SECTION DEF В DEFOGGER o

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 WARNING: Parts with strong magnet is used in this vehicle. Technicians using a medical electric device such as pacemaker must never perform operation on the vehicle, as magnetic field can affect the device function by approaching to such parts. 	С
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 WARNING: If a technician uses a medical electric device such as an implantable cardiac pacemaker or an implantable cardioverter defibrillator, the possible effects on the devices must be checked with the device manufacturer before starting the charge operation. As radiated electromagnetic wave generated by RDM (Rewer Delivery Medule) at normal charge 	E
operation may affect medical electric devices, a technician using a medical electric device such as implantable cardiac pacemaker or an implantable cardioverter defibrillator must not approach motor room [PDM (Power Delivery Module)] at the hood-opened condition during normal charge operation.	F
PRECAUTION AT TELEMATICS SYSTEM OPERATION	G
 WARNING: If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from interior/exterior antenna 	Н
 The electromagnetic wave of TCU might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), when using the service, etc. If a technician uses other medical electric devices than implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), the electromagnetic wave of TCU might affect the function of the device. The possible effects on the devices must be checked with the device manufacturer before TCU use 	l
PRECAUTION AT INTELLIGENT KEY SYSTEM OPERATION	
 WARNING: If a technician uses implantable cardiac pacemaker or implantable cardioverter defibrillator (ICD), avoid the device implanted part from approaching within approximately 220 mm (8.66 in) from inte- 	K
 rior/exterior antenna. The electromagnetic wave of Intelligent Key might affect the function of the implantable cardiac pacemaker or the implantable cardioverter defibrillator (ICD), at door operation, at each request switch operation, or at engine starting. 	DEF
• If a technician uses other medical electric devices than implantable cardiac pacemaker or implant- able cardioverter defibrillator (ICD), the electromagnetic wave of Intelligent Key might affect the function of the device. The possible effects on the devices must be checked with the device manu- facturer before Intelligent Key use	M
Point to Be Checked Before Starting Maintenance Work	IN
The high voltage system may starts automatically. It is required to check that the timer air conditioner and timer charge (during EVSE connection) are not set before starting maintenance work.	0
If the timer air conditioner or timer charge (during EVSE connection) is set, the high voltage system starts automatically even when the power switch is in OFF state.	Ρ
Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT	

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. This system includes seat belt switch inputs and dual stage front air bag modules. The SRS

PRECAUTIONS

< PRECAUTION >

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 SR and SB section of this Service Manual.

WARNING:

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

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

WARNING:

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

Precaution for Removing 12V Battery

INFOID:000000008744319

1. Check that EVSE is not connected.

NOTE:

If EVSE is connected, the air conditioning system may be automatically activated by the timer A/C function.

- 2. Turn the power switch OFF \rightarrow ON \rightarrow OFF. Get out of the vehicle. Close all doors (including back door).
- 3. Check that the charge status indicator lamp does not blink and wait for 5 minutes or more. **NOTE:**

If the battery is removed within 5 minutes after the power switch is turned OFF, plural DTCs may be detected.

- 4. Remove 12V battery within 1 hour after turning the power switch $OFF \rightarrow ON \rightarrow OFF$.
 - NOTE:
 - The 12V battery automatic charge control may start automatically even when the power switch is in OFF state.
 - Once the power switch is turned ON → OFF, the 12V battery automatic charge control does not start for approximately 1 hour.

CAUTION:

- After all doors (including back door) are closed, if a door (including back door) is opened before battery terminals are disconnected, start over from Step 1.
- After turning the power switch OFF, if "Remote A/C" is activated by user operation, stop the air conditioner and start over from Step 1.

SYSTEM DESCRIPTION COMPONENT PARTS

Component Parts Location

INFOID:00000008744320



A. Back door lower finisher inside

No.	Component	Function
1.	IPDM E/R	 The rear window defogger relay is installed. Receives rear window defogger control signal from BCM via CAN communication. Controls rear window defogger relay to operate rear window defogger and door mirror defogger*. Refer to <u>PCS-6, "Component Parts Location"</u> for detailed installation location.
2.	Rear window defogger con-	
3.	nector (Rear window defogger)	Refer to <u>DEF-6, "Rear window defogger"</u> .
4.	A/C auto amp. (Rear window defogger switch)	 The rear window defogger switch is installed. The rear window defogger and door mirror defogger* are operated by turning the rear window defogger switch ON. The indicator lamp in the rear window defogger switch illuminates when the rear window defogger is operating. Refer to <u>HAC-19</u>. "AUTOMATIC AIR CONDITIONING SYSTEM : Component Parts Location" (with heat pump) or <u>HAC-225</u>. "AUTOMATIC AIR CONDITIONING SYSTEM : Component. Parts Location" (without heat pump) for detailed installation location.
5.	VCM	VCM receives rear window defogger control signal from IPDM E/R, and transmits rear window defogger status signal to A/C auto amp. via EV system CAN communication. Refer to <u>EVC-16</u> , " <u>Component Parts Location</u> " for detailed installation location.
6.	Door mirror defogger	Refer to DEF-6, "Door mirror defogger".
7.	ВСМ	 Detects rear window defogger switch signal and transmits rear window defogger control signal to IPDM E/R via CAN communication. Performs the timer control of rear window defogger. Refer to <u>BCS-5, "BODY CONTROL SYSTEM : Component Parts Location"</u> for detailed installation location.
8.	Condenser	Removes the noise that is generated when rear window defogger turns ON/OFF.

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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.



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SYSTEM

System Description



OPERATION DESCRIPTION

- Turn rear window defogger switch ON while power switch is ON. Then A/C auto amp. transmits rear window defogger switch signal to BCM.
- BCM transmits rear window defogger control signal to IPDM E/R via CAN communication for approximately 15 minutes.
- IPDM E/R turns rear window defogger relay ON when rear window defogger control signal is received.
- When rear window defogger relay turns ON, IPDM E/R transmits rear window defogger control signal to VCM via CAN communication. VCM transmits rear window defogger status signal to A/C auto amp. via EV system CAN communication.
- When rear window defogger is activated, indicator lamp on rear window defogger switch turns ON.

TIMER FUNCTION

- BCM transmits the rear window defogger control signal to IPDM E/R for approximately 15 minutes when the rear window defogger switch turns ON while power switch is ON. Then IPDM E/R activates rear window defogger and door mirror defogger.
- The timer is cancelled if the rear window defogger switch is pressed again during timer operation. BCM stops the output of rear window defogger control signal. The same action occurs during timer operation if the power switch is turned OFF.

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DIAGNOSIS SYSTEM (BCM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

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APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

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

SYSTEM APPLICATION BCM can perform the following functions.

		Direct Diagnostic 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			×	×	х		
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			×	×			
Trunk open	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×				
Signal buffer system	SIGNAL BUFFER			×				
TPMS	AIR PRESSURE MONITOR		×	×	×	×		

REAR WINDOW DEFOGGER

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

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DATA MONITOR

		B
Monitor Item [Unit]	Description	
PUSH SW [On/Off]	Indicates condition of power switch.	
REAR DEF SW [On/Off]	Indicates condition of rear window defogger switch.	C
ACTIVE TEST		

ACTIVE TEST

		D
Test Item	Description	
REAR DEFOGGER	This test is able to check rear window defogger operation [Off/On].	
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DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

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AUTO ACTIVE TEST

Description

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

- · Rear window defogger
- · Front wiper motor
- Parking lamp
- License plate lamp
- Tail lamp
- Front fog lamp
- Side marker lamp
- Headlamp (LO, HI)

Operation Procedure

NOTE:

Never perform auto active test in the following conditions.

