

WW  
**SECTION**  
**WIPER & WASHER**

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# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

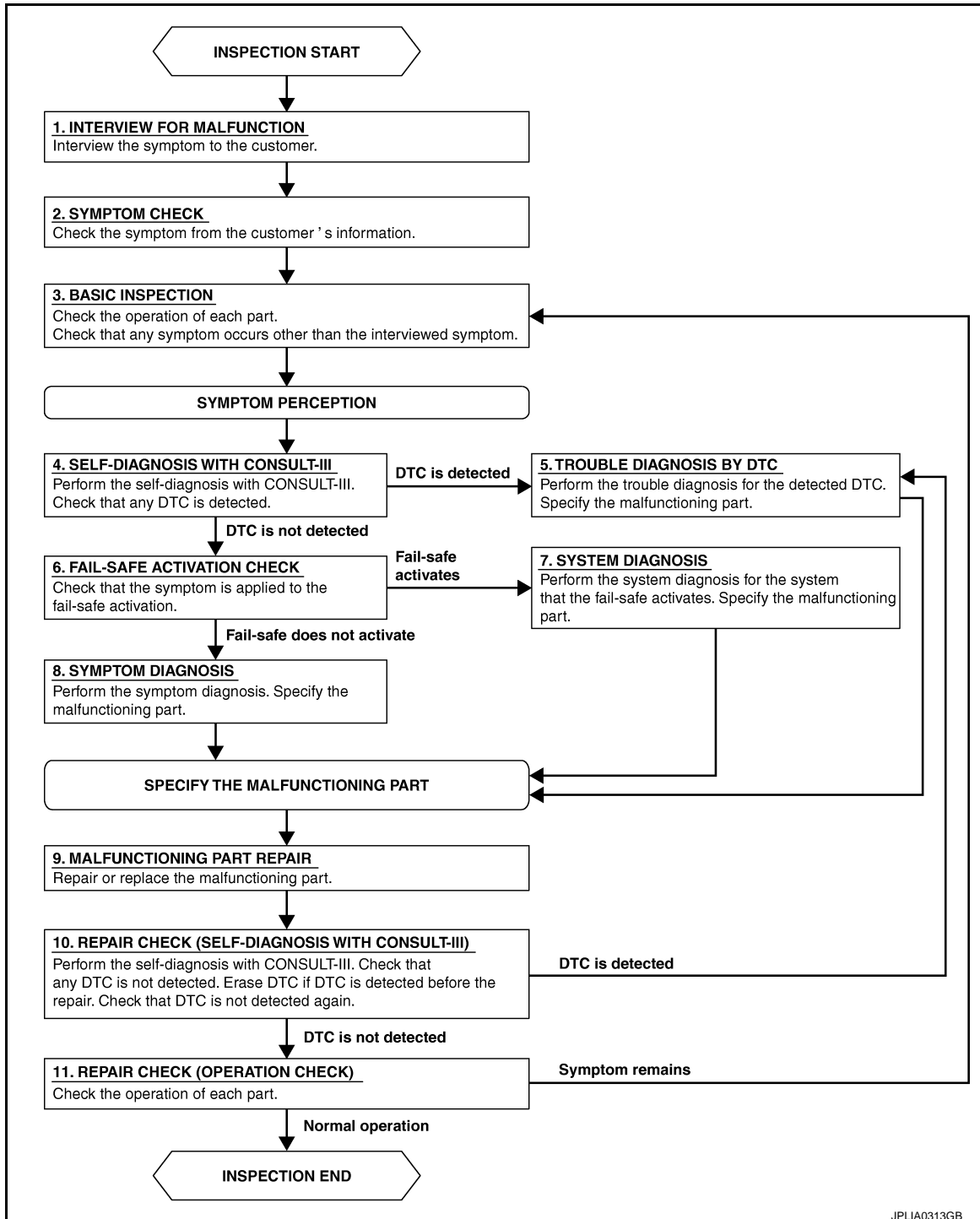
## BASIC INSPECTION

### DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000005116468

#### OVERALL SEQUENCE



JPLIA0313GB

#### DETAILED FLOW

##### 1. INTERVIEW FOR MALFUNCTION

Interview the symptom to the customer.

# DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

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>> GO TO 2.

## 2. SYMPTOM CHECK

---

Check the symptom from the customer's information.

>> GO TO 3.

## 3. BASIC INSPECTION

---

Check the operation of each part. Check that any symptom occurs other than the interviewed symptom.

>> GO TO 4.

## 4. SELF-DIAGNOSIS WITH CONSULT-III

---

Perform the self-diagnosis with CONSULT-III. Check that any DTC is detected.

Is any DTC detected?

YES >> GO TO 5.

NO >> GO TO 6.

## 5. TROUBLE DIAGNOSIS BY DTC

---

Perform the trouble diagnosis for the detected DTC. Specify the malfunctioning part.

>> GO TO 9.

## 6. FAIL-SAFE ACTIVATION CHECK

---

Check that the symptom is applied to the fail-safe activation.

Does the fail-safe activate?

YES >> GO TO 7.

NO >> GO TO 8.

## 7. SYSTEM DIAGNOSIS

---

Perform the system diagnosis for the system that the fail-safe activates. Specify the malfunctioning part.

>> GO TO 9.

## 8. SYMPTOM DIAGNOSIS

---

Perform the symptom diagnosis. Specify the malfunctioning part.

>> GO TO 9.

## 9. MALFUNCTION PART REPAIR

---

Repair or replace the malfunctioning part.

>> GO TO 10.

## 10. REPAIR CHECK (SELF-DIAGNOSIS WITH CONSULT-III)

---

Perform the self-diagnosis with CONSULT-III. Check that any DTC is not detected. Erase DTC if DTC is detected before the repair. Check that DTC is not detected again.

Is any DTC detected?

YES >> GO TO 5.

NO >> GO TO 11.

## 11. REPAIR CHECK (OPERATION CHECK)

---

Check the operation of each part.

Does it operate normally?

YES >> INSPECTION END

NO >> GO TO 3.

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# FRONT WIPER AND WASHER SYSTEM

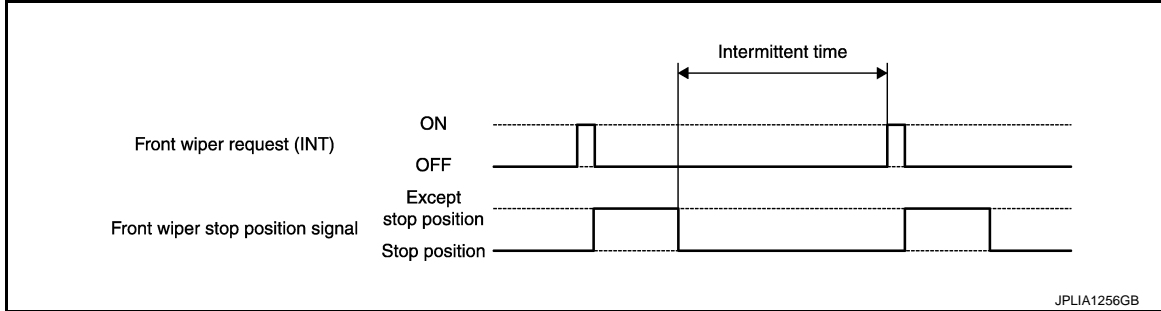
## < SYSTEM DESCRIPTION >

### 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-III. Refer to [WW-14. "WIPER : CONSULT-III Function \(BCM - WIPER\)"](#) (with Intelligent Key) or [WW-17. "WIPER : CONSULT-III Function \(BCM - WIPER\)"](#) (without Intelligent Key).

Front wiper intermittent operation with vehicle speed

- BCM calculates the intermittent operation delay interval from the following.
  - Vehicle speed signal (received from the combination meter with CAN communication)
  - Wiper intermittent dial position

Unit: Second

Wiper intermittent dial position	Intermittent operation interval	Intermittent operation delay Interval			
		Vehicle speed			
		0 – 5 km/h (0 – 3.1 MPH)	5 – 35 km/h (3.1 – 21.7 MPH)	35 – 65 km/h (21.7 – 40.4 MPH)*	65 km/h (40.4 MPH) or more
1	Short ↑	0.8	0.6	0.4	0.24
2		4	3	2	1.2
3		10	7.5	5	3
4		16	12	8	4.8
5		24	18	12	7.2
6	Long ↓	32	24	16	9.6
7		42	31.5	21	12.6

\*: When without vehicle speed setting

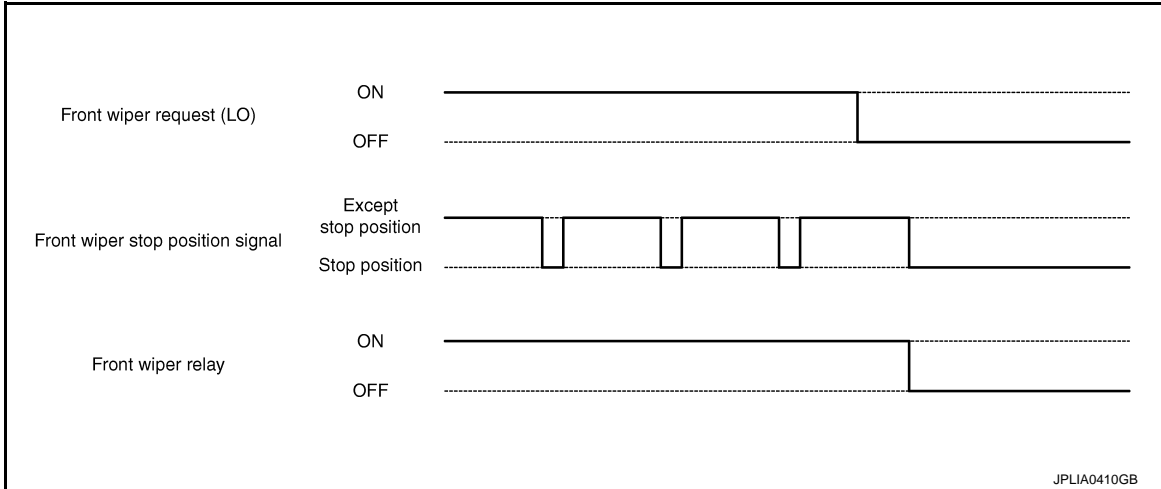
### FRONT WIPER AUTO STOP OPERATION

- 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).

# 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.



### NOTE:

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

### FRONT WIPER FAIL-SAFE OPERATION

IPDM E/R performs the fail-safe function when the front wiper auto stop circuit is malfunctioning. Refer to [PCS-31. "Fail-Safe"](#).

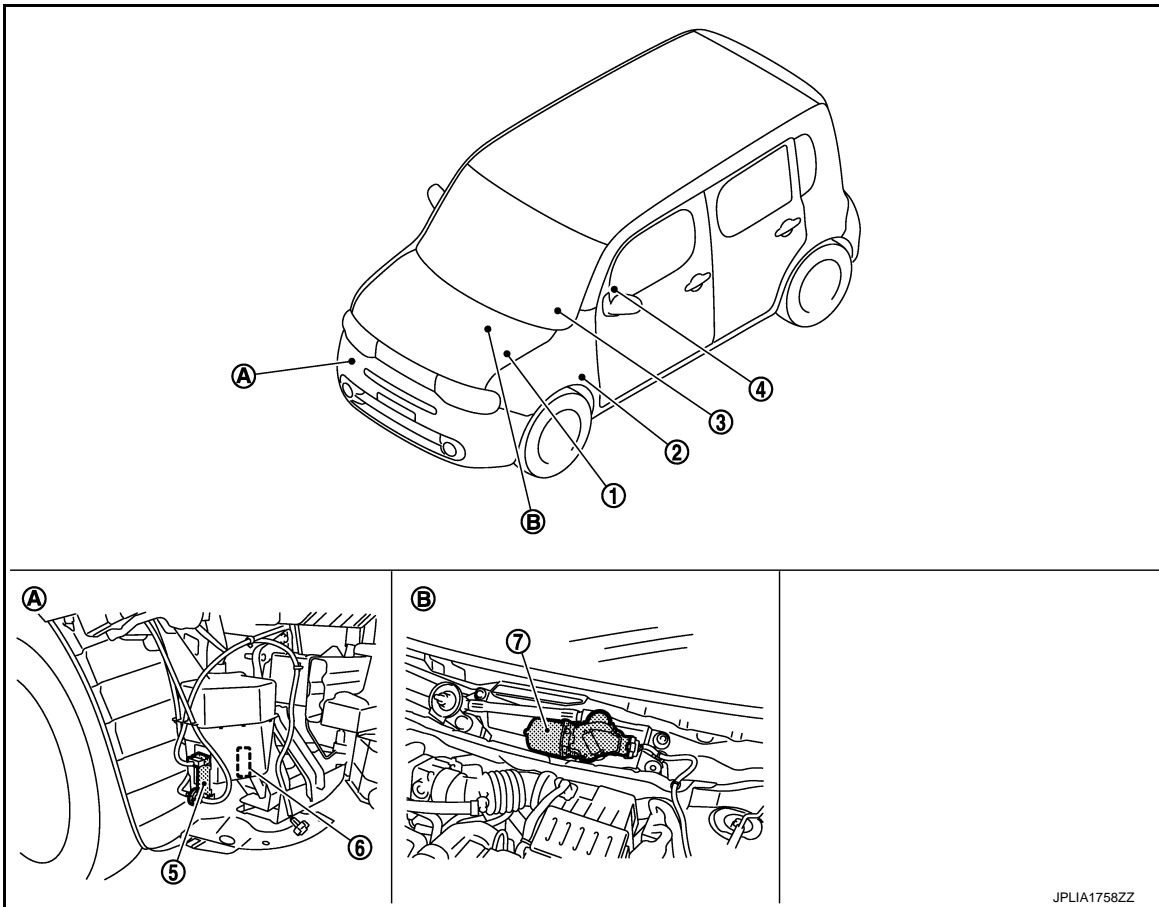


# FRONT WIPER AND WASHER SYSTEM

< SYSTEM DESCRIPTION >

## Component Parts Location

INFOID:000000005116471



- |  |   |   |
|--|---|---|
| <p>1. IPDM E/R<br/>Refer to <a href="#">PCS-6, "Component Parts Location"</a>.</p> <p>4. Combination switch</p> <p>7. Front wiper motor</p> <p>A. Radiator core support (RH)</p> | <p>2. BCM<br/>Refer to <a href="#">BCS-9, "Component Parts Location"</a> (with Intelligent Key system) or <a href="#">BCS-88, "Component Parts Location"</a> (without Intelligent Key system).</p> <p>5. Washer pump</p> <p>B. Cowl top, left side of engine room</p> | <p>3. Combination meter<br/>Refer to <a href="#">MWI-8, "METER SYSTEM : Component Parts Location"</a>.</p> <p>6. Washer level switch<br/>(For Canada)</p> |
|--|---|---|

