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# **BASIC INSPECTION**

# DIAGNOSIS AND REPAIR WORK FLOW

Work Flow INFOID:0000000008286183

**OVERALL SEQUENCE** 

D Inspection start Е 1. Get information for symptom Get the detailed information about symptom from the customer 2. Check DTC Print out DTC and freeze frame data (or, write it down). Check related service bulletines. Symptom is described. Symptom is not described. Symptom is described. DTC is detected. DTC is detected. DTC is not detected. 3. Confirm the symptom 4. Confirm the symptom Try to confirm the symptom described Try to confirm the symptom described by the customer. by the customer. Also study the normal operation and failsafe related to the symptom. 5. Perform DTC CONFIRMATION PROCEDURE 6. Detect malfunctioning system by K SYMPTOM DIAGNOSIS 7. Detect malfunctioning part by Diagnosis Procedure Symptom is WW Symptom is not described. 8. Repair or replace the malfunctioning part Check input/output signal or voltage DTC is 9. Final check Ν Symptom remains. detected. Check that the symptom is not detected. Perform DTC Confirmation Procedure again, and then check that the malfunction is repaired. DTC is not detected. Symptom does not remain. Р INSPECTION END

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### DIAGNOSIS AND REPAIR WORK FLOW

### < BASIC INSPECTION >

# 1.GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

# 2. CHECK DTC

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

### Are any symptoms described and any DTC detected?

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

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

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

### 3.CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

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

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

>> GO TO 5.

### 4. CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

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

>> GO TO 6.

## PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time. If two or more DTCs are detected, refer to <a href="BCS-89">BCS-89</a>, "DTC Inspection Priority Chart" (BCM) or <a href="PCS-32">PCS-32</a>, "DTC Index" (IPDM E/R), and determine trouble diagnosis order.

#### NOTE:

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

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

### Is DTC detected?

YES >> GO TO 7.

NO >> Check according to GI-42, "Intermittent Incident".

# 6.DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

#### Is the symptom described?

YES >> GO TO 7.

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

# 7. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

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

### < BASIC INSPECTION >

Inspect according to Diagnosis Procedure of the system.

### Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to GI-42, "Intermittent Incident".

# 8.repair or replace the malfunctioning part

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

>> GO TO 9.

# 9. FINAL CHECK

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

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

### Is DTC detected and does symptom remain?

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

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

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

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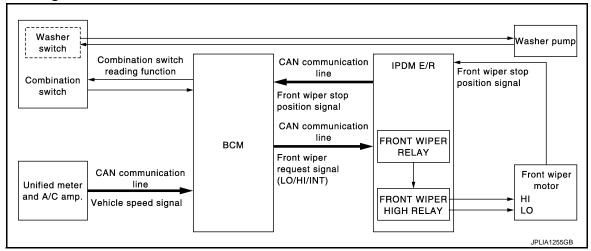
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# SYSTEM DESCRIPTION

### FRONT WIPER AND WASHER SYSTEM

### System Diagram

INFOID:0000000008286184



# System Description

INFOID:0000000008286185

#### **OUTLINE**

The front wiper is controlled by each function of BCM and IPDM E/R.

### Control by BCM

- Combination switch reading function
- · Front wiper control function

#### Control by IPDM E/R

- Front wiper control function
- Relay control function

Combination meter indicates low washer fluid warning judged with the signal from the washer level switch. For details of low washer fluid warning, refer to MWI-30, "INFORMATION DISPLAY: System Description".

#### FRONT WIPER BASIC OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM transmits the front wiper request signal to IPDM E/R with CAN communication depending on each operating condition of the front wiper.
- IPDM E/R turns ON/OFF the integrated front wiper relay and the front wiper high relay according to the front wiper request signal. IPDM E/R provides the power supply to operate the front wiper HI/LO operation.

#### FRONT WIPER LO OPERATION

• BCM transmits the front wiper request signal (LO) to IPDM E/R with CAN communication according to the front wiper LO operating condition.

#### Front wiper LO operating condition

- Ignition switch ON
- Front wiper switch LO or front wiper switch MIST (while pressing)
- IPDM E/R turns ON the integrated front wiper relay according to the front wiper request signal (LO).

#### FRONT WIPER HI OPERATION

 BCM transmits the front wiper request signal (HI) to IPDM E/R with CAN communication according to the front wiper HI operating condition.

### Front wiper HI operating condition

- Ignition switch ON
- Front wiper switch HI
- IPDM E/R turns ON the integrated front wiper relay and the front wiper high relay according to the front wiper request signal (HI).

### FRONT WIPER AND WASHER SYSTEM

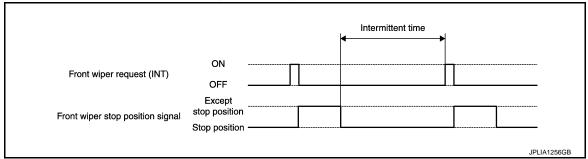
### < SYSTEM DESCRIPTION >

### FRONT WIPER INT OPERATION

 BCM transmits the front wiper request signal (INT) to IPDM E/R with CAN communication depending on the front wiper INT operating condition and intermittent operation delay interval according to the wiper intermittent dial position.

Front wiper INT operating condition

- Ignition switch ON
- Front wiper switch INT
- IPDM E/R turns ON the integrated front wiper relay so that the front wiper is operated only once according to the front wiper request signal (INT).
- BCM detects stop position/except stop position of the front wiper motor according to the front wiper stop position signal received from IPDM E/R with CAN communication.
- BCM transmits the front wiper request signal (INT) again after the intermittent operation delay interval.



#### NOTE:

Factory setting of the front wiper intermittent operation is the operation without vehicle speed. Front wiper intermittent operation can be set to the operation with vehicle speed by CONSULT. Refer to <a href="https://www.numer.consultr.number.consultr.n

Front wiper intermittent operation with vehicle speed

- BCM calculates the intermittent operation delay interval from the following
- Vehicle speed signal (received from the unified meter and A/C amp. with CAN communication)
- Wiper intermittent dial position

		Intermittent operation delay Interval (s)			
Wiper intermittent	Intermittent		Vehicle	e speed	
dial position	operation interval	Vehicle stopped or less than 5 km/h (3.1 MPH)	5 km/h (3.1MPH) or more or less than 35km/h (21.7 MPH)	35 km/h (21.7 MPH) or more or less than 65km/h (40.4 MPH)*	65 km/h (40.4MPH) or more
1	Short	0.8	0.6	0.4	0.24
2	<b>↑</b>	4	3	2	1.2
3		10	7.5	5	3
4		16	12	8	4.8
5		24	18	12	7.2
6	<b>.</b> ↓	32	24	16	9.6
7	Long	42	31.5	21	12.6

<sup>\*:</sup> When without vehicle speed setting

### FRONT WIPER AUTO STOP OPERATION

- BCM stops transmitting the front wiper request signal when the front wiper switch is turned OFF.
- IPDM E/R detects the front wiper stop position signal from the front wiper motor and detects the front wiper motor position (stop position/except stop position).

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### FRONT WIPER AND WASHER SYSTEM

### < SYSTEM DESCRIPTION >

• When the front wiper request signal is stopped, IPDM E/R turns ON the front wiper relay until the front wiper motor returns to the stop position.

Front wiper request (LO)	ON OFF	
Front wiper stop position signal	Except stop position Stop position	
Front wiper relay	ON OFF	
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#### NOTE:

- BCM stops the transmitting of the front wiper request signal when the ignition switch OFF.
- IPDM E/R turns the front wiper relay OFF when the ignition switch OFF.

### FRONT WIPER OPERATION LINKED WITH WASHER

- BCM transmits the front wiper request signal (LO) to IPDM E/R with CAN communication according to the washer linked operating condition of the front wiper.
- BCM transmits the front wiper request signal (LO) so that the front wiper operates approximately 2 times
  when the front washer switch OFF is detected.

Washer linked operating condition of front wiper

- Ignition switch ON
- Front washer switch ON (0.4 second or more)
- IPDM E/R turns ON the integrated front wiper relay according to the front wiper request signal (LO).
- The washer pump is grounded through the combination switch when the front washer switch ON.

### FRONT WIPER DROP WIPE OPERATION

BCM controls the front wiper to operate once according to the conditions of front wiper drop wipe operation.

Front wiper drop wipe operating condition

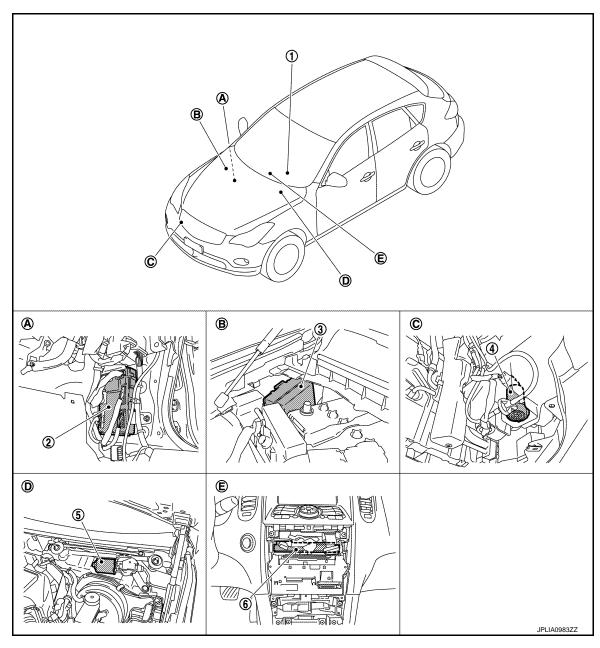
- Ignition switch ON
- Front wiper switch OFF
- Front washer switch OFF
- BCM transmits the front wiper request signal (LO) to IPDM E/R with CAN communication so that the front wiper operate once three seconds after front wiper operation linked with washer.
- IPDM E/R turns ON the integrated front wiper relay according to the front wiper request signal (LO).

#### FRONT WIPER FAIL-SAFE OPERATION

When the front wiper auto stop circuit is malfunctioning, IPDM E/R performs the fail-safe function. Refer to PCS-30, "Fail-safe".

# **Component Parts Location**

INFOID:0000000008286186



- 1. Combination switch
- 4. Washer pump
- A. Dash side lower (Passenger side)
- D. Cowl top, left side of engine room
- 2. BCM
- 5. Front wiper motor
- B. Engine room dash panel (RH)
- E. Behind cluster lid C
- 3. IPDM E/R
- 6. Unified meter and A/C amp.
- C. Radiator core support (RH)

# Component Description

INFOID:0000000008286187

Part	Description
BCM	<ul> <li>Judges the each switch status by the combination switch reading function.</li> <li>Requests (with CAN communication) the front wiper relay and the front wiper high relay ON to IPDM E/R.</li> </ul>
IPDM E/R	<ul> <li>Controls the integrated relay according to the request (with CAN communication) from BCM.</li> <li>Performs the auto stop control of the front wiper.</li> </ul>

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### FRONT WIPER AND WASHER SYSTEM

# < SYSTEM DESCRIPTION >

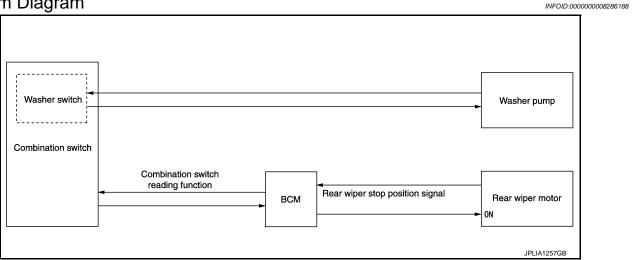
Part	Description
Combination switch (Wiper & washer switch)	Refer to BCS-10, "System Description".
Unified meter and A/C amp.	Transmits the vehicle speed signal to BCM with CAN communication.

### **REAR WIPER AND WASHER SYSTEM**

### < SYSTEM DESCRIPTION >

### REAR WIPER AND WASHER SYSTEM

# System Diagram



# System Description

### **OUTLINE**

The rear wiper is controlled by each function of BCM.

Control by BCM

- Combination switch reading function
- · Rear wiper control function

#### REAR WIPER BASIC OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM controls the rear wiper to start or stop.

### REAR WIPER ON OPERATION

BCM supplies power to the rear wiper motor according to the rear wiper ON operating condition.

Rear wiper ON operating condition

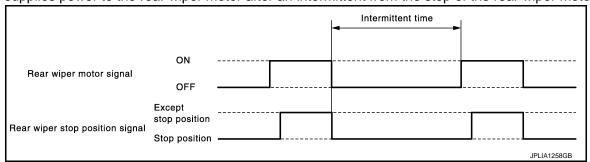
- Ignition switch ON
- Rear wiper switch ON

### REAR WIPER INT OPERATION

BCM supplies power to the rear wiper motor according to the INT operating condition.

Rear wiper INT operating condition

- Ignition switch ON
- Rear wiper switch INT
- BCM controls the rear wiper to operate once.
- BCM detects the rear wiper motor stopping position.
- BCM supplies power to the rear wiper motor after an intermittent from the stop of the rear wiper motor.



#### REAR WIPER AUTO STOP OPERATION

BCM stops supplying power to the rear wiper motor when the rear wiper switch is turned OFF.

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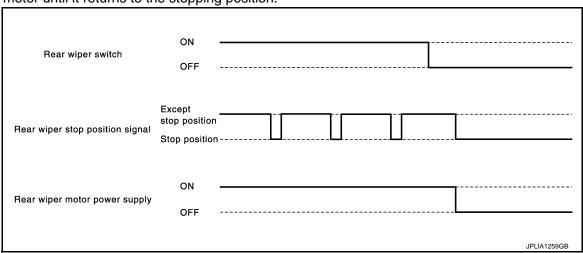
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### **REAR WIPER AND WASHER SYSTEM**

### < SYSTEM DESCRIPTION >

- BCM reads an stop position signal from the rear wiper motor to detect a rear wiper motor position.
- When the rear wiper motor is at other than the stopping position, BCM continues to supply power to the rear wiper motor until it returns to the stopping position.



#### NOTE:

BCM stops supplying power to the rear wiper motor when the ignition switch is turned OFF.

### REAR WIPER OPERATION LINKED WITH WASHER

 BCM supplies power to the rear wiper motor according to the washer linked operating condition of rear wiper. When the rear washer switch is turned OFF, BCM controls rear wiper to operate approximately 3 times.

Washer linked operating condition of rear wiper

- Ignition switch ON
- Rear washer switch ON (0.4 second or more)
- The washer pump is grounded through the combination switch with the rear washer switch ON.

#### REAR WIPER DROP WIPE OPERATION

• BCM controls the rear wiper to operate once according to the rear wiper drop wipe operating condition.

Rear wiper drop wipe operating condition

- Ignition switch ON
- Rear wiper switch OFF
- Rear washer switch OFF
- BCM controls the rear wiper so that it operates once approximately three seconds later after the washer interlocking operation of the rear wiper.

### REAR WIPER FAIL-SAFE OPERATION

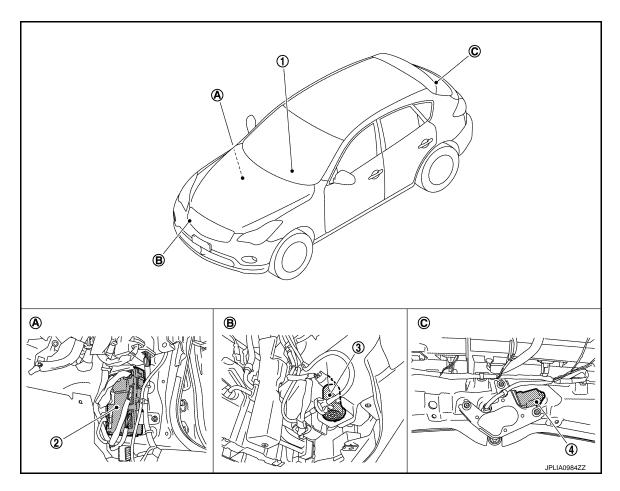
BCM performs the fail-safe function when the rear wiper auto stop circuit is malfunctioning. Refer to <u>BCS-88</u>, <u>"Fail-safe"</u>.

### **REAR WIPER AND WASHER SYSTEM**

### < SYSTEM DESCRIPTION >

# **Component Parts Location**

INFOID:0000000008286190



- Combination switch
- 2. **BCM**

Washer pump

- Rear wiper motor
- Dash side lower (Passenger side)
- B. Radiator core support (RH)
- C. Back door trim finisher lower inside

# Component Description

INFOID:0000000008286191

Part	Description
ВСМ	<ul> <li>Judges each switch status by the combination switch reading function.</li> <li>Supplies power to the rear wiper motor.</li> <li>Performs the auto stop control of the rear wiper.</li> </ul>
Combination switch (Wiper & washer switch)	Refer to BCS-10, "System Diagram".

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### **DIAGNOSIS SYSTEM (BCM)**

### < SYSTEM DESCRIPTION >

# **DIAGNOSIS SYSTEM (BCM)**

**COMMON ITEM** 

COMMON ITEM: CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000008772592

#### APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

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

### SYSTEM APPLICATION

BCM can perform the following functions for each system.

### NOTE:

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

×: Applicable item

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

#### NOTE

### FREEZE FRAME DATA (FFD)

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

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

# **DIAGNOSIS SYSTEM (BCM)**

### < SYSTEM DESCRIPTION >

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

#### NOTE:

\*: Power supply position shifts to "LOCK" from "OFF", when ignition switch is in the OFF position, selector lever is in the P position, and any of the following conditions are met.

- Closing door
- Opening door
- · Door is locked using door request switch
- Door is locked using Intelligent Key

The power supply position shifts to "ACC" when the push-button ignition switch (push switch) is pushed at "LOCK".

### **WIPER**

WIPER: CONSULT Function (BCM - WIPER)

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**WORK SUPPORT** 

# **DIAGNOSIS SYSTEM (BCM)**

### < SYSTEM DESCRIPTION >

Service item	Setting item	Description
WIPER SPEED	On	With vehicle speed (Front wiper intermittent time linked with the vehicle speed and wiper intermittent dial position)
SETTING Off*		Without vehicle speed (Front wiper intermittent time linked with the wiper intermittent dial position)

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

### **DATA MONITOR**

### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item [Unit]	Description
PUSH SW [Off/On]	The switch status input from push-button ignition switch.
VEHICLE SPEED 1 [km/h]	The value of the vehicle speed signal received from unified meter and A/C amp. with CAN communication.
FR WIPER HI [Off/On]	
FR WIPER LOW [Off/On]	Each quitab status that PCM judges from the combination quitab reading function
FR WASHER SW [Off/On]	Each switch status that BCM judges from the combination switch reading function.
FR WIPER INT [Off/On]	
FR WIPER STOP [Off/On]	Front wiper motor (stop position) status received from IPDM E/R with CAN communication.
INT VOLUME [1 – 7]	Each switch status that BCM judges from the combination switch reading function.
RR WIPER ON [Off/On]	
RR WIPER INT [Off/On]	Each switch status that BCM judges from the combination switch reading function.
RR WASHER SW [Off/On]	
RR WIPER STOP [Off/On]	Rear wiper motor (stop position) status input from the rear wiper motor.

### **ACTIVE TEST**

Test item	Operation	Description			
	Hi	Transmits the front wiper request signal (HI) to IPDM E/R with CAN communication to operate the front wiper HI operation.			
Lo FR WIPER		Transmits the front wiper request signal (LO) to IPDM E/R with CAN communication to operat the front wiper LO operation.			
	INT	Transmits the front wiper request signal (INT) to IPDM E/R with CAN communication to operate the front wiper INT operation.			
	Off	Stops transmitting the front wiper request signal to stop the front wiper operation.			
RR WIPER On		Outputs the voltage to operate the rear wiper motor.			
IXIX VVII. LIX	Off	Stops the voltage to stop.			

### < SYSTEM DESCRIPTION >

# DIAGNOSIS SYSTEM (IPDM E/R)

### **Diagnosis Description**

#### INFOID:0000000008799902

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### **AUTO ACTIVE TEST**

### Description

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

- Oil pressure warning lamp
- Front wiper (LO, HI)
- Parking lamps
- License plate lamps
- Side maker lamps
- Tail lamps
- Front fog lamps
- Headlamps (LO, HI)
- A/C compressor (magnet clutch)
- Cooling fan (cooling fan control module)

### 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 the ignition switch OFF.
- 3. Turn the ignition switch ON, and within 20 seconds, press the front door switch (driver side) 10 times. Then turn the ignition switch OFF.

#### **CAUTION:**

#### Close passenger door.

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

- If auto active test mode cannot be actuated, check door switch system. Refer to <u>DLK-63</u>, <u>"Component Function Check"</u>.
- Do not start the engine.

Inspection in Auto Active Test Mode

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

Operation sequence	Inspection location	Operation
1	Oil pressure warning lamp	Blinks continuously during operation of auto active test
2	Front wiper	LO for 5 seconds → HI for 5 seconds
3	<ul> <li>Parking lamps</li> <li>License plate lamps</li> <li>Side maker lamps</li> <li>Tail lamps</li> <li>Front fog lamps</li> </ul>	10 seconds
4	Headlamps	LO 10 seconds     HI ON ⇔ OFF 5 times
5	A/C compressor (magnet clutch)	ON ⇔ OFF 5 times
6*	Cooling fan	MID for 5 seconds → HI for 5 seconds

 $<sup>^*</sup>$ : Outputs duty ratio of 50% for 5 seconds o duty ratio of 100% for 5 seconds on the cooling fan control module.

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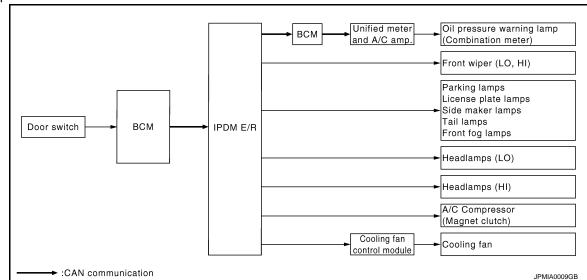
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### < SYSTEM DESCRIPTION >

### Concept of auto active test



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

### Diagnosis chart in auto active test mode

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

# < SYSTEM DESCRIPTION >

Symptom	Inspection contents		Possible cause
		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	<ul> <li>Cooling fan</li> <li>Harness or connector between cooling fan and cooling fan control module</li> <li>Cooling fan control module</li> <li>Harness or connector between IPDM E/R and cooling fan control module</li> <li>Cooling fan relay</li> <li>Harness or connector between IPDM E/R and cooling fan relay</li> <li>IPDM E/R</li> </ul>

# CONSULT Function (IPDM E/R)

INFOID:0000000008799903

### **APPLICATION ITEM**

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

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

### SELF DIAGNOSTIC RESULT

Refer to PCS-32, "DTC Index".

### **DATA MONITOR**

#### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

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

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### < SYSTEM DESCRIPTION >

Monitor Item [Unit]	MAIN SIG- NALS	Description
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the shift position judged by IPDM E/R.
ST RLY CONT [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.
IHBT RLY -REQ [Off/On]		Displays the status of the starter control relay signal received from BCM via CAN communication.
ST/INHI RLY [Off/ ST ON/INHI ON/UNKWN]		Displays the status of the starter relay and starter control relay judged by IPDM E/R.
DETENT SW [Off/On]		Displays the status of the A/T shift selector (detention switch) judged by IPDM E/R.
S/L RLY -REQ [Off/On]		Displays the status of the steering lock relay request received from BCM via CAN communication.  NOTE:
		For models without steering lock unit, this item is not monitored.
S/L STATE		Displays the status of the steering lock judged by IPDM E/R.  NOTE:
[LOCK/UNLOCK/UNKWN]		For models without steering lock unit, this item is not monitored.
DTRL REQ [Off/On]		NOTE: The item is indicated, but not monitored.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R.
HL WASHER REQ [Off/On]		NOTE: The item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN communication.
CRNRNG LMP REQ [Off/On]		NOTE: The item is indicated, but not monitored.

### **ACTIVE TEST**

Test item

Test item	Operation	Description
	Off	
CORNERING LAMP	LH	NOTE: The item is indicated, but cannot be tested.
	RH	
HORN	On	Operates horn relay 1 and horn relay 2 for 20 ms.
	Off	OFF
FRONT WIPER	Lo	Operates the front wiper relay.
	Hi	Operates the front wiper relay and front wiper high relay.