- · CONSULT is connected.
- Passenger door is open.
- 1. Turn the power switch OFF.
- 2. Turn the power switch ON, and within 20 seconds, press the driver door switch 10 times. Then turn the power switch OFF.
- 3. Turn the power switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.

NOTE:

Never depress brake pedal while operating power switch so that auto active test is not activated.

4. After a series of the following operations is repeated 3 times, auto active test is completed.

NOTE:

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

Inspection in Auto Active Test Mode

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

Operation sequence	Inspection location	Operation
1	Rear window defogger	10 seconds
2	Front wiper motor	LO for 5 seconds \rightarrow HI for 5 seconds
3	 Parking lamp License plate lamp Tail lamp Front fog lamp Side marker lamp 	10 seconds
4	Headlamp	LO for 10 seconds \rightarrow HI ON \Leftrightarrow OFF 5 times

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

Concept of auto active test



• IPDM E/R starts the auto active test with the door switch signals transmitted by BCM via CAN communication. Therefore, the CAN communication line between IPDM E/R and BCM is considered normal if the auto active test starts successfully.

• The auto active test facilitates troubleshooting if any systems controlled by IPDM E/R cannot be operated.

Diagnosis chart in auto active test mode

Symptom	Inspection contents		Possible cause	Γ
		YES	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		YES	BCM signal input circuit	
operate Parking lamp License plate lamp Tail lamp Front fog lamp Headlamp (HI, LO) Side marker lamp Front wiper motor	Perform auto active test. Does the applicable system op- erate?	NO	 Lamp or motor Lamp or motor ground circuit Harness or connector between IPDM E/R and applicable system IPDM E/R 	K

CONSULT Function (IPDM E/R)

APPLICATION ITEM

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

Direct Diagnostic Mode	Description	
Ecu Identification	The IPDM E/R part number is displayed.	C
Self Diagnostic Result	The IPDM E/R self diagnostic results are displayed.	
Data Monitor	The IPDM E/R input/output data is displayed in real time.	P
Active Test	The IPDM E/R activates outputs to test components.	
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.	

SELF DIAGNOSTIC RESULT Refer to <u>PCS-18, "DTC Index"</u>.

DATA MONITOR

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DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Main Signals	Description
TAIL&CLR REQ [On/Off]	×	Indicates position light request signal received from BCM on CAN communica- tion line
HL LO REQ [On/Off]	×	Indicates low beam request signal received from BCM on CAN communication line
HL HI REQ [On/Off]	×	Indicates high beam request signal received from BCM on CAN communication line
FR FOG REQ [On/Off]	×	Indicates front fog light request signal received from BCM on CAN communica- tion line
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Indicates front wiper request signal received from BCM on CAN communication line
WIP AUTO STOP [STOP P/ACT P]	×	Indicates condition of front wiper auto stop signal
WIP PROT [Off/BLOCK]	×	Indicates condition of front wiper fail-safe operation
IGN RLY1 -REQ [On/Off]		Indicates power switch ON signal received from BCM on CAN communication line
IGN RLY [On/Off]	×	Indicates condition of ignition relay-1
PUSH SW [On/Off]		Indicates condition of power switch
DETENT SW [On/Off]		Indicates condition of shift position (park position switch)
DTRL REQ [Off]		Indicates daytime light request signal received from BCM on CAN communica- tion line
HOOD SW [On/Off]		Indicates condition of hood switch
THFT HRN REQ [On/Off]		Indicates theft warning horn request signal received from BCM on CAN commu- nication line
HORN CHIRP [On/Off]		Indicates horn reminder signal received from BCM on CAN communication line

ACTIVE TEST

Test item	Description
HORN	This test is able to check horn operation [On].
REAR DEFOGGER	This test is able to check rear window defogger operation [On/Off].
FRONT WIPER	This test is able to check wiper motor operation [Hi/Lo/Off].
EXTERNAL LAMPS	This test is able to check external lamp operation [Fog/Hi/Lo/TAIL/Off].

CAN DIAG SUPPORT MNTR

Refer to LAN-13, "CAN Diagnostic Support Monitor".

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION BCM, IPDM E/R

List of ECU Reference

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ECU	Reference	
	BCS-28, "Reference Value"	
PCM	BCS-46. "Fail-safe"	
BCM	BCS-47, "DTC Inspection Priority Chart"	
	BCS-48, "DTC Index"	
	PCS-14, "Reference Value"	
IPDM E/R	PCS-17. "Fail-Safe"	
	PCS-18, "DTC Index"	

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WIRING DIAGRAM REAR WINDOW DEFOGGER SYSTEM

Wiring Diagram

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Connector N	o. M4		Connector N	o. M10			Terminal No	Color of	Sicnal Namo
Connector N	ame DAT,	A LINK CONNECTOR	Connector N	ame WIR	E TO WIRE			Wire	
Connector C	olor WHI		Connector C	olor WHI	LE		36A	в	I
							37A	٩	I
Æ			E				38A	7	I
	/ <u>9 10 11</u>	12 13 14 15 16	SH				39A	ГG	I
011							43A	>	I
							44A	L	I
			1A 2A	3A 4A 5A	6A 7A 8A 9A 10A 11A 12A	13A 14A 15A	45A	ГG	I
					DAAbsabsal Dealszabsakoakuaku	20112011201201	46A	BR	I
H	Color of		274284294	20A31A32A33A	24A35A 27A48A49A50A51A5	2453454455A	47A	×	I
l erminal No	Wire	Signal Name					48A	в	I
-	I	1					49A	ш	I
2	1	1	Terminal No	Color of	Signal Name		50A	SHIELD	I
ო	Ъ	1		Wire					
4	в	1	1A		– (WITH BOSE)				
ъ	В	1	1A	œ	- (WITHOUT BOSE)				
9		1	2A	٩	– (WITH BOSE)				
2	GB	1	2A	U	- (WITHOUT BOSE)				
. «	J	1	3A	SHIELD	I				
, o	1		4A	Ъ	I				
Ę	,	1	5A	>	I				
2 =	SB	1	10A	BR	I				
: 6	; c	1	11A	≻	1				
i t	> _	1	12A	В	I				
7T		1	13A	×	I				
יין ער	- 1		14A	SB	I				
2 4	>		15A	_	1				
2	-		24A	~	1				
			25A	BR	1				
			26A	SHIELD	1				

CONNECTORS DEFOGGER -

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REAR WINDOW DEFOGGER SYSTEM

< WIRING DIAGRAM >

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< WIRING DIAGRAM >

Signal Name		-	I	I	-	-	I	-	I	-	-	I	-	-	I	-	-	I	-	-	-	-	I	I
Color of Wire	-	Ι	I	I	LG	В	GR	W	Р	٧	٧	В	L	BR	L	Y	BR	В	W	В	SHIELD	-	В	ГG
Terminal No.	32C	33C	34C	35C	36C	37C	38C	39C	40C	41C	42C	43C	44C	45C	46C	47C	48C	49C	50C	51C	52C	53C	54C	55C

