SECTION DEFOGGER C

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< BASIC INSPECTION >	
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BASIC INSPECTION	
DIAGNOSIS AND REPAIR WORKFLOW	

Work Flow	
DETAILED FLOW	
1.OBTAIN INFORMATION ABOUT SYMPTOM	
Interview the customer to obtain the malfunction information (conditions and environment when the malfunc- tion occurred) as much as possible when the customer brings the vehicle in.	
>> GO TO 2.	
2.CHECK DTC	
Perform self diagnosis with CONSULT-III	
Is any DTC detected?	
YES >> Refer to <u>DEF-46, "DTC Index"</u> . 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 perform- ing the diagnosis based on possible causes and symptoms.	
>> GO TO 5.	
5. IDENTIFY THE MALFUNCTIONING PARTS WITH "COMPONENT DIAGNOSIS"	
Perform the diagnosis with "Component diagnosis" of the applicable system.	
>> GO TO 6.	Γ
O .REPAIR OR REPLACE THE MALFUNCTIONING PARTS	
Repair or replace the specified malfunctioning parts.	
>> GO TO 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.	

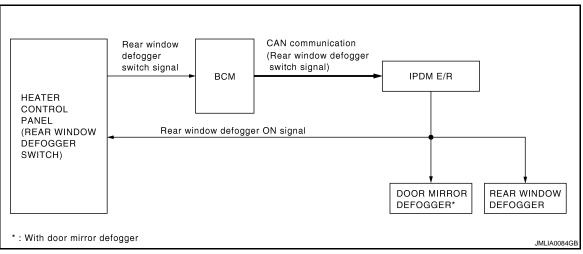
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< FUNCTION DIAGNOSIS >

FUNCTION DIAGNOSIS REAR WINDOW DEFOGGER SYSTEM

System Diagram

INFOID:000000001911139



System Description

INFOID:000000001911140

OPERATION DESCRIPTION

- BCM detects that the rear window defogger switch is turned ON when the ignition switch is ON, and then transmits the rear window defogger switch signal to IPDM E/R via CAN communication for approximately 15 minutes.
- IPDM E/R turns rear window defogger relay ON when it receives the rear window defogger switch signal.
- The power is supplied by IPDM E/R to the rear window defogger and door mirror defogger (with door mirror defogger) when the rear window defogger relay is turned ON.

TIMER FUNCTION

- BCM transmits the rear window defogger switch signal to IPDM E/R for approximately 15 minutes when the rear window defogger switch is turned ON with the ignition switch ON. Then, IPDM E/R operates the rear window defogger and door mirror defogger (with door mirror defogger).
- The timer is cancelled if the rear window defogger switch is pressed again during timer operation. Then BCM stops the output of rear window defogger switch signal. The same reaction also occurs during timer operation if the ignition switch is turned OFF.

INPUT/OUTPUT SIGNAL CHART

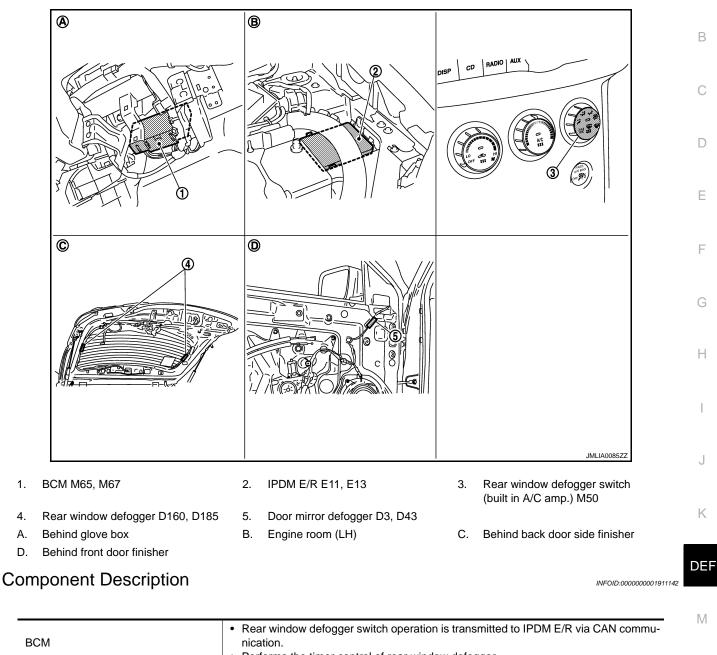
Switch	Input signal to BCM	BCM function	Acutuator
Rear window defogger switch	Defogger switch signal	Rear window defogger & Door mir-	Rear window defogger
Ignition switch	Ignition switch ON signal Ignition switch ACC signal	ror defogger control	Door mirror defogger

REAR WINDOW DEFOGGER SYSTEM

< FUNCTION DIAGNOSIS >

Component Parts Location

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Bow	 Performs the timer control of rear window defogger.
Rear window defogger relay	• Operates the rear window defogger and the door mirror defogger relay with the con- trol signal from IPDM E/R.
Door mirror defogger relay	• Operates the door mirror defogger with the control signal from IPDM E/R (rear win- dow defogger relay).
IPDM E/R	• BCM controls rear window defogger relay via CAN communication, and then oper- ates rear window defogger or door mirror defogger.
A/C amp. (Rear window defogger switch)	The rear window defogger switch is installed.Turns the indicator lamp ON when detecting the operation of rear window defogger.
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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DIAGNOSIS SYSTEM (BCM) COMMON ITEM

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

INFOID:000000003247112

APPLICATION ITEM

CONSULT-III can display each diagnostic item using the diagnostic test modes shown following.

Diagnosis mode	Function description
ECU Identification	BCM part number is displayed.
Self-Diagnostic Result	Displays the diagnosis results judged by BCM. Refer to BCS-63, "DTC Index".
Data Monitor	BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Work Support	Changes the setting for each system function.
Configuration	Read and save the vehicle specification.Write the vehicle specification when replacing BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM.

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

System	CONSULT-III sub system selection item	Diagnosis mode			
System		Work Support	Data Monitor	Active Test	
Door lock	DOOR LOCK	×	×	×	
Rear window defogger	REAR DEFOGGER		×	×	
Warning chime	BUZZER		×	×	
Interior room lamp control	INT LAMP	×	×	×	
Remote keyless entry system	MULTI REMOTE ENT	×	×	×	
Exterior lamp	HEAD LAMP	×	×	×	
Wiper and washer	WIPER	×	×	×	
Turn signal and hazard warning lamps	FLASHER		×	×	
Air conditioner	AIR CONDITONER		×		
Intelligent Key system	INTELLIGENT KEY		×		
Combination switch	COMB SW		×		
	BCM	×			
Immobilizer	IMMU		×	×	
Interior room lamp battery saver	BATTERY SAVER	×	×	×	
Back door open	TRUNK		×	×	
Vehicle security system	THEFT ALM	×	×	×	
RAP system	RETAINED PWR	×	×	×	
Signal buffer system	SIGNAL BUFFER		×	×	
	FUEL LID*				
TPMS	TPMS (AIR PRESSURE MONITOR)	×	×	×	
Panic alarm system	PANIC ALARM			×	

*: This item is displayed, but is not function.

REAR WINDOW DEFOGGER

DIAGNOSIS SYSTEM (BCM)

< FUNCTION DIAGNOSIS >

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

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Data monitor

Monitor Item	Description	
REAR DEF SW	Displays "Press (ON)/other (OFF)" status determined with the rear window defogger switch.	_
IGN ON SW	Indicates [ON/OFF] condition of ignition switch in ON position.	С
ACC ON SW	Indicates [ON/OFF] condition of ignition switch in ACC position.	_
TIVE TEST		D

ACTIVE TEST

Test Item	Description	
REAR DEFOGGER	This test is able to check rear window defogger operation.	E

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Diagnosis Description

INFOID:000000003247113

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.

- Oil pressure warning lamp
- Rear window defogger
- Front wiper (LO, HI)
- Parking lamps
- License plate lamps
- Tail lamps
- Front fog lamps
- Headlamps (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan (LO, MID, HI)

Operation procedure

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 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. Then the horn sounds once and the auto active test starts. **NOTE:**

Only a vehicle with the vehicle security system, the horn sounds.

- 5. 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.

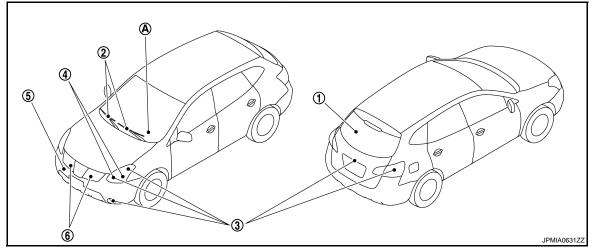
NOTE:

When auto active test mode has to be cancelled halfway through test, turn ignition switch OFF. **CAUTION:**

- If auto active test mode cannot be actuated, check door switch system.
- Never start the engine.

Inspection in auto active test mode

When auto active test mode is actuated, the following 6 steps are repeated 3 times.



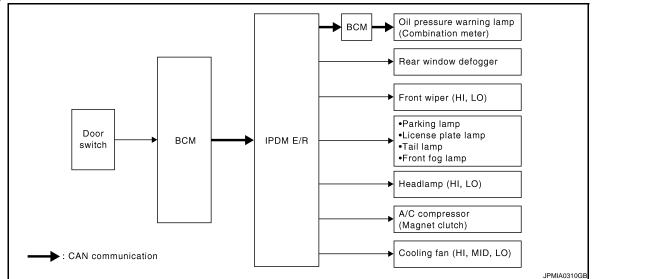
< FUNCTION DIAGNOSIS >

Operation sequence	Inspection location	Operation
А	Oil pressure warning lamp	Blinks continuously during operation of auto active test.
1	Rear window defogger	10 seconds
2	Front wiper	LO for 5 seconds \rightarrow HI for 5 seconds
3	 Parking lamps License plate lamps Tail lamps Front fog lamps Headlamps HI (daytime running light operation)* 	10 seconds
4	Headlamps	$LO \Leftrightarrow HI 5 times$
5	A/C compressor (magnet clutch)	$ON \Leftrightarrow OFF 5 times$
6	Cooling fan	LO for 5 seconds \rightarrow MID for 3 seconds \rightarrow HI for 2 seconds

NOTE:

*: With daytime running light system

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	
		YES	BCM signal input circuit	•
Rear window defogger does not operate	Perform auto active test. Does the rear window defog- ger 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	-
 Parking lamps License plate lamps Tail lamps Front fog lamps Headlamps (HI, LO) Front wiper (HI, LO) 	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 	-

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< FUNCTION DIAGNOSIS >

Symptom	Inspection contents		Possible cause
Headlamps HI (daytime running light operation) do	Perform auto active test. Do headlamps HI (daytime	YES	 CAN communication signal between ECM and BCM CAN communication signal between combination meter and BCM BCM signal input circuit
not operate	running light operation) oper- ate? NO		 Daytime running light relay power supply circuit Harness or connector between IPDM E/R and daytime running light relay Daytime running light relay
A/C compressor does not operate	Perform auto active test. Does the magnet clutch oper-	YES	 BCM signal input circuit CAN communication signal between BCM and ECM CAN communication signal between ECM and IPDM E/R
	ate?	NO	 Magnet clutch Harness or connector between IPDM E/R and magnet clutch IPDM E/R
	Perform auto active test. Does the oil pressure warning lamp blink?	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		NO	 CAN communication signal between IPDM E/R and BCM CAN communication signal between BCM and combination meter Combination meter
		YES	 ECM signal input circuit CAN communication signal between ECM and IPDM E/R
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	NO	 Cooling fan motor-2 power supply circuit Cooling fan motor-1 ground circuit Cooling fan relay-4 or cooling fan relay-5 power supply circuit Cooling fan relay-5 ground circuit Harness or connector between IPDM E/R and cooling fan motor Harness or connector between IPDM E/R, and cooling fan relay-4 or cooling fan relay-5 Harness or connector between cooling fan motor-2, and cooling fan relay-4 or cooling fan relay-5 Cooling fan relay-4 or cooling fan relay-5 Cooling fan relay-4 or cooling fan relay-5 Cooling fan motor IPDM E/R

CONSULT-III Function (IPDM E/R)

INFOID:000000003247114

APPLICATION ITEM

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

Diagnosis mode	Description
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.

< FUNCTION DIAGNOSIS >

Diagnosis mode	Description	0
Active Test	IPDM E/R can provide a drive signal to electronic components to check their operations.	A
CAN Diag Support Monitor	The results of transmit/receive diagnosis of CAN communication can be read.	

SELF DIAGNOSTIC

Refer to PCS-26, "DTC Index".

DATA MONITOR

Monitor item

Monitor Item [Unit]	MAIN SIGNALS	Description		
MOTOR FAN REQ [1 - 4]	×	Displays the value of the cooling fan speed signal received from ECM via CAN commu- nication.		
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 com munication.		
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN commu- nication.		
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN com- munication.		
FR FOG REQ [Off/On]	×	isplays the status of the front fog light request signal received from BCM via CAN con unication. OTE: his item is monitored only the vehicle with front fog lamp system.		
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN com- munication.		
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.		
ST RLY REQ [Off/On]		Displays the status of the starter request signal.		
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.		
RR DEF REQ [Off/On]	×	Displays the status of the rear defogger request signal received from BCM via CAN com- munication.		
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.		
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication. NOTE: This item is monitored only the vehicle with daytime running light system.		
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R. NOTE: This item is monitored only the vehicle for Mexico.		
THFT HRN REQ [Off/On]		Displays the status of the horn request signal by vehicle security system or panic alarm system received from BCM via CAN communication.		
HORN CHIRP [Off/On]		Displays the status of the horn request signal by key fob LOCK operation received from BCM via CAN communication.		

ACTIVE TEST Test item В

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< FUNCTION DIAGNOSIS >

Test item	Operation	Description
REAR DEFOGGER	Off	OFF
REAR DEFOGGER	On	Operates the rear window defogger relay.
	Off	OFF
FRONT WIPER	Lo	Operates the front wiper relay.
	Hi	Operates the front wiper relay and front wiper high relay.
	1	OFF
	2	Operates the cooling fan relay (LO operation).
MOTOR FAN	3	Operates the cooling fan relay (MID operation).
	4	Operates the cooling fan relay (HI operation).
	Off	OFF
	TAIL	Operates the tail lamp relay and the daytime running light relay. NOTE: Daytime running light relay is with daytime running light system only.
EXTERNAL LAMPS	Lo	Operates the headlamp low relay.
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 4 seconds intervals.
	Fog	Operates the front fog lamp relay. NOTE: This item can test only the vehicle with front fog lamp system.
HORN	On	Operates horn relay for 20 ms.

< COMPONENT DIAGNOSIS >

COMPONENT DIAGNOSIS REAR WINDOW DEFOGGER SWITCH

Description

Rear window defogger switch is installed on A/C amp. The rear window defogger is operated by turning the rear window defogger switch ON.

Component Function Check

1.CHECK REAR WINDOW DEFOGGER SWITCH

- 1. Select "REAR DEF SW" in "Data Monitor" (BCM) mode with CONSULT-III.
- 2. Check rear window defogger switch signal under following condition.