### < SYSTEM DESCRIPTION >

Test item	Operation	Description	
	1	OFF	
MOTOR FAN	2	Outputs 50% pulse duty signal (PWM signal) to the cooling fan control module.	
WOTOK FAIN	3	Outputs 80% pulse duty signal (PWM signal) to the cooling fan control module.	
	4	Outputs 100% pulse duty signal (PWM signal) to the cooling fan control module.	
HEAD LAMP WASHER	On	NOTE: The item is indicated, but cannot be tested.	
	Off	OFF	
	TAIL	Operates the tail lamp relay.	
EXTERNAL LAMPS	Lo	Operates the headlamp low relay.	
	Hi	Operates the headlamp low relay and ON/OFF the headlamp high relay at 1 second intervals.	
	Fog	Operates the front fog lamp relay.	

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### **WIPER AND WASHER FUSE**

< DTC/CIRCUIT DIAGNOSIS >

# DTC/CIRCUIT DIAGNOSIS

# WIPER AND WASHER FUSE

Description INFOID:0000000008286196

#### Fuse list

Unit	Location	Fuse No.	Capacity
Front wiper motor	IPDM E/R	#60	30 A
Washer pump	IPDM E/R	#47	10 A

# Diagnosis Procedure

INFOID:0000000008286197

# 1. CHECK FUSES

Check that the following fuses are not fusing.

Unit Location		Fuse No.	Capacity
Front wiper motor	IPDM E/R	#60	30 A
Washer pump	IPDM E/R	#47	10 A

### Is the fuse fusing?

YES >> Replace the fuse with a new one after repairing the applicable circuit.

NO >> The fuse is normal.

### POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

# POWER SUPPLY AND GROUND CIRCUIT BCM (BODY CONTROL MODULE)

INFOID:0000000008286198

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BCM (BODY CONTROL MODULE) : Diagnosis Procedure

## 1. CHECK FUSE AND FUSIBLE LINK

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

Signal name	Fuse and fusible link No.
Battery power supply	К
	10

### Is the fuse fusing?

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

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- Disconnect BCM connectors.
- 3. Check voltage between BCM harness connector and ground.

(	+)	(-)	Voltage
В	всм		(Approx.)
Connector	Terminal	Ground	
M118	1	Glound	Battery voltage
M119	11		Battery Voltage

### Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

### 3.CHECK GROUND CIRCUIT

Check continuity between BCM harness connector and ground.

ВСМ			Continuity	
Connector	Connector Terminal		Continuity	
M119	13		Existed	

### Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

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

# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) : Diagnosis Procedure

# 1. CHECK FUSES AND FUSIBLE LINK

Check that the following IPDM E/R fuses or fusible links are not blown.

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### POWER SUPPLY AND GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

Signal name	Fuses and fusible link No.
	С
Battery power supply	50
	51

### Is the fuse fusing?

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

NO >> GO TO 2.

# 2.CHECK POWER SUPPLY CIRCUIT

- 1. Turn ignition switch OFF.
- 2. Disconnect IPDM E/R connector.
- 3. Check voltage between IPDM E/R harness connector and ground.

(	+)	(-)	Voltage
IPDI	M E/R	(-)	(Approx.)
Connector	Terminal	Ground	
E4	1	Giodila	Battery voltage

### Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair harness or connector.

# 3. CHECK GROUND CIRCUIT

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

IPDM E	E/R		Continuity
Connector	Terminal	- Ground	Continuity
E5	12		Existed
E6	41		LAISIEU

### Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

### FRONT WIPER MOTOR LO CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

### FRONT WIPER MOTOR LO CIRCUIT

# Component Function Check

### INFOID:0000000008286200

# 1. CHECK FRONT WIPER LO OPERATION

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### **PIPDM E/R AUTO ACTIVE TEST**

- 1. Start IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- Check that the front wiper operates at the LO operation.

### **PCONSULT ACTIVE TEST**

- 1. Select "FRONT WIPER" of IPDM E/R active test item.
- 2. With operating the test item, check front wiper operation.

Lo: Front wiper (LO) operation

Off : Stop the front wiper.

### Is front wiper (LO) operation normally?

YES >> Front wiper motor LO circuit is normal.
NO >> Refer to <u>WW-25</u>, "<u>Diagnosis Procedure</u>".

INFOID:0000000008286201

# Diagnosis Procedure

# 1.CHECK FRONT WIPER MOTOR (LO) OUTPUT VOLTAGE

- 1. Turn the ignition switch OFF, and wait for 20 seconds or more.
- 2. Disconnect front wiper motor connector.
- 3. Turn the ignition switch ON, and wait for 10 seconds.
- Check voltage between IPDM E/R harness connector and ground.

(-	+)	(-)	Voltage (Ap-
IPDN	IPDM E/R		prox.)
Connector	Terminal	Ground	
E5	4		Battery voltage (10 seconds*)

<sup>\*:</sup> According to front wiper protection function, IPDM E/R supplies voltage for 10 seconds (battery voltage) and then stops for 20 seconds (0 V). This operation repeats 5 times, and then IPDM E/R stops voltage supply. To perform the check again, turn ignition switch OFF, wait for 20 seconds or more, and then perform the check.

YES >> GO TO 2.

NO >> Replace IPDM E/R.

Is the measurement value normal?

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# 2.check front wiper motor (LO) open circuit

- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector.
- 3. Check continuity between IPDM E/R harness connector and front wiper motor harness connector.

IPDM E/R		Front wiper motor		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E5	4	E42	1	Existed

### Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harness or connector.

# 3.check front wiper motor (LO) short circuit

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

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### FRONT WIPER MOTOR LO CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

IPDN	/I E/R		Continuity
Connector	Terminal	Ground	Continuity
E5	4		Not existed

# Does continuity exist?

YES >> Repair the harness or connector.

NO >> Replace front wiper motor.

### FRONT WIPER MOTOR HI CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

### FRONT WIPER MOTOR HI CIRCUIT

# Component Function Check

1 . CHECK FRONT WIPER HI OPERATION

# INFOID:0000000008286202

### PIPDM E/R AUTO ACTIVE TEST

- 1. Start IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- Check that the front wiper operates at the HI operation.

### **PCONSULT ACTIVE TEST**

- Select "FRONT WIPER" of IPDM E/R active test item.
- With operating the test item, check front wiper operation.

Ηi : Front wiper (HI) operation

Off : Stop the front wiper.

### Is front wiper (HI) operation normally?

YES >> Front wiper motor HI circuit is normal. >> Refer to WW-27, "Diagnosis Procedure". NO

# Diagnosis Procedure

# ${f 1}$ .CHECK FRONT WIPER MOTOR (HI) OUTPUT VOLTAGE

### **PCONSULT ACTIVE TEST**

- Turn the ignition switch OFF, and wait for 20 seconds or more.
- Disconnect front wiper motor connector.
- Turn the ignition switch ON.
- Select "FRONT WIPER" of IPDM E/R active test item.
- With operating the test item, check voltage between IPDM E/R harness connector and ground.

Terminals			Test item	
(-	+)	(-)	rest item	Voltage (Approx.)
IPDN	/I E/R		FRONT WIPER	
Connector	Terminal	Ground	TRONT WIFER	
E5	5		Hi	Battery voltage (10 seconds*)

\*: According to front wiper protection function, IPDM E/R supplies voltage for 10 seconds (battery voltage) and then stops for 20 seconds (0 V). This operation repeats 5 times, and then IPDM E/R stops voltage supply. To perform the check again, turn ignition switch OFF, wait for 20 seconds or more, and then perform the check.

### Is the measurement value normal?

YES >> GO TO 2.

NO >> Replace IPDM E/R.

# 2.CHECK FRONT WIPER MOTOR (HI) OPEN CIRCUIT

- Turn the ignition switch OFF.
- Disconnect IPDM E/R connector.
- Check continuity between IPDM E/R harness connector and front wiper motor harness connector.

IPDM E/R		Front wiper motor		Continuity
Connector	Terminal	Connector	Terminal	Continuity
E5	5	E42	4	Existed

### Does continuity exist?

YES >> GO TO 3.

NO >> Repair the harness or connector.

3.check front wiper motor (HI) short circuit

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### FRONT WIPER MOTOR HI CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

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

IPDN	Λ E/R		Continuity
Connector	Terminal	Ground	Continuity
E5	5		Not existed

### Does continuity exist?

YES >> Repair the harness or connector.

NO >> Replace front wiper motor.

### FRONT WIPER STOP POSITION SIGNAL CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

### FRONT WIPER STOP POSITION SIGNAL CIRCUIT

# Component Function Check

# 1. CHECK FRONT WIPER STOP POSITION SIGNAL

### ©CONSULT DATA MONITOR

- 1. Select "WIP AUTO STOP" of IPDM E/R data monitor item.
- Operate the front wiper.
- 3. With the front wiper operation, check the monitor status.

Monitor item	Condition		Monitor status
WIP AUTO STOP	Front wiper	Stop position	STOP P
motor	motor	Except stop position	ACT P

### Is the status of item normal?

YES >> Front wiper stop position signal circuit is normal.

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

### Diagnosis Procedure

# 1.CHECK FRONT WIPER MOTOR (AUTO STOP) OUTPUT VOLTAGE

- Turn the ignition switch OFF.
- Disconnect front wiper motor connector.
- 3. Turn the ignition switch ON.
- Check voltage between IPDM E/R harness connector and ground.

(-	+)	(-)	Voltage
IPDM E/R			(Approx.)
Connector	Terminal	Ground	
E5	16		Battery voltage

#### Is the measurement value normal?

YES >> GO TO 3.

NO >> GO TO 2.

# 2.CHECK FRONT WIPER MOTOR (AUTO STOP) SHORT CIRCUIT

- Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector.
- Check continuity between IPDM E/R harness connector and ground.

IPDM E/R  Connector Terminal			Continuity
		Ground	Continuity
E5	16		Not existed

### Does continuity exist?

Revision: 2013 December

YES >> Repair the harnesses or connectors.

NO >> Replace IPDM E/R.

# ${f 3.}$ CHECK FRONT WIPER MOTOR (AUTO STOP) CIRCUIT CONTINUITY

- 1. Turn the ignition switch OFF.
- 2. Disconnect IPDM E/R connector.
- 3. Check continuity between IPDM E/R harness connector and front wiper motor harness connector.

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**WW-29** 

### FRONT WIPER STOP POSITION SIGNAL CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

IPDI	M E/R	Front wiper motor		Continuity
Connector	Terminal	Connector Terminal		Continuity
E5	16	E42	5	Existed

### Does continuity exist?

YES >> Replace front wiper motor.

NO >> Repair the harnesses or connectors.

### FRONT WIPER MOTOR GROUND CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

# FRONT WIPER MOTOR GROUND CIRCUIT

# Diagnosis Procedure

### INFOID:0000000008286206

# 1. CHECK FRONT WIPER MOTOR (GND) OPEN CIRCUIT

- Turn the ignition switch OFF.
- 2. Disconnect front wiper motor connector.
- 3. Check continuity between front wiper motor harness connector and ground.

Front wiper motor  Connector Terminal			Continuity
		Ground	Continuity
E42	2		Existed

### Does continuity exist?

YES >> Front wiper motor ground circuit is normal.

NO >> Repair the harnesses or connectors.

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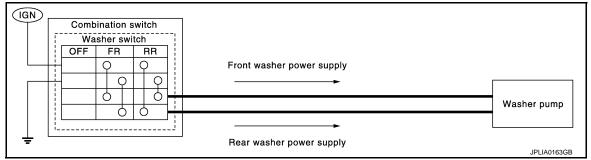
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### WASHER SWITCH

Description INFOID:000000008286207

- Washer switch is integrated with combination switch.
- Combination switch operates front washer or rear washer by changing voltage polarity to be supplied to washer pump.



# Component Inspection

INFOID:0000000008286208

# 1. CHECK WIPER SWITCH

- 1. Turn the ignition switch OFF.
- 2. Disconnect combination switch connector.
- 3. Check continuity between the combination switch terminals.

A : Terminal 4
B : Terminal 6
C : Terminal 3

D : Terminal 1

	OFF	FR			RR	
Α		?			?	
В			7		(	Ç
С		5			(	5
D		(	5	(	5	

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Combina	tion switch	Condition	Continuity	
Terr	minal	Condition	Continuity	
1	6	Front washer switch ON		
3	4	TION WASHEL SWILCH ON	Existed	
1	4	Rear washer switch ON	LXISIEU	
3	6	iteal washer switch ON		

### Does continuity exist?

YES >> Wiper and washer switch is normal.

NO >> Replace combination switch (Wiper and washer switch).

### REAR WIPER MOTOR CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

### REAR WIPER MOTOR CIRCUIT

# Component Function Check

# 1. CHECK REAR WIPER ON OPERATION

### CONSULT ACTIVE TEST

- Select "RR WIPER" of BCM active test item.
- With operating the test item, check rear wiper operation.

: Rear wiper ON operation On

Off : Stop the rear wiper.

### Is rear wiper operation normally?

YES >> Rear wiper motor circuit is normal.

NO >> Refer to WW-33, "Diagnosis Procedure".

# Diagnosis Procedure

# ${f 1}$ .CHECK REAR WIPER MOTOR OUTPUT VOLTAGE

### **©CONSULT ACTIVE TEST**

- 1. Turn rear wiper switch OFF, and wait for 1 minute or more.
- 2. Turn the ignition switch OFF.
- 3. Disconnect rear wiper motor connector.
- Turn the ignition switch ON.
- 5. Select "RR WIPER" of BCM active test item.
- With operating the test item, check voltage between BCM harness connector and ground.

Terminals			Test item	
(-	(+)		rest item	Voltage (Approx.)
ВС	CM		RFAR WIPFR	vollage (Approx.)
Connector	Terminal	Ground	KLAK WII LK	
M120	26		On	Battery voltage (5 seconds*)

<sup>\*:</sup> When "REAR WIPER" is "On" for 5 seconds or more during active test of CONSULT, BCM stops the power supply according to rear wiper motor protection function. To perform the check again, turn "REAR WIPER" to "Off", wait for 1 minute or more, and then perform the check.

#### Is the measurement value normal?

YES >> GO TO 3. NO >> GO TO 2.

# 2.check rear wiper motor short circuit

- Turn the ignition switch OFF. 1.
- 2. Disconnect BCM connector.
- Check continuity between BCM harness connector and ground.

BCM Connector Terminal			Continuity
		Ground	Continuity
M120	26		Not existed

### Does continuity exist?

YES >> Repair the harness or connector.

NO >> Replace BCM. Refer to BCS-96, "Exploded View".

# 3.check rear wiper motor open circuit

- Turn the ignition switch OFF.
- Disconnect BCM connector.

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### **REAR WIPER MOTOR CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

3. Check continuity between BCM harness connector and rear wiper motor harness connector.

В	BCM		Rear wiper motor	
Connector	Terminal	Connector Terminal		Continuity
M120	26	D115	2	Existed

### Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harness or connector.

4. CHECK REAR WIPER MOTOR GROUND OPEN CIRCUIT

Check continuity between rear wiper motor harness connector and ground.

Rear wiper motor			Continuity	
Connector	Connector Terminal		Continuity	
D115	4		Existed	

### Does continuity exist?

YES >> Replace rear wiper motor.

NO >> Repair the harness or connector.

### REAR WIPER STOP POSITION SIGNAL CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

## REAR WIPER STOP POSITION SIGNAL CIRCUIT

# Component Function Check

# 1. CHECK REAR WIPER (AUTO STOP) OPERATION

### (E)CONSULT DATA MONITOR

- 1. Select "WIPER" of BCM data monitor item.
- Operate the rear wiper.
- 3. Check that "RR WIPER STOP" changes to "ON" and "OFF" linked with the wiper operation.

Monitor item	Со	Monitor status	
RR WIPER STOP	Rear wiper motor	Stop position	Off
KK WIFEK STOP	Real wiper motor	Except stop position	On

### Is the status of item normal?

YES >> Rear wiper stop position signal circuit is normal.

>> Refer to WW-35, "Diagnosis Procedure". NO

# Diagnosis Procedure

# 1. CHECK REAR WIPER MOTOR (AUTO STOP) OUTPUT VOLTAGE

- Turn the ignition switch OFF.
- 2. Disconnect rear wiper motor connector.
- 3. Turn the ignition switch ON.
- Check voltage between BCM harness connector and ground.

Terminals				
(+)		(-)	Value (Approx.)	
ВСМ				
Connector	Terminal		(V) 15 10 5 0 10 ms JPMIA0016GB	
M121	65	Ground		

### Is the measurement value normal?

YES >> GO TO 3.

NO >> GO TO 2.

# 2.CHECK REAR WIPER MOTOR (AUTO STOP) SHORT CIRCUIT

- Turn the ignition switch OFF.
- 2. Disconnect BCM connector.
- Check continuity between BCM harness connector and ground.

В	CM		Continuity
Connector	Terminal	Ground	
M121	65		Not existed

### Does continuity exist?

YES >> Repair the harness or connector.

NO >> Replace BCM. Refer to BCS-96, "Exploded View".

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### **REAR WIPER STOP POSITION SIGNAL CIRCUIT**

### < DTC/CIRCUIT DIAGNOSIS >

# 3. CHECK REAR WIPER MOTOR (AUTO STOP) OPEN CIRCUIT

- 1. Turn the ignition switch OFF.
- 2. Disconnect BCM connector.
- 3. Check continuity between BCM harness connector and rear wiper motor harness connector.

BCM		Rear wiper motor		Continuity
Connector	Terminal	Connector	Terminal	Continuity
M121	65	D115	3	Existed

### Does continuity exist?

YES >> Replace rear wiper motor.

NO >> Repair the harness or connector.

### FRONT WIPER AND WASHER SYSTEM

### Wiring Diagram - FRONT WIPER AND WASHER SYSTEM -

For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".

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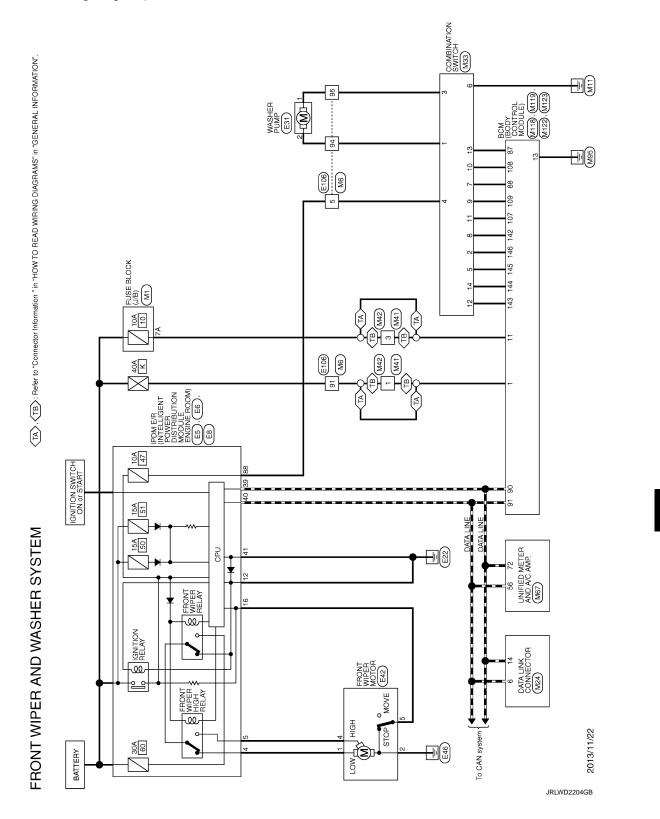
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FRONT WIPER AND WASHER SYSTEM	STEM			
Connector No. E5	46 R -	Connector No. E42	18 \	
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE		THE COLUMN	20 BG	
Connector Name Engine Room)		Connector Name FRONI WIPER MOTOR	21 L	
Connector Type TH20FW-CS12-M4-1V	Connector No. E8	Connector Type HS05FGY	22 V	
ſ	PDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE	ú	23 G	
			24 P	=
	Connector Type NS08FW-CS		25 Y	-
	4	(P)	26 V	•
8 8		<u> </u>	27 W	
		(2 4)	28 G	-
	2		$\dashv$	
	1000		32 W	_
ē	90 88 88 80 80	Na C	33 B	-
No. Wire Ogner reme toposmostron		No. Wire Ogner rang Openication	34 R	-
4 V		1 v	35 G	-
2 F	Terminal Color Of Signal Name (Specification)	2 B/W -	36 SHIELD	
7 R -	No. Wire ognal Name [opecindation]	4 L	37 V	
12 B/W -	83 BG -	5 LG	38 BR	
13 ×	× × ×		39 BG	
16 LG			H	
╀	-	Connector No. F106	H	,
╀	88		ŀ	
╀	+	Connector Name WIRE TO WIRE	+	
+	+	in the control of the	+	
2/ BG -		Connector Type TH80FW-CS16-TM4	49 L	•
7 7 7 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5			+	
+	ſ		+	
36 G -	Connector No. E31		+	
	Connector Name IWASHER PUMP	D 0	+	T.
- 1				1
Connector No. E6	Connector Type E02FGY-RS		-	
Connector Name IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE	¢	0 0 0	$\dashv$	
- 1	IB		$\dashv$	
Connector Type TH08FW-NH	ć	<u>a</u>	63 W	-
ú		No. Wire	64 B	-
	(1 5)	- R	65 G	-
K	)	2 W -	66 R	-
		3 B	67 SHIELD	
41 40 39		4 GR	∀ 89	
S / / / 3	g g	5 GR -	97 69	
?	No. Wire Organia realing [Specification]	8 Y	70 W	-
	1 BG .	9 BR -	71 R	
Terminal Color Of Signal Name (Specification)	2 LG -	10 BG -	72 Y	-
Wire		11 SB -	73 B	•
39 P -		12 BG -	74 BR	- [With ICC]
40 L		13 L	74 L	- [Without ICC]
41 B/W		14 R -	75 G	- [With ICC]
Н		15 P -	75 W	- [Without ICC]
Н		16 V -	W 92	- [With ICC]
⊢		17 SB -	76 Y	- [Without ICC]
ł		ł		

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#### FRONT WIPER AND WASHER SYSTEM