Signal Name	1	I	I	I	I	I	I	I	I	I	I	I	I	1	I	I	I	Ι	I	-	I	I	I
Color of Wire	ГG	٢	Ν	SB	в	L	В	I	I	Ι	I	I	Ι	I	Ι	J	В	SHIELD	I	I	I	I	I
Terminal No.	90	10C	11C	12C	13C	14C	15C	16C	17C	18C	19C	20C	21C	22C	23C	24C	25C	26C	27C	28C	29C	30C	31C



Signal Name	– (WITH BOSE)	- (WITHOUT BOSE)	– (WITH BOSE)	- (WITHOUT BOSE)	I	I	Ι	I	I	I
Color of Wire	В	Р	G	Г	SHIELD	g	^	I	BR	SB
Terminal No.	1C	1C	2C	2C	ЗС	4C	5C	90	7C	8C

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Connector Name WIRE TO WIRE

Connector No. M11

< WIRING DIAGRAM >

Signal Name	I	I	I	I	I	I	I	I	I	I	I	I	Ι
Color of Wire	I	I	I	I	8	ш	Μ	٢	I	Μ	L	_	Р
Terminal No.	20	21	22	23	24	25	26	27	28	29	30	31	32

NHITE		13 12 11 10 9 8 7 6 5 4 3 2 1 29 28 27 26 25 24 23 22 21 20 19 18 17	of Signal Name	1	1	I	I	I	I	I		I	1	I	I	1	I	I	I	I	I	
WHITE		1 12 11 10 9 8 7 1 29 28 27 26 25 24 23	or of Signal I lire		1	1	-	-	-	B	- ELD	и 	B	- 	-	an I	- 		י יי		-	
r Color		16 15 14 32 31 30	No. Vo							_	SHI	_	0	_	-	0	_		_			-
Connecto	E	H.S.	Terminal	-	5	e	4	5	9	2	8	6	10	11	12	13	14	15	16	17	18	10

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Connector No. M21 Connector Name WIRE TO WIRE

< WIRING DIAGRAM >

Signal Name	1	ACC RELAY OUTPUT	STARTER RELAY OUTPUT	IGN RELAY OUTPUT1 (USM)	IGN RELAY OUTPUT2 (ELEC)	REQUEST SW (AS)	I	SHIFT N, P	I	I	BRAKE SW2	I	I	I	I	I
Color of Wire	I	BR	LG		GR	٩	-	BG	I	I	W	Ι	Ι	I	Ι	Ι
Terminal No.	95	96	26	86	66	100	101	102	103	104	105	106	107	108	109	110

Signal Name	DOOR ANTENNA (AS) -	BACK DOOR ANTENNA +	BACK DOOR ANTENNA –	ROOM ANTENNA 1 +	ROOM ANTENNA 1 -	ROOM ANTENNA 2 +	ROOM ANTENNA 2 -	ROOM ANTENNA 3 +	ROOM ANTENNA 3 -	HIGHSIDE ENGINE START SW ILLUMINATION LED	POWER POSITION LED (LOCK POSITION LED)	LOW SIDE ENGINE START SW ILLUMINATION LED OUTPUT	SMART KEYLESS BUZZER OUTPUT	SMART KEYLESS BUZZER OUTPUT
Color of Wire	≻	M	в	ВВ	Y	σ	В	9	щ	M	>	а	GR	I
Terminal No.	81	82	83	84	85	86	87	88	89	06	91	92	93	94



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< WIRING DIAGRAM >

Signal Name	COMBINATION SW OUTPUT 1	SHIFT P POSITION, PARKING POSITION SW	INTELLIGENT TUNER	CAN-H	CAN-L
Color of Wire	٩	>	SB	_	Ч
Terminal No.	36	28	38	39	40

Signal Name	REAR DEFOGGER SW	MR OUTPUT	AUTO LIGHT SENSOR POWER SUPPLY OUTPUT	KEYLESS TUNER, AUTO LIGHT SENSOR GND	Ι	I	IMMOBILIZER ONE WAY COMMUNICATION (CLOCK)	Ι	SECURITY INDICATOR OUTPUT	DONGLE LINK	IMMOBILIZER TWO WAY COMMUNICATION	I	I	I	HAZARD SW	TRUNK/BACK DOOR OPENER SW	DOOR LOCK STATUS SW (DR)	COMBINATION SW OUTPUT 5	COMBINATION SW OUTPUT 4	COMBINATION SW OUTPUT 3	COMBINATION SW OUTPUT 2
Color of Wire	Μ	н	Y	L	Ι	I	Р	-	щ	SB	FG	I	—	Ι	G	٧	W	GR	٢	W	BG
Terminal No.	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35



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Signal Name	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Color of Wire	٩	I	I	I	I	I	I	ш	ш	в	٩	٩	N	×	ГG	œ	æ	Ν	×	N
Terminal No.	-	2	e	4	5	9	7	80	6	10	÷	12	13	14	15	16	17	18	19	20



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Signal Name	I	I	I	1	1	I	1	I	I	1	I	I	1	I	I	I	I	I	1	1
Color of Wire	SB	SB	SB	SB	_	_	_	_	_	_	ГG	ГG	LG	ГG	٩	Р	Ч	٩	٩	۵.
Ferminal No.	-	2	е	4	5	9	7	8	6	10	1	12	13	14	15	16	17	18	19	20

Signal Name	I	ļ	I	I	ļ	I	I	ļ	I	I	I	I	I	I	I	I	I	I	I	I	
Color of Wire	_	_	ВВ	GR	_	_	_	_	_	_	ГG	ГG	Ļ	щ	٩	٩	٩	٩	Ч	٩	
Terminal No.	-	2	e	4	£	9	7	8	6	10	11	12	13	14	15	16	17	18	19	20	

AALIA1765GB

< WIRING DIAGRAM >

		7 3 2 4		Signal Name	1	I	I	I	1	I	I	1													
. M51			, ,	Color of Wire	в	ГG	I	_	в	SB	I	3													
Connector No	Connector Na	品.S.H.		Terminal No.	-	2	з	4	ъ	9	7	80													
		5 4 3 2 1 15 14 13 12 11		Signal Name	1	-	1	1	1		1	1	1	1	1	1		1	1	1	1	1	-	1	
M50		9 8 7 6 19 18 17 16		olor of Nire	в	В	В	ш	в	в	в	в	в	в	U	σ	IJ	IJ	IJ	_	_	L L	L	L	
Connector No.	Connector Color	H.S.		Terminal No.	-	2	3	4	£	9	2	ω	6	10	11	12	13	14	15	16	17	18	19	20	

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< WIRING DIAGRAM >

minal No. 60	Color of Wire Y	Signal Name -
61	GR	1
52	Μ	I
63	BR	I
64	SHIELD	I
65	Μ	I
66	97	I
67	Я	I
68	IJ	I
69	BG	I
70	GR	I
71	۳	1
72	æ	I
73	в	I
74	Ν	1
76	_	I
80	Μ	1
81	97	I
83	GR	I
84	Г	I
85	٨	I
86	SB	I
88	Я	I
89	9	I
90	SHIELD	I
91	٨	I
92	BR	I
93	Μ	I
94	Ч	I
95	_	I
96	Ч	I
97	ŋ	I
98	>	I
66	ГG	I
00	Я	I

Signal Name	1	1	I	I	I	I	1	I	I	I	1	1	I	1	I	I	1	I	I	I	I	I	1	I	I	I	I	I	I	I	I	I	I	I	1
Color of Wire	в	BG	в	σ	в	в	Ν	œ	н	N	GR	ВВ	ВВ	N		ГG	SB	٨	٩	SB	σ	ГG	≻	œ	Μ	L	ŋ	L	SB	L	В	щ	٧	۲	
Terminal No.	22	23	24	26	27	28	25	29	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	54	55	56	57	58

AALIA1767GB

< WIRING DIAGRAM >

Revision: October 2013

2013 LEAF

Revision: October 2013

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< WIRING DIAGRAM >

Signal Name

Color of Wire

Terminal No.

