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# **CONTENTS**

PRECAUTION3	BASIC INSPECTION24
PRECAUTIONS	DIAGNOSIS AND REPAIR WORK FLOW24 Work Flow24
(SRS) "AIR BAG" and "SEAT BELT PRE-TEN-SIONER"	DTC/CIRCUIT DIAGNOSIS25
Precaution Necessary for Steering Wheel Rotation after Battery Disconnect3	REAR WINDOW DEFOGGER SWITCH25 Component Function Check25
SYSTEM DESCRIPTION5	Diagnosis Procedure25
COMPONENT PARTS5Component Parts Location5Component Description5	REAR WINDOW DEFOGGER RELAY
SYSTEM         6           System Diagram         6           System Description         6	REAR WINDOW DEFOGER
DIAGNOSIS SYSTEM (BCM)7	Diagnosis Procedure27
COMMON ITEM	DOOR MIRROR DEFOGGER29Description29Component Function Check29
REAR WINDOW DEFOGGER8  REAR WINDOW DEFOGGER : CONSULT-III  Function (BCM - REAR DEFOGGER)8	Diagnosis Procedure
DIAGNOSIS SYSTEM (IPDM E/R)         10           Diagnosis Description         10           CONSULT-III Function (IPDM E/R)         12	Component Function Check
ECU DIAGNOSIS INFORMATION15	<b>GER</b> 31 Description31
<b>BCM, IPDM E/R</b>	Component Function Check31 Diagnosis Procedure31
WIRING DIAGRAM16	WIPER DEICER RELAY32
REAR WINDOW DEFOGGER SYSTEM16 Wiring Diagram16	Component Function Check       32         Diagnosis Procedure       32         Component Inspection       33
	WIPER DEICER34

Revision: 2010 May

Component Function Check	BOTH SIDES: Diagnosis Procedure39
Diagnosis Procedure	DRIVER SIDE39
SYMPTOM DIAGNOSIS36	DRIVER SIDE : Description
	DRIVER SIDE : Diagnosis Procedure39
REAR WINDOW DEFOGGER DOES NOT	PASSENGER SIDE39
OPERATE36	PASSENGER SIDE : Description
Diagnosis Procedure	PASSENGER SIDE : Description
REAR WINDOW DEFOGGER AND DOOR	WIPER DEICER DOSE NOT OPERATE 41
MIRROR DEFOGGER DO NOT OPERATE 37 Diagnosis Procedure	Diagnosis Procedure41
REAR WINDOW DEFOGGER DOES NOT OPERATE BUT BOTH DOOR MIRROR DE- FOGGERS OPERATE	ON IS NOT DISPLAYED WHEN PRESSING REAR WINDOW DEFOGGER SWITCH BUT IT IS OPERATED
DOOR MIRROR DEFOGGER DOES NOT OP-	REMOVAL AND INSTALLATION 43
ERATE39	FILAMENT 43
BOTH SIDES 39	Inspection and Repair43
BOTH SIDES : Description	

#### **PRECAUTIONS**

#### < PRECAUTION >

# **PRECAUTION**

## **PRECAUTIONS**

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

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

#### **WARNING:**

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

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

#### **WARNING:**

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution Necessary for Steering Wheel Rotation after Battery Disconnect INFOID:0000000006299422

#### NOTE:

- Before removing and installing any control units, first turn the push-button ignition switch to the LOCK position, then disconnect both battery cables.
- After finishing work, confirm that all control unit connectors are connected properly, then re-connect both battery cables.
- · Always use CONSULT-III to perform self-diagnosis as a part of each function inspection after finishing work. If a DTC is detected, perform trouble diagnosis according to self-diagnosis results.

This vehicle is equipped with a push-button ignition switch and a steering lock unit.

If the battery is disconnected or discharged, the steering wheel will lock and cannot be turned.

If turning the steering wheel is required with the battery disconnected or discharged, follow the procedure below before starting the repair operation.

#### OPERATION PROCEDURE

Connect both battery cables.

#### NOTE:

Revision: 2010 May

Supply power using jumper cables if battery is discharged.

- 2. Turn the push-button ignition switch to ACC position. (At this time, the steering lock will be released.)
- 3. Disconnect both battery cables. The steering lock will remain released with both battery cables disconnected and the steering wheel can be turned.
- Perform the necessary repair operation.

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## **PRECAUTIONS**

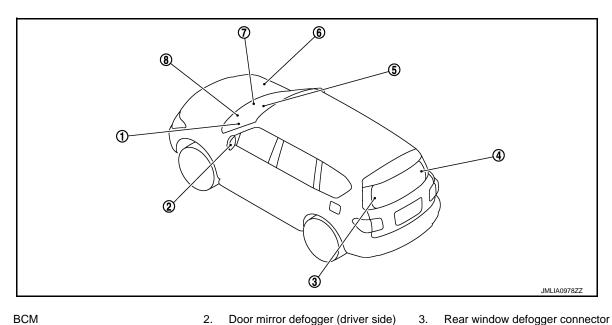
## < PRECAUTION >

- 5. When the repair work is completed, re-connect both battery cables. With the brake pedal released, turn the push-button ignition switch from ACC position to ON position, then to LOCK position. (The steering wheel will lock when the push-button ignition switch is turned to LOCK position.)
- 6. Perform self-diagnosis check of all control units using CONSULT-III.

# SYSTEM DESCRIPTION

# **COMPONENT PARTS**

# **Component Parts Location**



- **BCM** Refer to BCS-4, "BODY CONTROL **SYSTEM: Component Parts Loca-**
- Rear window defogger connector
- Multifunction switch (rear window defogger switch) Refer to AV-9, "Component Parts Location"
- Wiper deicer

- Rear window defogger connector
  - IPDM E/R Refer to PCS-4, "Component Parts Location"

# **Component Description**

7. AV control unit

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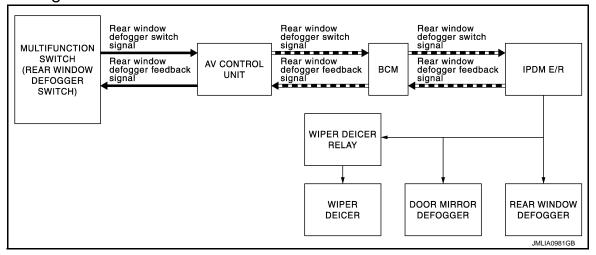
BCM	Transmits rear window defogger switch operation to IPDM E/R via CAN communication Performs the timer control of rear window defogger
IPDM E/R	Controls rear window defogger relay when rear window defogger switch signal is received via CAN communication, and then operates rear window defogger
Multifunction switch	The rear window defogger switch is installed Turns the indicator lamp ON when detecting the operation of rear window defogger
Rear window defogger switch	<ul> <li>The rear window defogger is operated by turning the rear window defogger switch ON.</li> <li>The indicator lamp in the rear window defogger switch illuminates when the rear window defogger is operating.</li> </ul>
Rear window defogger relay	Operates the rear window defogger with the control signal from IPDM E/R
Rear window defogger	Heats the heating wire with the power supply from the rear window defogger relay to prevent the rear window from fogging up.
Door mirror defogger	Heats the heating wire with the power supply from the rear window defogger relay to prevent the door mirror from fogging up.
Wiper deicer	Heats the heating wire with the power supply from the wiper deicer relay to thaw the frozen wiper blade and glass.
Wiper deicer relay	Supplies power to the wiper deicer with rear window defogger relay control.