				E
Monitor item	Condition		Status	
REAR DEF SW	Rear window defogger switch	Pressed	ON	
REAR DEF SW	Real window delogger switch	Other than above	OFF	F

Is the inspection result normal?

- YES >> Rear window defogger switch is OK.
- NO >> Refer to <u>DEF-13</u>, "Diagnosis Procedure".

Diagnosis Procedure

1.CHECK REAR WINDOW DEFOGGER SWITCH

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

(+ 		(-)	Condition		Voltage (V)	J
Connector	Terminal	-			(Approx.)	Ū
				Pressed	0	IZ.
M65	10	Ground	Rear window defogger switch	Other than above	(V) 15 10 5 0 	K Def

Is the inspection result normal?

YES	>> GO TO 5.

NO >> GO TO 2.

2.CHECK REAR WINDOW DEFOGGER SWITCH CIRCUIT

1. Turn ignition switch OFF.

2. Disconnect BCM connector and A/C amp. connector.

3. Check continuity between BCM harness connector and A/C amp. harness connector.

BCM		A/C	Continuity	
Connector	Terminal	Connector Terminal		Continuity
M65	10	M50	38	Existed

4. Check continuity between BCM harness connector and ground.

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REAR WINDOW DEFOGGER SWITCH

< COMPONENT DIAGNOSIS >

BCI	М		Continuity
Connector	Connector Terminal		Continuity
M65	10		Not existed

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace harness.

3. CHECK REAR WINDOW DEFOGGER SWITCH GROUND CIRCUIT

Check continuity between A/C amp. harness connector and ground.

A/C am	р.		Continuity	
Connector Terminal		Ground	Continuity	
M50	3		Existed	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK BCM OUTPUT SIGNAL

1. Connect BCM connector.

2. Turn ignition switch ON.

3. Check voltage between BCM harness connector and ground.

(+) BCN	(+) BCM		Voltage (V) (Approx.)
Connector	Terminal		(, , , , , , , , , , , , , , , , , , ,
M65	10	Ground	(V) 15 10 5 0

Is the inspection result normal?

YES >> GO TO 5.

NO >> Replace BCM. Refer to <u>BCS-67, "Removal and Installation"</u>.

5. CHECK IINTERMITTENT INCOENT

Refer to GI-41, "Intermittent Incident"

Is the inspection result normal?

YES >> Check A/C control system. Refer to <u>HAC-3</u>, "Work Flow".

NO >> Repair or replace the malfunctioning parts.

REAR WINDOW DEFOGGER RELAY

			EFUGGER R	CLAI		
< COMPONENT DIA			,			
REAR WINDO						А
Description						INFOID:000000001911150
Rear window defogge The rear window defo			the rear window	defogger	switch ON.	В
Component Fund	ction Check					INFOID:000000001911151
1. CHECK REAR WI	NDOW DEFOGGE	ER RELAY				С
	EFOGGER" in "Act ow defogger relay o		1 E/R) mode with	CONSUL	_T-III.	D
	Test item			Desc	cription	
REAR DEFOGG			Rear window defog	ger relay	ON	E
Is the inspection resu	OFF				OFF	
YES >> Rear win	dow defogger relay					F
	DEF-15, "Diagnosi	<u>s Procedure"</u> .				
Diagnosis Proce	dure					INFOID:000000001911152 G
1. CHECK FUSE						
	ing. i, located in IPDM I i, located in IPDM I					H
YES >> GO TO 2						
`	the blown fuse afte	1 0	affected circuit if	a fuse is	blown.	J
2.CHECK IPDM E/F		_				
 Turn ignition swit Check voltage be 	ch ON. etween IPDM E/R I	narness connec	ctor and ground.			K
(-	+)					
	/ E/R	(-)	Conditi	on		Ditage (V) DEF Approx.)
Connector	Terminal				()	
E11	12	Ground	Rear window de- fogger	ON	Batt	ery voltage M
Is the inspection resu	ult normal?		logger	OFF		0
YES >> GO TO 3 NO >> Replace	3. IPDM E/R. Refer to		noval and Installa	ation".		Ν
3. CHECK INTERMI						0
Refer to <u>GI-41, "Inter</u>	mittent Incident"					0
>> INSPEC	TION END					Р

< COMPONENT DIAGNOSIS >

DOOR MIRROR DEFOGGER RELAY

Description

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

Component Function Check

1.CHECK DRIVER SIDE DOOR MIRROR DEFOGGER

Check that heating wire of driver side door mirror defogger is heated when turning the rear window defogger switch ON.

Is the inspection result normal?

- YES >> Door mirror defogger relay is OK.
- NO >> Refer to <u>DEF-16, "Diagnosis Procedure"</u>.

Diagnosis Procedure

1.CHECK DOOR MIRROR DEFOGGER RELAY POWER SUPPLY 1

- 1. Turn ignition switch OFF.
- 2. Disconnect door mirror defogger relay.
- 3. Check voltage between door mirror defogger relay harness connector and ground.

(+)			
Door mirror defogger relay		(-)	Voltage (V) (Approx.)	
Connector	Terminal		(, , , , , , , , , , , , , , , , , , ,	
M10	1	Ground	Battery voltage	

Is the inspection result normal?

YES >> GO TO 2.

NO

- >> Check the following
 - Repair or replace harness between door mirror defogger relay and fuse block (J/B).
 - 10Å fuse [No.7, located fuse block (J/B)]

2.CHECK DOOR MIRROR DEFOGGER RELAY POWER SUPPLY 2

Check voltage between door mirror defogger relay harness connector and ground.

(+ Door mirror de	,	(-)	Condition	Voltage (V) (Approx.)	
Connector	Terminal			(++)	
M10	3	Ground	Turn ignition switch is ON and rear window defogger is ON	Battery voltage	
			Other than above	0	

Is the inspection result normal?

YES >> GO TO 4.

NO >> GO TO 3.

3.CHECK DOOR MIRROR DEFOGGER RELAY POWER SUPPLY CIRCUIT

1. Disconnect IPDM E/R connector.

2. Check continuity between door mirror defogger harness connector and IPDM E/R harness connector.

Door mirror	defogger relay	IPD	M E/R	Continuity	
Connector	Terminal	Connector Terminal		Continuity	
M10	3	E11	12	Existed	

3. Check continuity between door mirror defogger relay harness connector and ground.

DEF-16

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INFOID:000000001911522

INFOID:000000001911523

DOOR MIRROR DEFOGGER RELAY

< COMPONENT DIAGNOSIS >

Connector	Door mirror defogger relay			Continuity	
	Term	inal	Ground	Continuity	
M10	3			Not existed	
IO >> Repair or CHECK DOOR MIF	PDM E/R. Refer to <u>P</u> replace harness. RROR DEFOGGER I	CS-28, "Removal and	RCUIT		
-		gger relay harness co	nnector and ground		
	mirror defogger relay			Continuity	
Connector	Term		Ground		
M10 the inspection result	4			Existed	
CHECK DOOR MIR	nirror connector.	POWER SUPPLY CIF		ger relay harness conn	
Door mirror	defogger relay	Door mir	ror defogger	Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
		D3 (driver side)			
M10	2	D43 (passenger side)	- 1	Existed	
Check continuity b		D43 (passenger side)		bund.	
Check continuity b	petween door mirror o	D43 (passenger side) defogger relay harnes			
Check continuity b Door Connector M10	between door mirror of mirror defogger relay Term 2	D43 (passenger side) defogger relay harnes	ss connector and gro	bund.	
Check continuity b Door Connector M10 the inspection result YES >> GO TO 6. NO >> Repair or .CHECK DOOR MIR	petween door mirror of mirror defogger relay Term 2 t normal? replace harness. RROR DEFOGGER (D43 (passenger side) defogger relay harnes	Ground	Continuity Not existed	
Check continuity b Door Connector M10 the inspection result YES >> GO TO 6. NO >> Repair or CHECK DOOR MIR Check continuity b Door	petween door mirror of mirror defogger relay Term 2 t normal? replace harness. RROR DEFOGGER (petween door mirror of petween door mirror of	D43 (passenger side) defogger relay harnes inal GROUND CIRCUIT defogger relay harnes	Ground	Continuity Not existed	
Check continuity b Door Connector M10 the inspection result YES >> GO TO 6. NO >> Repair or CHECK DOOR MIR Check continuity b	petween door mirror of mirror defogger relay Term 2 t normal? replace harness. RROR DEFOGGER (petween door mirror of petween door mirror of termin	D43 (passenger side) defogger relay harnes inal GROUND CIRCUIT defogger relay harnes	Ground	Dund. Continuity Not existed	

DOOR MIRROR DEFOGGER RELAY

< COMPONENT DIAGNOSIS >

Door mirror defogger relay	Terminal		Condition	Continuity
M10 1	2	Battery voltage direct current supply between terminals 3 and 4	Existed	
			Other than above	Does not existed

Is the inspection result normal?

YES >> Door mirror defogger relay is OK.

NO >> Replace door mirror defogger relay.