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

Connector Name Connector Color

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

Connector Name Connector Color

E12

Connector No.

BROWN

E13

Connector No.

WHITE

33 32 34

6 25 24 23 2 31 30 29	Signal Name	I	I	AUTO STOP SW	CAN-CL	CAN-CH	DTRL RLY	1
34 33 27	Color of Wire	Т	T	œ	٩	L	ე	I
国 H.S.	Terminal No.	23	24	25	26	27	28	20

1 20 19 18	Signal Name	I	I	I	GND (SIGNAL)	FR FOG/L RH	FR FOG/L LH	I	I
17	Color of Wire	I	Ι	I	B/W	Μ	>	I	I
国 H.S.	Terminal No.	15	16	17	18	19	20	21	22

H.S.

Signal Name	I	I	Ι	I
Color of Wire	I	I	Γ	ŋ
Terminal No.	-	2	3	4

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AALIA1840GB

23 -	- 70	 25 R	26 P	27 L	28 G	- 29	30

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Signal Name	I	I	I	I	I	I	I	I
Color of Wire	_	g	I	I	Ι	GR	BR	Y
Terminal No.	£	9	7	8	6	10	11	12

< WIRING DIAGRAM >

erminal No.	Color of Wire	Signal Name
49	Я	ACCELERATOR PEDAL POSITION SENSOR 1
51	В	POWER ON POWER SUPPLY
54	×	SYSTEM MAIN RELAY 1
56	ŋ	ENCODER GROUND
57	0	ELECTRIC SHIFT SENSOR GND 1
58	B/B	VCM GROUND
62	В	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 1)
65	В	VCM GROUND

Terminal No.	Color of Wire	Signal Name
19	W	WATER PUMP SIGNAL
20	G	WATER PUMP SIGNAL
21	GR	F/S RELAY
23	В	CHARGE PORT LID OPENER ACTUATOR RELAY
24	L	EV SYSTEM CAN-H
25	G	EV SYSTEM CAN-L
28	н	SYSTEM MAIN RELAY 2
30	M	READY SIGNAL
32	В	VENC
33	L	N POSITION OUTPUT (SELECT INDICATOR)
34	щ	D POSITION OUTPUT (SELECT INDICATOR)
36	M	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 1)
39	R	MOTOR COIL A W-PHASE
40	В	PRE-CHARGE RELAY
44	Р	ENCODER SIGNAL B
45	>	ENCODER SIGNAL A
46	В	P POSITION OUTPUT (SELECT INDICATOR)
47	LG	P/N POSITION SIGNAL
48	Ν	P POSITION SIGNAL

AALIA1841GB

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< WIRING DIAGRAM >

Signal Name	COOLANT TEMPERATURE SENSOR	ASCD STEERING SWITCH	P POSITION SW NO.2	BRAKE PEDAL POSITION SWITCH	CHARGING STATUS INDICATOR 1	A/C RELAY	CHARGE CONNECTOR LOCK ACTUATOR (+)	VCM GROUND	SENSOR GROUND (BATTERY CURRENT SENSOR)	SENSOR GROUND (COOLANT TEMPERATURE SENSOR)	SENSOR GROUND (ACCELERATOR PEDAL POSITION SENSOR 2)	SENSOR GROUND (REFRIGERANT PRESSURE SENSOR)	ELECTRIC SHIFT SENSOR GND 2	ASCD STEERING SWITCH GROUND	VCM GROUND	COOLING FAN CONTROL SIGNAL	IMMEDIATE CHARGING SWITCH	
Color of Wire	~	SB	ш	0	>	SB	Ľ	в	-	8	ш	BR	W/L	BR	B/B	>	~	3
Terminal No.	110	111	112	113	115	116	117	118	120	121	122	123	124	125	126	128	129	130

Signal Name	CHARGE CONNECTOR LOCK SWITCH INDICATOR (LOCK)	M/C RELAY	CHARGING STATUS INDICATOR 2	CHARGING STATUS INDICATOR 3	CHARGE CONNECTOR LOCK SWITCH INDICATOR (AUTO)	CHARGE PORT ID OPENER SWITCH	CHARGE CONNECTOR LOCK SWITCH (LOCK)	BATTERY CURRENT SENSOR	SENSOR POWER SUPPLY (BATTERY CURRENT SENSOR)	SENSOR POWER SUPPLY (ACCELERATOR PEDAL POSITION SENSOR 2)	SENSOR POWER SUPPLY (REFRIGERANT PRESSURE SENSOR)	P POSITION SW NO.1	STOP LAMP SWITCH	PLUG IN INDICATOR LAMP	CHARGE CONNECTOR LOCK RELAY POWER SUPPLY	BATTERY TEMPERATURE SENSOR	ACCELERATOR PEDAL POSITION SENSOR 2	REFRIGERANT PRESSURE SENSOR
Color of Wire	>	SB	BR	U	0	BR	0	≻	œ	8		æ	Ч	_	æ	_	ш	m
Terminal No.	87	88	89	06	91	93	94	95	96	26	86	66	101	103	104	107	108	109

		_																		
	NMC		69 70 71 72 73 74 75 76 77 78	82 83 84 85 86 87 88 89 90 91 91 95 95 96 97 98 99 100101102103 104	117 108/109/110/111/112/113/114/115/116 121/122/123/124/125/126/127/128/129 130	Signal Name	REVERSE LAMP RELAY	CONNECTION DETECTING CIRCUIT SIGNAL	CONNECTION DETECTING CIRCUIT POWER SUPPLY	POWER ON POWER SUPPLY	CAN-H	CAN-L	CHARGE CONNECTOR LOCK RELAY	12V BATTERY POWER SUPPLY	CHARGE CONNECTOR LOCK SWITCH (AUTO)	CHARGE PORT LIGHT	ELECTRIC SHIFT SENSOR POWER SUPPLY 2	ELECTRIC SHIFT SENSOR NO.2	ELECTRIC SHIFT SENSOR NO.4	ELECTRIC SHIFT SENSOR NO.6
. E62	lor BB		66 67 68	79 80 81 92 93 94	105 106 106 107 119 120	Color of Wire	SB	۵.	ο	U	-	٩.	SB	В	_	GB	×	Ν	U	σ
Connector No	Connector Co		H.S.			Terminal No.	69	72	73	74	75	76	78	62	81	82	83	84	85	86

