DIAGNOSIS >

Terminal No.	Signal name	Fuse and fusible link No.
139	Fusible link battery power	O (40A)
131	BCM battery fuse	1 (10A)

### Is the fuse or fusible link blown?

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

NO >> GO TO 2

# 2. CHECK POWER SUPPLY CIRCUIT

- 1. Disconnect BCM connector M81.
- 2. Check voltage between BCM connector M81 terminals 131, 139 and ground.

BCM		Ground	Voltage
Connector	Terminal	Ground	(Approx.)
M81	131	_	Battery voltage
	139		

#### Is the inspection result normal?

YES >> GO TO 3

NO >> Repair or replace harness or connectors.

## 3. CHECK GROUND CIRCUIT

Check continuity between BCM connector M81 terminals 134, 143 and ground.

В	CM	Ground	Continuity	
Connector	Terminal	Giodila		
M81	134		Yes	
IVIO	143	_		

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Repair or replace harness or connectors.

DLK

Α

В

C

D

Е

Н

Ν

C

### **OUTSIDE KEY ANTENNA (PASSENGER SIDE)**

#### < DTC/CIRCUIT DIAGNOSIS >

## **OUTSIDE KEY ANTENNA (PASSENGER SIDE)**

## **Component Function Check**

## 1. CHECK OUTSIDE KEY ANTENNA (PASSENGER SIDE)

- 1. Place the Intelligent Key into the detection area of the outside key antenna (passenger side).
- Press the door request switch (passenger side).

#### Does the door unlock?

YES >> Inspection End.

NO >> Refer to <u>DLK-164</u>, "<u>Diagnosis Procedure</u>".

### Diagnosis Procedure

INFOID:0000000009133033

INFOID:0000000009133032

Regarding Wiring Diagram information, refer to <u>DLK-74, "Wiring Diagram"</u>.

## 1. CHECK OUTSIDE KEY ANTENNA INPUT SIGNAL 1

- 1. Turn ignition switch OFF.
- 2. Check signal between BCM harness connector and ground using oscilloscope.

В	+) CM	(–)	Condition		Signal (Reference value)
Connector	Terminal				
M80	When the driver door request switch is op-	When Intelligent Key is in the antenna de- tection area (The dis- tance between Intelligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 500 ms JMKIA5955GB		
	,		erated with ignition switch OFF	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 500 ms  JMKIA5954GB

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

NO >> GO TO 2.

## 2.CHECK OUTSIDE KEY ANTENNA CIRCUIT

- 1. Disconnect BCM connector and outside key antenna (passenger side) connector.
- Check continuity between BCM harness connector and outside key antenna (passenger side) harness connector.

В	CM	Outside key antenr	Continuity		
Connector	Terminal	Connector	Terminal	Continuity	
M80	114	D118	1	Yes	
1000	115	D110	2	165	

Check continuity between BCM harness connector and ground.

## **OUTSIDE KEY ANTENNA (PASSENGER SIDE)**

#### < DTC/CIRCUIT DIAGNOSIS >

	BCM		Continuity	
Connector	Terminal	Ground	Continuity	
M80	114		No	
IVIOU	115	-	INO	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

# ${f 3}.$ CHECK OUTSIDE KEY ANTENNA INPUT SIGNAL 2

- 1. Replace outside key antenna (passenger side). (New antenna or other antenna)
- Connect BCM connector and outside key antenna (passenger side) connector.
- 3. Check signal between BCM harness connector and ground using oscilloscope.

	+) CM Terminal	(-)	Condition		Signal (Reference value)
M80	114, 115	Ground	When the driver door request switch is op-	When Intelligent Key is in the antenna detection area (The distance between Intelligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 JMKIA5955GB
Wido	114, 113	Ciodila	erated with ignition switch OFF	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0  JMKIA5954GB

#### Is the inspection result normal?

YES >> Replace outside key antenna (passenger side). Refer to <u>DLK-310, "PASSENGER SIDE : Removal and Installation"</u>.

NO >> Replace BCM. Refer to BCS-79, "Removal and Installation".

DLK

Α

В

D

Е

F

Н

L

M

Ν

0

### **OUTSIDE KEY ANTENNA (DRIVER SIDE)**

#### < DTC/CIRCUIT DIAGNOSIS >

## **OUTSIDE KEY ANTENNA (DRIVER SIDE)**

## Component Function Check

#### INFOID:0000000009133034

## 1. CHECK OUTSIDE KEY ANTENNA (DRIVER SIDE)

- 1. Place the Intelligent Key into the detection area of the outside key antenna (driver side).
- 2. Press the door request switch (driver side).

#### Does the door unlock?

YES >> Inspection End.

NO >> Refer to <u>DLK-166, "Diagnosis Procedure"</u>.

### Diagnosis Procedure

INFOID:0000000009133035

Regarding Wiring Diagram information, refer to DLK-74, "Wiring Diagram".

## 1. CHECK OUTSIDE KEY ANTENNA INPUT SIGNAL 1

- 1. Turn ignition switch OFF.
- 2. Check signal between BCM harness connector and ground using oscilloscope.

(+) BCM		(-)	Con	dition	Signal (Reference value)
Connector	Terminal				,
M80	121, 122	Ground	When the driver door request switch is oper-	When Intelligent Key is in the antenna de- tection area (The dis- tance between Intelligent Key and an- tenna: 80 cm or less)	(V) 15 10 5 0 500 ms JMKIA5955GB
	,		ated with ignition switch OFF	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 500 ms  JMKIA5954GB

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

NO >> GO TO 2.

## 2.CHECK OUTSIDE KEY ANTENNA CIRCUIT

- 1. Disconnect BCM connector and outside key antenna (driver side) connector.
- Check continuity between BCM harness connector and outside key antenna (driver side) harness connector.

В	CM	Outside key ante	Continuity		
Connector	Terminal	Connector	Terminal	Continuity	
M80	122	D5	1	Yes	
WOO	121	Б3	2	165	

3. Check continuity between BCM harness connector and ground.

## **OUTSIDE KEY ANTENNA (DRIVER SIDE)**

#### < DTC/CIRCUIT DIAGNOSIS >

E	BCM		Continuity	
Connector	Terminal	Ground	Continuity	
M80	122	Glound	Not existed	
IVIOU	121		INOL EXISTED	

### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

# ${f 3}.$ CHECK OUTSIDE KEY ANTENNA INPUT SIGNAL 2

- 1. Replace outside key antenna (driver side). (New antenna or other antenna)
- 2. Connect BCM connector and outside key antenna (driver side) connector.
- 3. Check signal between BCM harness connector and ground using oscilloscope.

	+) CM	(-)	Condition		Signal (Reference value)
Connector	Terminal				
M80	121, 122	Ground	When the driver door request switch is oper-	When Intelligent Key is in the antenna de- tection area (The dis- tance between Intelligent Key and an- tenna: 80 cm or less)	(V) 15 10 5 0  JMKIA5955GB
Wico	121, 122	Clound	ated with ignition switch OFF	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0

#### Is the inspection result normal?

YES >> Replace outside key antenna (driver side). Refer to <u>DLK-310, "DRIVER SIDE : Removal and Installation"</u>.

NO >> Replace BCM. Refer to <u>BCS-79</u>. "Removal and Installation".

DLK

Α

В

D

Е

F

Н

M

Ν

0

Р

Revision: August 2013 DLK-167 2014 QX60

### **OUTSIDE KEY ANTENNA (REAR BUMPER)**

#### < DTC/CIRCUIT DIAGNOSIS >

## **OUTSIDE KEY ANTENNA (REAR BUMPER)**

## **Component Function Check**

#### INFOID:0000000009133036

# 1. CHECK OUTSIDE KEY ANTENNA (REAR BUMPER)

- 1. Place the Intelligent Key into the detection area of the outside key antenna (rear bumper).
- 2. Press the door request switch (back door).

#### Does the door unlock?

YES >> Inspection End.

NO >> Refer to <u>DLK-168</u>, "<u>Diagnosis Procedure</u>".

### Diagnosis Procedure

INFOID:0000000009133037

Regarding Wiring Diagram information, refer to DLK-74, "Wiring Diagram".

## 1. CHECK OUTSIDE KEY ANTENNA INPUT SIGNAL 1

- 1. Turn ignition switch OFF.
- 2. Check signal between BCM harness connector and ground using oscilloscope.

(+) BCM		(–)	Condition Signal (Reference value)		_
Connector	Terminal				
M20	101, 102	Ground	When the driver door request switch is operated with ignition	When Intelligent Key is in the antenna detection area (The distance between Intelligent Key and antenna: 80 cm or less)	(V) 15 10 5 0 JMKIA5955GB
			switch OFF	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 JMKIA5954GB

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

NO >> GO TO 2.

## 2. CHECK OUTSIDE KEY ANTENNA CIRCUIT

- 1. Disconnect BCM connector and outside key antenna (rear bumper) connector.
- Check continuity between BCM harness connector and outside key antenna (rear bumper) harness connector.

В	CM	Outside key ante	nna (rear bumper)	Continuity
Connector	Terminal	Connector	Terminal	Continuity
M20	102	B403	1	Yes
IVIZU	101	D <del>1</del> 03	2	165

Check continuity between BCM harness connector and ground.

## **OUTSIDE KEY ANTENNA (REAR BUMPER)**

#### < DTC/CIRCUIT DIAGNOSIS >

	BCM		
Connector	Terminal	- Ground	Continuity
M20	102		No
IVIZU	101		INO

### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

# ${f 3}.$ CHECK OUTSIDE KEY ANTENNA INPUT SIGNAL 2

- 1. Replace outside key antenna (rear bumper). (New antenna or other antenna)
- 2. Connect BCM and outside key antenna (rear bumper) connector.
- 3. Check signal between BCM harness connector and ground using oscilloscope.

(+) BCM		(-)	Con	dition	Signal (Reference value)
Connector	Terminal				·
M20	101, 102	Ground	When the driver door request switch is op-	When Intelligent Key is in the antenna detection area (The distance between Intelligent Key and antenna: 80 cm or less)	(V) 15 10 5 0  JMKIA5955GB
0	101, 102	Gigaria	erated with ignition switch OFF	When Intelligent Key is not in the antenna detection area (The distance between Intelligent Key and antenna: Approx. 2 m)	(V) 15 10 5 0 5 0 JMKIA5954GB

#### Is the inspection result normal?

YES >> Replace outside key antenna (rear bumper). Refer to <u>DLK-310, "REAR BUMPER : Removal and Installation"</u>.

NO >> Replace BCM. Refer to <u>BCS-79</u>. "Removal and Installation".

DLK

Α

В

D

Е

F

Н

M

Ν

0

Р

Revision: August 2013 DLK-169 2014 QX60

INFOID:0000000009133038

INFOID:0000000009133039

### **DOOR SWITCH**

## Component Function Check

## 1. CHECK FUNCTION

- 1. Select DOOR LOCK of BCM using CONSULT.
- 2. Select DOOR SW-DR, DOOR SW-AS, DOOR SW-RL, DOOR SW-RR, in DATA MONITOR mode.
- 3. Check that the function operates normally according to the following conditions.

Monitor item	Condition		Status
DOOR SW-DR	Driver side door	Open	On
DOOK SW-DK	Driver side door	Closed	Off
DOOR SW-AS	Passenger side door	Open	On
		Closed	Off
DOOR SW-RL	Rear door LH	Open	On
		Closed	Off
DOOR SW-RR	Rear door RH	Open	On
		Closed	Off

#### Is the inspection result normal?

YES >> Door switch is OK.

NO >> Refer to <u>DLK-170</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>DLK-74, "Wiring Diagram"</u>.

# 1. CHECK DOOR SWITCH INPUT SIGNAL

- Turn ignition switch OFF.
- 2. Disconnect malfunctioning door switch connector.
- 3. Check signal between malfunctioning door switch harness connector and ground using oscilloscope.

(+) Door switch			(-)	Signal (Reference value)	
Connector Terminal					
Driver side	B8				
Passenger side	B108	108		(V) 15	
Rear LH B18				10 5	
Rear RH	B116	3	Ground	0 + 10ms PKIB4960J 7.0 - 8.0 V	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## 2.CHECK DOOR SWITCH CIRCUIT

- Disconnect BCM connector.
- Check continuity between door switch harness connector and BCM harness connector.

### **DOOR SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

Door switch			В	Continuity		
Connector		Terminal	Connector Terminal		Continuity	
Driver side	B8			96		
Passenger side	B108	3	3	M20	94	Yes
Rear LH	B18				IVIZU	82
Rear RH	B116			93		

3. Check continuity between door switch harness connector and ground.

	Door switch		Continuity	
Connector Terminal				Continuity
Driver side	B8		Ground	
Passenger side	B108	3	Ground	No
Rear LH	B18	3		INO
Rear RH	B116			

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

NO >> Repair or replace harness.

## 3. CHECK DOOR SWITCH

Refer to DLK-171, "Component Inspection".

### Is the inspection result normal?

YES >> GO TO 4.

NO >> Replace malfunctioning door switch. Refer to <u>DLK-307</u>, "Removal and Installation".

#### 4. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

## Component Inspection

1. CHECK DOOR SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect malfunctioning door switch connector.
- 3. Check continuity between door switch terminals.

Door switch		Condition		Continuity	
Terminal				Continuity	
3	Ground contact is part of the	Door switch	Pressed	No	
3	switch.		Released	Yes	

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace malfunction door switch. Refer to <u>DLK-307</u>, "Removal and Installation".

Α

В

C

D

Е

Н

DLK

INFOID:0000000009133040

J

 $\mathbb{N}$ 

0

Ν

#### **BACK DOOR SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

## **BACK DOOR SWITCH**

## Component Function Check

#### INFOID:0000000009133041

## 1. CHECK FUNCTION

- 1. Select DOOR LOCK of BCM using CONSULT.
- Select DOOR SW-BK in DATA MONITOR mode.
- 3. Check that the function operates normally according to the following conditions.

Monitor item	Condition		Status
DOOR SW-BK	Driver side door	Open	On
DOOK OW-DIX	Driver side door	Closed	Off

#### Is the inspection result normal?

YES >> Door switch is OK.

NO >> Refer to <u>DLK-172</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

INFOID:0000000009133042

Regarding Wiring Diagram information, refer to <u>DLK-95, "Wiring Diagram"</u>.

## 1. CHECK BACK DOOR SWITCH INPUT SIGNAL

- Turn ignition switch OFF.
- 2. Disconnect back door lock assembly connector.
- 3. Check signal between back door lock assembly harness connector and ground using oscilloscope.

	+) ock assembly	(–)	Signal (Reference value)	
Connector	Terminal			
D557	7	Ground	(V) <sub>15</sub> 10 5 0 **10ms JPMIA0593GB 9.0 - 10.0 V	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## $2.\mathsf{CHECK}$ back door switch circuit

- 1. Disconnect BCM connector.
- 2. Check continuity between back door lock assembly harness connector and BCM harness connector.

Back door lock assembly		В	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
D557	7	M20	97	Yes	

3. Check continuity between back door lock assembly harness connector and ground.

#### **BACK DOOR SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

Back door lo	ock assembly		Continuity
Connector	Connector Terminal		Continuity
D557	7		No

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

NO >> Repair or replace harness.

## 3.check back door switch ground circuit

Check continuity between back door lock assembly harness connector and ground.

Back door lo	ock assembly		Continuity	
Connector	Connector Terminal		Continuity	
D557	8		Yes	

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

### 4. CHECK BACK DOOR SWITCH

Refer to DLK-173, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace back door lock assembly. Refer to <u>DLK-302, "DOOR LOCK: Removal and Installation".</u>

### **5.**CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

## Component Inspection

1. CHECK BACK DOOR SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect back door lock assembly connector.
- 3. Check continuity between back door lock assembly terminals.

Back	door lock assembly	Condition		Continuity
Terminal		Condition		Continuity
7 0		Door switch	Pressed	No
1	8	Door Switch	Released	Yes

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace back door lock assembly. Refer to <a href="DLK-302">DLK-302</a>, "DOOR LOCK: Removal and Installation".

DLK

INFOID:0000000009133043

Α

В

D

Е

F

Н

1

M

Ν

0

#### DOOR LOCK AND UNLOCK SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

### DOOR LOCK AND UNLOCK SWITCH

**DRIVER SIDE** 

DRIVER SIDE : Component Function Check

INFOID:0000000009133044

## 1. CHECK FUNCTION

- 1. Select DOOR LOCK of BCM using CONSULT.
- Select CDL LOCK SW, CDL UNLOCK SW in DATA MONITOR mode.
- Check that the function operates normally according to the following conditions.

Monitor item	Con	Status	
CDL LOCK SW		Lock	ON
	- Door lock and unlock switch	Unlock	OFF
CDL UNLOCK SW		Lock	OFF
		Unlock	ON

#### Is the inspection result normal?

YES >> Door lock and unlock switch is OK.

NO >> Refer to <u>DLK-174</u>, "<u>DRIVER SIDE</u>: <u>Diagnosis Procedure</u>".

### DRIVER SIDE: Diagnosis Procedure

INFOID:0000000009133045

## 1 . CHECK POWER WINDOW SWITCH

- Turn ignition switch ON.
- 2. Check power window operation.

#### Does power window operate?

YES >> Replace power window main switch. Refer to PWC-77, "Removal and Installation".

NO >> Refer to <u>PWC-64, "Diagnosis Procedure"</u>.

#### PASSENGER SIDE

## PASSENGER SIDE : Component Function Check

INFOID:0000000009133046

## 1. CHECK FUNCTION

- 1. Select DOOR LOCK of BCM using CONSULT.
- 2. Select CDL LOCK SW, CDL UNLOCK SW in DATA MONITOR mode.
- Check that the function operates normally according to the following conditions.

Monitor item	Con	Status	
CDL LOCK SW		Lock	ON
	- Door lock and unlock switch	Unlock	OFF
CDL UNLOCK SW		Lock	OFF
		Unlock	ON

#### Is the inspection result normal?

NO

YES >> Door lock and unlock switch is OK.

>> Refer to PWC-38, "FRONT POWER WINDOW SWITCH (PASSENGER SIDE): Diagnosis Procedure".

## PASSENGER SIDE: Diagnosis Procedure

INFOID:0000000009133047

## 1. CHECK POWER WINDOW SWITCH

- Turn ignition switch ON.
- Check power window operation.

#### Does power window operate?

### DOOR LOCK AND UNLOCK SWITCH

< DTC/CIRCUIT DIAGNOSIS > >> Replace front power window switch (passenger side). Refer to PWC-78, "Removal and Installa-YES NO >> Refer to PWC-64, "Diagnosis Procedure".

DLK

J

Α

В

С

 $\mathsf{D}$ 

Е

F

G

Н

L

 $\mathbb{N}$ 

Ν

0

#### < DTC/CIRCUIT DIAGNOSIS >

### DOOR LOCK ACTUATOR

#### **DRIVER SIDE**

## DRIVER SIDE : Component Function Check

INFOID:0000000009133048

## 1. CHECK FUNCTION

- 1. Select DOOR LOCK of BCM using CONSULT.
- 2. Select DOOR LOCK in ACTIVE TEST mode.
- Touch ALL LOCK or ALL UNLK to check that it works normally.

#### Is the inspection result normal?

YES >> Door lock actuator is OK.

NO >> Refer to <u>DLK-176</u>, "<u>DRIVER SIDE</u>: <u>Diagnosis Procedure</u>".

### DRIVER SIDE: Diagnosis Procedure

INFOID:0000000009133049

Regarding Wiring Diagram information, refer to <u>DLK-61, "Wiring Diagram"</u>.

## 1. CHECK DOOR LOCK ACTUATOR INPUT SIGNAL

- Turn ignition switch OFF.
- 2. Disconnect front door lock assembly LH connector.
- 3. Check voltage between front door lock assembly LH harness connector and ground.

	+) k assembly LH	(–) Condition Voltage (Approx.)	Condition		Voltage (Approx.)
Connector	Terminal				, , ,
D14	1	Ground	Door lock and unlock switch	Lock	12 V
D14	2		Door lock and unlock switch	Unlock	12 V

#### Is the inspection result normal?

YES >> Replace front door lock assembly LH. Refer to <u>DLK-295, "DOOR LOCK : Removal and Installation"</u>.

NO >> GO TO 2.

## 2.check door lock actuator circuit

- 1. Disconnect BCM, all door lock actuators and fuel lid door lock actuator connector.
- 2. Check continuity between BCM harness connector and front door lock assembly LH harness connector.

ВСМ		front door lock assembly LH		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M81	135	D14	1	Yes
	137	014	2	165

3. Check continuity between BCM harness connector and ground.

В	CM		Continuity
Connector	Terminal	Ground	Continuity
M81	135	Ground	No
	137		INO

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3.CHECK BCM OUTPUT SIGNAL

#### < DTC/CIRCUIT DIAGNOSIS >

- 1. Connect BCM connector.
- 2. Check voltage between BCM harness connector and ground.

	+) CM	(–)	Condition		Voltage (Approx.)
Connector	Terminal				
M81	135	Ground	Door lock and unlock switch	Lock	12 V
137	Ground	Door lock and unlock switch	Unlock	12 V	

#### Is the inspection result normal?

YES >> Check for internal short of each door lock actuator and fuel lid door lock actuator.

NO >> Replace BCM. Refer to <u>BCS-79</u>, "Removal and Installation".

#### PASSENGER SIDE

### PASSENGER SIDE: Component Function Check

## 1. CHECK FUNCTION

- 1. Select DOOR LOCK of BCM using CONSULT.
- 2. Select DOOR LOCK in ACTIVE TEST mode.
- 3. Touch ALL LOCK or ALL UNLK to check that it works normally.

#### Is the inspection result normal?

YES >> Door lock actuator is OK.

NO >> Refer to <u>DLK-177</u>, "PASSENGER SIDE : <u>Diagnosis Procedure</u>".

## PASSENGER SIDE: Diagnosis Procedure

Regarding Wiring Diagram information, refer to <a href="DLK-61">DLK-61</a>, "Wiring Diagram".

# 1. CHECK DOOR LOCK ACTUATOR INPUT SIGNAL

- 1. Turn ignition switch OFF.
- Disconnect front door lock actuator RH connector.
- 3. Check voltage between front door lock actuator RH harness connector and ground.

(	+)				Valtana		
Front door loo	ck actuator RH	(-)	Condition		(-) Condition Voltage (Approx.)		Voltage (Approx.)
Connector	Terminal				\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		
D114	1	Ground	und Door lock and unlock switch	Unlock	12 V		
DIIT	2	Ground	Door lock and unlock switch	Lock	12 V		

#### Is the inspection result normal?

YES >> Replace front door lock actuator RH. Refer to <u>DLK-295, "DOOR LOCK: Removal and Installation".</u>

NO >> GO TO 2.

## 2.CHECK DOOR LOCK ACTUATOR CIRCUIT

- Disconnect BCM, all door lock actuators and fuel lid door lock actuator connector.
- 2. Check continuity between BCM harness connector and front door lock actuator RH harness connector.

ВСМ		Front door lock actuator RH		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M81	130	D114	1	Yes
	135	D114	2	

Check continuity between BCM harness connector and ground.

DLK

Α

В

D

Е

Н

INFOID:0000000009133050

INFOID:0000000009133051

M

Ν

0

#### < DTC/CIRCUIT DIAGNOSIS >

В	CM		Continuity	
Connector	Connector Terminal		Continuity	
M81	130	- Ground	No	
IVIO I	135	1	INO	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3.CHECK BCM OUTPUT SIGNAL

- 1. Connect BCM connector.
- Check voltage between BCM harness connector and ground.

(	(+)				
BCM		(–)	Condition		Voltage (Approx.)
Connector	Terminal				(
M81	130	Ground	nd Door lock and unlock switch	Unlock	12 V
IVIO I	135	Ground	Door lock and unlock switch	Lock	12 V

#### Is the inspection result normal?

YES >> Check for internal short of each door lock actuator and fuel lid door lock actuator.

NO >> Replace BCM. Refer to BCS-79, "Removal and Installation".

#### REAR LH

### REAR LH: Component Function Check

INFOID:0000000009133052

## 1. CHECK FUNCTION

- 1. Select DOOR LOCK of BCM using CONSULT.
- Select DOOR LOCK in ACTIVE TEST mode.
- Touch ALL LOCK or ALL UNLK to check that it works normally.

#### Is the inspection result normal?

YES >> Door lock actuator is OK.

NO >> Refer to DLK-178, "REAR LH: Diagnosis Procedure".

### **REAR LH: Diagnosis Procedure**

INFOID:0000000009133053

Regarding Wiring Diagram information, refer to <a href="DLK-61">DLK-61</a>, "Wiring Diagram".

## 1. CHECK DOOR LOCK ACTUATOR INPUT SIGNAL

- Turn ignition switch OFF.
- Disconnect rear door lock actuator LH connector.
- Check voltage between rear door lock actuator LH harness connector and ground.

(	+)		Condition			V 11	
Rear door loo	ck actuator LH	(–)			Condition Voltage (Approx.)		Voltage (Approx.)
Connector	Terminal				( + )		
D205	1	Ground	Door lock and unlock switch	Lock	12 V		
5200	2	Sibulia	Door look and unlock switch	Unlock	12 V		

#### Is the inspection result normal?

YES >> Replace rear door lock actuator LH. Refer to <u>DLK-302, "DOOR LOCK : Removal and Installation"</u>. NO >> GO TO 2.

#### < DTC/CIRCUIT DIAGNOSIS >

# 2.CHECK DOOR LOCK ACTUATOR CIRCUIT

- Disconnect BCM, all door lock actuators and fuel lid door lock actuator connector.
- Check continuity between BCM harness connector and rear door lock actuator LH harness connector.

BCM		Rear door lock actuator LH		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M81	133	D205	2	Yes
M81	132	D205	1	165

Check continuity between BCM harness connector and ground.

BCM			Continuity	
Connector	Terminal	Ground	Continuity	
M81	133	Giouna	No	
M81	132			

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3.CHECK BCM OUTPUT SIGNAL

- Connect BCM connector.
- Check voltage between BCM harness connector and ground.

	+) CM	(–)	Condition		Voltage (Approx.)
Connector	Terminal				
M81	133	Ground	Door lock and unlock switch	Unlock	12 V
M81	132	Giodila		Lock	

#### Is the inspection result normal?

>> Check for internal short of each door lock actuator.

>> Replace BCM. Refer to BCS-79, "Removal and Installation". NO

#### REAR RH

## REAR RH: Component Function Check

## 1. CHECK FUNCTION

- Select "DOOR LOCK" of "BCM" using CONSULT.
- Select DOOR LOCK in ACTIVE TEST mode.
- Touch ALL LOCK or ALL UNLK to check that it works normally.

#### Is the inspection result normal?

YES >> Door lock actuator is OK.

>> Refer to <u>DLK-179</u>, "REAR RH: <u>Diagnosis Procedure"</u>.

### REAR RH: Diagnosis Procedure

Regarding Wiring Diagram information, refer to DLK-61, "Wiring Diagram".

## 1. CHECK DOOR LOCK ACTUATOR INPUT SIGNAL

- Turn ignition switch OFF.
- Disconnect rear door lock actuator RH connector.
- Check voltage between rear door lock actuator RH harness connector and ground.

DLK

В

D

Е

Н

INFOID:0000000009133054

INFOID:0000000009133055

Ν

Р

2014 QX60

#### < DTC/CIRCUIT DIAGNOSIS >

(-	+)				
Rear door loo	k actuator RH	(–)	Condition		Voltage (Approx.)
Connector	Terminal				(11 - 7
D305	1	Ground	Door lock and unlock switch	Unlock	12 V
D303	2			Lock	

#### Is the inspection result normal?

YES >> Replace rear door lock actuator RH. Refer to <u>DLK-299, "DOOR LOCK : Removal and Installation"</u>. NO >> GO TO 2.

# 2.CHECK DOOR LOCK ACTUATOR CIRCUIT

- 1. Disconnect BCM, all door lock actuators and fuel lid lock actuator connector.
- 2. Check continuity between BCM harness connector and rear door lock actuator RH harness connector.

BCM		Rear door lock actuator RH		Continuity
Connector	Terminal	Connector		
M81	133	D305	1	Yes
M81	132	D303	2	165

3. Check continuity between BCM harness connector and ground.

ВСМ			Continuity	
Connector	Terminal	Ground	Continuity	
M81	133		No	
M81	132		INU	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3. CHECK BCM OUTPUT SIGNAL

- 1. Connect BCM connector.
- 2. Check voltage between BCM harness connector and ground.

	+) CM	(–)	Condition		Voltage (Approx.)
Connector	Terminal				,
M81	133	Ground	Door lock and unlock switch	Unlock	- 12 V
M81	132	Giouna		Lock	

#### Is the inspection result normal?

YES >> Check for internal short of each door lock actuator.

NO >> Replace BCM. Refer to BCS-79, "Removal and Installation".

## **FUEL LID LOCK ACTUATOR**

#### < DTC/CIRCUIT DIAGNOSIS >

## **FUEL LID LOCK ACTUATOR**

## Component Function Check

## 1. CHECK FUNCTION

- 1. Select DOOR LOCK of BCM using CONSULT.
- 2. Select DOOR LOCK in ACTIVE TEST mode.
- 3. Touch ALL LOCK or ALL UNLK to check that it works normally.

### Is the inspection result normal?

YES >> Fuel lid door lock actuator is OK.

NO >> Refer to <u>DLK-181, "Diagnosis Procedure"</u>.

## Diagnosis Procedure

Regarding Wiring Diagram information, refer to <a href="DLK-61">DLK-61</a>, "Wiring Diagram".