REAR WINDOW DEFOGGER

REAR WINDOW DEFOGGER A Description A Heats the heating wire with the power supply from the rear window defogger relay to prevent the rear window defogging up. B Component Function Check A 1.CHECK REAR WINDOW DEFOGGER C Check that the heating wire of rear window defogger is heated when turning the rear window defogger switch ON. D Is the inspection result normal? YES YES >> Rear window defogger connector. C 1.CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT C 1.CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT C 1.Turn ignition switch OFF C 2. Disconnect rear window defogger connector. 3 3. Turn ignition switch OFF C 2. One color Torming infoin switch OFF 2. One color I (e) 1 Ground (f) Condition (Approx.) 1. Sinte inspection result normal? YES YES >> CO TO 3. K 2. Check REAR WINDOW DEFOGGER ROUND CIRCUIT I 1. Turn ignition switch OFF 0 2. OT Connector 1 Ground		MPONENT DIAGN						
Description seconometerion seconom	RE	AR WINDOW	DEFOGGE	ER				А
from fogging up. C Component Function Check x=caceseccontrist 1. CHECK REAR WINDOW DEFOGGER C Check that the heating wire of rear window defogger is heated when turning the rear window defogger switch ON. D Is the inspection result normal? YE VS >> Refer to DEF-19. "Diagnosis Procedure". E Diagnosis Procedure x=caceseccentrist F 1. CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT I Turn ignition switch OFF. G 2. Disconnect rear window defogger connector. S Turn ignition switch OFF. G 3. Turn ignition switch ON. I Ground Condition Voltage (V) (Approx.) I Image: Connector Terminal Ground Rear window defogger () Condition Voltage (V) (Approx.) I Is the inspection result normal? YES > GO TO 3. K K 2. CHECK REAR WINDOW DEFOGGER GROUND CIRCUIT I. Turn ignition switch OFF. D I I 1. Turn ignition switch OFF. Continuity between rear window defogger harness connector and ground. K E 2. CHECK REAR WINDOW DEFOGGER GROUND CIRCUIT I. Turn ignition switch OFF.	Des	cription					INFOID:000000001911153	
C. 1.CHECK REAR WINDOW DEFOGGER □ Check that the heating wire of rear window defogger is heated when turning the rear window defogger switch □ No >> Rear window defogger is OK. E No >> Rear window defogger is OK. E No >> Refer to DEF-19. "Diagnosis Procedure". E Diagnosis Procedure wroexeccentre" F 1.CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT I Turn ignition switch OFF. G Disconnect rear window defogger connector. 1.Turn ignition switch OFF. G G 1.Turn ignition switch ON. I Ground Rear window defogger () I I 1.Turn ignition switch ON. I Ground Rear window defogger () I I 1.Turn ignition switch OFF. I I Ground Rear window defogger () I I 2.Stee Contor I Ground Rear window defogger () I I I I 2.Stee Contor result normal? YES > GO TO 4. K I I I 2.Check continuity between rear window defogger I Ground Continuity E I I 3.			th the power s	upply from the	rear window def	fogger relay to p	revent the rear window	В
1. CHECK REAR WINDOW DEFOGGER D Check that the heating wire of rear window defogger is heated when turning the rear window defogger switch ON. D Is the inspection result normal? YES YES >> Rear window defogger is OK. E NO >> Rear window defogger is OK. F 1. CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT Image: second second window defogger connector. G 1. Turn ignition switch OFF. G O Battery window defogger (nonector. 3. Turn ignition switch ON. 4. Check voltage between rear window defogger namess connector and ground. H Image: transpection result normal? YES >> GO TO 2. NO NO >> GO TO 2. NO NO Battery voltage J Is the inspection result normal? YES >> GO TO 2. K K 2. Check continuity between rear window defogger farmess connector and ground. K K 2. Check continuity between rear window defogger farmess connector and ground. K K 2. Check REAR WINDOW DEFOGGER GROUND CIRCUIT I Immightion switch OFF. D 2. Check REAR WINDOW DEFOGGER GROUND CIRCUIT I Immightion switch OFF. D	Cor	nponent Functio	n Check				INFOID:000000001911154	
Check that the heating wire of rear window defogger is heated when turning the rear window defogger switch ON. D Is the inspection result normal? F YES >> Rear window defogger is OK. F Diagnosis Procedure erroreconcentres F 1.CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT I turn ignition switch OFF. G 2. Disconnect rear window defogger connector. I'urn ignition switch ON. H • • • Condition Voltage (V) (Approx.) I • • • • • • I • • • • • • I • •								С
Context in the healing wite of real window delogger is heated when turning the real window delogger switch of N. Is the inspection result normal? F Is the inspection result normal? YES >> Rear window delogger is OK. F Diagnosis Procedure wroexexexements F 1.CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT G G 1. Turn ignition switch OFF. Disconnect rear window delogger connector. G 3. Turn ignition switch ON. Condition Voltage (V) (Approx.) Is the inspection result normal? G VES >> GO TO 2. NO Battery voltage NO >> GO TO 4. K 2.CHECK REAR WINDOW DEFOGGER GROUND CIRCUIT Is the inspection result normal? K YES >> GO TO 2. NO > So OTO 3. K NO >> Repair or replace harness. Ground Coninuity M Is the inspection result normal? YES >> GO TO 3. N N N NO >> Repair or replace harness. 3. Check filament. P YES >> GO TO 5. NO >> Repair filament. P 4.Check REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT I. Turn ignition switch OFF.	1. c	HECK REAR WINDO	OW DEFOGGE	R				
YES >> Rear window delogger is OK. NO >> Refer to <u>DEF-19. "Diagnosis Procedure"</u> . Diagnosis Procedure weexeccentric F 1. CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT G 1. Turn ignition switch OFF. G 2. Disconnect rear window defogger connector. H (+) (-) Condition (Approx.) (-) Condition (Approx.) (-) (-) Condition (-) (-)		ck that the heating w	ire of rear wind	low defogger is	s heated when tu	urning the rear w	vindow defogger switch	D
YES >> Refer to DEF-19. "Diagnosis Procedure". Diagnosis Procedure resource to the procedure of t								F
Diagnosis Procedure F 1.cHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT G 1. Turn ignition switch OFF. G 2. Disconnect rear window defogger connector. H 4. Check voltage between rear window defogger harness connector and ground. H Image: the inspection result normal? (a) YES >> GO TO 2. NO >> Ground Rear window defogger (a) Image: the inspection result normal? K YES >> GO TO 2. NO >> Gorto 4. 2. Check continuity between rear window defogger harness connector and ground. M Image: the inspection result normal? K YES >> GO TO 2. K NO >> Gorto 4. K 2. Check continuity between rear window defogger harness connector and ground. M Image: the inspection result normal? K YES >> GO TO 3. N NO >> Repair or replace harness. Continuity M Is the inspection result normal? YES N N YES >> GO TO 3. N >> Repair or replace harness. <								
1. CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT Image: Constraint of the second	Dia		-				INFOID:000000001911155	F
1. Turn ignition switch OFF. G 2. Disconnect rear window defogger connector. H 3. Turn ignition switch ON. H 4. Check voltage between rear window defogger harness connector and ground. H (+) Connector Terminal (-) Condition Voltage (V) (Approx.) I H (+) Connector Terminal (-) Condition Voltage (V) (Approx.) I H (+) Connector Terminal (-) Condition Voltage (V) (Approx.) I H (+) (-) Condition Voltage (V) (Approx.) I I (+) (-) (-) (-) (-) (-) (-) (-) (-) I (+) (-) (-) (-) (-) (-) I Is the inspection result normal?		-						Γ
2. Disconnect rear window defogger connector. 3. Turn ignition switch ON. H 4. Check voltage between rear window defogger harness connector and ground. H (+) (-) Condition Voltage (V) (Approx.) I I (+) (-) Condition Voltage (V) (Approx.) I I (-) Condition Voltage (V) (Approx.) I I (-) Condition Voltage (V) (Approx.) I I (-) Voltage (-) Voltage (-) Voltage (-) Voltage (-) Voltage (-) (-) (-) (-) (-) (-) (-) (-) (-)				R POWER SU				0
4. Check voltage between rear window defogger harness connector and ground. H 	2.	Disconnect rear wind	low defogger c	onnector.				G
(+) Condition Voltage (V) (Approx.) D160 1 Ground Rear window de- fogger switch ON Battery voltage J Is the inspection result normal? YES >> GO TO 2. OFF 0 J NO >> GO TO 4. Continuity K 2. CHECK REAR WINDOW DEFOGGER GROUND CIRCUIT 1. Turn ignition switch OFF. DEF 2. Check continuity between rear window defogger harness connector and ground. M Rear window defogger Ground Continuity M Is the inspection result normal? YES >> GO TO 3. M NO >> Repair or replace harness. S.CHECK FILAMENT O Check filament. Refer to DEF-20. "Component Inspection". Is the inspection result normal? P YES >> GO TO 5. NO >> Repair filament. P ZeHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT 1. Turn ignition switch OFF. P		Turn ignition switch C Check voltage betwe)N. en rear windov	v defogger har	ness connector a	and ground.		
Rear window defogger (.) Condition Voltage (V) (Approx.) I D160 1 Ground Rear window de- fogger switch ON Battery voltage J Is the inspection result normal? YES >> GO TO 2. OFF 0 J NO >> GO TO 2. NO >> GO TO 4. K Conductor Rear window defogger K 1. Turn ignition switch OFF. 2. Check continuity between rear window defogger harness connector and ground. M M Is the inspection result normal? YES >> GO TO 3. M M NO >> Repair or replace harness. 3. Continuity M Is the inspection result normal? YES >> GO TO 3. N NO >> Repair or replace harness. 3. O 3. CHECK FILAMENT O O P YES >> GO TO 5. NO >> Repair filament. P YES >> GO TO 5. NO >> Repair filament. P YES >> GO TO 5. NO >> Repair filament. P YES >> GO TO 5. NO <td></td> <td>-</td> <td></td> <td></td> <td></td> <td>J</td> <td></td> <td>Н</td>		-				J		Н
Connector Terminal And the second secon			fogger	(-)	Con	dition		
D160 1 Ground togger switch OFF 0 J Is the inspection result normal? YES >> GO TO 2. K NO >> GO TO 4. K 2. CHECK REAR WINDOW DEFOGGER GROUND CIRCUIT Image: Continuity between rear window defogger harness connector and ground. DEF 1. Turn ignition switch OFF. 2. Check continuity between rear window defogger harness connector and ground. M Is the inspection result normal? Image: Connector Terminal Ground Continuity M VES >> GO TO 3. N NO >> Repair or replace harness. 3. 3. CHECK FILAMENT O Check filament. Refer to DEF-20. "Component Inspection". Is the inspection result normal? P YES >> GO TO 5. N NO >> Repair filament. P 4.CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT 1. 1. Turi ignition switch OFF.				(-)	Con		(Approx.)	
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. Image: Connector in the inspection result normal? YES YES S the inspection result normal? YES YES S the inspection result normal? YES YES S COT 0.3. NO NO S. CHECK FILAMENT Check filament. Refer to DEF-20. "Component Inspection". Is the inspection result normal? YES YES S GO TO 5. NO NO S Repair filament. 4.CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT 1. Turn ignition switch OFF.		D160	1	Ground	Rear window de-	ON	Battery voltage	
YES >> GO TO 2. K NO >> GO TO 4. 2.CHECK REAR WINDOW DEFOGGER GROUND CIRCUIT 1. Turn ignition switch OFF. Def 2. Check continuity between rear window defogger harness connector and ground. M Image: Second			-	Cround	fogger switch	OFF	0	J
NO >> GO TO 4. K 2.CHECK REAR WINDOW DEFOGGER GROUND CIRCUIT Image: The second se	_	•	ormal?					
1. Turn ignition switch OFF. DEF 2. Check continuity between rear window defogger harness connector and ground. M Rear window defogger Ground Continuity D185 2 Ground Existed M M Is the inspection result normal? YES S GO TO 3. NO Repair or replace harness. O Check filament. Refer to DEF-20. "Component Inspection". Is the inspection result normal? YES YES S check rear window defogger VES S GO TO 5. NO NO YES S CO TO 5. NO NO S CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT 1. Turn ignition switch OFF.								Κ
2. Check continuity between rear window defogger harness connector and ground. M Image: Connector Terminal D185 Ground Continuity M D185 2 Existed M Is the inspection result normal? YES >> GO TO 3. N >> Repair or replace harness. N 3. CHECK FILAMENT O Check filament. O O Check filament. Refer to DEF-20. "Component Inspection". P YES >> GO TO 5. NO >> Repair filament. P YES >> GO TO 5. NO >> Repair filament. P 4.CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT 1. Turn ignition switch OFF. Turn ignition switch OFF.	2. c	HECK REAR WINDO	OW DEFOGGE	R GROUND C	CIRCUIT			
Connector Terminal Ground Continuity M D185 2 Existed N Is the inspection result normal? N N YES >> GO TO 3. N >> Repair or replace harness. O Check filament. Refer to DEF-20. "Component Inspection". O P Is the inspection result normal? YES >> GO TO 5. P YES >> GO TO 5. NO >> Repair filament. P 4.CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT 1. Turn ignition switch OFF.				ow defogger h	arness connecto	or and ground.		DEF
Connector Terminal Ground Continuity M D185 2 Existed N Is the inspection result normal? N N YES >> GO TO 3. N >> Repair or replace harness. O Check filament. Refer to DEF-20. "Component Inspection". O P Is the inspection result normal? YES >> GO TO 5. P YES >> GO TO 5. NO >> Repair filament. P 4.CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT 1. Turn ignition switch OFF.	_	Rear	window defogger					в. Л
Is the inspection result normal? N YES >> GO TO 3. NO >> Repair or replace harness. 3. CHECK FILAMENT O Check filament. Refer to DEF-20, "Component Inspection". Is the inspection result normal? P YES >> GO TO 5. NO >> Repair filament. 4. CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT 1. Turn ignition switch OFF.				Terminal	Ground	i	Continuity	IVI
YES >> GO TO 3. NO >> Repair or replace harness. 3.CHECK FILAMENT Check filament. Refer to DEF-20, "Component Inspection". 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.	_	D185		2			Existed	
NO >> Repair or replace harness. O 3.CHECK FILAMENT O Check filament. Refer to DEF-20, "Component Inspection". P Is the inspection result normal? YES >> GO TO 5. P YES >> GO TO 5. NO >> Repair filament. P 4.CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT 1. Turn ignition switch OFF.			ormal?					Ν
O.CHECK FILAMENT Check filament. Refer to DEF-20, "Component Inspection". 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.			lace harness.					
Refer to DEF-20, "Component Inspection". P Is the inspection result normal? YES >> GO TO 5. NO >> Repair filament. A.CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT 1. Turn ignition switch OFF. P	3. c	HECK FILAMENT						0
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.			onent Inspectio	<u>n"</u> .				D
NO >> Repair filament. 4.CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT 1. Turn ignition switch OFF.	<u>Is th</u>	e inspection result no						Г
4. CHECK REAR WINDOW DEFOGGER POWER SUPPLY CIRCUIT 1. Turn ignition switch OFF.			ont					
1. Turn ignition switch OFF.		1		R POWER SU	JPPLY CIRCUIT			

REAR WINDOW DEFOGGER

< COMPONENT DIAGNOSIS >

3. Check continuity between IPDM E/R harness connector and rear window defogger harness connector.

IPDI	M E/R	Rear windo	ow defogger	Continuity	
Connector	Terminal	Connector	Terminal	Continuity	
E11	12	D160	1	Existed	

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

IPE	M E/R		Continuity
Connector	Connector Terminal		Continuity
E11	12		Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5. CHECK INTERMITTENT INCIDENT

Refer to GI-41, "Intermittent Incident"

>> INSPECTION END

Component Inspection

INFOID:000000001911156

1.CHECK FILAMENT

Check the filament for damage or blown. Refer to <u>DEF-65, "Inspection and Repair"</u>.

Is the inspection result normal?

YES >> INSPECTION END

NO >> Repair filament.

< COMPONENT DIA				۲.		
DOOR MIRROR	R DEFOGGI	ER				А
DRIVER SIDE						Μ
DRIVER SIDE : D	Description				INFOID:000000001911157	В
Heats the heating wire from fogging up.	e with the power	supply from the	e door mirror defoç	gger relay to p	prevent the door mirror	
DRIVER SIDE : C	Component Fi	unction Che	ck		INFOID:000000001911158	С
1.CHECK DRIVER S	SIDE DOOR MIRF		ER			
Check that heating win switch ON.	re of driver side c	door mirror defc	ogger is heated who	en turning the	e rear window defogger	D
Is the inspection result						Е
	le door mirror defo DEF-21, "DRIVER		seis Procedure"			
DRIVER SIDE : D		-	SIS FIDGEDUIE			-
	0				INFOID:000000001911159	F
1. CHECK DOOR MIF		ER POWER SU	JPPLY CIRCUIT			_
 Turn ignition switc Disconnect door n) connector.				G
3. Turn ignition switc	ch ON.			ار		
4. Check voltage bet	ween door mirror	r (driver side) na	arness connector a	ind grouna.		Η
(+)	1					
Door mirror (c	-	(-)	Conditio	n	Voltage (V) (Approx.)	
Connector	Terminal				Detterme	
D3	1	Ground	Rear window de- fogger switch	ON OFF	Battery voltage	J
Is the inspection result	t normal?		<u></u>	_		
YES >> GO TO 2. NO >> GO TO 4.						Κ
2.CHECK DOOR MIF		ER GROUND (CIRCUIT			
1. Turn ignition switc						DEF
		ror (driver side)) harness connector	r and ground.	I	
Doc	or mirror (driver side)					M
Connector		Terminal	Ground		Continuity	
D3		5			Existed	NI
Is the inspection result						Ν
YES >> GO TO 3. NO >> Repair or	replace harness.					_
3.CHECK DRIVER S	-		ER			0
Check driver side door Refer to <u>DEF-22</u> , "DRI	or mirror defogger.					Р
Is the inspection result		· · ·				
YES >> GO TO 5. NO >> Replace of Assembly	door mirror glass	(driver side). F	Refer to <u>MIR-20, "C</u>	GLASS MIRR(OR : Disassembly and	
4.CHECK DOOR MIR						
1. Turn ignition switc	ch OFF.					

< COMPONENT DIAGNOSIS >

- 2. Disconnect door mirror defogger relay connector and door mirror (driver side) connector.
- Check continuity between door mirror (driver side) harness connector and door mirror defogger relay harness connector.

Door mirror	Door mirror (driver side)		defogger relay	Continuity
Connector	Terminal	Connector	Terminal	Continuity
D3	1	M10	2	Existed

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

Door mirror (driver side)			Continuity
Connector	Terminal	Ground	Continuity
D3	1	_	Not existed

Is the inspection result normal?

YES >> GO TO 5.

NO >> Repair or replace harness.

5.CHECK INTERMITTENT

Refer to GI-41, "Intermittent Incident"

>> INSPECTION END

DRIVER SIDE : Component Inspection

1.CHECK DRIVER SIDE DOOR MIRROR DEFOGGER

- 1. Turn ignition switch OFF.
- 2. Disconnect door mirror (driver side) connector.
- 3. Check continuity between door mirror terminals.

Door	Continuity		
Connector	Terminal		Continuity
D3	1	5	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace door mirror glass (driver side). Refer to <u>MIR-20, "GLASS MIRROR : Disassembly and</u> <u>Assembly".</u>

PASSENGER SIDE

PASSENGER SIDE : Description

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

PASSENGER SIDE : Component Function Check

1.CHECK PASSENGER SIDE DOOR MIRROR DEFOGGER

Check that heating wire of passenger side door mirror defogger is heated when turning the rear window defogger switch ON.

Is the inspection result normal?

YES >> Passenger side door mirror defogger is OK.

NO >> Refer to DEF-22, "PASSENGER SIDE : Diagnosis Procedure".