DEF-5 Revision: 2010 May 2011 QX56

## SYSTEM

# System Diagram

INFOID:0000000006299425



# System Description

INFOID:0000000006299426

#### System Description

- Multifunction switch (rear window defogger switch) transmits rear window defogger switch signal to AV control unit via AV communication when rear window defogger switch is turned ON, while ignition switch is ON.
  AV control unit transmits rear window defogger switch signal to BCM via CAN communication.
- BCM transmits rear defogger window switch signal to IPDM E/R for approximately 15 minutes via CAN communication when rear window defogger switch signal is received.
- IPDM E/R turns rear window defogger relay ON when rear window defogger switch signal is received.
- Power supply is supplied to rear window defogger and door mirror defoggers when rear window defogger relay is ON.
- Wiper deicer relay turns ON when rear window defogger relay is ON.
- Power is supply to wiper deicer when wiper deicer relay is ON.
- AV control unit transmits rear window defogger control signal to multifunction switch (rear window defogger switch) via AV communication.
- IPDM E/R transmits rear window defogger control signal to AV control unit via CAN communication.

#### Timer function

- BCM turns rear window defogger relay ON for approximately 15 minutes when rear window defogger switch is turned ON to operate rear window defogger, door mirror defoggers and wiper deicer.
- Timer is canceled when rear window defogger switch is pressed again during timer operation. BCM turns
  rear window defogger relay OFF. The same operation also occurs when the ignition switch is turned OFF
  during timer operation.

# **DIAGNOSIS SYSTEM (BCM)**

#### < SYSTEM DESCRIPTION >

# **DIAGNOSIS SYSTEM (BCM)**

**COMMON ITEM** 

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

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#### APPLICATION ITEM

CONSULT-III performs the following functions via CAN communication with BCM.

Diagnosis mode	Function Description	
Work Support	Changes the setting for each system function.	
Self Diagnostic Result	Displays the diagnosis results judged by BCM. Refer to BCS-57, "DTC Index".	
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM. Refer to CONSULT-III operation manual.	
Data Monitor	The BCM input/output signals are displayed.	
Active Test	The signals used to activate each device are forcibly supplied from BCM.	
Ecu Identification	The BCM part number is displayed.	
Configuration	<ul><li>Read and save the vehicle specification.</li><li>Write the vehicle specification when replacing BCM.</li></ul>	

#### SYSTEM APPLICATION

BCM can perform the following functions for each system.

#### NOTE:

It can perform the diagnosis modes except the following for all sub system selection items.

×: Applicable item

Contains.	Cult suretain adaption items	Diagnosis mode			
System	Sub system selection item	Work Support	Data Monitor	Active Test	
Door lock	DOOR LOCK	×	×	×	
Rear window defogger	REAR DEFOGGER		×	×	
Warning chime	BUZZER		×	×	
Interior room lamp timer	INT LAMP	×	×	×	
Exterior lamp	HEAD LAMP	×	×	×	
Wiper and washer	WIPER	×	×	×	
Turn signal and hazard warning lamps	FLASHER	×	×	×	
_	AIR CONDITONER*		×	×	
Intelligent Key system     Engine start system	INTELLIGENT KEY	×	×	×	
Combination switch	COMB SW		×		
Body control system	ВСМ	×			
IVIS	IMMU	×	×	×	
Interior room lamp battery saver	BATTERY SAVER	×	×	×	
Back door	TRUNK		×		
Vehicle security system	THEFT ALM	×	×	×	
RAP system	RETAINED PWR		×		
Signal buffer system	SIGNAL BUFFER		×	×	

<sup>\*:</sup> This item is indicated, but not used.

#### FREEZE FRAME DATA (FFD)

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

Revision: 2010 May **DEF-7** 2011 QX56

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# **DIAGNOSIS SYSTEM (BCM)**

## < SYSTEM DESCRIPTION >

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

# **REAR WINDOW DEFOGGER**

# REAR WINDOW DEFOGGER: CONSULT-III Function (BCM - REAR DEFOGGER)

NFOID:00000000006299428

#### Data monitor

Monitor Item	Description
REAR DEF SW	Displays "Press (ON)/other (OFF)" status determined with the rear window defogger switch.
PUSH SW	Indicates [ON/OFF] condition of push switch.

## **ACTIVE TEST**

# **DIAGNOSIS SYSTEM (BCM)**

# < SYSTEM DESCRIPTION >

Test Item	Description
REAR DEFOGGER	Give a drive signal to the rear window defogger relay to activate it.

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#### < SYSTEM DESCRIPTION >

# DIAGNOSIS SYSTEM (IPDM E/R)

# **Diagnosis Description**

#### INFOID:0000000006349776

#### **AUTO ACTIVE TEST**

#### Description

In auto active test, the IPDM E/R sends a drive signal to the following systems to check their operation.

- Oil pressure warning lamp
- Rear window defogger
- Front wiper (LO, HI)
- Parking lamp
- License plate lamp
- Tail lamp
- Side marker lamp
- · Front fog lamp
- Headlamp (LO, HI)
- A/C compressor (magnet clutch)

#### Operation Procedure

#### **CAUTION:**

Never perform auto active test in the following conditions.

- Engine is running.
- CONSULT-III is connected.
- 1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)

#### NOTE:

When auto active test is performed with hood opened, sprinkle water on windshield beforehand.

- 2. Turn the ignition switch OFF.
- 3. Turn the ignition switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the ignition switch OFF.

#### **CAUTION:**

#### Close passenger door.

4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.

#### **CAUTION:**

#### Engine starts when ignition switch is turned ON while brake pedal is depressed.

- The oil pressure warning lamp starts blinking when the auto active test starts.
- 6. After a series of the following operations is repeated 3 times, auto active test is completed.

#### NOTE:

- When auto active test has to be cancelled halfway through test, turn the ignition switch OFF.
- When auto active test is not activated, door switch may be the cause. Check door switch. Refer to <u>DLK-117</u>. "Component Function Check".