AALIA1842GB

-	I	I	1	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	1	I	1	I	1	1	
L	LG	GR	N	SB	SHIELD	N	σ	>	æ	ш	BR	LG	щ	в	0	_	۲	Ъ	SB	GR	_	0	BR	В	N	SHIELD	7	BR	0	ш	>	۵.	σ	N	0	SB	
20	60	61	62	63	64	65	99	67	68	69	70	71	72	73	74	76	77	80	81	83	84	85	86	88	68	06	91	92	93	94	95	96	67	86	66	100	
I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	Ι	I	I	I	I	I	I	I	I	I	I	I	I	I	I	
	щ	в	ГG	в	N	>	в	O/L	>	щ	Ν	თ	BR	>	0	_	SB	Ъ	٨	0	٢	BR	N	ღ	٩	ГG	щ	в		თ	>	0	в	æ	7	7	
۶N	21	22	23	24	25	26	27	28	29	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	47	48	49	50	51	52	54	55	56	57	
				80	71 81	72 82 91 96 73 82	74 84 92 97	75 85 93 98	76 86 94 99	78 88 of 100	<u> </u>	06										_													1	1	
6	RE TO WIRE	ITE		20 40 60	11 21 31 41 51 61	12 22 32 42 52 62 13 23 42 52 62	14 24 34 44 54 64	15 25 35 45 55 65	16 26 36 46 56 66	1/ 2/ 3/ 4/ 5/ 6/ 18 28 38 48 58 68	19 29 39 49 59 69	30 50 70		Signal Name		I	-	FRONT FOG LAMPS)	– (WITH LED	HEADLAMPS)	– (WITH LED HEADI AMPS)		FOG LAMPS)	I	I	Ι	Ι	I	I	Ι	I	I	1	1	I	I	
NO. EIC	Vame WIF	Color WH				-	2 7	3	4 9	5 10				, Color of		r -	J	BW	6	c	ГG		B/W	B/R	×	σ	æ	_	۲	Μ	æ	σ	σ	æ	0	M/L	
ctor I	ector I	ector (_			nal Nc	,	_ c		e	,	。	4		4	9	7	6	10	1	12	13	14	15	16	17	18	19	

AALIA2035GB

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< WIRING DIAGRAM >

Connector No.	F2
Connector Name	WIRE TO WIRE
Connector Color	BLACK
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	5 4 3 2 1
10. 11	11 10 9 8 7

Connector Name WIRE TO WIRE

E107

Connector No.

Connector Color WHITE

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	~	80	
17	3	9	
- IN	4	10	
4	5	11	
	9	12	IJ
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Signal Name	1	I	I	I	I	1	1	I	I	I	I	1
Color of Wire	I	I	_	G	_	U	I	I	I	GR	>	œ
Terminal No.	۰	2	e	4	5	9	7	8	6	10	11	12

![](_page_27_Figure_6.jpeg)

AALIA2036GB

#### < WIRING DIAGRAM >

Signal Name	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Color of Wire	Ι	I	Ι	Ι	I	н	M	ГG	٢	Ι	щ	GR	L	Р
Terminal No.	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Signal Name	I	I	1	I	I	I	I	I	I	I	I	I	I	I
Color of Wire	I	I	в	SHIELD	В	SB	Ч	ВВ	GR	Р	Γ	G	I	I
Terminal No.	5	9	7	8	6	10	1	12	13	14	15	16	17	18

![](_page_28_Figure_4.jpeg)

Signal Name	I	1	I	I	
Color of Wire	Ι	Ι	Ι	I	
Terminal No.	-	2	e	4	

onnector Color WHITE	onnector Name WIRE TO WIRE	onnector No. B6	
----------------------	----------------------------	-----------------	--

![](_page_28_Picture_7.jpeg)

-0

Signal Name		-
Color of Wire	В	I
Terminal No.	+	N

AALIA2037GB

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< WIRING DIAGRAM >

![](_page_29_Figure_2.jpeg)

Signal Name	1	1	1	1	I	I	I	I
Color of Wire	8	GR	в	I	Ι	I	BG	≻
Terminal No.	-	2	e	4	5	9	7	8

![](_page_29_Figure_4.jpeg)

Signal Name	I	I	I	I
Color of Wire	В	н	I	I
Terminal No.	Ļ	2	3	4

Ι Τ

![](_page_29_Figure_6.jpeg)

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Signal Name	I	I	I	I	I	I	I	I	I	I	I	I	I	I	1	I	I	I	I	I	-	I	Ι	I
Color of Wire	Γ	٩	Y		,	SB		٩	^	≻	_	ŋ	U	в	ГG	BR	U	В	٢	щ	٢	Ν	SHIELD	-
Terminal No.	1	2	З	4	5	9	7	8	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

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Т AALIA2038GB

REAR WINDOW	DEFOGGER SYSTEM
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olgrial Narrie	I	I	I	I	1	1	I	I	I	1	I	I	I	I	Ι	I	I	I	I	I	1	I	1	
Wire	1	I	-	ГG	œ	_	U	٩.	1	٩	GR		BR	L	٢	BR	в	8	æ	SHIELD	1	>	ГG	-
	33C	34C	35C	36C	37C	38C	39C	40C	41C	42C	43C	44C	45C	46C	47C	48C	49C	50C	51C	52C 5	53C	54C	55C	
	ı	I	I	I	1	1	1	1	1	1	I	I	I	I	I	I	I	I	I	I	1	I	I	I
2	ГG	~	M	SB	8	>	œ	1	1	1	1	1	I	1	I	U	ш	SHIELD	1	1	1	1	1	1
	9C	10C	11C	12C	13C	14C	15C	16C	17C	18C	19C	20C	21C	22C	23C	24C	25C	26C	27C	28C	29C	30C	31C	32C
						$\left[ \right]$	2 20 10	2	19C18C17C16C 29C28C27C															
E TO WIRE	LE						100 90 80 70 60 50 40 30		38C(37C(36C) 26C(25C)24C(23C)22C21C(20C) 48C47C 35C(34C)33C(32C)31C(30C)		-		Signal Name		– (WITH BOSE)	- (WITHOUT BOSE)	– (WITH BOSE)	– (WITHOUT BOSE)	I	I	I	I	I	I
ame WIRI	olor WHI						3C 12C 11C		42C/41C/40C/39C 52C/51C/50C/49C				Color of	Wire	œ	_	σ	>	SHIELD	SB	>	ı	٩	BR
Connector No	Connector Co				011		15C 14C 15		46C45C44C43C 55C54C53C				Terminal No		<u>5</u>	<del>5</del>	SC	2C	ပ္ထ	4	5C	90	7C	80
	<u> </u>	_			_						-		<u> </u>	1					I		I	1		

Signal Name	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	Ι	I	I	I
Color of Wire	I	I	Ι	в	٩	≻	ГG	-	-	I	٨	٨	٨	BG	8	В	В	SHIELD	I	Ι	Ι	I	Ι
Terminal No.	33A	34A	35A	36A	37A	38A	39A	40A	41A	42A	43A	44A	45A	46A	47A	48A	49A	50A	51A	52A	53A	54A	55A

								_																_	
Signal Name	1	I	I	1	1	1	1	I	1	1	I	I	Ι	I	1	I	I	I	I	I	I	I	I	I	
Color of Wire	I	ВВ	۲	в	8	SB	œ	I	I	I	I	I	I	I	I	Y	BR	SHIELD	I	I	I	I	Ι	I	
Ferminal No.	9A	10A	11A	12A	13A	14A	15A	16A	17A	18A	19A	20A	21A	22A	23A	24A	25A	26A	27A	28A	29A	30A	31A	32A	

Signal Name	I	I	I	I	I	I	I	I
Color of Wire	>	>	В	I	Ι	-	BG	Μ
Terminal No.	-	2	3	4	5	9	7	8

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Color	WHITE
同 H.S.	