PASSENGER SIDE : Diagnosis Procedure

1.CHECK DOOR MIRROR DEFOGGER POWER SUPPLY CIRCUIT

1. Turn ignition switch OFF.

INFOID:000000001911163

INFOID:000000001911161

INFOID:000000001911162

INFOID:000000001911160

< COMPONENT DIAGNOSIS >

- 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 (pass	senger side)	(-)	Condi	ition	Voltage (V) (Approx.)
Connector	Terminal				
D43	1	Ground	Rear window defog- ger switch	ON OFF	Battery voltage
ne inspection resul					
ES >> GO TO 2. D >> GO TO 4.					
CHECK DOOR MI	RROR DEFOG	GER GROUN	ID CIRCUIT		
Turn ignition swite		mirror (pagago	aar aida) harnaaa aa	nnoctor and ar	aund
Check continuity	between door n	ninor (passen	ger side) harness co	nnector and gro	Juna.
	r mirror (passenge	•		_	Continuity
Connector		Terminal	Gro	und	
D43 ne inspection resul		5			Existed
CHECK PASSENG	e door mirror de	efogger.			
eck passenger side er to <u>DEF-24</u> , "PAS <u>he inspection resul</u> ES >> GO TO 5. D >> Replace of <u>and Asse</u> CHECK DOOR MI Turn ignition swite Disconnect door r	e door mirror de SSENGER SID It normal? door mirror gla mbly". RROR CIRCUI ch OFF. mirror defogger	efogger. E : Componer ss (passenger T	nt Inspection". r side). Refer to <u>MIR</u> d door mirror (passe	nger side) conn	iector.
eck passenger side er to <u>DEF-24</u> , "PAS <u>he inspection resul</u> ES >> GO TO 5. D >> Replace of <u>and Asse</u> CHECK DOOR MI Turn ignition swite Disconnect door r	e door mirror de <u>SSENGER SID</u> <u>t normal?</u> door mirror glaa <u>mbly"</u> . RROR CIRCUI ch OFF. mirror defogger between door n	efogger. E : Componer ss (passenger T	nt Inspection". r side). Refer to <u>MIR</u>	nger side) conn	iector.
eck passenger side fer to <u>DEF-24</u> , "PAS <u>he inspection resul</u> ES >> GO TO 5. D >> Replace of <u>and Asse</u> CHECK DOOR MII Turn ignition swite Disconnect door r Check continuity I harness connect	e door mirror de <u>SSENGER SID</u> <u>t normal?</u> door mirror glaa <u>mbly"</u> . RROR CIRCUI ch OFF. mirror defogger between door n	efogger. E : Componer ss (passenger T	nt Inspection". r side). Refer to <u>MIR</u> d door mirror (passe	nger side) conn nnector and do	nector. or mirror defogger r
eck passenger side fer to <u>DEF-24</u> , "PAS <u>he inspection resul</u> ES >> GO TO 5. D >> Replace of <u>and Asse</u> CHECK DOOR MII Turn ignition swite Disconnect door r Check continuity I harness connect	e door mirror de <u>SSENGER SID</u> t normal? door mirror glas <u>mbly"</u> . RROR CIRCUI ch OFF. mirror defogger between door n or.	efogger. E : Componer ss (passenger T connector an nirror (passen	nt Inspection". r side). Refer to <u>MIR</u> d door mirror (passe ger side) harness con	nger side) conn nnector and do	iector.
eck passenger side er to <u>DEF-24</u> , "PAS <u>he inspection resul</u> ES >> GO TO 5. D >> Replace of <u>and Asse</u> CHECK DOOR MII Turn ignition swite Disconnect door r Check continuity I harness connecto	e door mirror de SSENGER SID It normal? door mirror gla: <u>mbly"</u> . RROR CIRCUI ch OFF. mirror defogger between door n or.	efogger. E : Componer ss (passenger T connector an nirror (passen	nt Inspection". r side). Refer to <u>MIR</u> d door mirror (passe ger side) harness con	nger side) conn nnector and do	nector. or mirror defogger r
eck passenger side er to <u>DEF-24</u> , "PAS <u>he inspection resul</u> ES >> GO TO 5. D >> Replace of <u>and Asse</u> CHECK DOOR MII Turn ignition swite Disconnect door r Check continuity I harness connecto Door mirror (p Connector D43	e door mirror de <u>SSENGER SID</u> t normal? door mirror glas <u>mbly"</u> . RROR CIRCUI ch OFF. mirror defogger between door nor. passenger side) Terminal 1	efogger. E : Component ss (passengen T connector an nirror (passen Co	nt Inspection". r side). Refer to <u>MIR</u> d door mirror (passe ger side) harness con Door mirror defogger re	nger side) conn nnector and do elay erminal	ector. or mirror defogger r Continuity Existed
eck passenger side fer to <u>DEF-24</u> , "PAS <u>he inspection resul</u> ES >> GO TO 5. D >> Replace of <u>and Asse</u> CHECK DOOR MII Turn ignition swite Disconnect door r Check continuity I harness connector Door mirror (p Connector D43 Check continuity I	e door mirror de <u>SSENGER SID</u> t normal? door mirror glas <u>mbly"</u> . RROR CIRCUI ch OFF. mirror defogger between door nor. passenger side) Terminal 1	efogger. E : Componer ss (passenger T connector an nirror (passen connector an	nt Inspection". r side). Refer to <u>MIR</u> d door mirror (passed ger side) harness con Door mirror defogger re onnector Te M10	nger side) conn nnector and do elay erminal	ector. or mirror defogger r Continuity Existed Dund.
eck passenger side fer to <u>DEF-24</u> , "PAS <u>he inspection resul</u> ES >> GO TO 5. D >> Replace of <u>and Asse</u> CHECK DOOR MII Turn ignition swite Disconnect door r Check continuity I harness connector Door mirror (p Connector D43 Check continuity I	e door mirror de <u>SSENGER SID</u> <u>t normal?</u> door mirror glas <u>mbly"</u> . RROR CIRCUI ch OFF. mirror defogger between door nor passenger side) Terminal 1 between door nor irror (passenger side)	efogger. E : Componer ss (passenger T connector an nirror (passen connector an	nt Inspection". r side). Refer to <u>MIR</u> d door mirror (passed ger side) harness con Door mirror defogger re onnector Te M10	nger side) conn nnector and do elay erminal	ector. or mirror defogger r Continuity Existed

Refer to GI-41, "Intermittent Incident"

>> INSPECTION END

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< COMPONENT DIAGNOSIS >

PASSENGER SIDE : Component Inspection

INFOID:000000001911164

1.CHECK PASSENGER SIDE DOOR MIRROR DEFOGGER

- 1. Turn ignition switch OFF.
- 2. Disconnect door mirror (passenger side) connector.
- 3. Check continuity between door mirror terminals connector.

Door m	Continuity		
Connector	Terr	minal	Continuity
D43	1	5	Existed

Is the inspection result normal?

YES >> INSPECTION END

NO >> Replace door mirror glass (passenger side). Refer to <u>MIR-20, "GLASS MIRROR : Disassembly</u> and <u>Assembly"</u>.

REAR WINDOW DEFOGGER ON SIGNAL

< COMPONENT DIAGNOSIS >	
REAR WINDOW DEFOGGER ON SIGNAL	А
Description INFOID:000000001911763	A
Turns the indicator lamp in the rear window defogger switch ON when operating the rear window defogger.	В
1.CHECK REAR WINDOW DEFOGGER ON SIGNAL	С
Check that the indicator lamps of rear window defogger switch are illuminated when turning the rear window defogger switch ON. Is the inspection result normal? OK >> Rear window defogger ON signal is OK. NG >> Refer to DEF-25, "Diagnosis Procedure".	D
Diagnosis Procedure	E
1.CHECK FUSE	F
 Turn ignition switch OFF. Check the following. 10A fuse [No. 5, located in fuse block (J/B)] Is the inspection result normal? 	G
YES >> GO TO 2. NO >> Replace the blown fuse after repairing the affected circuit if a fuse is blown. 2.CHECK REAR WINDOW DEFOGGER INDICATOR LAMPS ON SIGNAL	Н
1. Turn ignition switch ON.	1

2. Check voltage between A/C amp. connector ground.

(+)		(-) Conditio		tion	Voltage (V)	
Connector	Terminal	(-)	Condi		(Approx.)	J
M50	20	Cround	Rear window defog-	ON	Battery voltage	-
MOU	20	Ground	ger switch	OFF	0	K

Is the inspection result normal?

YES >> Replace A/C amp. Refer to VTL-25, "Removal and Installation".

NO >> GO TO 3.

3.CHECK REAR WINDOW DEFOGGER INDICATOR LAMPS CIRCUIT

1. Turn ignition switch OFF.

Disconnect IPDM E/R connector and A/C amp. connector. 2.

Check continuity between IPDM E/R harness connector and a/c amp. harness connector. 3.

IPD	IPDM E/R		A/C amp.		N
Connector	Terminal	Connector	Terminal	Continuity	
E11	12	M50	20	Existed	0

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

IPDM E/R			Continuity	D
Connector	Terminal	Ground	Continuity	I
E11	12		Not existed	

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace harness.

4.CHECK INTERMITTENT INCIDENT

DEF

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REAR WINDOW DEFOGGER ON SIGNAL

< COMPONENT DIAGNOSIS >

Refer to GI-41, "Intermittent Incident".

>> INSPECTION END

< ECU DIAGNOSIS >

ECU DIAGNOSIS BCM (BODY CONTROL MODULE)

Reference Value

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status	
IGN ON SW	Ignition switch OFF or ACC	Off	
IGIN OIN SW	Ignition switch ON	On	D
KEY ON SW	Mechanical key is removed from key cylinder	Off	
KET ON SW	Mechanical key is inserted to key cylinder	On	
	Door lock/unlock switch does not operate	Off	— E
CDL LOCK SW	Press door lock/unlock switch to the lock side	On	
	Door lock/unlock switch does not operate	Off	F
CDL UNLOCK SW	Press door lock/unlock switch to the unlock side	On	
	Driver's door closed	Off	
DOOR SW-DR	Driver's door opened	On	G
	Passenger door closed	Off	
DOOR SW-AS	Passenger door opened	On	— Н
	Rear RH door closed	Off	
DOOR SW-RR	Rear RH door opened	On	
	Rear LH door closed	Off	
DOOR SW-RL	Rear LH door opened	On	
	Back door closed	Off	
BACK DOOR SW	Back door opened	On	0
	Other than driver door key cylinder LOCK position	Off	
KEY CYL LK-SW	Driver door key cylinder LOCK position	On	K
	Other than driver door key cylinder UNLOCK position	Off	
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On	
	"LOCK" button of key fob is not pressed	Off	DEI
KEYLESS LOCK	"LOCK" button of key fob is pressed	On	
	"UNLOCK" button of key fob is not pressed	Off	M
KEYLESS UNLOCK	"UNLOCK" button of key fob is pressed	On	
I-KEY LOCK	"LOCK" button of Intelligent Key or door request switch are not pressed	Off	N
	"LOCK" button of Intelligent Key or door request switch are pressed	On	
I-KEY UNLOCK	"UNLOCK" button of Intelligent Key or door request switch are not pressed	Off	0
I-RET UNLOCK	"UNLOCK" button of Intelligent Key or door request switch are pressed	On	
ACC ON SW	Ignition switch OFF	Off	P
	Ignition switch ACC or ON	On	
REAR DEF SW	Rear window defogger switch OFF	Off	
NLAN DEF OW	Rear window defogger switch ON	On	
	Lighting switch OFF	Off	
LIGHT SW 1ST	Lighting switch 1ST	On	

А

В

INFOID:000000003050332

A

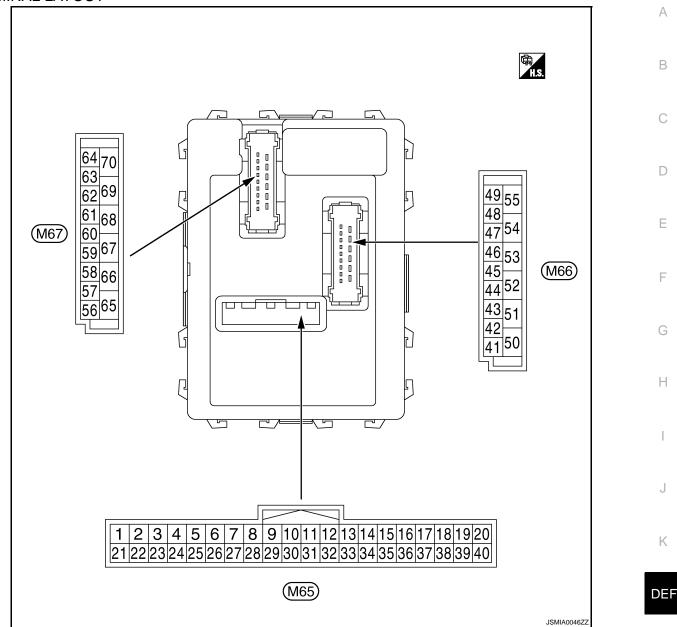
Monitor Item	Condition	Value/Status
	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) OFF]	Off
BUCKLE SW	The seat belt (driver side) is fastened. [Seat belt switch (driver side) ON]	On
KEYLESS PANIC	PANIC button of key fob is not pressed	Off
KEYLESS PANIC	PANIC button of key fob is pressed	On
KEYLESS TRUNK	NOTE: The item is indicated, but not monitored.	Off
TRNK OPN MNTR	NOTE: The item is indicated, but not monitored.	Off
RKE LCK-UNLCK	LOCK/UNLOCK button of key fob is not pressed and held simulta- neously	Off
RRE LOR-UNLOR	LOCK/UNLOCK button of key fob is pressed and held simulta- neously	On
RKE KEEP UNLK	UNLOCK button of key fob is not pressed	Off
KKE KEEP UNLK	UNLOCK button of key fob is pressed and held	On
HI BEAM SW	Lighting switch OFF	Off
TI BEAN SW	Lighting switch HI	On
HEAD LAMP SW 1	Lighting switch OFF	Off
HEAD LAWF SW I	Lighting switch 2ND	On
HEAD LAMP SW 2	Lighting switch OFF	Off
TIEAD EAWIF SW 2	Lighting switch 2ND	On
AUTO LIGHT SW	NOTE: The item is indicated, but not monitored.	Off
PASSING SW	Other than lighting switch PASS	Off
FASSING SW	Lighting switch PASS	On
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off
TURN SIGNAL R	Turn signal switch OFF	Off
TOTAL N	Turn signal switch RH	On
TURN SIGNAL L	Turn signal switch OFF	Off
	Turn signal switch LH	On
ENGINE RUN	Engine stopped	Off
	Engine running	On
PKB SW	Parking brake switch is OFF	Off
	Parking brake switch is ON	On
CARGO LAMP SW	NOTE: The item is indicated, but not monitored.	Off
OPTICAL SENSOR	NOTE: The item is indicated, but not monitored.	0 V
IGN SW CAN	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
	Front wiper switch OFF	Off
FR WIPER HI	Front wiper switch HI	On
	Front wiper switch OFF	Off
FR WIPER LOW	Front wiper switch LO	On

Monitor Item	Condition	Value/Status
	Front wiper switch OFF	Off
FR WIPER INT	Front wiper switch INT	On
	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
	Any position other than front wiper stop position	Off
FR WIPER STOP	Front wiper stop position	On
/EHICLE SPEED	While driving	Equivalent to speedometer reading
	Rear wiper switch OFF	Off
RR WIPER ON	Rear wiper switch ON	On
	Rear wiper switch OFF	Off
RR WIPER INT	Rear wiper switch INT	On
	Rear washer switch OFF	Off
RR WASHER SW	Rear washer switch ON	On
	Rear wiper stop position	Off
RR WIPER STOP	Other than rear wiper stop position	On
RR WIPER STP2	NOTE: The item is indicated, but not monitored.	Off
H/L WASH SW	NOTE: The item is indicated, but not monitored.	Off
	Hazard switch OFF	Off
HAZARD SW	Hazard switch ON	On
	Brake pedal is not depressed	Off
BRAKE SW	Brake pedal is depressed	On
	Blower fan motor switch OFF	Off
FAN ON SIG	Blower fan motor switch ON (other than OFF)	On
	Compressor ON is not requested from auto amp. (A/C indicator OFF, blower fan motor switch OFF or etc.)	Off
AIR COND SW	Compressor ON is requested from auto amp. (A/C indicator ON and blower fan motor switch ON).	On
-KEY TRUNK	NOTE: The item is indicated, but not monitored.	Off
-KEY PW DWN	UNLOCK button of Intelligent Key is not pressed	Off
	UNLOCK button of Intelligent Key is pressed and held	On
-KEY PANIC	PANIC button of Intelligent Key is not pressed	Off
	PANIC button of Intelligent Key is pressed	On
	Return to ignition switch to "LOCK" position	Off
PUSH SW	Press ignition switch	On
	When back door opener switch is not pressed	Off
FRNK OPNR SW	When back door opener switch is pressed	On
FRUNK CYL SW	NOTE: The item is indicated, but not monitored.	Off
HOOD SW	Close the hood NOTE: Vehicles of except for Mexico are OFF-fixed	Off
	Open the hood	On

Monitor Item	Condition	Value/Status
OIL PRESS SW	Ignition switch OFF or ACCEngine running	Off
	Ignition switch ON	On
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID REGST FL1	ID of front LH tire transmitter is registered	Done
DREGGTTET	ID of front LH tire transmitter is not registered	Yet
ID REGST FR1	ID of front RH tire transmitter is registered	Done
ID REGGI FRI	ID of front RH tire transmitter is not registered	Yet
ID REGST RR1	ID of rear RH tire transmitter is registered	Done
	ID of rear RH tire transmitter is not registered	Yet
ID REGST RL1	ID of rear LH tire transmitter is registered	Done
ID REGOT RET	ID of rear LH tire transmitter is not registered	Yet
WARNING LAMP	Tire pressure indicator OFF	Off
	Tire pressure indicator ON	On
BUZZER	Tire pressure warning alarm is not sounding	Off
DUZZEK	Tire pressure warning alarm is sounding	On

< ECU DIAGNOSIS >

TERMINAL LAYOUT



PHYSICAL VALUES

CAUTION:

- Check combination switch system terminal waveform under the loaded condition with lighting switch, turn signal switch and wiper switch OFF is not to be fluctuated by being overloaded.
- Turn wiper intermittent dial position to 4 except when checking waveform or voltage of wiper intermittent dial position. Wiper intermittent dial position can be confirmed on CONSULT-III. Refer to BCS-26, "COMB SW : CONSULT-III Function (BCM COMB SW)".
- BCM reads the status of the combination switch at 10 ms internal normally. Refer to <u>BCS-9, "System</u> O <u>Diagram"</u>.