#### Inspection in Auto Active Test

When auto active test is actuated, the following operation sequence is repeated 3 times.

Operation sequence	Inspection location	Operation
1	Oil pressure warning lamp	Blinks continuously during operation of auto active test
2	Rear window defogger	10 seconds
3	Front wiper	LO for 5 seconds → HI for 5 seconds
4	Parking lamp     License plate lamp     Tail lamp     Side marker lamp     Front fog lamp	10 seconds

#### < SYSTEM DESCRIPTION >

Operation sequence	Inspection location	Operation
5	Headlamp	LO for 10 seconds $\rightarrow$ HI ON $\Leftrightarrow$ OFF 5 times
6	A/C compressor (magnet clutch)	ON ⇔ OFF 5 times

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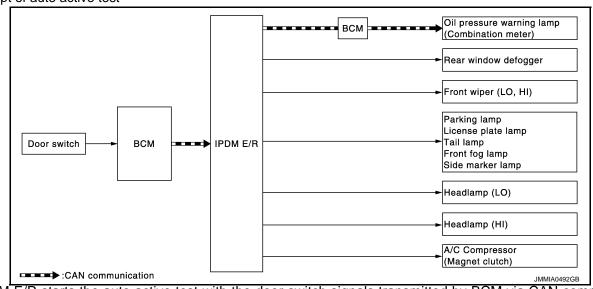
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Concept of auto active test



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

Diagnosis chart in auto active test

Symptom	Inspection contents		Possible cause	
			BCM signal input circuit	
Rear window defogger does not operate	Perform auto active test. Does the rear window defogger operate?	NO	Rear window defogger     Rear window defogger     ground circuit     Harness or connector between IPDM E/R and rear window defogger     IPDM E/R	
Any of the following components do not operate		YES	BCM signal input circuit	
<ul> <li>Parking lamp</li> <li>License plate lamp</li> <li>Tail lamp</li> <li>Side marker lamp</li> <li>Front fog lamp</li> <li>Headlamp (HI, LO)</li> <li>Front wiper (HI, LO)</li> </ul>	Perform auto active test. Does the applicable system operate?	NO	Lamp or motor Lamp or motor ground circuit Harness or connector between IPDM E/R and applicable system IPDM E/R	
A/C compressor does not operate	Perform auto active test.  Does the magnet clutch operate?	YES	A/C auto amp. signal input circuit     CAN communication signal between A/C auto amp. and ECM     CAN communication signal between ECM and IPDM E/R	
		NO	Magnet clutch     Harness or connector between IPDM E/R and magnet clutch     IPDM E/R	

Revision: 2010 May **DEF-11** 2011 QX56

# < SYSTEM DESCRIPTION >

Symptom	Inspection contents		Possible cause
	Perform auto active test.	YES	Harness or connector between IPDM E/R and oil pressure switch     Oil pressure switch     IPDM E/R
Oil pressure warning lamp does not operate	Does the oil pressure warning lamp blink?	NO	<ul> <li>CAN communication signal between IPDM E/R and BCM</li> <li>CAN communication signal between BCM and combi- nation meter</li> <li>Combination meter</li> </ul>

# CONSULT-III Function (IPDM E/R)

INFOID:0000000006349777

## APPLICATION ITEM

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

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

#### SELF DIAGNOSTIC RESULT

Refer to PCS-22, "DTC Index".

#### **DATA MONITOR**

Monitor item

Monitor Item [Unit]	MAIN SIG- NALS	Description
RAD FAN REQ [1/2/3/4]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication.
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.

# < SYSTEM DESCRIPTION >

Monitor Item [Unit]	MAIN SIG- NALS	Description
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the shift position judged by IPDM E/R.
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.
IHBT RLY -REQ [Off/On]		Displays the status of the starter control relay signal received from BCM via CAN communication.
ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.
DETENT SW [Off/On]		Displays the status of the A/T shift selector (detention switch) judged by IPDM E/R.
S/L RLY -REQ [Off/On]		Displays the status of the steering lock relay signal received from BCM via CAN communication.
S/L STATE [LOCK/UNLK/UNKWN]		Displays the status of the steering lock judged by IPDM E/R.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R.
HL WASHER REQ [Off/On]		Displays the status of the headlamp washer request signal received from BCM via CAN communication.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN communication.

# **ACTIVE TEST**

## Test item

Test item	Operation	Description	K
CODNEDING LAMP	LH	NOTE:	
CORNERING LAMP	RH	This item is indicated, but cannot be tested.	סבו
HORN	On	Operates horn relay for 20 ms.	DE
DEAD DEFOCCED	Off	OFF	
REAR DEFOGGER	On	Operates the rear window defogger relay.	M
	Off	OFF	
FRONT WIPER	Lo	Operates the front wiper relay.	
	Hi	Operates the front wiper relay and front wiper high relay.	Ν
	1	OFF	
	2	Transmits 50% pulse duty signal (PWM signal) to the cooling fan control module.	0
MOTOR FAN*	3	Transmits 75% pulse duty signal (PWM signal) to the cooling fan control module.	
	4	Transmits 100% pulse duty signal (PWM signal) to the cooling fan control module.	Р
HEAD LAMP WASHER	On	Operates the headlamp washer relay for 1 second.	

**DEF-13** Revision: 2010 May 2011 QX56

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# < SYSTEM DESCRIPTION >

Test item	Operation	Description
	Off	OFF
	TAIL	Operates the tail lamp relay.
EXTERNAL LAMPS	Lo	Operates the headlamp low relay.
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.
	Fog	Operates the front fog lamp relay.

<sup>\*:</sup> Operates while the engine is running.

# BCM, IPDM E/R

# < ECU DIAGNOSIS INFORMATION >

# **ECU DIAGNOSIS INFORMATION**

# BCM, IPDM E/R

List of ECU Reference

ECU	Reference
	BCS-33, "Reference Value"
BCM	BCS-54, "Fail-safe"
DCIVI	BCS-56, "DTC Inspection Priority Chart"
	BCS-57, "DTC Index"
	PCS-15, "Reference Value"
IPDM E/R	PCS-21, "Fail-Safe"
	PCS-22, "DTC Index"