## Component Description

INFOID:000000005116472

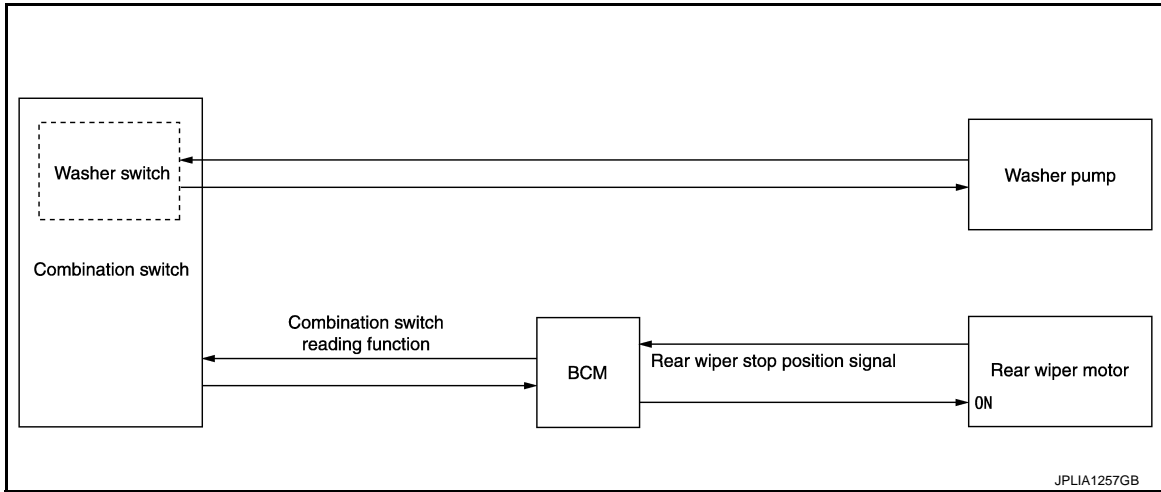
Part	Description
BCM	<ul style="list-style-type: none"> <li>Judges each switch status by the combination switch reading function.</li> <li>Requests (with CAN communication) the front wiper relay and the front wiper high relay ON to IPDM E/R.</li> </ul>
IPDM E/R	<ul style="list-style-type: none"> <li>Controls 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>
Combination switch (Wiper & washer switch)	Refer to <a href="#">BCS-10, "System Diagram"</a> .
Combination meter	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

INFOID:000000005116474

#### 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

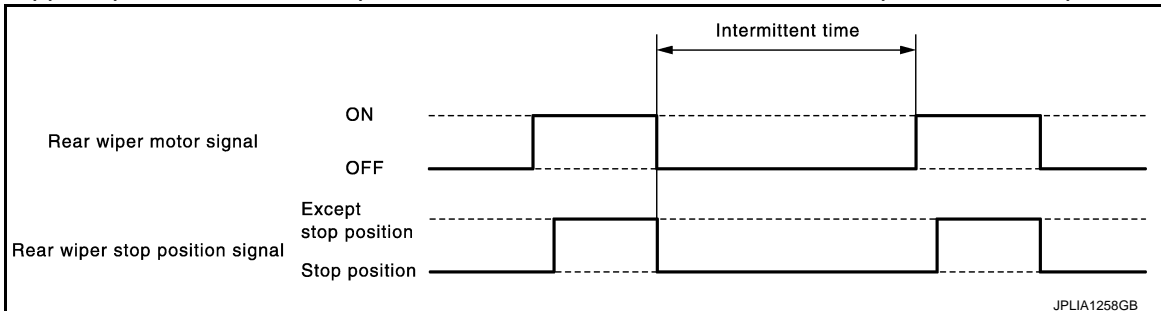
- Ignition switch ON
- Rear wiper switch ON

#### 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.



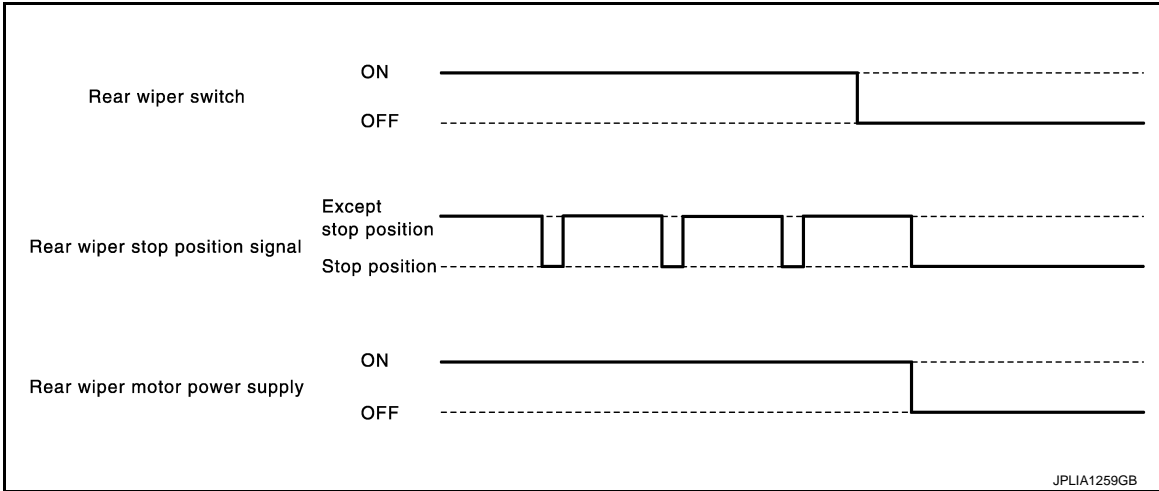
#### REAR WIPER AUTO STOP OPERATION

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

# REAR WIPER AND WASHER SYSTEM

## < SYSTEM DESCRIPTION >

- BCM reads a 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 FAIL-SAFE OPERATION

BCM performs the fail-safe function when the rear wiper auto stop circuit is malfunctioning. Refer to [BCS-73](#), "[Fail-safe](#)".

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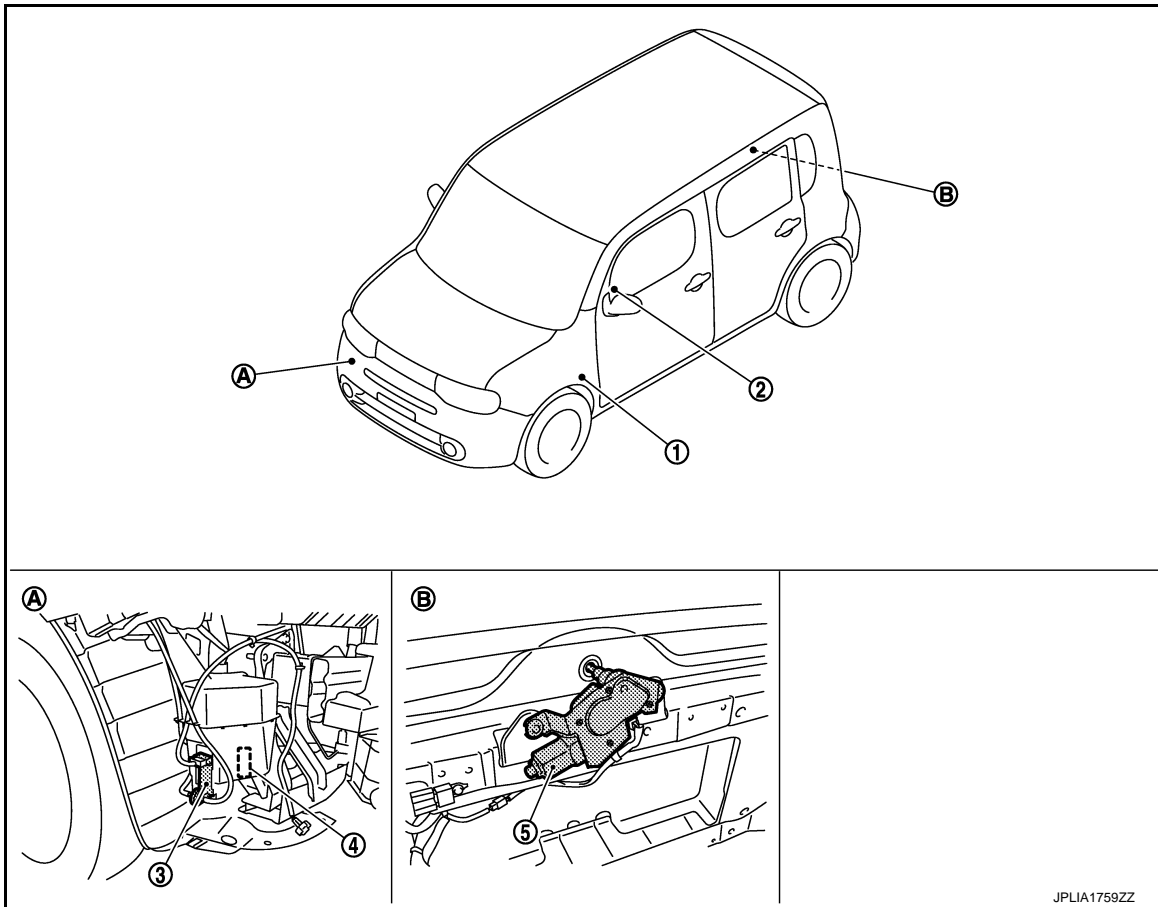
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# REAR WIPER AND WASHER SYSTEM

< SYSTEM DESCRIPTION >

## Component Parts Location

INFOID:000000005116475



- |  |                              |                |
|--|------------------------------|----------------|
| 1. BCM<br>Refer to <a href="#">BCS-9. "Component Parts Location"</a> (with Intelligent Key system) or <a href="#">BCS-88. "Component Parts Location"</a> (without Intelligent Key system). | 2. Combination switch        | 3. Washer pump |
| 4. Washer level switch<br>(For canada)   | 5. Rear wiper motor          |                |
| A. Radiator core support (RH)  | B. Back door finisher inside |                |

## Component Description

INFOID:000000005116476

Part	Description
BCM	<ul style="list-style-type: none"> <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 <a href="#">BCS-10. "System Diagram"</a> .

# DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

## DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM) COMMON ITEM

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

INFOID:000000005162296

### APPLICATION ITEM

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

Diagnosis mode	Function Description
Work Support	Changes the setting for each system function.
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM. Refer to CONSULT-III operation manual.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Ecu Identification	The BCM part number is displayed.
Configuration	<ul style="list-style-type: none"> <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.

x: Applicable item

System	Sub system selection item	Diagnosis mode		
		Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	x	x	x
Rear window defogger	REAR DEFOGGER		x	x
Warning chime	BUZZER		x	x
Interior room lamp timer	INT LAMP	x	x	x
Exterior lamp	HEAD LAMP	x	x	x
Wiper and washer	WIPER	x	x	x
Turn signal and hazard warning lamps	FLASHER	x	x	x
Automatic air conditioner	AIR CONDITONER		x	x
<ul style="list-style-type: none"> <li>Intelligent Key system</li> <li>Engine start system</li> </ul>	INTELLIGENT KEY	x	x	x
Combination switch	COMB SW		x	
Body control system	BCM	x		
NVIS - NATS	IMMU	x	x	x
Interior room lamp battery saver	BATTERY SAVER	x	x	x
Back door	TRUNK		x	
Vehicle security system	THEFT ALM	x	x	x
RAP system	RETAINED PWR		x	
Signal buffer system	SIGNAL BUFFER		x	x
TPMS	TPMS (AIR PRESSURE MONITOR)	x	x	x

### FREEZE FRAME DATA (FFD)

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

# DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM)

## < 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	
Vehicle Condition	SLEEP>LOCK	Power position status of the moment a particular DTC is detected	While turning BCM status from low power consumption mode to normal mode (Power supply position is "LOCK")
	SLEEP>OFF		While turning BCM status from low power consumption mode to normal mode (Power supply position is "OFF".)
	LOCK>ACC		While turning power supply position from "LOCK" to "ACC"
	ACC>ON		While turning power supply position from "ACC" to "IGN"
	RUN>ACC		While turning power supply position from "RUN" to "ACC" (Vehicle is stopping and selector lever is except P position.)
	CRANK>RUN		While turning power supply position from "CRANKING" to "RUN" (From cranking up the engine to run it)
	RUN>URGENT		While turning power supply position from "RUN" to "ACC" (Emergency stop operation)
	ACC>OFF		While turning power supply position from "ACC" to "OFF"
	OFF>LOCK		While turning power supply position from "OFF" to "LOCK"
	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" (Ignition switch OFF with steering is locked.)
	OFF		Power supply position is "OFF" (Ignition switch OFF with steering is unlocked.)
	ACC		Power supply position is "ACC" (Ignition switch ACC)
	ON		Power supply position is "IGN" (Ignition switch ON with engine stopped)
ENGINE RUN	Power supply position is "RUN" (Ignition switch ON with engine running)		
CRANKING	Power supply position is "CRANKING" (At engine cranking)		
IGN Counter	0 - 39	<p>The number of times that ignition switch is turned ON after DTC is detected</p> <ul style="list-style-type: none"> <li>• The number is 0 when a malfunction is detected now.</li> <li>• The number increases like 1 → 2 → 3...38 → 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>	

## WIPER

### WIPER : CONSULT-III Function (BCM - WIPER)

INFOID:000000005116478

## WORK SUPPORT

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

\*:Factory setting

## DATA MONITOR

# DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM)

## < SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
PUSH SW [Off/On]	The switch status input from push-button ignition switch.
VEH SPEED 1 [km/h]	The value of the vehicle speed signal received from combination meter with CAN communication.
FR WIPER HI [Off/On]	Each switch status that BCM judges from the combination switch reading function.
FR WIPER LOW [Off/On]	
FR WASHER SW [Off/On]	
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]	Each switch status that BCM judges from the combination switch reading function.
RR WIPER INT [Off/On]	
RR WASHER SW [Off/On]	
RR WIPER STOP [Off/On]	Rear wiper motor (stop position) status input from the rear wiper motor.
RAIN SENSOR [Off/On]	<b>NOTE:</b> The item is indicated, but not monitored.

## ACTIVE TEST

Test item	Operation	Description
FR WIPER	Hi	Transmits the front wiper request signal (HI) to IPDM E/R with CAN communication to operate the front wiper HI operation.
	Lo	Transmits the front wiper request signal (LO) to IPDM E/R with CAN communication to operate 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.
	Off	Stops the voltage to stop.

## DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

### DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM) COMMON ITEM

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

INFOID:000000005162595

#### APPLICATION ITEM

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

Diagnosis mode	Function Description
Work Support	Changes the setting for each system function.
Self Diagnostic Result	Displays the diagnosis results judged by BCM.
CAN Diag Support Monitor	Monitors the reception status of CAN communication viewed from BCM. Refer to CONSULT-III operation manual.
Data Monitor	The BCM input/output signals are displayed.
Active Test	The signals used to activate each device are forcibly supplied from BCM.
Ecu Identification	The BCM part number is displayed.
Configuration	<ul style="list-style-type: none"> <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.

x: Applicable item

System	Sub system selection item	Diagnosis mode		
		Work Support	Data Monitor	Active Test
Door lock	DOOR LOCK	x	x	x
Rear window defogger	REAR DEFOGGER		x	x
Warning chime	BUZZER		x	x
Interior room lamp control	INT LAMP	x	x	x
Remote keyless entry system	MULTI REMOTE ENT	x	x	x
Exterior lamp	HEAD LAMP	x	x	x
Wiper and washer	WIPER	x	x	x
Turn signal and hazard warning lamps	FLASHER		x	x
<ul style="list-style-type: none"> <li>• Automatic air conditioner</li> <li>• Manual air conditioner</li> </ul>	AIR CONDITONER		x	x
Combination switch	COMB SW		x	
Body control system	BCM	x		
NVIS - NATS	IMMU	x	x	x
Interior room lamp battery saver	BATTERY SAVER	x	x	x
Back door	TRUNK		x	
Vehicle security system	THEFT ALM	x	x	x
RAP system	RETAINED PWR		x	x
Signal buffer system	SIGNAL BUFFER		x	x
TPMS	TPMS (AIR PRESSURE MONITOR)	x	x	x
Panic alarm system	PANIC ALARM			x

#### WIPER



# DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

## WIPER : CONSULT-III Function (BCM - WIPER)

INFOID:000000005116533

### WORK SUPPORT

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

\*:Factory setting

### DATA MONITOR

Monitor Item [Unit]	Description
IGN ON SW [On/Off]	Ignition switch ON status judged from ignition power supply.
IGN SW CAN [On/Off]	Ignition switch ON status received from IPDM E/R with CAN communication.
FR WIPER HI [On/Off]	Each switch status that BCM judges from the combination switch reading function.
FR WIPER LOW [On/Off]	
FR WIPER INT [On/Off]	
FR WASHER SW [On/Off]	
INT VOLUME [1 - 7]	Each switch status that BCM judges from the combination switch reading function.
FR WIPER STOP [On/Off]	Front wiper motor (stop position) status received from IPDM E/R with CAN communication.
VEHICLE SPEED [km/h]	The value of the vehicle speed signal received from combination meter with CAN communication.
RR WIPER ON [On/Off]	Each switch status that BCM judges from the combination switch reading function.
RR WIPER INT [On/Off]	
RR WASHER SW [On/Off]	
REVERSE SW CAN [On/Off]	<b>NOTE:</b> The item is indicated, but not monitored.
RAIN SENSOR [On/Off]	

### ACTIVE TEST

Test item	Operation	Description
FR WIPER	Hi	Transmits the front wiper request signal (HI) to IPDM E/R with CAN communication to operate the front wiper HI operation.
	Lo	Transmits the front wiper request signal (LO) to IPDM E/R with CAN communication to operate 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.

# DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM)

## < SYSTEM DESCRIPTION >

Test item	Operation	Description
RR WIPER	On	Outputs the voltage to operate the rear wiper motor.
	Off	Stops the voltage to stop.

# DIAGNOSIS SYSTEM (IPDM E/R) (WITH INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

## DIAGNOSIS SYSTEM (IPDM E/R) (WITH INTELLIGENT KEY SYSTEM)

### Diagnosis Description

INFOID:000000005189320

### AUTO ACTIVE TEST

#### Description

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

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

#### 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 driver door switch 10 times. Then turn the ignition switch OFF.  
**CAUTION:**  
**Close passenger door.**
4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
5. The oil pressure warning lamp starts blinking when the auto active test starts.
6. After a series of the following operations is repeated 3 times, auto active test is completed.

#### **NOTE:**

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

#### **CAUTION:**

- **If auto active test mode cannot be actuated, check door switch system. Refer to [DLK-55](#), "[Component Function Check](#)".**
- **Do not start the engine.**

#### Inspection in Auto Active Test Mode

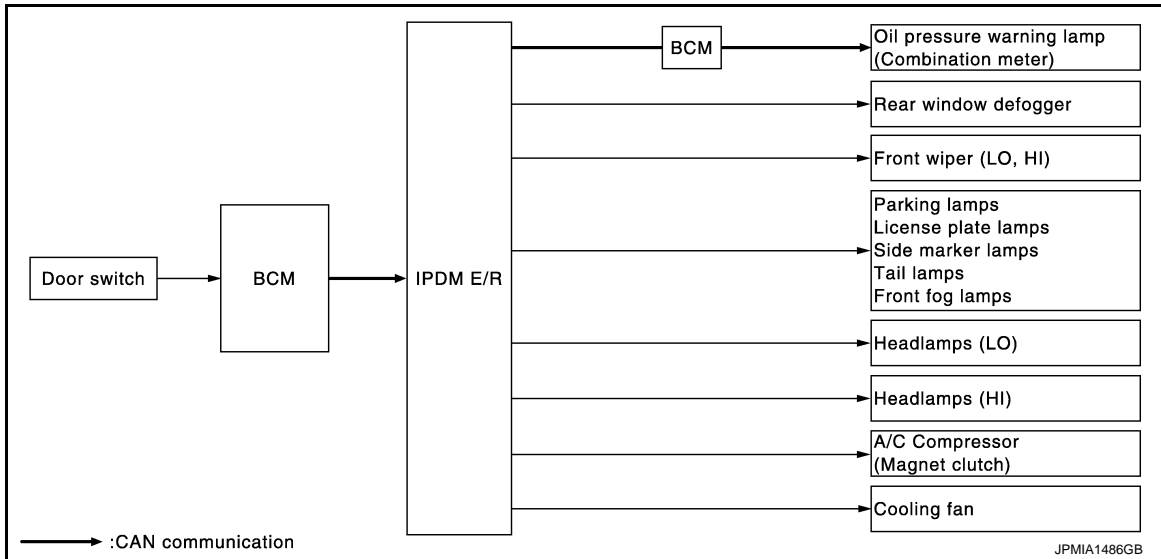
When auto active test mode is actuated, the following 6 steps are repeated 3 times.

Operation sequence	Inspection location	Operation
A	Oil pressure warning lamp	Blinks continuously during operation of auto active test
1	Rear window defogger	10 seconds
2	Front wiper	LO for 5 seconds → HI for 5 seconds
3	<ul style="list-style-type: none"><li>• Parking lamps</li><li>• Side marker lamps</li><li>• License plate lamps</li><li>• Tail lamps</li><li>• Front fog lamps</li></ul>	10 seconds
4	Headlamps	LO for 10 seconds → HI ON ↔ OFF 5 times
5	A/C compressor (magnet clutch)	ON ↔ OFF 5 times
6	Cooling fan	LO for 5 seconds → HI for 5 seconds

# DIAGNOSIS SYSTEM (IPDM E/R) (WITH INTELLIGENT KEY SYSTEM)

## < 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
Rear window defogger does not operate	Perform auto active test. Does the rear window defogger operate?	YES BCM signal input circuit
		NO <ul style="list-style-type: none"> <li>• Rear window defogger</li> <li>• Rear window defogger ground circuit</li> <li>• Harness or connector between IPDM E/R and rear window defogger</li> <li>• IPDM E/R</li> </ul>
Any of the following components do not operate <ul style="list-style-type: none"> <li>• Parking lamps</li> <li>• Side marker lamps</li> <li>• License plate lamps</li> <li>• Tail lamps</li> <li>• Front fog lamps</li> <li>• Headlamps (HI, LO)</li> <li>• Front wiper (HI, LO)</li> </ul>	Perform auto active test. Does the applicable system operate?	YES BCM signal input circuit
		NO <ul style="list-style-type: none"> <li>• Lamp or motor</li> <li>• Lamp or motor ground circuit</li> <li>• Harness or connector between IPDM E/R and applicable system</li> <li>• IPDM E/R</li> </ul>
A/C compressor does not operate	Perform auto active test. Does the magnet clutch operate?	YES <ul style="list-style-type: none"> <li>• A/C amp. signal input circuit</li> <li>• CAN communication signal between A/C amp. and ECM</li> <li>• CAN communication signal between ECM and IPDM E/R</li> </ul>
		NO <ul style="list-style-type: none"> <li>• Magnet clutch</li> <li>• Harness or connector between IPDM E/R and magnet clutch</li> <li>• IPDM E/R</li> </ul>

# DIAGNOSIS SYSTEM (IPDM E/R) (WITH INTELLIGENT KEY SYSTEM)

## < SYSTEM DESCRIPTION >

Symptom	Inspection contents		Possible cause
Oil pressure warning lamp does not operate	Perform auto active test. Does the oil pressure warning lamp blink?	YES	<ul style="list-style-type: none"> <li>• Harness or connector between IPDM E/R and oil pressure switch</li> <li>• Oil pressure switch</li> <li>• IPDM E/R</li> </ul>
		NO	<ul style="list-style-type: none"> <li>• CAN communication signal between IPDM E/R and BCM</li> <li>• CAN communication signal between BCM and combination meter</li> <li>• Combination meter</li> </ul>
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	YES	<ul style="list-style-type: none"> <li>• ECM signal input circuit</li> <li>• CAN communication signal between ECM and IPDM E/R</li> </ul>
		NO	<ul style="list-style-type: none"> <li>• Cooling fan motor</li> <li>• Harness or connector between IPDM E/R and cooling fan motor</li> <li>• IPDM E/R</li> </ul>

## CONSULT-III Function (IPDM E/R)

INFOID:000000005189321

### APPLICATION ITEM

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

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

### SELF DIAGNOSTIC RESULT

Refer to [PCS-33, "DTC Index"](#).

### DATA MONITOR

Monitor item

Monitor Item [Unit]	MAIN SIGNALS	Description
MOTOR FAN REQ [1/2/3/4]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication.
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.