## 1. CHECK FUEL LID DOOR LOCK ACTUATOR INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect fuel lid door lock actuator connector.
- 3. Check voltage between fuel lid door lock actuator harness connector and ground.

(	+)				
Fuel lid door lock actuator		(–)	Condition		Voltage (Approx.)
Connector	Terminal				( .pp)
B20	1	Ground	Door lock and unlock	Unlock	12 V
B20 ·	2	Giouna	switch	Lock	12 V

#### Is the inspection result normal?

YES >> Replace fuel lid door lock actuator. Refer to <u>DLK-304</u>, "Removal and Installation".

NO >> GO TO 2.

## 2.CHECK FUEL LID DOOR LOCK ACTUATOR CIRCUIT

- 1. Disconnect BCM, all door lock actuators connector.
- 2. Check continuity between BCM harness connector and fuel lid door lock actuator harness connector.

BCM		Fuel lid door lock actuator		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M81	135	B20	2	Yes
IVIO I	137	B20	1	165

3. Check continuity between BCM harness connector and ground.

В	CM		Continuity	
Connector	Terminal	Ground	Continuity	
M04	135		No	
M81	137		NO NO	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3. CHECK BCM OUTPUT SIGNAL

- Connect BCM connector.
- Check voltage between BCM harness connector and ground.

DLK

Α

В

Е

F

Н

INFOID:0000000009133056

INFOID:0000000009133057

N /I

Ν

0

F

Revision: August 2013 DLK-181 2014 QX60

## **FUEL LID LOCK ACTUATOR**

## < DTC/CIRCUIT DIAGNOSIS >

(+) BCM		(–)	Condition		Voltage (Approx.)
Connector	Terminal				( 44 )
M81	135	Ground	Door lock and unlock switch	Lock	12 V
IVIO I	137	Giodila	Door lock and unlock switch	Unlock	12 V

## Is the inspection result normal?

YES >> Check for internal short of each door lock actuator.

NO >> Replace BCM. Refer to BCS-79, "Removal and Installation".

### **UNLOCK SENSOR**

#### < DTC/CIRCUIT DIAGNOSIS >

## UNLOCK SENSOR

## Component Function Check

#### INFOID:0000000009133058

Α

В

D

Е

## 1. CHECK FUNCTION

- Select INTELLIGENT KEY of BCM using CONSULT.
- Select UNLK SEN-DR in DATA MONITORmode.
- Check that the function operates normally according to the following conditions.

Monitor item	Condition		Status
UNLK SEN -DR	Driver side door	Lock	OFF
OINLIX OLIN -DIX	Driver side door	Unlock	ON

#### Is the inspection result normal?

YES >> Unlock sensor is OK.

NO >> Refer to <u>DLK-183</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

INFOID:0000000009133059

Regarding Wiring Diagram information, refer to DLK-61, "Wiring Diagram".

## 1. CHECK UNLOCK SENSOR INPUT SIGNAL

- Turn ignition switch OFF.
- Disconnect front door lock assembly LH connector.
- Check signal between front door lock assembly LH harness connector and ground with oscilloscope.

(+) Front door lock assembly LH		(–)	Signal (Reference value)	
Connector	Connector Terminal		,	
D14	3	Ground	(V) 15 10 5 0 ++10ms PKIB4960J	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## 2.check unlock sensor circuit

- Disconnect BCM connector.
- 2. Check continuity between BCM harness connector and front door lock assembly LH harness connector.

ВСМ		Front door lock assembly LH		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M18	30	D14	3	Yes

Check continuity between BCM harness connector and ground.

В	CM		Continuity
Connector	Terminal	Ground	Continuity
M18	30		No

**DLK-183 Revision: August 2013** 2014 QX60 DLK

Ν

## **UNLOCK SENSOR**

#### < DTC/CIRCUIT DIAGNOSIS >

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

NO >> Repair or replace harness.

## 3.check unlock sensor ground circuit

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

Front door loo	k assembly LH		Continuity
Connector	Connector Terminal		Continuity
D14	4		Yes

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

## 4. CHECK UNLOCK SENSOR

Refer to DLK-184, "Component Inspection".

### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace front door lock assembly LH. Refer to <u>DLK-295, "DOOR LOCK : Removal and Installation".</u>

## 5. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

## Component Inspection

INFOID:0000000009133060

## 1. CHECK UNLOCK SENSOR

- 1. Turn ignition switch OFF.
- 2. Disconnect front door lock assembly LH connector.
- 3. Check continuity between front door lock assembly LH terminals.

Front door loo	k assembly LH	Condition		Continuity	
Terminal		Condition		Continuity	
2		Driver side door	Unlock	Yes	
3	4	Driver side door	Lock	No	

### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace front door lock assembly LH. Refer to <u>DLK-295, "DOOR LOCK : Removal and Installation"</u>.

## DOOR KEY CYLINDER SWITCH

### < DTC/CIRCUIT DIAGNOSIS >

## DOOR KEY CYLINDER SWITCH

## Component Function Check

### INFOID:0000000009133061

Α

В

D

Е

F

## 1. CHECK FUNCTION

- 1. Select DOOR LOCK of BCM using CONSULT.
- Select KEY CYL LK-SW, KEY CYL UN-SW in DATA MONITOR mode.
- 3. Check that the function operates normally according to the following conditions.

Monitor item	Condition		Status
KEY CYL LK-SW		Lock	ON
KET CTL LK-SVV	- Driver side door key cylinder	Neutral / Unlock	OFF
KEY CYL UN-SW		Unlock	ON
RET CTL UN-SW		Neutral / Lock	OFF

#### Is the inspection result normal?

YES >> Door key cylinder switch is OK.

NO >> Refer to <u>DLK-185</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

INFOID:0000000009133062

Regarding Wiring Diagram information, refer to <u>DLK-61</u>, "Wiring <u>Diagram"</u>.

## Н

## 1. CHECK DOOR KEY CYLINDER SWITCH INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect front door lock assembly LH connector.
- Check voltage between front door lock assembly LH harness connector and ground.

	(+)		V. II	
Front door loo	ck assembly LH	(–)	Voltage (Approx.)	
Connector	Terminal		( 44,231,	
D14	5	Cround	5.1/	
D14	6	Ground	Ground 5 V	5 V

## DLK

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

**Revision: August 2013** 

M

0

Р

## 2. CHECK DOOR KEY CYLINDER SWITCH SIGNAL CIRCUIT

- 1. Disconnect main power window and door lock/unlock switch connector.
- Check continuity between main power window and door lock/unlock switch harness connector and front door lock assembly LH harness connector.

Main power window and	d door lock/unlock switch	Front door lock assembly LH		Continuity
Connector	Terminal	Connector Terminal		Continuity
D56	15	D14	6	Yes
D30	16		5	165

Check continuity between power window main switch harness connector and ground.

DLK-185 2014 QX60

## DOOR KEY CYLINDER SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

Main power window and door lock/unlock switch			Continuity
Connector	Terminal	Ground	Continuity
D56	15	Ground	No
D30	16		INO

#### Is the inspection result normal?

YES >> Replace main power window and door lock/unlock switch. Refer to <a href="https://example.com/PWC-77">PWC-77</a>, "Removal and Installation".

NO >> Repair or replace harness.

## ${f 3}.$ check door key cylinder switch ground circuit

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

Front door lock assembly LH			Continuity
Connector	Terminal	Ground	Continuity
D14	4		Yes

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

## 4. CHECK DOOR KEY CYLINDER SWITCH

Refer to DLK-186, "Component Inspection".

### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace front door lock assembly LH. Refer to <u>DLK-295, "DOOR LOCK : Removal and Installation".</u>

## 5. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

## Component Inspection

INFOID:0000000009133063

## 1. CHECK DOOR KEY CYLINDER SWITCH

- Turn ignition switch OFF.
- 2. Disconnect front door lock assembly LH connector.
- 3. Check continuity between front door lock assembly LH terminals.

Front door lock	assembly LH	Condition		Continuity
Term	inal			
	5 4	Driver side door key cylinder	Unlock	Yes
3			Neutral / Lock	No
6		Driver side door key cyllinder	Lock	Yes
O			Neutral / Unlock	No

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace front door lock assembly LH. Refer to <u>DLK-295, "DOOR LOCK : Removal and Installation".</u>

## REMOTE KEYLESS ENTRY RECEIVER

### < DTC/CIRCUIT DIAGNOSIS >

## REMOTE KEYLESS ENTRY RECEIVER

## Component Function Check

## 1. CHECK FUNCTION

- Select "INTELLIGENT KEY" of "BCM" using CONSULT.
- Select "RKE OPE COUN1" in "DATA MONITOR" mode.
- Check that the function operates normally according to the following conditions.

Monitor item	Condition
RKE OPE COUN1	Checks whether value changes when operating Intelligent Key

#### Is the inspection result normal?

YFS >> Remote keyless entry receiver is OK.

>> Refer to DLK-187, "Diagnosis Procedure". NO

## Diagnosis Procedure

Regarding Wiring Diagram information, refer to <u>DLK-74</u>, "Wiring <u>Diagram"</u>.

## 1. CHECK REMOTE KEYLESS ENTRY RECEIVER OUTPUT SIGNAL

- Turn ignition switch OFF.
- Check signal between BCM harness connector and ground using oscilloscope.

(+) BCM		(-)	Condition	Signal (Reference value)
Connector	Terminal			(
M80	119	Ground	Standby state	(V) 6 4 2 0 
	•	G. Garila	Press the Intelligent Key lock or unlock button	(V) 6 4 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

#### Is the inspection result normal?

>> Replace BCM. Refer to BCS-79, "Removal and Installation". YES

NO >> GO TO 2.

## 2.CHECK REMOTE KEYLESS ENTRY RECEIVER CIRCUIT 1

- Disconnect BCM and remote keyless entry receiver connectors.
- Check continuity between BCM harness connector and remote keyless entry receiver harness connector.

В	CM	Remote keyless entry receiver		Continuity
Connector	Terminal	Connector Terminal		Continuity
M80	119	M86	2	Yes

**DLK-187 Revision: August 2013** 2014 QX60

Α

INFOID:0000000009133064

INFOID:0000000009133065

В

Е

D

Н

DLK

Ν

0

## REMOTE KEYLESS ENTRY RECEIVER

#### < DTC/CIRCUIT DIAGNOSIS >

3. Check continuity between BCM harness connector and ground.

(+)			
В	СМ	(–)	Continuity
Connector	Terminal		
M80	119	Ground	No

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3. CHECK REMOTE KEYLESS ENTRY RECEIVER POWER SUPPLY

Check voltage between remote keyless entry receiver harness connector and ground.

(+)  Remote keyless entry receiver			Voltage Approx.
		(–)	
Connector	Terminal		
M86	1	Ground	Battery voltage

### Is the inspection result normal?

YES >> GO TO 4.

NO-1 >> Check 10A fuse No. 25 [located in fuse block J/B].

NO-2 >> Repair or replace harness between remote keyless entry receiver and 10A fuse No. 25.

## 4. CHECK REMOTE KEYLESS ENTRY RECEIVER GROUND CIRCUIT

Check continuity between remote keyless entry receiver harness connector and ground.

Remote keyless entry receiver			Continuity
Connector	Connector Terminal		Continuity
M86	3		Yes

#### Is the inspection result normal?

YES >> Replace remote keyless entry receiver. Refer to <u>DLK-313, "Removal and Installation"</u>.

NO >> Repair or replace harness.

#### DOOR REQUEST SWITCH

### < DTC/CIRCUIT DIAGNOSIS >

## DOOR REQUEST SWITCH

## Component Function Check

#### INFOID:0000000009133066

Α

В

D

Е

Н

## 1. CHECK FUNCTION

- Select INTELLIGENT KEY of BCM using CONSULT.
- Select REQ SW-DR, REQ SW-AS in DATA MONITOR mode.
- Check that the function operates normally according to the following conditions.

Monitor item	Condition	Status	
REQ SW -DR	Driver side door request switch	Pressed	ON
REQ 3W -DR	Driver side door request switch	Released	OFF
REQ SW -AS	Passenger side door request switch	Pressed	ON
NEW OW -MO	r assenger side door request switch	Released	OFF

#### Is the inspection result normal?

YES >> Front door request switch is OK.

NO >> Refer to <u>DLK-189</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

INFOID:000000009133067

Regarding Wiring Diagram information, refer to DLK-74, "Wiring Diagram".

## 1. CHECK DOOR REQUEST SWITCH INPUT SIGNAL

- Turn ignition switch OFF.
- 2. Disconnect malfunctioning front door request switch connector.
- Check voltage between malfunctioning front door request switch harness connector and ground.

(+)				Valtara
Front door request switch			(–)	Voltage (Approx.)
Connector Terminal		Terminal		( )
Driver side	D15	1	Ground	12 V
Passenger side	D115	I	Ground	12 V

### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## 2.CHECK DOOR REQUEST SWITCH CIRCUIT

- Disconnect BCM connector.
- Check continuity between malfunctioning front door request switch harness connector and BCM harness connector.

Front door request switch		ВСМ		Continuity	
Coni	nector	Terminal	Connector	Terminal	
Driver side	D15	1	M19	71	Yes
Passenger side	D115	<b>I</b>	10/19	72	165

3. Check continuity between malfunctioning front door request switch harness connector and ground.

**DLK-189 Revision: August 2013** 2014 QX60 DLK

M

Ν

0

#### DOOR REQUEST SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

F	ront door request swit	ch		Continuity
Con	nector	Terminal	Ground	Continuity
Driver side	D15	1	Ground	No
Passenger side	D115	· · · · · · · · · · · · · · · · · · ·		INO

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

NO >> Repair or replace harness.

## 3.check door request switch ground circuit

Check continuity between malfunctioning front door request switch harness connector and ground.

Front door request switch				Continuity
Connector Terminal		Ground	Continuity	
Driver side	D15	2	Ground	Yes
Passenger side	D115	2		165

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

## 4. CHECK DOOR REQUEST SWITCH

Refer to DLK-190, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace malfunctioning front outside handle assembly. Refer to <u>DLK-308</u>, "<u>DRIVER SIDE</u>: Removal and Installation" or <u>DLK-308</u>, "<u>PASSENGER SIDE</u>: Removal and Installation".

## 5. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

# 1. CHECK DOOR REQUEST SWITCH

INFOID:0000000009133068

1. Turn ignition switch OFF.

Component Inspection

- 2. Disconnect malfunctioning front door request switch connector.
- 3. Check continuity between malfunctioning front door request switch terminals.

Front door request switch Terminal		Condition		Continuity
ı	2	Door request switch	Released	No

### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace malfunctioning front door request switch. Refer to <u>DLK-296</u>. "OUTSIDE HANDLE : Removal and Installation".

### **BACK DOOR REQUEST SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

## **BACK DOOR REQUEST SWITCH**

## Component Function Check

#### INFOID:0000000009133069

Α

В

D

Е

## 1. CHECK FUNCTION

- 1. Select INTELLIGENT KEY of BCM using CONSULT.
- Select REQ SW-BD/TR in DATA MONITOR mode.
- 3. Check that the function operates normally according to the following conditions.

Monitor item	Condition		Status
REQ SW-BD/TR	Back door request switch	Pressed	On
NEQ OW-DD/TN	Back door request switch	Released	Off

#### Is the inspection result normal?

YES >> Back door request switch is OK.

NO >> Refer to <u>DLK-191, "Diagnosis Procedure"</u>.

## Diagnosis Procedure

INFOID:0000000009133070

Regarding Wiring Diagram information, refer to <a href="DLK-95">DLK-95</a>, "Wiring Diagram".

## 1. CHECK BACK DOOR REQUEST SWITCH INPUT SIGNAL

- Turn ignition switch OFF.
- 2. Disconnect back door opener switch connector.
- 3. Check voltage between back door opener switch harness connector and ground.

Back door o	(+) Back door opener switch		Voltage (Approx.)
Connector	Terminal		(Αρρίολ.)
D559	4	Ground	12 V

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## 2.check back door request switch circuit

- Disconnect BCM connector.
- 2. Check continuity between BCM harness connector and back door opener switch harness connector.

В	ВСМ		Back door opener switch	
Connector	Terminal	Connector	Terminal	Continuity
M20	83	D559	4	Yes

Check continuity between BCM harness connector and ground.

В	CM		Continuity
Connector	Terminal	Ground	Continuity
M20	83		No

### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

NO >> Repair or replace harness.

## 3.check back door request switch ground circuit

Check continuity between back door opener switch harness connector and ground.

DLK

M

Ν

0

## **BACK DOOR REQUEST SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

Back door opener switch			Continuity
Connector	Terminal	Ground	Continuity
D559	3		Yes

### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

## 4. CHECK BACK DOOR REQUEST SWITCH

Refer to DLK-192, "Component Inspection".

### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace back door opener switch. Refer to <u>DLK-308</u>, "BACK DOOR: Removal and Installation".

## 5. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

## Component Inspection

INFOID:0000000009133071

## 1. CHECK BACK DOOR REQUEST SWITCH

- 1. Turn ignition switch OFF.
- Disconnect back door opener switch assembly connector.
- 3. Check continuity between back door opener switch assembly terminals.

Back door opener switch assembly		Condition		Continuity
Terminal				
3		Back door request switch	Pressed	Yes
	4	Dack Gool Tequest Switch	Released	No

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace back door opener switch assembly. Refer to <u>DLK-308, "BACK DOOR : Removal and</u> Installation".

### **BACK DOOR OPENER SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

## **BACK DOOR OPENER SWITCH**

## Component Function Check

## 1. CHECK FUNCTION

- 1. Select TRUNK of BCM using CONSULT.
- 2. Select TR/BD OPEN SW in DATA MONITOR mode.
- 3. Check that the function operates normally according to the following conditions.

Monitor item	Condition		Status
TR/BD OPEN SW Bac	Back door opener switch	Pressed	ON
TIVED OF LIN OW	Back door opener switch	Released	OFF

#### Is the inspection result normal?

YES >> Back door opener switch is OK.

NO >> Refer to <u>DLK-193, "Diagnosis Procedure"</u>.

## Diagnosis Procedure

Regarding Wiring Diagram information, refer to DLK-95, "Wiring Diagram".

## 1. CHECK BACK DOOR OPEN INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect back door opener switch connector.
- 3. Check signal between back door opener switch harness connector and ground.

	(+) Back door opener switch		Signal (Reference value)	
Connector	Terminal		(ixererence value)	
D559	1	Ground	(V) 15 10 5 0 10 ms JPMIA0012GB	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## 2.CHECK BACK DOOR OPENER SWITCH CIRCUIT

- Disconnect BCM connector.
- 2. Check continuity between BCM harness connector and back door opener switch harness connector.

В	BCM		Back door opener switch	
Connector	Terminal	Connector Terminal		Continuity
M19	80	D559	1	Yes

3. Check continuity between BCM harness connector and ground.

BCM			Continuity
Connector	Terminal	Ground	Continuity
M19	80		No

Revision: August 2013 DLK-193 2014 QX60

DLK

Α

В

D

Е

INFOID:0000000009133072

INFOID:0000000009133073

N /I

Ν

 $\bigcirc$ 

## **BACK DOOR OPENER SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

NO >> Repair or replace harness.

## 3.check back door opener switch ground circuit

Check continuity between back door opener switch harness connector and ground.

Back door opener switch			Continuity
Connector	Terminal	Ground	Continuity
D559	2		Yes

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

## 4. CHECK BACK DOOR OPENER SWITCH

Refer to DLK-194, "Component Inspection".

### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace back door opener switch. Refer to <u>DLK-317</u>, "Removal and Installation".

## 5. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

## Component Inspection

INFOID:0000000009133074

## 1. CHECK BACK DOOR OPENER SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect back door opener switch connector.
- 3. Check continuity between back door opener switch terminals.

Back door opener switch assembly		Condition		Continuity
Terr	Terminal		Condition	
1	2	Back door opener switch	Pressed	Yes
ı	2		Released	No

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace back door opener switch. Refer to <u>DLK-317</u>, "Removal and Installation".

### INTELLIGENT KEY WARNING BUZZER

#### < DTC/CIRCUIT DIAGNOSIS >

## INTELLIGENT KEY WARNING BUZZER

## Component Function Check

## 1. CHECK FUNCTION

- 1. Select "INTELLIGENT KEY" of "BCM" using CONSULT.
- 2. Select "OUTSIDE BUZZER" in "ACTIVE TEST" mode.
- 3. Touch "On" or "Off" to check that it works normally.

#### Is the inspection result normal?

YES >> Intelligent Key warning buzzer is OK.

NO >> Refer to <u>DLK-195</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

Regarding Wiring Diagram information, refer to DLK-74, "Wiring Diagram".

## 1. CHECK FUSE

- 1. Turn ignition switch OFF.
- Check 10 A fuse [No. 25, located in fuse block (J/B)].

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown.

## 2.CHECK INTELLIGENT KEY WARNING BUZZER POWER SUPPLY CIRCUIT

- 1. Disconnect Intelligent Key warning buzzer connector.
- 2. Check voltage between Intelligent Key warning buzzer harness connector and ground.

(+)				
Intelligent Key warning buzzer		(–)	Voltage (Approx.)	
Connector	Terminal			
E1	1	Ground	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3. CHECK INTELLIGENT KEY WARNING BUZZER CIRCUIT

- 1. Disconnect BCM connector.
- 2. Check continuity between BCM harness connector and Intelligent Key warning buzzer harness connector.

В	BCM		Intelligent Key warning buzzer	
Connector	Terminal	Connector Terminal		Continuity
M19	64	E1	3	Yes

3. Check continuity between BCM harness connector and ground.

 ВСМ			Continuity
 Connector Terminal		Ground	Continuity
M19	64		No

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

## 4. CHECK INTELLIGENT KEY WARNING BUZZER

Revision: August 2013 DLK-195 2014 QX60

DLK

Α

В

D

Е

Н

INFOID:0000000009133075

INFOID:0000000009133076

M

N

0

## INTELLIGENT KEY WARNING BUZZER

#### < DTC/CIRCUIT DIAGNOSIS >

Refer to DLK-196, "Component Inspection".

#### Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-79, "Removal and Installation".

NO >> Replace Intelligent Key warning buzzer. Refer to <u>DLK-311</u>, "Removal and Installation".

## Component Inspection

INFOID:0000000009133077

## 1. CHECK INTELLIGENT KEY WARNING BUZZER

- 1. Turn ignition switch OFF.
- 2. Disconnect Intelligent Key warning buzzer connector.
- 3. Connect battery power supply directly to Intelligent Key warning buzzer terminals and check the operation.

Intelligent Key warning buzzer			
Terminal		Operation	
(+)	(-)		
1	3	Buzzer sounds	

### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace Intelligent Key warning buzzer. Refer to <a href="DLK-311">DLK-311</a>, "Removal and Installation".

### INTELLIGENT KEY

#### < DTC/CIRCUIT DIAGNOSIS >

## INTELLIGENT KEY

## Component Function Check

## component i anotion once

**NOTE:**The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- · Check Intelligent Key relative signal strength.
- Confirm vehicle Intelligent Key antenna signal strength.

## 1. CHECK FUNCTION

- 1. Select "INTELLIGENT KEY" of "BCM" using CONSULT.
- Select "RKE OPE COUN1" in "DATA MONITOR" mode.
- 3. Check that the function operates normally according to the following conditions.

Monitor item	Condition
RKE OPE COUN1	Check that the numerical value is changing while operating on the Intelligent Key.

#### Is the inspection result normal?

YES >> Intelligent Key is OK.

NO >> Refer to <u>DLK-197</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

#### NOTE:

The Signal Tech II Tool (J-50190) can be used to perform the following functions. Refer to the Signal Tech II User Guide for additional information.

- · Check Intelligent Key relative signal strength.
- Confirm vehicle Intelligent Key antenna signal strength.

## 1.CHECK INTELLIGENT KEY BATTERY

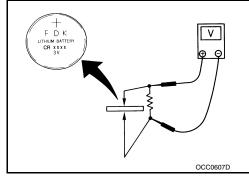
Check by connecting a resistance (approximately  $300\Omega$ ) so that the current value becomes about 10 mA. Refer to <u>DLK-314</u>, "Removal and Installation".

### Standard: Approx. 2.5 - 3.0V

Is the measurement value within the specification?

YES >> Replace Intelligent Key.

NO >> Replace Intelligent Key battery.



Α

INFOID:0000000009133078

INFOID:0000000009133079

Е

D

F

1

DLK\_

M

Ν

0

## **METER BUZZER CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

## METER BUZZER CIRCUIT

Description INFOID:0000000009133080

- The buzzer for the warning chime system is installed in the combination meter.
- The combination meter sounds the buzzer based on the signals transmitted from various units.

## Component Function Check

INFOID:0000000009133081

- 1. CHECK OPERATION OF METER BUZZER
- Select BUZZER of BCM on CONSULT.
- 2. Perform LIGHT WARN ALM or SEAT BELT WARN TEST of ACTIVE TEST.

#### Does meter buzzer activate?

YES >> Inspection End.

NO >> Refer to <u>DLK-198</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

INFOID:0000000009133082

## 1. CHECK COMBINATION METER INPUT SIGNAL

Select the Data Monitor for the "METER/M&A and check the BUZZER monitor value.

**BUZZER** 

Under the condition of buzzer input : On Except above : Off

#### Is the inspection result normal?

YES >> Replace combination meter. Refer to <a href="MWI-95">MWI-95</a>, "Removal and Installation".

NO >> Replace BCM. Refer to BCS-79, "Removal and Installation".

### **KEY WARNING LAMP**

### < DTC/CIRCUIT DIAGNOSIS >

## **KEY WARNING LAMP** Α Component Function Check INFOID:0000000009133083 1. CHECK FUNCTION В Select "INTELLIGENT KEY" of "BCM" using CONSULT. 2. Select "INDICATOR" in "ACTIVE TEST" mode. Touch "KEY IND" or "KEY ON" to check that it works normally. Is the inspection result normal? YES >> Key warning lamp is OK. NO >> Refer to <u>DLK-199</u>, "<u>Diagnosis Procedure</u>". D Diagnosis Procedure INFOID:0000000009133084 Е 1. CHECK KEY WARNING LAMP Refer to MWI-17, "CONSULT Function (METER/M&A)". Is the inspection result normal? F YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. 2. CHECK INTERMITTENT INCIDENT Refer to GI-53, "Intermittent Incident". Н >> Inspection End.

DLK

Ν

## HAZARD FUNCTION

### < DTC/CIRCUIT DIAGNOSIS >

## HAZARD FUNCTION

## Component Function Check

## 1. CHECK FUNCTION

- 1. Select "INTELLIGENT KEY" of "BCM" using CONSULT.
- 2. Select "FLASHER" in "ACTIVE TEST" mode.
- Touch "LH" or "RH" to check that it works normally.

#### Is the inspection result normal?

- YES >> Hazard warning lamp circuit is OK.
- NO >> Refer to <u>DLK-200</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

INFOID:0000000009133086

INFOID:0000000009133085

## 1. CHECK HAZARD SWITCH CIRCUIT

Refer to EXL-144, "Component Function Check".

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

## 2.CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

## **AUTOMATIC BACK DOOR CLOSE SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

## AUTOMATIC BACK DOOR CLOSE SWITCH

## Component Function Check

#### INFOID:0000000009133087

Α

В

D

Е

## 1. CHECK FUNCTION

- Select "AUTOMATIC BACK DOOR CONTROL MODULE" using CONSULT.
- Select "BK DOOR CL SW" in "DATA MONITOR" mode.
- Check that the function operates normally according to the following conditions.

Monitor item	Condition		Status
BK DOOR CL SW	Automatic back door close switch	Pressed	ON
		Released	OFF

#### Is the inspection result normal?

YES >> Automatic back door close switch is OK.

NO >> Refer to <u>DLK-201</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

INFOID:0000000009133088

Regarding Wiring Diagram information, refer to <u>DLK-95</u>, "Wiring Diagram".

## 1. CHECK AUTOMATIC BACK DOOR CLOSE SWITCH INPUT SIGNAL

- Turn ignition switch OFF.
- 2. Disconnect automatic back door close switch connector.
- Check voltage between automatic back door close switch harness connector and ground.

	(+) Automatic back door close switch		Voltage	
Connector	Terminal		(Approx.)	
D560	1	Ground	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## 2.CHECK AUTOMATIC BACK DOOR CLOSE SWITCH CIRCUIT

- Disconnect automatic back door control module connector.
- Check continuity between automatic back door control module harness connector and automatic back door close switch harness connector.

Automatic back d	c back door control module Automatic back door close switch		Automatic back door close switch	
Connector	Terminal	Connector	Terminal	Continuity
B55	23	D560	1	Yes

Check continuity between automatic back door control module harness connector and ground.

Automatic back door control module			Continuity
Connector Terminal		Ground	Continuity
B55	23		No

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

NO >> Repair or replace harness.

## 3.CHECK AUTOMATIC BACK DOOR CLOSE SWITCH GROUND CIRCUIT

**DLK-201 Revision: August 2013** 2014 QX60 DLK

Ν

### **AUTOMATIC BACK DOOR CLOSE SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

Check continuity between automatic back door close switch harness connector and ground.

Automatic back door close switch			Continuity	
Connector Terminal		Ground	Continuity	
D560	2		Yes	

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK AUTOMATIC BACK DOOR CLOSE SWITCH

Refer to DLK-202, "Component Inspection".

### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace automatic back door close switch. Refer to <u>DLK-318</u>, "Removal and Installation".

## 5. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

## Component Inspection

INFOID:0000000009133089

## 1. CHECK AUTOMATIC BACK DOOR CLOSE SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect automatic back door close switch connector.
- 3. Check continuity between automatic back door close switch terminals.