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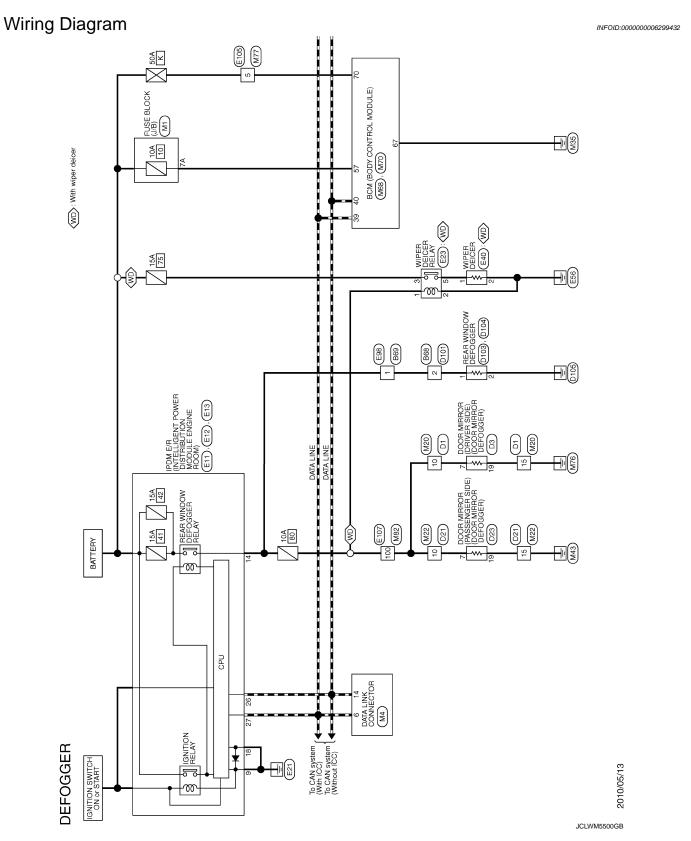
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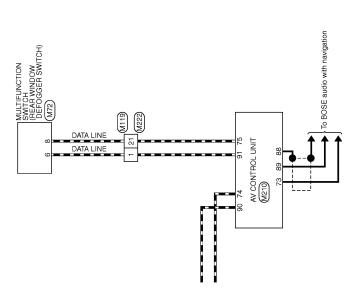
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# **WIRING DIAGRAM**

# REAR WINDOW DEFOGGER SYSTEM





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I	28	9/M		9	R SIDE CAMERA LH POWER SUPPLY	Ц Т	+		
Connector No. B69	33	M//		7	T	_ _	38	^	
Connector Name WIRE TO WIRE	36	M/B		8		Ц Т	┪		
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Connector Type M01MBR-PS-LC	38	SB	1	10	SB	_  	┪	SHIELD -	
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]	44	SHIELD		19	В _		50 R.	R/B _	
	45	ŋ	1	20	B		52 L		
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E23 MINDER DEIGER RELAY MSOZIL-M2-LC  Signal Name [Specification]  Signal Name [Specification]  Signal Name [Specification]	В
MSOZFIL-  E40  WIPER DI  XOZMIB	С
Connector No.  Connector Name  Connector Type  Terminal Color  No.  Connector Name  Connector	D
Specification]	Е
Signal Name   Specification	F
Connector No.   E	G H
	11
NDOW DEFOGGER  Signal Name [Specification]  Signal Name [Specification]  Signal Name [Specification]  Signal Name [Specification]	I
	J
Connector No.   D103	K
14   14   15   16   16   16   16   16   16   16	DEF
R MIRROR (PASSENGER SIDE)  MW-NH  Signal Name (Specification)  Signal Name (Specification)  Signal Name (Specification)  TO WIRE  W-LC  Signal Name (Specification)	M
Name   DEST	N
No   No   No   No   No   No   No   No	
DEFOG.    Connector Na   Connector N	0
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**DEF-19** Revision: 2010 May 2011 QX56

97 GR/L	Connector Name         FUSE BLOCK (J/B)           Connector Type         NS06FW-M2           H.S.         SA           RA         TA6A5A4A	Terminal   Color   Signal Name   Specification	
<del>                                      </del>	LG BR/W W/B GR/R W/R B B B R/L G/R R/W	26 W/L 27 L 27 L 28 G/B 37 G/Y 38 G/Y 40 W 41 R 42 B 43 Y 45 Y 45 SHELD	<del>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</del>
23 Y 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	У GRRR R	42 V 43 V 51 L/O 7 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	V/B   C/B   C/B
DEFOGGER Connector No. E88 Connector Name WIRE TO WIRE Connector Type MOIFBR-5-LC	Terminal Color Signal Name [Specification]	Connector No. E105 Connector Name WIRE TO WIRE Connector Type TH80MV-CS16-TM4  LAS TO TH80MV-CS16-TM4  TH80MV-CS16-TM4	Terminal Color No. of Wire Name [Specification]  1

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# < WIRING DIAGRAM >

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	${\mathbb H}$			17	ļ	SENSOR PWR SPLY
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	No.   M/22   N/22   N	Commetter   Comm	Commetter   Comm	Connector No.   M68	Connector No.   Miss   Connector Type   TH40FB-NH   Connector Type   Co	Connector No.   Miss   Connector Type   TH40FB-NH   Connector Type   Co

Revision: 2010 May **DEF-21** 2011 QX56

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42 43 51 52 53 54 60 60 61 62 63	92 L/W 94 Y/B 95 L/R 95 L/R 97 R 97 R 98 O/L 100 W/B Connector No.	Terminal No. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	13 14 15 17 18 20 21 22 22 22 23 23
WIFE TO WIFE THEOFFW-CSIG-TMA	Signal Name (Specification)	- (Without ICC)	
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ER  BCM (BODY CONTROL MODULE)  FEADSFW-FHA6-SA  55 57 58 59 60 61 62 63 64  65 66 67 68 69 70	Signal Name [Specification] INT ROOM LAMP PWR SPLY BASSENGER DOOR UNLY OUTPUT TURN SIGNAL, HH OUTPUT TURN SIGNAL HH OUTPUT STEP LAMP CONT ROOM LAMP TIMER CONT CRAMKING REQUEST ALL DOOR LOOK OUTPUT OR ROOM LAMP TIMER CONT CRAMKING REQUEST ALL DOOR LOOK OUTPUT DR DOOR LOOK OUTPUT OR CONTROLLY	M72 MULTIFUNCTION SWITCH THISFW-NH TH 3 5 7 9 1	Signal Name [Specification]  GND ACC ILL ILL ILL CONT AV COMM (1) AV COMM (1) SW GND SW GND DISK EJECT SIGNAL.
DEFOGGER  Domector Name B8  Domector Type FF  MA  LS  Domector Type FF  ES  Domector Type FF  ES  Domector Type FF	Color of Wire W/R LG G G G G/Y BR GR/R BR CG/R G C C C C C C C C C C C C C C C C C C		Color of Wire B V V L/W B/O SB LG R/W W/B
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DEFOGO Connector No.	DEFOGGER Connector No. M	R M119	Connector No.		M210	2	SB	
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4	M/B	-	71	SHIELD	MICROPHONE SHIELD	26	GR/L	-
5	SHIELD	-	72	Y/G	MICROPHONE VCC	27	Μ	-
9	LG	ı	73	Y/G	COMM (CONT->DISP)	28	>	1
7	>	ı	74	۵	CAN-L	29	BR/w	1
со	≯		75	ΓC	AV COMM (L)	30	Y/G	1
o	0	1	9/	P	AV COMM (L)	31	۲/۲	1
2	SHIELD	-	79	0/	DIMMER SIGNAL	32	<u>п</u>	-
Ξ	M/L	1	80	GR/L	IGNITION SIGNAL	37	SHIELD	-
1	>	1	-8 -	Σ	REVERSE SIGNAL	38	GR/R	-
8	G/R	1	82	BR/W	VEHICLE SPEED SIGNAL (8-PULSE)			
51	2	1	83	SHIELD	SHIELD			
22	5 c	ı	8 5	M/B	COMPOSITE IMAGE SYNC SIGNAL			
53		1	/8	Y/L	MICROPHONE SIGNAL			
24	M	1	88	SHIELD	SHIELD			
52	0/	-	68	۸/۲	COMM (DISP->CONT)			
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## **DIAGNOSIS AND REPAIR WORK FLOW**