#### < DTC/CIRCUIT DIAGNOSIS >

FRO	W TN	FRONT WIPER AND WASHER SYSTEM	STEM								
77	Ь	- [Without ICC]	8A	٦	•	39	BR	-	96	GR -	
2.2	ď	- [With ICC]				41	W		96		
78	BR	- [Without ICC]				45	BG		26		
78	_	- [With ICC]	Connector No.	Г	M6	43	BG		98 SH	SHIELD -	Γ
79	_	- [Without ICC]		Ι,	L CONTRACTOR CONTRACTO	45	┞		Г		Γ
6/	Y	- [With ICC]	201100		WINE IO WINE	49			100	SB -	
80	SB		Connect	Connector Type	TH80MW-CS16-TM4	20	۵.	,			1
8	œ					5	Ж				
82	SB			_		54	>		Connector No.	. M24	Γ
88	9g		•		8 8 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	25	O				Γ
84	O		11.5	vi.	5 9 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	29	H		Connector Name	me DATA LINK CONNECTOR	
82	_			1	S	9	_		Connector Type	pe BD16FW	Γ
88	۵				8 F S	9	O			1	1
87	>				9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	62	F		Œ		
88	æ					83	┞	,			_
8	SHELD		Terminal	II Color Of	5	64	а		\ \ \{\bar{2}}		
9	>		9 S	Wire	Signal Name [Specification]	92	L	,			
92	>		-	W		99	H			3 4 5 6 7 8	
8	>		2	ω		67	S.	-			
94			ď	ď		æ	t				
8	BG		4	SHELD		9	E		Terminal Co	Color Of	Γ
æ	۵		u:	ď		02	╀			Wire Signal Name [Specification]	
26	<u>~</u>		00	>		71	H		8	. 91	Τ
æ	O'E		σ	æ		2	╀		4		Γ
66	-		10	2		73	SB		- 10		Τ
100	۵		1	ä		7.4	╀	- IWith ICCI	œ		Γ
			12	BG		74	┝	- [Without ICC]	7		Τ
			13	_		22	9		80	. 9	Γ
Connector No.	Г	12	4	22		192	Ľ	- [Without ICC]	╀	- as	Τ
			12	۵		2/2	H	- rwith ICCI			Ι
Connect	or Name	Connector Name FUSE BLOCK (J/B)	92	>		1	┞	- [Without ICC]	┞		Γ
Connecto	Connector Type	NS06FW-M2	17	SB		11	œ	- [With ICC]		-	1
			2	>		28	_	- [With ICC]			
13	_		20	BG		78	ď	- [Without ICC]	Connector No.	. M33	П
ŧ			21	_		79	H	- [Without ICC]		CHEST MOIT SIMILAND	Γ
2 E	Z.	34 24 14	22	۸		79	>	- [With ICC]		TO INFO NOTIFIED ON THE	
		04 74 64 54 44	23	۵		80	SB	-	Connector Type	pe TH16FW-NH	
		3	24	BR		81	SB	-			l
		]	22	Υ		82	SB				
			26	^	•	83	^	•	Ę	<u></u>	
Termina	Terminal Color Of	Simpl Namo [Seconfloation]	27	G		84	9		ē.	0 0 0	
ō.	Wire		28	g	•	82	٦	-		ა 4	
Ψ,	GR		31	٦		98	۵			7 8 9 10 11 12 13 14	
ZA	9		32	9		87					
3A	-		33	В		88	П	-			
44	۵	- [For push button]	34	W		90	SHIELD		Terminal Col	Color Of Signal Name (Specification)	
44	ď	- [For key slot]	35	ď		91	Μ	•	S	ø.	
2A	>		36	SHIELD		92	+		-	Œ	7
6A	<b>\</b>		37	^		93	Н		2		
7A	œ		38	BG		94	Н		3	GR FR WASHER(+)	П
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FRO	ΝΤ	FRONT WIPER AND WASHER SYSTEM	STEM								
4	9	IGN	Connector No.	or No.	M67	Connector No.	M118	Connector No.	o. M122		
5	٦	OUTPUT 3	Journal	Connoctor Nomo	INICICO METER AND A/C AMP	Connector Mamo	PCM (BODY CONTBOL MODILLE)	Connector Manne		Calling Independent of Mod Mod	
9	В	GROUND	5	n walle		COLLECTO HAILE				CONTINUE MODGEE)	
7	۸	INPUT 3	Connect	Connector Type	TH32FW-NH	Connector Type	M03FB-LC	Connector Type	ype TH40FB-NH	_	
00	BG	OUTPUT 5		,				֓֞֜֞֜֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֡֟֜֜֓֓֓֓֡֓֜֡֓֜֓֜֡֓֜			
6	>	INPUT 2	1	_		4		Œ			
10	ď	INPUT 4	Ť.	_		4		<b>F</b>			
1	9	INPUT 1	¥!	, -	7	\ \ \ \	2 1	Σ Σ			
12	۵	OUTPUT 1			41 42 43 44 45 46 47 53 54 55 56				21 88 87	22 22 23 24 24 25 26 26 27 28 38	
13	æ	INPUT 5			57 58 59 60 61 62 63 65 65 89 70 71 72		33		110 100 100 100	15 12 10 10 10 10 10 8 95 94 15 12	
14	O	OUTPUT 2					]				
						-					
Connector No	Š	M41	lerminal No.	Wire U	Signal Name [Specification]	No. Wire	Signal Name [Specification]	No.	Color Of Sign	Signal Name [Specification]	
			41	>	ACC POWER SUPPLY	Α.	BAT (F/L)	74	SB	PASSENGER DOOR ANT-	
Connecti	Connector Name	WIRE TO WIRE	45	>	FUEL LEVEL SENSOR SIGNAL	2 W	POWER WINDOW POWER SUPPLY(BAT)	H		PASSENGER DOOR ANT+	
Connector Type	r Type	M03MW-LC	43	œ	INTAKE SENSOR SIGNAL	3	POWER WINDOW POWER SUPPLY(RAP)	H		DRIVER DOOR ANT-	
	,		44	PI	IN-VEHICLE SENSOR SIGNAL			77	0 97	DRIVER DOOR ANT+	
E C			45	۵	AMBIENT SENSOR SIGNAL			78	<b>&gt;</b>	ROOM ANT1-	
			46	BG	SUNLOAD SENSOR SIGNAL	Connector No.	M119	62	BR	ROOM ANT1+	
4	73		47	9	EXHAUST GAS / OUTSIDE ODOR DETECTING SENSOR SIGNAL		THEORY CORP. CO.	80	GR	NATS ANT AMP.	
		٠,	23	O	IGNITION POWER SUPPLY	Connector Name		H	W	NATS ANT AMP.	
		2 3	54	Υ	BATTERY POWER SUPPLY	Connector Type	NS16FW-CS	82	R IGI	IGN RELAY (F/B) CONT	
			22	В	GROUND			83	Y KEYLESS	KEYLESS ENTRY RECEIVER COMM	
			99	٦	CAN-H	B		87	BR C	COMBI SW INPUT 5	
Terminal	Terminal Color Of	f Signal Nama [Specification]	22	Μ	BRAKE FLUID LEVEL SWITCH SIGNAL	ŧ		88	۸	COMBI SW INPUT 3	
No	Wire	olgikii Nalile	28	BR	FUEL LEVEL SENSOR GROUND	Ġ.	4 5 7 8 9 10	90	Ь	CAN-L	
-	Μ		29	GR	INTAKE SENSOR GROUND		11 13 14 15 17 18 10	91	7	CAN-H	
2	٨	-	09	٦	IN-VEHICLE SENSOR GROUND		21 11	95	LG K	KEY SLOT ILL CONT	
3	ď		61	BR	AMBIENT SENSOR GROUND			93	^	ON IND	
			62	SB	SUNLOAD SENSOR GROUND			94	Y P	PUDDLE LAMP CONT	
			63	ď		Terminal Color Of	j	92	' SB	ACC RELAY CONT	
Connector No.	or No.	M42	65	BG	ECV SIGNAL	No. Wire	olgikal ivanie [obecincation]	96	GR A/T SHIFT:	A/T SHIFT SELECTOR POWER SUPPLY	
300000	Connection Money	Ediki OT Idiki	69	٦	A/C LAN SIGNAL	4 LG	INTERIOR ROOM LAMP POWER SUPPLY	66	2	SHIFT P	
50	i kalilo		70	ď	EACH DOOR MOTOR POWER SUPPLY	2 F	PASSENGER DOOR UNLOCK OUTPUT	Н		PASSENGER DOOR REQUEST SW	
Connector Type	or Type	M03FW-LC	71	В	GROUND	٧ /	STEP LAMP CONT	101		DRIVER DOOR REQUEST SW	
ſ			72	Ь	CAN-L	8	ALL DOOR, FUEL LID LOCK OUTPUT	102	BG BLOWER	BLOWER FAN MOTOR RELAY CONT	
						9	DRIVER DOOR, FUEL LID UNLOCK OUTPUT	103	LG KEYLESS EP	KEYLESS ENTRY RECEIVER POWER SUPPLY	
ŧ						10 BR	REAR DOOR UNLOCK OUTPUT	107	0 91	COMBI SW INPUT 1	
4	77					11 R	BAT (FUSE)	108	R	COMBI SW INPUT 4	
		0				13 B	GROUND	109	۸ ا	COMBI SW INPUT 2	
		3.2				14 W	PUSH-BUTTON IGNITION SW ILL GND	110	9	HAZARD SW	
						15 Y	ACC IND				
						17 W	TURN SIGNAL RH (FRONT)				
Terminal	Terminal Color Of	Signal Name [Specification]				18 BG	TURN SIGNAL LH (FRONT)				
Q	Wire					19 ^	INT ROOM LAMP CONT				
-	8										
2 0	> 0										
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Corrector No. M123 Corrector Name BCM (BODY CONTROL MODULE) Corrector Type TH40FG-NH  H.S.	FRONT W	FRONT WIPER AND WASHER SYSTEM
Corrector Name BCM (BODY CONTROL MODULE)  Corrector Type TH40F-G-N4  T.S.	Connector No.	M123
H 🗀	Connector Name	BCM (BODY CONTROL MODULE)
H S S S S S S S S S S S S S S S S S S S	Connector Type	TH40FG-NH
	是 H.S.	# 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

Terminal Color Of
Wire
_
SB
Ь
SB
BR
W
97
BR
W PUSH-BUTTON IGNITION SW ILL POWER
SR.
BG
RECEIVER/SENSOR POWER SUPPL
_
GR
9
BG
Ь
9
۲
SB
97
G REAR WINDOW DEFOGGER RELAY CONT
l

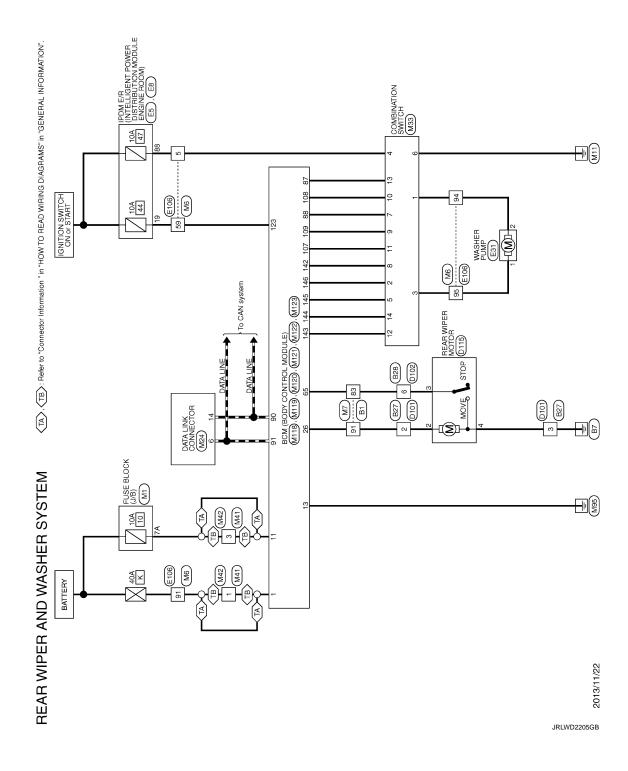
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### REAR WIPER AND WASHER SYSTEM

### Wiring Diagram - REAR WIPER AND WASHER SYSTEM -

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For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".



#### **REAR WIPER AND WASHER SYSTEM**

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#### < DTC/CIRCUIT DIAGNOSIS >

D101	В
SHIELD   19   SHIELD   19   LG   LG   LG   LG   LG   LG   LG   L	D
Signal Name ISpecification   Signal Name ISpecification   1 2 3   4 5 6   17 12 12 12   14   15   17 12   12   12   14   15   17   18   19   19   19   19   19   19   19	F
Cornector No.   B27	G
	H
	J
M   M   M   M   M   M   M   M   M   M	K
Sgral Name (Speedication)	W
Connector No.   Pit	N
ス	0
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Revision: 2013 December WW-43 2013 EX

	۰ ۸		- d	>	^	. M	. 9	BG	H	8	H	┞	φ	^	Н	BG .			BR .		4	٠.	$\dashv$	4	+	+	- PT	+	$\dashv$	+		$\dashv$	┪	SHIELD -	$\dashv$	$\dashv$	$\dashv$		$\dashv$	В	BR - [With ICC]	L - [Without ICC]	G - [With ICC]	w	w - [with ICC]	Y - [Without ICC]	P - [Without ICC]	R - [With ICC]	BR -	L - [With ICC]
	22	23	24	25	26	27	28	હ	32	33	34	35	98	37	38	39	41	42	43	45	49	20	51	24	24	29	9	61	62	63	64	65	99	9	99	69	70	7	72	73	74	74	75	75	92	9/	77	77	78	78
	Connector No. E31	Connector Name AMASHED DI MAD		Connector Type E02FGY-RS					((112))				Terminal Color Of	No. Wire Signal Name [Specification]	1 BG -	2 LG .			Connector No. E106	Connector Name   WIRE TO WIRE	_	Connector Type TH80FW-CS16-TM4				D 0					쿌	0	Т.	2 W -	3 B	$\dashv$	5 GR -		$\dashv$	+	11 SB -	12 BG -	13 L	14 R	15 P	16 V -	17 SB -	18 V -	20 BG -	21 L -
	Connector No. E5	PDM E/R (NTELLIGENT POWER DISTRBUTION MODULE		Connector Type TH20FW-CS12-M4-1V									Terminal Color Of	No. Wire Signal Name [Specification]	4 V	9 r	7 R -	12 B/W -	13 Y	$\dashv$	+	$\dashv$	$\dashv$	27 BG -	+		36 G -		Ī	Connector No. E8	Connector Name POW SIR (NTELLIGENT POWER DISTRIBUTION MODULE		Connector Type NS08FW-CS	4	IB		2 P8 P8	000000000000000000000000000000000000000	00 00 01			Terminal Color Of Size   November 1	No. Wire Signal Manne [Specification]	83 BG -	84 V	- W 98	- 1 L8	88 GR -	89 BR -	d d 06
REAR WIPER AND WASHER SYSTEM	_	13 R -	14 L - [With around view monitor]	SHIELD - [Without an	>	16 G - [With around view monitor]	_	17 G - [Without around view monitor]	>	SHELD	т	0	╀	22 P	Н	24 R -			Connector No. D115	Connector Name   REAR WIPER MOTOR	- 1	Connector Type   CJ04FW-1V	4			2	6	2 +			ā	Wire	$\dashv$	3 0	4 B -															

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#### **REAR WIPER AND WASHER SYSTEM**

#### < DTC/CIRCUIT DIAGNOSIS >

ł	- [Without ICC]	Connector No.	or No.	M6	43	7			86	SHIELD	-
$\dashv$	- [With ICC]	Connect	Connector Name	WIRE TO WIRE	42	≯			66	4	
80 SB				******	49	_			100	SB	-
_		Connector Type	or Type	TH80MW-CS16-TM4	20	Д		-			
-		¢			51	-					
_					54	<b>≻</b>			Conne	Connector No.	M7
4 G		ŧ		8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	24	9			0000	Compositor Name	Jaliw OI Jaliw
7 2	-	į		# # # # # # # # # # # # # # # # # # #	29	H			3	anna na	WINE TO WINE
۵				# # # # # # # # #	9	Ŀ			Conne	Connector Type	TH80MW-CS16-TM4
A 78				8 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	6	C.					
F				4 0	69	H			Œ	•	
OP SHIFT D					8	╀			ŧ		× 0
Т		Termina	Color Of		3	╀			4	ς S	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
+		Q.	Wire	Signal Name [Specification]	5 6	ł				ı	8 8
- 3					3 8	+					8 8 8
+		- <	۵ ۵	0	8 8	- 2	c				5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
+		7	r		Ì	T	a				P 0
95 BG		က	œ		88	+		-			
Б		4	SHIELD		89	4		-	Terminal	0	Sinnal Nama [Spacification]
97 R		2	9		70	97		1	g	Wire	organia realine [obecomostroni]
3 SHIELD		00	٨		71	97			6	SB	- [With automatic drive positioner]
- 66		6	ä		72	H			m	>	[renottisog evirb attempt a trioditivi] -
100		Ş	٥		1 2	╀			· ·	: (	the same of the same was well as
4		2 ;	2		2 6	+		1000	9	2	
		=	ž		4	ř		- [with ICC]	٥	ğ	
		7.5	Se		4/	+	M) -	- [without ICC]	\	*	
Connector No.	M1	13	-		€	+			20	20	
Connector Name	FUSE BLOCK (J/B)	4	œ	10	76	+		- [Without ICC]	12	SB	-
		15	۵		92	$\dashv$		- [With ICC]	13	re	
Connector Type	NS06FW-M2	16	>	-	11	-		- [Without ICC]	14	Υ	
		17	SB	ı	77	<u>د</u>		- [With ICC]	15		-
追	[	18	>		78		-	With ICC	17		
	li	QC.	S		2	0		Divisipon CO	ę	9	
S.	3A	2 5	3 -		2 02	ł		Mithout ICCI	5 5	$^{+}$	
1	Ī	17	-		2 1	+	1	Militari 100)	2 6	+	
	8A 7A 6A 5A 4A	77	٨		2	+		- [with ICC]	8	ž	
		23	۵.		8	+			21	SHIELD	
	]	24	BR	-	8	-		-	22	Υ	•
		25	≻		82	88			24	>	•
Terminal Color Of		56	>	1	83	^			27	В	
No.	Signal Name [Specification]	27	ď		8	ď			č	8	
t		000	,		0	ł			Ĉ	٥	
+		3 3			3 8	+			3 8	2 11 10	
5		0	-		8	$^{+}$			00	STIEFF	•
3A		35	9		ž	+			55	7	-
4	- [For push button]	33	ω		88	┪			35	۵	
A R	- [For key slot]	34	۸	-	90	SHIELD	-D	-	33	SB	
_		35	ď		91	W			34	7	-
≻ Y		98	SHELD		92	>			32	۵	
α		37	>		5	8			8	-	
4 -		5 8	۵ د		8 2	+			3 2	ء ا	
1		88 8	2 6		5 6	$^{+}$			3/	+	
		38	ž		S	+			8	4	
		41	*	-	96	Α.		-	39	Υ	
		42	BG		97			-	4	_	-

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Convoicer Name   DATA LINK CONNECTOR Report   DATA LINK CONNECTOR REPORT	45 GR -	ASHEK SYSTEM Connector No.   M24	12 P OUTPUT 1	Connector No. M118
Signal Name [Specification]   Sign			BR	
Signal Name   Specification		ector Type		
			П	
3   4   5   7   8   9   10   11   2   3   4   5   6   7   8   9   10   11   2   3   4   5   6   7   8   9   10   11   2   3   4   5   6   7   8   9   10   11   2   3   7   7   7   7   7   7   7   7   7		11 14 16	Cornector Type M03MW-LC	<u>.</u>
Signal Name   Specification   Color Of   Signal Name   Specification   Color Of   Signal Name   Specification   Corrector Name   Corrector N				2
Signal Name   Specification   Signal Name   Specification     1   1   1   1   1   1   1   1   1			His	
Signal Name   Specification   No. Wire			T.S.	L
Corrector No.   Signal Name [Specification]   Corrector No.   Corrector No.   Signal Name [Specification]   Corrector No.   Name	-	Wire		Wire
Terminal Color Of Signal Name   Specification    Corrector Name   Correc		Н		Ħ
Terminal Color Of Signal Name [Specification]   Corrector Name   Color Of Signal Name [Specification]   Corrector Name   Co		+		>
No		+	30.1.0	>
1		+		
1   1   2   1   1   1   1   1   1   1		+	vvire	1
Corrector Name   Corr		+	· · ·	
Corrector Name   WIRE TO WIRE		+	+	
Corrector No.   M42   M43   M43   M43   M44   M44		+	+	
M33   Corrector No.   M42   M42	1	-	1	
THEFWANTCH   Corrector Name   WIRE TO WIRE	1		Г	
1   2   4   5   6	-			
1   2   3   4   5   6     1   2   3   4   5   6     2   3   4   5   6     3   4   5   6     4   5   6     5   6   6   7   7     5   7   7     7   7   7     7   7   7     8   9   10   11   12   13   14     14   15   13   14     15   15   14     16   15   15   14     17   15   15   14     18   17   15   15     18   18   18     19   10   10     10   10   10     10   10		Connector Name COMBINATION SWITCH		4 5 / 8 9
1   2   3   4   5   6			Connector Type M03FW-LC	13 14 15 17 18
1   2   3   4   5   6   6   6   6   6   6   6   6   6	i	_	1	
1   2   3   4   5   6		<b>1</b>		
1   2   3   4   5   6		<b></b>	S	
1 2 3   4 3 0   1 2 1 3   4 2 0   1 2 1 3   4 2 1 0   1 2 1 3   4 2 1 0   1 2 1 3   4 2 1 0   1 2 1 3   4 2 1 0   1 2 1 3   4 2 1 0   1 2 1 3   4 3 1 0   1 2 1 3   4 3 1 0   1 3 1 0			<u> </u>	
7   8   10   11   12   13   14		3 4 5	3.2	PC
Terminal Color Of Nine   Signal Name   Specification    1		9 10		٦
Signal Name   Specification    New   Signal Name   Specification    9 C   C   New   Name   Specification    9 C   C   C   C   C   C   C   C   C	1			7 Y STEP LAMP CONT
Signal Name   Specification   No. Wire   10 B R   11 B	-			>
FR WASHER(-)	-		t	:D
SB		D C	+	Ж a
Control of the cont		- 8	+	۵ م
C		90 00	+	۾ م
L   CUIPUT 3   17   W   18   19   19   19   19   19   19   19		5 0		<b>:</b> >-
B GROIAD		7		*
V   NAPUT3   19   V   NAPUT3   19   V   NAPUT4   19   V   NAPUT4		В		BG
BG   OUTPUT 6   Y   MEVUT 2   R   INPUT 4   R   INPUT 4				^
> a		BG		
æ		>-		
		R		

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REAF	N.	REAR WIPER AND WASHER SYSTEM	TEM				
Connector No.	₽	M120	Connector No.	or No.	M122	Connector No.	M123
Connector Name	. Name	BCM (BODY CONTROL MODULE)	Connecto	Connector Name	BCM (BODY CONTROL MODULE)	Connector Name	ne BCM (BODY CONTROL MODULE)
Connector Type	- Type	NS12FW-CS	Connector Type	r Type	TH40FB-NH	Connector Type	e TH40FG-NH
修			Œ			匮	
HS			H.S.			H.S.	
		25 26			O   O   O   O   O   O   O   O   O   O		10 mm   10
Terminal (	Color Of	L	Terminal	Color Of	Cincol Misses (Constitution)	Terminal Color Of	L
ġ	Wire	oglizii Name [opedindatori]	<u>9</u>	Wire	ognalivane (opecincation)	5	file
50	>	TURN SIGNAL RH (REAR)	74	SB	PASSENGER DOOR ANT-	4	
23	ی ای	BACK DOOR OPEN OUTPUT	75	음 :	PASSENGER DOOR ANT+	116	SB STOP LAMP SW 1
2,6	0	REAR WIPER OUTPUT	2 12	<u>و</u>	DRIVER DOOR ANT+	$^{+}$	U NC
			8/	>-	ROOM ANT1-	┡	
			62	BR	ROOM ANT1+	123	W IGN F/B
Connector No.	.No.	M121	80	GR	NATS ANT AMP.	124 L	LG PASSENGER DOOR SW
Connector Name	Name	BCM (BODY CONTROL MODILLE)	81	W	NATS ANT AMP.	$\dashv$	
000		com (coor) common morocce)	82	œ	IGN RELAY (F/B) CONT	$\dashv$	PUSH-BUTTON
Connector Type	. Type	TH40FGY-NH	83	>	KEYLESS ENTRY RECEIVER COMM	134 G	
þ	-		87	R	COMBI SW INPUT 5	$\dashv$	BG RECEIVER/SENSOR GND
B			88	>	COMBI SW INPUT 3	138	RECEIVER/SENSOR POWER SUPPLY
Ę			06	۵	CAN-L	139	. TIRE PRESSURE RECEIVER COMM
2	_	7	91	٦	CAN-H	_	GR SHIFT N/P
		-	92	PI	KEY SLOT ILL CONT	Н	SS
		(2) (3) (4) (4) (4) (5) (5) (5) (5) (5) (5) (5) (5) (5) (5	93	>	ON IND	Н	BG COMBI SW OUTPUT 5
			94	<b>&gt;</b>	PUDDLE LAMP CONT		P COMBI SW OUTPUT 1
			92	BG	ACC RELAY CONT	144	G COMBI SW OUTPUT 2
Terminal Color Of	Color Of	Signal Nama [Specification]	96	GR	A/T SHIFT SELECTOR POWER SUPPLY	145	COMBI SW OUTPUT 3
O	Wire	Officer remorphisms of the companion of	66	ď	SHIFT P	_	SB COMBI SW OUTPUT 4
34	SB	LUGGAGE ROOM ANT-	100	9	PASSENGER DOOR REQUEST SW	4	LG DRIVER DOOR SW
35	>	LUGGAGE ROOM ANT+	101	SB	DRIVER DOOR REQUEST SW	151	G REAR WINDOW DEFOGGER RELAY CONT
38	а	BACK DOOR ANT-	102	8	BLOWER FAN MOTOR RELAY CONT		
39	×	BACK DOOR ANT+	103	ΓC	KEYLESS ENTRY RECEIVER POWER SUPPLY		
47	>	IGN RELAY (IPDM E/R) CONT	107	PT	COMBI SW INPUT 1		
52	SB	STARTER RELAY CONT	108	ĸ	COMBI SW INPUT 4		
09	BR	PUSHSW	109	Υ	COMBI SW INPUT 2		
61	W	BACK DOOR OPENER REQUEST SW	110	9	HAZARD SW		
64	۸	I-KEY WARN BUZZER (ENG ROOM)					
65	BG	REAR WIPER STOP POSITION					
99	В	BACK DOOR SW					
67	GR	BACK DOOR OPENER SW					
68	BR	REAR RH DOOR SW					
69	œ	REAR LH DOOR SW					