Automatic back door close switch Terminal		Condition		Continuity
'	1	close switch	Released	No

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace automatic back door close switch. Refer to <u>DLK-318, "Removal and Installation"</u>.

Revision: August 2013 DLK-202 2014 QX60

## **AUTOMATIC BACK DOOR MAIN SWITCH**

### < DTC/CIRCUIT DIAGNOSIS >

## AUTOMATIC BACK DOOR MAIN SWITCH

## Component Function Check

#### INFOID:0000000009133090

## 1. CHECK FUNCTION

- Select AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.
- Select MAIN SW in DATA MONITOR mode.
- Check that the function operates normally according to the following conditions.

D

Е

Α

Monitor item	Condition		Status
MAIN SW	V Automatic back door main switch	ON	ON
WAIN SW		OFF	OFF

### Is the inspection result normal?

YES >> Automatic back door main switch is OK.

NO >> Refer to <u>DLK-203</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

INFOID:0000000009133091

Regarding Wiring Diagram information, refer to <u>DLK-95</u>, "Wiring Diagram".

## 1. CHECK AUTOMATIC BACK DOOR MAIN SWITCH INPUT SIGNAL

- Turn ignition switch OFF.
- 2. Disconnect automatic back door main switch connector.
- Check voltage between automatic back door main switch harness connector and ground.

(+)			Voltage (Approx.)
Automatic back door main switch		(–)	
Connector	Terminal		( 44)
M185	1	Ground	16 – 8 V

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## DLK

## 2.CHECK AUTOMATIC BACK DOOR MAIN SWITCH CIRCUIT

- Disconnect automatic back door control module connector.
- 2. Check continuity between automatic back door control module harness connector and automatic back door main switch harness connector.

Automatic back door control module		Automatic back door main switch		or control module Automatic back door main switch		Continuity
Connector	Terminal	Connector	Terminal	Continuity		
B55	10	M185	1	Yes		

Check continuity between automatic back door control module connector and ground.

Automatic back d	oor control module		Continuity
Connector	Connector Terminal		Continuity
B55	10		No

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

NO >> Repair or replace harness.

## 3.CHECK AUTOMATIC BACK DOOR MAIN SWITCH GROUND CIRCUIT

**DLK-203 Revision: August 2013** 2014 QX60

Ν

### **AUTOMATIC BACK DOOR MAIN SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

Check continuity between automatic back door main switch connector and ground.

Automatic back door main switch			Continuity
Connector	Connector Terminal		Continuity
M185	3		Yes

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK AUTOMATIC BACK DOOR MAIN SWITCH

Refer to DLK-204, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace automatic back door main switch. Refer to <u>DLK-316</u>, "Removal and Installation".

## 5. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

## Component Inspection

INFOID:0000000009133092

## 1. CHECK AUTOMATIC BACK DOOR MAIN SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect automatic back door switch connector.
- 3. Check continuity between automatic back door main switch terminals.

Automatic back door main switch		Condition		Continuity
Terminal				Continuity
1	3	Automatic back door	ON	Yes
3	main switch	OFF	No	

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace automatic back door main switch. Refer to <u>DLK-316, "Removal and Installation"</u>.

### **AUTOMATIC BACK DOOR SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

## AUTOMATIC BACK DOOR SWITCH

## Component Function Check

#### INFOID:0000000009133093

## 1. CHECK FUNCTION

Α

В

D

Е

- Select AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.
- Select AUTO BD SW in DATA MONITOR mode.
- Check that the function operates normally according to the following conditions.

Monitor item	Condition		Status
AUTO BD SW	Automatic back door switch	Pressed	ON
AOTO BB GW	Automatic back door switch	Released	OFF

#### Is the inspection result normal?

YES >> Automatic back door switch is OK.

NO >> Refer to <u>DLK-205</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

INFOID:0000000009133094

Regarding Wiring Diagram information, refer to <u>DLK-95</u>, "Wiring Diagram".

## 1. CHECK AUTOMATIC BACK DOOR SWITCH INPUT SIGNAL

- Turn ignition switch OFF.
- 2. Disconnect automatic back door switch connector.
- Check voltage between automatic back door switch harness connector and ground.

(+)			Voltage (Approx.)
Automatic back door switch		(–)	
Connector	Terminal		()
M186	1	Ground	Battery voltage

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## 2.CHECK AUTOMATIC BACK DOOR SWITCH CIRCUIT

- Disconnect automatic back door control module connector.
- 2. Check continuity between automatic back door control module harness connector and automatic back door switch harness connector.

Automatic back d	Automatic back door control module		Automatic back door switch	
Connector	Terminal	Connector Terminal		- Continuity
B55	22	M186	1	Yes

Check continuity between automatic back door control module harness connector and ground.

Automatic back door control module			Continuity	
Connector	Terminal	Ground	Continuity	
B55	22		No	

#### Is the inspection result normal?

>> Replace automatic back door control module. Refer to DLK-315, "Removal and Installation". YES

NO >> Repair or replace harness.

## 3.CHECK AUTOMATIC BACK DOOR SWITCH GROUND CIRCUIT

**DLK-205 Revision: August 2013** 2014 QX60 DLK

Ν

## **AUTOMATIC BACK DOOR SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

Check continuity between automatic back door switch harness connector and ground.

Automatic back door switch			Continuity	
Connector	Connector Terminal		Continuity	
M186	2		Yes	

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK AUTOMATIC BACK DOOR SWITCH

Refer to DLK-206, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace automatic back door switch. Refer to <u>DLK-317, "Removal and Installation"</u>.

## 5. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

## Component Inspection

INFOID:0000000009133095

## 1. CHECK AUTOMATIC BACK DOOR SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect automatic back door switch connector.
- 3. Check continuity between automatic back door switch terminals.

Automatic back door switch		Condition		Continuity	
Terminal					
1	2	Automatic back door switch	Pressed	Yes	
ı	2	Automatic back door switch	Released	No	

### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace automatic back door switch. Refer to <u>DLK-317, "Removal and Installation"</u>.

## HALF LATCH SWITCH

### < DTC/CIRCUIT DIAGNOSIS >

## HALF LATCH SWITCH

## Component Function Check

#### INFOID:0000000009133096

Α

В

D

Е

## 1. CHECK FUNCTION

- 1. Select AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.
- 2. Select HALF LATCH SW in DATA MONITOR mode.
- 3. Check that the function operates normally according to the following conditions.

Monitor item	Condit	Status	
HALF LATCH SW	Rack door	Fully closed/Half latch	OFF
	Back door	Open	ON

#### Is the inspection result normal?

YES >> Half latch switch is OK.

NO >> Refer to <u>DLK-207</u>, "<u>Diagnosis Procedure</u>".

## Diagnosis Procedure

INFOID:0000000009133097

Regarding Wiring Diagram information, refer to DLK-95, "Wiring Diagram".

# 1. CHECK HALF LATCH SWITCH INPUT SIGNAL

- Turn ignition switch OFF.
- 2. Disconnect back door lock assembly connector.
- 3. Check voltage between back door lock assembly harness connector and ground.

	(–)  Back door lock assembly		Voltage (Approx.)	
Connector	Terminal		(Αρρίολ.)	
D557	6	Ground	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## 2.CHECK HALF LATCH SWITCH CIRCUIT

- Disconnect automatic back door control module connector.
- 2. Check continuity between automatic back door control module harness connector.

Automatic back door control module		Back door lock assembly		Continuity
Connector	Terminal	Connector Terminal		Continuity
B55	3	D557	6	Yes

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back do	oor control module		Continuity	
Connector Terminal		Ground	Continuity	
B55 3			No	

### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315</u>, "Removal and Installation".

NO >> Repair or replace harness.

## 3.check half latch switch ground circuit

Check continuity between back door lock assembly harness connector and ground.

DLK

M

Ν

0

## HALF LATCH SWITCH

#### < DTC/CIRCUIT DIAGNOSIS >

Back door lock assembly			Continuity
Connector	Connector Terminal		Continuity
D557	3		Yes

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4. CHECK HALF LATCH SWITCH

Refer to DLK-208, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace back door lock assembly. Refer to <u>DLK-302, "DOOR LOCK: Removal and Installation"</u>.

## 5. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

## Component Inspection

INFOID:0000000009133098

## COMPONENT INSPECTION

## 1. CHECK HALF LATCH SWITCH

- 1. Turn ignition switch OFF.
- 2. Disconnect back door lock assembly connector.
- 3. Check continuity between back door lock assembly terminals.

Back door lock assembly  Terminal		Condition		Continuity
-	8		Open	Yes
6		Back door	Fully closed/Half latch	No

#### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace back door lock assembly. Refer to <u>DLK-302, "DOOR LOCK: Removal and Installation"</u>.

#### < DTC/CIRCUIT DIAGNOSIS >

## **TOUCH SENSOR**

RH

#### INFOID:0000000009133099

Α

В

D

Е

## RH: Component Function Check

## 1. CHECK FUNCTION

- 1. Select AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.
- Select TOUCH SEN RH in DATA MONITOR mode.
- 3. Check that the function operates normally according to the following conditions.

Monitor item	Condition		Status
TOUCH SEN RH	Touch sensor RH	Other than below	OFF
	TOUCH SENSOF KIT	Detect obstruction	ON

#### Is the inspection result normal?

YES >> Touch sensor RH is OK.

NO >> Refer to DLK-209, "RH: Diagnosis Procedure".

## RH: Diagnosis Procedure

INFOID:0000000009133100

Regarding Wiring Diagram information, refer to DLK-95, "Wiring Diagram".

## 1. CHECK TOUCH SENSOR INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Check voltage between touch sensor RH harness connector and automatic back door control module harness connector.

(	+)	(-	<b>–</b> )			_
Touch s	ensor RH		door control mod- le	Condition		Voltage (Approx.)
Connector	Terminal	Connector	Terminal			
D555	1	P55	13	Touch sensor	Detect obstruc- tion	1.8 – 5 V
2333	1	B55	55 13	RH	Other than above	2.72 – 7.27 V

### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## 2.CHECK TOUCH SENSOR RH CIRCUIT

- Disconnect automatic back door control module and touch sensor RH connector.
- Check continuity between automatic back door control module harness connector and touch sensor RH harness connector.

Automatic back door control module		Touch sensor RH		Continuity
Connector	Terminal	Connector Terminal		Continuity
B55	1	D555	1	Yes

Check continuity between automatic back door control module harness connector and ground.

Automatic back door control module			Continuity
Connector	Terminal	Ground	Continuity
B55	1		No

Revision: August 2013 DLK-209 2014 QX60

J

Н

DLK

Ν

0

#### < DTC/CIRCUIT DIAGNOSIS >

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315</u>, "Removal and Installation".

NO >> Repair or replace harness.

## 3.check touch sensor RH grond circuit

Disconnect automatic back door control module and touch sensor RH connector.

Check continuity between automatic back door control module harness connector and touch sensor RH harness connector.

Automatic back door control module		Touch sensor RH		Continuity
Connector	Terminal	Connector Terminal		Continuity
B55	13	D555	2	Yes

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back door control module			Continuity
Connector	Terminal	Ground	Continuity
B55	13		No

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

## 4.CHECK TOUCH SENSOR RH GROND CIRCUIT 2

- 1. Connect automatic back door control module and touch sensor RH connector.
- Check voltage between automatic back door control module harness connector and ground.

(+) Automatic back door control module		(–)	Voltage (Approx.)
Connector	Terminal		(/ <b>.pp</b> : •/)
B55	13	Ground	0.01 – 0 V

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

## 5.CHECK TOUCH SENSOR RH

Refer to DLK-210, "RH: Component Inspection".

### Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace touch sensor RH. Refer to <u>DLK-303</u>, "TOUCH SENSOR: Removal and Installation".

## 6.CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

## RH: Component Inspection

INFOID:0000000009133101

## 1. CHECK TOUCH SENSOR RH

- 1. Turn ignition switch OFF.
- Disconnect touch sensor RH connector.
- Check resistance between touch sensor RH terminals.

### < DTC/CIRCUIT DIAGNOSIS >

	ensor RH ninal	- Condition		Resistance (Approx.)
1	2	Touch sensor RH	Detect obstruction	380 – 420 kΩ
1	2	Touch sensor Rh	Other than above	0.95 – 1.05 kΩ

### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace touch sensor RH. Refer to <u>DLK-303, "TOUCH SENSOR: Removal and Installation"</u>.

LH

## LH: Component Function Check

## 1. CHECK FUNCTION

- 1. Select AUTOMATIC BACK DOOR CONTROL MODULE using CONSULT.
- Select TOUCH SEN LH in DATA MONITOR mode.
- 3. Check that the function operates normally according to the following conditions.

Monitor item	Condition		Status
TOUCH SEN LH Tou	Touch sensor LH	Other than below	OFF
	TOUCH SENSOI LA	Detect obstruction	ON

#### Is the inspection result normal?

YES >> Touch sensor LH is OK.

NO >> Refer to <u>DLK-211, "LH : Diagnosis Procedure"</u>.

## LH : Diagnosis Procedure

Regarding Wiring Diagram information, refer to DLK-95, "Wiring Diagram".

## 1. CHECK TOUCH SENSOR INPUT SIGNAL

Turn ignition switch OFF.

Check voltage between touch sensor LH harness connector and automatic back door control module harness connector.

(	+)	(-	<b>–</b> )			
Touch s	ensor LH		door control mod- le	Condition		Voltage (Approx.)
Connector	Terminal	Connector	Terminal			
D556	1	B55	13	Touch sensor	Detect obstruc- tion	1.8 – 5 V
<i>D</i> 330	'	555	13	LH	Other than above	2.72 – 7.27 V

### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

## 2.check touch sensor LH circuit

- 1. Disconnect automatic back door control module and touch sensor LH connector.
- Check continuity between automatic back door control module harness connector and touch sensor LH harness connector.

DLK

Α

В

D

F

Н

INFOID:0000000009133102

INFOID:0000000009133103

L

M

Ν

0

Р

Revision: August 2013 DLK-211 2014 QX60

#### < DTC/CIRCUIT DIAGNOSIS >

Automatic back d	Automatic back door control module		Touch sensor LH	
Connector	Terminal	Connector	Terminal	Continuity
B55	2	D556	1	Yes

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back door control module			Continuity
Connector	Terminal	Ground	Continuity
B55	2		No

### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to DLK-315, "Removal and Installation".

NO >> Repair or replace harness.

## 3.CHECK TOUCH SENSOR LH GROND CIRCUIT

- 1. Disconnect automatic back door control module and touch sensor LH connector.
- Check continuity between automatic back door control module harness connector and touch sensor LH harness connector.

Automatic back door control module		Touch sensor LH		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
B55	13	D556	2	Yes	

Check continuity between automatic back door control module harness connector and ground.

Automatic back door control module			Continuity
Connector	Terminal	Ground	Continuity
B55	13		No

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

## 4. CHECK TOUCH SENSOR LH GROND CIRCUIT 2

- 1. Connect automatic back door control module and touch sensor LH connector.
- 2. Check voltage between automatic back door control module harness connector and ground.

Automatic back of	(+) door control module	(-)	Voltage	
Connector	Terminal		(Approx.)	
B55	13	Ground	0.01 – 0 V	

## Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

## 5. CHECK TOUCH SENSOR LH

Refer to DLK-213, "LH: Component Inspection".

### Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace touch sensor LH. Refer to <u>DLK-303</u>, "TOUCH SENSOR: Removal and Installation".

## 6.CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

## < DTC/CIRCUIT DIAGNOSIS >

## LH: Component Inspection

#### INFOID:0000000009133104

# 1. CHECK TOUCH SENSOR LH

- 1. Turn ignition switch OFF.
- 2. Disconnect touch sensor LH connector.
- 3. Check resistance between touch sensor LH terminals.

Touch sensor LH		Condition		Resistance	
Terr	minal	Condition		(Approx.)	
1	2	Touch sensor LH	Detect obstruction	380 – 420 kΩ	
!	2	TOUCH SCHOOL ETT	Other than above	0.95 – 1.05 kΩ	

### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace touch sensor LH. Refer to <u>DLK-303, "TOUCH SENSOR: Removal and Installation".</u>

F

Α

В

 $\mathsf{D}$ 

Е

G

Н

J

### DLK

L

M

Ν

0

#### SPINDLE MOTOR

#### < DTC/CIRCUIT DIAGNOSIS >

## SPINDLE MOTOR

RH

RH: Diagnosis Procedure

INFOID:0000000009133105

Regarding Wiring Diagram information, refer to <a href="DLK-95">DLK-95</a>, "Wiring Diagram".

## 1. CHECK SPINDLE MOTOR INPUT SIGNAL

- Turn ignition switch OFF.
- 2. Disconnect spindle unit RH connector.
- 3. Check voltage between spindle unit RH harness connector and ground.

	(+) Spindle unit RH		Condition		Voltage (Approx.)
Connector	Terminal				(
B162	9	Ground	Ground Back door		16.75 – 8.5 V
B102	2	Ground	Back Gool	Auto close opera- tion	10.75 – 6.5 V

## Is the inspection result normal?

YES >> Replace spindle unit RH. Refer to <u>DLK-290</u>, "SPINDLE UNIT: Removal and Installation".

NO >> GO TO 2.

## 2. CHECK SPINDLE MOTOR CIRCUIT

- Disconnect automatic back door control module connector.
- Check continuity between automatic back door control module harness connector and spindle unit harness connector.

Automatic back d	oor control module	Spindle unit RH		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B56	29	B162	9	Yes
Б30	36	B102	2	165

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back d	oor control module		Continuity
Connector	Terminal	Ground	Continuity
B56	29	Ground	No
	36		NO

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

NO >> Repair or replace harness.

LH

## LH: Diagnosis Procedure

INFOID:0000000009133106

Regarding Wiring Diagram information, refer to <u>DLK-95, "Wiring Diagram"</u>.

## 1. CHECK SPINDLE MOTOR INPUT SIGNAL

1. Turn ignition switch OFF.

## SPINDLE MOTOR

#### < DTC/CIRCUIT DIAGNOSIS >

- 2. Disconnect spindle unit LH connector.
- 3. Check voltage between spindle unit LH harness connector and ground.

	+) e unit LH	(-)	Condition		Voltage (Approx.)
Connector	Terminal				(, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
B70	9	Ground	Back door	Auto open opera- tion	16.75 – 8.5 V
570	2	Giouna	Dack GOO!	Auto close opera- tion	10.75 – 6.5 V

#### Is the inspection result normal?

YES >> Replace spindle unit LH. Refer to <u>DLK-290</u>, "SPINDLE UNIT: Removal and Installation".

NO >> GO TO 2.

## 2. CHECK SPINDLE MOTOR CIRCUIT

- Disconnect automatic back door control module connector.
- Check continuity between automatic back door control module harness connector and spindle unit LH harness connector.

Automatic back d	oor control module	Spindle unit LH		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B56	27	D70	9	Yes
□30	34 B70		2	168

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back d	oor control module		Continuity
Connector	Terminal	Ground	Continuity
B56	27	Giodila	No
B30	34	ľ	NO

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315</u>, "Removal and Installation".

NO >> Repair or replace harness.

DLK

J

Α

В

D

Е

Н

Ν

C

## **BACK DOOR CLOSURE MOTOR**

#### < DTC/CIRCUIT DIAGNOSIS >

## BACK DOOR CLOSURE MOTOR

## Diagnosis Procedure

INFOID:0000000009133107

Regarding Wiring Diagram information, refer to <a href="DLK-95">DLK-95</a>. "Wiring Diagram".

## 1. CHECK BACK DOOR CLOSURE MOTOR INPUT SIGNAL

- 1. Turn ignition switch OFF.
- 2. Disconnect back door lock assembly connector.
- 3. Check voltage between back door lock assembly harness connector and ground.

(+ Back door lo	<u>/</u>	(–)	Condition		Voltage (Approx.)
Connector	Terminal				
D557	1	Ground	Back door opener	Pressed	16 – 7.8 V
D337	2	Ground	switch	Released	0 V

#### Is the inspection result normal?

YES >> Replace back door lock assembly. Refer to <u>DLK-302, "DOOR LOCK: Removal and Installation"</u>.

NO >> GO TO 2.

## 2.CHECK BACK DOOR CLOSURE MOTOR CIRCUIT

- Disconnect automatic back door control module connector.
- Check continuity between automatic back door control module harness connector and back door lock assembly harness connector.

Automatic back dod	or control module	Back door lock assembly		Continuity
Connector	Terminal	Connector	Terminal	Continuity
B56	31	D557	1	Yes
D30	38		2	165

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back door control module			Continuity	
Connector	Terminal	Ground	Continuity	
B56	31	Ground	No	
Б30	38		No	

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

NO >> Repair or replace harness.

# **AUTOMATIC BACK DOOR WARNING BUZZER**

#### < DTC/CIRCUIT DIAGNOSIS >

# AUTOMATIC BACK DOOR WARNING BUZZER

# Diagnosis Procedure

INFOID:0000000009133108

Α

В

D

Е

Н

Regarding Wiring Diagram information, refer to <a href="DLK-95">DLK-95</a>, "Wiring Diagram".

# 1. CHECK BACK DOOR WARNING CHIME POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect back door warning chime connector.
- 3. Check voltage between back door warning chime harness connector and ground.

(+) Back door warning chime		(-)	Voltage (Approx.)	
Connector	Terminal		(	
B402	1	Ground	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

# 2.CHECK BACK DOOR WARNING CHIME OUTPUT SIGNAL CIRCUIT

- 1. Disconnect automatic back door control module connector.
- Check continuity between automatic back door control module harness connector and back door warning chime harness connector.

Automatic back d	oor control module	Back door warning chime		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
B56	37	B402	1	Yes	

3. Check continuity between automatic back door control module harness connector and ground.

Automatic back door control module			Continuity
Connector	Terminal	Ground	Continuity
B56	37		No

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

NO >> Repair or replace harness.

# 3.CHECK BACK DOOR WARNING CHIME GROUND CIRCUIT

Check continuity between back door warning chime harness connector and ground.

Back door warning chime			Continuity
Connector	Terminal	Ground	Continuity
B402	2		Yes

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

# 4. CHECK BACK DOOR WARNING CHIME

Refer to DLK-218, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace back door warning chime. Refer to <u>DLK-312</u>. "Removal and Installation".

Revision: August 2013 DLK-217 2014 QX60

DLK

M

Ν

### **AUTOMATIC BACK DOOR WARNING BUZZER**

#### < DTC/CIRCUIT DIAGNOSIS >

# 5.CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

# Component Inspection

INFOID:0000000009133109

# 1. CHECK BACK DOOR WARNING CHIME

- 1. Turn ignition switch OFF.
- 2. Disconnect back door warning chime connector.
- 3. Check battery power supply directly to back door warning chime terminals and check the operation.

back door warning chime			
Terminal		Operation	
(+)	(-)		
1	2	Chime sounds	

### Is the inspection result normal?

YES >> Inspection End.

NO >> Replace back door warning chime. Refer to <u>DLK-312</u>, "Removal and Installation".

### **GROUND CIRCUIT**

#### < DTC/CIRCUIT DIAGNOSIS >

# **GROUND CIRCUIT**

# Diagnosis Procedure

INFOID:0000000009133110

Α

В

C

D

Е

F

Н

Regarding Wiring Diagram information, refer to <u>DLK-95</u>, "Wiring Diagram".

# 1. CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect automatic back door control module connector.
- 3. Check continuity between automatic back door control module harness connector and ground.

Automatic back door control module			Continuity	
Connector Terminal			Continuity	
B56	32	Ground		
	28		Yes	
B55	4 (except Mexico)			

#### Is the inspection result normal?

YES >> Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.

NO >> Repair or replace harness.

DLK

J

M

Ν

C

INFOID:0000000009133111

INFOID:0000000009133112

#### < DTC/CIRCUIT DIAGNOSIS >

# **HOOD SWITCH**

# Component Function Check

# 1. CHECK FUNCTION

- 1. Select HOOD SW in Data Monitor mode of IPDM E/R using CONSULT.
- 2. Check HOOD SW indication under the following condition.

Monitor item	Condition		Indication
HOOD SW	Hood	Open	ON
TICOD GW	пооц	Close	OFF

#### Is the indication normal?

YES >> Hood switch is OK.

NO >> Go to <u>DLK-220</u>, "<u>Diagnosis Procedure</u>".

# Diagnosis Procedure

Regarding Wiring Diagram information, refer to DLK-74, "Wiring Diagram".

# 1. CHECK HOOD SWITCH SIGNAL CIRCUITS

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

(+)		(-)	Voltage (V) (Approx.)	
Hood switch				
Connector	Terminal			
E205	1	Ground	12	
E205	2	Ground	12	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

# 2. CHECK HOOD SWITCH SIGNAL CIRCUITS

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

IPDM E/R		Hood switch		Continuity
Connector	Terminal	Connector Terminal		Continuity
E218	94	E205	1	Yes
L210	96 E205		2	165

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

IPDM E/R			Continuity	
Connector	Terminal	Ground No	Continuity	
E218	94		No	
	96		No	INO

#### Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".

NO >> Repair or replace harness.

### **HOOD SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

# $\overline{3}$ .check hood switch ground circuit

Check continuity between hood switch harness connector and ground.

Hood switch			Continuity
Connector	Terminal	Ground	Continuity
E205	3		Yes

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

# 4. CHECK HOOD SWITCH

Refer to DLK-221, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace hood switch. Refer to DLK-293, "HOOD LOCK RELEASE CABLE: Removal and Installation".

# 5. CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

# Component Inspection

# 1. CHECK HOOD SWITCH

- Turn ignition switch OFF.
- 2. Disconnect hood switch connector.
- Check continuity between hood switch terminals.

Hood switch		Condition		Continuity
Terminal				
1 2		Press	No	
ľ	3	Hood switch	Release	Yes
2 3	- Hood Switch	Press	No	
			Release	Yes

#### Is the inspection result normal?

YES >> Inspection End.

NO

>> Replace hood switch. Refer to DLK-293, "HOOD LOCK RELEASE CABLE: Removal and Installation".

DLK

В

D

Е

F

INFOID:0000000009133113

M

Ν

#### INTEGRATED HOMELINK TRANSMITTER

#### < DTC/CIRCUIT DIAGNOSIS >

# INTEGRATED HOMELINK TRANSMITTER

# Component Function Check

# 1. CHECK FUNCTION

Check that system receiver (garage door opener, etc.) operates with original hand-held transmitter.

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Receiver or hand-held transmitter is malfunctioning.

# 2. CHECK ILLUMINATE

- Turn ignition switch OFF.
- 2. Does red light of transmitter illuminate when any transmitter button is pressed?

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Refer to <u>DLK-222</u>, "<u>Diagnosis Procedure</u>".

# 3. CHECK TRANSMITTER

Check transmitter with Tool\*.

\*: For details, refer to Technical Service Bulletin.

#### Is the inspection result normal?

YES >> Receiver or hand-held transmitter malfunction, not vehicle related.

NO >> Replace auto anti-dazzling inside mirror (homelink® universal transceiver). Refer to MIR-27, "Removal and Installation".

# Diagnosis Procedure

INFOID:0000000009133115

INFOID:0000000009133114

Regarding Wiring Diagram information, refer to <u>DLK-106</u>, "Wiring Diagram".

# 1. CHECK POWER SUPPLY

- 1. Turn ignition switch OFF.
- 2. Disconnect auto anti-dazzling inside mirror (homelink® universal transceiver) connector.
- Check voltage between auto anti-dazzling inside mirror (homelink<sup>®</sup> universal transceiver) harness connector and ground.

Auto anti-dazzling inside mirror (Homelink <sup>®</sup> universal transceiver) connector	Terminal		Condition	Voltage (V) (Approx.)
R10	10	Ground	Ignition switch position: OFF	Battery voltage
			Ignition switch position: ON	Dattery Voltage
	6		Ignition switch position: OFF	0
			Ignition switch position: ON	Battery voltage

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Check the following items.

- 5A fuse [No. 29 located in the fuse block (J/B)]
- 10A fuse [No. 1 located in the fuse block (J/B)]
- Harness for open or short between fuse and auto anti-dazzling inside mirror (homelink<sup>®</sup> universal transceiver).

# INTEGRATED HOMELINK TRANSMITTER

#### < DTC/CIRCUIT DIAGNOSIS >

# 2.CHECK GROUND CIRCUIT

Check continuity between auto anti-dazzling inside mirror (homelink® universal transceiver) harness connector and ground.

Auto anti-dazzling inside mirror (Homelink <sup>®</sup> universal transceiver) connector	Terminal	Ground	Continuity
R10	8		Yes

# Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair harness.