# DIAGNOSIS SYSTEM (IPDM E/R) (WITH INTELLIGENT KEY SYSTEM)

## < SYSTEM DESCRIPTION >

Monitor Item [Unit]	MAIN SIG- NALS	Description
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
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 clutch interlock switch (M/T models) or shift position (CVT models) 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 CVT shift selector (detention switch) judged by IPDM E/R.
S/L RLY -REQ [Off/On]		Displays the status of the steering lock relay signal received from BCM via CAN communication.
S/L STATE [LOCK/UNLOCK/UNKWN]		Displays the status of the steering lock judged by IPDM E/R.
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication. <b>NOTE:</b> This item is monitored only the vehicle with daytime running light system.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
HOOD SW [Off/On]		<b>NOTE:</b> 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.

## ACTIVE TEST

### Test item

Test item	Operation	Description
HORN	On	Operates horn relay for 20 ms.
	Off	OFF
FRONT WIPER	Lo	Operates the front wiper relay.
	Hi	Operates the front wiper relay and front wiper high relay.
MOTOR FAN	1	OFF
	2	Operates the cooling fan relay (LO operation).
	3	Operates the cooling fan relay (HI operation).
	4	

# DIAGNOSIS SYSTEM (IPDM E/R) (WITH INTELLIGENT KEY SYSTEM)

## < SYSTEM DESCRIPTION >

Test item	Operation	Description
EXTERNAL LAMPS	Off	OFF
	TAIL	Operates the tail lamp relay.
	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.

A

B

C

D

E

F

G

H

I

J

K

WW

M

N

O

P

# DIAGNOSIS SYSTEM (IPDM E/R) (WITHOUT INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

## DIAGNOSIS SYSTEM (IPDM E/R) (WITHOUT INTELLIGENT KEY SYSTEM)

### Diagnosis Description

INFOID:000000005189322

#### AUTO ACTIVE TEST

##### Description

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

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

##### 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 driver door switch 10 times. Then turn the ignition switch OFF.

##### CAUTION:

**Close passenger door.**

4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
5. The oil pressure warning lamp starts blinking when the auto active test starts.
6. After a series of the following operations is repeated 3 times, auto active test is completed.

##### NOTE:

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

##### CAUTION:

- **If auto active test mode cannot be actuated, check door switch system. Refer to [DLK-55, "Component Function Check"](#).**
- **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
A	Oil pressure warning lamp	Blinks continuously during operation of auto active test
1	Rear window defogger	10 seconds
2	Front wiper	LO for 5 seconds → HI for 5 seconds
3	<ul style="list-style-type: none"><li>• Parking lamps</li><li>• Side marker lamps</li><li>• License plate lamps</li><li>• Tail lamps</li><li>• Front fog lamps</li></ul>	10 seconds
4	Headlamps	LO for 10 seconds → HI ON ↔ OFF 5 times

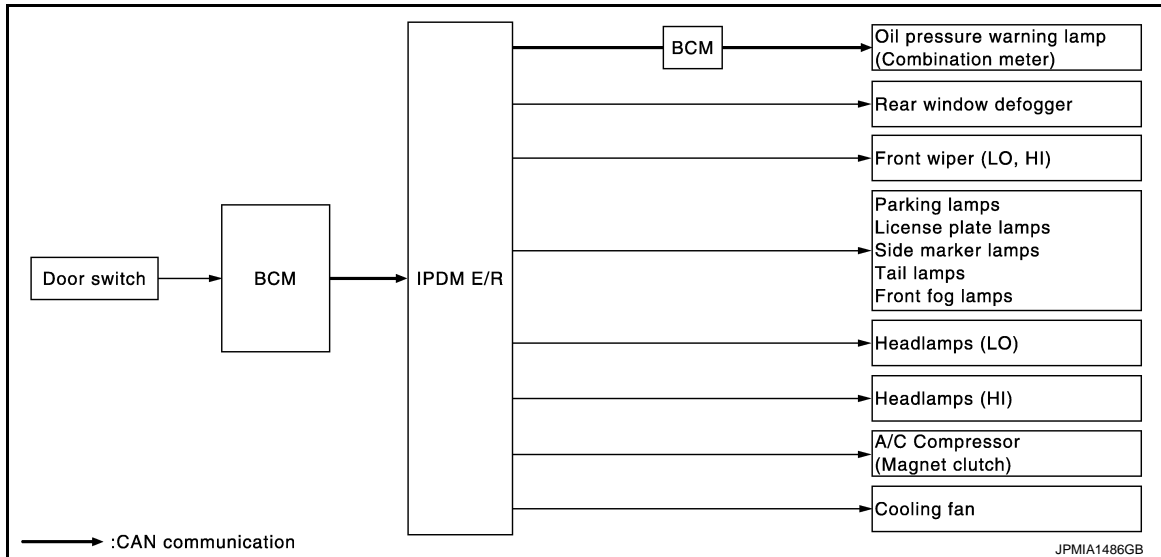


# DIAGNOSIS SYSTEM (IPDM E/R) (WITHOUT INTELLIGENT KEY SYSTEM)

## < SYSTEM DESCRIPTION >

Operation sequence	Inspection location	Operation
5	A/C compressor (magnet clutch)	ON ⇔ OFF 5 times
6	Cooling fan	LO for 5 seconds → HI for 5 seconds

### 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
Rear window defogger does not operate	Perform auto active test. Does the rear window defogger operate?	YES BCM signal input circuit
		NO <ul style="list-style-type: none"> <li>• Rear window defogger</li> <li>• Rear window defogger ground circuit</li> <li>• Harness or connector between IPDM E/R and rear window defogger</li> <li>• IPDM E/R</li> </ul>
Any of the following components do not operate <ul style="list-style-type: none"> <li>• Parking lamps</li> <li>• Side marker lamps</li> <li>• License plate lamps</li> <li>• Tail lamps</li> <li>• Front fog lamps</li> <li>• Headlamps (HI, LO)</li> <li>• Front wiper (HI, LO)</li> </ul>	Perform auto active test. Does the applicable system operate?	YES BCM signal input circuit
		NO <ul style="list-style-type: none"> <li>• Lamp or motor</li> <li>• Lamp or motor ground circuit</li> <li>• Harness or connector between IPDM E/R and applicable system</li> <li>• IPDM E/R</li> </ul>
A/C compressor does not operate	Perform auto active test. Does the magnet clutch operate?	YES <ul style="list-style-type: none"> <li>• A/C amp. signal input circuit</li> <li>• CAN communication signal between A/C amp. and ECM</li> <li>• CAN communication signal between ECM and IPDM E/R</li> </ul>
		NO <ul style="list-style-type: none"> <li>• Magnet clutch</li> <li>• Harness or connector between IPDM E/R and magnet clutch</li> <li>• IPDM E/R</li> </ul>

# DIAGNOSIS SYSTEM (IPDM E/R) (WITHOUT INTELLIGENT KEY SYSTEM)

## < SYSTEM DESCRIPTION >

Symptom	Inspection contents	Possible cause
Oil pressure warning lamp does not operate	Perform auto active test. Does the oil pressure warning lamp blink?	YES <ul style="list-style-type: none"> <li>• Harness or connector between IPDM E/R and oil pressure switch</li> <li>• Oil pressure switch</li> <li>• IPDM E/R</li> </ul>
		NO <ul style="list-style-type: none"> <li>• CAN communication signal between IPDM E/R and BCM</li> <li>• CAN communication signal between BCM and combination meter</li> <li>• Combination meter</li> </ul>
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	YES <ul style="list-style-type: none"> <li>• ECM signal input circuit</li> <li>• CAN communication signal between ECM and IPDM E/R</li> </ul>
		NO <ul style="list-style-type: none"> <li>• Cooling fan motor</li> <li>• Harness or connector between IPDM E/R and cooling fan motor</li> <li>• IPDM E/R</li> </ul>

## CONSULT-III Function (IPDM E/R)

INFOID:000000005189323

### APPLICATION ITEM

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

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

### SELF DIAGNOSTIC RESULT

Refer to [PCS-63, "DTC Index"](#).

### DATA MONITOR

Monitor item

Monitor Item [Unit]	MAIN SIGNALS	Description
MOTOR FAN REQ [1/2/3/4]	×	Displays the value of the cooling fan speed request signal received from ECM via CAN communication.
AC COMP REQ [Off/On]	×	Displays the status of the A/C compressor request signal received from ECM via CAN communication.
TAIL&CLR REQ [Off/On]	×	Displays the status of the position light request signal received from BCM via CAN communication.
HL LO REQ [Off/On]	×	Displays the status of the low beam request signal received from BCM via CAN communication.
HL HI REQ [Off/On]	×	Displays the status of the high beam request signal received from BCM via CAN communication.
FR FOG REQ [Off/On]	×	Displays the status of the front fog light request signal received from BCM via CAN communication.
FR WIP REQ [Stop/1LOW/Low/Hi]	×	Displays the status of the front wiper request signal received from BCM via CAN communication.

# DIAGNOSIS SYSTEM (IPDM E/R) (WITHOUT INTELLIGENT KEY SYSTEM)

## < SYSTEM DESCRIPTION >

Monitor Item [Unit]	MAIN SIG- NALS	Description
WIP AUTO STOP [STOP P/ACT P]	×	Displays the status of the front wiper auto stop signal judged by IPDM E/R.
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the shift position (CVT models) judged by IPDM E/R.
ST RLY-REQ [Off/On]		Displays the status of the starter relay status signal received from BCM via CAN communication.
DTRL REQ [Off/On]		Displays the status of the daytime running light request signal received from BCM via CAN communication. <b>NOTE:</b> This item is monitored only the vehicle with daytime running light system.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
HOOD SW [Off/On]		<b>NOTE:</b> 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.

## ACTIVE TEST

### Test item

Test item	Operation	Description
HORN	On	Operates horn relay for 20 ms.
FRONT WIPER	Off	OFF
	Lo	Operates the front wiper relay.
	Hi	Operates the front wiper relay and front wiper high relay.
MOTOR FAN	1	OFF
	2	Operates the cooling fan relay (LO operation).
	3	Operates the cooling fan relay (HI operation).
	4	
EXTERNAL LAMPS	Off	OFF
	TAIL	Operates the tail lamp relay.
	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.

# WIPER AND WASHER FUSE

< DTC/CIRCUIT DIAGNOSIS >

## DTC/CIRCUIT DIAGNOSIS

### WIPER AND WASHER FUSE

#### Description

INFOID:000000005116480

#### Fuse list

Unit	Location	No.	Capacity
Front wiper motor	IPDM E/R	48	30 A
Washer pump	Fuse block	4	15 A

#### Diagnosis Procedure

INFOID:000000005116481

#### 1. CHECK FUSES

Check that the following fuses are not fusing.

Unit	Location	No.	Capacity
Front wiper motor	IPDM E/R	48	30 A
Washer pump	Fuse block	4	15 A

#### Is the fuse fusing?

- YES >> Replace the fuse with a new one after repairing the applicable circuit.
- NO >> The fuse or fusible link is normal.

# POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## POWER SUPPLY AND GROUND CIRCUIT

### BCM (BODY CONTROL SYSTEM) (WITH INTELLIGENT KEY SYSTEM)

### BCM (BODY CONTROL SYSTEM) (WITH INTELLIGENT KEY SYSTEM) : Diagnosis Procedure

INFOID:000000005116537

#### 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	L
	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

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

Terminals		Voltage (Approx.)
(+)	(-)	
BCM		Ground Battery voltage
Connector	Terminal	
M118	1	
M119	11	

#### 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.

BCM		Ground	Continuity
Connector	Terminal		
M119	13		Existed

#### Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

### BCM (BODY CONTROL SYSTEM) (WITHOUT INTELLIGENT KEY SYSTEM)

### BCM (BODY CONTROL SYSTEM) (WITHOUT INTELLIGENT KEY SYSTEM) : Diagnosis Procedure

INFOID:000000005116538

#### 1. CHECK FUSES AND FUSIBLE LINK

Check that the following fuses and fusible link are not fusing.

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
M  
N  
O  
P

WW

# POWER SUPPLY AND GROUND CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

Signal name	Fuses and fusible link No.
Battery power supply	10
	J
ACC power supply	20
Ignition power supply	1

### 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 BCM connectors.
3. Check voltage between BCM harness connector and ground.

Terminals		(-)	Ignition switch position		
(+)			OFF	ACC	ON
BCM		Ground			
Connector	Terminal				
M109	70		Battery voltage	Battery voltage	Battery voltage
	57				
M107	11	Approx. 0 V	Battery voltage	Battery voltage	
	38	Approx. 0 V	Approx. 0 V	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.

BCM		Ground	Continuity
Connector	Terminal		
M109	67		Existed

### Does continuity exist?

YES >> INSPECTION END

NO >> Repair harness or connector.

## IPDM E/R (WITH INTELLIGENT KEY SYSTEM)

### IPDM E/R (WITH INTELLIGENT KEY SYSTEM) : Diagnosis Procedure

INFOID:000000005116539

## 1.CHECK FUSES AND FUSIBLE LINK

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

Signal name	Fuses and fusible link No.
Battery power supply	C
	D
	J

### Is the fuse fusing?

# POWER SUPPLY AND GROUND CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

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

Terminals		(-)	Voltage (Approx.)
(+)			
IPDM E/R		Ground	Battery voltage
Connector	Terminal		
E9	1		
	2		
E10	8		

#### Is the measurement value normal?

- YES >> GO TO 3.
- NO >> Repair the harness or connector.