< BASIC INSPECTION >

# **BASIC INSPECTION**

# DIAGNOSIS AND REPAIR WORK FLOW

Work Flow (INFOID:0000000006299433

#### **DETAILED FLOW**

# 1. OBTAIN INFORMATION ABOUT SYMPTOM

Interview the customer to obtain the malfunction information (conditions and environment when the malfunction occurred) as much as possible when the customer brings the vehicle in.

>> GO TO 2.

# 2. CHECK FOR DTC

Perform self diagnosis with CONSULT-III

#### Is any DTC detected?

YES-1 >> BCM: Refer to BCS-57, "DTC Index".

YES-2 >> IPDM E/R: Refer to PCS-22, "DTC Index".

NO >> GO TO 3.

# 3. REPRODUCE THE MALFUNCTION INFORMATION

Check the malfunction on the vehicle that the customer describes.

Inspect the relation of the symptoms and the condition when the symptoms occur.

>> GO TO 4.

# 4. IDENTIFY THE MALFUNCTIONING SYSTEM WITH "SYMPTOM DIAGNOSIS"

Use "Symptom diagnosis" from the symptom inspection result in step 3. Then identify where to start performing the diagnosis based on possible causes and symptoms.

>> GO TO 5.

# 5. IDENTIFY MALFUNCTIONING PARTS WITH "COMPONENT DIAGNOSIS"

Perform the diagnosis with "Component diagnosis" of the applicable system.

>> GO TO 6.

# 6. REPAIR OR REPLACE THE MALFUNCTIONING PARTS

Repair or replace the specified malfunctioning parts.

>> GO TO 7.

#### 7. FINAL CHECK

Check that malfunctions are not reproduced when obtaining the malfunction information from the customer, referring to the symptom inspection result in step 3.

#### Are all malfunctions corrected?

YES >> INSPECTION END

NO >> GO TO 4.

## **REAR WINDOW DEFOGGER SWITCH**

# < DTC/CIRCUIT DIAGNOSIS > DTC/CIRCUIT DIAGNOSIS Α REAR WINDOW DEFOGGER SWITCH Component Function Check INFOID:0000000006299434 В 1. CHECK REAR WINDOW DEFOGGER SWITCH FUNCTION Check that the indicator lamp of rear window defogger illuminates when rear window defogger switch ON. Is the inspection result normal? >> Rear window defogger switch function is OK. NO >> Refer to DEF-25, "Diagnosis Procedure" D Diagnosis Procedure INFOID:0000000006299435 Е 1. CHECK MULTIFUNCTION SWITCH (REAR WINDOW DEFOGGER SWITCH) Does multifunction switch operate normally? Refer to AV-199, "Symptom Table". F Is the inspection result normal? YES >> INSPECTION END. NO >> Replace multifunction switch (rear window defogger switch). Н K DEF M Ν

**DEF-25** Revision: 2010 May 2011 QX56 Р

## **REAR WINDOW DEFOGGER RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

# REAR WINDOW DEFOGGER RELAY

Description INFOID:0000000006299436

The rear window defogger is operated by turning the rear window defogger switch ON.

# Component Function Check

INFOID:0000000006299437

# 1. CHECK FUNCTION

- 1. Perform IPDM E/R Active Test ("REAR DEFOGGER") using CONSULT-III.
- Touch "ON".
- 3. Check that the rear window heating wire is getting warmer.

#### Is the inspection result normal?

YES >> Rear window defogger relay function is OK.

NO >> Refer to <u>DEF-26</u>, "<u>Diagnosis Procedure</u>"

# Diagnosis Procedure

INFOID:0000000006299438

# 1. CHECK FUSE

- 1. Turn ignition switch OFF.
- 2. Check the 15A fuse (No. 41, 42 located in IPDM E/R).

#### 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 IPDM E/R OUTPUT SIGNAL

- 1. Perform IPDM E/R Active Test ("REAR DEFOGGER") using CONSULT-III.
- 2. Touch "ON".
- 3. Check voltage between IPDM E/R harness connector and ground.

·	+) M E/R	(-)	CONSULT-III Active Test condition		Voltage (V) (Approx.)
Connector	Terminal				(11 - )
E11	14	Ground	REAR DEFOGGER	ON	Battery voltage
EII	14	Ground	REAR DEFOGGER	OFF	0

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace IPDM E/R. Refer to PCS-32, "Removal and Installation".

#### **REAR WINDOW DEFOGGER**

#### < DTC/CIRCUIT DIAGNOSIS >

# REAR WINDOW DEFOGGER

**Description** 

Heats the heating wire with the power supply from the rear window defogger relay to prevent the rear window from fogging up.

# Component Function Check

# 1.CHECK FUNCTION

- Perform IPDM E/R Active Test ("REAR DEFOGGER") using CONSULT-III.
- 2. Touch "ON".
- 3. Check that the rear window heating wire is getting warmer.

#### Is the inspection result normal?

YES >> Rear window defogger relay function is OK.

NO >> Refer to <u>DEF-26</u>, "<u>Diagnosis Procedure</u>"

# Diagnosis Procedure

# 1. CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect rear window defogger connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between rear window defogger harness connector and ground.

(+) Rear window defogger		(–)	Condition		Voltage (V) (Approx.)
Connector	Terminal				
D103	1	Ground	Rear window defogger switch	ON	Battery voltage
D103	I	Ground	Real willdow delogger switch	OFF	0

#### Is the inspection result normal?

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

# 2.check rear window defogger ground circuit

- 1. Turn ignition switch OFF.
- 2. Check continuity between rear window defogger harness connector and ground.