# 3.CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

В

Α

D

Е

F

G

Н

J

#### DLK

M

Ν

0

# **INTELLIGENT KEY SYSTEM SYMPTOMS**

< SYMPTOM DIAGNOSIS >

# SYMPTOM DIAGNOSIS

# INTELLIGENT KEY SYSTEM SYMPTOMS

Symptom Table

#### **CAUTION:**

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

Symptom	Inspection item
Door does not lock/unlock with door lock and unlock switch.	<ul> <li>All doors inoperative. Refer to <u>DLK-225</u>.</li> <li>Drivers side door inoperative. Refer to <u>DLK-225</u>.</li> <li>Passenger side door inoperative. Refer to <u>DLK-226</u>.</li> <li>Rear LH door inoperative. Refer to <u>DLK-226</u>.</li> <li>Rear RH door inoperative. Refer to <u>DLK-226</u>.</li> </ul>
Door does not lock/unlock with door key cylinder operation.	Refer to DLK-228.
Door does not lock/unlock with door request switch.	<ul> <li>All door request switches. Refer to <u>DLK-229</u>.</li> <li>Drivers side door request switch. Refer to <u>DLK-230</u>.</li> <li>Passenger side door request switch. Refer to <u>DLK-230</u>.</li> <li>Back door request switch. Refer to <u>DLK-230</u>.</li> </ul>
Door does not lock/unlock with Intelligent Key.	Refer to DLK-232.
Fuel lid lock actuator does not operate.	Refer to DLK-233.
Ignition position warning function does not operate.	Refer to DLK-234.
Selective unlock function does not operate.	Refer to DLK-235.
Auto door lock operation does not operate.	Refer to DLK-236.
Vehicle speed sensing auto lock operation does not operate.	Refer to DLK-237.
IGN OFF interlock door unlock function does not operate.	Refer to DLK-238.
P (Park) range interlock door lock/unlock function does not operate.	Refer to DLK-239.
Hazard and horn reminder does not operate.	Refer to DLK-240.
Hazard and buzzer reminder does not operate.	Refer to DLK-241.
Welcome light function does not operate.	Refer to DLK-243.
OFF position warning does not operate.	Refer to DLK-245.
ACC warning does not operate.	Refer to DLK-246.
Take away warning does not operate.	Refer to DLK-247.
Key ID warning does not operate.	Refer to DLK-249.
Intelligent Key low battery warning does not operate.	Refer to DLK-250.
Door lock operation warning does not operate.	Refer to DLK-251.
Automatic back door operation does not operate.	<ul> <li>All switches. Refer to <u>DLK-252</u>.</li> <li>Automatic back door switch. Refer to <u>DLK-253</u>.</li> <li>Automatic back door close switch. Refer to <u>DLK-253</u>.</li> <li>Intelligent Key. Refer to <u>DLK-254</u>.</li> <li>Back door opener switch. Refer to <u>DLK-254</u>.</li> <li>Open/closure function. Refer to <u>DLK-255</u>.</li> <li>Open function. Refer to <u>DLK-256</u>.</li> <li>Closure function. Refer to <u>DLK-257</u>.</li> </ul>
Automatic back door warning does not operate.	Refer to DLK-258.
Automatic back door functions do not cancel.	Refer to DLK-260.
Automatic back door anti-pinch functions do not operate.	Refer to DLK-261.
Integrated homelink transmitter does not operate.	Refer to DLK-262.
Squeak and rattle trouble diagnosis.	Refer to DLK-263.

#### DOOR DOES NOT LOCK/UNLOCK WITH DOOR LOCK AND UNLOCK SWITCH < SYMPTOM DIAGNOSIS > DOOR DOES NOT LOCK/UNLOCK WITH DOOR LOCK AND UNLOCK **SWITCH ALL DOOR** В ALL DOOR: Description INFOID:0000000009133117 All doors do not lock/unlock using door lock and unlock switch. ALL DOOR: Diagnosis Procedure INFOID:0000000009133118 1. CHECK DOOR LOCK AND UNLOCK SWITCH D Check door lock and unlock switch. • Driver side: Refer to DLK-174, "DRIVER SIDE: Component Function Check". • Passenger side: Refer to DLK-174, "PASSENGER SIDE: Component Function Check". Е Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. F 2.CHECK DOOR LOCK ACTUATOR Check front door lock assembly (driver side). Refer to DLK-176, "DRIVER SIDE: Component Function Check". Is the inspection result normal? YFS >> GO TO 3. Н NO >> Repair or replace the malfunctioning parts. 3.REPLACE BCM Replace BCM. Refer to BCS-79, "Removal and Installation". · Confirm the operation after replacement. Is the result normal? YES >> Inspection End. >> Check intermittent incident. Refer to GI-53, "Intermittent Incident". NO DRIVER SIDE DLK DRIVER SIDE : Description INFOID:0000000009133119 Driver side door does not lock/unlock using door lock and unlock switch. DRIVER SIDE: Diagnosis Procedure INFOID:0000000009133120 1. CHECK DOOR LOCK ACTUATOR M Check front door lock assembly (driver side). Refer to DLK-176, "DRIVER SIDE: Component Function Check". Is the inspection result normal? N YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. 2.REPLACE BCM Replace BCM. Refer to BCS-79, "Removal and Installation". · Confirm the operation after replacement. Р Is the result normal? YES >> Inspection End.

>> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

NO

PASSENGER SIDE

#### DOOR DOES NOT LOCK/UNLOCK WITH DOOR LOCK AND UNLOCK SWITCH

< SYMPTOM DIAGNOSIS >

PASSENGER SIDE: Description

INFOID:0000000009133121

Passenger side door does not lock/unlock using door lock and unlock switch.

PASSENGER SIDE: Diagnosis Procedure

INFOID:0000000009133122

# 1. CHECK DOOR LOCK ACTUATOR

Check front door lock assembly (passenger side).

Refer to DLK-177, "PASSENGER SIDE: Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2.REPLACE BCM

- Replace BCM. Refer to BCS-79, "Removal and Installation".
- · Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

# **REAR LH**

# **REAR LH: Description**

INFOID:0000000009133123

Rear LH side door does not lock/unlock using door lock and unlock switch.

# **REAR LH: Diagnosis Procedure**

INFOID:0000000009133124

# 1. CHECK DOOR LOCK ACTUATOR

Check rear door lock assembly LH.

Refer to DLK-178, "REAR LH: Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

### 2.REPLACE BCM

- Replace BCM. Refer to BCS-79, "Removal and Installation" .
- Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

#### REAR RH

# REAR RH: Description

INFOID:0000000009133125

Rear RH side door does not lock/unlock using door lock and unlock switch.

### REAR RH: Diagnosis Procedure

INFOID:0000000009133126

# CHECK DOOR LOCK ACTUATOR

Check rear door lock assembly RH.

Refer to DLK-179, "REAR RH: Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

### 2.REPLACE BCM

Revision: August 2013 DLK-226 2014 QX60

Replace BCM. Refer to <u>BCS-79</u>, "Removal and Installation".

# DOOR DOES NOT LOCK/UNLOCK WITH DOOR LOCK AND UNLOCK SWITCH

### < SYMPTOM DIAGNOSIS >

• Confirm the operation after replacement.

Is the result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

Α

В

D

С

Е

F

G

Н

J

DLK

L

M

Ν

0

### DOOR DOES NOT LOCK/UNLOCK WITH DOOR KEY CYLINDER OPERATION

< SYMPTOM DIAGNOSIS >

# DOOR DOES NOT LOCK/UNLOCK WITH DOOR KEY CYLINDER OPERATION

# Diagnosis Procedure

INFOID:0000000009133127

# 1. CHECK POWER DOOR LOCK OPERATION

Check power door lock operation.

Does door lock/unlock with door lock and unlock switch?

YES >> GO TO 2.

NO >> Refer to DLK-225, "ALL DOOR : Diagnosis Procedure".

# 2. CHECK DOOR KEY CYLINDER SWITCH

Check door key cylinder switch.

Refer to <u>DLK-185</u>, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

# 3. REPLACE BCM

- Replace BCM. Refer to BCS-79, "Removal and Installation".
- · Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

# DOOR DOES NOT LOCK/UNLOCK WITH DOOR REQUEST SWITCH

< SYMPTOM DIAGNOSIS >

DOOR DOES NOT LOCK/UNLOCK WITH DOOR REQUEST SW	TITCH
ALL DOOR REQUEST SWITCHES	
ALL DOOR REQUEST SWITCHES : Description	INFOID:0000000009133128
All doors do not lock/unlock using all door request switches.	
ALL DOOR REQUEST SWITCHES : Diagnosis Procedure	INFOID:0000000009133129
1. CHECK REMOTE KEYLESS ENTRY FUNCTION	
Check remote keyless entry function.	
<u>Does door lock/unlock with Intelligent Key button?</u> YES >> GO TO 2.	
NO >> Refer to DLK-187, "Component Function Check".	
2.CHECK "LOCK/UNLOCK BY I-KEY" SETTING IN "WORK SUPPORT"	
<ol> <li>Select "INTELLIGENT KEY" of "BCM" using CONSULT.</li> <li>Select "LOCK/UNLOCK BY I-KEY" in "WORK SUPPORT" mode.</li> <li>Check "LOCK/UNLOCK BY I-KEY" setting in "WORK SUPPORT". Refer to BCS-20, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)"</li> </ol>	
Is the inspection result normal?	-
YES >> GO TO 3.	
NO >> Set "ON" in "LOCK/UNLOCK BY I-KEY".	
3. CHECK DOOR SWITCH	
Check door switch.  Refer to DLK-170, "Component Function Check".	
Is the inspection result normal?	
YES >> GO TO 4.	
NO >> Repair or replace the malfunctioning parts.  4. CHECK INSIDE KEY ANTENNA	
Check inside key antenna.	
Instrument center: Refer to <u>DLK-149</u> , " <u>DTC Logic"</u> .	
<ul> <li>Console: Refer to <u>DLK-151, "DTC Logic"</u>.</li> <li>Luggage room: Refer to <u>DLK-153, "DTC Logic"</u>.</li> </ul>	
Is the inspection result normal?	
YES >> GO TO 5.	
NO >> Repair or replace the malfunctioning parts.	
5. CHECK OUTSIDE KEY ANTENNA	
<ul> <li>Check outside key antenna.</li> <li>Driver side: Refer to <u>DLK-166, "Component Function Check"</u>.</li> </ul>	
Passenger side: Refer to <u>DLK-164, "Component Function Check"</u> .	
Back door: Refer to <u>DLK-168, "Component Function Check"</u> . <u>Is the inspection result normal?</u>	
YES >> GO TO 6.	
NO >> Repair or replace the malfunctioning parts.	
6.CHECK BACK DOOR SWITCH	
Check back door switch.  Refer to DLK-172, "Component Function Check".	
Is the inspection result normal?	
YES >> GO TO 7.	
NO >> Repair or replace the malfunctioning parts.	
7.REPLACE BCM	

Revision: August 2013 DLK-229 2014 QX60

# DOOR DOES NOT LOCK/UNLOCK WITH DOOR REQUEST SWITCH

#### < SYMPTOM DIAGNOSIS >

- Replace BCM. Refer to BCS-79, "Removal and Installation".
- Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

# DRIVER SIDE DOOR REQUEST SWITCH

# DRIVER SIDE DOOR REQUEST SWITCH: Description

INFOID:0000000009133130

All doors do not lock/unlock using driver side door request switch.

#### DRIVER SIDE DOOR REQUEST SWITCH: Diagnosis Procedure

INFOID:0000000009133131

# 1. CHECK DOOR REQUEST SWITCH

Check front door request switch (driver side).

Refer to DLK-189, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2.REPLACE BCM

- Replace BCM. Refer to BCS-79, "Removal and Installation".
- · Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-53. "Intermittent Incident".

### PASSENGER SIDE DOOR REQUEST SWITCH

# PASSENGER SIDE DOOR REQUEST SWITCH: Description

INFOID:0000000009133132

All doors do not lock/unlock using passenger side door request switch.

# PASSENGER SIDE DOOR REQUEST SWITCH: Diagnosis Procedure

INFOID:0000000009133133

# 1. CHECK DOOR REQUEST SWITCH

Check front door request switch (passenger side).

Refer to <u>DLK-189</u>, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2.REPLACE BCM

- Replace BCM. Refer to BCS-79, "Removal and Installation".
- · Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to <a href="GI-53">GI-53</a>, "Intermittent Incident".

# BACK DOOR REQUEST SWITCH

### **BACK DOOR REQUEST SWITCH: Description**

INFOID:0000000009133134

All doors do not lock/unlock using back door request switch.

### BACK DOOR REQUEST SWITCH: Diagnosis Procedure

INFOID:0000000009133135

# 1. CHECK BACK DOOR REQUEST SWITCH

Check back door request switch.

# DOOR DOES NOT LOCK/UNLOCK WITH DOOR REQUEST SWITCH

DOOR DOES NOT LOCK/UNLOCK WITH DOOR REQUEST SWITCH	
< SYMPTOM DIAGNOSIS >	
Refer to DLK-191, "Component Function Check".	^
Is the inspection result normal? YES >> GO TO 2.	А
YES >> GO TO 2.  NO >> Repair or replace the malfunctioning parts.	
2.REPLACE BCM	В
<ul> <li>Replace BCM. Refer to <u>BCS-79</u>, "<u>Removal and Installation</u>".</li> <li>Confirm the operation after replacement.</li> </ul>	
Is the result normal?	С
YES >> Inspection End.	
NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".	D
	Е
	F
	G
	Н
	11
	J
	0
	DL
	1
	L
	M
	N

Revision: August 2013 DLK-231 2014 QX60

#### DOOR DOES NOT LOCK/UNLOCK WITH INTELLIGENT KEY

#### < SYMPTOM DIAGNOSIS >

# DOOR DOES NOT LOCK/UNLOCK WITH INTELLIGENT KEY

# Diagnosis Procedure

INFOID:0000000009133136

# 1. CHECK POWER DOOR LOCK OPERATION

Check power door lock operation.

Does door lock/unlock with door lock and unlock switch?

YES >> GO TO 2.

NO >> Refer to <u>DLK-225, "ALL DOOR : Diagnosis Procedure"</u>.

# 2. CHECK REMOTE KEYLESS ENTRY RECEIVER

Check remote keyless entry receiver.

Refer to DLK-187, "Component Function Check".

# Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

# 3. CHECK INTELLIGENT KEY

Check Intelligent Key.

Refer to DLK-197, "Component Function Check".

### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

### 4.REPLACE BCM

- Replace BCM. Refer to BCS-79, "Removal and Installation".
- · Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

### **FUEL LID LOCK ACTUATOR DOES NOT OPERATE**

### < SYMPTOM DIAGNOSIS >

#### FUEL LID LOCK ACTUATOR DOES NOT OPERATE Α Diagnosis Procedure INFOID:0000000009133137 1. CHECK POWER DOOR LOCK OPERATION В Check power door lock operation. Does door lock/unlock with door lock and unlock switch? C YES >> GO TO 2. NO >> Refer to DLK-225, "ALL DOOR: Diagnosis Procedure". 2.CHECK FUEL LID LOCK ACTUATOR D Check fuel lid lock actuator. Refer to DLK-181, "Component Function Check". Is the inspection result normal? Е YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts. 3.REPLACE BCM F • Replace BCM. Refer to BCS-79, "Removal and Installation". · Confirm the operation after replacement. Is the result normal? YES >> Inspection End. NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident". Н

DLK

J

M

Ν

0

### **IGNITION POSITION WARNING FUNCTION DOES NOT OPERATE**

#### < SYMPTOM DIAGNOSIS >

# IGNITION POSITION WARNING FUNCTION DOES NOT OPERATE

# Diagnosis Procedure

INFOID:0000000009133138

# 1. CHECK POWER DOOR LOCK OPERATION

Check power door lock operation.

Does door lock/unlock with door lock and unlock switch?

YES >> GO TO 2.

NO >> Refer to <u>DLK-225</u>, "ALL <u>DOOR</u>: <u>Diagnosis Procedure"</u>.

# 2. CHECK DOOR SWITCH

Check door switch

Refer to DLK-170, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

# 3. CHECK BACK DOOR SWITCH

Check door switch

Refer to DLK-172, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

### 4.REPLACE BCM

- Replace BCM. Refer to BCS-79, "Removal and Installation".
- · Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

### SELECTIVE UNLOCK FUNCTION DOES NOT OPERATE

#### < SYMPTOM DIAGNOSIS >

# SELECTIVE UNLOCK FUNCTION DOES NOT OPERATE Α **Diagnosis Procedure** INFOID:0000000009133139 1. CHECK "DOOR LOCK-UNLOCK SET" SETTING IN "WORK SUPPORT" В Select "DOOR LOCK" of "BCM" using CONSULT. Select "DOOR LOCK-UNLOCK SET" in "WORK SUPPORT" mode. Check "DOOR LOCK-UNLOCK SET" setting in "WORK SUPPORT". Refer to BCS-14, "DOOR LOCK: CONSULT Function (BCM - DOOR LOCK)". Is the inspection result normal? YES >> GO TO 2. D NO >> Set "On" in "DOOR LOCK-UNLOCK SET". 2.REPLACE BCM Е • Replace BCM. Refer to BCS-79, "Removal and Installation". · Confirm the operation after replacement. Is the result normal? F YES >> Inspection End. >> Check intermittent incident. Refer to GI-53, "Intermittent Incident". NO Н

DLK

J

M

Ν

0

### **AUTO DOOR LOCK OPERATION DOES NOT OPERATE**

#### < SYMPTOM DIAGNOSIS >

# AUTO DOOR LOCK OPERATION DOES NOT OPERATE

# Diagnosis Procedure

INFOID:0000000009133140

# 1. CHECK "AUTO LOCK SET" SETTING IN "WORK SUPPORT"

- 1. Select "INTELLIGENT KEY" of "BCM" using CONSULT.
- 2. Select "AUTO LOCK SET" in "WORK SUPPORT" mode.
- Check "AUTO LOCK SET" setting in "WORK SUPPORT".
   Refer to <u>BCS-20, "INTELLIGENT KEY: CONSULT Function (BCM INTELLIGENT KEY)"</u>.

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Set "MODE 2", "MODE 3", "MODE 4", "MODE 5", "MODE 6" or "MODE 7" in "AUTO LOCK SET".

# 2.REPLACE BCM

- · Replace BCM. Refer to BCS-79, "Removal and Installation".
- · Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

#### VEHICLE SPEED SENSING AUTO LOCK OPERATION DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

# VEHICLE SPEED SENSING AUTO LOCK OPERATION DOES NOT OPER-**ATE** Diagnosis Procedure INFOID:0000000009133141 $1.\mathsf{check}$ "automatic lock/unlock select" setting in "work support"

- Select "DOOR LOCK" of "BCM" using CONSULT.
- Select "AUTOMATIC LOCK/UNLOCK SELECT" in "WORK SUPPORT" mode.
- Check "AUTOMATIC LOCK/UNLOCK SELECT" setting in "WORK SUPPORT". Refer to BCS-14, "DOOR LOCK: CONSULT Function (BCM - DOOR LOCK)".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Set "Lock Only" or "Lock/Unlock" in "WORK SUPPORT".

# 2.check "automatic door lock select" setting in "work support"

- Select "DOOR LOCK" of "BCM" using CONSULT.
- Select "AUTOMATIC DOOR LOCK SELECT" in "WORK SUPPORT" mode.
- Check "AUTOMATIC DOOR LOCK SELECT" setting in "WORK SUPPORT". Refer to BCS-14, "DOOR LOCK: CONSULT Function (BCM - DOOR LOCK)".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Set "VH SPD" in "AUTOMATIC DOOR LOCK SELECT".

# 3.REPLACE BCM

- Replace BCM. Refer to <u>BCS-79</u>, "Removal and Installation".
- Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

DLK

J

Α

В

D

Е

F

Н

Ν

0

Р

**DLK-237 Revision: August 2013** 2014 QX60

### IGN OFF INTERLOCK DOOR UNLOCK FUNCTION DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

# IGN OFF INTERLOCK DOOR UNLOCK FUNCTION DOES NOT OPERATE

# Diagnosis Procedure

INFOID:0000000009133142

# ${f 1}.$ check "automatic lock/unlock select" setting in "work support"

- Select "DOOR LOCK" of "BCM" using CONSULT.
- 2. Select "AUTOMATIC LOCK/UNLOCK SELECT" in "WORK SUPPORT" mode.
- 3. Check "AUTOMATIC LOCK/UNLOCK SELECT" setting in "WORK SUPPORT". Refer to BCS-14, "DOOR LOCK: CONSULT Function (BCM DOOR LOCK)".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Set "Unlock Only" or "Lock/Unlock" in "AUTOMATIC LOCK/UNLOCK SELECT".

# $2.\mathsf{CHECK}$ "AUTOMATIC DOOR UNLOCK SELECT" SETTING IN "WORK SUPPORT"

- 1. Select "DOOR LOCK" of "BCM" using CONSULT.
- 2. Select "AUTOMATIC DOOR UNLOCK SELECT" in "WORK SUPPORT" mode.
- Check "AUTOMATIC DOOR UNLOCK SELECT" setting in "WORK SUPPORT". Refer to <u>BCS-14</u>, "DOOR LOCK: CONSULT Function (BCM - DOOR LOCK)".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Set "MODE 1" or "MODE 3" in "AUTOMATIC DOOR UNLOCK SELECT".

# 3. REPLACE BCM

- Replace BCM. Refer to BCS-79, "Removal and Installation".
- · Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

# P RANGE INTERLOCK DOOR LOCK/UNLOCK FUNCTION DOES NOT OPER-ATE

#### < SYMPTOM DIAGNOSIS >

# P RANGE INTERLOCK DOOR LOCK/UNLOCK FUNCTION DOES NOT OP-Α **ERATE** Diagnosis Procedure INFOID:0000000009133143 В $1.\mathsf{check}$ "automatic lock/unlock select" setting in "work support" Select "DOOR LOCK" of "BCM" using CONSULT. Select "AUTOMATIC LOCK/UNLOCK SELECT" in "WORK SUPPORT" mode. Check "AUTOMATIC LOCK/UNLOCK SELECT" setting in "WORK SUPPORT". Refer to BCS-14, "DOOR LOCK: CONSULT Function (BCM - DOOR LOCK)". D Is the inspection result normal? YES >> GO TO 2. NO >> Set "Unlock Only", "Lock Only" or "Lock/Unlock" in "AUTOMATIC LOCK/UNLOCK SELECT". Е 2.check "automatic door lock select" setting in "work support" Select "DOOR LOCK" of "BCM" using CONSULT. Select "AUTOMATIC DOOR LOCK SELECT" in "WORK SUPPORT" mode. Check "AUTOMATIC DOOR LOCK SELECT" setting in "WORK SUPPORT". Refer to BCS-14, "DOOR LOCK: CONSULT Function (BCM - DOOR LOCK)". Is the inspection result normal? YES >> GO TO 3. NO >> Set "P RANGE" in "AUTOMATIC DOOR LOCK SELECT". 3.check "automatic door unlock select" setting in "work support" Н Select "DOOR LOCK" of "BCM" using CONSULT. Select "AUTOMATIC DOOR UNLOCK SELECT" in "WORK SUPPORT" mode. Check "AUTOMATIC DOOR UNLOCK SELECT" setting in "WORK SUPPORT". Refer to BCS-14, "DOOR LOCK: CONSULT Function (BCM - DOOR LOCK)". Is the inspection result normal? YES >> GO TO 4. >> Set "MODE 2" or "MODE 4" in "AUTOMATIC DOOR UNLOCK SELECT". NO 4.REPLACE BCM DLK Replace BCM. Refer to BCS-79, "Removal and Installation". Confirm the operation after replacement. Is the result normal? YES >> Inspection End. NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident". Ν Р

#### HAZARD AND HORN REMINDER DOES NOT OPERATE

#### < SYMPTOM DIAGNOSIS >

# HAZARD AND HORN REMINDER DOES NOT OPERATE

# Diagnosis Procedure

INFOID:0000000009133144

# 1. CHECK "HAZARD ANSWER BACK" SETTING IN "WORK SUPPORT"

- 1. Select "INTELLIGENT KEY" of "BCM" using CONSULT.
- Select "HAZARD ANSWER BACK" in "WORK SUPPORT" mode.
- 3. Check the "HAZARD ANSWER BACK" setting in "WORK SUPPORT".

  Refer to <a href="mailto:BCS-20">BCS-20</a>, "INTELLIGENT KEY: CONSULT Function (BCM INTELLIGENT KEY)".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Set the "Lock Only", "Unlock Only" or "Lock/Unlock" in "HAZARD ANSWER BACK".

# $2.\mathsf{CHECK}$ "HORN WITH KEYLESS LOCK" SETTING IN "WORK SUPPORT"

- 1. Select "INTELLIGENT KEY" of "BCM" using CONSULT.
- 2. Select "HORN WITH KEYLESS LOCK" in "WORK SUPPORT" mode.
- Check the "HORN WITH KEYLESS LOCK" in "WORK SUPPORT".
   Refer to <u>BCS-20</u>, "INTELLIGENT KEY: CONSULT Function (BCM INTELLIGENT KEY)".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Set the "On" in "HORN WITH KEYLESS LOCK".

# 3.CHECK HAZARD FUNCTION

#### Check hazard function.

Refer to DLK-200, "Component Function Check".

### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

# CHECK HORN FUNCTION

#### Check horn function.

Refer to SEC-141, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace the malfunctioning parts.

### 5.REPLACE BCM

- Replace BCM. Refer to BCS-79, "Removal and Installation".
- · Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

# HAZARD AND BUZZER REMINDER DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

HAZARD AND BUZZER REMINDER DOES NOT OPERATE	
Diagnosis Procedure	INFOID:0000000009133145
1. CHECK "HAZARD ANSWER BACK" SETTING IN "WORK SUPPORT"	
<ol> <li>Select "INTELLIGENT KEY" of "BCM" using CONSULT.</li> <li>Select "HAZARD ANSWER BACK" in "WORK SUPPORT" mode.</li> <li>Check the "HAZARD ANSWER BACK" setting in "WORK SUPPORT". Refer to BCS-20, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)"</li> </ol>	
$\begin{tabular}{ll} \hline $\tt Is the inspection result normal? \\ \hline $\tt YES >> GO\ TO\ 2. \\ \hline $\tt NO >> Set\ the\ "Lock\ Only",\ "Unlock\ Only"\ or\ "Lock/Unlock"\ in\ "HAZARD\ ANSWER\ BACK" \\ \hline $\tt 2.CHECK\ "ANS\ BACK\ I-KEY\ LOCK"\ SETTING\ IN\ "WORK\ SUPPORT" \\ \hline \end{tabular}$	
<ol> <li>Select "INTELLIGENT KEY" of "BCM" using CONSULT.</li> <li>Select "ANS BACK I-KEY LOCK" in "WORK SUPPORT" mode.</li> <li>Check the "ANS BACK I-KEY LOCK" setting in "WORK SUPPORT".         Refer to BCS-20, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)"     </li> <li>Is the inspection result normal?         YES &gt;&gt; GO TO 3.</li> </ol>	
NO >> Set the "Horn Chirp" or "Buzzer" in "ANS BACK I-KEY LOCK".  3. CHECK "ANS BACK I-KEY UNLOCK" SETTING IN "WORK SUPPORT"	
<ol> <li>Select "INTELLIGENT KEY" of "BCM" using CONSULT.</li> <li>Select "ANS BACK I-KEY UNLOCK" in "WORK SUPPORT" mode.</li> <li>Check the "ANS BACK I-KEY UNLOCK" setting in "WORK SUPPORT".         Refer to BCS-20, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)"     </li> </ol>	-
YES >> GO TO 4. NO >> Set the "On" in "ANS BACK I-KEY UNLOCK". 4. CHECK HAZARD FUNCTION	
Check hazard function.  Refer to DLK-200, "Component Function Check".  Is the inspection result normal?  YES >> GO TO 5.	
NO >> Repair or replace the malfunctioning parts.  5. CHECK INTELLIGENT KEY WARNING BUZZER	
Check Intelligent Key warning buzzer.  Refer to <u>DLK-195, "Component Function Check"</u> .	
Is the inspection result normal?  YES >> GO TO 6.  NO >> Repair or replace the malfunctioning parts.	
• Replace BCM. Refer to BCS-79, "Removal and Installation". • Confirm the energian after replacement.	
<ul> <li>Confirm the operation after replacement.</li> <li>Is the result normal?</li> <li>YES &gt;&gt; Inspection End.</li> </ul>	
NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".	

### **KEY REMINDER FUNCTION DOES NOT OPERATE**

#### < SYMPTOM DIAGNOSIS >

# KEY REMINDER FUNCTION DOES NOT OPERATE

# Diagnosis Procedure

INFOID:0000000009133146

# 1. CHECK "ANTI KEY LOCK IN FUNCTI" SETTING IN "WORK SUPPORT"

- 1. Select "INTELLIGENT KEY" of "BCM" using CONSULT.
- Select "ANTI KEY LOCK IN FUNCTI" in "WORK SUPPORT" mode.
- Check "ANTI KEY LOCK IN FUNCTI" setting in "WORK SUPPORT".
   Refer to <u>BCS-20</u>, "INTELLIGENT KEY: CONSULT Function (BCM INTELLIGENT KEY)".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Set "On" in "ANTI KEY LOCK IN FUNCTI".

# 2. CHECK INSIDE KEY ANTENNA

#### Check inside key antenna.

- Instrument center: Refer to DLK-149, "DTC Logic".
- Console: Refer to DLK-151, "DTC Logic".
- Luggage room: Refer to <u>DLK-153, "DTC Logic"</u>.

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

# 3.CHECK UNLOCK SENSOR

#### Check unlock sensor.

Refer to DLK-183, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

# 4.REPLACE BCM

- Replace BCM. Refer to BCS-79, "Removal and Installation".
- · Confirm the operation after replacement.

# Is the result normal?

YES >> Inspection End.

#### WELCOME LIGHT FUNCTION DOES NOT OPERATE

#### < SYMPTOM DIAGNOSIS >

Is the result normal?