### 3.CHECK GROUND CIRCUIT

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

IPDM E/R		Ground	Continuity
Connector	Terminal		
E11	9		Existed
E12	19		

#### Does continuity exist?

- YES >> INSPECTION END
- NO >> Repair the harness or connector.

## IPDM E/R (WITHOUT INTELLIGENT KEY SYSTEM)

### IPDM E/R (WITHOUT INTELLIGENT KEY SYSTEM) : Diagnosis Procedure

INFOID:000000005116540

WW

### 1.CHECK FUSES AND FUSIBLE LINK

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

Signal name	Fuses and fusible link No.
Battery power supply	C
	D
	J

#### 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 the ignition switch OFF.
2. Disconnect IPDM E/R connector.
3. Check voltage between IPDM E/R harness connector and the ground.

# POWER SUPPLY AND GROUND CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

Terminals		(-)	Voltage (Approx.)
(+) IPDM E/R			
Connector	Terminal	Ground	Battery voltage
E9	1		
	2		
E10	8		

Is the measurement value normal?

YES >> GO TO 3.

NO >> Repair the harness or connector.

### 3. CHECK IGNITION POWER SUPPLY CIRCUIT

1. Turn the ignition switch ON.
2. Check voltage between IPDM E/R harness connector and the ground.

Terminals		(-)	Voltage (Approx.)
(+) IPDM E/R			
Connector	Terminal	Ground	Battery voltage
E12	18		

Is the measurement value normal?

YES >> GO TO 4.

NO >> Repair the harness or connector.

### 4. CHECK GROUND CIRCUIT

1. Turn the ignition switch OFF.
2. Check continuity between IPDM E/R harness connectors and the ground.

IPDM E/R		Ground	Continuity
Connector	Terminal		
E11	9		Existed
E12	19		

Does continuity exist?

YES >> INSPECTION END

NO >> Repair the harness or connector.



# FRONT WIPER MOTOR LO CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## FRONT WIPER MOTOR LO CIRCUIT

### Component Function Check

INFOID:000000005116484

#### 1.CHECK FRONT WIPER LO OPERATION

##### ⊗ IPDM E/R AUTO ACTIVE TEST

1. Start IPDM E/R auto active test. Refer to [PCS-11, "Diagnosis Description"](#).
2. Check that the front wiper operates at the LO operation.

##### Ⓜ CONSULT-III 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 [WW-33, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000005116485

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

##### Ⓜ CONSULT-III ACTIVE TEST

1. Turn the ignition switch OFF.
2. Disconnect front wiper motor connector.
3. Turn the ignition switch ON.
4. Select "FRONT WIPER" of IPDM E/R active test item.
5. With operating the test item, check voltage between front wiper motor harness connector and ground.

Terminals		Test item	Voltage (Approx.)
(+)	(-)		
Front wiper motor		FRONT WIPER	Battery voltage
Connector	Terminal		
E20	2		
Ground		Lo	Battery voltage
		Off	0 V

Is the measurement value normal?

- YES >> Replace front wiper motor.  
 NO >> GO TO 2.

#### 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	
E14	46	E20	2	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.

A  
B  
C  
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O  
P

WW

# FRONT WIPER MOTOR LO CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

---

IPDM E/R		Ground	Continuity
Connector	Terminal		
E14	46		Not existed

Does continuity exist?

YES >> Repair the harness or connector.

NO >> Replace IPDM E/R.

# FRONT WIPER MOTOR HI CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## FRONT WIPER MOTOR HI CIRCUIT

### Component Function Check

INFOID:000000005116486

#### 1.CHECK FRONT WIPER HI OPERATION

##### IPDM E/R AUTO ACTIVE TEST

1. Start IPDM E/R auto active test. Refer to [PCS-11, "Diagnosis Description"](#).
2. Check that the front wiper operates at the HI operation.

##### CONSULT-III ACTIVE TEST

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

**Hi** : Front wiper (HI) operation

**Off** : Stop the front wiper.

Is front wiper (HI) operation normally?

- YES >> Front wiper motor HI circuit is normal.  
NO >> Refer to [WW-35, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000005116487

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

##### CONSULT-III ACTIVE TEST

1. Turn the ignition switch OFF.
2. Disconnect front wiper motor connector.
3. Turn the ignition switch ON.
4. Select "FRONT WIPER" of IPDM E/R active test item.
5. With operating the test item, check voltage between front wiper motor harness connector and ground.

Terminals		Test item	Voltage (Approx.)
(+)	(-)		
Front wiper motor		FRONT WIPER	Battery voltage
Connector	Terminal		
E20	1		
Ground		Hi	Battery voltage
		Off	0 V

Is the measurement value normal?

- YES >> Replace front wiper motor.  
NO >> GO TO 2.

#### 2.CHECK FRONT WIPER MOTOR (HI) 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	
E14	39	E20	1	Existed

Does continuity exist?

- YES >> GO TO 3.  
NO >> Repair the harness or connector.

#### 3.CHECK FRONT WIPER MOTOR (HI) SHORT CIRCUIT

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

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
M  
N  
O  
P

WW

# FRONT WIPER MOTOR HI CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

---

IPDM E/R		Ground	Continuity
Connector	Terminal		
E14	39		Not existed

### Does continuity exist?

YES >> Repair the harness or connector.

NO >> Replace IPDM E/R.

# FRONT WIPER AUTO STOP SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## FRONT WIPER AUTO STOP SIGNAL CIRCUIT

### Component Function Check

INFOID:000000005116488

#### 1.CHECK FRONT WIPER (AUTO STOP) SIGNAL CHECK

##### CONSULT-III DATA MONITOR

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

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

##### Is the status of item normal?

- YES >> Front wiper auto stop signal circuit is normal.  
NO >> Refer to [WW-37, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000005116489

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

1. Turn the ignition switch OFF.
2. Disconnect front wiper motor connector.
3. Turn the ignition switch ON.
4. Check voltage between front wiper motor harness connector and ground.

Terminals		Voltage (Approx.)
(+)	(-)	
Front wiper motor		Battery voltage
Connector	Terminal	
E20	4	

##### Is the measurement value normal?

- YES >> Replace front wiper motor  
NO >> GO TO 2.

#### 2.CHECK FRONT WIPER MOTOR (AUTO STOP) 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	
E13	25	E20	4	Existed

##### Does continuity exist?

- YES >> GO TO 3.  
NO >> Repair the harness or connector.

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

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

# FRONT WIPER AUTO STOP SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

---

IPDM E/R		Ground	Continuity
Connector	Terminal		
E13	25		Not existed

Does continuity exist?

YES >> Repair the harness or connector.

NO >> Replace IPDM E/R.

# FRONT WIPER MOTOR GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## FRONT WIPER MOTOR GROUND CIRCUIT

### Diagnosis Procedure

INFOID:000000005116490

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

1. 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		Ground	Continuity
Connector	Terminal		Existed
E20	5		

#### Does continuity exist?

- YES >> Front wiper motor ground circuit is normal.  
NO >> Repair the harness or connector.

A  
B  
C  
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WW

# WASHER SWITCH

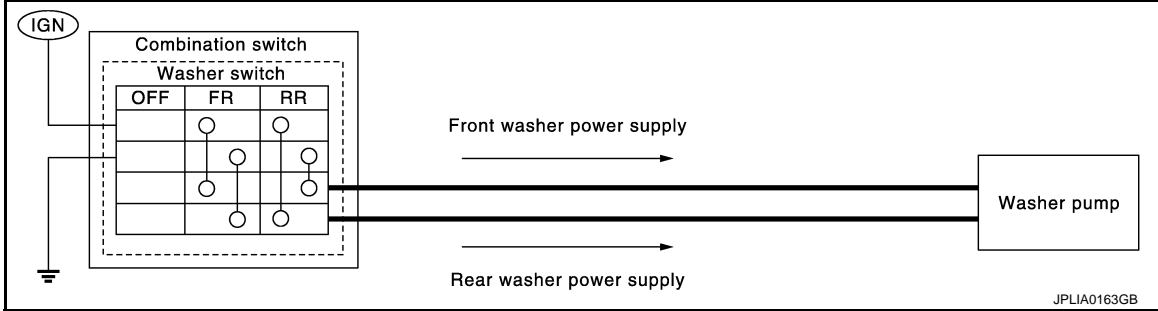
< DTC/CIRCUIT DIAGNOSIS >

## WASHER SWITCH

### Description

INFOID:000000005116491

- Washer switch is integrated with combination switch.
- Combination switch switches polarity between front washer operating and rear washer operating to supply power to the washer pump on ground.



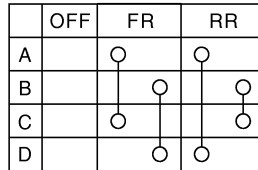
### Component Inspection

INFOID:000000005116492

#### 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



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Combination switch		Condition	Continuity
Terminal			
3	4	Front washer switch ON	Existed
1	6		
1	4	Rear washer switch ON	
3	6		

#### 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

INFOID:000000005116493

#### 1.CHECK REAR WIPER ON OPERATION

##### CONSULT-III ACTIVE TEST

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

**On** : Rear wiper ON operation

**Off** : Stop the rear wiper.

##### Is rear wiper operation normally?

- YES >> Rear wiper motor circuit is normal.  
NO >> Refer to [WW-41, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000005116494

#### 1.CHECK REAR WIPER MOTOR OUTPUT VOLTAGE

##### CONSULT-III ACTIVE TEST

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

Terminals		Test item	Voltage (Approx.)
(+)	(-)		
Rear wiper motor		REAR WIPER	Battery voltage
Connector	Terminal		
M66	54	On	
		Off	

##### Is the measurement value normal?

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

#### 2.CHECK REAR WIPER MOTOR 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	
M66	54	D112	1	Existed

##### Does continuity exist?

- YES >> GO TO 3.  
NO >> Repair the harness or connector.

#### 3.CHECK REAR WIPER MOTOR SHORT CIRCUIT

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

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
M  
N  
O  
P

WW

## REAR WIPER MOTOR CIRCUIT

### < DTC/CIRCUIT DIAGNOSIS >

---

BCM		Ground	Continuity
Connector	Terminal		
M66	54		Not existed

#### Does continuity exist?

YES >> Repair the harness or connector.

NO >> Replace BCM. Refer to [BCS-82. "Exploded View"](#) (with Intelligent Key system) or [BCS-148. "Exploded View"](#) (without Intelligent Key system).

### 4. CHECK REAR WIPER MOTOR GROUND OPEN CIRCUIT

---

Check continuity between rear wiper motor harness connector and ground.

Rear wiper motor		Ground	Continuity
Connector	Terminal		
D112	3		Existed

#### Does continuity exist?

YES >> Replace rear wiper motor.

NO >> Repair the harness or connector.

# REAR WIPER AUTO STOP SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

## REAR WIPER AUTO STOP SIGNAL CIRCUIT

### Component Function Check

INFOID:000000005116495

#### 1. CHECK REAR WIPER (AUTO STOP) OPERATION

##### CONSULT-III DATA MONITOR

1. Select "WIPER" of BCM data monitor item.
2. Operate the rear wiper.
3. With the rear wiper operation, check the monitor status.

Monitor item	Condition		Monitor status
RR WIPER STOP	Rear wiper motor	Stop position	On
		Except stop position	Off

Is the status of item normal?

- YES >> Rear wiper auto stop signal circuit is normal.  
NO >> Refer to [WW-43, "Diagnosis Procedure"](#).

### Diagnosis Procedure

INFOID:000000005116496

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

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

Terminals		Voltage (Approx.)
(+)	(-)	
Rear wiper motor		Battery voltage
Connector	Terminal	
D112	4	

Is the measurement value normal?

- YES >> Replace rear wiper motor  
NO >> GO TO 2.

#### 2. 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	
M66	44	D112	4	Existed

Does continuity exist?

- YES >> GO TO 3.  
NO >> Repair the harness or connector.

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

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

# REAR WIPER AUTO STOP SIGNAL CIRCUIT

## < DTC/CIRCUIT DIAGNOSIS >

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BCM		Ground	Continuity
Connector	Terminal		
M66	44		Not existed

### Does continuity exist?

YES >> Repair the harness or connector.

NO >> Replace BCM.