			_
	1A	17A16A 27A	
	2A	418A	
	ЗA	0A19, 0A29,	
	4A	21A2	
	5A	3A22/ 3A32/	
	6A	24A2 34A3	
lh	ΤA	6A25/ 35/	Γ
	8A	বি	
Ш	9A	37A36 17A	L
	10A	138A 148A	
	11A	0A39/ 0A49/	
	12A	4144 5145	
	13A	342/ 3452/	
	14A	44A4 54A5	
	15A	6A45/	

Signal Name	– (WITH BOSE)	- (WITHOUT BOSE)	– (WITH BOSE)	- (WITHOUT BOSE)	I	I	I	I	I	I
Color of Wire	_	BR	٩	œ	SHIELD	٢	>	I	I	I
Terminal No.	1A	1A	2A	2A	3A	4A	5A	6A	7A	8A

D105	DOOR MIRROR RH	WHITE	
Connector No.	Connector Name	Connector Color	

![](_page_31_Picture_8.jpeg)

H.S.

AALIA2040GB

### REAR WINDOW DEFOGGER SYSTEM

![](_page_32_Figure_0.jpeg)

![](_page_32_Figure_2.jpeg)

![](_page_33_Figure_2.jpeg)

Signal Name	I
Color of Wire	В
Terminal No.	÷

AALIA2042GB

< BASIC INSPECTION >

### BASIC INSPECTION DIAGNOSIS AND REPAIR WORK FLOW

### Work Flow

INFOID:00000008744331

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**OVERALL SEQUENCE** 

![](_page_34_Figure_6.jpeg)

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< BASIC INSPECTION >

### **1**. GET INFORMATION FOR SYMPTOM

Get the detailed information from the customer about the symptom (the condition and the environment when the incident/malfunction occurred).

>> GO TO 2.

### 2. CHECK DTC

#### 1. Check DTC.

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

Is any symptom described and any DTC detected?

Symptom is described, DTC is displayed>>GO TO 3. Symptom is described, DTC is not displayed>>GO TO 4. Symptom is not described, DTC is displayed>>GO TO 5.

 $\mathbf{3.}$  CONFIRM THE SYMPTOM

Confirm the symptom described by the customer.

Connect CONSULT to the vehicle in "DATA MONITOR" mode and check real time diagnosis results. Verify relation between the symptom and the condition when the symptom is detected.

>> GO TO 5.

**4.** CONFIRM THE SYMPTOM

Confirm the symptom described by the customer. Connect CONSULT to the vehicle in "DATA MONITOR" mode and check real time diagnosis results. 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 displayed DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check diagnostic results in real time. If two or more DTCs are detected, refer to <u>BCS-47</u>, "<u>DTC Inspection Priority Chart</u>" 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 in Service Manual. This
  simplified check procedure is an effective alternative though DTC cannot be detected during this check.
  If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC Confirmation Procedure.

Is DTC detected?

YES >> GO TO 7.

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

6. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM TABLE

Detect malfunctioning system according to <u>DEF-7</u>. "System Description" based on the confirmed symptom in step 4, and determine the trouble diagnosis order based on possible causes and symptom.

>> GO TO 7.

7. DETECT MALFUNCTIONING PART BY DIAGNOSTIC PROCEDURE

Inspect according to Diagnostic Procedure of the system. **NOTE:** 

### DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

The Diagnostic Procedure described is based on open circuit inspection. A short circuit inspection is also required for the circuit check in the Diagnostic Procedure.	А
Is malfunctioning part detected?	
NO >> Check voltage of related BCM terminals using CONSULT.	В
8. REPAIR OR REPLACE THE MALFUNCTIONING PART	
<ol> <li>Repair or replace the malfunctioning part.</li> <li>Reconnect parts or connectors disconnected during Diagnostic Procedure again after repair and replacement.</li> </ol>	С
3. Check DTC. If DTC is displayed, erase it.	D
>> GO TO 9.	
9. FINAL CHECK	E
When DTC was detected in step 2, perform DTC Confirmation Procedure or Component Function Check	
When symptom was described from the customer, refer to confirmed symptom in step 3 or 4, and check that	
the symptom is not detected.	1
Does the symptom reappear?	
YES (DTC is delected)>>GO TO 7. YES (Symptom remains)>>GO TO 6.	G
NO >> Inspection End.	
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< DTC/CIRCUIT DIAGNOSIS >

### DTC/CIRCUIT DIAGNOSIS REAR WINDOW DEFOGGER SWITCH

#### Component Function Check

INFOID:000000008744332

### 1.CHECK REAR WINDOW DEFOGGER SWITCH OPERATION

#### With CONSULT

1. Select "REAR DEFOGGER" of "BCM" using CONSULT.

2. Select "REAR DEF SW" in "DATA MONITOR" mode.

3. Check "REAR DEF SW" indication under the following conditions.

Monitor item	Con	Status		
REAR DEE SW	Rear window defogger switch	Pressed	On	
	Treat window delogger switch	Not Pressed	Off	

#### Is the inspection result normal?

YES >> Rear window defogger switch is OK.

NO >> Refer to DEF-38, "Diagnosis Procedure".

### **Diagnosis** Procedure

INFOID:000000008744333

### 1. CHECK REAR WINDOW DEFOGGER SWITCH OPERATION

- 1. Turn power switch OFF.
- 2. Disconnect A/C auto amp. connector.
- 3. Turn power switch ON.
- 4. Check signal between A/C auto amp. harness connector and ground using oscilloscope.

(	т)		
A/C au	ito amp.	(-)	Voltage (V) (Approx.)
Connector	Terminal		(,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
M55	15	Ground	(V) 15 10 5 0 10 ms JPMIA0012GB

Is the inspection result normal?

YES >> GO TO 3.

NO >> GO TO 2.

### 2. CHECK REAR WINDOW DEFOGGER SWITCH CIRCUIT

- 1. Turn power switch OFF.
- 2. Disconnect BCM connector.
- 3. Check continuity between BCM harness connector and A/C auto amp. harness connector.