	Terminal No. (Wire color)		Description				Value	Р
_			Signal name	Input/		Condition	(Approx.)	
	+	-	Signal name	Output			()	
	1	Ground	Ignition key hole illu-	Output	Ignition key hole	OFF	Battery voltage	
	(V)	Giouna	mination control	Output	illumination	ON	0 V	

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	nal No.	Description				Value				
(Wire +	e color) –	Signal name	Input/ Output		Condition	(Approx.)				
+ 2 (G)	Ground	Combination switch INPUT 5	Input	Combination switch (Wiper intermit- tent dial 4)	All switch OFF Turn signal switch RH Lighting switch HI Lighting switch 1ST	0 V (V) 15 10 • +10ms 1.0 V (V) 15 0 • +10ms • +10ms				
3 (Y)	Ground	Combination switch INPUT 4	Input	Combination switch	All switch OFF Turn signal switch LH Lighting switch PASS Lighting switch 2ND	PKiB4953J 2.0 V 0 V (V) 15 10 5 0 ••••10ms ••••10ms ••••10ms ••••10ms ••••10ms ••••10ms				
		tent dial 4)						(Wiper intermit- tent dial 4)	Front fog lamp switch ON	(V) 10 5 0 •••••••••••••••••••••••••••••••
4 (W)	Ground	Combination switch INPUT 3	Input	Combination switch (Wiper intermit- tent dial 4)	All switch OFF Front wiper switch LO Front wiper switch MIST Front wiper switch INT	0 V (V) 15 10 5 0 + 10ms PKIB4959J 1.0 V				

	nal No.	Description				Value	
(Wire +	color)	Signal name	Input/ Output		Condition	(Approx.)	ŀ
5 (R)	Ground	Combination switch INPUT 2	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)Front washer switch (Wiper intermittent dial 4)Rear washer ON (Wiper intermittent dial 4)Any of the condition below with all switch OFFWiper intermittent dial 1Wiper intermittent dial 5Wiper intermittent dial 5	0 V (V) 15 10 5 0 ++10ms PKIB4959J 1.0 V	E
					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 ++10ms -++10ms 	F
					All switch OFF (Wiper intermittent dial 4)	0 V	ŀ
					Front wiper switch HI (Wiper intermittent dial 4) Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10 5	
					Wiper intermittent dial 3 (All switch OFF)	0	
6 (P)	Ground	Combination switch INPUT 1	Input	Combination switch	Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2	(V) 15 10 5 0 •••10ms •••00ms ••00ms ••0	D
					Any of the condition below with all switch OFF • Wiper intermittent dial 6 • Wiper intermittent dial 7	(V) 15 10 5 0 • • • 10ms	1
						PKIB4955J 0.8 V	F

Terminal No. (Wire color)		Description				Value					
(Wire +	color)	Signal name	Input/ Output		Condition	(Approx.)					
7 (L)	Ground	Door key cylinder switch UNLOCK sig- nal	Input	Door key cylin- der switch	NEUTRAL position	(V) ₁₅ 10 5 0 + 10ms JPMIA0587GB 8.0 - 8.5 V					
					UNLOCK position	0 V					
8 (R)	Ground	Door key cylinder switch LOCK signal	Input	Door key cylin- der switch	NEUTRAL position	(V) ₁₅ 10 5 0 + 10ms JPMIA0587GB 8.0 - 8.5 V					
					LOCK position	0 V					
9									Stop lamp	OFF (Brake pedal is not depressed)	0 V
(R)	Ground	Stop lamp switch	Input	switch	ON (Brake pedal is de- pressed)	Battery voltage					
10	Ground	Rear window defog-	Input	Rear window	Not pressed	Battery voltage					
(SB)	Ciouna	ger switch	mpar	defogger switch	Pressed	0 V					
11 (SB)	Ground	Ignition switch ACC	Input	Ignition switch O		0 V					
(36)				Ignition switch A	CC or ON	Battery voltage					
12 (P)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)	(V) ₁₅ 10 5 0 ••10ms JPMIA0586GB 7.5 - 8.0 V					
					ON (When passenger door opened)	0 V					
13 (LG)	Ground	Rear door switch RH	Input	Rear door switch RH	OFF (When rear door RH closed)	(V) ₁₅ 10 5 0 + 10ms JPMIA0587GB 8.0 - 8.5 V					
					ON (When rear door RH opened)	0 V					

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description				Value
(vvire +		Signal name	Input/ Output		Condition	(Approx.)
15* ¹ (O)	Ground	TPMS mode trigger switch	Input	Ignition switch OFF		(V) ₁₅ 10 50 ••10ms JPMIA0588GB 1.5 V
18* ¹ (O)	Ground	Remote keyless en- try receiver ground	Input	Ignition switch O	N	0 V
		Remote keyless en-		Without Intelli- gent Key sys- tem	At any condition	5 V
19* ¹ (V)	Ground	try receiver power supply	Input	With Intelligent Key system	 Ignition switch OFF For 3 seconds after ignition switch OFF to ON 3 seconds or later after ig- 	0 V 5 V
					nition switch OFF to ON	(V) ₁₅
				Without Intelli- gent Key sys- tem	At any condition	10 5 0 ++2ms JPMIA0589GB
						NOTE: The wave form changes accord- ing to signal-receiving condition.
20* ¹ (GR)	Ground	Remote keyless en- try receiver signal	Input		 Ignition switch OFF For 3 seconds after ignition switch OFF to ON 	0 V
				With Intelligent Key system	3 seconds or later after ig- nition switch OFF to ON	(V) ₁₅ 10 5 0 <i>i i i i i i i i i i</i>
21 (G)	Ground	Immobilizer anten- na signal (Clock)	Input/ Output	Ignition switch O	FF	Battery voltage

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	nal No.	Description				Value
(Wire +	e color) –	Signal name	Input/ Output	Condition		(Approx.)
					ON	0 V
23 (B)	Ground	Security indicator signal	Input	Security indica- tor	Blinking (Ignition switch OFF)	(V) ₁₅ 10 5 0 • • • 15
						12.0 V
					OFF	Battery voltage
25 (BR)	Ground	Immobilizer anten- na signal (Rx, Tx)	Input/ Output	Ignition switch O	FF	Battery voltage
				Ignition switch OFF		
27 (Y)	Ground	A/C switch	Input	Ignition switch ON	A/C switch OFF	(V) ₁₅ 10 0 • • 10ms JPMIA0591GB 1.6 V
					A/C switch ON	0 V
				Ignition switch O	FF	
28 (LG)	Ground	Blower fan switch	Input	Ignition switch ON	Blower fan switch OFF	(V) ₁₅ 10 5 0 + 10ms <i>j</i> <i>j</i> <i>j</i> <i>j</i> <i>j</i> <i>j</i> <i>j</i> <i>j</i> <i>j</i> <i>j</i>
					Blower fan switch ON	0 V
29	Ground	Hazard switch	Input	Hazard switch	OFF	Battery voltage
(W)	Giouna	TIAZATU SWILLII	input	TIAZATU SWILLI	ON	0 V
30	Ground	Back door opener	Input	Back door	Not pressed	Battery voltage
(G)		switch	F	opener switch	Pressed	0 V

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description				Value	
(vvire +		Signal name	Input/ Output		Condition	(Approx.)	
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + 10ms PKIB4960J 7.2 V	
32 (BR)	Ground	Combination switch OUTPUT 5	Output	Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4)		
					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1	0	
					 Wiper intermittent dial 2 Wiper intermittent dial 6 Wiper intermittent dial 7 	^{рків4956J} 1.0 V	
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + 10ms	
33	Ground	Combination switch	Output	Combination		рків4960Ј 7.2 V	
(GR)	Giouna	OUTPUT 4	Output	switch	Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15	
					Rear wiper switch INT (Wiper intermittent dial 4)		
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6	0 ++10ms PKIB4958J 1.2 V	

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	nal No.	Description				Value
(vvire +	e color) –	Signal name	Input/ Output	Condition		(Approx.)
					All switch OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 + 10ms PKIB4960J 7.2 V
34 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch	Lighting switch 2ND (Wiper intermittent dial 4)	
()					Lighting switch HI (Wiper intermittent dial 4)	(V) 15 10
					Rear washer switch ON (Wiper intermittent dial 4)	
					Any of the condition below with all switch OFF • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3	
35				Combination	All switch OFF	(V) 15 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
(B)	Ground	Combination switch OUTPUT 2	Output	switch (Wiper intermit- tent dial 4)	Lighting switch 2ND	
					Lighting switch PASS	(V) 15
					Front wiper switch INT	
					Front wiper switch HI	+10ms ►+10ms РКIВ4958J 1.2 V
36		Combination switch		Combination	All switch OFF	(V) 15 0 5 0 + 10ms PKIB4960J 7.2 V
(V)	Ground	OUTPUT 1	Output	(Wiper intermit- tent dial 4)	Turn signal switch RH	
				tent ulal 4)	Turn signal switch LH	(V) 15 10
					Front wiper switch LO (Front wiper switch MIST)	
					Front washer switch ON	++10ms PKiB4958J
						1.2 V

< ECU DIAGNOSIS >

+ - Signal name Input Output Constant Constant (Approx.) 37 (LG) Ground Key switch Input Insert mechanical key into ignition key cylin- der Battery voltage 38 (G) Ground Ignition switch ON Input Input Insert mechanical key from ignition key cylin- der 0 V 38 (G) Ground Ignition switch ON Input Ignition switch OFF or ACC 0 V 39 (L) Ground CAN-H Input/ Output Ignition switch ON or START Battery voltage 40 (V) Ground CAN-L Input/ Output — — — 43 (V) Ground Back door switch Input Back door switch OFF (When back door closed) (V) (When back door closed) (V) (When back door closed) 0 V 44 (B) Ground Rear wiper auto stop Input Input Rear wiper stop position 0 V 44 (B) Ground Door lock and unlock switch Input Door lock and unlock switch NEUTRAL position 0 V 45 (P) Ground Door lock and switch LOCK signal Input Door lock and unlock switch <td< th=""><th colspan="2">Terminal No. (Wire color)</th><th></th><th colspan="2">Description</th><th>4</th><th>Condition</th><th colspan="2">Value</th></td<>	Terminal No. (Wire color)			Description		4	Condition	Value	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $			-	Signal name	Input/ Output		Condition	(Approx.)	
$ \begin{array}{ c c c c c } \hline Ground & Ignition switch ON & Input \\ \hline Ignition switch ON or START & Battery voltage \\ \hline Ignition switch ON or START & Battery voltage \\ \hline Ignition switch ON or START & Battery voltage \\ \hline Ignition switch Output & & \\ \hline $		Ground		Key switch	Input	der Remove mechai			
(1)Image: Constraint of the lightion switch ON or STARTBattery voltage39 (L)GroundCAN-HInput/ Output——40 (P)GroundCAN-LInput/ Output———43 (V)GroundBack door switchInput/ outputInput/ P———43 (V)GroundBack door switchInput/ InputBack door switchOFF (When back door closed)(V) (Men back door closed)(V) (Men back door closed)(V) (Men back door closed)0 V44 (B)GroundRear wiper auto stopInputInputInputRear wiper stop position0 V44 (P)GroundDoor lock and unlockInputDoor lock and unlock switchInputDoor lock and unlock switchNEUTRAL position(V) (V) (Men back door opened)45 (P)GroundDoor lock and unlock signalInputDoor lock and unlock switchNEUTRAL position(V) (V) (Men back door opened)45 (P)GroundDoor lock and unlock switchInputDoor lock and unlock switchNEUTRAL position(V) (V) (Menser transmission (Menser transmission)		Ground		Ignition switch ON	Input	Ignition switch C	OFF or ACC	0 V	
(L)OutputOutputImput/ OutputImput/ OutputImput/ OutputImput/ OutputImput/ OutputImput/ OFF <td></td> <td>Clound</td> <td>G)</td> <td></td> <td></td> <td>Ignition switch C</td> <td>ON or START</td> <td>Battery voltage</td>		Clound	G)			Ignition switch C	ON or START	Battery voltage	
(P)GroundCAN-LOutputImputBack doorOFF (When back door closed)(M_{15} (When back door opened)(M_{15} (When back door opened)(M_{15} (When back door opened)(M_{15} (M_{15} (M_{15} (M_{15} (M_{15})(M_{15} 		Ground		CAN-H			—	—	
$ \begin{array}{c} \begin{array}{c} \begin{array}{c} 43\\ (V)\\ (V) \end{array} \end{array} \end{array} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \begin{array}{c} \end{array}\\ \end{array}\\ \end{array}\\ \end{array}\\ \end{array} \end{array} \end{array} \begin{array}{c} \begin{array}{c} \end{array}\\ \end{array} \end{array} \begin{array}{c} \end{array}\\ \end{array} \begin{array}{c} \begin{array}{c} \end{array}\\ \end{array} \end{array} \begin{array}{c} \end{array}\\ \end{array} \begin{array}{c} \end{array} \end{array} $ \begin{array}{c} \end{array} \end{array} \begin{array}{c} \end{array} \end{array} \left \begin{array}{c} \end{array} \left \end{array} \left \begin{array}{c} \end{array} \left \end{array} \left \end{array} \left \begin{array}{c} \end{array} \left \end{array} \left \end{array} \left \begin{array}{c} \end{array} \left \end{array} $ \begin{array}{c} \end{array} $ } \end{array} $ \begin{array}{c} \end{array} $ $ \end{array} $ $ \begin{array}{c} \end{array} $ $ \end{array} $ $ \end{array} $ $ \begin{array}{c} \end{array} $ $ \end{array} $ $ \end{array} $ $ \begin{array}{c} \end{array} $ $ \end{array} $ $ \end{array} $		Ground		CAN-L			_	_	
44 (B) Ground Rear wiper auto stop Input Input Input Rear wiper stop position 0 V 45 (P) Ground Door lock and unlock switch LOCK signal Input Input Door lock and unlock switch NEUTRAL position (V) 15 10 10 1.6 V		Ground		Back door switch	Input			10 5 0 ++10ms JPMIA0593GB	
44 (B) Ground Rear wiper auto stop Input Ignition switch ON Any position other than rear wiper stop position Battery voltage 45 (P) Ground Door lock and unlock switch LOCK signal Input Input Door lock and unlock switch NEUTRAL position (V) ₁₅ 10 50 10 10 10 10 10 10 10 10 10 10 10 10 10			(When back door open						
(B) ON Party position on one mail rear wiper stop position Battery voltage 45 (P) Ground Door lock and unlock switch LOCK signal Input Door lock and unlock switch NEUTRAL position (V) ₁₅ 10 10 10 10 10 10 10 10 10 10 10 10 10		Ground		Rear wiper auto stop	Innut			0 V	
45 (P) Ground Door lock and unlock switch LOCK signal Input Door lock and unlock switch Unlock switch Input Door lock and unlock switch Input In	(B)	Clound	B)		mpar	ON		Battery voltage	
		Ground			Input		NEUTRAL position	10 5 0 ++10ms JPMIa0591GB	
LOCK position 0 V							LOCK position		
46 (BR) Ground Door lock and unlock switch UNLOCK sig- nal Input Door lock and unlock switch NEUTRAL position (V) ₁₅ 10 5 0 + + 10ms		Ground		switch UNLOCK sig-	Input			10 5 0 ++10ms JPMIA0591GB	
UNLOCK position 0 V							UNI OCK position		