Rear windo	ow defogger		Continuity
Connector	Connector Terminal		Continuity
D104	2		Existed

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3.CHECK FILAMENT

Refer to DEF-43, "Inspection and Repair".

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair filament.

# 4. CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect IPDM E/R connector.
- 3. Check continuity between IPDM E/R harness connector and rear window defogger harness connector.

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INFOID:000000000629944

Revision: 2010 May **DEF-27** 2011 QX56

## **REAR WINDOW DEFOGGER**

## < DTC/CIRCUIT DIAGNOSIS >

IPDI	IPDM E/R		ow defogger	Continuity	
Connector	Terminal	Connector Terminal		Continuity	
E11	14	D103	1	Existed	

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

IPDN	M E/R		Continuity	
Connector	Terminal	Ground	Continuity	
E11	14		Not existed	

# Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

# 5. CHECK INTERMITTENT INCIDENT

Check intermittent incident.

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

#### DOOR MIRROR DEFOGGER

#### < DTC/CIRCUIT DIAGNOSIS >

## DOOR MIRROR DEFOGGER

Description (INFOID:000000000299442)

Heats the heating wire with the power supply from the rear window defogger relay to prevent the door mirror from fogging up.

# Component Function Check

# 1. CHECK DOOR MIRROR DEFOGGER

- 1. Perform IPDM E/R Active Test ("REAR DEFOGGER") using CONSULT-III.
- 2. Touch "ON".
- 3. Check that both side door mirror glasses are getting warmer.

#### Is the inspection result normal?

YES >> Door mirror defogger is OK.

NO >> Refer to <u>DEF-29</u>, "<u>Diagnosis Procedure</u>"

# Diagnosis Procedure

# 1.CHECK FUSE

- Turn ignition switch OFF.
- Check 10A fuse [No.80, 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 door mirror defogger circuit

- 1. Disconnect IPDM E/R connector and door mirror (both sides) connector.
- 2. Check continuity between IPDM E/R harness connector and door mirror (driver side) harness connector.

IPDM E/R		Door mirror (driver side)		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E11	14	D3	7	Existed

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

IPDI	M E/R		Continuity	
Connector	Connector Terminal		Continuity	
E11	14		Not existed	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

## 3.CHECK INTERMITTENT INCIDENT

Check intermittent incident.

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

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Revision: 2010 May **DEF-29** 2011 QX56

#### DRIVER SIDE DOOR MIRROR DEFOGGER

#### < DTC/CIRCUIT DIAGNOSIS >

# DRIVER SIDE DOOR MIRROR DEFOGGER

Description INFOID:000000000299445

Heats the heating wire with the power supply from the rear window defogger relay to prevent the door mirror from fogging up.

# Component Function Check

INFOID:0000000006299446

# 1. CHECK DRIVER SIDE DOOR MIRROR DEFOGGER

- 1. Perform IPDM E/R Active Test ("REAR DEFOGGER") using CONSULT-III.
- 2. Touch "ON".
- 3. Check that the driver side door mirror glass is getting warmer.

#### Is the inspection result normal?

YES >> Driver side door mirror defogger is OK.

NO >> Refer to <u>DEF-30</u>, "<u>Diagnosis Procedure</u>"

# Diagnosis Procedure

INFOID:0000000006299447

# 1. CHECK POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect door mirror (driver side) connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between door mirror (driver side) harness connector and ground.

	+) (driver side)	(-)	Condition		Voltage (V) (Approx.)
Connector	Terminal				
D3	7	Ground	Rear window defogger	ON	Battery voltage
D3	D3 7	Ground	switch	OFF	0

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

# 2. CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Check continuity between door mirror (driver side) harness connector and ground.

Door mirror	(driver side)		Continuity
Connector	Terminal	Ground	Continuity
D3	19		Existed

## Is the inspection result normal?

YES >> Replace door mirror glass (driver side).

NO >> Repair or replace harness.

## PASSENGER SIDE DOOR MIRROR DEFOGGER

#### < DTC/CIRCUIT DIAGNOSIS >

# PASSENGER SIDE DOOR MIRROR DEFOGGER

Description INFOID:0000000006299448

Heats the heating wire with the power supply from the rear window defogger relay to prevent the door mirror from fogging up.

# Component Function Check

# 1. CHECK PASSENGER SIDE DOOR MIRROR DEFOGGER

- 1. Perform IPDM E/R Active Test ("REAR DEFOGGER") using CONSULT-III.
- 2. Touch "ON".
- 3. Check that the passenger side door mirror glass is getting warmer.

#### Is the inspection result normal?

YES >> Passenger side door mirror defogger is OK.

NO >> Refer to <u>DEF-31</u>, "<u>Diagnosis Procedure</u>"

# Diagnosis Procedure

# 1. CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect door mirror (passenger side) connector.
- 3. Turn ignition switch ON.
- 4. Check voltage between door mirror (passenger side) harness connector and ground.

(+)  Door mirror (passenger side)		(–)	Condition		Voltage (V) (Approx.)
Connector	Terminal				(11 - 7
D23	7	Ground	Rear window defogger	ON	Battery voltage
	D23 7 Ground		switch	OFF	0

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

# 2. CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Check continuity between door mirror (passenger side) harness connector and ground.

Door mirror (p	assenger side)		Continuity
Connector	Connector Terminal		Continuity
D23	19		Existed

#### Is the inspection result normal?

YES >> Replace door mirror glass (passenger side).

NO >> Repair or replace harness.

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Revision: 2010 May **DEF-31** 2011 QX56

#### **WIPER DEICER RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

## WIPER DEICER RELAY

# Component Function Check

# 1. CHECK WIPER DEICER RELAY POWER SUPPLY CIRCUIT

- 1. Select Active Test ("REAR DEFOGGER") mode of "BCM" using CONSULT-III.
- Touch "ON".
- 3. Check that the front window heating wire is getting warmer.

#### Is the inspection result normal?

YES >> Wiper deicer relay power supply circuit function is OK.

NO >> Refer to <u>DEF-32</u>, "<u>Diagnosis Procedure</u>".

# Diagnosis Procedure

INFOID:0000000006299452

INFOID:0000000006299451

# 1. CHECK WIPER DEICER CIRCUIT 1

- 1. Turn ignition switch ON.
- 2. Check voltage between wiper deicer relay harness connector and ground.

(+) Wiper deid	er relay	(-)	Condition	Voltage (V) (Approx.)	
Connector	Terminal				
E23	1	Ground	Rear window defogger switch: ON	Battery voltage	
223	1	Giouna	Rear window defogger switch: OFF	0	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

# 2.CHECK WIPER DEICER CIRCUIT 2

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

Wiper deicer relay		IPDM E/R		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
E23	1	E11	14	Existed	

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

# 3.CHECK WIPER DEICER CIRCUIT $_3$

Check voltage between wiper deicer relay harness connector and ground.