#### WELCOME LIGHT FUNCTION DOES NOT OPERATE Α Diagnosis Procedure INFOID:0000000009133147 ${f 1}$ .CHECK "WELCOME LIGHT OP SET" SETTING IN "WORK SUPPORT" В Select "INTELLIGENT KEY" of "BCM" using CONSULT. Select "WELCOME LIGHT OP SET" in "WORK SUPPORT" mode. Check "WELCOME LIGHT OP SET" setting in "WORK SUPPORT". Refer to BCS-20, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)". Is the inspection result normal? YES >> GO TO 2. D NO >> Set "On" and "WELCOME LIGHT SELECT" in "WORK SUPPORT". $oldsymbol{2}.$ CHECK "WELCOME LIGHT SELECT" SETTING IN "WORK SUPPORT" Select "INTELLIGENT KEY" of "BCM" using CONSULT. Select "WELCOME LIGHT SELECT" in "WORK SUPPORT" mode. Check "WELCOME LIGHT SELECT" setting in "WORK SUPPORT". Refer to BCS-20, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)". Is the inspection result normal? YES >> GO TO 3. NO >> Set "WELCOME LIGHT SELECT" setting in "WORK SUPPORT". 3. CHECK INSIDE KEY ANTENNA Check inside key antenna. Н Instrument center: Refer to DLK-149, "DTC Logic". • Console: Refer to DLK-151, "DTC Logic". Luggage room: Refer to <u>DLK-153</u>, "<u>DTC Logic</u>". Is the inspection result normal? YES >> GO TO 4. NO >> Repair or replace the malfunctioning parts. 4.CHECK OUTSIDE KEY ANTENNA Check outside key antenna. Driver side: Refer to <u>DLK-166</u>, "Component Function Check". DLK Passenger side: Refer to DLK-164, "Component Function Check". • Back door: Refer to DLK-168, "Component Function Check". Is the inspection result normal? YES >> GO TO 5. NO >> Repair or replace the malfunctioning parts. ${f 5.}$ CHECK REMOTE KEYLESS ENTRY FUNCTION M Check remote keyless entry function <u>Does door lock/unlock with Intelligent Key button?</u> N YES >> GO TO 6. >> Refer to DLK-232, "Diagnosis Procedure". NO O.CHECK INTERIOR ROOM LAMP CONTROL SYSTEM Check interior room lamp control system. Refer to INL-7, "INTERIOR ROOM LAMP CONTROL SYSTEM: System Description". Does the room lamp and puddle lamp turn ON? P YES >> GO TO 7. >> Refer to INL-59, "Symptom Table". NO / .REPLACE BCM Replace BCM. Refer to BCS-79, "Removal and Installation". Confirm the operation after replacement.

Revision: August 2013 DLK-243 2014 QX60

# WELCOME LIGHT FUNCTION DOES NOT OPERATE

### < SYMPTOM DIAGNOSIS >

YES >> Inspection End.

# **OFF POSITION WARNING DOES NOT OPERATE**

# < SYMPTOM DIAGNOSIS >

Diagnosis Procedure	INFOID:000000009133148
1.CHECK DTC WITH BCM	
Check that DTC is not detected with BCM.	
Is the inspection result normal?	
YES >> GO TO 2.	
NO >> Perform trouble diagnosis relevant to DTC indicated.  2.CHECK DTC WITH COMBINATION METER	
Check that DTC is not detected with combination meter.	
Is the inspection result normal?	
YES >> GO TO 3.	
NO >> Perform trouble diagnosis relevant to DTC indicated.	
3.CHECK DOOR SWITCH	
Check front door switch (driver side).  Refer to DLK-170, "Component Function Check".	
Is the inspection result normal?	
YES >> GO TO 4.	
NO >> Repair or replace the malfunctioning parts.	
4.CHECK COMBINATION METER BUZZER	
Check combination meter buzzer.  Refer to <a href="DLK-198">DLK-198</a> , "Component Function Check".	
Is the inspection result normal?	
YES >> GO TO 5.	
NO >> Repair or replace the malfunctioning parts.	
5. CHECK INTELLIGENT KEY WARNING BUZZER	
Check Intelligent Key warning buzzer.  Refer to DLK-195, "Component Function Check".	
Is the inspection result normal?	
YES >> GO TO 6.	_
NO >> Repair or replace the malfunctioning parts.  6.REPLACE BCM	
<ul> <li>Replace BCM. Refer to <u>BCS-79</u>, "<u>Removal and Installation</u>".</li> <li>Confirm the operation after replacement.</li> </ul>	
Is the result normal?	
YES >> Inspection End.	
NO >> Check intermittent incident. Refer to <u>GI-53, "Intermittent Incident"</u> .	

#### **ACC WARNING DOES NOT OPERATE**

#### < SYMPTOM DIAGNOSIS >

# ACC WARNING DOES NOT OPERATE

Description INFOID:000000009133145

ACC warning function does not operate for vehicle with information display models **NOTE:** 

Warning functions operating condition is extremely complicated. During operating confirmations, reconfirm the list above twice in order to ensure proper operation. Refer to <u>DLK-34, "WARNING FUNCTION: System Description"</u>.

# Diagnosis Procedure

INFOID:0000000009133150

# 1. CHECK DTC WITH BCM

Check that DTC is not detected with BCM.

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Perform trouble diagnosis relevant to DTC indicated.

# 2.CHECK DTC WITH COMBINATION METER.

Check that DTC is not detected with combination meter.

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Perform trouble diagnosis relevant to DTC indicated.

# 3. CHECK COMBINATION METER BUZZER

Check combination meter buzzer.

Refer to <u>DLK-198</u>, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

# 4.REPLACE BCM

- Replace BCM. Refer to BCS-79, "Removal and Installation".
- Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

#### TAKE AWAY WARNING DOES NOT OPERATE

#### < SYMPTOM DIAGNOSIS >

#### TAKE AWAY WARNING DOES NOT OPERATE Α Description INFOID:0000000009133151 Take away warning function does not operate for vehicle with information display models. В NOTE: Warning functions operating condition is extremely complicated. During operating confirmations, reconfirm the list above twice in order to ensure proper operation. Refer to DLK-34, "WARNING FUNCTION: System Description". Diagnosis Procedure INFOID:0000000009133152 D 1. CHECK DTC WITH BCM Check that DTC is not detected with BCM. Is the inspection result normal? Е YES >> GO TO 2. NO >> Perform trouble diagnosis relevant to DTC indicated. 2.CHECK DTC WITH COMBINATION METER Check that DTC is not detected with combination meter. Is the inspection result normal? YES >> GO TO 3. NO >> Perform trouble diagnosis relevant to DTC indicated. ${f 3.}$ CHECK INSIDE KEY ANTENNA Н Check inside key antenna. Instrument center: Refer to DLK-149, "DTC Logic". · Console: Refer to DLK-151, "DTC Logic". Luggage room: Refer to DLK-153, "DTC Logic". Is the inspection result normal? YES >> GO TO 4. NO >> Repair or replace the malfunctioning parts. CHECK DOOR SWITCH DLK Check front door switch (driver side). Refer to DLK-170, "Component Function Check". Is the inspection result normal? YES >> GO TO 5. NO >> Repair or replace the malfunctioning parts. $oldsymbol{5}$ . CHECK COMBINATION METER BUZZER Check combination meter buzzer. Refer to DLK-198, "Component Function Check". Is the inspection result normal? N YES >> GO TO 6. NO >> Repair or replace the malfunctioning parts. O.CHECK INTELLIGENT KEY WARNING BUZZER Check Intelligent Key warning buzzer. Refer to DLK-195, "Component Function Check". Р Is the inspection result normal? YES >> GO TO 7. NO >> Repair or replace the malfunctioning parts. / .REPLACE BCM Replace BCM. Refer to BCS-79, "Removal and Installation".

**DLK-247 Revision: August 2013** 2014 QX60

<sup>·</sup> Confirm the operation after replacement.

# TAKE AWAY WARNING DOES NOT OPERATE

### < SYMPTOM DIAGNOSIS >

# Is the result normal?

YES >> Inspection End.

# **KEY ID WARNING DOES NOT OPERATE**

# < SYMPTOM DIAGNOSIS >

KEY ID WARNING DOES NOT OPERATE	۸
Description INFOID:0000000009133153	А
Key ID warning function does not operate for vehicle with information display models.	В
<b>NOTE:</b> Warning functions operating condition is extremely complicated. During operating confirmations, reconfirm the list above twice in order to ensure proper operation. Refer to <a href="DLK-34">DLK-34</a> , "WARNING FUNCTION: System <a href="Description">Description</a> ".	С
Diagnosis Procedure	
1. CHECK DTC WITH BCM	D
Check that DTC is not detected with BCM.	
Is the inspection result normal?	Е
YES >> GO TO 2.	
NO >> Perform trouble diagnosis relevant to DTC indicated.	F
2.CHECK DTC WITH COMBINATION METER	Г
Check that DTC is not detected with combination meter.	
Is the inspection result normal? YES >> GO TO 3.	G
NO >> Perform trouble diagnosis relevant to DTC indicated.	
3. CHECK INTELLIGENT KEY	Н
Check Intelligent Key. Refer to DLK-197, "Component Function Check".	
Is the inspection result normal?	I
YES >> GO TO 4.	
NO >> Repair or replace the malfunctioning parts.	
4.CHECK INSIDE KEY ANTENNA	J
Check inside key antenna.	
<ul> <li>Instrument center: Refer to <u>DLK-149</u>, "<u>DTC Logic</u>".</li> <li>Console: Refer to <u>DLK-151</u>, "<u>DTC Logic</u>".</li> </ul>	DLK
Luggage room: Refer to <u>DLK-153, "DTC Logic"</u> .  Is the inspection result normal?	
Is the inspection result normal?  YES >> GO TO 5.	L
NO >> Repair or replace the malfunctioning parts.	
5.REPLACE BCM	M
Replace BCM. Refer to BCS-79, "Removal and Installation".  Oralling the constitution of the constitut	
<ul> <li>Confirm the operation after replacement.</li> <li>Is the result normal?</li> </ul>	N.I.
YES >> Inspection End.	N
NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".	
	0
	Р

#### INTELLIGENT KEY LOW BATTERY WARNING DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

# INTELLIGENT KEY LOW BATTERY WARNING DOES NOT OPERATE

Description INFOID:0000000009133155

Intelligent Key low battery warning does not operate for vehicle with information display models.

#### NOTE:

Warning functions operating condition is extremely complicated. During operating confirmations, reconfirm the list above twice in order to ensure proper operation. Refer to DLK-34, "WARNING FUNCTION: System Description".

# Diagnosis Procedure

INFOID:0000000009133156

# CHECK DTC WITH BCM

Check that DTC is not detected with BCM.

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Perform trouble diagnosis relevant to DTC indicated.

# 2 . CHECK DTC WITH COMBINATION METER

Check that DTC is not detected with combination meter.

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Perform trouble diagnosis relevant to DTC indicated.

# 3.CHECK "LO- BATT OF KEY FOB WARN" SETTING IN "WORK SUPPORT"

- Select "INTELLIGENT KEY" of "BCM".
- Select "LO- BATT OF KEY FOB WARN" in "WORK SUPPORT" mode.
- Check "LO- BATT OF KEY FOB WARN" setting in "WORK SUPPORT". Refer to BCS-20, "INTELLIGENT KEY: CONSULT Function (BCM - INTELLIGENT KEY)".

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Set "ON" in "LO- BATT OF KEY FOB WARN".

# CHECK INTELLIGENT KEY

#### Check Intelligent Key.

Refer to DLK-197, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace the malfunctioning parts.

### $oldsymbol{5}$ . CHECK INSIDE KEY ANTENNA

#### Check inside key antenna.

- Instrument center: Refer to DLK-149, "DTC Logic".
- Console: Refer to <u>DLK-151</u>, "<u>DTC Logic</u>".
  Luggage room: Refer to <u>DLK-153</u>, "<u>DTC Logic</u>".

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace the malfunctioning parts.

#### O.REPLACE BCM

- Replace BCM. Refer to BCS-79, "Removal and Installation".
- Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

**DLK-250 Revision: August 2013** 2014 QX60

### DOOR LOCK OPERATION WARNING DOES NOT OPERATE

### < SYMPTOM DIAGNOSIS >

### DOOR LOCK OPERATION WARNING DOES NOT OPERATE Α Diagnosis Procedure INFOID:0000000009133157 1. CHECK DOOR LOCK FUNCTION В Check door lock function. Does door lock/unlock using door request switch? C YES >> GO TO 2. >> Refer to DLK-229, "ALL DOOR REQUEST SWITCHES: Diagnosis Procedure". NO 2.CHECK INTELLIGENT KEY WARNING BUZZER D Check Intelligent Key warning buzzer. Refer to DLK-195, "Component Function Check". Is the inspection result normal? Е YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts. 3.REPLACE BCM F • Replace BCM. Refer to BCS-79, "Removal and Installation". · Confirm the operation after replacement. Is the result normal? YES >> Inspection End. NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident". Н J

DLK

M

Ν

0

### **AUTOMATIC BACK DOOR OPERATION DOES NOT OPERATE**

< SYMPTOM DIAGNOSIS >

# AUTOMATIC BACK DOOR OPERATION DOES NOT OPERATE ALL SWITCHES

ALL SWITCHES: Description

INFOID:0000000009133158

Automatic back door open/close function does not operate using all switches.

#### NOTE:

Automatic back door open/close operation condition is extremely complicated. During operating confirmations, reconfirm the list above twice in order to ensure proper operation. Refer to <u>DLK-38</u>, "System <u>Description"</u>.

# ALL SWITCHES: Diagnosis Procedure

INFOID:0000000009133159

# 1. CHECK DTC WITH AUTOMATIC BACK DOOR CONTROL MODULE

Check that DTC is not detected with automatic back door control module.

# Is the inspection result normal?

YES >> GO TO 2.

NO >> Perform trouble diagnosis relevant to DTC indicated.

# 2.CHECK BACK DOOR AUTO CLOSURE FUNCTION

Check back door auto closure function.

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Refer to <u>DLK-255</u>, "OPEN/CLOSURE FUNCTION: Diagnosis Procedure".

# 3.CHECK POWER SUPPLY AND GROUND CIRCUIT

Check automatic back door control module power supply and ground circuit.

Refer to <u>DLK-117</u>, "<u>Diagnosis Procedure</u>".

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

### CHECK GROUND CIRCUIT

Check automatic back door control module ground circuit.

Refer to DLK-144, "Diagnosis Procedure".

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace the malfunctioning parts.

# 5.CHECK TOUCH SENSOR LH

Check touch sensor LH.

Refer to DLK-126, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace the malfunctioning parts.

#### 6.CHECK TOUCH SENSOR RH

Check touch sensor RH.

Refer to DLK-123, "Component Inspection".

#### Is the inspection result normal?

YES >> GO TO 7.

NO >> Repair or replace the malfunctioning parts.

# 7.REPLACE AUTOMATIC BACK DOOR CONTROL MODULE

- Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.
- 2. Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

< SYMPTOM DIAGNOSIS >	
NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".  AUTOMATIC BACK DOOR SWITCH	Α
AUTOMATIC BACK DOOR SWITCH : Description INFOID:00000009133160	
Automatic back door open/close function does not operate using automatic back door switch.  NOTE:	В
Automatic back door open/close operation condition is extremely complicated. During operating confirmations, reconfirm the list above twice in order to ensure proper operation. Refer to <a href="https://documents.com/DLK-38">DLK-38</a> , "System Description".	С
AUTOMATIC BACK DOOR SWITCH : Diagnosis Procedure	
1. CHECK AUTOMATIC BACK DOOR SWITCH	D
Check automatic back door switch. Refer to DLK-205, "Component Function Check".  Is the inspection result normal?  YES >> GO TO 2.	Е
NO >> Repair or replace the malfunctioning parts.	F
2.REPLACE AUTOMATIC BACK DOOR CONTROL MODULE	
<ol> <li>Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installation"</u>.</li> <li>Confirm the operation after replacement.</li> <li>Is the result normal?</li> </ol>	G
YES >> Inspection End. NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident". AUTOMATIC BACK DOOR CLOSE SWITCH	Н
AUTOMATIC BACK DOOR CLOSE SWITCH: Description (INFOID:000000009133162)	
Automatic back door open/close function does not operate using automatic back door close switch. <b>NOTE:</b> Automatic back door open/close operation condition is extremely complicated. During operating confirmations, reconfirm the list above twice in order to ensure proper operation. Refer to <a href="DLK-38">DLK-38</a> . "System Description".	J
ALITOMATIC DACK DOOD OLOOF OMITOLL. Dia manaia Danasa duna	DLK
1.CONFIRM THE OPERATION	
<ol> <li>Turn ON automatic back door main switch.</li> <li>Confirm the operation.</li> </ol>	L
Is the result normal?	
YES >> Automatic back door system is normal. NO >> GO TO 2.	M
2. CHECK AUTOMATIC BACK DOOR CLOSE SWITCH	N.I.
Check automatic back door close switch.  Refer to DLK-201, "Component Function Check".	Ν
Is the inspection result normal?	0
YES >> GO TO 3.  NO >> Repair or replace the malfunctioning parts.	0
3.CHECK AUTOMATIC BACK DOOR MAIN SWITCH	Р
Check automatic back door main switch. Refer to DLK-203, "Component Function Check".	1
Is the inspection result normal?	
YES >> GO TO 4.  NO >> Repair or replace the malfunctioning parts.	
4.REPLACE AUTOMATIC BACK DOOR CONTROL MODULE	

Revision: August 2013 DLK-253 2014 QX60

#### < SYMPTOM DIAGNOSIS >

- 1. Replace automatic back door control module. Refer to DLK-315, "Removal and Installation".
- Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

#### INTELLIGENT KEY

# INTELLIGENT KEY: Description

INFOID:0000000009133164

Automatic back door open/close function does not operate using Intelligent Key.

#### NOTE:

Automatic back door open/close operation condition is extremely complicated. During operating confirmations, reconfirm the list above twice in order to ensure proper operation. Refer to <u>DLK-38</u>. "System <u>Description"</u>.

# INTELLIGENT KEY: Diagnosis Procedure

INFOID:0000000009133165

# ${f 1}.$ CHECK DTC WITH AUTOMATIC BACK DOOR CONTROL MODULE

Check that DTC is not detected with automatic back door control module.

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Perform trouble diagnosis relevant to DTC indicated.

# 2.check dtc with <code>BCM</code>

Check that DTC is not detected with BCM

### Is the inspection result normal?

YES >> GO TO 3.

NO >> Perform trouble diagnosis relevant to DTC indicated.

# 3.CHECK REMOTE KEYLESS ENTRY FUNCTION

Check remote keyless entry function.

#### Does door lock/unlock with Intelligent Key button?

YES >> GO TO 4.

NO >> Refer to DLK-232, "Diagnosis Procedure".

# 4. REPLACE AUTOMATIC BACK DOOR CONTROL MODULE

- 1. Replace automatic back door control module. Refer to DLK-315, "Removal and Installation".
- Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

### BACK DOOR OPENER SWITCH

# **BACK DOOR OPENER SWITCH: Description**

INFOID:0000000009133166

Automatic back door open/close function does not operate using back door opener switch. **NOTE:** 

Automatic back door open/close operation condition is extremely complicated. During operating confirmations, reconfirm the list above twice in order to ensure proper operation. Refer to <a href="DLK-38">DLK-38</a>. "System Description".

# BACK DOOR OPENER SWITCH: Diagnosis Procedure

INFOID:0000000009133167

# 1. CONFIRM THE OPERATION

- 1. Turn ON automatic back door main switch.
- 2. Confirm the operation.

# Is the result normal?

YES >> Automatic back door system is normal.

NO >> GO TO 2.

# < SYMPTOM DIAGNOSIS >

STIMPTOM DIAGNOSIS >	
2.CHECK AUTOMATIC BACK DOOR MAIN SWITCH	
Check automatic back door main switch. Refer to DLK-203, "Component Function Check".	
s the inspection result normal?	
YES >> GO TO 3.	
NO >> Repair or replace the malfunctioning parts.	
CHECK BACK DOOR OPENER SWITCH	
Check back door opener switch. Refer to DLK-193, "Component Function Check".	
s the inspection result normal?	
YES >> GO TO 4.	
NO >> Repair or replace the malfunctioning parts.	
REPLACE AUTOMATIC BACK DOOR CONTROL MODULE	
. Replace automatic back door control module. Refer to DLK-315, "Removal and Installation"	
Confirm the operation after replacement.	
s the result normal? YES >> Inspection End.	
NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".	
PEN/CLOSURE FUNCTION	
PEN/CLOSURE FUNCTION : Description	INFOID:0000000009133168
· · · · · · · · · · · · · · · · · · ·	
ack door auto closure function does not operate when back door opening and closing opera ormed.	itions are per-
PEN/CLOSURE FUNCTION : Diagnosis Procedure	INFOID:0000000009133169
.CONFIRM THE OPERATION	
. Turn ON automatic back door main switch.	
. Confirm the operation.	
s the result normal?	
YES >> Automatic back door system is normal.  NO >> GO TO 2.	
CHECK DTC WITH AUTOMATIC BACK DOOR CONTROL MODULE	
heck that DTC is not detected with automatic back door control module.	
s the inspection result normal?	
YES >> GO TO 3.	
NO >> Perform trouble diagnosis relevant to DTC indicated.	
.CHECK AUTOMATIC BACK DOOR MAIN SWITCH	
Check automatic back door main switch.	
Refer to DLK-203, "Component Function Check".	
s the inspection result normal? YES >> GO TO 4.	
NO >> Repair or replace the malfunctioning parts.	
1.CHECK BACK DOOR OPENER SWITCH	
Check back door opener switch.	
Refer to <u>DLK-193, "Component_Function_Check"</u> . <u>s the inspection result normal?</u> YES >> GO TO 5.	

Revision: August 2013 DLK-255 2014 QX60

>> Repair or replace the malfunctioning parts.

NO

### < SYMPTOM DIAGNOSIS >

# 5. CHECK BACK DOOR CLOSURE MOTOR

Check back door closure motor.

Refer to DLK-216, "Diagnosis Procedure".

### Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace the malfunctioning parts.

# 6.REPLACE AUTOMATIC BACK DOOR CONTROL MODULE

- 1. Replace automatic back door control module. Refer to <a href="DLK-315">DLK-315</a>, "Removal and Installation".
- 2. Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

### OPEN FUNCTION

# **OPEN FUNCTION: Description**

Back door auto closure function does not operate when back door opening operations are performed.

INFOID:0000000009133170

INFOID:0000000009133171

INFOID:0000000009133172

# **OPEN FUNCTION**: Diagnosis Procedure

# 1.CONFIRM THE OPERATION

- 1. Turn ON automatic back door main switch.
- 2. Confirm the operation.

### Is the result normal?

YES >> Automatic back door system is normal.

NO >> GO TO 2.

# 2. CHECK AUTOMATIC BACK DOOR MAIN SWITCH

Check automatic back door main switch.

Refer to DLK-203, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

# 3.CHECK BACK DOOR OPENER SWITCH

Check back door opener switch.

Refer to DLK-193, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

# 4.REPLACE AUTOMATIC BACK DOOR CONTROL MODULE

- 1. Replace automatic back door control module. Refer to <a href="DLK-315">DLK-315</a>, "Removal and Installation".
- 2. Confirm the operation after replacement.

# Is the result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

### CLOSURE FUNCTION

# **CLOSURE FUNCTION: Description**

Back door auto closure function does not operate when back door closing operations are performed.

Revision: August 2013 DLK-256 2014 QX60

CLOSURE FUNCTION : Diagnosis Procedure	INFOID:0000000009133173
1.CHECK HALF LATCH SWITCH	
Check half latch switch.	
Refer to DLK-207, "Component Function Check".  Is the inspection result normal?	
YES >> GO TO 2.	
NO >> Repair or replace the malfunctioning parts.  2. CHECK BACK DOOR CLOSURE MOTOR	
Check back door closure motor.	
Refer to <u>DLK-216, "Diagnosis Procedure"</u> .	
s the inspection result normal?	
YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts.	
3. REPLACE AUTOMATIC BACK DOOR CONTROL MODULE	
1. Replace automatic back door control module. Refer to <u>DLK-315, "Removal and Installated Confirm the approximation of the replacement."</u>	tion".
2. Confirm the operation after replacement. s the result normal?	
YES >> Inspection End.	
NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".	

# **AUTOMATIC BACK DOOR WARNING DOES NOT OPERATE**

### < SYMPTOM DIAGNOSIS >

# AUTOMATIC BACK DOOR WARNING DOES NOT OPERATE BUZZER

**BUZZER**: Description

INFOID:0000000009133174

Automatic back door warning chime does not operate when automatic back door warning function are performed.

# **BUZZER**: Diagnosis Procedure

INFOID:0000000009133175

# 1. CHECK DTC WITCH AUTOMATIC BACK DOOR CONTROL MODULE

Check that DTC is not detected with automatic back door control module.

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Perform trouble diagnosis relevant to DTC indicated.

# 2.CHECK BACK DOOR WARNING CHIME

Check back door warning chime.

Refer to DLK-217, "Diagnosis Procedure".

### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

# 3.REPLACE AUTOMATIC BACK DOOR CONTROL MODULE

- 1. Replace automatic back door control module. Refer to DLK-315, "Removal and Installation".
- 2. Confirm the operation after replacement.

#### Is the result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

### HAZARD WARNING LAMP

# HAZARD WARNING LAMP: Description

INFOID:0000000009133176

Hazard warning lamp does not operate when automatic back door warning function are performed.

# HAZARD WARNING LAMP: Diagnosis Procedure

INFOID:0000000009133177

# 1. CHECK DTC WITCH AUTOMATIC BACK DOOR CONTROL MODULE

Check that DTC is not detected with automatic back door control module.

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Perform trouble diagnosis relevant to DTC indicated.

# ${f 2.}$ CHECK DTC WITCH BCM

Check that DTC is not detected with BCM.

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Perform trouble diagnosis relevant to DTC indicated.

# 3.CHECK GROUND CIRCUIT

Check automatic back door control module ground circuit.

Refer to <u>DLK-219</u>, "<u>Diagnosis Procedure</u>".

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts

# f 4.CHECK HAZARD AND HORN REMINDER FUNCTION

Revision: August 2013 DLK-258 2014 QX60

# **AUTOMATIC BACK DOOR WARNING DOES NOT OPERATE**

# < SYMPTOM DIAGNOSIS >

Check hazard and horn reminder function.

Is the inspection result normal?

YES >> GO TO 5.

NO >> Refer to DLK-240, "Diagnosis Procedure".

# 5. REPLACE AUTOMATIC BACK DOOR CONTROL MODULE

- 1. Replace automatic back door control module. Refer to DLK-315, "Removal and Installation".
- 2. Confirm the operation after replacement.

# Is the result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

F

Е

D

В

G

Н

J

DLK

L

M

Ν

0

Р

# **AUTOMATIC BACK DOOR FUNCTIONS DO NOT CANCEL**

### < SYMPTOM DIAGNOSIS >

# AUTOMATIC BACK DOOR FUNCTIONS DO NOT CANCEL

# Diagnosis Procedure

INFOID:0000000009133178

# 1. CHECK THE OPERATION

Check automatic back door main switch function.

#### NOTE:

When the main switch is OFF, the automatic back door operation is not available by back door opener switch and automatic back door close switch.

# Is the inspection result normal?

YES >> Automatic back door system is normal.

NO >> GO TO 2

# $2.\mathsf{CHECK}$ AUTOMATIC BACK DOOR MAIN SWITCH

Check automatic back door main switch.

Refer to DLK-203, "Component Function Check".

# Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

# 3. REPLACE AUTOMATIC BACK DOOR CONTROL MODULE

- Replace automatic back door control module. Refer to DLK-315, "Removal and Installation".
- Confirm the operation after replacement.

### Is the result normal?

YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

# **AUTOMATIC BACK DOOR ANTI-PINCH FUNCTION DOES NOT OPERATE**

< SYMPTOM DIAGNOSIS >

AUTOMATIC BACK DOOR ANTI-PINCH FUNCTION DOES NOT OPERATE	
Diagnosis Procedure	Α
1. CHECK POWER SUPPLY AND GROUND CIRCUIT	В
Check automatic back door control module power supply and ground circuit.  Refer to <a href="https://linear.com/DLK-117">DLK-117</a> , "Diagnosis Procedure".	
Is the inspection result normal? YES >> GO TO 2.	С
NO >> Repair or replace the malfunctioning parts.  2.CHECK TOUCH SENSOR LH	D
Check touch sensor LH. Refer to DLK-211, "LH: Component Function Check".  Is the inspection result normal?	Е
YES >> GO TO 3.  NO >> Repair or replace the malfunctioning parts.  3. CHECK TOUCH SENSOR RH	F
Check touch sensor RH. Refer to DLK-209, "RH: Component Function Check".	G
Is the inspection result normal?  YES >> GO TO 4.  NO >> Repair or replace the malfunctioning parts.	Н
<ol> <li>REPLACE AUTOMATIC BACK DOOR CONTROL MODULE</li> <li>Replace automatic back door control module. Refer to <u>DLK-315</u>, "Removal and Installation".</li> <li>Confirm the operation after replacement.</li> </ol>	I
Is the result normal?  YES >> Inspection End.  NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".	J
	DLK

Ν

0

Ρ

# INTEGRATED HOMELINK TRANSMITTER DOES NOT OPERATE

# < SYMPTOM DIAGNOSIS >

# INTEGRATED HOMELINK TRANSMITTER DOES NOT OPERATE

# Diagnosis Procedure

INFOID:0000000009133180

# 1. CHECK INTEGRATED HOMELINK® TRANSMITTER

Check integrated homelink® transmitter.

Refer to DLK-222, "Component Function Check".

# Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2.REPLACE AUTO ANTI-DAZZLING INSIDE MIRROR

Replace auto anti-dazzling inside mirror.

Refer to MIR-27, "Removal and Installation".