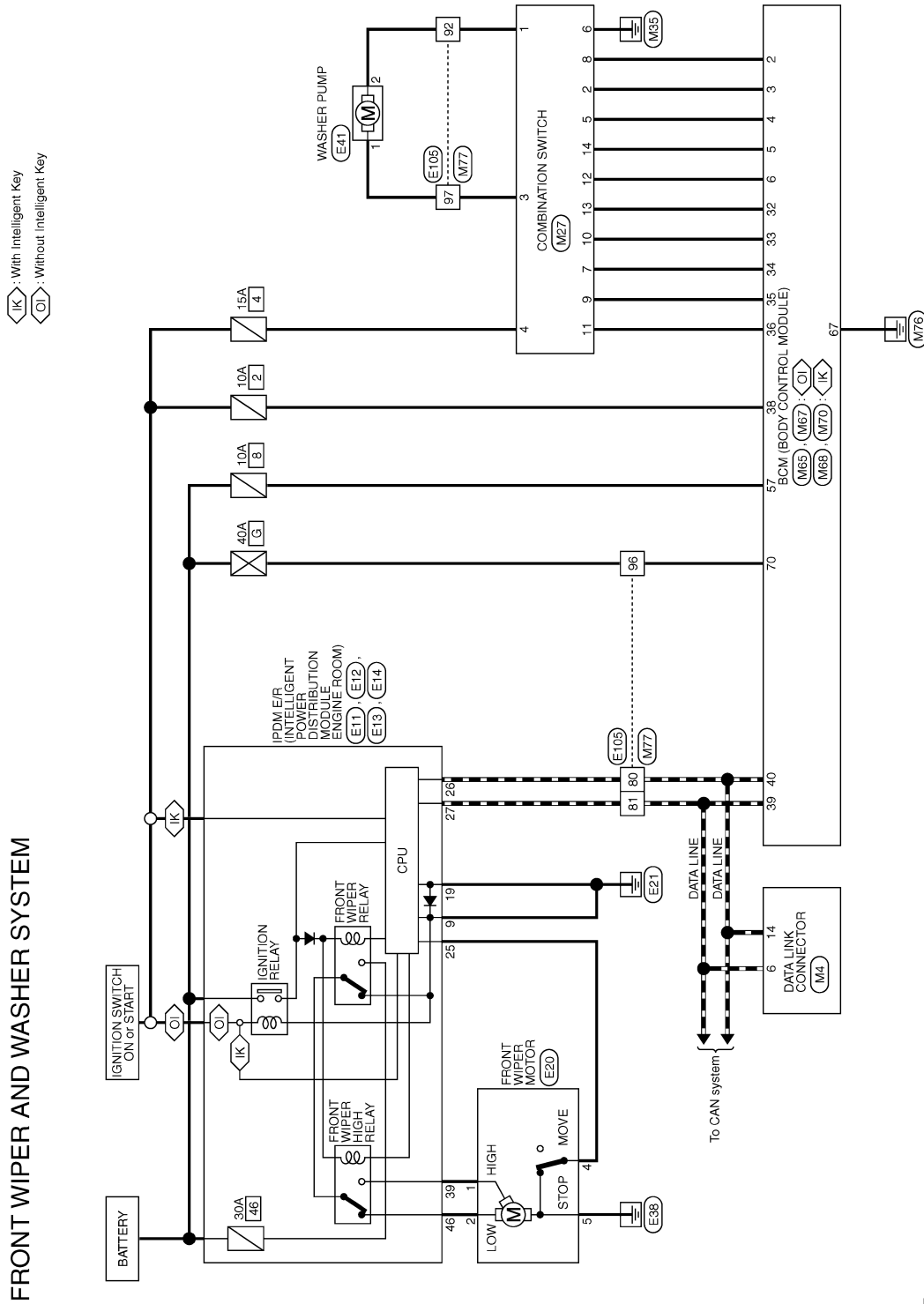
# FRONT WIPER AND WASHER SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

## FRONT WIPER AND WASHER SYSTEM

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

INFOID:000000005116497



FRONT WIPER AND WASHER SYSTEM

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
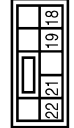

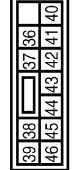
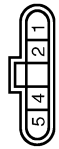

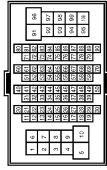
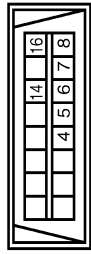
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WW

# FRONT WIPER AND WASHER SYSTEM

## < DTC/CIRCUIT DIAGNOSIS >

### FRONT WIPER AND WASHER SYSTEM

<table border="1"> <tr><td>Connector No.</td><td>E11</td></tr> <tr><td>Connector Name</td><td>IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)</td></tr> <tr><td>Connector Type</td><td>MS08FB-LC</td></tr> </table>  <table border="1"> <tr><td>Terminal No.</td><td>9</td><td>Color of Wire</td><td>B/W</td><td>Signal Name [Specification]</td><td>-</td></tr> </table>	Connector No.	E11	Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Type	MS08FB-LC	Terminal No.	9	Color of Wire	B/W	Signal Name [Specification]	-	<table border="1"> <tr><td>Connector No.</td><td>E12</td></tr> <tr><td>Connector Name</td><td>IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)</td></tr> <tr><td>Connector Type</td><td>NS00FB-CS</td></tr> </table>  <table border="1"> <tr><td>Terminal No.</td><td>19</td><td>Color of Wire</td><td>B/W</td><td>Signal Name [Specification]</td><td>-</td></tr> </table>	Connector No.	E12	Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Type	NS00FB-CS	Terminal No.	19	Color of Wire	B/W	Signal Name [Specification]	-	<table border="1"> <tr><td>Connector No.</td><td>E13</td></tr> <tr><td>Connector Name</td><td>IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)</td></tr> <tr><td>Connector Type</td><td>TH12FW-NH</td></tr> </table>  <table border="1"> <tr><td>Terminal No.</td><td>25</td><td>Color of Wire</td><td>Y</td><td>Signal Name [Specification]</td><td>-</td></tr> <tr><td></td><td>26</td><td>Color of Wire</td><td>P</td><td>Signal Name [Specification]</td><td>-</td></tr> <tr><td></td><td>27</td><td>Color of Wire</td><td>L</td><td>Signal Name [Specification]</td><td>-</td></tr> </table>	Connector No.	E13	Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Type	TH12FW-NH	Terminal No.	25	Color of Wire	Y	Signal Name [Specification]	-		26	Color of Wire	P	Signal Name [Specification]	-		27	Color of Wire	L	Signal Name [Specification]	-	<table border="1"> <tr><td>Connector No.</td><td>E14</td></tr> <tr><td>Connector Name</td><td>IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)</td></tr> <tr><td>Connector Type</td><td>NS12FBR-CS</td></tr> </table>  <table border="1"> <tr><td>Terminal No.</td><td>39</td><td>Color of Wire</td><td>V</td><td>Signal Name [Specification]</td><td>-</td></tr> <tr><td></td><td>46</td><td>Color of Wire</td><td>O</td><td>Signal Name [Specification]</td><td>-</td></tr> </table>	Connector No.	E14	Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)	Connector Type	NS12FBR-CS	Terminal No.	39	Color of Wire	V	Signal Name [Specification]	-		46	Color of Wire	O	Signal Name [Specification]	-																																				
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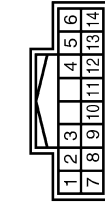
JCLWM3534GB

# FRONT WIPER AND WASHER SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

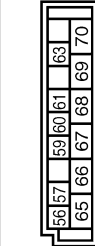
## FRONT WIPER AND WASHER SYSTEM

Connector No.	M27
Connector Name	COMBINATION SWITCH
Connector Type	TH16FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	O	WASHER(R)
2	GR	INPUT 4
3	L	WASHER(F)
4	W	IGN
5	L/Y	INPUT 3
6	B	GND
7	W	OUTPUT 3
8	BR/W	INPUT 5
9	R/L	OUTPUT 2
10	Y/L	OUTPUT 4
11	L/O	OUTPUT 1

Connector No.	M67
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY)
Connector Type	FEA09FB-FHA6-SA



Terminal No.	Color of Wire	Signal Name [Specification]
57	Y	BAT (FUSE)
67	B	GND
70	Y	BAT (F/L)

12	L/R	INPUT 1
13	L/G	OUTPUT 5
14	G	INPUT 2



Terminal No.	Color of Wire	Signal Name [Specification]
2	BR/W	COMBI SW INPUT 5
3	GR	COMBI SW INPUT 4
4	L/Y	COMBI SW INPUT 3
5	G	COMBI SW INPUT 2
6	L/R	COMBI SW INPUT 1
32	LG	COMBI SW OUTPUT 5
33	Y/L	COMBI SW OUTPUT 4
34	W	COMBI SW OUTPUT 3
35	R/L	COMBI SW OUTPUT 2
36	L/O	COMBI SW OUTPUT 1
38	O	IGN

39	L	CAN-H
40	P	CAN-L



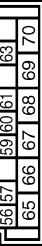
Connector No.	M68
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY)
Connector Type	TH40FB-NH

Terminal No.	Color of Wire	Signal Name [Specification]
2	BR/W	COMBI SW INPUT 5
3	GR	COMBI SW INPUT 4
4	L/Y	COMBI SW INPUT 3
5	G	COMBI SW INPUT 2
6	L/R	COMBI SW INPUT 1
32	LG	COMBI SW OUTPUT 5
33	Y/L	COMBI SW OUTPUT 4
34	W	COMBI SW OUTPUT 3
35	R/L	COMBI SW OUTPUT 2
36	L/O	COMBI SW OUTPUT 1
38	O	IGN F/B

39	L	CAN-H
40	P	CAN-L



Connector No.	M70
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	FEA09FB-FHA6-SA



Terminal No.	Color of Wire	Signal Name [Specification]
57	Y	BAT (FUSE)
67	B	GND
70	Y	BAT (F/L)

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
M  
N  
O  
P

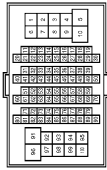
WW

# FRONT WIPER AND WASHER SYSTEM

## < DTC/CIRCUIT DIAGNOSIS >

### FRONT WIPER AND WASHER SYSTEM

Connector No.	W77
Connector Name	WIRE TO WIRE
Connector Type	TH80FY-C516-TM4



Terminal No.	Color of Wire	Signal Name [Specification]
80	P	-
81	L	-
92	O	-
96	Y	-
97	L	-

JCLWM3536GB



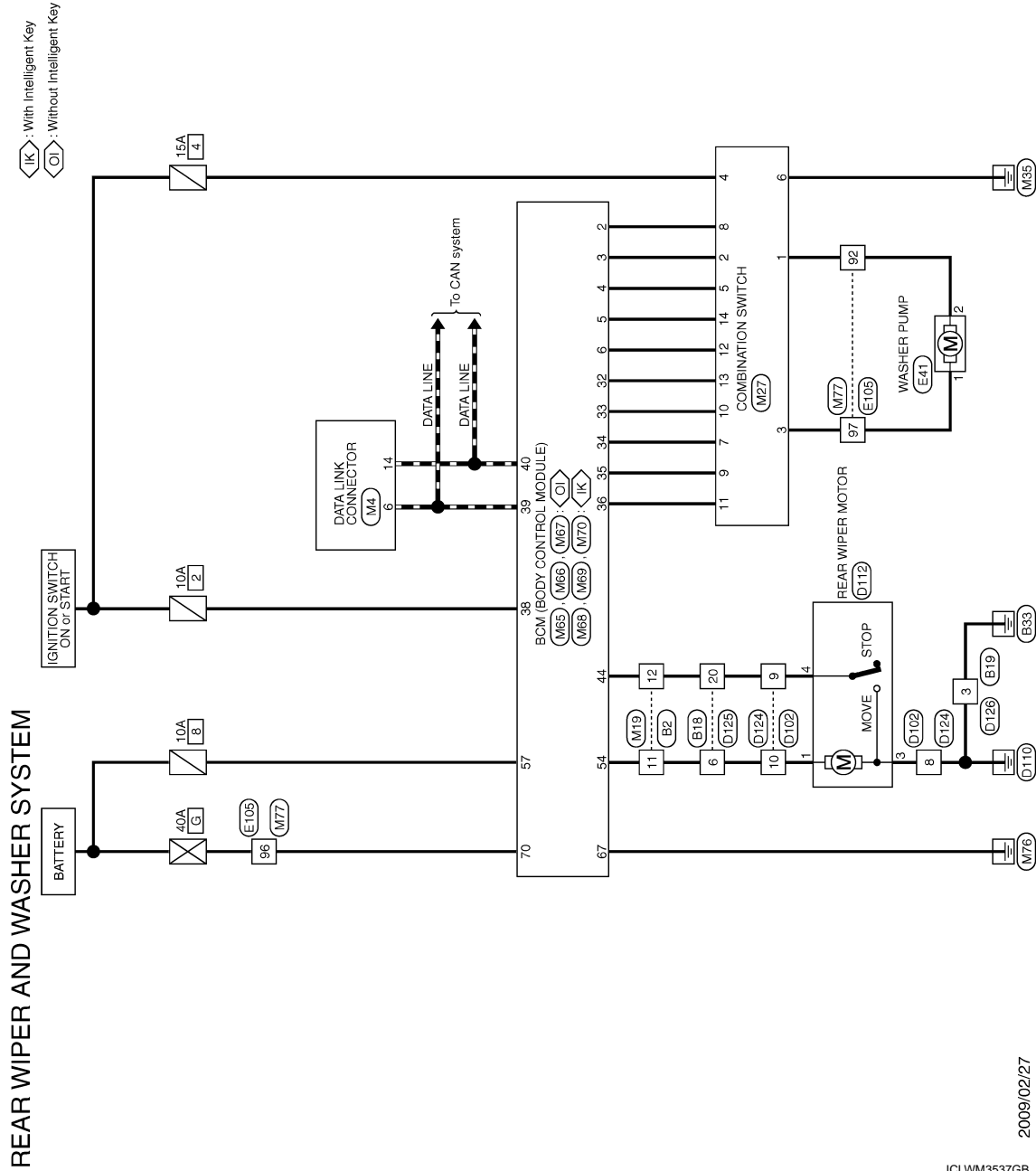
# REAR WIPER AND WASHER SYSTEM

< DTC/CIRCUIT DIAGNOSIS >

## REAR WIPER AND WASHER SYSTEM

Wiring Diagram - REAR WIPER AND WASHER SYSTEM -

INFOID:000000005116498



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
L  
M  
N  
O  
P


WW

# REAR WIPER AND WASHER SYSTEM

## < DTC/CIRCUIT DIAGNOSIS >

### REAR WIPER AND WASHER SYSTEM


Connector No.	B2
Connector Name	WIRE TO WIRE
Connector Type	NS16MW-CS



1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16					

Terminal No.	Color of Wire	Signal Name [Specification]
11	P	-
12	LG	-

Connector No.	B18
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-CS10



1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	18
19	20				

Terminal No.	Color of Wire	Signal Name [Specification]
6	P	-
20	LG	-


Connector No.	B19
Connector Name	WIRE TO WIRE
Connector Type	MD4MW-LC



1	2
3	4

Terminal No.	Color of Wire	Signal Name [Specification]
3	B	-

Connector No.	D102
Connector Name	WIRE TO WIRE
Connector Type	NS12MP-CS



1	2	3	4	5
6	7	8	9	10
11	12			

Terminal No.	Color of Wire	Signal Name [Specification]
8	BR	-
9	LG	-
10	P	-


Connector No.	D12
Connector Name	REAR WIPER MOTOR
Connector Type	CJ04FW-1V



1	3	4
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Terminal No.	Color of Wire	Signal Name [Specification]
1	P	-
3	BR	-
4	LG	-