(+)			Voltage (V)	
Wiper deicer relay  Connector Terminal		(-)	Voltage (V) (Approx.)	
E23	3	Ground	Battery voltage	

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

# 4. CHECK WIPER DEICER RELAY GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect wiper deicer relay connector.
- Check continuity between wiper deicer relay terminal connector and ground.

## **WIPER DEICER RELAY**

#### < DTC/CIRCUIT DIAGNOSIS >

Wiper deicer relay			Continuity
Connector	Terminal	Ground	Continuity
E23	2		Existed

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

# 5. CHECK WIPER DEICER RELAY

Check wiper deicer relay.

Refer to <u>DEF-33</u>, "Component Inspection".

## Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace wiper deicer relay.

# 6. CHECK INTERMITTENT INCIDENT

Check intermittent incident.

Refer to GI-40, "Intermittent Incident".

#### >> INSPECTION END

# Component Inspection

# 1. CHECK WIPER DEICER RELAY

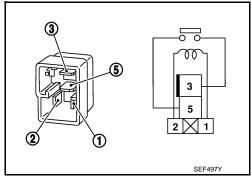
- Turn ignition switch OFF.
- 2. Disconnect wiper deicer relay.
- 3. Check wiper deicer relay.

Wiper deicer relay		Condition	Continuity
Terminal		Condition	Continuity
3 5		12 V direct current supply between terminals 1 and 2	Existed
		No current supply	Not existed

#### Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace wiper deicer relay.



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Revision: 2010 May **DEF-33** 2011 QX56

#### **WIPER DEICER**

#### < DTC/CIRCUIT DIAGNOSIS >

## WIPER DEICER

# Component Function Check

INFOID:0000000006299454

# 1. CHECK WIPER DEICER

- 1. Select Active Test ("REAR DEFOGGER") mode of "BCM" using CONSULT-III.
- 2. Touch "ON".
- 3. Check that the front window heating wire is getting warmer.

#### Is the inspection result normal?

YES >> Wiper deicer is OK.

NO >> Refer to <u>DEF-34</u>, "<u>Diagnosis Procedure</u>"

# Diagnosis Procedure

INFOID:0000000006299455

## 1. CHECK FUSE

- 1. Turn ignition switch OFF.
- 2. Check 15 A fuse [No.75, 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 POWER SUPPLY CIRCUIT

- 1. Turn ignition switch ON.
- Check voltage between wiper deicer harness connector and ground.

(+) Wiper deicer		(–)	Condition	Voltage (V) (Approx.)	
Connector	Terminal			(F.F. 6741)	
E40	1	Ground	Rear window defogger switch: ON	Battery voltage	
	I	Giouria	Rear window defogger switch: OFF	0	

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 4.

# 3. CHECK GROUND CIRCUIT

- 1. Turn ignition switch OFF.
- Disconnect wiper deicer connector.
- Check continuity between wiper deicer harness connector and ground.

Wiper deicer			Continuity
Connector	Terminal	Ground	Continuity
E40	2		Existed

#### Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness between rear window defogger and ground.

# 4. CHECK WIPER DEICER CIRCUIT

- Turn ignition switch OFF.
- 2. Disconnect wiper deicer relay connector and wiper deicer connector.
- Check continuity between wiper deicer relay harness connector and wiper deicer harness connector.

#### **WIPER DEICER**

#### < DTC/CIRCUIT DIAGNOSIS >

Wiper deicer relay		Wiper deicer		Continuity	
Connector	Terminal	Connector Terminal		Continuity	
E23	5	E40	1	Existed	

4. Check continuity between wiper deicer relay harness connector and ground.

Wiper deicer relay			Continuity
Connector	Terminal	Ground	Continuity
E23	5		Not existed

## Is the inspection result normal?

YES >> Repair or replace harness between wiper deicer relay and fuse.

NO >> Repair or replace harness between wiper deicer relay and wiper deicer.

# 5. CHECK WIPER DEICER

Check wiper deicer.

Wiper deicer			Continuity
Connector	Terminal		Continuity
E40	1	2	Existed

#### Is the inspection result normal?

YES >> GO TO 6.

NO >> Replace windshield glass.

# 6. CHECK INTERMITTENT INCIDENT

Check intermittent incident.

Refer to GI-40, "Intermittent Incident".

>> INSPECTION END

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**DEF-35** Revision: 2010 May 2011 QX56 Α

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## REAR WINDOW DEFOGGER DOES NOT OPERATE

#### < SYMPTOM DIAGNOSIS >

# SYMPTOM DIAGNOSIS

# REAR WINDOW DEFOGGER DOES NOT OPERATE

# Diagnosis Procedure

INFOID:0000000006299456

# 1. CHECK REAR WINDOW DEFOGGER SWITCH

Check rear window defogger switch.

Refer to DEF-25, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2. CHECK REAR WINDOW DEFOGGER RELAY

Check rear window defogger relay.

Refer to DEF-26, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

## 3. CHECK REAR WINDOW DEFOGGER

Check rear window defogger.

Refer to DEF-27, "Component Function Check".

#### Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

# 4. CONFIRM THE OPERATION

Confirm the operation again.

#### Is the inspection result normal?

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

NO >> GO TO 1.

# REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER DO NOT OPERATE.

# < SYMPTOM DIAGNOSIS >

REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER DO NOT OPERATE.	Α
Diagnosis Procedure	В
1. CHECK REAR WINDOW DEFOGGER SWITCH	
Check rear window defogger switch.  Refer to DEF-25, "Component Function Check".	С
Is the inspection result normal?  YES >> GO TO 2.  NO >> Repair or replace the malfunctioning parts.  2.CHECK REAR WINDOW DEFOGGER RELAY	D
Check rear window defogger relay. Refer to DEF-26, "Component Function Check".	Е
Is the inspection result normal?  YES >> GO TO 3.  NO >> Repair or replace the malfunctioning parts.  3. CHECK REAR WINDOW DEFOGGER	F
Check rear window defogger. Refer to DEF-27, "Component Function Check".	G
Is the inspection result normal?  YES >> GO TO 4.  NO >> Repair or replace the malfunctioning parts.  4. CONFIRM THE OPERATION	Н
Confirm the operation again.  Is the inspection result normal?  YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".	J
NO >> GO TO 1.	

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Revision: 2010 May **DEF-37** 2011 QX56

# REAR WINDOW DEFOGGER DOES NOT OPERATE BUT BOTH DOOR MIRROR DEFOGGERS OPERATE.

#### < SYMPTOM DIAGNOSIS >

# REAR WINDOW DEFOGGER DOES NOT OPERATE BUT BOTH DOOR MIRROR DEFOGGERS OPERATE.

# Diagnosis Procedure

INFOID:0000000006299458

# 1. CHECK REAR WINDOW DEFOGGER

Check rear window defogger.