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< ECU DIAGNOSIS INFORMATION >

# **ECU DIAGNOSIS INFORMATION**

# BCM (BODY CONTROL MODULE)

Reference Value

#### VALUES ON THE DIAGNOSIS TOOL

#### NOTE:

The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

#### CONSULT MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
FR WIFER FI	Front wiper switch HI	On
FR WIPER LOW	Other than front wiper switch LO	Off
FR WIPER LOW	Front wiper switch LO	On
ED WACHED CW	Front washer switch OFF	Off
FR WASHER SW	Front washer switch ON	On
ED WIDED INT	Other than front wiper switch INT	Off
FR WIPER INT	Front wiper switch INT	On
FR WIPER STOP	Front wiper is not in STOP position	Off
FR WIPER STOP	Front wiper is in STOP position	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	Wiper intermittent dial position
RR WIPER ON	Other than rear wiper switch ON	Off
RR WIPER ON	Rear wiper switch ON	On
DD WIDED INT	Other than rear wiper switch INT	Off
RR WIPER INT	Rear wiper switch INT	On
DD WACHED CW	Rear washer switch OFF	Off
RR WASHER SW	Rear washer switch ON	On
RR WIPER STOP	Rear wiper is in STOP position	Off
RR WIPER STOP	Rear wiper is not in STOP position	On
TURN SIGNAL R	Other than turn signal switch RH	Off
TURN SIGNAL R	Turn signal switch RH	On
TURN SIGNAL L	Other than turn signal switch LH	Off
TURN SIGNAL L	Turn signal switch LH	On
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	Off
TAIL LAWIP SVV	Lighting switch 1ST or 2ND	On
HI BEAM SW	Other than lighting switch HI	Off
HI BEAIN SW	Lighting switch HI	On
HEAD LAMD OW 4	Other than lighting switch 2ND	Off
HEAD LAMP SW 1	Lighting switch 2ND	On
HEAD LAMP SW 2	Other than lighting switch 2ND	Off
HEAD LAWIF SW 2	Lighting switch 2ND	On
PASSING SW	Other than lighting switch PASS	Off
FAGGING OW	Lighting switch PASS	On
ALITO LIGHT SW	Other than lighting switch AUTO	Off
AUTO LIGHT SW	Lighting switch AUTO	On

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Monitor Item	Condition	Value/Status				
FR FOG SW	Front fog lamp switch OFF	Off				
FR FOG SW	Front fog lamp switch ON	On				
RR FOG SW	NOTE: The item is indicated, but not monitored.	Off				
DOOR SW-DR	Driver door closed	Off				
DOOK 3W-DK	Driver door opened	On				
DOOR SW-AS	Passenger door closed	Off				
DOOR SW-AS	Passenger door opened	On				
DOOR SW-RR	Rear RH door closed W-RR					
DOOK SW-KK	Rear RH door opened	On				
DOOR SW-RL	Rear LH door closed	Off				
DOOR SW-RL	Rear LH door opened	On				
DOOD CW DV	Back door closed	Off				
DOOR SW-BK	Back door opened	On				
CDL LOCK CW	Other than power door lock switch LOCK	Off				
CDL LOCK SW	Power door lock switch LOCK	On				
	Other than power door lock switch UNLOCK	Off				
CDL UNLOCK SW	Power door lock switch UNLOCK	On				
(E) ( O) (	Other than driver door key cylinder LOCK position	Off				
KEY CYL LK-SW	Driver door key cylinder LOCK position	On				
(T) ( O) (( ) ( ) ( ) ( )	Other than driver door key cylinder UNLOCK position	Off				
KEY CYL UN-SW	Driver door key cylinder UNLOCK position	On				
KEY CYL SW-TR	NOTE: The item is indicated, but not monitored.	Off				
	Hazard switch is OFF	Off				
HAZARD SW	Hazard switch is ON	On				
REAR DEF SW	NOTE: The item is indicated, but not monitored.	Off				
TR CANCEL SW	NOTE: The item is indicated, but not monitored.	Off				
TD/DD ODEN CW	Back door opener switch OFF	Off				
TR/BD OPEN SW	While the back door opener switch is turned ON	On				
TRNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off				
REVERSE SW	NOTE: The item is indicated, but not monitored.	Off				
RKE-LOCK	LOCK button of the key is not pressed	Off				
NINE-LOOK	LOCK button of the key is pressed	On				
DVE LINI OCK	UNLOCK button of the key is not pressed	Off				
RKE-UNLOCK	UNLOCK button of the key is pressed	On				
RKE-TR/BD	NOTE: The item is indicated, but not monitored.	Off				
DICE DANIC	PANIC button of the key is not pressed	Off				
RKE-PANIC	PANIC button of the key is pressed	On				
DIVE DAY ODE::	UNLOCK button of the key is not pressed	Off				
RKE-P/W OPEN	UNLOCK button of the key is pressed and held	On				

Monitor Item	Condition	Value/Status		
RKE-MODE CHG	LOCK/UNLOCK button of the key is not pressed and held simultaneously	Off		
	LOCK/UNLOCK button of the key is pressed and held simultaneously	On		
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5 V		
OF HOAL SENSOR	Dark outside of the vehicle	Close to 0 V		
REQ SW -DR	Driver door request switch is not pressed	Off		
REQ 3W -DR	Driver door request switch is pressed	On		
REQ SW -AS	Passenger door request switch is not pressed	Off		
NEQ OW -AO	Passenger door request switch is pressed	On		
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off		
REQ SW -RL	NOTE: The item is indicated, but not monitored.	Off		
DEO SW. DD/TD	Back door request switch is not pressed	Off		
REQ SW -BD/TR	Back door request switch is pressed	On		
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off		
- USIT SVV	Push-button ignition switch (push switch) is pressed	On		
GN RLY2 -F/B	NOTE: The item is indicated, but not monitored.	Off		
ACC RLY -F/B	NOTE: The item is indicated, but not monitored.	Off		
CLUCH SW	NOTE: The item is indicated, but not monitored.	Off		
	The brake pedal is depressed when No. 7 fuse is blown	Off		
BRAKE SW 1	W 1 The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is normal			
BRAKE SW 2	The brake pedal is not depressed	Off		
SKAKE SW Z	The brake pedal is depressed	On		
DETE/CANCL SW	Selector lever in P position	Off		
DETE/CAINCL SW	Selector lever in any position other than P	On		
SFT PN/N SW	Selector lever in any position other than P and N	Off		
OLI FIN/IN OVV	Selector lever in P or N position	On		
S/L -LOCK	NOTE: The item is indicated, but not monitored.	Off		
S/L -UNLOCK	NOTE: The item is indicated, but not monitored.	Off		
S/L RELAY-F/B	NOTE: The item is indicated, but not monitored.	Off		
INI K CEN DD	Driver door is unlocked	Off		
UNLK SEN -DR	Driver door is locked	On		
	Push-button ignition switch (push-switch) is not pressed	Off		
PUSH SW -IPDM	Push-button ignition switch (push-switch) is pressed	On		
CN DI V1 -E/D	Ignition switch in OFF or ACC position	Off		
GN RLY1 -F/B	Ignition switch in ON position	On		
DETE OW IDDM	Selector lever in any position other than P	Off		
DETE SW -IPDM	Selector lever in P position	On		
OFT DAL IDDM	Selector lever in any position other than P and N	Off		
SFT PN -IPDM	Selector lever in P or N position	On		

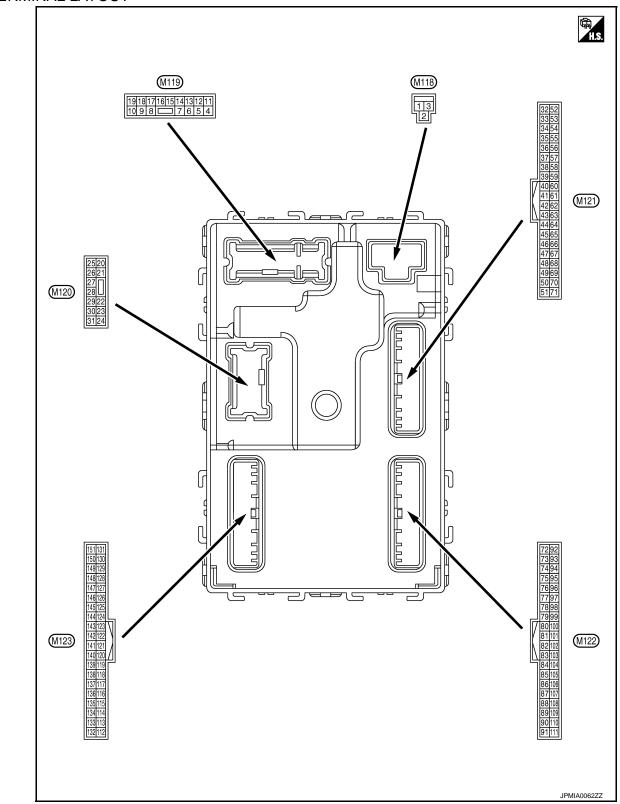
### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
SFT P -MET	Selector lever in any position other than P	Off
SELE-MET	Selector lever in P position	On
SFT N -MET	Selector lever in any position other than N	Off
SFI IN -IVIET	Selector lever in N position	On
	Engine stopped	Stop
ENCINE STATE	While the engine stalls	Stall
ENGINE STATE	At engine cranking	Crank
	Engine running	Run
S/L LOCK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L UNLK-IPDM	NOTE: The item is indicated, but not monitored.	Off
S/L RELAY-REQ	NOTE: The item is indicated, but not monitored.	Off
VEH SPEED 1	While driving	Equivalent to speed- ometer reading
VEH SPEED 2	While driving	Equivalent to speed- ometer reading
	Driver door is locked	LOCK
DOOR STAT-DR	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door is unlocked	UNLOCK
	Passenger door is locked	LOCK
DOOR STAT-AS	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door is unlocked	UNLOCK
ID OK FLAG	Driver side door is open after ignition switch is turned OFF (Shift position is in the P position)	Reset
	Ignition switch ON	Set
DDMT ENG CTDT	The engine start is prohibited	Reset
PRMT ENG STRT	The engine start is permitted	Set
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset
KEN OM OLOT	The key is not inserted into key slot	Off
KEY SW -SLOT	The key is inserted into key slot	On
RKE OPE COUN1	During the operation of the key	Operation frequency of the key
RKE OPE COUN2	NOTE: The item is indicated, but not monitored.	_
CONFRM ID ALL	The key ID that the key slot receives does not accord with any key ID registered to BCM.	Yet
OOM NWID ALL	The key ID that the key slot receives accords with any key ID registered to BCM.	Done
CONFIRM ID4	The key ID that the key slot receives does not accord with the fourth key ID registered to BCM.	Yet
	The key ID that the key slot receives accords with the fourth key ID registered to BCM.	Done
CONFIRM ID3	The key ID that the key slot receives does not accord with the third key ID registered to BCM.	Yet
COM IMWI IDS	The key ID that the key slot receives accords with the third key ID registered to BCM.	Done

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Monitor Item	Condition	Value/Status
CONFIRM ID2	The key ID that the key slot receives does not accord with the second key ID registered to BCM.	Yet
CONFIRM ID2	The key ID that the key slot receives accords with the second key ID registered to BCM.	Done
CONFIRM ID1	The key ID that the key slot receives does not accord with the first key ID registered to BCM.	Yet
CONFIRMIDI	The key ID that the key slot receives accords with the first key ID registered to BCM.	Done
TD 4	The ID of fourth key is not registered to BCM	Yet
TP 4	The ID of fourth key is registered to BCM	Done
TD 0	The ID of third key is not registered to BCM	Yet
TP 3	The ID of third key is registered to BCM	Done
TD o	The ID of second key is not registered to BCM	Yet
TP 2	The ID of second key is registered to BCM	Done
TD 4	The ID of first key is not registered to BCM	Yet
TP 1	The ID of first key is registered to BCM	Done
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
ID REGST PLT	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 REGST KKT	ID of rear RH tire transmitter is not registered	Yet
ID DECCT DI 1	ID of rear LH tire transmitter is registered	Done
ID REGST RL1	ID of rear LH tire transmitter is not registered	Yet
WARNING LAMP	Tire pressure indicator OFF	Off
WARNING LAWP	Tire pressure indicator ON	On
DUZZED	Tire pressure warning alarm is not sounding	Off
BUZZER	Tire pressure warning alarm is sounding	On

### TERMINAL LAYOUT



PHYSICAL VALUES

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	inal No.	Description				Value
+ (VVire	e color)	Signal name	Input/ Output	Condition		(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
2 (W)	Ground	P/W power supply (BAT)	Output	Ignition switch OF	F	Battery voltage
3 (Y)	Ground	P/W power supply (RAP)	Output	Ignition switch ON	1	Battery voltage
4		Intorior room lown			battery saver is activated.	0 V
4 (LG)	Ground	Interior room lamp power supply	Output	ed.	battery saver is not activator room lamp power supply)	Battery voltage
5	Ground	Passenger door UN-	Output	Passenger door	UNLOCK (Actuator is activated)	Battery voltage
(L)	Ground	LOCK	Output	rassenger door	Other than UNLOCK (Actuator is not activated)	0 V
7	Ground	Step lamp	Output	Step lamp	ON	0 V
(Y)	Ground	эсер іапір	Output	Step lamp	OFF	Battery voltage
8	8 (V) Ground All doors, fuel lid LOCK	Output	put All doors	LOCK (Actuator is activated)	Battery voltage	
(V)				Other than LOCK (Actuator is not activated)	0 V	
9	Ground	Driver door, fuel lid	Output	Output Driver door	UNLOCK (Actuator is activated)	Battery voltage
(G)	Ground	UNLOCK	Output	Dilver door	Other than UNLOCK (Actuator is not activated)	0 V
10	Ground	Rear RH door and rear LH door UN-	Output	Rear RH door	UNLOCK (Actuator is activated)	Battery voltage
(BR)	Ground	LOCK	Output	and rear LH door	Other than UNLOCK (Actuator is not activated)	0 V
11 (R)	Ground	Battery power supply	Input	Ignition switch OF	F	Battery voltage
13 (B)	Ground	Ground	_	Ignition switch ON	l	0 V
					OFF	0 V
		Push-button ignition				NOTE: When the illumination brightening/dimming level is in the neutral position
14 (W)	Ground	switch illumination ground	Output	Tail lamp	ON	(V) 10 0 2 ms JSNIA0010GB
15	Ground	ACC indicator lamp	Output	Ignition switch	OFF or ON	Battery voltage
(Y)	Ground	7.00 mulcator lamp	Output	igilition switch	ACC	0 V

Terminal No. (Wire color)		Description				Value
(Wire	e color) –	Signal name	Input/ Output		Condition	(Approx.)
					Turn signal switch OFF	0 V
17 (W)	Ground	Turn signal RH (Front)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 1 s
					Turn signal switch OFF	6.5 V 0 V
18 (BG)	Ground	Turn signal LH (Front)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 PKID0926E 6.5 V
19	Ground	Room lamp timer	Output	Interior room	OFF	Battery voltage
(V)		control	•	lamp	ON Turn signal switch OFF	0 V 0 V
20 (V)	Ground	Turn signal RH (Rear)	Output	Ignition switch ON	Turn signal switch RH	(V) 15 10 5 0 1 s PKID0926E 6.5 V
23					OPEN (Back door opener actuator is activated)	Battery voltage
(G)	Ground	Back door open	Output	out Back door	Other than OPEN (Back door opener actuator is not activated)	0 V
					Turn signal switch OFF	0 V
25 (G)	Ground	Turn signal LH (Rear)	Output	Ignition switch ON	Turn signal switch LH	(V) 15 10 5 0 1 s PKID0926E
26					OFF (Stopped)	6.5 V 0 V
	Ground	Rear wiper	Output	Rear wiper	ON (Operated)	Battery voltage

	inal No. e color)	Description			Condition	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
34		Luggage room anten-		lanition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(SB)	Ground	na (–)	Output	Ignition switch OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB
35	Ground	Luggage room anten-	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 1 s JMKIA0062GB
(V)	Clound	na (+)	Сири	t Ignition switch OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB
38	Ground	Back door antenna (-	Quitout	When the back door opener re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(B)	Ground		Output	door opener request switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB

	inal No.	Description				Value	Λ
(Wire	e color) –	Signal name	Input/ Output		Condition	(Approx.)	Α
39		Back door antenna		When the back door opener re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	B C D
(W)	Ground	(+)	Output	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB	E
47		Ignition relay (IPDM			OFF or ACC	Battery voltage	G
(Y)	Ground	E/R) control	Output	Ignition switch	ON	0 V	
52	01	On the state of the	0 1 1	Ignition switch	When selector lever is in P or N position	Battery voltage	Н
(SB)	Ground	Starter relay control	Output	ŎN	When selector lever is not in P or N position	0 V	
60		Push-button ignition		Push-button igni-	Pressed	0 V	I
(BR)	Ground	switch (Push switch)	Input	tion switch (push switch)	Not pressed	Battery voltage	
					ON (Pressed)	0 V	J
61 (W)	Ground	Back door opener request switch	Input	Back door opener request switch	OFF (Not pressed)	(V) 15 10 5 10 ms  JPMIA0016GB	WW
						1.0 V	M
64	Ground	Intelligent Key warn- ing buzzer (Engine	Output	Intelligent Key warning buzzer	Sounding	0 V	1 V I
(V)	Giound	room)	Output	(Engine room)	Not sounding	Battery voltage	N.I
65 (BG)	Ground	Rear wiper stop position	Input	Rear wiper	In stop position	(V) 15 10 5 0 10 ms JPMIA0016GB	N O
						1.0 V	
					Not in stop position	0 V	

	inal No.	Description				Value
(Wire	e color)	Signal name	Input/ Output	Condition		(Approx.)
66 (R)	Ground	Back door switch	Input	Back door switch	OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB
					ON (Door open)	0 V
					Pressed	0 V
67 (GR)	Ground	Back door opener switch	Input	Back door opener switch	Not pressed	(V) 15 10 5 0 10 ms 10 ms JPMIA0011GB
68 (BR)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB
					ON (Door open)	0 V
69 (R)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (Door close)	(V) 15 10 5 0 10 ms JPMIA0011GB
					ON (Door open)	0 V

	ninal No. e color)	Description	Г		One distant	Value	А					
+	- COIOT)	Signal name	Input/ Output		Condition	(Approx.)						
74	Crown	Passenger door an-	Outout	When the passenger door re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA0062GB	С					
(SB)	Ground	tenna (-)	Output	quest switch is operated with ig- nition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0063GB	E					
75	Crown	Passenger door an-	Outout	When the passenger door re-	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 JMKIA0062GB	G H					
(GR)	Ground	tenna (+)	Output	Output	Output	Cuipui			quest switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 1	J K
76		Driver door antenna		When the driver door request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB	M					
(V)	Ground	(-)	Output	switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB	O					

	inal No. e color)	Description	T		Condition	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
77		Driver door antenna		When the driver door request	When Intelligent Key is in the antenna detection area	(V) 15 10 5 0 1 s JMKIA0062GB
(LG)	Ground	(+)	Output	switch is operated with ignition switch OFF	When Intelligent Key is not in the antenna detection area	(V) 15 10 5 0 JMKIA0063GB
78	Ground	Room antenna 1 (–)	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 JMKIA0062GB
(Y)	Ground	(Instrument panel)	Japan	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB
79	Ground	Room antenna 1 (+)	Output	Ignition switch	When Intelligent Key is in the passenger compartment	(V) 15 10 5 0 JMKIA0062GB
(BR)	Ciounu	(Instrument panel)	Cutput	OFF	When Intelligent Key is not in the passenger compartment	(V) 15 10 5 0 JMKIA0063GB

### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value
+	e color)	Signal name	Input/ Output		Condition	(Approx.)
80 (GR)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
81 (W)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
82	Ground	Ignition relay [Fuse	Output	Ignition switch	OFF or ACC	0 V
(R)	Ground	block (J/B)] control	Output	ignition switch	ON	Battery voltage
83	Ground	Remote keyless entry receiver communica-	Input/	During waiting		(V) 15 10 5 0 1 ms JMKIA0064GB
(Y)	Clound	tion	Output	When operating e	either button on the key	(V) 15 10 5 0 1 ms JMKIA0065GB

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	inal No.	Description				Value
+ (Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
			Input		All switches OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V
87 (BR)	Ground	Combination switch INPUT 5		Combination	Front fog lamp switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB
(BR)				switch	Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V
					Any of the conditions below with all switches OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper intermittent dial 6  • Wiper intermittent dial 7	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V

Terminal No. Description (Wire color)					Value	А	
+	e color)	Signal name	Input/ Output		Condition	(Approx.)	1
					All switches OFF (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V	(
88 (V) Ground				Combination Lighting switch 2ND	Lighting switch HI (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3 V	
	Ground	Combination switch Inpu	Input		Lighting switch 2ND (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V	(
					Rear washer switch ON (Wiper intermittent dial 4)	(V) 15 10 2 ms JPMIA0039GB 1.3 V	V
					Any of the conditions below with all switches OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper intermittent dial 3	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V	
90 (P)	Ground	CAN-L	Input/ Output	_		_	
91 (L)	Ground	CAN-H	Input/ Output	_		_	

	inal No.	Description				Value
+ (Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
					OFF	Battery voltage
92 (LG)	Ground	Key slot illumination	Output	Key slot illumina- tion	Blinking	(V) 15 10 5 0 1 s JPMIA0015GB 6.5 V
					ON	0 V
93	01	ONL'S Productions	0 1 1	1	OFF or ACC	Battery voltage
(V)	Ground	ON indicator lamp	Output	Ignition switch	ON	0 V
94	0	Decidalla la construct	0	Decidally laws	OFF	Battery voltage
(Y)	Ground	Puddle lamp control	Output	Puddle lamp	ON	0 V
95	Cround	ACC rolay control	Output	Ignition switch	OFF	0 V
(BG)	Ground	ACC relay control	Output	ignition switch	ACC or ON	Battery voltage
96 (GR)	Ground	A/T shift selector (Detention switch) power supply	Output	_		Battery voltage
99	Ground	Selector lever P posi-	Innut	Input Selector lever	P position	0 V
(R)	Ground	tion switch	IIIput	Selector level	Any position other than P	Battery voltage
					ON (Pressed)	0 V
100 (G)	Ground	Passenger door request switch	Input	Passenger door request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms JPMIA0016GB 1.0 V
					ON (Pressed)	0 V
101 (SB)	Ground	Driver door request switch	Input	Driver door request switch	OFF (Not pressed)	(V) 15 10 5 0 10 ms  JPMIA0016GB 1.0 V
102	Ground	Blower fan motor re-	Output	Ignition switch	OFF or ACC	0 V
(BG)	Ground	lay control	Output	Igililon switch	ON	Battery voltage
103 (LG)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OF	F	Battery voltage

### < ECU DIAGNOSIS INFORMATION >

Revision: 2013 December

Terminal No. (Wire color) Description				Value	А		
+	e color) _	Signal name	Input/ Output		Condition	(Approx.)	/
					All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V	B C
					Turn signal switch LH	(V) 15 10 5 0 2 ms JPMIA0037GB	E
107 (LG) Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermittent dial 4)	Turn signal switch RH	(V) 15 10 5 0 2 ms JPMIA0036GB 1.3 V	G H	
					Front wiper switch LO	(V) 15 10 5 0 2 ms JPMIA0038GB	J K
					Front washer switch ON	(V) 15 10 5 0 2 ms	N N
						1.3 V	