Connector No.	D124
Connector Name	WIRE TO WIRE
Connector Type	NS12FW-CS



5	4	3	2	1
12	11	10	9	8
7	6			

Terminal No.	Color of Wire	Signal Name [Specification]
8	B	-
9	LG	-
10	G	-

Connector No.	D125
Connector Name	WIRE TO WIRE
Connector Type	NH10FW-CS10



6	5	4	3	2	1
20	19	18	17	16	15
14	13	12	11	10	9
8	7				

Terminal No.	Color of Wire	Signal Name [Specification]
6	G	-
20	LG	-

Connector No.	D126
Connector Name	WIRE TO WIRE
Connector Type	MD4FW-LC



2	1
4	3

Terminal No.	Color of Wire	Signal Name [Specification]
3	B	-

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# REAR WIPER AND WASHER SYSTEM

## < DTC/CIRCUIT DIAGNOSIS >

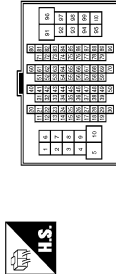
### REAR WIPER AND WASHER SYSTEM

Connector No.	E41
Connector Name	WASHER PUMP
Connector Type	EC/FCY-RS



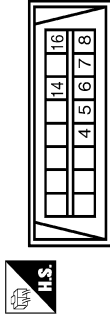
Terminal No.	Color of Wire	Signal Name [Specification]
1	R	-
2	Y	-

Connector No.	E105
Connector Name	WIRE TO WIRE
Connector Type	TH8GMH-CS16-TM4



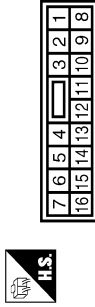
Terminal No.	Color of Wire	Signal Name [Specification]
92	Y	-
96	LG	-
97	R	-

Connector No.	M4
Connector Name	DATA LINK CONNECTOR
Connector Type	BD16FW



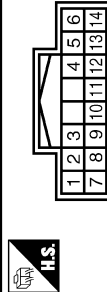
Terminal No.	Color of Wire	Signal Name [Specification]
6	L	-
14	P	-

Connector No.	M19
Connector Name	WIRE TO WIRE
Connector Type	NS16FW-CS



Terminal No.	Color of Wire	Signal Name [Specification]
11	L/W	-
12	LG	-

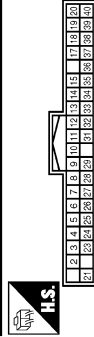
Connector No.	M27
Connector Name	COMBINATION SWITCH
Connector Type	TH16FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
1	O	WASHER(R)
2	GR	INPUT 4
3	L	WASHER(F)
4	W	IGN
5	L/Y	INPUT 3
6	B	GND
7	W	OUTPUT 3
8	BR/W	INPUT 5
9	R/L	OUTPUT 2
10	Y/L	OUTPUT 4
11	L/O	OUTPUT 1

Terminal No.	12	L/R	INPUT 1
Terminal No.	13	LG	OUTPUT 5
Terminal No.	14	G	INPUT 2

Connector No.	M65
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY)
Connector Type	TH40FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
2	BR/W	COMBI SW INPUT 5
3	GR	COMBI SW INPUT 4
4	L/Y	COMBI SW INPUT 3
5	G	COMBI SW INPUT 2
6	L/R	COMBI SW INPUT 1
32	LG	COMBI SW OUTPUT 5
33	Y/L	COMBI SW OUTPUT 4
34	W	COMBI SW OUTPUT 3
35	R/L	COMBI SW OUTPUT 2
36	L/O	COMBI SW OUTPUT 1
38	O	IGN

Terminal No.	39	L	CAN-H
Terminal No.	40	P	CAN-L

A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
K  
WW  
M  
N  
O  
P

# REAR WIPER AND WASHER SYSTEM

## < DTC/CIRCUIT DIAGNOSIS >

### REAR WIPER AND WASHER SYSTEM

Connector No.	M66
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY)
Connector Type	FEA09FW-FHA6-SA

Terminal No.	Color of Wire	Signal Name [Specification]
44	LG	REAR WIPER STOP POSITION
54	L/W	REAR WIPER OUTPUT



Connector No.	M67
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY)
Connector Type	FEA09FB-FHA6-SA

Terminal No.	Color of Wire	Signal Name [Specification]
57	Y	BAT (FUSE)
67	B	GND
70	Y	BAT (F/L)



Connector No.	M68
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	THA09FB-NH

Terminal No.	Color of Wire	Signal Name [Specification]
2	BR/W	COMBI SW INPUT 5
3	GR	COMBI SW INPUT 4
4	L/Y	COMBI SW INPUT 3
5	G	COMBI SW INPUT 2
6	L/R	COMBI SW INPUT 1
32	LG	COMBI SW OUTPUT 5
33	Y/L	COMBI SW OUTPUT 4
34	W	COMBI SW OUTPUT 3
35	R/L	COMBI SW OUTPUT 2
36	L/O	COMBI SW OUTPUT 1
38	O	IGN P/B



.39	L	CAN-H
.40	P	CAN-L

Connector No.	M69
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	FEA09FW-FHA6-SA

Terminal No.	Color of Wire	Signal Name [Specification]
44	LG	REAR WIPER STOP POSITION
54	L/W	REAR WIPER OUTPUT



Connector No.	M70
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	FEA09FB-FHA6-SA

Terminal No.	Color of Wire	Signal Name [Specification]
57	Y	BAT (FUSE)
67	B	GND
70	Y	BAT (F/L)



Connector No.	M77
Connector Name	WIRE TO WIRE
Connector Type	THA09FW-GS16-TM4

Terminal No.	Color of Wire	Signal Name [Specification]
92	O	-
96	Y	-
97	L	-



JCLWM3540GB

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

## ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

WITH INTELLIGENT KEY

WITH INTELLIGENT KEY : Reference Value

INFOID:000000005175451

VALUES ON THE DIAGNOSIS TOOL

CONSULT-III MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
	Front wiper switch HI	On
FR WIPER LOW	Other than front wiper switch LO	Off
	Front wiper switch LO	On
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On
FR WIPER INT	Other than front wiper switch INT/AUTO	Off
	Front wiper switch INT/AUTO	On
FR WIPER STOP	Front wiper is not in STOP position	Off
	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
	Rear wiper switch ON	On
RR WIPER INT	Other than rear wiper switch INT	Off
	Rear wiper switch INT	On
RR WASHER SW	Rear washer switch OFF	Off
	Rear washer switch ON	On
RR WIPER STOP	Rear wiper is in STOP position	Off
	Rear wiper is not in STOP position	On
TURN SIGNAL R	Other than turn signal switch RH	Off
	Turn signal switch RH	On
TURN SIGNAL L	Other than turn signal switch LH	Off
	Turn signal switch LH	On
TAIL LAMP SW	Other than lighting switch 1ST and 2ND	Off
	Lighting switch 1ST or 2ND	On
HI BEAM SW	Other than lighting switch HI	Off
	Lighting switch HI	On
HEAD LAMP SW 1	Other than lighting switch 2ND	Off
	Lighting switch 2ND	On
HEAD LAMP SW 2	Other than lighting switch 2ND	Off
	Lighting switch 2ND	On
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
AUTO LIGHT SW	Other than lighting switch AUTO	Off
	Lighting switch AUTO	On

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## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
FR FOG SW	Front fog lamp switch OFF	Off
	Front fog lamp switch ON	On
DOOR SW-DR	Driver door closed	Off
	Driver door opened	On
DOOR SW-AS	Passenger door closed	Off
	Passenger door opened	On
DOOR SW-RR	Rear RH door closed	Off
	Rear RH door opened	On
DOOR SW-RL	Rear LH door closed	Off
	Rear LH door opened	On
DOOR SW-BK	Back door closed	Off
	Back door opened	On
CDL LOCK SW	Other than power door lock switch LOCK	Off
	Power door lock switch LOCK	On
CDL UNLOCK SW	Other than power door lock switch UNLOCK	Off
	Power door lock switch UNLOCK	On
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	Off
	Driver door key cylinder LOCK position	On
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	Off
	Driver door key cylinder UNLOCK position	On
HAZARD SW	Hazard switch is OFF	Off
	Hazard switch is ON	On
REAR DEF SW	Rear window defogger switch OFF	Off
	Rear window defogger switch ON	On
TR/BD OPEN SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off
TRNK/HAT MNTR	<b>NOTE:</b> The item is indicated, but not monitored.	Off
FAN ON SIG	Blower fan OFF	Off
	Blower fan ON	On
AIR COND SW	Air conditioner OFF (A/C switch indicator OFF)	Off
	Air conditioner ON (A/C switch indicator ON)	On
RKE-LOCK	LOCK button of the key is not pressed	Off
	LOCK button of the key is pressed	On
RKE-UNLOCK	UNLOCK button of the key is not pressed	Off
	UNLOCK button of the key is pressed	On
RKE-TR/BD	BACK DOOR OPEN button of the key is not pressed	Off
	BACK DOOR OPEN button of the key is pressed	On
RKE-PANIC	PANIC button of the key is not pressed	Off
	PANIC button of the key is pressed	On
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
OPTI SEN (DTCT)	Bright outside of the vehicle	Close to 5 V
	Dark outside of the vehicle	Close to 0 V

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
OPTI SEN (FILT)	Bright outside of the vehicle (Lighting switch AUTO)	Close to 5 V	A
	Dark outside of the vehicle (Lighting switch AUTO)	Close to 1.50 V	
OPTICAL SENSOR	<b>NOTE:</b> The item is indicated, but not monitored.	Off	B
RAIN SENSOR	<b>NOTE:</b> The item is indicated, but not monitored.	Off	C
REQ SW -DR	Driver door request switch is not pressed	Off	D
	Driver door request switch is pressed	On	
REQ SW -AS	Passenger door request switch is not pressed	Off	E
	Passenger door request switch is pressed	On	
REQ SW -RR	<b>NOTE:</b> The item is indicated, but not monitored.	Off	F
REQ SW -RL	<b>NOTE:</b> The item is indicated, but not monitored.	Off	G
REQ SW -BD/TR	Back door request switch is not pressed	Off	H
	Back door request switch is pressed	On	
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off	I
	Push-button ignition switch (push switch) is pressed	On	
CLUCH SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off	J
BRAKE SW 1	The brake pedal is not depressed	Off	K
	The brake pedal is depressed	On	
BRAKE SW 2	The brake pedal is depressed when No. 7 fuse is blown	Off	WW
	The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is normal	On	
DETE/CANCL SW	Selector lever in P position	Off	M
	Selector lever in any position other than P	On	
SFT PN/N SW	Selector lever in any position other than P and N	Off	N
	Selector lever in P or N position	On	
S/L -LOCK	Steering is locked	Off	O
	Steering is unlocked	On	
S/L -UNLOCK	Steering is unlocked	Off	P
	Steering is locked	On	
S/L RELAY-F/B	Steering is unlocked	Off	
	Steering is locked	On	
UNLK SEN -DR	Driver door is locked	Off	
	Driver door is unlocked	On	
PUSH SW -IPDM	Push-button ignition switch (push-switch) is not pressed	Off	
	Push-button ignition switch (push-switch) is pressed	On	
IGN RLY1 -F/B	Ignition switch in OFF or ACC position	Off	
	Ignition switch in ON position	On	
DETE SW -IPDM	Selector lever in any position other than P	Off	
	Selector lever in P position	On	
SFT PN -IPDM	Selector lever in any position other than P and N	Off	
	Selector lever in P or N position	On	