# Is the result normal?

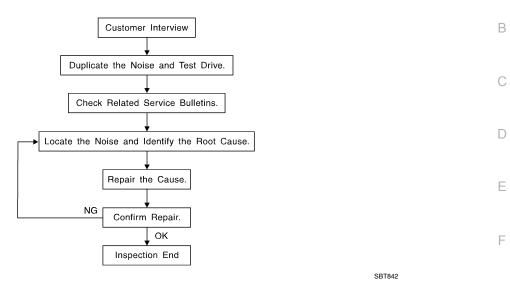
YES >> Inspection End.

NO >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

< SYMPTOM DIAGNOSIS >

# SQUEAK AND RATTLE TROUBLE DIAGNOSES

Work Flow



### **CUSTOMER INTERVIEW**

Interview the customer if possible, to determine the conditions that exist when the noise occurs. Use the Diagnostic Worksheet during the interview to document the facts and conditions when the noise occurs and any customer's comments; refer to <a href="DLK-267">DLK-267</a>, "Diagnostic Worksheet". This information is necessary to duplicate the conditions that exist when the noise occurs.

- The customer may not be able to provide a detailed description or the location of the noise. Attempt to obtain all the facts and conditions that exist when the noise occurs (or does not occur).
- If there is more than one noise in the vehicle, be sure to diagnose and repair the noise that the customer is concerned about. This can be accomplished by test driving the vehicle with the customer.
- After identifying the type of noise, isolate the noise in terms of its characteristics. The noise characteristics
  are provided so the customer, service adviser and technician are all speaking the same language when
  defining the noise.
- Squeak —(Like tennis shoes on a clean floor)

  Squeak sharesteristics include the light contest/feet me
  - Squeak characteristics include the light contact/fast movement/brought on by road conditions/hard surfaces = higher pitch noise/softer surfaces = lower pitch noises/edge to surface = chirping.
- Creak—(Like walking on an old wooden floor)
  - Creak characteristics include firm contact/slow movement/twisting with a rotational movement/pitch dependent on materials/often brought on by activity.
- Rattle—(Like shaking a baby rattle)
  - Rattle characteristics include the fast repeated contact/vibration or similar movement/loose parts/missing clip or fastener/incorrect clearance.
- Knock —(Like a knock on a door)
  - Knock characteristics include hollow sounding/sometimes repeating/often brought on by driver action.
- Tick—(Like a clock second hand)
  - Tick characteristics include gentle contacting of light materials/loose components/can be caused by driver action or road conditions.
- Thump—(Heavy, muffled knock noise)
  - Thump characteristics include softer knock/dead sound often brought on by activity.
- Buzz—(Like a bumble bee)
- Buzz characteristics include high frequency rattle/firm contact.
- Often the degree of acceptable noise level will vary depending upon the person. A noise that you may judge
  as acceptable may be very irritating to the customer.
- Weather conditions, especially humidity and temperature, may have a great effect on noise level.

#### DUPLICATE THE NOISE AND TEST DRIVE

If possible, drive the vehicle with the customer until the noise is duplicated. Note any additional information on the Diagnostic Worksheet regarding the conditions or location of the noise. This information can be used to duplicate the same conditions when you confirm the repair.

DLK

Α

M

Ν

0

Р

Р

Revision: August 2013 DLK-263 2014 QX60

### < SYMPTOM DIAGNOSIS >

If the noise can be duplicated easily during the test drive, to help identify the source of the noise, try to duplicate the noise with the vehicle stopped by doing one or all of the following:

- 1) Close a door.
- 2) Tap or push/pull around the area where the noise appears to be coming from.
- 3) Rev the engine.
- 4) Use a floor jack to recreate vehicle "twist".
- 5) At idle, apply engine load (electrical load, half-clutch on M/T model, drive position on CVT and A/T models).
- 6) Raise the vehicle on a hoist and hit a tire with a rubber hammer.
- Drive the vehicle and attempt to duplicate the conditions the customer states exist when the noise occurs.
- If it is difficult to duplicate the noise, drive the vehicle slowly on an undulating or rough road to stress the vehicle body.

### CHECK RELATED SERVICE BULLETINS

After verifying the customer concern or symptom, check ASIST for Technical Service Bulletins (TSBs) related to that concern or symptom.

If a TSB relates to the symptom, follow the procedure to repair the noise.

### LOCATE THE NOISE AND IDENTIFY THE ROOT CAUSE

- 1. Narrow down the noise to a general area. To help pinpoint the source of the noise, use a listening tool (Chassis Ear: J-39570, Engine Ear: J-39565 and mechanic's stethoscope).
- 2. Narrow down the noise to a more specific area and identify the cause of the noise by:
  - removing the components in the area that you suspect the noise is coming from.
     Do not use too much force when removing clips and fasteners, otherwise clips and fasteners can be broken or lost during the repair, resulting in the creation of new noise.
  - tapping or pushing/pulling the component that you suspect is causing the noise.
     Do not tap or push/pull the component with excessive force, otherwise the noise will be eliminated only temporarily.
  - feeling for a vibration with your hand by touching the component(s) that you suspect is (are) causing the noise.
  - placing a piece of paper between components that you suspect are causing the noise.
  - looking for loose components and contact marks.
     Refer to DLK-264, "Generic Squeak and Rattle Troubleshooting".

#### REPAIR THE CAUSE

- If the cause is a loose component, tighten the component securely.
- If the cause is insufficient clearance between components:
- separate components by repositioning or loosening and retightening the component, if possible.
- insulate components with a suitable insulator such as urethane pads, foam blocks, felt cloth tape or urethane tape. A INFINITI Squeak and Rattle Kit (J-50397) is available through your authorized INFINITI Parts Department.

### **CAUTION:**

# Do not use excessive force as many components are constructed of plastic and may be damaged. NOTE:

- Always check with the Parts Department for the latest parts information.
- The materials contained in the INFINITI Squeak and Rattle Kit (J-50397) are listed on the inside cover of the kit; and can each be ordered separately as needed.
- The following materials not found in the kit can also be used to repair squeaks and rattles.
- SILICONE GREASE: Use instead of UHMW tape that will be visible or does not fit. The silicone grease will only last a few months.
- SILICONE SPRAY: Use when grease cannot be applied.
- DUCT TAPE: Use to eliminate movement.

#### CONFIRM THE REPAIR

Confirm that the cause of a noise is repaired by test driving the vehicle. Operate the vehicle under the same conditions as when the noise originally occurred. Refer to the notes on the Diagnostic Worksheet.

# Generic Squeak and Rattle Troubleshooting

INFOID:0000000009761265

Refer to Table of Contents for specific component removal and installation information.

#### INSTRUMENT PANEL

Most incidents are caused by contact and movement between:

#### < SYMPTOM DIAGNOSIS >

- Cluster lid A and the instrument panel
- Acrylic lens and combination meter housing
- Instrument panel to front pillar finisher
- 4. Instrument panel to windshield
- Instrument panel pins
- Wiring harnesses behind the combination meter
- 7. A/C defroster duct and duct joint

These incidents can usually be located by tapping or moving the components to duplicate the noise or by pressing on the components while driving to stop the noise. Most of these incidents can be repaired by applying felt cloth tape or silicone spray (in hard to reach areas). Urethane pads can be used to insulate wiring harness.

#### **CAUTION:**

Do not use silicone spray to isolate a squeak or rattle. If you saturate the area with silicone, you will not be able to recheck the repair.

#### CENTER CONSOLE

Components to pay attention to include:

- 1. Shift selector assembly cover to finisher
- A/C control unit and cluster lid C
- Wiring harnesses behind audio and A/C control unit

The instrument panel repair and isolation procedures also apply to the center console.

#### DOORS

Pay attention to the:

- Finisher and inner panel making a slapping noise
- Inside handle escutcheon to door finisher
- Wiring harnesses tapping
- Door striker out of alignment causing a popping noise on starts and stops

Tapping or moving the components or pressing on them while driving to duplicate the conditions can isolate many of these incidents. You can usually insulate the areas with felt cloth tape or insulator foam blocks from the INFINITI Squeak and Rattle Kit (J-50397) to repair the noise.

#### TRUNK

Trunk noises are often caused by a loose jack or loose items put into the trunk by the owner. In addition look for:

- Trunk lid bumpers out of adjustment
- Trunk lid striker out of adjustment
- The trunk lid torsion bars knocking together
- A loose license plate or bracket

Most of these incidents can be repaired by adjusting, securing or insulating the item(s) or component(s) causing the noise.

#### SUNROOF/HEADLINING

Noises in the sunroof/headlining area can often be traced to one of the following:

- 1. Sunroof lid, rail, linkage or seals making a rattle or light knocking noise
- Sun visor shaft shaking in the holder
- Front or rear windshield touching headliner and squeaking

Again, pressing on the components to stop the noise while duplicating the conditions can isolate most of these incidents. Repairs usually consist of insulating with felt cloth tape.

### OVERHEAD CONSOLE (FRONT AND REAR)

Overhead console noises are often caused by the console panel clips not being engaged correctly. Most of these incidents are repaired by pushing up on the console at the clip locations until the clips engage. In addition look for:

- Front console map/reading lamp lens loose.

DLK

Α

В

D

Е

Н

N

Loose harness or harness connectors.

#### < SYMPTOM DIAGNOSIS >

Loose screws at console attachment points.

#### SEATS

When isolating seat noise it's important to note the position the seat is in and the load placed on the seat when the noise is present. These conditions should be duplicated when verifying and isolating the cause of the noise.

Cause of seat noise include:

- Headrest rods and holder
- 2. A squeak between the seat pad cushion and frame
- The rear seatback lock and bracket

These noises can be isolated by moving or pressing on the suspected components while duplicating the conditions under which the noise occurs. Most of these incidents can be repaired by repositioning the component or applying urethane tape to the contact area.

#### **UNDERHOOD**

Some interior noise may be caused by components under the hood or on the engine wall. The noise is then transmitted into the passenger compartment.

Causes of transmitted underhood noise include:

- 1. Any component installed to the engine wall
- 2. Components that pass through the engine wall
- 3. Engine wall mounts and connectors
- Loose radiator installation pins
- 5. Hood bumpers out of adjustment
- 6. Hood striker out of adjustment

These noises can be difficult to isolate since they cannot be reached from the interior of the vehicle. The best method is to secure, move or insulate one component at a time and test drive the vehicle. Also, engine rpm or load can be changed to isolate the noise. Repairs can usually be made by moving, adjusting, securing, or insulating the component causing the noise.

# < SYMPTOM DIAGNOSIS >

# **Diagnostic Worksheet**

INFOID:0000000009761266

Α

В

D

Е

F

Н

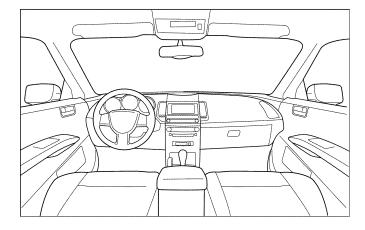
#### Dear Customer:

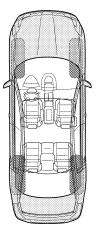
We are concerned about your satisfaction with your vehicle. Repairing a squeak or rattle sometimes can be very difficult. To help us fix your vehicle right the first time, please take a moment to note the area of the vehicle where the squeak or rattle occurs and under what conditions. You may be asked to take a test drive with a service advisor or technician to ensure we confirm the noise you are hearing.

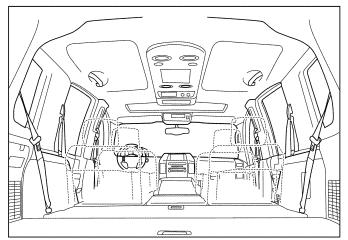
#### **SQUEAK & RATTLE DIAGNOSTIC WORKSHEET**

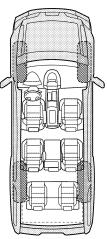
# I. WHERE DOES THE NOISE COME FROM? (circle the area of the vehicle)

The illustrations are for reference only, and may not reflect the actual configuration of your vehicle.









Continue to page 2 of the worksheet and briefly describe the location of the noise or rattle. In addition, please indicate the conditions which are present when the noise occurs.

DLK

J

L

M

Ν

0

Р

LAIA0072E

-1-

< SYMPTOM DIAGNOSIS >

Briefly describe the location where the nois	e occurs:				
II. WHEN DOES IT OCCUR? (please chee	ck the box	es that app	oly)		
☐ Anytime	☐ Aft	er sitting ou	ıt in the ra	in	
1st time in the morning	☐ When it is raining or wet				
Only when it is cold outside	Dry or dusty conditions				
Only when it is hot outside	∐ Otl	her:			
III. WHEN DRIVING:	IV. WI	HAT TYPE (	OF NOISE	<u>.</u>	
Through driveways	☐ Sq	ueak (like te	ennis shoe	s on a clean floor)	
Over rough roads			J	n old wooden floor)	
Over speed bumps	_	ttle (like sha			
Only about mph	☐ Knock (like a knock at the door)				
On acceleration	☐ Tick (like a clock second hand)				
Coming to a stop	☐ Thump (heavy muffled knock noise)				
☐ On turns: left, right or either (circle)☐ With passengers or cargo	☐ Buzz (like a bumble bee)				
Other:					
☐ After driving miles or minu	tes				
TO BE COMPLETED BY DEALERSHIP PETERSHIP PETERS	ERSONN	EL			
		YES	NO	Initials of person performing	
Vehicle test driven with customer		YES	NO 🗆	Initials of person performing	
Vehicle test driven with customer - Noise verified on test drive		YES	NO	Initials of person performing	
		YES	NO	performing	
- Noise verified on test drive	repair	YES	NO	performing	
<ul><li>Noise verified on test drive</li><li>Noise source located and repaired</li></ul>				performing	

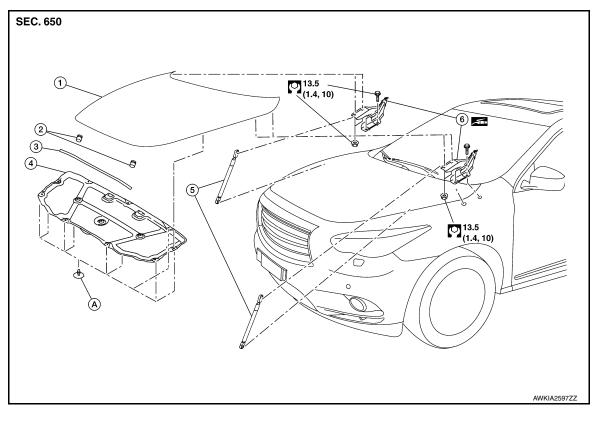
This form must be attached to Work Order

LAIA0071E

# REMOVAL AND INSTALLATION

# **HOOD**

**Exploded View** 



- 1. Hood assembly
- 4. Hood insulator
- A. Clip

- 2. Hood bumper rubber
- 5. Hood stay (LH/RH)
- 3. Hood seal
- 6. Hood hinge (LH/RH)

# **HOOD ASSEMBLY**

# **HOOD ASSEMBLY: Removal and Installation**

#### **CAUTION:**

- · Use two people when removing or installing hood assembly due to its heavy weight.
- Use protective tape or shop cloths to protect surrounding components from damage during removal and installation of hood assembly.

# **REMOVAL**

1. Support the hood assembly using a suitable tool.

#### WARNING:

Bodily injury may occur if hood assembly is not supported properly when removing hood assembly.

DLK

INFOID:0000000009133185

Α

В

D

Е

F

Н

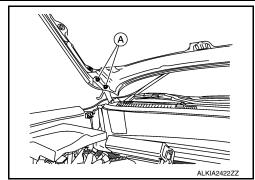
INFOID:0000000009133184

Ρ

Ν

0

Remove hood hinge to hood nuts (A) and then remove the hood assembly.



INFOID:0000000009133186

### **INSTALLATION**

Installation is in the reverse order of removal.

#### **CAUTION:**

- Before installing the hood hinge, apply anticorrosive agent onto the surface of the vehicle.
- After installation, perform the hood assembly adjustment procedure. Refer to <u>DLK-270</u>, "HOOD <u>ASSEMBLY</u>: Adjustment".

**HOOD ASSEMBLY: Adjustment** 

SEC. 650 13.5 (1.4, 10) 23.5 (2.4, 17) A-A B-B AWKIA2598ZZ

- Hood assembly
- 4. Hood bumper rubber
- 2. Front bumper fascia
- 5. Hood hinge
- 3. Front fender
- 6. Hood lock assembly

Check the clearance and the surface height between hood and each part by visual inspection and tactile feel. If the clearance and the surface height are out of specification, adjust them according to the adjustment procedures.

Unit: mm (in)

Α

В

D

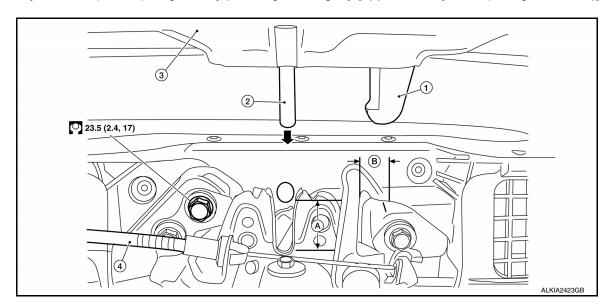
Е

F

Portion	Section	tion Item Measurement Standard		Parallelism	
Hood – Front fender	A – A	С	Clearance	$3.5 \pm 1.0 \; (0.14 \pm 0.04)$	≤ 1.5 (0.06)
rioda – riont lender	A-A	D	Surface height	1.0 ± 1.5 (0.04 ± 0.06)	_
Hood – Front bumper fascia B – B	D D	E	Clearance	4.1 ± 2.0 (0.16 ± 0.08)	< 2.0 (0.08)
	F	Surface height	1.0 ± 1.5 (0.04 ± 0.06)	< 2.0 (0.08)	

### **HEIGHT ADJUSTMENT**

- Loosen the hood lock assembly bolts.
- 2. Adjust the surface height of hood assembly to front bumper fascia and front fender according to the specified values by rotating hood bumper rubber.
- 3. Temporarily tighten hood lock assembly bolts.
- 4. Adjust (A) and (B) as shown to the following value with hood's own weight by dropping it from approximately 200 mm (7.87 in) height or by pressing hood lightly [approximately 29 N (3.0 kg-f, 6.5 ft-lb)].



- Secondary striker
- Primary striker
- 3. Hood assembly

- 4. Secondary latch control cable
- A. 20 mm (0.79 in)
- B. 6.8 mm (0.27 in)
- 5. After adjustment, tighten hood hinge nuts and bolts to the specified torque. **CAUTION:** 
  - Check hood hinge rotating part for poor lubrication. If necessary, apply a suitable multi-purpose grease.
  - After adjusting, apply touch-up paint (body color) onto the head of hood hinge bolts and nuts.

### **CLEARANCE ADJUSTMENT**

- 1. Loosen hood hinge nuts and bolts.
- 2. Loosen the hood lock assembly bolts.
- 3. Adjust the hood assembly so the clearance measurements are within specifications.
- 4. Tighten the hood hinge nuts and bolts to specified torque.
- 5. Tighten the hood lock assembly bolts to specified torque.

# **HOOD HINGE**

G

Н

DLK

M

Ν

0

Р

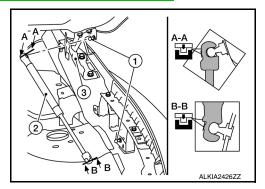
Revision: August 2013 DLK-271 2014 QX60

# **HOOD HINGE: Removal and Installation**

INFOID:0000000009133187

### **REMOVAL**

- 1. Remove hood assembly. Refer to DLK-269, "HOOD ASSEMBLY: Removal and Installation".
- 2. Remove hood stay (2) from hood hinge (3) and ball studs (1).



3. Remove hood hinge bolts, and then remove hood hinge.

#### INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

- Before installing the hood hinge, apply anticorrosive agent onto the surface of the vehicle.
- After installation, perform hood assembly adjustment procedure. Refer to <u>DLK-270, "HOOD ASSEM-BLY: Adjustment"</u>.

**HOOD STAY** 

### **HOOD STAY**: Removal and Installation

INFOID:0000000009133188

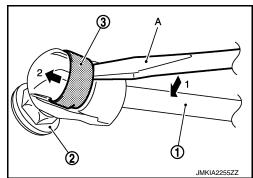
# REMOVAL

1. Support the hood assembly using a suitable tool.

#### **WARNING:**

Bodily injury may occur if hood assembly is not supported properly when removing the hood stay.

2. Remove the metal clip (3) located on the connection between the hood stay (1) and the stud ball (2) (hood side) by using a suitable tool (A) to release the clip to the side and then toward the front.



- 3. Disengage the stud ball from the hood stay (hood side).
- Disengage the stud ball from the hood stay (body side), then remove the hood stay.

#### INSTALLATION

Installation is in the reverse order of removal.

# **HOOD STAY: Disposal**

INFOID:0000000009133189

Α

В

С

D

Е

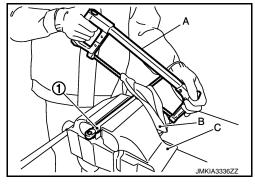
F

Н

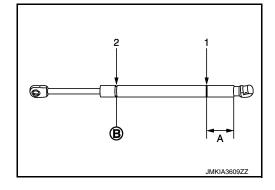
- 1. Fix hood stay (1) using a vise (C).
- 2. Using a hacksaw (A) slowly make two holes in the hood stay (1), in numerical order as shown in the figure.

#### **CAUTION:**

- When cutting a hole on hood stay (1), always cover hacksaw (A) with a shop cloth (B) to avoid scattering metal fragments or oil.
- · Wear eye protection (safety glasses).
- Wear gloves.



A: 20 mm (0.79 in)
B: Cut at the groove.



DLK

J

L

M

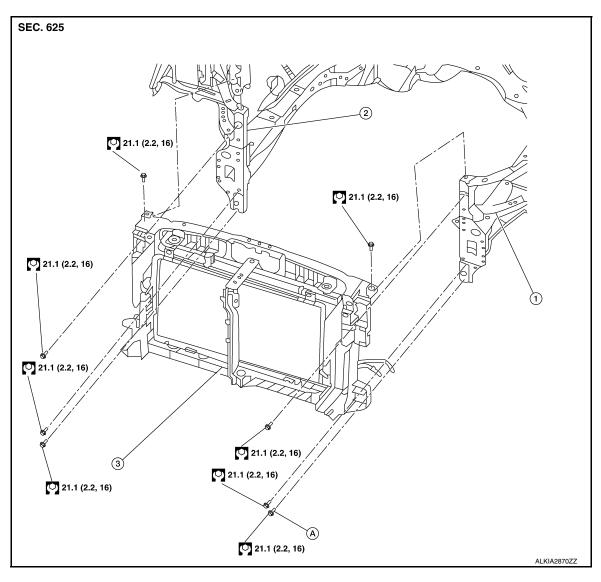
Ν

0

Р

# RADIATOR CORE SUPPORT

Exploded View



- 1. Radiator support (LH)
- 2. Radiator support (RH)
- 3. Radiator core support assembly

A. Refer to installation for sequence order

### Removal and Installation

INFOID:0000000009133191

# REMOVAL

# **CAUTION:**

When removing radiator core support upper, be careful not to damage the painted surface.

- 1. Remove front bumper assembly. Refer to EXT-17, "Removal and Installation".
- 2. Release clips and then remove radiator upper seal.
- 3. Remove the battery. Refer to PG-93, "Removal and Installation".
- 4. Disconnect harness connector from refrigerant pressure sensor.
- 5. Remove upper air intake.
- Disconnect all harness clips from radiator core support assembly.
- 7. Remove hood lock assembly. Refer to <a href="DLK-293">DLK-293</a>, "HOOD LOCK RELEASE CABLE: Removal and Installation".

# RADIATOR CORE SUPPORT

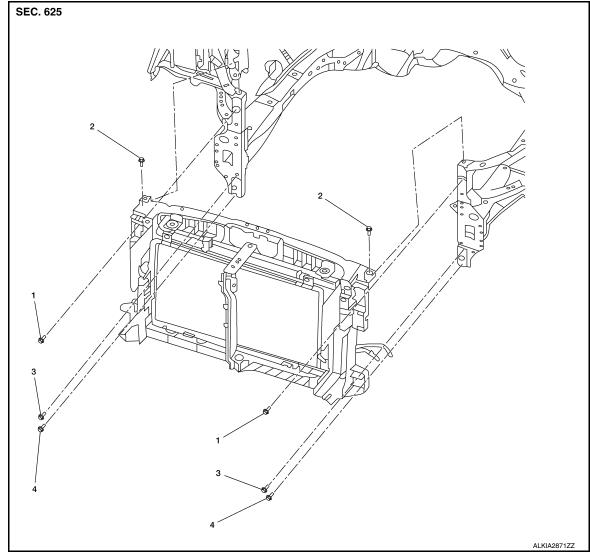
# < REMOVAL AND INSTALLATION >

- 8. Release clips of air guide seal and remove.
- 9. Remove radiator bolts. Refer to CO-15, "Removal and Installation".
- 10. Remove bolts, and then radiator core support assembly.

# **INSTALLATION**

Installation is in the reverse order of removal.

• When installing the radiator core support, tighten the core support bolts in the sequence shown.



Α

В

С

D

Е

F

G

Н

DLK

. .

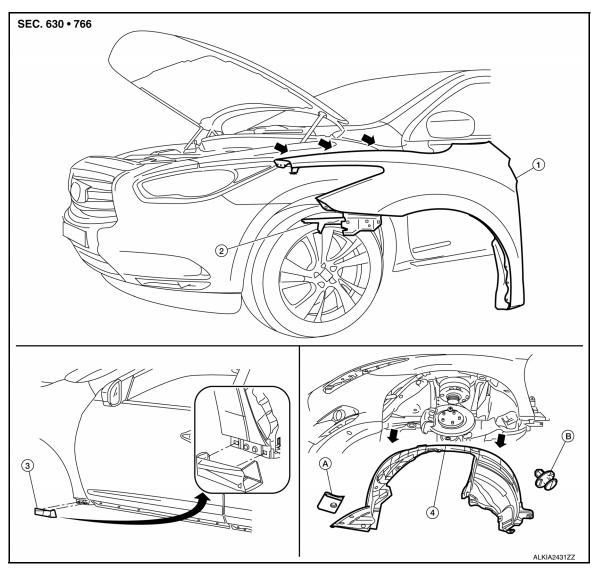
Ν

0

Е

# FRONT FENDER

Exploded View



- 1. Front fender
- 2. Front fender support bracket
- 4. Front fender protector
- A. J-nut

- 3. Front fender outside lower molding
- B. Clip

# FRONT FENDER

# FRONT FENDER: Removal and Installation

INFOID:0000000009133193

### **CAUTION:**

Use a shop cloths to protect the body from being damaged during removal and installation.

# **REMOVAL**

- 1. Remove front fender protector. Refer to EXT-28, "FENDER PROTECTOR: Removal and Installation".
- 2. Remove front combination lamp. Refer to EXL-160, "Removal and Installation".
- 3. Release the clips and pawls using a suitable tool and remove hoodledge finisher.
- 4. Remove front fender outside lower molding. Refer to EXT-39, "Removal and Installation".
- 5. Remove front fender bolts and front fender. **CAUTION:**

# FRONT FENDER

### < REMOVAL AND INSTALLATION >

Use care when removing the front fender. The front fender baffle foam adheres the front fender to the body side outer. Carefully release the baffle foam or damage to the front fender may occur.

#### INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

- After installation apply touch up paint (body color) to the head of front fender bolts.
- After installation, adjust the following components as necessary:
- Hood assembly: Refer to DLK-270, "HOOD ASSEMBLY: Adjustment".
- Front door: Refer to <u>DLK-279</u>, "<u>DOOR ASSEMBLY</u>: <u>Adjustment</u>".

В

Α

С

D

Е

F

G

Н

J

DLK

IV

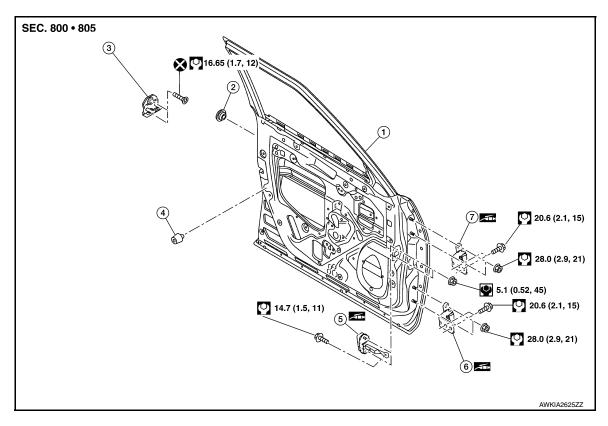
Ν

0

Р

# FRONT DOOR

Exploded View



- 1. Front door panel
- 4. Bumper rubber
- 7. Front door upper hinge
- 2. Grommet
- 5. Door check link
- 3. Front door striker
- 6. Front door lower hinge

INFOID:0000000009133195

# DOOR ASSEMBLY

# DOOR ASSEMBLY: Removal and Installation

### **CAUTION:**

- Use two people when removing or installing the front door due to its heavy weight.
- When removing and installing front door assembly, support front door with a suitable tool.

### **REMOVAL**

- 1. Remove front door finisher. Refer to <a href="INT-15">INT-15</a>, "Removal and Installation".
- Disconnect the harness connectors from the front door.
- 3. Remove front door harness grommet, then harness from the front door.
- 4. Remove front door check link bolt from the body.
- Remove front door hinge nuts (door side) and front door assembly.

#### INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

- Apply anticorrosive agent onto the surface.
- After installation, check front door open/close and lock/unlock operation.
- After installation, perform the front door adjustment procedure. Refer to <u>DLK-279</u>, "<u>DOOR ASSEM-BLY</u>: <u>Adjustment</u>".