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	inal No. e color)	Description	1			Value			
+	e color)	Signal name	Input/ Output		Condition	(Approx.)			
					All switches OFF (Wiper intermittent dial 4)	(V) 15 10 5 2 ms JPMIA0041GB 1.4 V			
			Input		Lighting switch AUTO (Wiper intermittent dial 4)	(V) 15 10 0 2 ms JPMIA0038GB 1.3 V			
108 (R)	Ground	Combination switch INPUT 4		Combination switch	Lighting switch 1ST (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0036GB			
								Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10 5 0 2 ms JPMIA0040GB
					Any of the conditions below with all switches OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 5  • Wiper intermittent dial 6	(V) 15 10 5 0 2 ms JPMIA0039GB 1.3 V			

	inal No.	Description				Value	Λ
(Wir	e color)	Signal name	Input/ Output		Condition	(Approx.)	Α
					All switches OFF	(V) 15 10 5 0 2 ms JPMIA0041GB 1.4 V	B C
					Lighting switch PASS	(V) 15 10 5 0 2 ms JPMIA0037GB 1.3 V	E F
109 (Y)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermittent dial 4)	Lighting switch 2ND	(V) 15 10 2 ms JPMIA0036GB 1.3 V	Н
					Front wiper switch INT	(V) 15 10 5 0 2 ms JPMIA0038GB	J K
					Front wiper switch HI	(V) 15 10 5 0 2 ms JPMIA0040GB 1.3 V	M
					ON	0 V	0
110 (G)	Ground	Hazard switch	Input	Hazard switch	OFF	(V) 15 10 5 10 ms JPMIA0012GB 1.1 V	Ρ

	inal No.	Description				
(Wire	e color)	Signal name	Input/ Output		Condition	Value (Approx.)
113	Ground	Optical sensor	Input	Ignition switch	When bright outside of the vehicle	Close to 5 V
(P)	Ground	Optical serisor	Input	ON	When dark outside of the vehicle	Close to 0 V
116 (SB)	Ground	Stop lamp switch 1	Input	_		Battery voltage
		Stop lamp switch 2		Stop lamp switch	OFF (Brake pedal is not depressed)	0 V
118		(Without ICC)	Input	Otop ramp ownor	ON (Brake pedal is depressed)	Battery voltage
(P)	Cround	Stop lamp switch 2	mput		OFF (Brake pedal is not de- brake hold relay OFF	0 V
		(With ICC)			ON (Brake pedal is de- rake hold relay ON	Battery voltage
119 (SB)	Ground	Front door lock as- and sembly driver side (Unlock sensor)	Input	Input Driver door	LOCK status (Unlock sensor switch OFF)	(V) 15 10 5 0 10 ms JPMIA0012GB
					UNLOCK status (Unlock switch sensor ON)	0 V
121 (BR)	Ground	Key slot switch	Input		nserted into key slot ot inserted into key slot	Battery voltage 0 V
123	Ground	IGN feedback	Input	Ignition switch	OFF or ACC	0 V
(W)	Orodria	TOTATECUDUCK	mput	ignition switch	ON	Battery voltage
124 (LG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (Door close)	(V) 15 10 5 0 JPMIA0011GB 11.8 V
					ON (Door open)	0 V
132 (BR)	Ground	Power window switch communication	Input/ Output	Ignition switch ON		(V) 15 10 5 0 10 ms
				Laudata v. W. L. C.T.	F 400	10.2 V
				Ignition switch OF	F or ACC	Battery voltage

	inal No.	Description				Value
(Wir	e color)	Signal name	Input/ Output		Condition	(Approx.)
					ON (Tail lamps OFF)	9.5 V
133 (W)	Ground	Push-button ignition switch illumination	Output	Push-button ignition switch illumination	ON (Tail lamps ON)	NOTE: The pulse width of this wave is varied by the illumination brightening/dimming level.  (V) 15 10 5 U JPMIA0159GB
					OFF	0 V
134	Ground	LOCK indicator lamp	Output	LOCK indicator	OFF	Battery voltage
(GR)			'	lamp	ON	0 V
137 (BG)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V
138	Ground	Receiver and sensor	( )LITOLIT	Ignition switch	OFF	0 V
(Y)	Orouna	power supply	Carpar	igiliaen ewiten	ACC or ON	5.0 V
139 (L)	Ground	Tire pressure receiver communication	Input/ Output	Ignition switch ON	Standby state	(V) 6 4 2 0 ••• 0.2s OCC3881D
(L) Ground				When receiving the signal from the transmitter	(V) 6 4 2 0 ••• 0.2s OCC3880D	
140	Ground	Selector lever P/N	Input	Selector lever	P or N position	Battery voltage
(GR)		position			Except P and N positions	0 V
					ON	0 V
141 (G)	Ground	Security indicator	Output	Security indicator	Blinking	(V) 15 10 5 0 1 s JPMIA0014GB
					0	11.3 V
					OFF	Battery voltage

	inal No.	Description				Value
+ (Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
					All switches OFF	0 V
					Lighting switch 1ST	
				Combination	Lighting switch HI	(V) 15
142	Ground	Combination switch	Output	switch	Lighting switch 2ND	10
(BG)	Ground	OUTPUT 5	Output	(Wiper intermit- tent dial 4)	Turn signal switch RH	2 ms JPMIA0031GB
					All switches OFF (Wiper intermittent dial 4)	0 V
					Front wiper switch HI (Wiper intermittent dial 4)	
143 (P) Gro	Ground	Combination switch OUTPUT 1	Output	Combination switch	Rear wiper switch INT (Wiper intermittent dial 4)	(V) 15 10
	Ground		Output		Any of the conditions below with all switches OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 2  • Wiper intermittent dial 3  • Wiper intermittent dial 6  • Wiper intermittent dial 7	5 0 JPMIA0032GB 10.7 V
		. Combination switch		Combination	All switches OFF (Wiper intermittent dial 4)	0 V
					Front washer switch ON (Wiper intermittent dial 4)	
144					Rear wiper switch ON (Wiper intermittent dial 4)	(V) 15 10
(G)	Ground	OUTPUT 2	Output	switch	Rear washer switch ON (Wiper intermittent dial 4)	5 0
					Any of the conditions below with all switches OFF  • Wiper intermittent dial 1  • Wiper intermittent dial 5  • Wiper intermittent dial 6	2 ms JPMIA0033GB
					All switches OFF	0 V
					Front wiper switch INT	(1.1)
				Combination	Front wiper switch LO	(V) 15
145 (L)	Ground	Ground Combination switch OUTPUT 3 Output	switch (Wiper intermit- tent dial 4)	Lighting switch AUTO	10 5 0 2 ms JPMIA0034GB 10.7 V	

### < ECU DIAGNOSIS INFORMATION >

	inal No.	Description				Value	Δ
(Wir	e color)	Signal name	Input/ Output		Condition	(Approx.)	
					All switches OFF	0 V	
					Front fog lamp switch ON		E
				Combination	Lighting switch 2ND	(V)	
146 Ground	Combination switch	Output	switch	Lighting switch PASS	10	(	
(SB)	Ground	OUTPUT 4	Output	(Wiper intermit- tent dial 4)	Turn signal switch LH	0	
		round Driver door switch	ver door switch Input	put Driver door switch		(V) 15 10	E
150 (LG)	Ground				OFF (Door close)	0	F
						JPMIA0011GB 11.8 V	(
					ON (Door open)	0 V	
151	0	Rear window defog-	0	Rear window de-	Active	0 V	-
(G)	Ground	ger relay control	Output	fogger	Not activated	Battery voltage	

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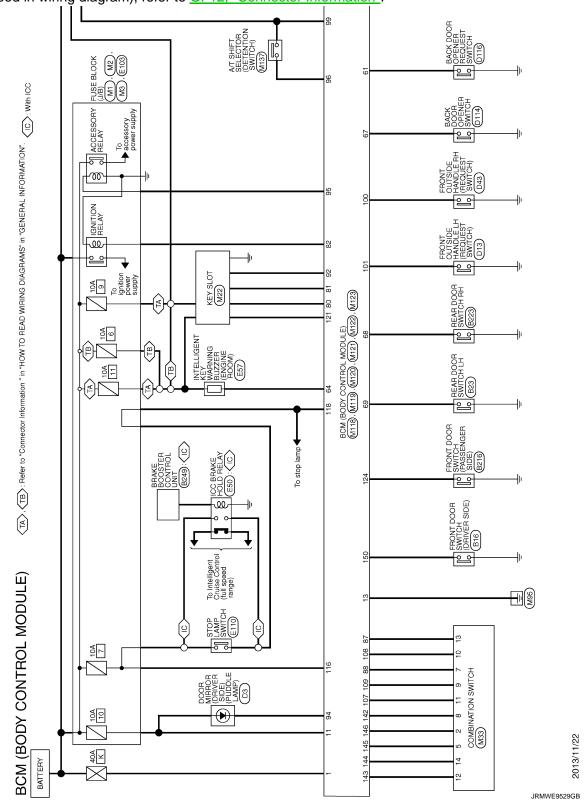
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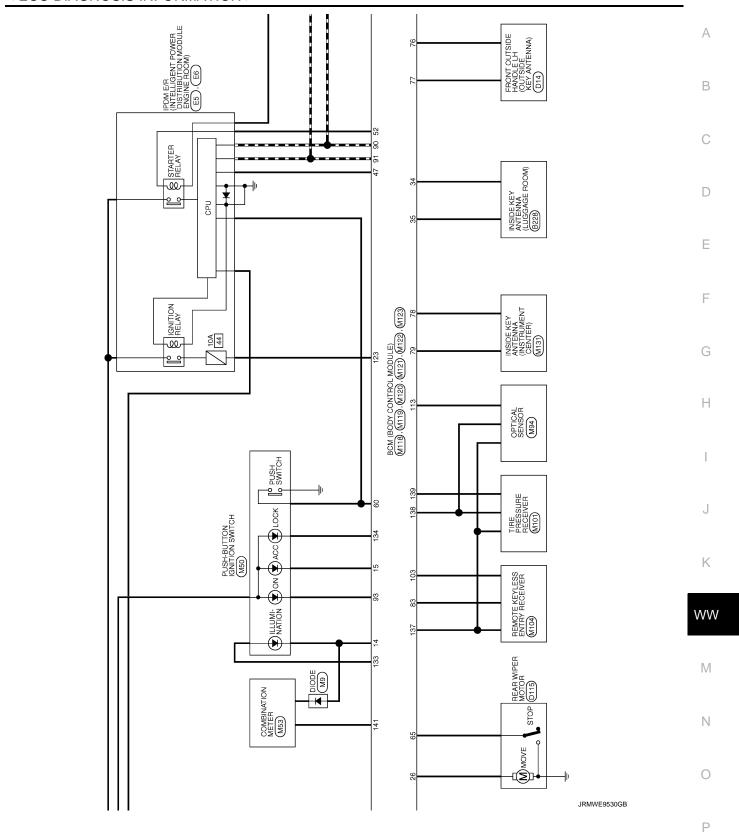
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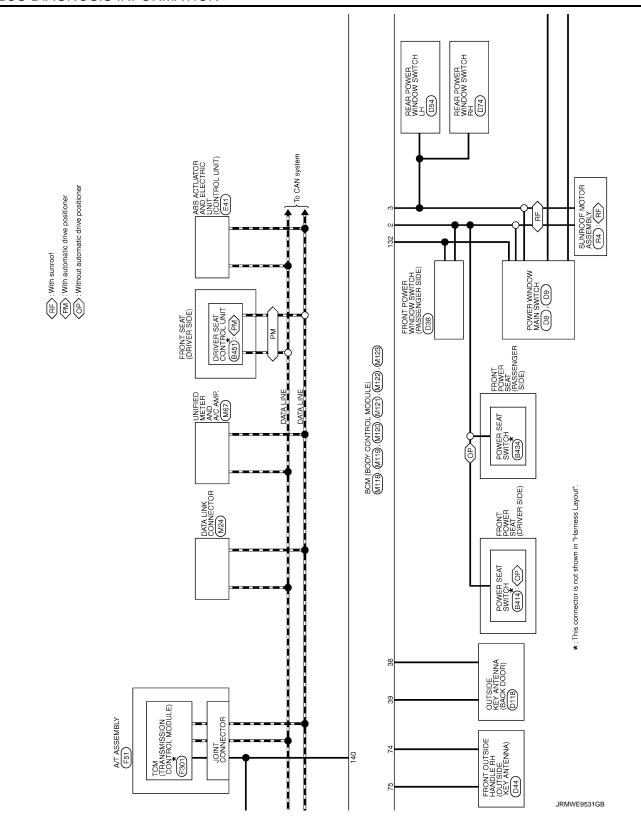
### Wiring Diagram - BCM -

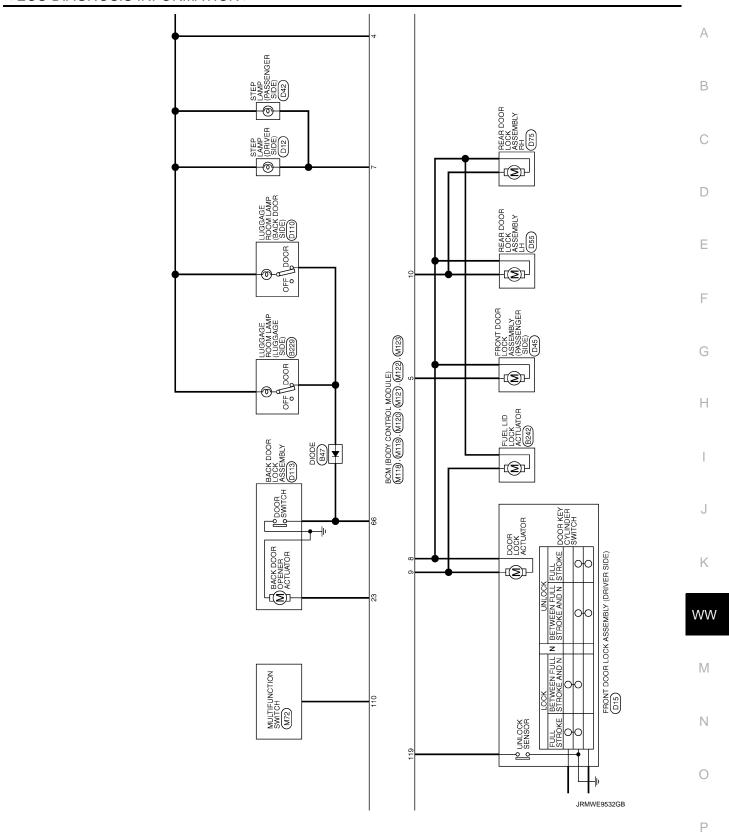
INFOID:0000000008772594

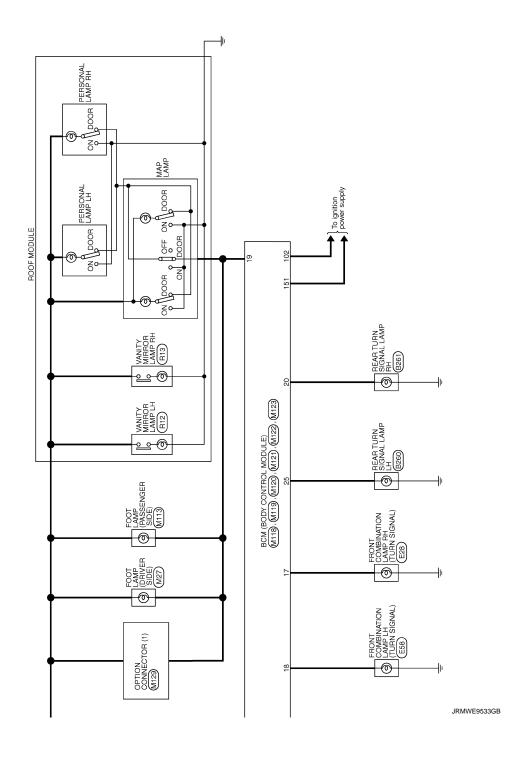
For connector terminal arrangements, harness layouts, and alphabets in a (option abbreviation; if not described in wiring diagram), refer to GI-12, "Connector Information".











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## < ECU DIAGNOSIS INFORMATION >

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POR School Liver Signal Liver S		В
E242  FUEL LID LOCK ACTUATOR  MOHEWALC  E246  E246  ERAKE BOOSTER CONTROL UNIT  TICAHEGY  Signal Name (Specification)  IGNATION  GROUND  GROUN		С
Cornector Name   F		D
Softcation  Softcation		Е
Signal Name [Specification]  Signal Name [Specification]  Signal Name [Specification]  Signal Name [Specification]		F
Cornector No. RECORD RE		G H
ification]		1
Signal Name [Specification] FRENT DOOR SWITCH PASSENGER SIDE] Signal Name [Specification] Signal Name [Specification]		J
Terminal Color Of No. Wire No. Wire No. Wire No. Wire No. Wire Corrector No. Wire No		K
		WW
Signal Name (Specification)		M
BCM (BODY CONTROL MODULE)  Corrector Name FRONT DOOR SWITCH (DRIVER SIDE)  Corrector Type Au35FW  Corrector Name REAR DOOR SWITCH LH Corrector Name REAR DOOR Corrector Type Au355 C59900  TALL TALL TALL TALL TALL TALL TALL T		Ν
	IDNANTOTICOD	0
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BCM (BODY CONTROL MODULE)						
Connector No. B260	Connector No. B414	Connector No.	B451	Connector No.	D3	
Connector Name REAR TURN SIGNAL LAMP LH	Connector Name POWER SEAT SWITCH	Connector Name	DRIVER SEAT CONTROL UNIT	Connector Name	ne DOOR MIRROR (DRIVER SIDE)	
Connector Type HS02FG-W	Connector Type NS10FW-CS	Connector Type TH32FW	TH32FW	Connector Typ	Connector Type TH24MW-NH	
母	医	匮		Œ		
HS.	H.S.	H.S.		H.S.		
	4 3 6 5 109		1 3 9 10 11 12 13 14 16 16 17 17 17 17 18 14 16 16 17 18 14 18 18 18 18 18 18 18 18 18 18 18 18 18		12     11     10     7     6     5     3     2       24     23     22     21     19     18     17     14	
Terminal Color Of Signal Name [Specification] No. Wire	Terminal Color Of Signal Name [Specification] No. Wire	Terminal Color Of No. Wire	Signal Name [Specification]	Terminal Color Of No. Wire	r Of Signal Name [Specification] re	
Н	- R	1 L/W	XX.	2 0		
2 B -	+	+	CANH	+	B SIDE CAMERA LH COMM	
		+	PULSE (RECLINING)	+	+	
Company No.	4 P	10 P/B	PULSE (RR LIFTING)	9 1	R SIDE CAMERA LH POWER SUPPLY	
1020	+	+	RECLINING SW (BACKWARD)	10		
Connector Name   REAR TURN SIGNAL LAMP RH	F	F	Œ	$\vdash$		
Connector Type HS02FG-W	- 1 8	14 G/B	REAR LIFTING SW (DOWNWARD)	12		
ſ	9 L/R	16 0	NCC	14 L	- PT	
	10 G/W	17 Y/R	ΤX	17 (	G SIDE CAMERA LH IMAGE GND	
		19 ^	CAN-L	18 V	W SIDE CAMERA LH GND	
	- [	21 L/Y	P RANGE SW	19	В .	
	Connector No. B434	+	PULSE (SLIDING)	+	GR -	
)	Connector Name POWER SEAT SWITCH	25 Y/B	PULSE (FR LIFTING )	+	BR .	
	Т	+	SLIDING SW (FORWARD)	+		
	Connector Type NS10FW-CS	+	RECLINING SW (FORWARD)	24		
ē	1	+	FRONT LIFTING SW (UPWARD)			
	(Hrh)	+	REAR LIFTING SW (UPWARD)		Γ	
+		+	SENSOR GND	Connector No.	D8	
2 B -	7 8 1 2	32 B/W	GND (SIGNAL)	Connector Na	Connector Name POWER WINDOW MAIN SWITCH	
	6 5 9 10 3 4			Connector Tyr	Connector Type NS16FW-CS	
				ą		
				事		
	Ferminal Color Of Signal Name [Specification]			H.S.	1 2 3 4 5 6 7	
	t				2000	
	2 B				IO III III II	
	3 G/Y					
	- 4					
	5 P			Z Z	r Of Signal Nama (Sacottical)	
	- M 9			No.		
	$\dashv$			+		
				+	BR	
	+			+	GR	
	10 G/W			4		

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Column   C		/ (
Control Manual Laboration	ER SIDE)  edification]  edification	В
Control Manual Laboration	Signal Name (Sp. Signal	С
SEAM (RECONY CONTROL MODULE)	Corrector Name  Terminal Color Of  Ordector Name  Terminal Color Of  No. Wire  Terminal Color Of  Terminal Color	D
SCAM (BODY CONTROL MODULE   19   19   19   19   19   19   19   1	CIDENTERS SIDE)	E
SCAM (BODY CONTROL MODULE   19   19   19   19   19   19   19   1	Signal Name   Spor	F
Second (BODY CONTROL MODULE)   Second (BODY CONTROL MODULE)	Marcher No.   O15	
BCM (BODY CONTROL MODULE)		Н
BCM (BODY CONTROL MODULE)	And te LH (PE OLEST Swift)  LE LH (CUTS DE KEY ANTERNA)  LE LH (CUTS DE KEY ANTERNA)	I
Second   BCDY CONTROL MODULE	PROOFILE	J
	Corrector Na Corrector Na Corrector Tight No. W. M.	К
	SWITCH SWITCH BEFORE SECTION S	WW
	Signal Name (Sperior Signal Na	М
0	S	N
		0
JRMWE9718GB		JRMWE9718GB

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BCM (BODY CONTROL MODULE)				
Connector No. D44	Connector No. D54	Connector No. D74		Connector No. D110
Connector Name FRONT OUTSIDE HANDLE RH (OUTSIDE KEY ANTENNA)	Connector Name REAR POWER WINDOW SWITCH LH	Connector Name REA	REAR POWER WINDOW SWITCH RH	Connector Name LUGGAGE ROOM LAMP (BACK DOOR SIDE)
Connector Type RK02MGY	Connector Type NS08FW-CS	Connector Type NS0	NS08FW-CS	Connector Type TK03FW
✓ ●	香	修		髩
HS.	H.S.	H.S.		HS.
	23451		23451	21
Terminal Color Of Signal Name [Specification]	Terminal Color Of Signal Name [Specification]	Terminal Color Of	Signal Name [Specification]	Terminal Color Of Signal Name (Specification)
+	۰	۰		۲
2 V -	2 V -	2 V		2 P .
	3 G	3	1	
- 1	+	+		- 1
Connector No. D45	+	2 0		Connector No. D113
Connector Name FRONT DOOR LOCK ASSEMBLY (PASSENSER SIDE)		9		Connector Name BACK DOOR LOCK ASSEMBLY
Connector Type E06FGY-RS				Connector Type NS04FW-CS
¢	Connector No. D55	Connector No. D75		ď.
	Connector Name REAR DOOR LOCK ASSEMBLY LH	Connector Name REA	REAR DOOR LOCK ASSEMBLY RH	
HS.	Connector Type E06FGY-RS	Connector Type E06	E06FGY-RS	
	•	Œ.		4 3 2 1
	E.S.	H.S.	<b>D</b>	
=	(1 2       5 6)		(5 6    2 1)	<u>a</u>
Wire				. Wire
2 LG -				+
	l erminal Color Uf No. Wire Signal Name [Specification]	No. Wire	Signal Name [Specification]	3 V 4 B
		1 G	1	
	+	+	-	
	+	+		
	- 9	9	-	

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## < ECU DIAGNOSIS INFORMATION >