	nal No.	Description				Value	
(vvire +	e color) –	Signal name	Input/ Output	Condition		(Approx.)	
47 (W)	Ground	d Driver door switch	Input	Driver door switch	OFF (When driver door closed)	(V) ₁₅ 10 5 0 •••10ms JPMIA0587GB 8.0 - 8.5 V	
					ON (When driver door opened)	0 V	
48 (GR)	Ground	Rear door switch LH	Input	Rear door switch LH	OFF (When rear door LH closed)	(V) ₁₅ 10 0 • • 10ms JPMIA0594GB 8.5 - 9.0 V	
					ON (When rear door LH opened)	0 V	
49		Back door lamp con-		Back door lamp	Back door is closed (Back door lamp turns OFF)	Battery voltage	
(L)	Ground	trol	Output	switch DOOR position	Back door is opened (Back door lamp turns ON)	0 V	
53	Cround	Back door op op	Output	Back door	Not pressed (Back door actuator is ac- tivated)	0 V	
(V)	Ground	Back door open	Output	opener switch	Pressed (Back door actuator is ac- tivated)	Battery voltage	
55	Ground	Rear wiper motor	Output	Ignition switch	Rear wiper switch OFF	0 V	
(SB)	Ground		Output	ON Rear wiper switch ON		Battery voltage	
56	Ground	Interior room lamp	Output	After passing the interior room lamp battery saver operation time		0 V	
(Y)		power supply		Any other time after passing the interior room lamp battery saver operation time		Battery voltage	
57 (G)	Ground	Battery power sup- ply	Input	Ignition switch OFF		Battery voltage	
59	Ground	Driver door UN-	Output	UNLOCK (Actuator is activated)		Battery voltage	
(L)	Ground	LOCK	σαιραι	Driver door	Other then UNLOCK (Ac- tuator is not activated)	0 V	

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description		Qualities		Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
60 (BR)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch OFF	0 V 15 10 5 0 10 10 10 10 10 10 10 10 10
					Turn signal switch OFF	PKIC6370E 6.0 V
61 (GR)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 11 18 10 18 10 18 10 18 10 18 10 18 10 18 10 10 10 10 10 10 10 10 10 10 10 10 10
63 (R)	Ground	Interior room lamp timer control	Output	Interior room lamp	OFF ON	Battery voltage
65	Ground	All doors LOCK	Output	All doors	LOCK (Actuator is activat- ed)	Battery voltage
(V)	Ground		Output	All doors	Other then LOCK (Actua- tor is not activated)	0 V
66	Ground	Passenger door and	Output	Passenger door	UNLOCK (Actuator is activated)	Battery voltage
(G)	Ground	rear door UNLOCK	Culput	and rear door	Other then UNLOCK (Ac- tuator is not activated)	0 V
67 (B)	Ground	Ground	Output	Ignition switch ON		0 V
68 (L)	Ground	P/W power supply (RAP)	Output	Ignition switch ON		Battery voltage
69 (R)* ² (P)* ³	Ground	P/W power supply (BAT)	Output	Ignition switch OFF		Battery voltage
70 (Y)	Ground	Battery power sup- ply	Input	Ignition switch OFF		Battery voltage

NOTE:

• *1: Except for Mexico

• *2: Without anti-pinch system

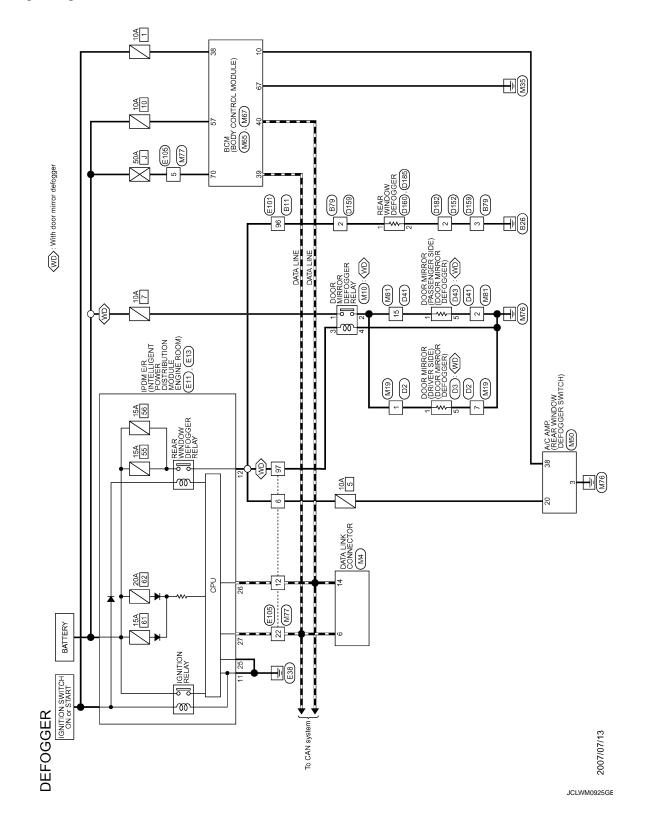
• *3: With anti-pinch system

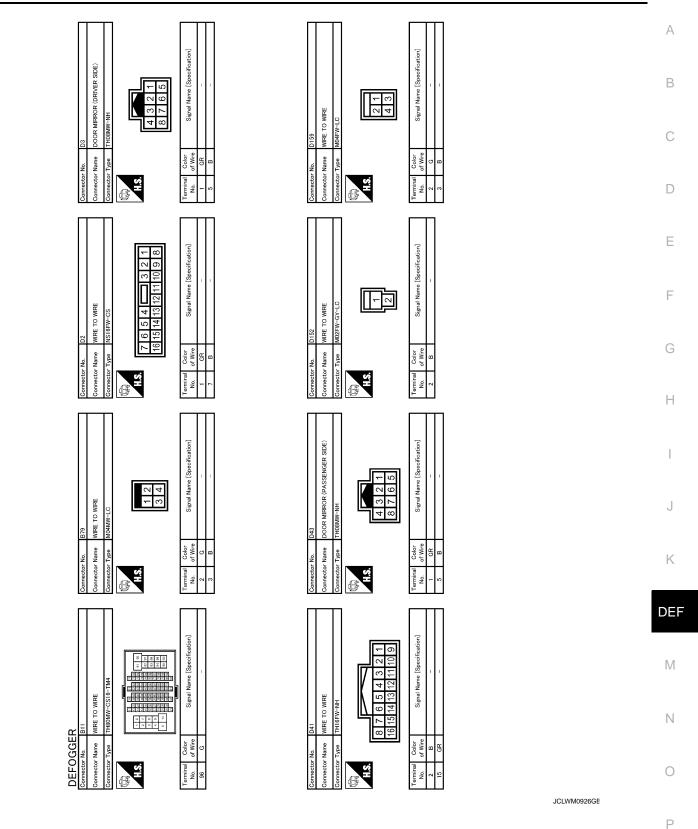
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< ECU DIAGNOSIS >

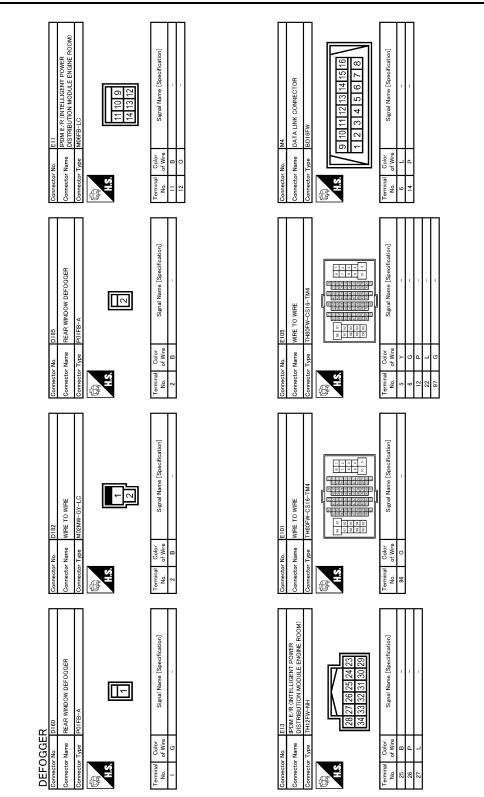
Wiring Diagram - DEFOGGER CONTROL SYSTEM -

INFOID:000000001911169

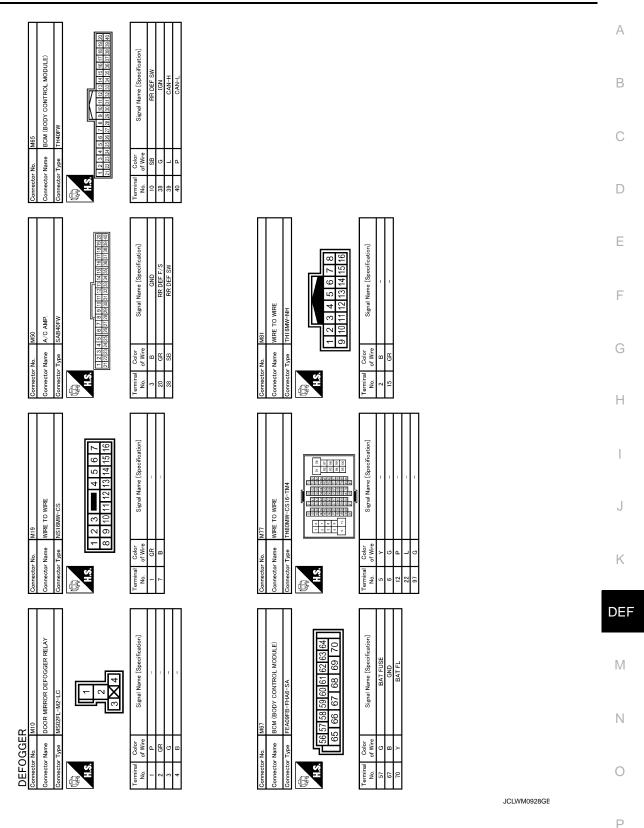




< ECU DIAGNOSIS >



JCLWM0927GE



Fail Safe

INFOID:000000003050334

REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper auto stop signal. When the rear wiper auto stop signal does not change more than 5 seconds while driving the rear wiper, BCM stops power supply to protect the rear wiper motor.

Condition of cancellation

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- 1. Pass more than 1 minute after the rear wiper stop.
- 2. Turn rear wiper switch OFF.
- 3. Operate the rear wiper switch or rear washer switch.

HIGH FLASHER OPERATION

BCM detects the turn signal lamp circuit status by the current value.

BCM increases the turn signal lamp blinking speed if the bulb or harness open is detected with the turn signal lamp operating.

NOTE:

The blinking speed is normal while activating the hazard warning lamp.

DTC Inspection Priority Chart

INFOID:000000003050335

Priority	DTC
1	U1000: CAN COMM CIRCUIT
2	C1735: IGN CIRCUIT OPEN
3	 C1704: LOW PRESSURE FL C1705: LOW PRESSURE FR C1706: LOW PRESSURE RR C1707: LOW PRESSURE RL C1708: [NO DATA] FL C1709: [NO DATA] FR C1710: [NO DATA] RR C1711: [NO DATA] RR C1712: [CHECKSUM ERR] FL C1713: [CHECKSUM ERR] FR C1714: [CHECKSUM ERR] RR C1715: [CHECKSUM ERR] RR C1716: [PRESS DATA ERR] FL C1717: [PRESS DATA ERR] FR C1718: [PRESS DATA ERR] FR C1718: [PRESS DATA ERR] RR C1719: [PRESS DATA ERR] RR C1719: [PRESS DATA ERR] RR C1720: [CODE ERR] FR C1721: [CODE ERR] FR C1722: [CODE ERR] RR C1723: [CODE ERR] RR C1724: [BATT VOLT LOW] FL C1725: [BATT VOLT LOW] FR C1727: [BATT VOLT LOW] RR C1727: [BATT VOLT LOW] RR C1729: VHCL SPEED SIG ERR

DTC Index

INFOID:000000003050336

NOTE:

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

DTC	Tire pressure monitor warning lamp ON	Reference
U1000: CAN COMM CIRCUIT	—	BCS-35
C1704: LOW PRESSURE FL	×	
C1705: LOW PRESSURE FR	×	WT-14
C1706: LOW PRESSURE RR	×	<u>vv1-14</u>
C1707: LOW PRESSURE RL	×	