BCM		A/C au	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
M24	15	M55	15	Yes	

4. Check continuity between BCM harness connector and ground.

### **REAR WINDOW DEFOGGER SWITCH**

#### < DTC/CIRCUIT DIAGNOSIS >

В	СМ	Que et	
Connector	Terminal	Ground	Continuity
M24	15	Ground	No
the inspection result normal? 'ES >> Replace BCM. Refer IO >> Repair or replace har CHECK REAR WINDOW DEF	to <u>BCS-86, "Removal a</u> mess. FOGGER SWITCH GRC	und Installation".	
neck continuity between A/C au	to amp. harness connec	ctor and ground.	
A/C auto am	ıp.	Ground	Continuity
Connector	Terminal	Giodila	Continuity
M55	10	Ground	Yes
or <u>HAC-362</u> . "Remov NO >> Repair or replace ha	<u>al and Installation</u> " (autorness.	o A/C without heat pump).	uto A/C with heat pump)

#### < DTC/CIRCUIT DIAGNOSIS >

### REAR WINDOW DEFOGGER RELAY

### **Component Function Check**

### 1.CHECK FUNCTION

With CONSULT

1. Select "REAR DEFOGGER" in "ACTIVE TEST" of "IPDM E/R" using CONSULT.

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-40, "Diagnosis Procedure"</u>.

### **Diagnosis** Procedure

INFOID:000000008744335

INFOID:00000008744334

### 1.CHECK FUSE

1. Turn power switch OFF.

2. Check that the following fuse is not blown.

Location	Fuse No.	Capacity
IPDM E/R	41	158
	42	104

Is the inspection result normal?

YES >> GO TO 2.

NO >> Replace the blown fuse after repairing the affected circuit.

2. CHECK IPDM E/R OUTPUT SIGNAL

1. Turn power switch ON.

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

(+) IPDM E/R		(-)	Condition		Voltage (V) (Approx.)	
Connector	Terminal					
⊏11	14	Ground	Pear window defogger switch	ON	Battery voltage	
L11	14	Ground	iteal window delogger switch	OFF	0	

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-53. "Intermittent Incident".

NO >> Replace IPDM E/R. Refer to PCS-29, "Removal and Installation".

### **REAR WINDOW DEFOGGER**

< DTC/CIF	RCUIT	DIAGNOSIS	>				
REAR	NIND	OW DEF	OGGER				
Compon	ent F	unction Ch	neck				INFOID:00000008744336
<b>1.</b> CHECK	FUNC	TION					
With CC Select Solution With CC Solution Body Solution Body Solution Body Solution Solution Body Solution Solu	NSULT "REAF "On". that th ection r > Rear > Refer	C DEFOGGEF e rear windov esult normal? window defog to DEF-41, "	R" in "ACTIVE v heating wire 2 gger is OK. Diagnosis Pro	TEST" of "IPI is getting war cedure".	DM E/R" using ( rmer.	CONSULT.	
Diagnos	is Pro	cedure					INFOID:00000008744337
1.снеск	REAR		EFOGGER PO	OWER SUPP	LY CIRCUIT		
1. Turn p 2. Discor 3. Turn p 4. Check	ower synnect re ower syn voltage	witch OFF. ear window de witch ON. e between rea	efogger connec ar window defo	ctor. ogger harness	s connector and	ground.	
	(+	)		(-) Condition		Voltage ()/)	
Rea	ar windov	w defogger	(-)				(Approx.)
Conne	ector	Ierminal				ON	Battery voltage
D50	65	1	Ground	Rear window defogger switch		OFF	0
<u>s the insp</u> YES > NO > <b>2.</b> CHECK	ection r > GO T > GO T < REAR	esult normal? O 2. O 4. WINDOW D	EFOGGER G		CUIT		
1. Turn p 2. Check	ower s continu	witch OFF. uity between	rear window d	efogger harne	ess connector a	nd ground.	
		Rear window	defogger				Continuity
	Connec	tor	Termina	l	Ground		Y
s the insp YES > NO > 3.CHECK	ection r > GO T > Repa	esult normal? O 3. ir or replace f IENT	2 2 narness.				
Refer to D	EF- <u>51</u> .	"Inspection a	nd Repair".				
Is the insp YES > NO >	<u>ection r</u> > GO T > Repa	esult normal? O 7. ir filament.	2				
4.CHECK	REAR		EFOGGER PO	OWER SUPP	LY CIRCUIT 1		
1. Turn p	ower s	witch OFF.					

2. Disconnect condenser connector.

3. Check continuity between condenser harness connector and rear window defogger harness connector.

### **REAR WINDOW DEFOGGER**

#### < DTC/CIRCUIT DIAGNOSIS >

Condenser		Rear windo	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
D566	2	D565	1	Yes	

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

### 5. CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT 2

1. Disconnect IPDM E/R connectors.

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

IPDM E/R		Conc	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
E11	14	D564	1	Yes	

Is the inspection result normal?

YES >> GO TO 6.

NO >> Repair or replace harness.

#### **6.**CHECK CONDENSER

Refer to DEF-42, "Component Inspection".

Is the inspection result normal?

YES >> GO TO 7.

NO >> Replace condenser. Refer to <u>DEF-53. "Removal and Installation"</u>.

7.CHECK INTERMITTENT INCIDENT

Refer to GI-53, "Intermittent Incident".

>> Inspection End.

#### **Component Inspection**

1.CHECK CONDENSER

- 1. Turn power switch OFF.
- 2. Disconnect condenser connector.
- 3. Check continuity between condenser terminals.

Cond	Continuity		
Terminal Terminal		Continuity	
1	2	Yes	

Is the inspection result normal?

YES >> Inspection End.

NO >> Replace condenser. Refer to <u>DEF-53. "Removal and Installation"</u>.

**Revision: October 2013** 

INFOID:000000008744338

### DRIVER SIDE DOOR MIRROR DEFOGGER

<pre>&lt; DTC/CIRCUIT DIAG DRIVER SIDE D</pre>				
				A
Component Functi	on Check			INFOID:00000008744341
1. CHECK DRIVER SID	DE DOOR MIRROR I	DEFOGGER		В
1. Select "REAR DEF	OGGER" in "ACTIVE	TEST" of "IPDM E/F	" using CONSULT.	
<ol> <li>Check that the drive</li> </ol>	er side door mirror gla	ass is getting warmer		С
Is the inspection result r	normal?			
NO >> Refer to DE	door mirror defogger F-43, "Diagnosis Pro	is OK. <u>ocedure"</u> .		D
Diagnosis Procedu	ire			INFOID:00000008744342
1.CHECK DOOR MIRE	ROR DEFOGGER C	IRCUIT		E
<ol> <li>Turn power switch (</li> <li>Disconnect IPDM E</li> <li>Check continuity be</li> </ol>	OFF. /R connector and do etween IPDM E/R hai	or mirror (driver side) ness connector and	connector. door mirror (driver sid	de) harness connector.
IPDM	1 E/R	Door mirror	(driver side)	Continuity
Connector	Terminal	Connector	Terminal	, Yee
L the inspection result r	ormal?	D4	2	
YES >> GO TO 2. NO >> Repair or re 2.CHECK GROUND C	eplace harness. IRCUIT			1
Check continuity betwee	en door mirror (driver	side) namess conne	ctor and ground.	
Door	mirror (driver side)			Continuity
Connector	Termina	al	Ground	 
Is the inspection result r	ormal?			K
YES >> Replace gla <u>tion"</u> . NO >> Repair or re	ass mirror (driver sid	le). Refer to <u>MIR-24</u> ,	"GLASS MIRROR	Removal and Installa- DE
				Μ
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### PASSENGER SIDE DOOR MIRROR DEFOGGER

#### < DTC/CIRCUIT DIAGNOSIS >

### PASSENGER SIDE DOOR MIRROR DEFOGGER

### **Component Function Check**

INFOID:000000008744343

1. CHECK PASSENGER SIDE DOOR MIRROR DEFOGGER

#### 1. Select "REAR DEFOGGER" in "ACTIVE TEST" of "IPDM E/R" using CONSULT.

- 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-44, "Diagnosis Procedure"</u>.