Corrector No. E28  Corrector Type RSOGFB-PR  H.S.  E28  E28  E28  E28  E28  E38  E38  E38	Terminal Cook Of   Signal Name   Specification   No.   Wire   Signal Name   Specification   Specif	
Corrector No. ES Corrector Name Park Referencement Province corrector Type Theoretor T	Terminal Color Of   Signal Name   Specification   No.   No	
Convector No. 0116 Convector Name BACK DOOR OPENER REQUEST Convector Type Tracomistr-P	Terminal Color OI Signal Name (Specification)  1 W W Corrector No. D118 Corrector Name OUTSIDE KEY ANTENNA (BACK DOOR) Corrector Type RK02FGY No. Wire Signal Name (Specification) 1 BR 2 R	
BCM (BODY CONTROL MODULE) Corrector No. B114 Corrector Type Trazamer-P  Corrector Type Trazamer-P  H.S.	Terminal Color Of Nurse Signal Name (Specification)  No. Wire B. Corrector No. D115  Corrector Name REAR WIPER MOTOR  Corrector Type CJ04FW-1V  No. Wire Signal Name (Specification)  1	
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Connector No. F301	Connector Name TCM (TRANSMISSION CONTROL MODULE)	Connector Type SP10FG	<b>*</b>	this.	The second secon			Terminal Color Of Signal Name [Specification]		2 - POWER SUPPLY (MEMORY BACK-UP)	ŀ	4 - K LINE		6 - POWER SUPPLY	- BACK-U		· STA	10 - GROUND		Connector No. M1	Connector Name FUSE BLOCK (J/B)	Connector Type NS06FW-M2	1	唐	3A	A 72 68 54 42	SA CO TO TO	]		Terminal Color Of Signal Name [Specification]	NO. WIFE	+	H	4A P - [For push button]	4A R - [For key slot]	Н	+	7A R	8A L
Connector No. E110	Connector Name STOP LAMP SWITCH	Connector Type M04FW-LC	<b>1</b>	Ahita	3.4	1 2		la O	NO. VVIIE	2 2	┝	4 SB -			Connector No. F51	Connector Name A/T ASSEMBLY		Connector Type RK10FG-DGY	<b>▼</b>		5 4 3 2 1	100 8 7 8		Tominal Of	No. Wire Signal Name [Specification]	1 Y POWER SUPPLY	2 BR POWER SUPPLY (MEMORY BACK-UP)	3 O CAN-H	> -	œ ;	7 P POWER SUPPLY	2 57	GR STAF	В					
Connector No. E58	Connector Name FRONT COMBINATION LAMP LH	Connector Type RS08FB-PR	₫.	THE PARTY OF THE P		(5 6 7 8) (5 6 7 8)	)	E C	NO. WITE	+	┝	- 2	$\dashv$	-	8 BG -		1	Connector No. E103	Connector Name FUSE BLOCK (J/B)	Connector Type NS16FW-CS	₫.	Atto	S. 1	55			Z Z	Wire	-	+	- 14 - 20	╁	9F	ł					
M (BODY CONTI	26 LG DP FL 27 GR DS RL	9	29 LG DS.RR	R VI	C	45 B BUS-H	Connector No E50	g.	Commonder Tune MOSEOV D 115	Collector type Importor - N-US		2 1	6 7 3	٦.	4			e e		2 B -	д 8	200 d	Н		Connector No.   E57	L		Connector Type RK03FBR	4	体的	<b>≪</b>	₹ -				al (	No. Wire	· · ·	3 \

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## < ECU DIAGNOSIS INFORMATION >

Corrector No. M33  Corrector Name COMBINATION SWITCH  Corrector Type TH16FW.Net  1 2 3 4 5 6  7 8 9 10 11 12 13 14	Terminal Color Of No.   Signal Name (Specification)     No.   No.     2   SSB	
Corrector No. M/24  Corrector Name DATA LINK CONFECTOR  Corrector Type BD16FW  H.S.	Terminal Color Of   Signal Name   Specification   No.   Name   Secretary   Signal Name   Specification   No.   N	
Corrector No. M9 Corrector Name DIODE Corrector Type 24335, C9900 H.S.	Terminal Color Of   Signal Name   Specification	
BCM (BODY CONTROL MODULE) Corrector None FUSE BLOCK (J/B) Corrector Type NST0FW-CS  AS A SHEET S	Terminal Color Of   Signal Name   Specification   Signal Name   Signal N	

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≍┌┌	BCM (BODY CONTROL MODULE)  7	Connector No.	Connector No.		Connector No.	Corrector No. M72  Corrector Name MULTIFUNCTION SWITCH	
Connector No. M53 Connector Name COMBINATION METER	4 METER	Connector Type	r Type	TH32FW-NH	Connector Type	TH16FW-NH	Connector Type TK04FW
Connector Type TH40FW-NH		S E		41   42   42   42   42   42   42   42	H.S.	4 6 8 8 9 9 14 16	H3.
1 2 3 5 6	7	Terminal No. 41	Color Of Wire V	Signal Name [Specification] ACC POWER SUPPLY	Terminal Color Of No. Wire	Signal Nam	Terminal Color Of Signal Name [Specification] No. Wire 1 BG GROUND
Terminal Color Of Signal	Signal Name [Specification]	43	> @ 9	INTAKE SENSOR SIGNAL	ε 4 ι > α :	ACC	2 L SIGNAL 4 Y BATTERY
BATTE	BATTERY POWER SUPPLY	45	2 4	AMBIENT SENSOR SIGNAL	- SB	AV COMM (H)	
COMMUNICA	COMMUNICATION SIGNAL (METER-AMP.)	46	BG	SUNLOAD SENSOR SIGNAL	H	AV COMM (L)	Connector No. M104
COMMONICA	GROUND GROUND	53	9 0	EXMUST GAS COUTSDE ODOR DETECTING SENSOR SIGNAL IGNITION POWER SUPPLY	e 4 n ≻	DISK EJECT SIGNAL	Connector Name REMOTE KEYLESS ENTRY RECEIVER
ALT	ALTERNATOR SIGNAL	54	⋆	BATTERY POWER SUPPLY	16 G	HAZARD ON	Connector Type JAB04FB
₹ 8	AIR BAG SIGNAL	22	В.	GROUND			1
ŏ	GROUND	27	W	BRAKE FLUID LEVEL SWITCH SIGNAL	Connector No.	M94	A TATO
METER CONTROL	NTROL SWITCH GROUND	28	BR	FUEL LEVEL SENSOR GROUND	Connector Name	OPTICAL SENSOR	
	ILL GND	29	GR	INTAKE SENSOR GROUND	OO HECTO I WILLIAM	OF FIGHT SERSON	1 2 4
2	ILL CMITION SICNAL	9	٦	IN-VEHICLE SENSOR GROUND	Connector Type	TK03FW	
	GROUND	629	88	SUNI OAD SENSOR GROUND	4		
COMMUNICATION	ATION SIGNAL (LCD-AMP.)	63	۳		HT.		Terminal Color Of
COMMUNICATION	ATION SIGNAL (AMPLCD)	65	BG	ECV SIGNAL	Ż		No. Wire Signal Name Specincation)
VEHICLE SPEED		69	٦	A/C LAN SIGNAL		1 2 3	1 BG GROUND
PARKING BRAKE	BRAKE SWITCH SIGNAL	70	ĸ	EACH DOOR MOTOR POWER SUPPLY		2	SIC
BRAKE FLUID LEV	IID LEVEL SWITCH SIGNAL	71	В	GROUND			4 LG BATTERY
SEAT BELT BU	SEAT BELT BUCKLE SWITCH SIGNAL (DRIVER SIDE)	72	۵	CAN-L		-	
SEAT BELT BUCK	SEAT BELT BLOKLE SWITCH SIGNAL (PASSENGER SIDE) MARCHIED LEVEL CAMPACITOR COLONAL				Terminal Color Of	Signal Name [Specification]	
WASHER LEVEL					+	POWFR	
SFIRE					- 0	OUTPUT	
ENT	ENTER SWITCH SIGNAL				3 8	GROUND	
TRIP A/B RESET	RESET SWITCH SIGNAL						
ILLUMINATION	ILLUMNATION CONTROL SWITCH SIGNAL (-)						
ILLUMINATION	ILLUMINATION CONTROL SWITCH SIGNAL (+)						

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## < ECU DIAGNOSIS INFORMATION >

<del>                                     </del>	96 GR AITSHIFT SELECTORS SHETT TO SHETT TO G PASSENGER DOOR 101 SB DRIVER DOOR RIVER SHETT	H.S.	
Corrector No. M121  Corrector Name BCM (BODY CONTROL MODULE)  Corrector Type TH40FCY-MH  LLS.	Terminal Color Of Nine   Signal Name (Specification)     No.   Wires   LUGGAGE ROOM ANT-   35	Corrector No.   M122	
Corrector No. M119  Corrector Name BCM (BODY CONTROL MODULE)  Corrector Type NS16FW-CS  4 5 7 6 9 10  11 13 14 15 17 18 19	Terminal Color OI   Signal Name (Specification)   No.   Wire   No.   Wire   N.   Wire   N.   Wire   N.   Wire   Signal Name (Specification)   N.   Wire	Corrector Name   BCM (BODY CONTROL MODULE)	
BCM (BODY CONTROL MODULE)  Connector Neme FOOT LAMP (PASSENGER SIDE)  Connector Type A02FV  LIS.	Terminal Color Of Nine Signal Name (Specification)  1	Terminal Color Of Signal Name   Specification   No. Wire   Wire   Signal Name   Specification   No. Wire   Wire   Wire   POWER WINDOW POWER SUPPLY(RAZ)   Y   POWER WINDOW POWER SUPPLY(RAZ)	

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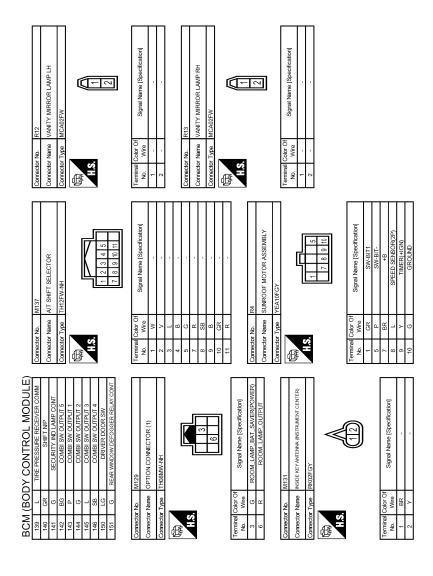
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Fail-safe

#### FAIL-SAFE CONTROL BY DTC

BCM performs fail-safe control when any DTC are detected.

#### < ECU DIAGNOSIS INFORMATION >

Display contents of CONSULT	Fail-safe	Cancellation
B2190: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC
B2191: DIFFERENCE OF KEY	Inhibit engine cranking	Erase DTC
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC
B2195: ANTI SCANNING	Inhibit engine cranking	Ignition switch ON → OFF
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status becomes consistent  • Starter control relay signal  • Starter relay status signal
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent  • Starter motor relay control signal  • Starter relay status signal (CAN)
B260A: IGNITION RELAY	Inhibit engine cranking	<ul> <li>500 ms after the following conditions are fulfilled</li> <li>IGN relay (IPDM E/R) control signal: OFF (Battery voltage)</li> <li>Ignition ON signal (CAN to IPDM E/R): OFF (Request signal)</li> <li>Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)</li> </ul>
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions are fulfilled  • Power position changes to ACC  • Receives engine status signal (CAN)
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization

#### REAR WIPER MOTOR PROTECTION

BCM detects the rear wiper stopping position according to the rear wiper stop position signal.

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

Condition of cancellation

1. More than 1 minute is passed after the rear wiper stops.

- 2. Turn rear wiper switch OFF.
- 3. Operate the rear wiper switch or rear washer switch.

## DTC Inspection Priority Chart

INFOID:0000000008772596

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

Priority	DTC	
1	B2562: LOW VOLTAGE	
2	U1000: CAN COMM CIRCUIT     U1010: CONTROL UNIT (CAN)	
3	B2190: NATS ANTENNA AMP B2191: DIFFERENCE OF KEY B2192: ID DISCORD BCM-ECM B2193: CHAIN OF BCM-ECM B2195: ANTI SCANNING	ŀ

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#### < ECU DIAGNOSIS INFORMATION >

Priority	DTC
4	<ul> <li>B2553: IGNITION RELAY</li> <li>B2555: STOP LAMP</li> <li>B2556: PUSH-BTN IGN SW</li> <li>B2557: VEHICLE SPEED</li> <li>B2560: STARTER CONT RELAY</li> <li>B2601: SHIFT POSITION</li> <li>B2602: SHIFT POSITION</li> <li>B2603: SHIFT POSI STATUS</li> <li>B2604: PNP SW</li> <li>B2605: PNP SW</li> <li>B2606: STARTER RELAY</li> <li>B2607: ENG STATE SIG LOST</li> <li>B2607: ENG STATE SIG LOST</li> <li>B2614: ACC RELAY CIRC</li> <li>B2615: BLOWER RELAY CIRC</li> <li>B2616: IGN RELAY CIRC</li> <li>B2617: STARTER RELAY CIRC</li> <li>B2618: BCM</li> <li>B261A: PUSH-BTN IGN SW</li> <li>B261A: VEHICLE TYPE</li> <li>B26EA: KEY REGISTRATION</li> <li>C1729: VHCL SPEED SIG ERR</li> <li>U0415: VEHICLE SPEED SIG</li> </ul>
5	<ul> <li>C1704: LOW PRESSURE FL</li> <li>C1705: LOW PRESSURE FR</li> <li>C1706: LOW PRESSURE RR</li> <li>C1707: LOW PRESSURE RL</li> <li>C1708: [NO DATA] FL</li> <li>C1709: [NO DATA] FR</li> <li>C1710: [NO DATA] RR</li> <li>C1711: [NO DATA] RL</li> <li>C1716: [PRESSDATA ERR] FL</li> <li>C1717: [PRESSDATA ERR] FR</li> <li>C1718: [PRESSDATA ERR] RR</li> <li>C1719: [PRESSDATA ERR] RR</li> <li>C1734: CONTROL UNIT</li> </ul>
6	B2621: INSIDE ANTENNA     B2623: INSIDE ANTENNA

DTC Index

#### NOTE:

The details of time display are as follows.

- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.

IGN counter is displayed on Freeze Frame Data. For details of Freeze Frame Data, refer to <u>BCS-18, "COMMON ITEM".</u>

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
No DTC is detected. further testing may be required.	_	_	_	_	_
U1000: CAN COMM CIRCUIT	_	_	_	_	BCS-41
U1010: CONTROL UNIT (CAN)	_	_	_	_	BCS-42
U0415: VEHICLE SPEED SIG	_	_	_	_	BCS-43
B2190: NATS ANTENNA AMP	×	_	_	_	<u>SEC-40</u>

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page	A B
B2191: DIFFERENCE OF KEY	×	_	_	_	SEC-43	
B2192: ID DISCORD BCM-ECM	×	_	_	_	SEC-44	0
B2193: CHAIN OF BCM-ECM	×	_	_	_	SEC-45	
B2195: ANTI SCANNING	×	_	_	_	SEC-46	
B2553: IGNITION RELAY	_	×	_	_	PCS-50	D
B2555: STOP LAMP	_	×	_	_	SEC-47	
B2556: PUSH-BTN IGN SW	_	×	×	_	SEC-49	_
B2557: VEHICLE SPEED	×	×	×	_	SEC-51	E
B2560: STARTER CONT RELAY	×	×	×	_	SEC-52	
B2562: LOW VOLTAGE	_	×	_	_	BCS-44	F
B2601: SHIFT POSITION	×	×	×	_	SEC-53	
B2602: SHIFT POSITION	×	×	×	_	SEC-56	
B2603: SHIFT POSI STATUS	×	×	×	_	SEC-59	G
B2604: PNP SW	×	×	×	_	SEC-62	
B2605: PNP SW	×	×	×		SEC-64	Н
B2608: STARTER RELAY	×	×	×	_	SEC-66	
B260A: IGNITION RELAY	×	×	×	_	PCS-52	
B260F: ENG STATE SIG LOST	×	×	×	_	SEC-68	
B2614: ACC RELAY CIRC	_	×	×	_	PCS-54	
B2615: BLOWER RELAY CIRC	_	×	×	_	PCS-57	J
B2616: IGN RELAY CIRC	_	×	×	_	PCS-60	0
B2617: STARTER RELAY CIRC	×	×	×	_	SEC-71	
B2618: BCM	×	×	×	_	PCS-63	K
B261A: PUSH-BTN IGN SW	_	×	×	_	SEC-73	
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	_	SEC-76	WW
B2621: INSIDE ANTENNA	_	×	_	_	DLK-58	
B2623: INSIDE ANTENNA	_	×	_	_	DLK-60	M
B26E1: ENG STATE NO RES	×	×	×	_	SEC-69	1 7 1
B26EA: KEY REGISTRATION	_	×	× (Turn ON for 15 seconds)	_	SEC-70	N
C1704: LOW PRESSURE FL	_	_	_	×		
C1705: LOW PRESSURE FR	_	_	_	×	NAT CC	
C1706: LOW PRESSURE RR	_	_	_	×	<u>WT-23</u>	0
C1707: LOW PRESSURE RL	_	_	_	×		
C1708: [NO DATA] FL	_	_	_	×		Р
C1709: [NO DATA] FR	_	_	_	×	VACE OF	F
C1710: [NO DATA] RR	_	_	_	×	<u>WT-25</u>	
C1711: [NO DATA] RL	_	_	_	×		

CONSULT display	Fail-safe	Freeze Frame Data •Vehicle Speed •Odo/Trip Meter •Vehicle Condition	Intelligent Key warning lamp ON	Tire pressure monitor warning lamp ON	Reference page
C1716: [PRESSDATA ERR] FL	_	_	_	×	
C1717: [PRESSDATA ERR] FR	_	_	_	×	WT-28
C1718: [PRESSDATA ERR] RR	_	_	_	×	<u>VV 1-20</u>
C1719: [PRESSDATA ERR] RL	_	_	_	×	
C1729: VHCL SPEED SIG ERR	_	_	_	×	<u>WT-30</u>
C1734: CONTROL UNIT	_	_	_	×	<u>WT-32</u>

< ECU DIAGNOSIS INFORMATION >

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

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#### VALUES ON THE DIAGNOSIS TOOL

#### NOTE:

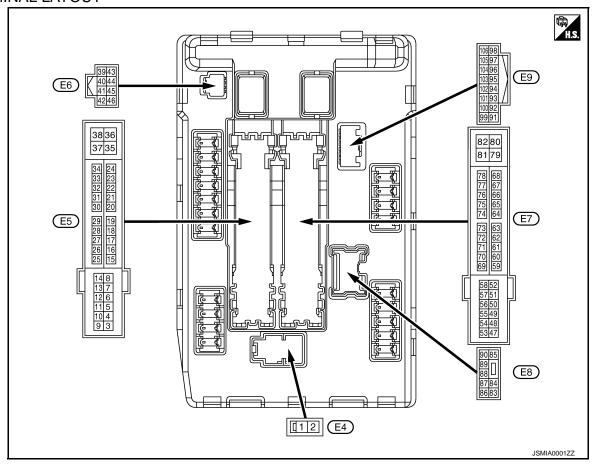
The following table includes information (items) inapplicable to this vehicle. For information (items) applicable to this vehicle, refer to CONSULT display items.

Monitor Item		Condition	Value/Status
RAD FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 – 100 %
		A/C switch OFF	Off
AC COMP REQ	Engine running	A/C switch ON (Compressor is operating)	On
TAIL SOLD DEO	Lighting switch OFF		Off
TAIL&CLR REQ	Lighting switch 1ST, 2ND, HI or	AUTO (Light is illuminated)	On
III 10 DEO	Lighting switch OFF		Off
HL LO REQ	Lighting switch 2ND HI or AUTO	(Light is illuminated)	On
	Lighting switch OFF		Off
HL HI REQ	Lighting switch HI		On
		Front fog lamp switch OFF	Off
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	<ul> <li>Front fog lamp switch ON</li> <li>Daytime running light activated (Only for Canada)</li> </ul>	On
		Front wiper switch OFF	Stop
ED WID DEO	Lauritia a assitata ONI	Front wiper switch INT	1LOW
FR WIP REQ	Ignition switch ON	Front wiper switch LO	Low
		Front wiper switch HI	Hi
	Ignition switch ON	Front wiper stop position	STOP P
WIP AUTO STOP		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 operation	BLOCK
IGN RLY1 -REQ	Ignition switch OFF or ACC		Off
IGN RLTT-REQ	Ignition switch ON	On	
ICN DI V	Ignition switch OFF or ACC		Off
IGN RLY	Ignition switch ON		On
DITCH C/V	Release the push-button ignition	n switch	Off
PUSH SW	Press the push-button ignition s	On	
INTER/NP SW	Ignition switch ON	Selector lever in any position other than P or N	Off
		Selector lever in P or N position	On
ST DLV CONT	Ignition switch ON	Off	
ST RLY CONT	At engine cranking	On	

Monitor Item	Cor	Value/Status	
IHBT RLY -REQ	Ignition switch ON	Off	
INBI KLY -KEQ	At engine cranking		On
	Ignition switch ON		Off
	At engine cranking		INHI ON $\rightarrow$ ST ON
ST/INHI RLY		control relay cannot be recognized by . when the starter relay is ON and the	UNKWN
DETENT SW	Ignition switch ON	Ignition switch ON  • Press the selector button with selector lever in P position • Selector lever in any position other than P	
	Release the selector button with se	On	
S/L RLY -REQ	NOTE: The item is indicated, but not monit	Off	
S/L STATE	NOTE: The item is indicated, but not monit	UNLOCK	
DTRL REQ	NOTE: The item is indicated, but not monit	Off	
OIL D CW	Ignition switch OFF, ACC or engine	Ignition switch OFF, ACC or engine running	
OIL P SW	Ignition switch ON		Close
HOOD CW	Close the hood		Off
HOOD SW	Open the hood	On	
HL WASHER REQ	NOTE: The item is indicated, but not monit	ored.	Off
	Not operation		Off
THFT HRN REQ	<ul> <li>Panic alarm is activated</li> <li>Horn is activated with VEHICLE S</li> <li>TEM</li> </ul>	ctivated I with VEHICLE SECURITY (THEFT WARNING) SYS-	
LIODNI CLIIDD	Not operating	Off	
HORN CHIRP	Door locking with Intelligent Key (he	orn chirp mode)	On
CRNRNG LMP REQ	NOTE: The item is indicated, but not monit	ored.	Off

< ECU DIAGNOSIS INFORMATION >

### TERMINAL LAYOUT



#### PHYSICAL VALUES

	inal No.	Description				Value
+ (vvire	e color)	Signal name	Input/ Output		Condition	(Approx.)
1 (W)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage
2 (L)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage
4	Cround	Front winer LO	Output	Ignition	Front wiper switch OFF	0 V
(V)	Ground	Front wiper LO	Output	switch ON	Front wiper switch LO	Battery voltage
5	Ground	Front wiper HI	Output	Ignition	Front wiper switch OFF	0 V
(L)	Giodila	Ground Front wiper Hi	Output	switch ON	Front wiper switch HI	Battery voltage
7	Ground	Tail, license plate lamps &	Output	Ignition	Lighting switch OFF	0 V
(R)	Ground	interior lamps	Output	switch ON	Lighting switch 1ST	Battery voltage
12 (B/W)	Ground	Ground	_	Ignition swi	tch ON	0 V
40					tely 1 second or more after ignition switch ON	0 V
13 (Y) Ground	Fuel pump power supply Ou		<ul> <li>Approximately 1 second after turning the ignition switch ON</li> <li>Engine running</li> </ul>		Battery voltage	
16				Ignition	Front wiper stop position	0 V
(LG)	Ground	Front wiper auto stop	Input	switch ON	Any position other than front wiper stop position	Battery voltage

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	inal No. e color)	Description			Condition	Value
+	-	Signal name	Input/ Output		Condition	(Approx.)
19	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(W)	Orodina	igiliaeri relay pewer eappiy	Output	Ignition swi	tch ON	Battery voltage
25	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(G)	0.00	ig.iii.oi. roia) porroi cappi)		Ignition swi	tch ON	Battery voltage
26*	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V
(R)		3 71 117		Ignition swi		Battery voltage
27	Ground	Ignition relay monitor	Input		tch OFF or ACC	Battery voltage
(BG)		<b>3</b> ,		Ignition swi		0 V
28	Ground	Push-button ignition	Input	-	bush-button ignition switch	0 V
(L)		switch		Release the	e push-button ignition switch	Battery voltage
30 (GR)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any position other than P or N	0 V
					Selector lever P or N	Battery voltage
36 (G)	Ground	Battery power supply	Input	Ignition swi	tch OFF	Battery voltage
39 (P)	_	CAN-L	Input/ Output		_	
40 (L)	_	CAN-H	Input/ Output		_	
41 (B/W)	Ground	Ground	_	Ignition switch ON		0 V
42	Ground	Cooling fan relay control	Input	Ignition swi	tch OFF or ACC	0 V
(Y)	Cround	Cooling fair rolay control	трис	Ignition switch ON		0.7 V
43 (SB)	Ground	A/T shift selector (Detention switch)	Input	Ignition switch ON	<ul> <li>Press the selector button (Selector lever P)</li> <li>Selector lever in any position other than P</li> </ul>	Battery voltage
					Release the selector but- ton (selector lever P)	0 V
44	Ground	Horn relay control	Input	The horn is	deactivated	Battery voltage
(BR)	Giodila	Hom relay Control	mpat	The horn is	activated	0 V
45	Ground	Anti theft horn relay control	Input	The horn is	deactivated	Battery voltage
(G)	Giouria	And their norm relay control	πραι	The horn is	activated	0 V
46 (R)	Ground	Starter relay control	Input	Ignition switch ON	Selector lever in any position other than P or N	0 V
(11)				SWILCH ON	Selector lever P or N	Battery voltage
					A/C switch OFF	0 V
48 (L)	Ground	A/C relay power supply	Output	Engine running	A/C switch ON (A/C compressor is operating)	Battery voltage
49			Output	Ignition swi (More than ignition swi	a few seconds after turning	0 V
(BG)	Ground	und ECM relay power supply		<ul> <li>Ignition s</li> <li>Ignition s</li> <li>(For a fertion switch</li> </ul>	witch OFF w seconds after turning igni-	Battery voltage