Refer to DEF-27, "Component Function Check".

### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2.CONFIRM THE OPERATION

Confirm the operation again

### Is the inspection result normal?

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

NO >> GO TO 1.

Revision: 2010 May **DEF-38** 2011 QX56

DOOR MIRROR DEFOGGER DOES NOT OPERATE < SYMPTOM DIAGNOSIS > DOOR MIRROR DEFOGGER DOES NOT OPERATE Α **BOTH SIDES BOTH SIDES: Description** INFOID:0000000006299459 В Driver side and passenger side door mirror defoggers do not operate. **BOTH SIDES**: Diagnosis Procedure INFOID:0000000006299460 1. CHECK DOOR MIRROR DEFOGGER Check door mirror defogger. D Refer to DEF-29, "Component Function Check". Is the inspection result normal? YES >> GO TO 2. Е NO >> Repair or replace the malfunctioning parts. 2.CONFIRM THE OPERATION Confirm the operation again. Is the inspection result normal? YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident". NO >> GO TO 1. DRIVER SIDE DRIVER SIDE: Description INFOID:0000000006299461 Driver side door mirror defogger does not operate. DRIVER SIDE: Diagnosis Procedure INFOID:00000000006299462 1. CHECK DRIVER SIDE DOOR MIRROR DEFOGGER Check driver side door mirror defogger. Refer to DEF-30, "Component Function Check". Is the inspection result normal? K YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. 2.CONFIRM THE OPERATION DEF Confirm the operation again. Is the inspection result normal? YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident". NO >> GO TO 1. PASSENGER SIDE Ν PASSENGER SIDE : Description INFOID:0000000006299463 Passenger side door mirror defogger does not operate. PASSENGER SIDE : Diagnosis Procedure INFOID:0000000006299464 CHECK PASSENGER SIDE DOOR MIRROR DEFOGGER. Check passenger side door mirror defogger. Refer to DEF-31, "Component Function Check". Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts.

2.CONFIRM THE OPERATION

## DOOR MIRROR DEFOGGER DOES NOT OPERATE

## < SYMPTOM DIAGNOSIS >

Confirm the operation again.

# Is the inspection result normal?

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

NO >> GO TO 1.

# **WIPER DEICER DOSE NOT OPERATE**

< SYMPTOM DIAGNOSIS >	
WIPER DEICER DOSE NOT OPERATE	A
Diagnosis Procedure	INFOID:0000000006299465
1.CHECK WIPER DEICER RELAY	В
Check wiper deicer relay.  Refer to DEF-32, "Component Function Check".	
Is the inspection result normal?	С
YES >> GO TO 2.  NO >> Repair or replace the malfunctioning parts.	
2.CHECK WIPER DEICER	D
Check wiper deicer. Refer to DEF-34, "Component Function Check".	E
Is the inspection result normal?  YES >> GO TO 3.  NO >> Repair or replace the malfunctioning parts.	F
3.CONFIRM THE OPERATION	Г
Confirm the operation again.	G
Is the inspection result normal?  YES >> Check intermittent incident. Refer to GI-40, "Intermittent Incident".	0
NO >> GO TO 1.	Н
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# ON IS NOT DISPLAYED WHEN PRESSING REAR WINDOW DEFOGGER SWITCH BUT IT IS OPERATED

#### < SYMPTOM DIAGNOSIS >

# ON IS NOT DISPLAYED WHEN PRESSING REAR WINDOW DEFOGGER SWITCH BUT IT IS OPERATED

# **Diagnosis Procedure**

INFOID:0000000006299466

# 1. CHECK AV CONTROL UNIT FUNCTION

Check that the AV control unit is operating normally. Refer to AV-104, "Work Flow (Multi AV)".

#### Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

# 2.CONFIRM THE OPERATION

Confirm the operation again.

### Is the inspection result normal?

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

NO >> GO TO 1.

Revision: 2010 May **DEF-42** 2011 QX56

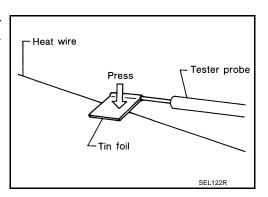
# REMOVAL AND INSTALLATION

# **FILAMENT**

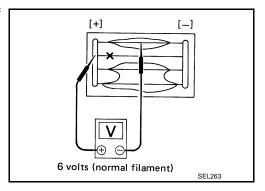
# Inspection and Repair

#### INSPECTION

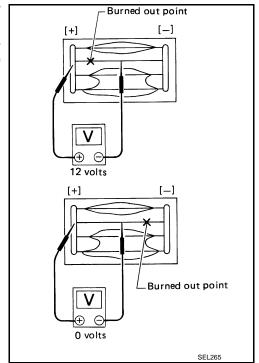
1. When measuring voltage, wrap tin foil around the top of the negative probe. Then press the foil against the wire with your finger.



Attach probe circuit tester (in Volt range) to middle portion of each filament.



- 3. If a filament is burned out, circuit tester registers 0 or battery voltage.
- To locate burned out point, move probe to left and right along filament. Test needle will swing abruptly when probe passes the point.



#### **REPAIR**

### REPAIR EQUIPMENT

• Conductive silver composition (Dupont No. 4817 or equivalent)

Revision: 2010 May **DEF-43** 2011 QX56

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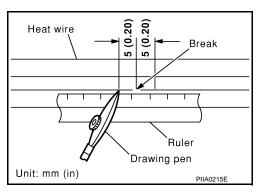
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#### < REMOVAL AND INSTALLATION >

- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

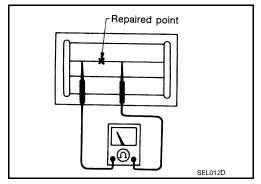
#### REPAIRING PROCEDURE

- 1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
- 2. Apply a small amount of conductive silver composition to tip of drawing pen.
  - Shake silver composition container before use.
- Place ruler on glass along broken line. Deposit conductive silver composition on break with drawing pen. Slightly overlap existing heat wire on both sides [preferably 5 mm (0.20 in)] of the break.



4. After repair has been completed, check repaired wire for continuity. This check should be conducted 10 minutes after silver composition is deposited.

Do not touch repaired area while test is being conducted.



 Apply a constant stream of hot air directly to the repaired area for approximately 20 minutes with a heat gun. A minimum distance of 3 cm (1.2 in) should be kept between repaired area and hot air outlet.

If a heat gun is not available, let the repaired area dry for 24 hours.