< ECU DIAGNOSIS >

DTC	Tire pressure monitor warning lamp ON	Reference
C1708: [NO DATA] FL	×	
C1709: [NO DATA] FR	×	WT-16
C1710: [NO DATA] RR	×	<u>- <u>wi-io</u></u>
C1711: [NO DATA] RL	×	_
C1712: [CHECKSUM ERR] FL	×	
C1713: [CHECKSUM ERR] FR	×	W/T 10
C1714: [CHECKSUM ERR] RR	×	– <u>WT-19</u>
C1715: [CHECKSUM ERR] RL	×	
C1716: [PRESS DATA ERR] FL	×	
C1717: [PRESS DATA ERR] FR	×	W(T 22
C1718: [PRESS DATA ERR] RR	×	– <u>WT-22</u>
C1719: [PRESS DATA ERR] RL	×	_
C1720: [CODE ERR] FL	×	
C1721: [CODE ERR] FR	×	WT-24
C1722: [CODE ERR] RR	×	_ <u>\\\1-24</u>
C1723: [CODE ERR] RL	×	
C1724: [BATT VOLT LOW] FL	-	
C1725: [BATT VOLT LOW] FR	—	WT 27
C1726: [BATT VOLT LOW] RR	-	– <u>WT-27</u>
C1727: [BATT VOLT LOW] RL	—	
C1729: VHCL SPEED SIG ERR	×	<u>WT-30</u>
C1735: IGN CIRCUIT OPEN	_	BCS-36

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IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) < ECU DIAGNOSIS >

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

Reference Value

INFOID:000000003050337

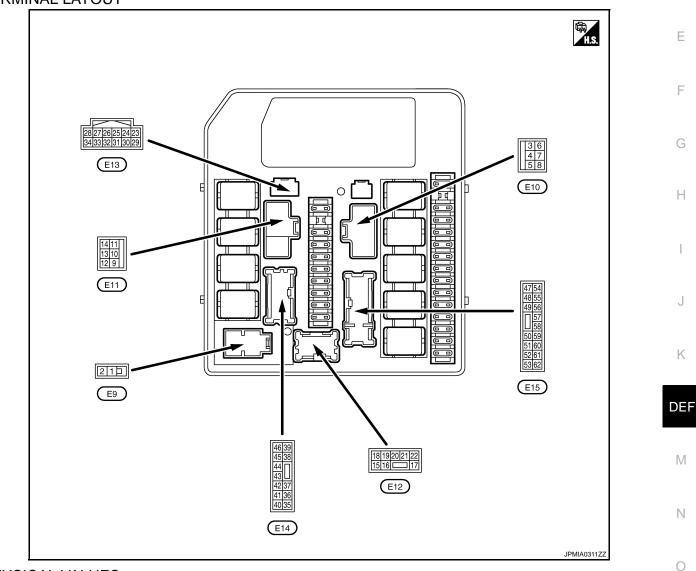
VALUES ON THE DIAGNOSIS TOOL

Monitor Item		Condition				
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air condition- er operation status, vehicle speed, etc.	1 - 4			
		A/C switch OFF	Off			
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On			
	Lighting switch OFF		Off			
TAIL&CLR REQ	Lighting switch 1ST or 2ND		On			
	Lighting switch OFF		Off			
HL LO REQ	Lighting switch 2ND		On			
	Lighting switch OFF		Off			
HL HI REQ	Lighting switch HI (Light is i	lluminated)	On			
FR FOG REQ		Front fog lamp switch OFF	Off			
NOTE: This item is monitored only on the vehicle with front fog lamp.	Lighting switch 2ND		On			
		Front wiper switch OFF	Stop			
	Front wiper switch INT		1LOW			
FR WIP REQ	Ignition switch ON	Front wiper switch LO	Low			
		Front wiper switch HI	Hi			
		Front wiper stop position	STOP P			
WIP AUTO STOP	Ignition switch ON	Any position other than front wiper stop position	ACT P			
		Front wiper operates normally	Off			
WIP PROT	Ignition switch ON	Front wiper stops at fail-safe oper- ation	BLOCK			
ST RLY REQ NOTE:	When Intelligent Key is outs is pushed	ide the vehicle, and the push switch	Off			
Vehicle without Intelligent Key system indi- cates only "ON", and it does not change.	When Intelligent Key is insid pushed	le the vehicle, and the push switch is	On			
IGN RLY	Ignition switch OFF or ACC		Off			
	Ignition switch ON		On			
		Rear window defogger switch OFF	Off			
RR DEF REQ	Ignition switch ON	Rear window defogger switch ON (Rear window defogger is operat- ing)	On			
	Ignition switch OFF, ACC or engine running		Open			
OIL P SW	Ignition switch ON	Close				
DTRL REQ	Daytime running light syster	m is not operated.	Off			
NOTE: This item is monitored only on the vehicle with the daytime running light system.	Daytime running light system	n is operated.	On			

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Monitor Item	Condition	Value/Status
HOOD SW	Close the hood	Off
NOTE: This item is monitored only the vehicle for Mexico.	Open the hood	On
	Not operation	Off
THFT HRN REQ	Horn is activated with vehicle security system or panic alarm system.	On
	Not operation	Off
HORN CHIRP	Horn is activated with key fob LOCK operation.	On

TERMINAL LAYOUT



PHYSICAL VALUES

	inal No.	Description			Value	F
(Wire +	e color) –	Signal name	Input/ Output	Condition	(Approx.)	
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	-
2 (G)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	_

	nal No.	Description				
(Wire +	e color) _	Signal name	Input/ Output	(Condition	Value (Approx.)
3				When engine is clar	When engine is clanking	
(Ö)	Ground	Starter relay power supply	Output	When engine is not	-	Battery voltage 0 V
4		Cooling fan relay-1 power		Cooling fan opera-	OFF	0 V
(W)	Ground	supply	Output	tion	MID or HI	Battery voltage
5			1	Ignition switch OFF,	ACC or ON	0 V
(R)	Ground	Ignition switch START	Input	Ignition switch STAF	RT	Battery voltage
6 (BR)	Ground	Battery power supply (Cooling fan relay)	Input	Ignition switch OFF		Battery voltage
7		Cooling fan motor-2 (HI)		Cooling fan opera-	OFF	Battery voltage
(P)	Ground	ground	—	tion	HI	0 V
8		Cooling fan relay-2 power	a	Cooling fan opera-	OFF	0 V
(G)	Ground	supply	Output	tion	н	Battery voltage
11 (B)	Ground	Ground		Ignition switch ON	I	0 V
12	Orregard	Rear window defogger re-	Output		Rear window defogger switch OFF	0 V
(O)	Ground	lay power supply	Output	Ignition switch ON	Rear window defogger switch ON	Battery voltage
15* ¹	Oround	Daytime running light relay	Output	Daytime running	Not operated	Battery voltage
(SB)	Ground	control	Output	light system Operated		0 V
16* ²	Ground	Front fog lamp (LH)	Output	Lighting switch	Front fog lamp switch OFF	0 V
(Y)	Ground		Output	2ND	Front fog lamp switch ON	Battery voltage
17* ²	Ground	Front fog lamp (RH)	Output	Lighting switch	Front fog lamp switch OFF	0 V
(W)	Cibulia		Output	2ND Front fog lamp switch ON		Battery voltage
18	Ground	Headlamp LO (LH)	Output	Lighting switch OFF		0 V
(L)	Croana		Output	Lighting switch 2ND		Battery voltage
20	Ground	Headlamp LO (RH)	Output	Lighting switch OFF		0 V
(SB)	0.04.14		0 0.0	Lighting switch 2ND		Battery voltage
21			_	Lighting switch OFF		0 V
(G)	Ground	Headlamp HI (LH)	Output	Lighting switch 2NLighting switch PA		Battery voltage
22				Lighting switch OFF		0 V
(LG)	Ground	Headlamp HI (RH)	Output	Lighting switch 2ND and HILighting switch PASS		Battery voltage
23	Ground	Oil pressure switch	Input	Ignition switch ON	Engine stopped	0 V
(W)	Gibunu	On pressure switch	mput	Ignition switch ON	Engine running	Battery voltage
24					Front wiper stop position	0 V
(Y)	Ground	Front wiper auto stop	Input	Ignition switch ON	Any position other than front wiper stop position	Battery voltage
25 (B)	Ground	Ground	_	Ignition switch ON		0 V
26 (P)		CAN-L	Input/ Output	_		
27 (L)		CAN-H	Input/ Output		_	_

Terminal No.		Description					-	
(Wire color)		Signal name	Input/	Condition		Value (Approx.)	A	
+	-		Output					
31 (LG)	Ground	Cooling fan relay-4 control	Output	Cooling fan opera- tion OFF LO		Battery voltage 0 - 1.0 V	— В	
				Input After passing approximately 2 seconds or more after turning the ignition switch from ON to OFF Input Ignition switch ON For approximately 2 seconds after turning igni- tion switch from ON to OFF		Battery voltage	_	
32 (V)	Ground	ETC relay control	Input			0 - 1.0 V	_ C	
				Ignition switch OFF		0 V	— D	
33 (GR)	Ground	Fuel pump relay control	Input		Engine stopped	Battery voltage	_	
(GR)				Ignition switch ON	Engine running	0.8 V	E	
34* ³				Close the hood		Battery voltage		
34 (W)	Ground	Hood switch	Input	Open the hood		0 V	_	
37		Tail, license plate lamps		Lighting switch OFF		0 V	F	
(R)	Ground	and illuminations	Output	Lighting switch 1ST		Battery voltage	_	
				Lighting switch OFF		0 V	_	
38 (R)	Ground	Parking lamp (LH)	Output	Lighting switch 1ST		Battery voltage	G	
						0 V		
39 (GR)	Ground	Parking lamp (RH)	Output	Lighting switch OFF			— н	
				Lighting switch 1ST		Battery voltage		
40 (BR)	40 Ground Ignition relay power supply		Output	Ignition switch OFF or ACC		0 V	_	
				Ignition switch ON		Battery voltage	_	
41	Ground	Ignition relay power supply	Output	Ignition switch OFF or ACC		0 V	_	
(O)			•	Ignition switch ON		Battery voltage		
42	Ground	Front wiper HI	Output	Output	Front wiper HI Output Ignition switch ON	Front wiper switch OFF	0 V	J
(L)	Croana		0 6 6	.g.men ennen ert	Front wiper switch HI	Battery voltage		
43	Ground	Front wiper LO	Output	ut Ignition switch ON -	Front wiper switch OFF	0 V	— K	
(G)	Ground				Front wiper switch LO	Battery voltage	- r\	
45					Selector lever "P" or "N"	Battery voltage	_	
45 (Y)	Ground	Starter relay power supply	Input	Ignition switch ON	Selector lever in any posi- tion other than "P" or "N"	0 V	DE	
46		Fuel pump relay power	0	 Ignition switch OFF or ACC After passing approximately 1 second or more after turning the ignition switch ON 		0 V	M	
(W)	Ground	supply	Output	 For approximately 1 second after turning the ignition switch ON Engine running 		Battery voltage	N	
47				After passing approximately 4 seconds or more after turning the ignition switch from ON to OFF		0 V	_	
47 (BR)	Ground	ECM relay power supply	ECM relay power supply Output	ighter of the	4 seconds after turning igni-	Battery voltage	0	
				After passing approximately 4 seconds or more after turning the ignition switch from ON to OFF		0 V	P	
48 (R)	Ground	ECM relay power supply	Output	 Ignition switch ON For approximately 4 seconds after turning ignition switch from ON to OFF 		Battery voltage		
50		0 / 1	Cooling fan opera-	OFF	Battery voltage	_		
	Ground	ound Cooling fan relay-5 control	Output	t tion MID or HI		0 - 1.0 V		

< ECU DIAGNOSIS >

Terminal No. (Wire color)		Description				Value									
(vvire	– color)	Signal name	Input/ Output	Condition		(Approx.)									
51		round ECM relay control	Output	After passing approximately 4 seconds or more after turning the ignition switch from ON to OFF		Battery voltage									
(L)	Ground			 Ignition switch ON For approximately 4 seconds after turning ignition switch from ON to OFF 		0 - 1.0 V									
52		und ETC relay power supply			ximately 2 seconds or more tion switch from ON to OFF	0 V									
(P)	Ground			 Ignition switch ON For approximately 2 seconds after turning ignition switch from ON to OFF 		Battery voltage									
	Ground	A/C relay power supply	Output	Engine stopped		0 V									
55					A/C switch OFF	0 V									
(O)				Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output	Output
56	Ground	Ignition quitch ON	lagut	Ignition switch OFF	or ACC	0 V									
(L)	Giouna	Ignition switch ON	Input	Ignition switch ON		Battery voltage									
57	Ground	bund Horn relay control	Output	The horn is not activated		Battery voltage									
(V)	Ground			The horn is activated		0 V									
58	Ground	Ignition relay power supply C	Output	Ignition switch OFF or ACC		0 V									
(LG)	Giouna			Ignition switch ON		Battery voltage									
59	Ground	und Ignition relay power supply	Output	Ignition switch OFF or ACC		0 V									
(BR)				Ignition switch ON		Battery voltage									
60	Ground	Ignition relay power supply	Output	Ignition switch OFF or ACC		0 V									
(SB)	Giouna	ignition relay power supply	Output	Ignition switch ON		Battery voltage									
61 (R)	Ground	ECM power supply	Output	Ignition switch OFF		Battery voltage									

*1: With daytime running light system

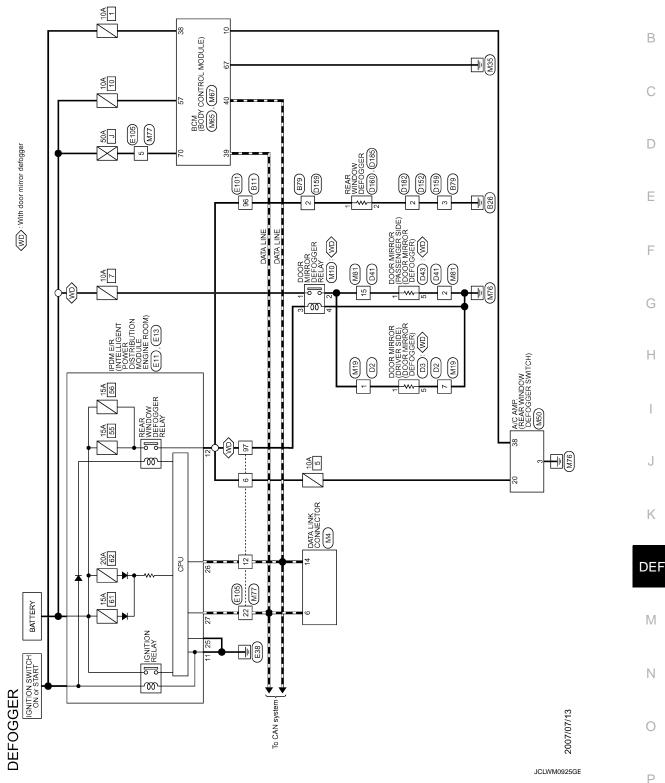
*²: With front fog lamp system

*³: For Mexico

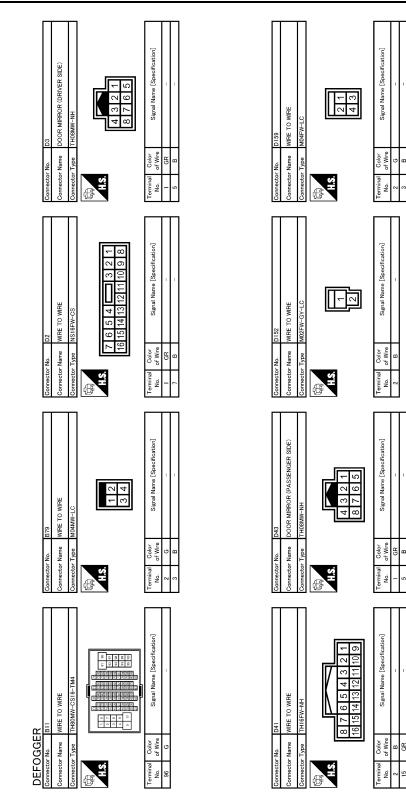
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) < ECU DIAGNOSIS >