< ECU DIAGNOSIS INFORMATION >

Terminal No. Description (Wire color)					Value		
+	e color)	Signal name	Input/ Output		Condition	(Approx.)	
51	Ground	Ignition relay power supply	on roley newer events.		tch OFF	0 V	
(Y)	Ground	Ignition relay power supply	Output	Ignition swi	tch ON	Battery voltage	
53				Ignition swi (More than ignition swi	a few seconds after turning	0 V	
(W)	Ground	ECM relay power supply	Output	Ignition s     Ignition s     (For a fertion switch	witch OFF w seconds after turning igni-	Battery voltage	
54		Throttle control motor re-		Ignition swi (More than ignition swi	a few seconds after turning	0 V	
(P)	Ground	I hrottle control motor re- lay power supply		Output	Ignition s     Ignition s     (For a fertion switch)	witch OFF w seconds after turning igni-	Battery voltage
55 (SB)	Ground	ECM power supply	Output	Ignition swi	tch OFF	Battery voltage	
56	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V	
(LG)	Cround	una ignition relay power suppry		Ignition swi	tch ON	Battery voltage	
57	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V	
(G)	Ground	ignition relay power suppry	Output	Ignition switch ON		Battery voltage	
58	Ground	Ignition relay power supply	Output	Ignition swi	tch OFF	0 V	
(V)	Giouria	ignition relay power suppry	Output	Ignition swi	tch ON	Battery voltage	
69				Ignition swi (More than ignition swi	a few seconds after turning	Battery voltage	
(BR)	Ground	ECM relay control	Output	Ignition switch ON     Ignition switch OFF     (For a few seconds after turning ignition switch OFF)		0 – 1.5 V	
						0 – 1.0 V	
70 (BG)	Ground	Throttle control motor re- lay control	Output	Ignition swi	tch ON → OFF	Battery voltage	
				Ignition and	tob ON	0 V	
				Ignition switch ON Ignition switch OFF		0 – 1.0 V 0 V	
74 (P)	Ground	Ignition relay power supply	Output	Ignition swi		Battery voltage	
				_		0 V	
75 (SB)	Ground	Oil pressure switch	Input	Ignition switch ON	Engine stopped		
()				21111311 271	Engine running	Battery voltage	

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	inal No.	Description				Value
+ (Wire	e color)	Signal name	Input/ Output		Condition	(Approx.)
				Ignition sw	itch ON	(V) 6 4 2 0 2ms JPMIA0001GB
76 (Y)			Output	40% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		(V) 6 4 2 0 ▶ 42ms JPMIA0002GB 3.8 V
					on "ACTIVE TEST", "AL- R DUTY" of "ENGINE"	(V) 6 4 2 0 2ms JPMIA0003GB 1.4 V
77 (R)	Ground	Fuel pump relay control	Output	the ignition that the ignition that the ignition is the ignition of the igniti		0 – 1.0 V
					tely 1 second or more after ignition switch ON	Battery voltage
80 (W)	Ground	Starter motor	Output	At engine of	cranking	Battery voltage
83	Ground	Headlamp LO (RH)	Output	Ignition	Lighting switch OFF	0 V
(BG)			-	switch ON	Lighting switch 2ND Lighting switch OFF	Battery voltage 0 V
84 (V)	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch 2ND	Battery voltage
					Front fog lamp switch OFF	0 V
86 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	Front fog lamp switch     ON     Daytime running light     activated (Only for Canada)	Battery voltage
					Front fog lamp switch OFF	0 V
87 (L)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	<ul> <li>Front fog lamp switch ON</li> <li>Daytime running light activated (Only for Can- ada)</li> </ul>	Battery voltage
88 (GR)	Ground	Washer pump power supply	Output	Ignition sw	itch ON	Battery voltage

< ECU DIAGNOSIS INFORMATION >

Terminal No.		Description				Value	
+ (Wire	e color)	Signal name Input/ Output			Condition	(Approx.)	
89				Ignition	Lighting switch OFF	0 V	
(BR)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	Lighting switch HI     Lighting switch PASS	Battery voltage	
00				Lowition	Lighting switch OFF	0 V	
90 (P)	Ground	Headlamp HI (LH)	Output Ignition switch Of	switch ON	Lighting switch HI     Lighting switch PASS	Battery voltage	
91	Cround	Darking Jama (DU)	Output	Ignition	Lighting switch OFF	0 V	
(P)	Ground	Parking lamp (RH)	Output	switch ON	Lighting switch 1ST	Battery voltage	
92	Cround	Darking Jamp (LU)	Output	Ignition	Lighting switch OFF	0 V	
(BG)	Ground	Parking lamp (LH)	Output	switch ON	Lighting switch 1ST	Battery voltage	
97 (V)	Ground	Cooling fan control	Output	Engine idling		0 – 5 V	
104	Ground Hood switch Input		Input	Close the h	nood	Battery voltage	
(LG)	(LG) Ground	11000 SWILCH	iiiput	Open the hood		0 V	

<sup>\*:</sup> Only for the models with ICC system

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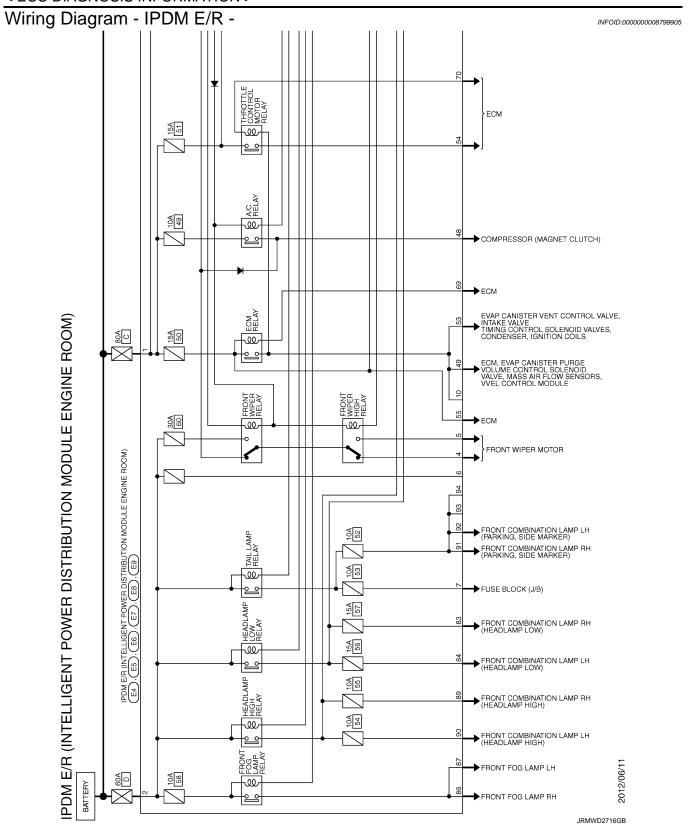
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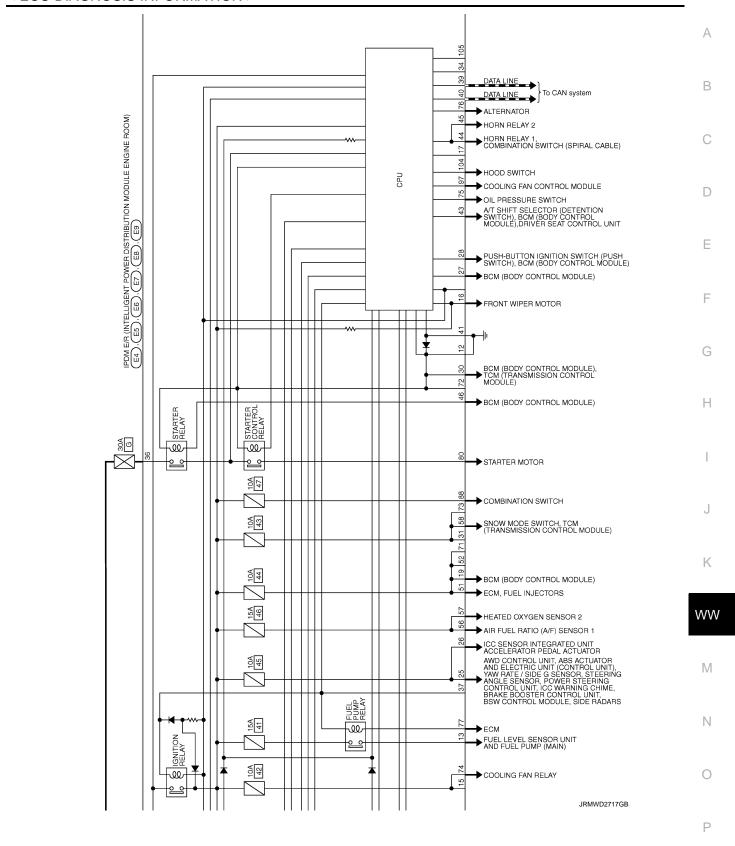
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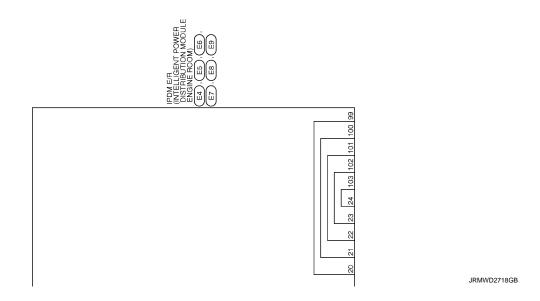
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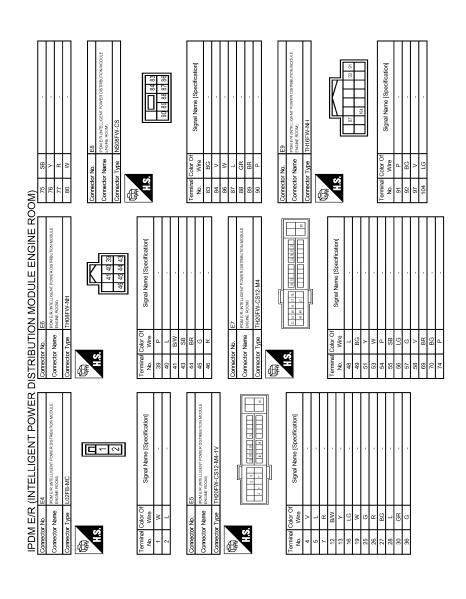
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### CAN COMMUNICATION CONTROL

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

#### < ECU DIAGNOSIS INFORMATION >

Control part	Fail-safe operation
Cooling fan	<ul> <li>Outputs the pulse duty signal (PWM signal) 100% when the ignition switch is turned ON</li> <li>Outputs the pulse duty signal (PWM signal) 0% when the ignition switch is turned OFF</li> </ul>
A/C compressor	A/C relay OFF
Alternator	Outputs the power generation command signal (PWM signal) 0%

#### If No CAN Communication Is Available With BCM

Control part	Fail-safe operation
Headlamp	<ul> <li>Turns ON the headlamp low relay when the ignition switch is turned ON</li> <li>Turns OFF the headlamp low relay when the ignition switch is turned OFF</li> <li>Headlamp high relay OFF</li> </ul>
<ul><li>Parking lamps</li><li>License plate lamps</li><li>Side maker lamps</li><li>Illuminations</li><li>Tail lamps</li></ul>	<ul> <li>Turns ON the tail lamp relay when the ignition switch is turned ON</li> <li>Turns OFF the tail lamp relay when the ignition switch is turned OFF</li> </ul>
Front wiper	<ul> <li>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.</li> <li>The 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.</li> </ul>
Front fog lamps	Front fog lamp relay OFF
Horn	Horn relay OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay OFF

#### IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit and excitation coil circuit of the ignition relay inside it.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the excitation coil circuit.
- If the ignition relay cannot turn OFF due to contact seizure, it activates the tail lamp relay for 10 minutes to alert the user to the ignition relay malfunction when the ignition switch is turned OFF.

Voltage judgment				
Ignition relay contact side	Ignition relay excitation coil side	IPDM E/R judgment	Operation	
ON	ON	Ignition relay ON normal	_	
OFF	OFF	Ignition relay OFF normal	_	
ON	OFF	Ignition relay ON stuck	Detects DTC "B2098: IGN RELAY ON"     Turns ON the tail lamp relay for 10 minutes	
OFF	ON	Ignition relay OFF stuck	Detects DTC "B2099: IGN RELAY OFF"	

#### FRONT WIPER CONTROL

IPDM E/R detects front wiper stop position by a front wiper stop position signal.

When a front wiper stop position signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10 seconds activation and 20 seconds stop five times.

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

#### < ECU DIAGNOSIS INFORMATION >

#### 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.

#### STARTER MOTOR PROTECTION FUNCTION

IPDM E/R turns OFF the starter control relay to protect the starter motor when the starter control relay remains active for 90 seconds.

DTC Index

#### NOTE:

- The details of time display are as follows.
- CRNT: A malfunction is detected now.
- PAST: A malfunction was detected in the past.
- IGN counter is displayed on FFD (Freeze Frame data).
- The number is 0 when is detected now.
- The number increases like 1  $\rightarrow$  2  $\cdots$  38  $\rightarrow$  39 after returning to the normal condition whenever IGN OFF  $\rightarrow$  ON.
- The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

CONSULT display	Fail-safe	Reference
No DTC is detected. further testing may be required.	_	_
U1000: CAN COMM CIRCUIT	×	PCS-14
B2098: IGN RELAY ON CIRC	×	PCS-15
B2099: IGN RELAY OFF CIRC	_	PCS-17
B210B: STR CONT RLY ON CIRC	_	<u>SEC-77</u>
B210C: STR CONT RLY OFF CIRC	_	<u>SEC-78</u>
B210D: STARTER RLY ON CIRC	<del>-</del>	SEC-80
B210E: STARTER RLY OFF CIRC	_	<u>SEC-82</u>
B210F: INTRLCK/PNP SW ON	_	<u>SEC-84</u>
B2110: INTRLCK/PNP SW OFF	<del>_</del>	SEC-86

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### **WIPER AND WASHER SYSTEM SYMPTOMS**

< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

## WIPER AND WASHER SYSTEM SYMPTOMS

Symptom Table

#### **CAUTION:**

Perform the self-diagnosis with CONSULT before performing the diagnosis by symptom. Perform the diagnosis by DTC if DTC is detected.

Symptom		Probable malfunction location	Inspection item
Front wiper does not operate.	HI only	Combination switch     Harness between combination switch and BCM     BCM	Combination switch Refer to BCS-93, "Symptom Table".
		IPDM E/R     Harness between IPDM E/R and front wiper motor     Front wiper motor	Front wiper motor (HI) circuit Refer to <u>WW-27, "Compo-</u> nent Function Check".
		Front wiper request signal  BCM IPDM E/R	IPDM E/R DATA MONITOR "FR WIP REQ"
	LO and INT	Combination switch     Harness between combination switch and BCM     BCM	Combination switch Refer to BCS-93, "Symptom Table".
		IPDM E/R     Harness between IPDM E/R and front wiper motor     Front wiper motor	Front wiper motor (LO) circuit Refer to <u>WW-25, "Compo-</u> nent Function Check".
		Front wiper request signal  BCM IPDM E/R	IPDM E/R DATA MONITOR "FR WIP REQ"
	INT only	Combination switch     Harness between combination switch and BCM     BCM	Combination switch Refer to BCS-93, "Symptom Table".
		Front wiper request signal  BCM IPDM E/R	IPDM E/R DATA MONITOR "FR WIP REQ"
	HI, LO and INT	SYMPTOM DIAGNOSIS  "FRONT WIPER DOES NOT OPERATE" Refer to <a href="https://www.nos." td="" ww="" ww.nos."="" ww<="" www.nos."=""><td></td></a>	

### **WIPER AND WASHER SYSTEM SYMPTOMS**

## < SYMPTOM DIAGNOSIS >

Symptom		Probable malfunction location	Inspection item	
		Combination switch     BCM	Combination switch Refer to BCS-93, "Symptom Table".	
Front wiper does not stop.	HI only	Front wiper request signal  BCM IPDM E/R	IPDM E/R DATA MONITOR "FR WIP REQ"	
		IPDM E/R	_	
		Combination switch     BCM	Combination switch Refer to BCS-93, "Symptom Table".	
	LO only	Front wiper request signal  BCM IPDM E/R	IPDM E/R DATA MONITOR "FR WIP REQ"	
		IPDM E/R	_	
	INT only	Combination switch     BCM	Combination switch Refer to BCS-93, "Symptom Table".	
	INT only	Front wiper request signal  BCM IPDM E/R	IPDM E/R DATA MONITOR "FR WIP REQ"	
	Intermittent adjustment cannot be performed.	Combination switch     Harness between combination switch and BCM     BCM	Combination switch Refer to BCS-93, "Symptom Table".	
		BCM	_	
Front wiper does not operate normally.	Intermittent control linked with vehicle speed cannot be performed.	Check the vehicle speed detection wiper setting.  Refer to <a href="https://www.15," td="" www.15,"="" www.even.<="" www.even.com=""></a>		
	Wiper is not linked to the washer operation.	<ul><li>Combination switch</li><li>Harness between combination switch and BCM</li><li>BCM</li></ul>	Combination switch Refer to BCS-93, "Symptom Table".	
		BCM	_	
p o o fo tl	Does not return to stop position [Repeatedly operates for 10 sec- onds and then stops for 20 seconds. After	IPDM E/R     Harness between IPDM E/R and front wiper motor     Front wiper motor	Front wiper stop position signal circuit Refer to <u>WW-29</u> , "Component Function Check".	
	that, it stops the operation. (Fail-safe)]	1 Total Wipor Motor		
	that, it stops the opera-	Combination switch     Harness between combination switch and BCM     BCM	Combination switch Refer to BCS-93, "Symptom Table".	
Poor winer deep and	that, it stops the operation. (Fail-safe)]	Combination switch     Harness between combination switch and BCM	Refer to BCS-93, "Symptom Table".  Combination switch	
Rear wiper does not operate.	that, it stops the operation. (Fail-safe)]  ON only	Combination switch Harness between combination switch and BCM BCM Combination switch Harness between combination switch and BCM	Refer to BCS-93, "Symptom Table".  Combination switch Refer to BCS-93, "Symptom	

**WW-105** 2013 EX Revision: 2013 December

### **WIPER AND WASHER SYSTEM SYMPTOMS**

### < SYMPTOM DIAGNOSIS >

Symptom		Probable malfunction location	Inspection item
Rear wiper does not stop.	ON only	Combination switch     BCM	Combination switch Refer to BCS-93, "Symptom Table".
	INT only	Combination switch     BCM	Combination switch Refer to BCS-93, "Symptom Table".
Rear wiper does not operate normally.	Wiper is not linked to the washer operation.	Combination switch     Harness between rear wiper motor and BCM     BCM	Combination switch Refer to BCS-93, "Symptom Table".
		BCM	_
	Rear wiper does not return to the stop posi- tion [Stops after a five- second operation. (Fail-safe)]	BCM     Harness between rear wiper motor and BCM     Rear wiper motor	Rear wiper stop position signal circuit Refer to WW-35, "Component Function Check".

#### NORMAL OPERATING CONDITION

#### < SYMPTOM DIAGNOSIS >

### NORMAL OPERATING CONDITION

Description A

#### FRONT WIPER MOTOR PROTECTION FUNCTION

- IPDM E/R may stop the front wiper to protect the front wiper motor if any obstruction (operation resistance) such as a large amount of snow is detected during the front wiper operation.
- At that time turn OFF the front wiper and remove the foreign object. Then wait for approximately 20 seconds or more and reactivate the front wiper. The wiper will operate normally.

#### REAR WIPER MOTOR PROTECTION FUNCTION

- BCM may stop rear wiper to protect the rear wiper motor when the rear wiper is stopped for 5 seconds or more due to a snowfall.
- Rear wiper operates normally one minute after the obstacles are removed with rear wiper OFF.

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#### FRONT WIPER DOES NOT OPERATE

#### < SYMPTOM DIAGNOSIS >

### FRONT WIPER DOES NOT OPERATE

Description INFOID:000000008286226

The front wiper does not operate under any operating conditions.

### Diagnosis Procedure

INFOID:0000000008286227

### 1. CHECK WIPER RELAY OPERATION

#### **PIPDM E/R AUTO ACTIVE TEST**

- 1. Start IPDM E/R auto active test. Refer to PCS-9, "Diagnosis Description".
- 2. Check that the front wiper operates at the LO/HI operation.

#### (P)CONSULT ACTIVE TEST

- 1. Select "FRONT WIPER" of IPDM E/R active test item.
- 2. With operating the test item, check that front wiper LO/HI operation and OFF.

Lo : Front wiper LO operation

Hi : Front wiper HI operation

Off : Stop the front wiper.

#### Does the front wiper operate?

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

## 2. CHECK FRONT WIPER MOTOR FUSE

- 1. Turn the ignition switch OFF.
- 2. Check that the front wiper motor 30A (#60) fuse is not fusing.

#### Is the fuse fusing?

YES >> Replace the fuse after repairing the applicable circuit.

NO >> GO TO 3.

## 3.CHECK FRONT WIPER MOTOR (GND) OPEN CIRCUIT

- 1. Disconnect front wiper motor connector.
- Check continuity between front wiper motor harness connector and ground.

Front wiper motor			Continuity
Connector Terminal		Ground	Continuity
E42	2		Existed

#### Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harnesses or connectors.

### f 4.CHECK FRONT WIPER REQUEST SIGNAL INPUT

#### (P)CONSULT DATA MONITOR

- 1. Select "FR WIP REQ" of IPDM E/R data monitor item.
- Switch the front wiper switch to HI and LO.
- 3. With operating the front wiper switch, check the monitor status.

Monitor item	Condition		Monitor status
FR WIPER REQ	Front wiper switch HI	ON	Hi
	Tront wiper switch th	OFF	Stop
	Front wiper switch LO	ON	Low
	1 Tont wiper switch Lo	OFF	Stop

#### Is the status of item normal?

YES >> Replace IPDM E/R.

FRONT WIPER DOES NOT OPERATE < SYMPTOM DIAGNOSIS > NO >> GO TO 5. 5. CHECK COMBINATION SWITCH Α Perform the inspection of the combination switch. Refer to BCS-93, "Symptom Table". Is combination switch normal? В YES >> Replace BCM. Refer to BCS-96, "Exploded View". NO >> Repair or replace the applicable parts. C D Е F G Н

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# **PRECAUTION**

# **PRECAUTIONS**

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 AIR BAG" and "SEAT BELT" of this Service Manual.

#### WARNING:

Always observe the following items for preventing accidental activation.

- To avoid rendering the SRS inoperative, which could increase the risk of personal injury or death in the event of a collision that would result in air bag inflation, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see "SRS AIR BAG".
- Never use electrical test equipment on any circuit related to the SRS unless instructed to in this Service Manual. SRS wiring harnesses can be identified by yellow and/or orange harnesses or harness connectors.

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

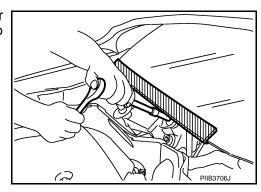
#### **WARNING:**

Always observe the following items for preventing accidental activation.

- When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the
  ignition ON or engine running, never use air or electric power tools or strike near the sensor(s) with
  a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing
  serious injury.
- When using air or electric power tools or hammers, always switch the ignition OFF, disconnect the battery, and wait at least 3 minutes before performing any service.

Precaution for Procedure without Cowl Top Cover

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc to prevent damage to windshield.