# DOOR ASSEMBLY: Adjustment

INFOID:0000000009133196

Α

В

D

Е

F

Н

DLK

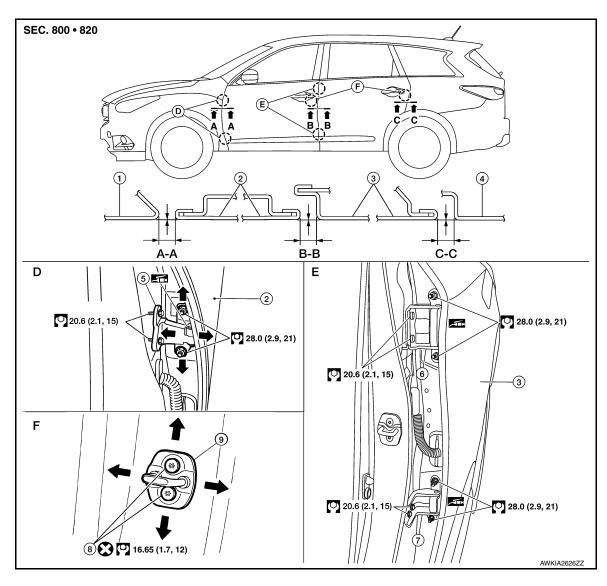
M

Ν

0

Р

# Adjustment



- 1. Front fender
- 4. Body side outer
- 7. Rear door lower hinge
- 2. Front door
- Front door hinge
- Door striker bolts
- 3. Rear door
- 6. Rear door upper hinge
- Door striker

Check the clearance and surface height between front door and each part by visual inspection and tactile feel. If the clearance and the surface height are out of specification, adjust them according to the adjustment procedure.

Unit: mm (in)

Portion	Section	Measurement	Gap measurement
Front fender – Front door	A – A	Clearance	4.1 ± 1.0 (0.16 ± 0.04)
Front lender – Front door		Surface height	± 1.0 (± 0.04)
Front door Door door	B – B	Clearance	4.1 ± 1.0 (0.16 ± 0.04)
Front door – Rear door		Surface height	± 1.0 (± 0.04)
Rear door – Body side outer	C – C	Clearance	3.7 ± 1.0 (0.15 ± 0.04)
		Surface height	± 1.0 (± 0.04)

1. Remove front fender. Refer to <u>DLK-276, "FRONT FENDER: Removal and Installation"</u>.

# FRONT DOOR

#### < REMOVAL AND INSTALLATION >

- 2. Loosen front door hinge nuts on door side.
- 3. Adjust the surface height of front door according to the specifications provided.
- 4. Temporarily tighten front door hinge nuts on door side.
- 5. Loosen front door hinge bolts on body side.
- 6. Raise front door at rear end to adjust clearance of the front door according to the specifications provided.
- After adjustment tighten bolts and nuts to the specified torque. CAUTION:
  - Check door hinge rotating point for poor lubrication. If necessary, apply a suitable multi-purpose grease.
  - After adjusting, apply touch-up paint (body color) to the head of front door hinge bolts and nuts.
- 8. Install front fender. Refer to refer to DLK-276, "FRONT FENDER: Removal and Installation".

### DOOR STRIKER

# DOOR STRIKER: Removal and Installation

INFOID:0000000009133197

#### **REMOVAL**

Remove bolts and front door striker.

#### INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

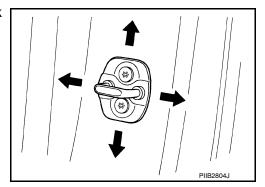
- · Do not reuse front door striker bolts.
- After installation, check front door open/close operation. If necessary, adjust the front door striker.
   Refer to <u>DLK-280, "DOOR STRIKER: Adjustment"</u>.

# DOOR STRIKER: Adjustment

INFOID:0000000009726873

#### DOOR STRIKER ADJUSTMENT

- 1. Loosen door striker bolts
- Adjust door striker so that it becomes parallel with front door lock insertion direction.



3. Tighten door striker bolts to specification. Refer to <a href="DLK-278">DLK-278</a>, "Exploded View".

### DOOR HINGE

DOOR HINGE: Removal and Installation

INFOID:0000000009133198

### **REMOVAL**

#### **CAUTION:**

- Use two people when removing and installing the front door due to its heavy weight.
- When removing and installing front door assembly, support door using a suitable tool.
- 1. Remove front fender. Refer to DLK-276, "FRONT FENDER: Removal and Installation".
- Remove front door assembly. Refer to <u>DLK-278, "DOOR ASSEMBLY: Removal and Installation"</u>.
- 3. Remove front door hinge bolts (body side) and front door hinge.

#### INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

# FRONT DOOR

#### < REMOVAL AND INSTALLATION >

- Apply anticorrosive agent onto the hinge mating surface.
- After installation, check front door open/close and lock/unlock operation.
- Check door hinge rotating point for poor lubrication. If necessary, apply a suitable multi-purpose
- After installation, perform the front door adjustment procedure. Refer to DLK-279, "DOOR ASSEM-**BLY: Adjustment".**

### DOOR CHECK LINK

# DOOR CHECK LINK: Removal and Installation

#### INFOID:0000000009133199

Α

В

D

Е

F

#### REMOVAL

- Fully close the front door window.
- Remove front door speaker. Refer to AV-140, "Removal and Installation" (BASE AUDIO), AV-308, <u>"Removal and Installation"</u> (BOSE AUDIO WITHOUT NAVIGATION), <u>AV-591, "Removal and Installation"</u> (BOSE AUDIO W/NAVI W/O SURROUND SOUND) or AV-888, "Removal and Installation" (BOSE AUDIO W/NAVI W/SURROUND).
- 3. Remove door check link bolt (body side).
- Remove door check link nuts (door side).
- Remove door check link through the hole in door panel.

#### INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

- After installation, check front door open/close and lock/unlock operation.
- Check door check link rotating point for poor lubrication. If necessary, apply a suitable multi-purpose grease.

Ν

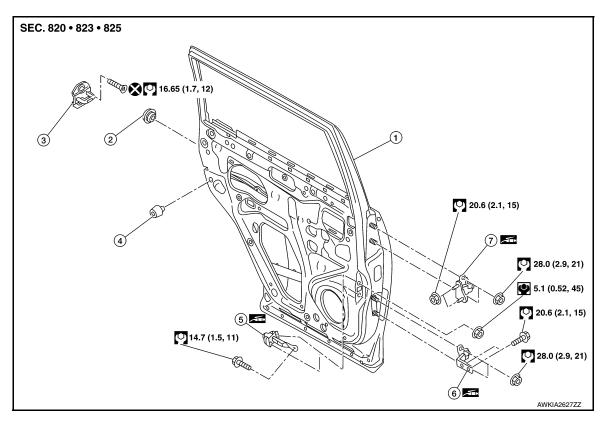
0

Р

**DLK-281 Revision: August 2013** 2014 QX60 DLK

# **REAR DOOR**

Exploded View



- 1. Rear door panel
- 4. Bumper rubber
- 7. Rear door upper hinge
- 2. Grommet
- 5. Door check link
- Door striker
- 6. Rear door lower hinge

INFOID:0000000009133201

### DOOR ASSEMBLY

# DOOR ASSEMBLY: Removal and Installation

CAUTION:

- Use two people when removing or installing the rear door due to its heavy weight.
- When removing and installing rear door assembly, support rear door using a suitable tool.

### **REMOVAL**

- 1. Remove rear door finisher. Refer to <u>DLK-282</u>, "DOOR ASSEMBLY: Removal and Installation".
- Disconnect the harness connectors from rear door.
- Remove harness grommet from rear door and then pull out rear door harness from the rear door.
- 4. Remove rear door check link bolt from body.
- Remove rear door hinge nuts (door side) and rear door assembly.

#### INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

- · Apply anticorrosive agent onto the surface.
- After installation, check rear door open/close and lock/unlock operation.
- After installation, perform the rear door adjustment procedure. Refer to <u>DLK-283, "DOOR ASSEMBLY</u>: Adjustment".

# DOOR ASSEMBLY: Adjustment

INFOID:0000000009133202

Α

В

D

Е

F

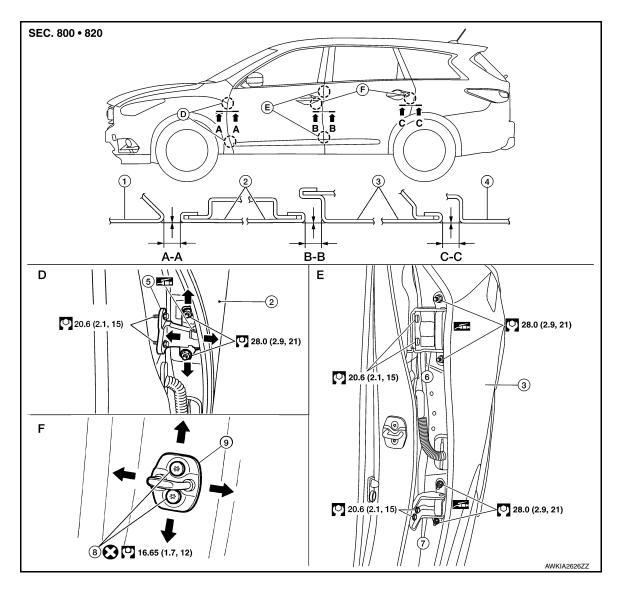
Н

DLK

Ν

0

Р



- Front fender
- 4. Body side outer
- 7. Rear door lower hinge
- Front door
- 5. Front door hinge
- 8. Door striker bolts
- Rear door
- 6. Rear door upper hinge
- 9. Door striker

Check the clearance and surface height between rear door and each part by visual inspection and tactile feel. If the clearance and the surface height are out of specification, adjust them according to the adjustment procedures.

Unit: mm (in)

Portion	Section	Measurement	Gap measurement
Front fender – Front door	A – A	Clearance	4.1 ± 1.0 (0.16 ± 0.04)
Front lender – Front door	A-A	Surface height	± 1.0 (± 0.04)
Front door – Rear door	B – B	Clearance	4.1 ± 1.0 (0.16 ± 0.04)
		Surface height	± 1.0 (± 0.04)
Rear door – Body side outer	C – C	Clearance	3.7 ± 1.0 (0.15 ± 0.04)
		Surface height	± 1.0 (± 0.04)

Remove center pillar lower finisher. Refer to <u>INT-21, "CENTER PILLAR LOWER FINISHER: Removal and Installation"</u>.

### **REAR DOOR**

#### < REMOVAL AND INSTALLATION >

- Loosen rear door hinge nuts on rear door side.
- Adjust the surface height of rear door according to specifications provided.
- 4. Temporarily tighten rear door hinge nuts on rear door side.
- 5. Loosen rear door hinge nuts and bolts on body side.
- 6. Raise rear door at rear end to adjust clearance of rear door according to the specifications provided.
- 7. After adjustment tighten bolts and nuts to the specified torque. **CAUTION:** 
  - Check rear door hinge rotating point for poor lubrication. If necessary, apply a suitable multi-purpose grease.
  - After adjusting, apply touch-up paint (body color) to the head of rear door hinge bolts and nuts.
- 8. Install center pillar lower finisher. Refer to <a href="INT-21">INT-21</a>, "CENTER PILLAR LOWER FINISHER: Removal and Installation".

# DOOR STRIKER

### DOOR STRIKER: Removal and Installation

INFOID:0000000009133203

#### **REMOVAL**

Remove bolts and rear door striker.

#### INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

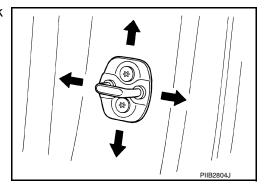
- Do not reuse rear door striker bolts.
- After installation, check rear door open/close operation. If necessary, adjust the door striker. Refer to <u>DLK-284, "DOOR STRIKER: Adjustment"</u>.

# DOOR STRIKER: Adjustment

INFOID:0000000009729242

#### DOOR STRIKER ADJUSTMENT

- Loosen door striker bolts
- 2. Adjust door striker so that it becomes parallel with front door lock insertion direction.



3. Tighten door striker bolts to specification. Refer to <a href="DLK-282">DLK-282</a>, "Exploded View".

# DOOR HINGE

# **DOOR HINGE: Removal and Installation**

INFOID:0000000009133204

#### **CAUTION:**

- Use two people when removing or installing rear door due to its heavy weight.
- When removing and installing rear door assembly, support rear door using a suitable tool.

#### **REMOVAL**

- 1. Remove rear door assembly. Refer to <u>DLK-282, "DOOR ASSEMBLY: Removal and Installation"</u>.
- Remove center pillar lower finisher. Refer to <u>INT-21</u>, "CENTER PILLAR LOWER FINISHER: Removal and Installation".
- 3. Remove rear door hinge bolts and nuts and rear door hinge.

#### INSTALLATION

# **REAR DOOR**

#### < REMOVAL AND INSTALLATION >

Installation is in the reverse order of removal.

### **CAUTION:**

- Apply anticorrosive agent onto the hinge mating surface.
- After installation, check rear door open/close and lock/unlock operation.
- After installation, perform the rear door adjustment procedure. Refer to <u>DLK-283</u>, "<u>DOOR ASSEMBLY</u>
   <u>: Adjustment"</u>.

### DOOR CHECK LINK

# DOOR CHECK LINK: Removal and Installation

#### INFOID:0000000009133205

Α

D

Е

F

#### REMOVAL

- Fully close the rear door window.
- Remove rear door speaker. Refer to <u>AV-142</u>, "Removal and Installation" (BASE AUDIO), <u>AV-312</u>, "Removal and Installation" (BOSE AUDIO WITHOUT NAVIGATION), <u>AV-595</u>, "Removal and Installation" (BOSE AUDIO W/NAVI W/O SURROUND) or <u>AV-892</u>, "Removal and Installation" (BOSE AUDIO W/NAVI W/SURROUND).
- 3. Remove rear door check link bolt (body side).
- 4. Remove rear door check link nuts (door side).
- 5. Remove rear door check link through the hole in rear door panel.

#### INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

- After installation, check rear door open/close and lock/unlock operation.
- Check rear door check link rotating point for poor lubrication. If necessary, apply a suitable multipurpose grease.

### DLK

ъ л

0

Р

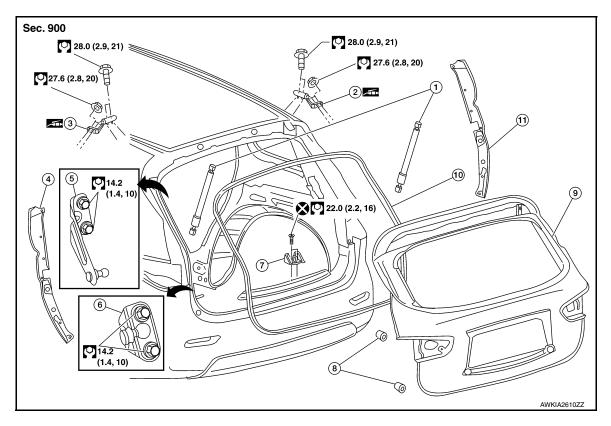
Revision: August 2013 DLK-285 2014 QX60

J

Ν

# **BACK DOOR**

Exploded View



- 1. Spindle unit (LH/RH)
- 4. Back door touch sensor (LH)
- 7. Back door striker
- 10. Back door weatherstrip
- 2. Back door hinge (RH)
- 5. Spindle unit upper hinge
- 8. Bumper rubber
- 11. Back door touch sensor (RH)
- 3. Back door hinge (LH)
- 6. Spindle unit lower hinge
- 9. Back door assembly

# **BACK DOOR ASSEMBLY**

# BACK DOOR ASSEMBLY: Removal and Installation

INFOID:0000000009133207

# **CAUTION:**

- Use two people when removing or installing the back door due to its heavy weight.
- Use shop cloths to protect surrounding components from damage during removal and installation of back door.

### **REMOVAL**

1. Support the back door assembly using a suitable tool.

#### **WARNING:**

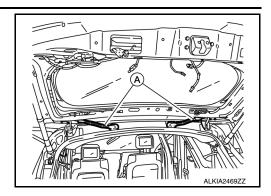
Bodily injury may occur if back door assembly is not supported properly when removing the back door spindle unit.

- 2. Remove back door spindle units (LH/RH). Refer to DLK-290, "SPINDLE UNIT: Removal and Installation".
- Remove roof side moldings (LH/RH). Refer to <u>EXT-31, "Removal and Installation"</u>.

# **BACK DOOR**

### < REMOVAL AND INSTALLATION >

4. Disconnect harness connectors (A) from back door.



- 5. Remove back door harness grommet, then pull harness from the back door.
- Disconnect washer tube.
- 7. Remove washer tube grommet and washer tube from the back door.
- 8. Remove back door hinge nuts and back door assembly.

### **INSTALLATION**

Installation is in the reverse order of removal.

#### **CAUTION:**

- Apply anticorrosive agent onto the surface.
- When reusing stud ball, always apply locking sealant before installing stud ball to back door.
- After installation, perform the back door assembly adjustment procedure. Refer to <u>DLK-288, "BACK DOOR ASSEMBLY: Adjustment"</u>.

Α

В

С

D

Е

F

Н

ı

J

DLK

N

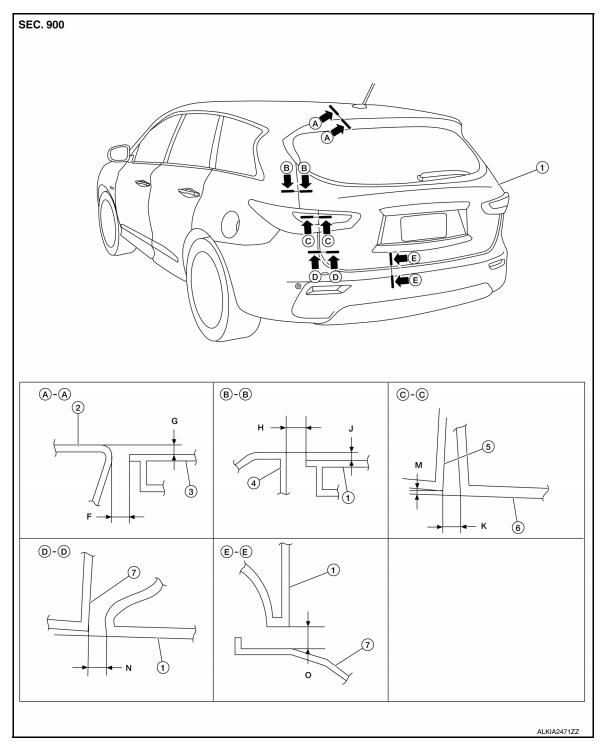
Ν

0

Р

# **BACK DOOR ASSEMBLY: Adjustment**

INFOID:0000000009133208



- 1. Back door assembly
- 4. Body side outer
- 7. Rear bumper fascia
- 2. Roof panel
- 5. Rear combination lamp
- Rear spoiler
- 6. Back-up lamp

Check the clearance and the surface height between back door and each part by visual inspection and tactile feel. If the clearance and the surface height are out of specification, adjust them according to the adjustment procedure.

					Unit: mm (in)
Portion	Section	Item	Measurement	Standard	Difference (LH/RH, MAX)
Roof panel – Rear spoiler	A – A	F	Clearance	7.0 ± 1.5 (0.28 ± 0.06)	_
		G	Surface height	1.5 ± 1.5 (0.06 ± 0.06)	_
Body side outer – Back door assembly	B – B	Н	Clearance	$5.0 \pm 2.0 \; (0.20 \pm 0.08)$	≤2.0 (0.08)
		J	Surface height	$0.8 \pm 2.0 \; (0.03 \pm 0.08)$	≤2.0 (0.08)
Rear combination lamp – Back- up lamp	C – C	K	Clearance	$5.0 \pm 2.0 \; (0.20 \pm 0.08)$	≤2.3 (0.09)
		М	Surface height	$0.0 \pm 2.1 \; (0.0 \pm 0.08)$	≤2.5 (0.10)
Rear bumper fascia – Back door assembly	D – D	N	Clearance	$7.0 \pm 2.0 \; (0.28 \pm 0.08)$	_
Rear bumper fascia – Back door assembly	E – E	0	Clearance	$5.0 \pm 2.0 \; (0.20 \pm 0.08)$	≤2.0 (0.08)

- 1. Remove roof side molding. Refer to EXT-31, "Removal and Installation".
- Loosen back door hinge nuts (door side).
- 3. Lift up back door approximately 100 150 mm (3.94 5.91 in) height then close it lightly and check that it is engaged firmly with back door closed.
- Check the clearance and surface height according to the specifications provided.
- Tighten back door hinge nuts and back door striker bolts to specified torque.

**CAUTION:** 

- After installation, check back door open/close, lock/unlock operation.
- · Check back door hinge rotating point for poor lubrication. If necessary, apply a suitable multpurpose grease.
- After adjusting, apply touch-up paint (body color) to the head of rear door hinge bolts and nuts.
- 6. Install roof side molding. Refer to. EXT-31, "Removal and Installation".

#### BACK DOOR STRIKER

## BACK DOOR STRIKER: Removal and Installation

1. Remove back door kicking plate. Refer to INT-36, "BACK DOOR KICKING PLATE: Removal and Installa-

Remove bolts and back door striker.

#### INSTALLATION

Installation is in the reverse order of removal.

## **CAUTION:**

REMOVAL

- Do not reuse back door striker bolts.
- After installation, check back door open/close operation. If necessary, adjust the door striker. Refer to DLK-289, "BACK DOOR STRIKER: Adjustment".

## BACK DOOR STRIKER : Adjustment

#### DOOR STRIKER ADJUSTMENT

Loosen door striker bolts

DLK

Α

В

D

Е

F

Н

L

M

Ν

Р

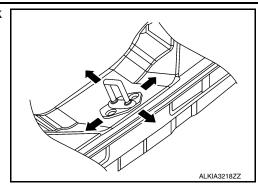
INFOID:0000000009730833

INFOID:0000000009133209

## **BACK DOOR**

#### < REMOVAL AND INSTALLATION >

Adjust door striker so that it becomes parallel with front door lock insertion direction.



Tighten door striker bolts to specification. Refer to <u>DLK-286</u>. "Exploded View".

## **BACK DOOR HINGE**

## BACK DOOR HINGE: Removal and Installation

INFOID:0000000009133210

#### **CAUTION:**

- Use two people when removing or installing the back door due to its heavy weight.
- Use protective tape or shop cloths to protect surrounding components from damage during removal and installation of back door.

#### REMOVAL

- Remove back door assembly. Refer to <u>DLK-286</u>, "BACK <u>DOOR ASSEMBLY</u>: Removal and Installation".
- 2. Remove back door hinge bolts (body side) and back door hinge.

#### INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

- Apply anticorrosive agent onto the surface.
- After installation, perform the back door assembly adjustment procedure. Refer to <u>DLK-288, "BACK DOOR ASSEMBLY</u>: Adjustment".

## SPINDLE UNIT

## SPINDLE UNIT: Removal and Installation

INFOID:0000000009133211

#### **REMOVAL**

1. Support back door using a suitable tool.

#### WARNING:

Bodily injury may occur if the back door is not supported properly when removing the back door spindle unit.

- 2. Partially remove headlining (rear edge).
- 3. Disconnect the harness connector from the spindle unit.
- 4. Release spindle unit from stud balls and remove.

#### INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

- When reusing stud ball, always apply locking sealant before installing stud ball to back door.
- After installation, check back door open/close and lock/unlock operation.

## BACK DOOR WEATHER-STRIP

## BACK DOOR WEATHER-STRIP: Removal and Installation

INFOID:0000000009133212

#### REMOVAL

Carefully remove back door weather-strip from opening door joint.

## INSTALLATION

## **BACK DOOR**

## < REMOVAL AND INSTALLATION >

- 1. Beginning with upper section, align weather-strip mark with vehicle center position mark and install weather strip to the vehicle.
- 2. For the lower section, align weather-strip seam with center of back door striker.

#### NOTE:

Pull weather-strip gently to ensure that there are no loose sections.

С

В

Α

D

Е

F

G

Н

-

J

DLK

L

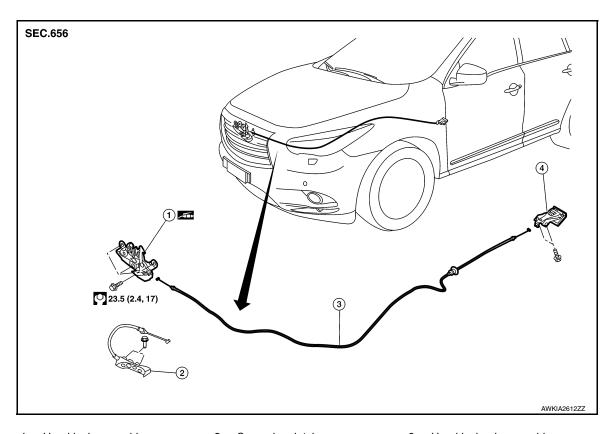
 $\mathbb{N}$ 

Ν

0

## **HOOD LOCK**

Exploded View



- 1. Hood lock assembly
- 2. Secondary latch
- 3. Hood lock release cable

4. Hood lock release lever

## HOOD LOCK

## **HOOD LOCK**: Removal and Installation

**REMOVAL** 

- Remove front air duct. Refer to <u>EM-24, "Exploded View"</u>.
- 2. Remove front fender protector (LH). Refer to <u>EXT-28</u>, "FENDER PROTECTOR: Removal and Installation".
- 3. Remove hood lock assembly bolts.
- 4. Disconnect hood lock release cable and secondary latch cable from hood lock assembly and remove.

## **INSTALLATION**

Installation is in the reverse order of removal.

#### **CAUTION:**

- Be careful not to bend cable too much, keeping the radius 100 mm (3.94 in) or more.
- Check that hood lock release cable and secondary latch cable are properly engaged with hood lock assembly.
- After installation, perform hood assembly adjustment procedure. Refer to <u>DLK-270, "HOOD ASSEM-BLY: Adjustment"</u>.
- After adjusting, perform hood lock inspection. Refer to DLK-292, "HOOD LOCK: Inspection".

# HOOD LOCK : Inspection

#### INFOID:0000000009133216

INFOID:0000000009133214

#### NOTE:

If the hood lock cable is bent or deformed, replace it.

## **HOOD LOCK**

#### < REMOVAL AND INSTALLATION >

- Check that secondary latch is properly engaged with secondary striker with hoods own weight.
- 2. While operating hood lock release handle, carefully check that the front end of hood assembly is raised by approximately 20.0 mm (0.79 in). Also check that hood lock release handle returns to the original position.
- 3. Check that hood lock release handle operates at 49 N (5.0 kg-m, 11.0 ft-lb) or below.
- 4. Install so that static closing force of hood is 315-490 N (32.1-50.0 kg-m, 70.8-110.2 ft-lb). **NOTE:** 
  - Do not exert vertical force on right side and left side of hood lock.
  - Do not press simultaneously on both sides.
- 5. Check the hood lock lubrication condition. If necessary, apply a suitable multi-purpose grease to hood lock assembly.

## SECONDARY LATCH

## SECONDARY LATCH: Removal and Installation

INFOID:0000000009730839

В

D

Е

Н

#### REMOVAL

- 1. Remove radiator core support upper cover. Refer to <a>EXT-16</a>, "Exploded View"</a>.
- 2. Disconnect secondary latch cable from hood lock assembly.
- 3. Remove bolts and secondary latch.

#### INSTALLATION

Installation is in the reverse order of removal.

HOOD LOCK RELEASE CABLE

## HOOD LOCK RELEASE CABLE: Removal and Installation

INFOID:0000000009133215

#### REMOVAL

- Remove fender protector (LH). Refer to <u>EXT-28</u>, "<u>FENDER PROTECTOR</u>: <u>Removal and Installation</u>".
- Remove front under cover. Refer to <u>EXT-30</u>, "Removal and Installation".
- 3. Remove front air duct. Refer to EM-24, "Exploded View".
- Remove radiator core support upper cover. Refer to EXT-16, "Exploded View".
- 5. Disconnect hood lock release cable from hood lock release handle and hood lock assembly.
- 6. Release all hood lock release cable clips using a suitable tool.
- Remove grommet on the lower dash, and carefully pull the hood lock release cable into the passenger compartment.

#### **CAUTION:**

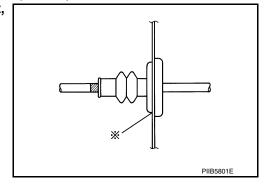
While pulling, be careful not to damage (peel) the outside of hood lock release cable.

#### INSTALLATION

Installation is in the reverse order of removal.

## **CAUTION:**

- Be careful not to bend cable too much, keep the radius 100 mm (3.94 in) or more.
- Check that cable is not offset from the positioning grommet, and apply the sealant to the grommet (at \* mark) properly.



 Check that hood lock release cable is properly engaged with hood lock release handle and hood lock assembly.

DLK

M

L

Ν

Р

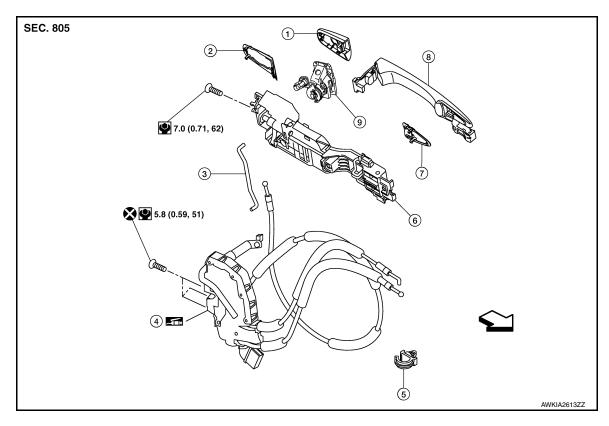
Revision: August 2013 DLK-293 2014 QX60

## **HOOD LOCK**

## < REMOVAL AND INSTALLATION >

- After installation, perform hood assembly adjustment procedure. Refer to <u>DLK-270, "HOOD ASSEM-BLY: Adjustment"</u>.
- After adjusting, perform hood lock inspection. Refer to DLK-292, "HOOD LOCK: Inspection".