### **Diagnosis** Procedure

INFOID:000000008744344

### 1. CHECK DOOR MIRROR DEFOGGER CIRCUIT

- 1. Turn power switch OFF.
- 2. Disconnect IPDM E/R connector and door mirror (passenger side) connector.
- 3. Check continuity between IPDM E/R harness connector and door mirror (passenger side) harness connector.

IPDM E/R		Door mirror (p	Continuity		
Connector	Terminal	Connector Terminal		Continuity	
E11	14	D105	2	Yes	

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace harness.

2. CHECK GROUND CIRCUIT

Check continuity between door mirror (passenger side) harness connector and ground.

Door mirror (passenger side)			Continuity	
Connector	Terminal	Ground	Continuity	
D105	3		Yes	

#### Is the inspection result normal?

YES >> Replace glass mirror (passenger side). Refer to <u>MIR-24, "GLASS MIRROR : Removal and Instal-</u> lation".

NO >> Repair or replace harness.

### REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGERS DO NOT OP-ERATE

< SYMPTOM DIAGNOSIS >	
SYMPTOM DIAGNOSIS	٥
REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGERS DO NOT OPERATE	R
Diagnosis Procedure	D
1.CHECK REAR WINDOW DEFOGGER SWITCH	С
Check rear window defogger switch. Refer to <u>DEF-38, "Component Function Check"</u> .	6
Is the inspection result normal?	D
NO >> Repair or replace the malfunctioning parts.	
2. CHECK REAR WINDOW DEFOGGER RELAY	E
Check rear window defogger relay. Refer to <u>DEF-40, "Component Function Check"</u> . Is the inspection result normal?	F
YES >> GO TO 3.	
NO >> Repair or replace the malfunctioning parts.	G
<b>J</b> .CONFIRM THE OPERATION	
Confirm the operation again.	Ц
Is the inspection result normal?	11
YES >> Check intermittent incident. Refer to <u>GI-53, "Intermittent Incident"</u> . NO >> GO TO 1.	I
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### 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:000000008744350

1.CHECK REAR WINDOW DEFOGGER

Check rear window defogger. Refer to <u>DEF-41, "Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2.confirm the operation

Confirm the operation again

Is the inspection result normal?

YES >> Check intermittent incident. Refer to GI-53, "Intermittent Incident".

NO >> GO TO 1.

## BOTH DOORS MIRROR DEFOGGER DON'T OPERATE BUT REAR WINDOW DEFOGGER OPERATES

< SYMPTOM DIAGNOSIS >

### BOTH DOORS MIRROR DEFOGGER DON'T OPERATE BUT REAR WIN-DOW DEFOGGER OPERATES

Diagnosis Procedure		INFOID:00000009344953	D
1. CHECK DOOR MIRROR DEFOGGER	FUSE	L	)
Check if the following fuse in fuse block (J/	B) is blown.	C	2
COMPONENT PARTS	AMPERE	FUSE NO.	
Fuse block (J/B)	10A	22	)
YES >> GO TO 2. NO >> Replace the blown fuse after re <b>2.</b> CHECK BOTH DOOR MIRROR DEFO 1. Check door mirror (driver side). Refer t 2. Check door mirror (passenger side). Refer t Is the inspection result normal? YES >> Check intermittent incident. Re	epairing the affected circuit. GGER to <u>DEF-43, "Component Function</u> efer to <u>DEF-44, "Component Func</u> efer to <u>GI-53, "Intermittent Incident</u>	Check". ction Check". t <u>"</u> .	
NO Repair or replace the manuncu	ioning parts.	F	-

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### DRIVER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE.

< SYMPTOM DIAGNOSIS >

### DRIVER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE.

Diagnosis Procedure

INFOID:000000009344954

1. CHECK DOOR MIRROR DEFOGGER (DRIVER SIDE)

Check door mirror defogger (driver side). Refer to <u>DEF-43, "Component Function Check"</u>.

Is the inspection result normal?

YES >> Refer to GI-53, "Intermittent Incident".

NO >> Repair or replace the malfunctioning parts.

### PASSENGER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE.

< SYMPTOM DIAGNOSIS >

### PASSENGER SIDE DOOR MIRROR DEFOGGER DOES NOT OPERATE.

		Δ
Diagnosis Procedure	INFOID:000000009344955	
1. CHECK DOOR MIRROR DEFOGGER (PASSENGER SIDE)		В
Check door mirror defogger (passenger side). Refer to <u>DEF-44, "Component Function Check"</u> .		
Is the inspection result normal?		С
YES >> Refer to <u>GI-53, "Intermittent Incident"</u> . NO >> Repair or replace the malfunctioning parts.		
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# REAR WINDOW DEFOGGER SWITCH DOES NOT LIGHT, BUT REAR WINDOW DEFOGGER OPERATES

< SYMPTOM DIAGNOSIS >

### REAR WINDOW DEFOGGER SWITCH DOES NOT LIGHT, BUT REAR WIN-DOW DEFOGGER OPERATES

**Diagnosis** Procedure

INFOID:000000008744357

**1.**REPLACE A/C AUTO AMP. (REAR WINDOW DEFOGGER SWITCH)

Replace A/C auto amp. (Rear window defogger switch). Refer to <u>HAC-194</u>, "<u>Removal and Installation</u>" (auto A/C with heat pump) or <u>HAC-362</u>, "<u>Removal and Installation</u>" (auto A/C without heat pump).

>> GO TO 2.

2. CONFIRM THE OPERATION

Confirm the operation again.

Is the inspection result normal?

YES >> Check intermittent incident. Refer to <u>GI-53, "Intermittent Incident"</u>.

NO >> GO TO 1.

# < REMOVAL AND INSTALLATION > 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.

![](_page_50_Figure_6.jpeg)

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

![](_page_50_Figure_8.jpeg)

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

![](_page_50_Picture_11.jpeg)

#### REPAIR

#### REPAIR EQUIPMENT

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

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В

INFOID:000000008744358

- < 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.

![](_page_51_Figure_12.jpeg)

![](_page_51_Figure_13.jpeg)

![](_page_51_Figure_14.jpeg)

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.

5. 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.

< REMOVAL AND INSTALLATION >

### CONDENSER

### **Removal and Installation**

#### REMOVAL

- Remove the back door lower finisher. 1. Refer to INT-48, "BACK DOOR LOWER FINISHER : Removal and Installation"
- 2. Disconnect the harness connectors from the condenser.
- 3. Remove bolt (A), and then remove condenser (1) from the vehicle body.

![](_page_52_Picture_8.jpeg)

INSTALLATION Install in the reverse order of removal.

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INFOID:000000008744359

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