INFOID:0000000008286229

# **PREPARATION**

# < PREPARATION >

# **PREPARATION**

# **PREPARATION**

# **Commercial Service Tool**

	Tool name	Description
Washer nozzle adjuster	JSLIA0149ZZ	Adjusting washer nozzle. (Available in SEC. 289 of PARTS CATALOG: Part No. 28949 1EA0A)  NOTE:  Washer nozzle adjuster is included with shipment of nozzle.

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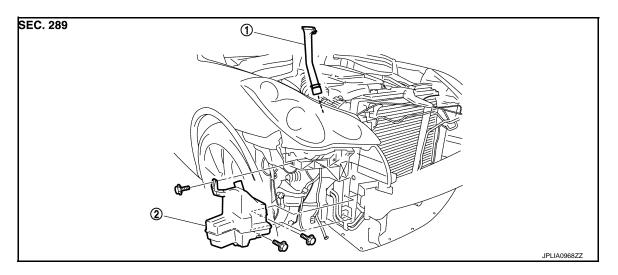
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# REMOVAL AND INSTALLATION

# WASHER TANK

Exploded View



1. Washer tank inlet

2. Washer tank

### Removal and Installation

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### **REMOVAL**

1. Remove the clip (A).

: Vehicle front

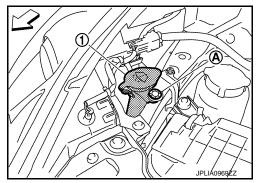
- 2. Pull out the washer tank inlet (1) from the washer tank.
- 3. Remove the fender protector RH (front). Refer to <u>EXT-25</u>, <u>"FENDER PROTECTOR: Exploded View"</u>.
- 4. Remove the engine lower cover. Refer to <u>EXT-31</u>, "<u>Exploded View</u>".
- 5. Disconnect washer pump connector.
- 6. Disconnect the washer level switch connector.
- 7. Remove front washer tube and rear washer tube.
- 8. Remove washer tank mounting bolts.
- 9. Remove washer tank from the vehicle.

#### INSTALLATION

Note the following, and install in the reverse order of removal.

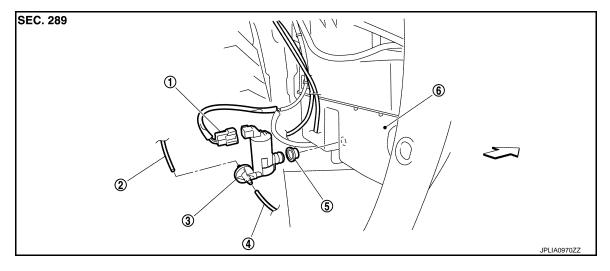
#### **CAUTION:**

Add water up to the top of the washer tank inlet after installing. Check that there is no leakage.



# FRONT WASHER PUMP

# Exploded View



- 1. Washer pump connector
- 4. Front washer tube
- < : Vehicle front

- 2. Rear washer tube
- 5. Packing

- 3. Washer pump
- 6. Washer tank

# Removal and Installation

**REMOVAL** 

- 1. Remove the fender protector RH (front). Refer to <u>EXT-25</u>, "FENDER PROTECTOR: Removal and Installation".
- 2. Disconnect the washer pump connector.
- 3. Remove front washer tube and rear washer tube.
- 4. Remove washer pump from the washer tank.
- 5. Remove the packing from the washer tank.

### **INSTALLATION**

Note the following, and install in the reverse order of removal.

**CAUTION:** 

Never twist the packing when installing the washer pump.

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# **WASHER LEVEL SWITCH**

# < REMOVAL AND INSTALLATION >

# WASHER LEVEL SWITCH

# Removal and Installation

INFOID:0000000008286235

The washer level switch must be replaced together with the washer tank as an assembly. Refer to <u>WW-112</u>, <u>"Removal and Installation"</u>.

# FRONT WASHER NOZZLE AND TUBE

Hydraulic Layout

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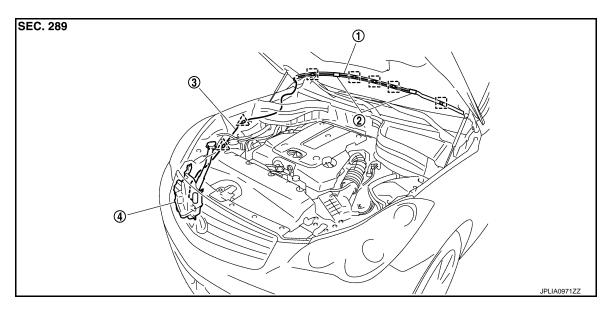
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- 1. Front washer tube
- 2. Front washer nozzle
- 3. Front washer tube

4. Washer tank

\_\_\_\_\_\_: Clip

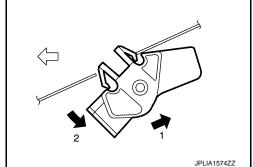
# Removal and Installation

INFOID:0000000008286237

### **REMOVAL**

- Fully open hood assembly.
- 2. Remove the front washer nozzle in numerical order as shown in the figure.

3. Disconnect the front washer tube from the front washer nozzle.



#### INSTALLATION

- 1. Connect the front washer tube into the front washer nozzle.
- 2. Install the front washer nozzle to the hood.
- Adjust the front washer nozzle spray position. Refer to <u>WW-115, "Inspection and Adjustment"</u>. CAUTION:

The spray positions differ. Check that left and right nozzles are installed correctly.

# Inspection and Adjustment

INFOID:0000000008286238

### INSPECTION

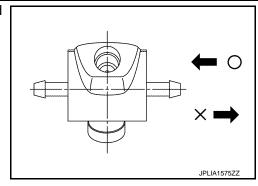
Washer Nozzle Inspection

Revision: 2013 December WW-115 2013 EX

# FRONT WASHER NOZZLE AND TUBE

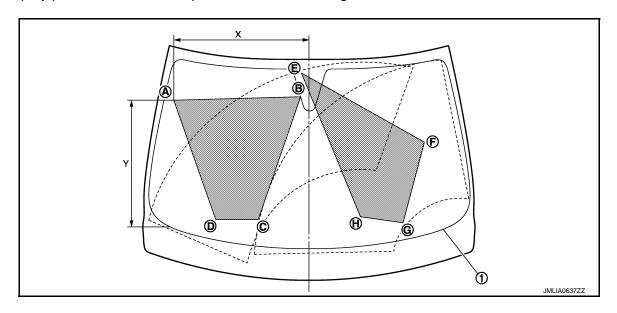
# < REMOVAL AND INSTALLATION >

Check that air can pass through the hose by blowing forward (toward the nozzle), and check that air cannot pass through by sucking.



# **ADJUSTMENT**

Washer Nozzle Spray Position Adjustment Adjust spray positions to match the positions shown in the figure.



1. Black printed frame line

: Spray area

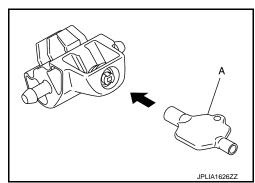
Unit: mm (in)	U	nit:	mm	(in)
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	Passenger side			Driver side				
	Α	В	С	D	E	F	G	Н
Χ	569 (22.40)	45 (1.77)	216 (8.50)	392 (15.43)	39 (1.54)	469 (18.46)	379 (14.92)	203 (7.99)
Υ	523 (20.59)	623 (24.53)	108 (4.25)	81 (3.19)	723 (28.46)	379 (14.92)	73 (2.87)	123 (4.84)

#### **CAUTION:**

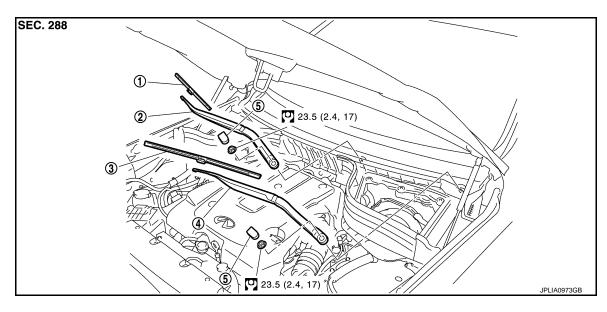
- Use washer nozzle adjuster\* (A) for nozzle adjustment.
- Never use needle or small pin.
- \*: Washer nozzle adjuster is included with shipment of nozzle. NOTE:

If wax or dust gets into the nozzle, remove wax or dust with a needle or small pin.



# FRONT WIPER ARM

**Exploded View** INFOID:0000000008286239



- 1. Front wiper blade (RH) Front wiper arm (LH)
- Front wiper arm (RH)
- Front wiper arm cap
- 3. Front wiper blade (LH)

Refer to GI-4, "Components" for symbols in the figure.

### Removal and Installation

#### **REMOVAL**

- 1. Operate the front wiper to move it to the auto stop position.
- 2. Open the hood.
- 3. Remove front wiper arm caps.
- 4. Remove the front wiper arm mounting nuts.
- Raise front wiper arm, and remove front wiper arm from the vehicle.

#### **INSTALLATION**

- 1. Clean wiper arm mount as shown in the figure to prevent nuts from being loosened.
- 2. Operate the front wiper motor to move the front wiper to the auto stop position.
- 3. Adjust the front wiper blade position. Refer to WW-117, "Adjustment".
- 4. Install the front wiper arm by tightening the mounting nuts.
- 5. Inject the washer fluid.
- 6. Operate the front wiper to move it to the auto stop position.
- 7. Check that the front wiper blades stop at the specified position.
- Install front wiper arm caps.

Adjustment

### WIPER BLADE POSITION ADJUSTMENT

Clearance between the end of cowl top cover and the top of wiper blade

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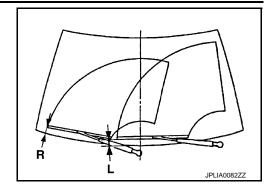
ELH0717D

# **FRONT WIPER ARM**

# < REMOVAL AND INSTALLATION >

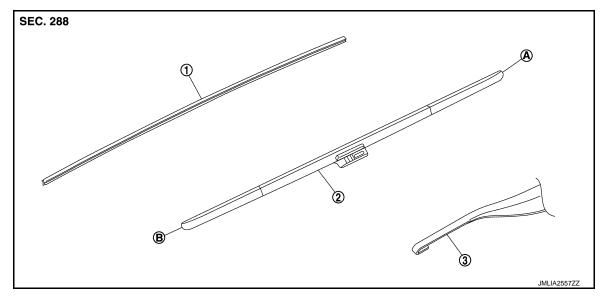
# Standard clearance

R :  $48.0 \pm 7.5$  mm  $(1.890 \pm 0.295$  in) L :  $76.5 \pm 7.5$  mm  $(3.012 \pm 0.295$  in)



# **WIPER BLADE**

Exploded View



Wiper refill

A : Wiper blade end

Wiper blade

B : Wiper blade tip

3. Wiper arm

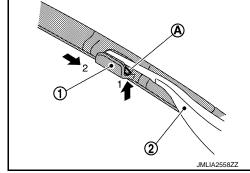
# Removal and Installation

### **REMOVAL**

1. Push up the lever (A) of wiper blade (1), while sliding wiper blade toward the direction of the arrow, to remove it from wiper arm (2).

### **CAUTION:**

Be careful not to drop the wiper blade onto the windshield glass to prevent damege to the windshield glass.

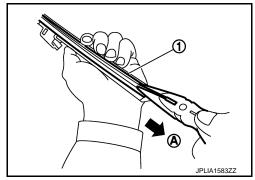


# **INSTALLATION**

- 1. Install wiper blade into wiper arm.
- Install wiper arm.

Replacement

 Hold the rip of old wiper refill (1) at the rear end of the wiper blade with long-nose pliers, and pull out the wiper refill to the direction (A).



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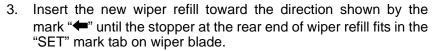
### WIPER BLADE

### < REMOVAL AND INSTALLATION >

 Insert the tip of new wiper refill (1) into the rear end of wiper blade (2). Slide the new wiper refill to the direction shown by the arrow while pressing the new wiper refill onto the wiper blade rear end.

#### NOTE:

- Insert the wiper refill to be held securely by tab of wiper blade as shown in section.
- After the wiper refill is fully inserted, remove the holder (3).
- \*: Attached to service parts.

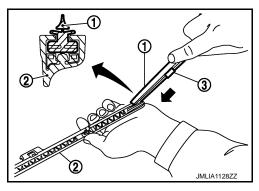


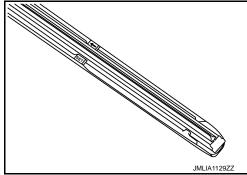
- 4. Untwist the twisted wiper refill at the rear end of wiper blade, if any.
- 5. Check the following items after replacing wiper refill.
  - Wiper refill is not twisted at all.
  - Wiper refill thoroughly fits in the tab on wiper blade.
  - Wiper refill is inserted from the proper direction.

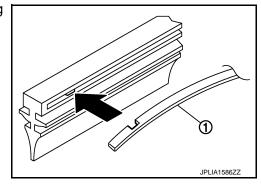
#### NOTE:

When the vertebra is detached.

- Insert the vertebra (1) into the wiper blade to the same bending direction.
- If a vertebra has a notch, fit it to a protrusion inside the wiper refill.



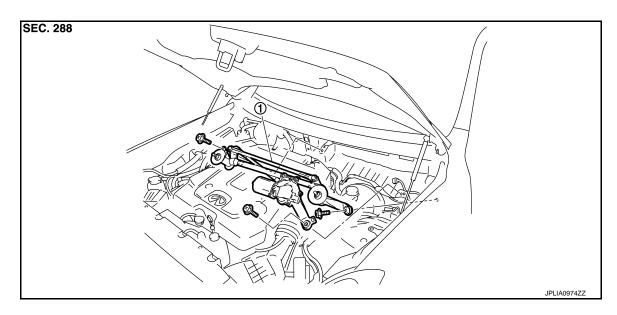




# FRONT WIPER DRIVE ASSEMBLY

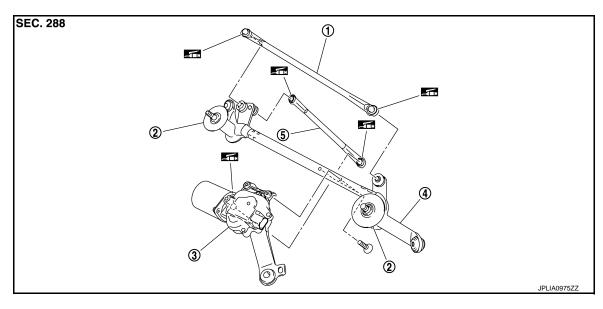
**Exploded View** INFOID:0000000008286245

# **REMOVAL**



1. Front wiper drive assembly

### DISASSEMBLY



- Front wiper linkage 1
- Shaft seal

Front wiper motor

Front wiper frame

- Front wiper linkage 2
- : Multi-purpose grease or an equivalent.

# Removal and Installation

# INFOID:0000000008286246

# **REMOVAL**

- Remove front wiper arm. Refer to WW-117, "Removal and Installation".
- Remove cowl top cover. Refer to EXT-23, "Removal and Installation". 2.
- Remove bolts from the front wiper drive assembly.

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# FRONT WIPER DRIVE ASSEMBLY

### < REMOVAL AND INSTALLATION >

- 4. Disconnect the front wiper motor connector.
- 5. Remove front wiper drive assembly from the vehicle.

#### INSTALLATION

- 1. Install the front wiper drive assembly to the vehicle.
- 2. Connect the front wiper motor connector.
- 3. Operate the front wiper to move it to the auto stop position.
- 4. Install the cowl top cover. Refer to EXT-23, "Removal and Installation".
- 5. Install front wiper arms. Refer to WW-117, "Removal and Installation".

# Disassembly and Assembly

INFOID:0000000008286247

#### DISASSEMBLY

1. Remove the front wiper linkage 1 and 2 from the front wiper drive assembly.

#### **CAUTION:**

Never bend the linkage or damage the plastic part of the ball joint when removing the wiper linkage.

2. Remove the front wiper motor mounting screws, and then remove the front wiper motor from the front wiper frame.

#### **ASSEMBLY**

- Connect the front wiper motor connector.
- 2. Operate the front wiper to move it to the auto stop position.
- 3. Disconnect the front wiper motor connector.
- 4. Install front wiper motor to front wiper frame.
- 5. Install the front wiper linkage 2 to the front wiper motor and the front wiper frame.
- 6. Install the front wiper linkage 1 to the front wiper frame.

#### **CAUTION:**

- Never drop front wiper motor or cause it to come into contact with other parts.
- Be careful for the grease condition at the front wiper motor and front wiper linkage joint (retainer). Apply Multi-purpose grease or an equivalent if necessary.

# **WIPER AND WASHER SWITCH**

# < REMOVAL AND INSTALLATION >

# WIPER AND WASHER SWITCH

Exploded View

Refer to BCS-97, "Exploded View".

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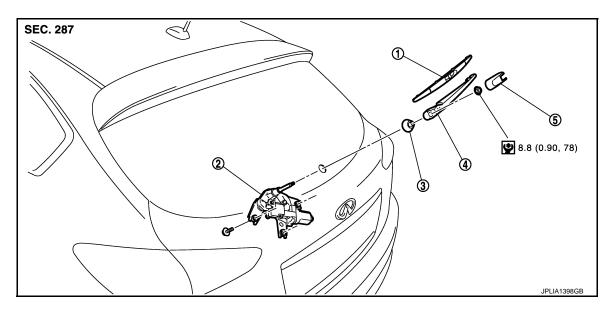
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# **REAR WIPER ARM**

Exploded View



- Rear wiper blade
   Rear wiper arm
- 2. Rear wiper motor
- 5. Rear wiper arm cover

3. Pivot seal

Refer to GI-4, "Components" for symbols in the figure.

### Removal and Installation

INFOID:0000000008286250

# REMOVAL

- 1. Operate the rear wiper to the auto stop position.
- 2. Remove the rear wiper arm cover.
- 3. Remove the rear wiper arm mounting nut.
- 4. Raise rear wiper arm, and remove wiper arm from the vehicle.

### **INSTALLATION**

- 1. Clean wiper arm mount as shown in the figure to prevent nut from being loosened.
- 2. Operate the rear wiper motor to the auto stop position.
- 3. Adjust the rear wiper blade position. Refer to <a href="https://www.nefer.com/www-124, "Adjust-ment"/www.nefer.com/www.nefer.
- 4. Install the rear wiper arm by tightening the mounting nut.
- 5. Inject the washer fluid.
- 6. Operate the rear wiper to the auto stop position.
- 7. Check that the rear wiper blades stop at the specified position.
- 8. Install the rear wiper arm cover.



Adjustment

### REAR WIPER BLADE POSITION ADJUSTMENT

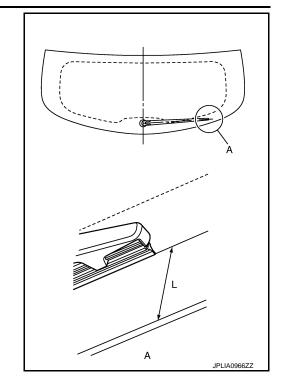
Clearance between the end of back door glass and the top of wiper blade center.

# **REAR WIPER ARM**

# < REMOVAL AND INSTALLATION >

Standard clearance

L : 35.0  $\pm$  7.5 mm (1.378  $\pm$  0.295 in)



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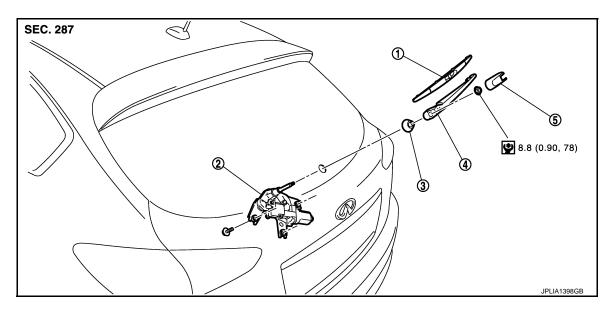
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# **REAR WIPER MOTOR**

Exploded View



- Rear wiper blade
   Rear wiper arm
- 2. Rear wiper motor
- 5. Rear wiper arm cover

3. Pivot seal

Refer to GI-4, "Components" for symbols in the figure.

### Removal and Installation

INFOID:0000000008286253

### **REMOVAL**

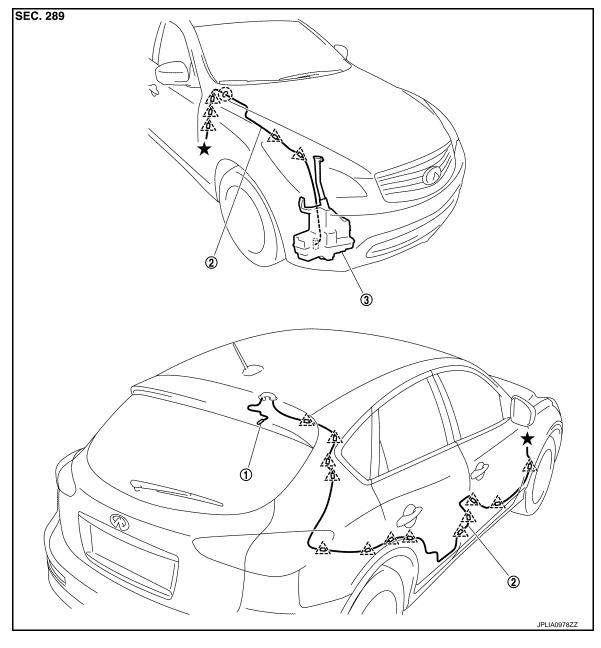
- 1. Remove rear wiper arm cover and rear wiper arm. Refer to WW-124, "Removal and Installation".
- 2. Remove back door finisher inner. Refer to <a href="INT-40">INT-40</a>, "Exploded View".
- 3. Disconnect the rear wiper motor connector.
- 4. Remove rear wiper motor mounting bolts.
- 5. Remove rear wiper motor from the vehicle.
- 6. Remove pivot seal.

### **INSTALLATION**

- 1. Install the pivot seal.
- 2. Install the rear wiper motor to the vehicle.
- 3. Connect the rear wiper motor connector.
- 4. Operate the rear wiper to the auto stop position.
- 5. Install the back door finisher inner. Refer to INT-40, "Exploded View".
- 6. Install rear wiper arm cover and rear wiper arm. Refer to WW-124, "Removal and Installation".

# **REAR WASHER NOZZLE AND TUBE**

Hydraulic Layout



- 1. Rear washer nozzle
- 2. Rear washer tube
- Washer tank

ر^` : Clip

( ): Grommet

# Removal and Installation

# **REMOVAL**

- Remove the high-mounted stop lamp. Refer to <u>EXL-224, "Exploded View"</u>.
- 2. Remove the rear washer tube from the rear washer nozzle.

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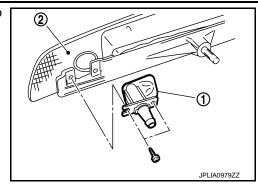
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# **REAR WASHER NOZZLE AND TUBE**

# < REMOVAL AND INSTALLATION >

3. Remove the rear washer nozzle (1) from the high-mounted stop lamp (2).



### **INSTALLATION**

Install in the reverse order of removal.

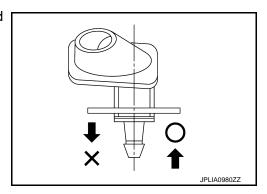
# Inspection and Adjustment

INFOID:0000000008286256

### **INSPECTION**

Washer Nozzle Inspection

Check that air can pass through the hose by blowing forward (toward the nozzle), and check that air cannot pass through by sucking.



#### **ADJUSTMENT**

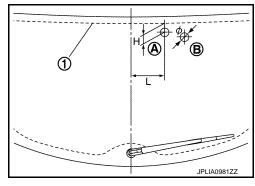
Washer Nozzle Spray Position adjustment

Adjust spray positions to match the positions shown in the figure.

1 : Black printed frame line

Unit: mm (in)

Spray position	H: Height	L: Length	φ : Spray position area
A	32.0 (1.26)	120.5 (4.74)	30 (1.18)
В	49.6 (1.95)	189.7 (7.47)	30 (1.18)



Insert a needle or similar object (A) into the spray opening (1) and move up/down and left/right to adjust the spray position.

# NOTE:

If wax or dust gets into the nozzle, remove wax or dust with a needle or small pin.