**Exploded View** INFOID:0000000009133217



- Outside handle escutcheon
- Front door lock
- 7. Front gasket
- <⇒ Front

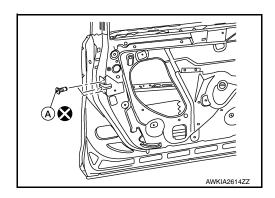
- 2. Rear gasket
- 5. Cable clip
- Outside handle
- 3. Door key cylinder rod (LH only)
- Outside handle bracket
- 9. Door key cylinder (LH only)

# **DOOR LOCK**

# DOOR LOCK: Removal and Installation

## **REMOVAL**

- 1. Remove front door finisher. Refer to <a href="INT-15">INT-15</a>, "Removal and Installation".
- 2. Remove vapor barrier.
- Remove front door lock bolts (A).



DLK

J

Α

В

D

Е

F

Н

M

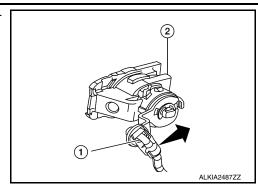
INFOID:0000000009133218

Ν

0

#### < REMOVAL AND INSTALLATION >

 Disconnect door key cylinder rod (LH only) (1) from door key cylinder (LH only) (2).



- Disconnect the door lock cables.
- Disconnect the harness connector from the front door lock and remove.

#### INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

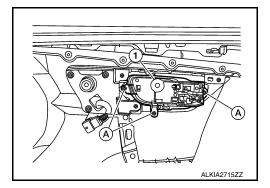
- Do not reuse door lock assembly bolts.
- After installation, check door lock cables are properly engaged to inside handle and outside handle bracket.
- When installing door key cylinder rod (LH only), be sure to rotate door key cylinder rod holder until a click is felt.
- After installation, check door open/close and lock/unlock operation.
- Check door lock assembly for poor lubrication. If necessary apply a suitable multi-purpose grease.
   INSIDE HANDLE

INSIDE HANDLE: Removal and Installation

INFOID:0000000009133219

#### **REMOVAL**

- Remove front door finisher. Refer to INT-15, "Removal and Installation".
- 2. Remove inside handle screws (A) and inside handle (1).



#### INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

- After installation, check door lock cables are properly engaged to inside handle.
- After installation, check door open/close and lock/unlock operation.

## **OUTSIDE HANDLE**

OUTSIDE HANDLE: Removal and Installation

INFOID:0000000009133220

## **REMOVAL**

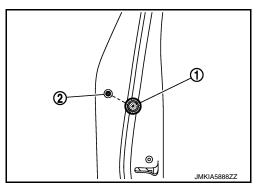
- 1. Fully close front door glass.
- Remove front door finisher. Refer to <u>INT-15</u>, "Removal and Installation".
- 3. Remove vapor barrier.

NOTE:

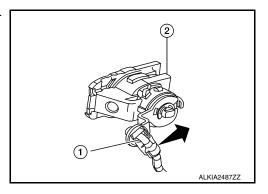
## < REMOVAL AND INSTALLATION >

Cut the butyl tape so that some parts of the butyl tape remain on the vapor barrier, if the vapor barrier is reused.

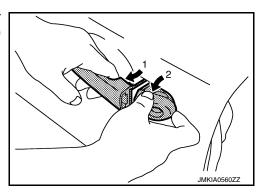
- 4. Disconnect the harness connectors from the Intelligent Key antenna and door request switch and then remove harness clamp on outside handle bracket.
- 5. Remove door side grommet (1), and loosen bolt from grommet hole (2).



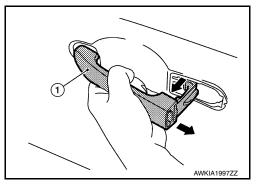
6. Separate door key cylinder rod (LH only) (1) from door key cylinder (LH only).



7. While pulling outside handle (1), remove door key cylinder (driver side) (2) or outside handle escutcheon (passenger side) (2).



8. While pulling outside handle (1), slide toward rear of vehicle to remove outside handle.



9. Remove front gasket and rear gasket.

DLK

Α

В

D

Е

Н

ı

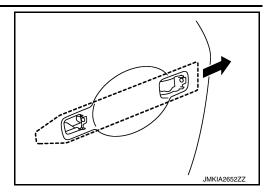
M

Ν

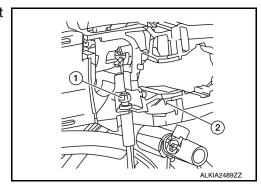
0

## < REMOVAL AND INSTALLATION >

10. Slide outside handle bracket toward rear of vehicle to remove.



11. Disconnect outside handle cable (1) from outside handle bracket (2) as shown.



## **INSTALLATION**

Installation is in the reverse order of removal.

#### **CAUTION:**

- When installing door key cylinder rod (LH only), be sure to rotate door key cylinder rod holder until a click is felt.
- After installation, check door lock cable is properly engaged to outside handle bracket.
- After installation, check door open/close and lock/unlock operation.

# REAR DOOR LOCK

**Exploded View** 

INFOID:0000000009133221

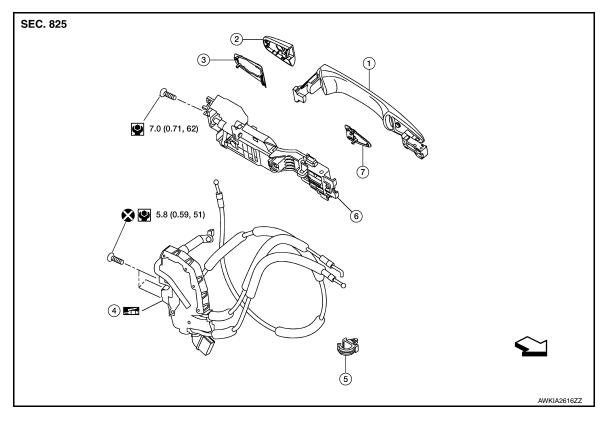
Α

В

D

Е

Н



- Outside handle
- Rear door lock
- Front gasket

- Outside handle escutcheon
- Cable clip
- < ☐ Front

- 3. Rear gasket
- Outside handle bracket

## DOOR LOCK

## DOOR LOCK: Removal and Installation

## **REMOVAL**

- 1. Remove rear door finisher. Refer to <a href="INT-17">INT-17</a>, "Removal and Installation".
- 2. Remove vapor barrier.
- Remove rear door lock bolts.
- Disconnect the door lock cables.
- Disconnect the harness connector from the rear door lock and remove.

#### INSTALLATION

Installation is in the reverse order of removal.

## **CAUTION:**

- · Do not reuse rear door lock bolts.
- After installation, check door lock cables are properly engaged to inside handle and outside handle.
- After installation, check door open/close and lock/unlock operation.

## INSIDE HANDLE

## INSIDE HANDLE: Removal and Installation

# REMOVAL

Remove rear door finisher. Refer to <a href="INT-17">INT-17</a>, "Removal and Installation".

**DLK-299 Revision: August 2013** 2014 QX60 DLK

INFOID:0000000009133222

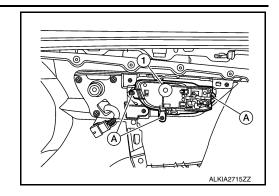
Ν

INFOID:0000000009133223

## **REAR DOOR LOCK**

## < REMOVAL AND INSTALLATION >

2. Remove inside handle screw (A) and inside handle (1).



#### **INSTALLATION**

Installation is in the reverse order of removal.

#### **CAUTION:**

- After installation, check door lock cables are properly engaged to inside handle.
- After installation, check door open/close and lock/unlock operation.

## **OUTSIDE HANDLE**

**OUTSIDE HANDLE: Removal and Installation** 

INFOID:0000000009133224

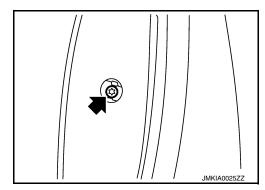
## **REMOVAL**

- 1. Fully close rear door glass.
- 2. Remove rear door finisher. Refer to INT-17, "Removal and Installation".
- 3. Remove vapor barrier.

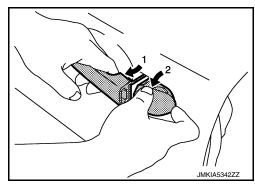
#### NOTE:

Cut the butyl tape so that some parts of the butyl tape remain on the vapor barrier, if the vapor barrier is reused.

4. Remove door side grommet and bolt from grommet hole.



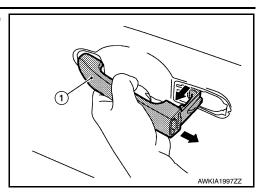
5. While pulling outside handle (1), remove outside handle escutcheon (2).



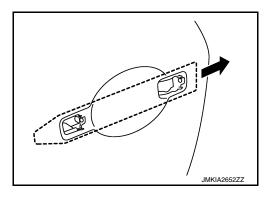
## **REAR DOOR LOCK**

## < REMOVAL AND INSTALLATION >

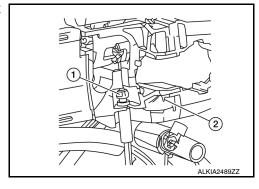
6. While pulling outside handle (1), slide toward rear of vehicle to remove outside handle.



- 7. Remove front gasket and rear gasket.
- 8. Slide outside handle bracket toward rear of vehicle to remove.



9. Disconnect outside handle cable (1) from outside handle bracket (2) as shown.



DLK

L

Α

В

D

Е

Н

## **INSTALLATION**

Installation in the reverse order of removal.

#### **CAUTION:**

- After installation, check door lock cable is properly engaged to outside handle bracket.
- After installation, check door open/close and lock/unlock operation.

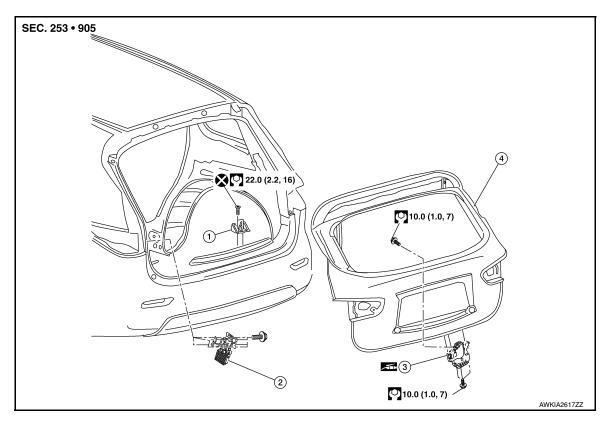
M

0

Ν

## **BACK DOOR LOCK**

Exploded View



- 1. Door striker
- 2. Automatic back door control module 3. Back door lock
- 4. Back door panel

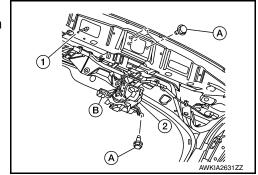
## DOOR LOCK

## DOOR LOCK: Removal and Installation

INFOID:0000000009133226

## **REMOVAL**

- Remove back door lower finisher. Refer to <u>INT-35</u>, "BACK DOOR LOWER FINISHER: Removal and Installation".
- 2. Disconnect harness connector (B) from the back door lock (2).
- 3. Remove back door lock bolts (A) and back door lock (2) from back door assembly (1).



## **INSTALLATION**

Installation is in the reverse order of removal.

**CAUTION:** 

After installation, check back door open/close and lock/unlock operation.

**TOUCH SENSOR** 

## **BACK DOOR LOCK**

## < REMOVAL AND INSTALLATION >

## **TOUCH SENSOR: Removal and Installation**

INFOID:0000000009133227

Α

В

D

Е

Н

#### **CAUTION:**

Use care not to bend touch sensor.

REMOVAL

- 1. Remove back door side finishers (LH/RH). Refer to <a href="INT-35">INT-35</a>, "BACK DOOR SIDE FINISHER: Removal and Installation".
- 2. Disconnect the harness from the touch sensor.
- 3. Release clips and remove screws that retain touch sensor.
- 4. Remove touch sensor harness from the back door assembly, then remove touch sensor.

## **INSTALLATION**

Installation is in the reverse order of removal.

#### **CAUTION:**

After installation, check back door open/close and lock/unlock operation.

**EMERGENCY LEVER** 

**EMERGENCY LEVER: Unlock procedures** 

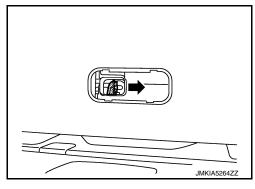
INFOID:0000000009133228

#### **UNLOCK PROCEDURES**

#### NOTE:

If back door lock cannot be unlocked due to a malfunction or battery discharge, perform the following procedures to unlock back door assembly.

- 1. Remove the emergency handle mask, using a suitable tool to release.
- From inside the vehicle, rotate emergency lever in the direction shown to unlock.



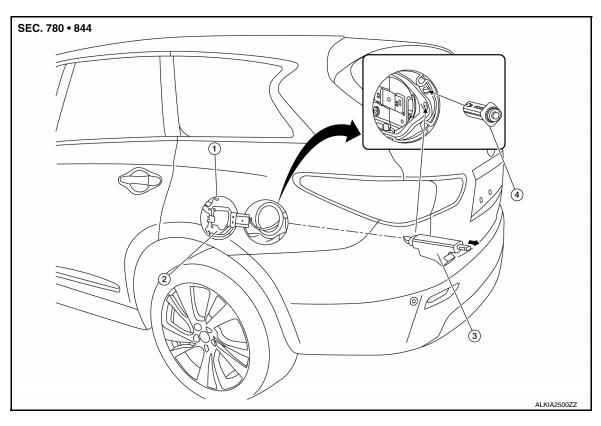
DLK

Ν

0

# **FUEL FILLER LID OPENER**

Exploded View



- 1. Fuel lid bumper rubber
- Fuel filler lid

3. Fuel filler lid lock actuator

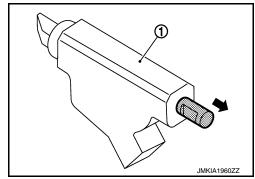
4. Fuel filler lid lock

## Removal and Installation

## **REMOVAL**

#### NOTE:

When fuel filler lid lock actuator (1) is not functioning correctly, pull the rod from inside the vehicle to open fuel filler lid.

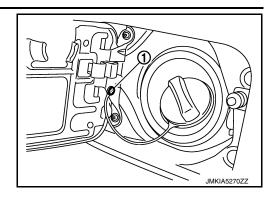


INFOID:0000000009133230

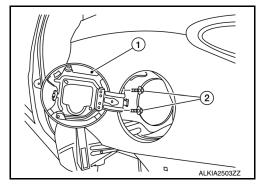
## **FUEL FILLER LID OPENER**

## < REMOVAL AND INSTALLATION >

1. Remove fuel cap pin (1).



2. Remove bolts (2) and fuel filler lid (1).



- 3. Remove luggage side lower finisher LH. Refer to <a href="INT-31">INT-31</a>, "LUGGAGE SIDE LOWER FINISHER: Removal and Installation".
- 4. Rotate lock nut counterclockwise and then remove lock nut.
- 5. Remove fuel filler lid lock actuator by releasing the pawl.
- 6. Disconnect harness connector from fuel filler lid lock actuator.
- 7. Remove fuel filler lock by releasing the pawls.

## INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

- After installation, check fuel filler lid open/close, lock/unlock operation.
- After installation, apply touch-up paint (body color) to the head of fuel filler lid bolts.

DLK

Α

В

D

Е

F

Н

M

Ν

0

# **KEY CYLINDER**

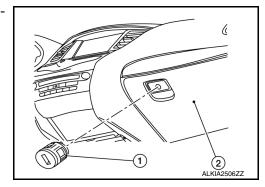
# **GLOVE BOX LID KEY CYLINDER**

## GLOVE BOX LID KEY CYLINDER: Removal and Installation

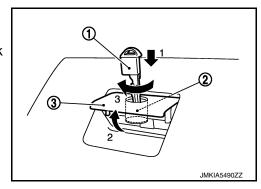
INFOID:0000000009133231

#### REMOVAL

1. Remove glove box assembly (2) to access glove box lid key cylinder (1). Refer to IP-26, "Removal and Installation".

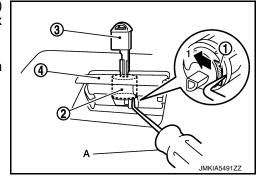


- 2. Insert key (1) into glove box lid lock cylinder (2).
- 3. Pull upward on glove box lid release handle (3).
- 4. Rotate key (1) and turn glove box lid key cylinder (2) to the lock position.



Press tumbler stopper (1) into glove box lid lock cylinder (2) using a suitable tool (A), and then remove key (3) and glove box lid lock cylinder together from glove box lid release handle (4).
 NOTE:

When removing glove box lid lock cylinder (2) note the position of cylinder to glove box lid release handle (4).



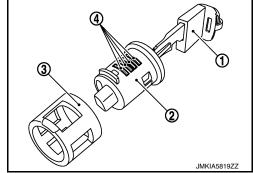
6. Remove sleeve (3) from glove box lid release handle and then install sleeve to glove box lid lock cylinder.

#### NOTE:

When removing sleeve note the position of sleeve to glove box lid release handle.

#### **CAUTION:**

Do not pull out key (1) from glove box lid lock cylinder (2) while sleeve (3) is removed. Otherwise, tumblers (4) may be lost from glove box lid lock cylinder.



#### INSTALLATION

Installation is in the reverse order of removal.

#### **CAUTION:**

After installation, check glove box assembly open/close, lock/unlock operation.

## **DOOR SWITCH**

## < REMOVAL AND INSTALLATION >

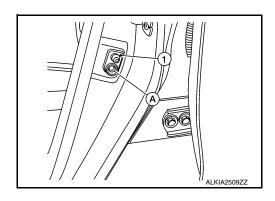
# **DOOR SWITCH**

# Removal and Installation

#### INFOID:0000000009133232

## **REMOVAL**

- 1. Remove the door switch bolt (A).
- 2. Disconnect harness from door switch (1) and remove.



## **INSTALLATION**

Installation is in the reverse order of removal.

G

F

Α

В

 $\mathsf{D}$ 

Е

Н

ı

J

## DLK

L

M

Ν

0

## **DOOR REQUEST SWITCH**

## < REMOVAL AND INSTALLATION >

## DOOR REQUEST SWITCH

**DRIVER SIDE** 

DRIVER SIDE: Removal and Installation

INFOID:0000000009133233

#### REMOVAL

The driver side door request switch and driver side outside handle are serviced as an assembly. Refer to <u>DLK-296</u>. "OUTSIDE HANDLE: Removal and Installation".

#### INSTALLATION

Installation is in the reverse order of removal.

PASSENGER SIDE

PASSENGER SIDE: Removal and Installation

INFOID:0000000009133234

## **REMOVAL**

The passenger side door request switch and passenger side outside handle are serviced as an assembly. Refer to <u>DLK-296</u>, "OUTSIDE HANDLE: Removal and Installation".

#### INSTALLATION

Installation is in the reverse order of removal.

**BACK DOOR** 

**BACK DOOR:** Removal and Installation

INFOID:0000000009133235

#### **REMOVAL**

- 1. Remove the back door outer finisher upper. Refer to EXT-44, "Removal and Installation".
- Disconnect the harness connector from the back door request switch.
- 3. Remove the back door request switch.

#### INSTALLATION

Installation is in the reverse order of removal.

## **INSIDE KEY ANTENNA**

## < REMOVAL AND INSTALLATION >

# INSIDE KEY ANTENNA INSTRUMENT CENTER

Α

В

D

Е

INSTRUMENT CENTER: Removal and Installation

INFOID:0000000009133236

#### REMOVAL

- Remove cluster lid C upper. Refer to <u>IP-23</u>, "<u>CLUSTER LID C UPPER</u>: <u>Removal and Installation</u>".
- 2. Remove the inside key antenna (instrument center) screw, and then remove inside key antenna (instrument center).

#### **INSTALLATION**

Installation is in the reverse order of removal.

**CONSOLE** 

**CONSOLE**: Removal and Installation

INFOID:0000000009133237

#### **REMOVAL**

- 1. Remove rear center ventilator duct. Refer to <a href="VTL-12">VTL-12</a>, "REAR CENTER VENTILATOR DUCT: Removal and Installation".
- 2. Remove the inside key antenna (console) screws and inside key antenna (console).

G

Н

#### **INSTALLATION**

Installation is in the reverse order of removal.

LUGGAGE ROOM

INFOID:0000000009133238

## LUGGAGE ROOM: Removal and Installation

#### **REMOVAL**

- Remove the second row seatback. Refer to <u>SE-121, "Removal and Installation"</u>.
- 2. Remove the inside key antenna (luggage room) clip, and then remove inside key antenna (luggage room).

#### INSTALLATION

Installation is in the reverse order of removal.

DLK

Ν

O

## **OUTSIDE KEY ANTENNA**

## < REMOVAL AND INSTALLATION >

## **OUTSIDE KEY ANTENNA**

**DRIVER SIDE** 

DRIVER SIDE: Removal and Installation

INFOID:0000000009133239

#### REMOVAL

The driver side outside key antenna and driver side outside handle are serviced as an assembly. Refer to <u>DLK-296, "OUTSIDE HANDLE: Removal and Installation"</u>.

#### INSTALLATION

Installation is in the reverse order of removal.

PASSENGER SIDE

PASSENGER SIDE: Removal and Installation

INFOID:0000000009133240

## **REMOVAL**

The passenger side outside key antenna and passenger side outside handle are serviced as an assembly. Refer to DLK-296, "OUTSIDE HANDLE: Removal and Installation".

#### INSTALLATION

Installation is in the reverse order of removal.

REAR BUMPER

REAR BUMPER: Removal and Installation

INFOID:0000000009133241

#### **REMOVAL**

- 1. Remove rear bumper fascia. Refer to EXT-20, "Removal and Installation".
- 2. Disconnect the harness connector from the rear bumper outside key antenna and remove.

## **INSTALLATION**

Installation is in the reverse order of removal.

## INTELLIGENT KEY WARNING BUZZER

< REMOVAL AND INSTALLATION >

Removal and Installation

# INTELLIGENT KEY WARNING BUZZER

INFOID:0000000009133242

## **REMOVAL**

#### NOTE:

The Intelligent Key warning buzzer is located in the left front area of the engine compartment.

- 1. Remove Intelligent Key warning buzzer clips.
- 2. Disconnect the harness connector from the Intelligent Key warning buzzer and remove.

## **INSTALLATION**

Installation is in the reverse order of removal.

Е

Α

В

C

D

F

G

Н

J

## DLK

L

M

Ν

0

## **BACK DOOR WARNING CHIME**

## < REMOVAL AND INSTALLATION >

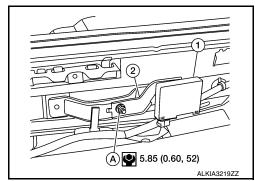
# **BACK DOOR WARNING CHIME**

## Removal and Installation

## INFOID:0000000009744484

## **REMOVAL**

- 1. Remove the rear bumper fascia. Refer to EXT-20, "Removal and Installation".
- 2. Remove the back door warning chime bracket nut (A) and remove back door warning chime (1).
- 3. Remove back door warning chime (1) from bracket (2) (if necessary).



## **INSTALLATION**

Installation is in the reverse order of removal.

## REMOTE KEYLESS ENTRY RECEIVER

## < REMOVAL AND INSTALLATION >

# REMOTE KEYLESS ENTRY RECEIVER

# Removal and Installation

#### INFOID:0000000009133243

## **REMOVAL**

- 1. Remove the glove box assembly. Refer to <a href="IP-26">IP-26</a>, "Removal and Installation".
- 2. Remove the remote keyless entry receiver bolt.
- 3. Disconnect the harness connector from remote keyless entry receiver and remove.

## **INSTALLATION**

Installation is in the reverse order of removal.

Е

 $\mathsf{D}$ 

Α

В

C

F

G

Н

J

## DLK

L

M

Ν

0

## INTELLIGENT KEY BATTERY

## < REMOVAL AND INSTALLATION >

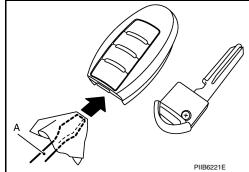
## INTELLIGENT KEY BATTERY

## Removal and Installation

Release the lock knob on the back of the Intelligent Key and remove the key.

2. Insert a suitable tool (A) wrapped with a cloth into the slit of the corner and twist it to separate the upper part from the lower part. **CAUTION:** 

- Do not touch the circuit board or battery terminal.
- The key fob is water-resistant. However, if it does get wet, immediately wipe it dry.



INFOID:0000000009133244

Replace the battery with a new one.

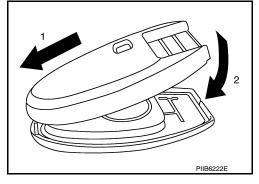
Battery replacement :Coin-type lithium battery

(CR2025)

4. Align the tips of the upper and lower parts, and then push them together until unit is securely closed.

#### **CAUTION:**

- When replacing battery, keep dirt, grease, and other foreign materials off the electrode contact area.
- After replacing the battery, check that all Intelligent Key functions work normally.



## **AUTOMATIC BACK DOOR CONTROL MODULE**

< REMOVAL AND INSTALLATION >

# AUTOMATIC BACK DOOR CONTROL MODULE

## Removal and Installation

INFOID:0000000009133245

## **REMOVAL**

В

- 1. Remove the luggage side lower finisher (LH). Refer to <a href="INT-31">INT-31</a>, "LUGGAGE SIDE LOWER FINISHER: Removal and Installation".
- 2. Remove the automatic back door control module bolts.
- 3. Disconnect the harness connector, from the automatic back door control module and remove.

## **INSTALLATION**

Installation is in the reverse order of removal.

D

C

Α

Е

F

G

Н

J

DLK

L

M

Ν

0

## **AUTOMATIC BACK DOOR MAIN SWITCH**

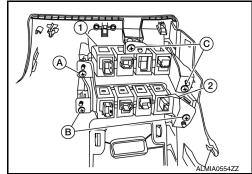
< REMOVAL AND INSTALLATION >

# AUTOMATIC BACK DOOR MAIN SWITCH

## Removal and Installation

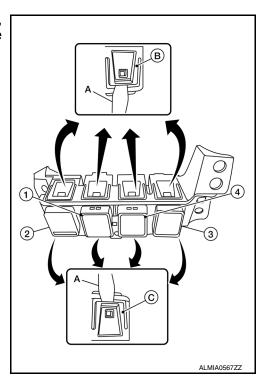
## **REMOVAL**

- 1. Remove the instrument lower panel LH. Refer to IP-25, "Removal and Installation".
- 2. Remove the screws (A,B,C) that retain the upper (1) and lower (2) switch carriers.



INFOID:0000000009133247

- 3. Release upper (B) and lower (C) tab using a suitable tool (A), then remove the automatic back door main switch (3) from the upper switch carrier.
  - (1): Heated steering wheel switch (if equipped)
  - (2): Traction control switch
  - (3): Automatic back door main switch
  - (4): Automatic back door switch



## **INSTALLATION**

Installation is in the reverse order of removal.

## **AUTOMATIC BACK DOOR SWITCH**

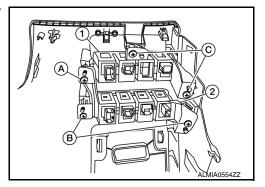
## < REMOVAL AND INSTALLATION >

# **AUTOMATIC BACK DOOR SWITCH**

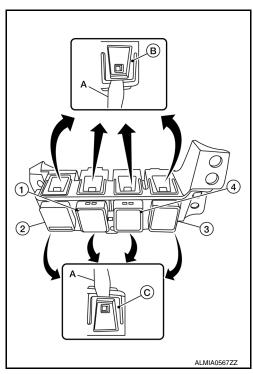
## Removal and Installation

## REMOVAL

- 1. Remove the instrument lower panel LH. Refer to IP-25, "Removal and Installation".
- 2. Remove the screws (A,B,C) that retain the upper (1) and lower (2) switch carriers.



- 3. Release upper (B) and lower (C) tab using a suitable tool (A), then remove the automatic back door opener switch (4) from the upper switch carrier.
  - (1): Heated steering wheel switch (if equipped)
  - (2): Traction control switch
  - (3): Automatic back door main switch
  - (4): Automatic back door switch



## **INSTALLATION**

Installation is in the reverse order of removal.

DLK

J

Α

В

D

Е

Н

INFOID:0000000009133249

Ν

0

## **AUTOMATIC BACK DOOR CLOSE SWITCH**

## < REMOVAL AND INSTALLATION >

# **AUTOMATIC BACK DOOR CLOSE SWITCH**

## Removal and Installation

#### INFOID:0000000009133248

## **REMOVAL**

- 1. Open back door assembly.
- 2. Release the automatic back door close switch pawls using a suitable tool.
- 3. Remove the automatic back door close switch screws.
- 4. Disconnect the harness connector from the automatic back door close switch and remove.

#### INSTALLATION

Installation is in the reverse order of removal.