Wiring Diagram - DEFOGGER CONTROL SYSTEM -

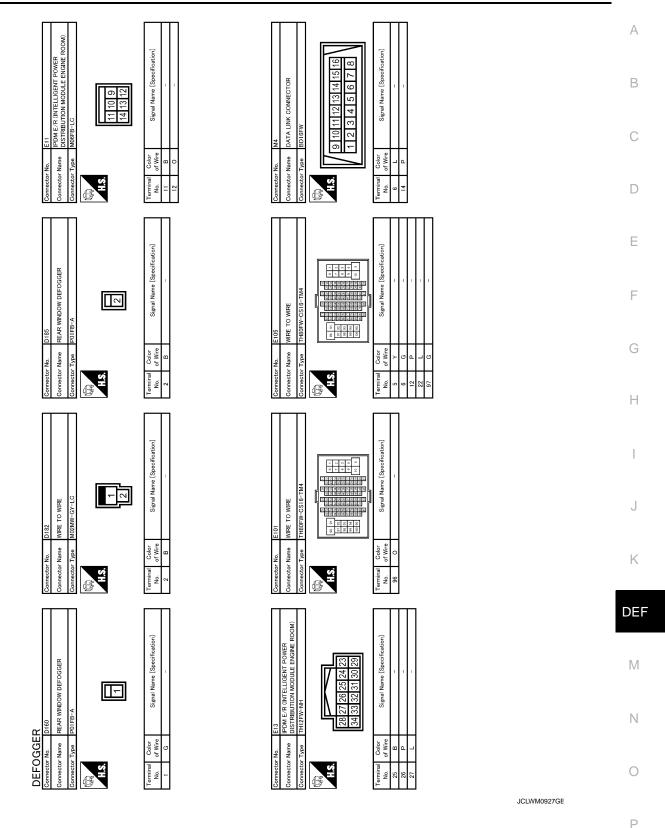
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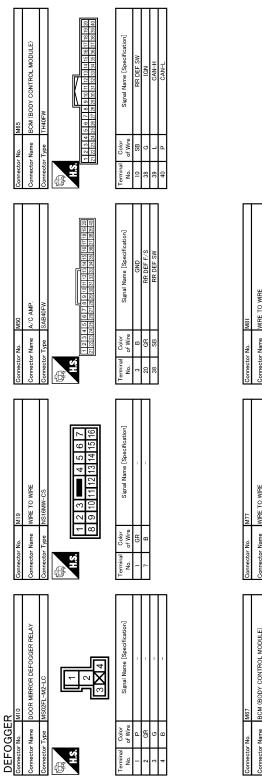
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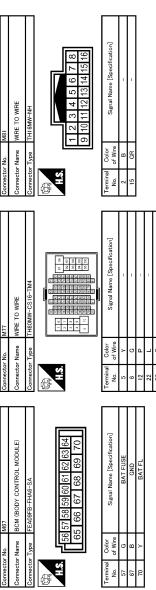


JCLWM0926GE



< ECU DIAGNOSIS >





JCLWM0928GE

INFOID:000000003050339

CAN COMMUNICATION CONTROL

Fail Safe

When CAN communication with ECM and BCM is impossible, IPDM E/R performs fail-safe control. After CAN communication recovers normally, it also returns to normal control.

If no CAN communication is available with ECM

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< ECU DIAGNOSIS >

Control part	Fail-safe in operation	
Cooling fan	 The cooling fan relay-1, the cooling fan relay-2, the cooling fan relay-3 and the cooling fan relay-5 turn ON when the ignition switch is turned ON The cooling fan relay-1, the cooling fan relay-2, the cooling fan relay-3 and the cooling fan relay-5 turn OFF when the ignition switch is turned OFF Cooling fan relay-4 OFF 	
A/C compressor	A/C relay OFF	

If no CAN communication is available with BCM

Control part	Fail-safe in operation		
Headlamp	 The headlamp low relay turns ON when the ignition switch is turned ON The headlamp low relay turns OFF when the ignition switch is turned OFF Headlamp high relay OFF 		
 Parking lamps License plate lamps Tail lamps Illuminations 	 The tail lamp relay and the daytime running light relay* turn ON when the ignition switch is turned ON The tail lamp relay and the daytime running light relay* turn OFF when the ignition switch is turned OFF 		
Front wiper	 The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. The front wiper is operated at LO speed until the ignition switch is turned OFF if the fail-safe control is activated while the front wiper is set in the INT mode and the front wiper motor is operating. 		
Front fog lamps	Front fog lamp relay OFF		
Starter motor	Starter relay OFF		
Rear window defogger	Rear window defogger relay OFF		
Horn	Horn relay OFF		

NOTE:

*: With daytime running light system

IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors status of ignition relay by the voltage at ignition relay contact circuit inside it.
- IPDM E/R judges that the ignition relay is error, if status of the ignition relay and ignition switch ON signal (CAN).
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay and daytime running light relay* for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

Dete	ction	- IPDM E/R judgment	Operation	
Ignition switch ON signal Ignition relay			Operation	
ON ON		Ignition relay normal	_	•
OFF	OFF	Ignition relay normal	_	
OFF	ON	Ignition relay ON stuck	Turn on the tail lamp relay and daytime run- ning light relay* for 10 minutes	- P
ON	OFF	Ignition relay OFF stuck	Detect DTC "B2099: IGN RELAY OFF"	(

NOTE:

*: With daytime running light system

FRONT WIPER CONTROL

IPDM E/R detects the front wiper stop position with the front wiper auto stop signal.

When the front wiper auto stop signal is in the conditions listed below, IPDM E/R repeats a front wiper 10 seconds operation and 20 seconds stop five times.

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< ECU DIAGNOSIS >

Ignition switch	Front wiper switch	Front wiper auto stop signal	
ON	OFF	The front wiper auto stop signal (stop posi- tion) cannot be input for 10 seconds.	
	ON	The front wiper auto stop signal does not change for 10 seconds.	

NOTE:

This operation status can be confirmed on the IPDM E/R "Data Monitor" that displays "BLOCK" for the item "WIP PROT" while the wiper is stopped.

DTC Index

INFOID:000000003050340

CONSULT display	Fail-safe	Timing ^{NOTE}		Reference page	
No DTC is detected. further testing may be required.	_	_	_	_	
U1000: CAN COMM CIRCUIT	×	CRNT	PAST	PCS-13	
B2099: IGN RELAY OFF	_	CRNT	PAST	PCS-14	

NOTE:

The details of time display are as follows.

• CRNT: The malfunctions that are detected now.

• PAST: The number is indicated when it is normal at present and a malfunction was detected in the past.

REAR WINDOW DEFOGGER DOES NOT OPERA	TE
< SYMPTOM DIAGNOSIS >	
SYMPTOM DIAGNOSIS	
REAR WINDOW DEFOGGER DOES NOT OPERATE	
Diagnosis Procedure	INFOID:000000001912141
1.IPDM E/R AUTO ACTIVE TEST	
Check IPDM E/R active test.	
Refer to <u>DEF-8, "Diagnosis Description"</u> .	
Is the inspection result normal?	
YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts.	
2.CHECK REAR WINDOW DEFOGGER SWITCH	
Check rear window defogger switch.	
Refer to <u>DEF-13, "Component Function Check"</u> .	
Is the inspection result normal?	
YES >> GO TO 3. NO >> Repair or replace the malfunctioning parts.	
3.CHECK REAR WINDOW DEFOGGER RELAY	
Check rear window defogger relay.	
Refer to <u>DEF-15, "Component Function Check"</u>	
Is the inspection result normal?	
YES >> GO TO 4. NO >> Repair or replace the malfunctioning parts.	
4.CHECK REAR WINDOW DEFOGGER	
Check rear window defogger.	
Refer to DEF-19, "Component Function Check"	
Is the inspection result normal?	
YES >> GO TO 5. NO >> Repair or replace the malfunctioning parts.	
5.CONFIRM THE OPERATION	
Confirm the operation again.	
Is the result normal?	
YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u>	
NO >> GO TO 1.	

REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER DO NOT OPER-ATE.

< SYMPTOM DIAGNOSIS >

REAR WINDOW DEFOGGER AND DOOR MIRROR DEFOGGER DO NOT OPERATE.

Diagnosis Procedure

INFOID:000000001911179

1.IPDM E/R AUTO ACTIVE TEST

Check IPDM E/R active test. Refer to DEF-8, "Diagnosis Description".

Is the inspection result normal?

YES >> GO TO 2.

NO >> Repair or replace the malfunctioning parts.

2. CHECK REAR WINDOW DEFOGGER SWITCH

Check rear window defogger switch. Refer to <u>DEF-13, "Component Function Check"</u>.

Is the inspection result normal?

YES >> GO TO 3.

NO >> Repair or replace the malfunctioning parts.

3.CHECK REAR WINDOW DEFOGGER RELAY

Check rear window defogger relay. Refer to <u>DEF-15, "Component Function Check"</u>

Is the inspection result normal?

YES >> GO TO 4.

NO >> Repair or replace the malfunctioning parts.

4.CHECK REAR WINDOW DEFOGGER

Check rear window defogger.

Refer to DEF-19, "Component Function Check"

Is the inspection result normal?

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

5. CONFIRM THE OPERATION

Confirm the operation again.

Is the result normal?

- YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u>
- NO >> GO TO 1.

REAR WINDOW DEFOGGER DOES NOT OPERATE BUT BOTH OF DOOR MIR-ROR DEFOGGER OPERATE.

< SYMPTOM DIAGNOSIS >
REAR WINDOW DEFOGGER DOES NOT OPERATE BUT BOTH OF DOOR
MIRROR DEFOGGER OPERATE.

Diagnosis Procedure	INFOID:000000001911180	В
1.CHECK REAR WINDOW DEFOGGER		D
Check rear window defogger. Refer to <u>DEF-19, "Component Function Check"</u> .		С
<u>Is the inspection result normal?</u> YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. 2. CONFIRM THE OPERATION		D
Confirm the operation again. Is the result normal?		Ε
YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u> NO >> GO TO 1.		F
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< SYMPTOM DIAGNOSIS >

DOOR MIRROR DEFOGGER DOES NOT OPERATE **BOTH SIDE**

BOTH SIDE : Diagnosis Procedure	INFOID:000000001911181
1. CHECK DOOR MIRROR DEFOGGER CIRCUIT	
Check door mirror defogger circuit. Refer to <u>DEF-21, "DRIVER SIDE : Component Function Check"</u> <u>Is the inspection result normal?</u> YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. 2. CONFIRM THE OPERATION	
Confirm the operation again. <u>Is the result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u> NO >> GO TO 1. DRIVER SIDE	
DRIVER SIDE : Diagnosis Procedure	INFOID:000000001911182
1. CHECK DRIVER SIDE DOOR MIRROR DEFOGGER	
Check driver side door mirror defogger. Refer to <u>DEF-22</u> , " <u>DRIVER SIDE</u> : <u>Component Inspection</u> ". <u>Is the inspection result normal?</u> YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. 2. CONFIRM THE OPERATION	
Confirm the operation again. <u>Is the result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u> NO >> GO TO 1. PASSENGER SIDE	
PASSENGER SIDE : Diagnosis Procedure	INFOID:000000001911183
1. CHECK PASSENGER SIDE DOOR MIRROR DEFOGGER.	
Check passenger side door mirror defogger. Refer to <u>DEF-24, "PASSENGER SIDE : Component Inspection"</u> <u>Is the inspection result normal?</u> YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts. 2. CONFIRM THE OPERATION	
Confirm the operation again. <u>Is the result normal?</u> YES >> Check intermittent incident. Refer to GI-41, "Intermittent Incident"	

YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u> NO >> GO TO 1.

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	A
Diagnosis Procedure	В
1. CHECK REAR WINDOW DEFOGGER INDICATOR	D
Check rear window defogger ON signal. Refer to <u>DEF-25, "Component Function Check"</u> .	С
Is the inspection result normal? YES >> GO TO 2. NO >> Repair or replace the malfunctioning parts.	D
2.CONFIRM THE OPERATION Confirm the operation again.	Е
<u>Is the result normal?</u> YES >> Check intermittent incident. Refer to <u>GI-41, "Intermittent Incident"</u> NO >> GO TO 1.	F
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< PRECAUTION >

PRECAUTION PRECAUTIONS FOR USA AND CANADA

FOR USA AND CANADA : 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 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 AIRBAG" 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 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 "SRS AIRBAG".
- 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.

FOR MEXICO

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

The Supplemental Restraint System such as "AIR BAG" and "SEAT BELT PRE-TENSIONER", used along with a front seat belt, helps to reduce the risk or severity of injury to the driver and front passenger for certain types of collision. Information necessary to service the system safely is included in the "SRS AIRBAG" and "SEAT BELT" of this Service Manual.

WARNING:

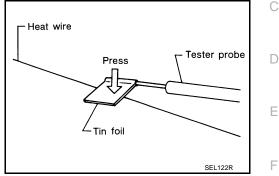
- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision which would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation 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 "SRS AIRBAG".
- 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.

< ON-VEHICLE REPAIR > ON-VEHICLE REPAIR FILAMENT

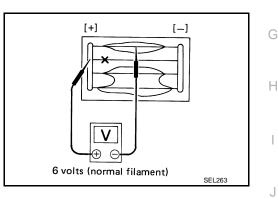
Inspection and Repair

INSPECTION

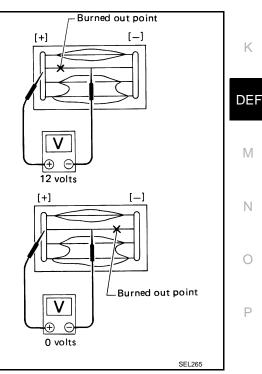
1. When measuring voltage, wrap tin foil around the top of the negative probe. Then press the foil against the wire with your finger.



2. 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.
- 4. 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)

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INFOID:000000001911186

FILAMENT

< ON-VEHICLE REPAIR >

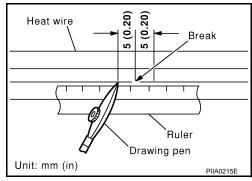
- Ruler 30 cm (11.8 in) long
- Drawing pen
- Heat gun
- Alcohol
- Cloth

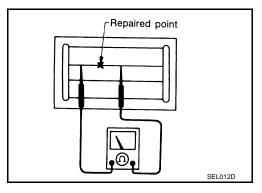
REPAIRING PROCEDURE

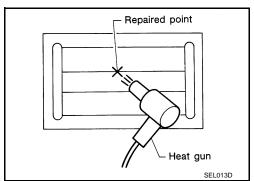
- 1. Wipe broken heat wire and its surrounding area clean with a cloth dampened in alcohol.
- 2. Apply a small amount of conductive silver composition to tip of drawing pen.

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.

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.