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
SFT P -MET	Selector lever in any position other than P	Off
	Selector lever in P position	On
SFT N -MET	Selector lever in any position other than N	Off
	Selector lever in N position	On
ENGINE STATE	Engine stopped	Stop
	While the engine stalls	Stall
	At engine cranking	Crank
	Engine running	Run
S/L LOCK-IPDM	Steering is locked	Off
	Steering is unlocked	On
S/L UNLK-IPDM	Steering is unlocked	Off
	Steering is locked	On
S/L RELAY-REQ	Steering is unlocked	Off
	Steering is locked	On
VEH SPEED 1	While driving	Equivalent to speedometer reading
VEH SPEED 2	While driving	Equivalent to speedometer reading
DOOR STAT-DR	Driver door is locked	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Driver door is unlocked	UNLOCK
DOOR STAT-AS	Passenger door is locked	LOCK
	Wait with selective UNLOCK operation (5 seconds)	READY
	Passenger door is unlocked	UNLOCK
ID OK FLAG	Steering is locked	Reset
	Steering is unlocked	Set
PRMT ENG STRT	The engine start is prohibited	Reset
	The engine start is permitted	Set
PRMT RKE STRT	<b>NOTE:</b> The item is indicated, but not monitored.	Reset
RKE OPE COUN1	During the operation of the key	Operation frequency of the key
RKE OPE COUN2	<b>NOTE:</b> The item is indicated, but not monitored.	—
CONFIRM ID ALL	The key ID that the key slot receives is not recognized by any key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by any key ID registered to BCM.	Done
CONFIRM ID4	The key ID that the key slot receives is not recognized by the fourth key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by the fourth key ID registered to BCM.	Done
CONFIRM ID3	The key ID that the key slot receives is not recognized by the third key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by the third key ID registered to BCM.	Done



## BCM (BODY CONTROL MODULE)

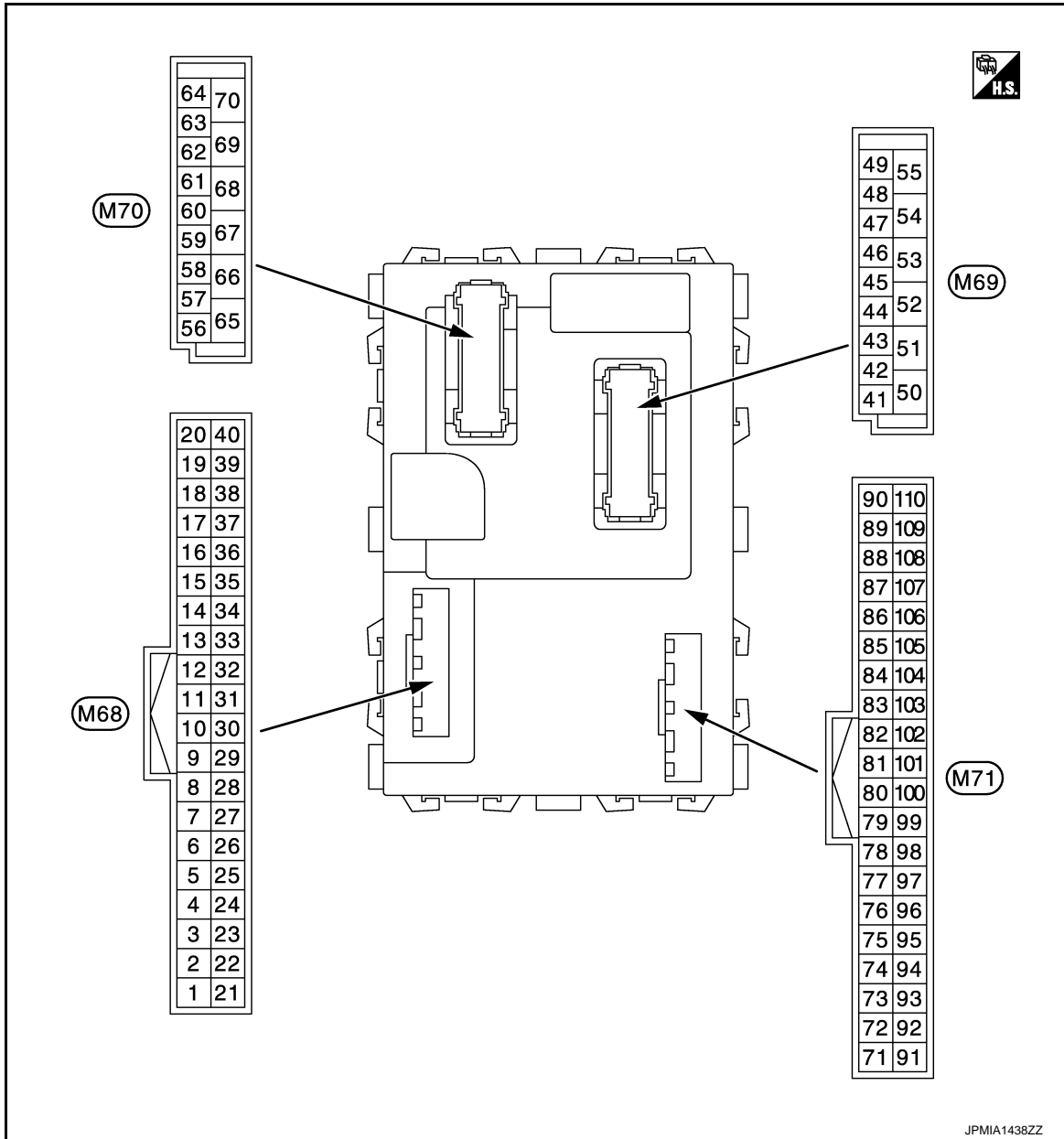
### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
CONFIRM ID2	The key ID that the key slot receives is not recognized by the second key ID registered to BCM.	Yet	A
	The key ID that the key slot receives is recognized by the second key ID registered to BCM.	Done	B
CONFIRM ID1	The key ID that the key slot receives is not recognized by the first key ID registered to BCM.	Yet	C
	The key ID that the key slot receives is recognized by the first key ID registered to BCM.	Done	
NOT REGISTERED	BCM detects registered key ID, or BCM does not detect key ID.	ID OK	D
	BCM detects non-registration key ID.	ID NG	
TP 4	The ID of fourth key is not registered to BCM	Yet	E
	The ID of fourth key is registered to BCM	Done	
TP 3	The ID of third key is not registered to BCM	Yet	F
	The ID of third key is registered to BCM	Done	
TP 2	The ID of second key is not registered to BCM	Yet	G
	The ID of second key is registered to BCM	Done	
TP 1	The ID of first key is not registered to BCM	Yet	H
	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	I
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire	J
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire	K
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 of front LH tire transmitter is not registered	Yet	
ID REGST FR1	ID of front RH tire transmitter is registered	Done	
	ID of front RH tire transmitter is not registered	Yet	
ID REGST RR1	ID of rear RH tire transmitter is registered	Done	WW
	ID of rear RH tire transmitter is not registered	Yet	
ID REGST RL1	ID of rear LH tire transmitter is registered	Done	
	ID of rear LH tire transmitter is not registered	Yet	M
WARNING LAMP	Tire pressure indicator OFF	Off	
	Tire pressure indicator ON	On	
BUZZER	Tire pressure warning alarm is not sounding	Off	N
	Tire pressure warning alarm is sounding	On	

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

## TERMINAL LAYOUT



**NOTE:**

- Connector color
- M68, M70: Black
- M69, M71: White

**PHYSICAL VALUES**

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
2 (BR/W)	Ground	Combination switch INPUT 5	Input	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V
					Turn signal switch RH	
					Lighting switch HI	
					Lighting switch 1ST	
					Lighting switch 2ND	
3 (GR)	Ground	Combination switch INPUT 4	Input	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V
					Turn signal switch LH	
					Lighting switch PASS	
					Lighting switch 2ND	
					Front fog lamp switch ON	
4 (L/Y)	Ground	Combination switch INPUT 3	Input	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V
					Front wiper switch LO	
					Front wiper switch MIST	
					Front wiper switch INT	
					Lighting switch AUTO	

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# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

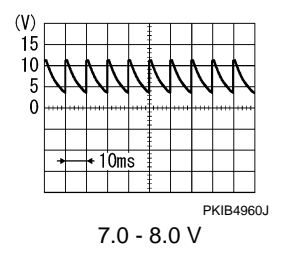
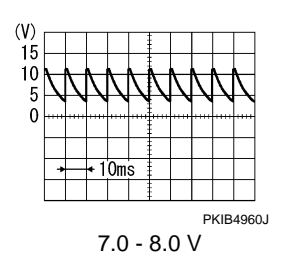
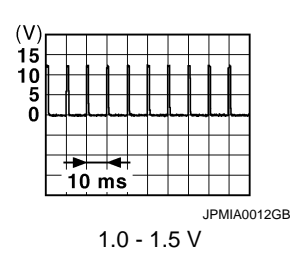
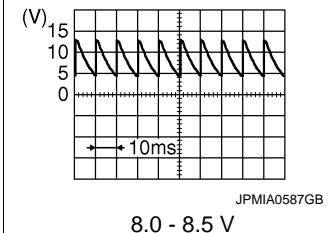
Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
5 (G)	Ground	Combination switch INPUT 2	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V
					Front washer switch (Wiper intermittent dial 4)	
					Rear washer ON (Wiper intermittent dial 4)	
					Any of the condition below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 5</li> <li>• Wiper intermittent dial 6</li> </ul>	
Rear wiper switch ON (Wiper intermittent dial 4)		0.8 V				
6 (L/R)	Ground	Combination switch INPUT 1	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V
					Front wiper switch HI (Wiper intermittent dial 4)	
					Rear wiper switch INT (Wiper intermittent dial 4)	
					Wiper intermittent dial 3 (All switch OFF)	
					Any of the condition below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 2</li> </ul>	
Any of the condition below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 6</li> <li>• Wiper intermittent dial 7</li> </ul>		0.8 V				

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
7 (W/R)	Ground	Door key cylinder switch UNLOCK	Input	Door key cylin- der switch	NEUTRAL position
				UNLOCK position	8.0 - 8.5 V
8 (W/B)	Ground	Door key cylinder switch LOCK	Input	Door key cylin- der switch	NEUTRAL position
				LOCK position	0 V
9 (R)	Ground	Stop lamp switch 1	Input	Stop lamp switch	OFF (Brake pedal is not depressed)
				ON (Brake pedal is de- pressed)	Battery voltage
10 (V/W)	Ground	Tire pressure warn- ing check switch	Input	Ignition switch OFF	0 V
				Ignition switch ACC or ON	Battery voltage
12 (SB)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)
				ON (When passenger door opened)	0 V
13 (GR/L)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (When rear RH door closed)
				ON (When rear RH door opened)	0 V
14 (L/B)	Ground	Optical sensor	Input	Ignition switch ON	When bright outside of the vehicle
				When dark outside of the vehicle	Close to 0 V

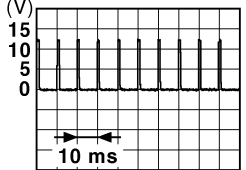
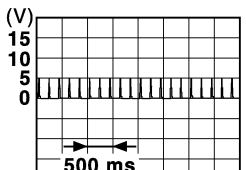
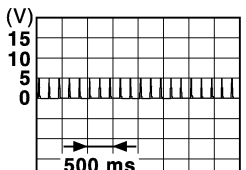
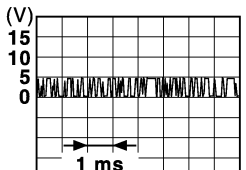
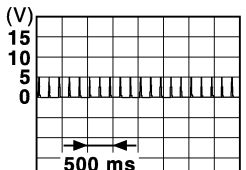
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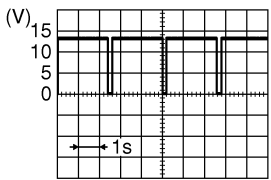
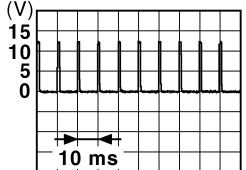
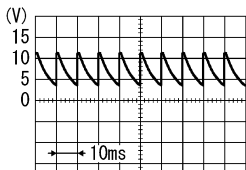
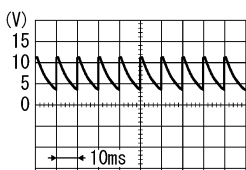
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
15 (W/L)	Ground	Rear window defogger switch	Input	Rear window defogger switch	Not pressed	 <p style="text-align: right; font-size: small;">JPMIA0012GB</p> <p style="text-align: center;">1.0 - 1.5 V</p>
					Pressed	0 V
17 (R/G)	Ground	Optical sensor power supply	Output	Ignition switch	OFF, ACC	0 V
					ON	5 V
18 (V)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V
19 (BR)	Ground	Remote keyless entry receiver power supply	Output	Ignition switch OFF		 <p style="text-align: right; font-size: small;">JMKIA3838GB</p>
20 (G/Y)	Ground	Remote keyless entry receiver communication	Input	Waiting		 <p style="text-align: right; font-size: small;">JMKIA3838GB</p>
				Signal receiving		 <p style="text-align: right; font-size: small;">JMKIA3841GB</p>
21 (P/L)	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.
22 (W/G)	Ground	Remote keyless entry receiver RSSI	Input	Waiting		0 V
				Signal receiving		 <p style="text-align: right; font-size: small;">JMKIA3838GB</p>

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

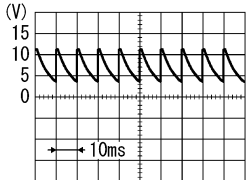
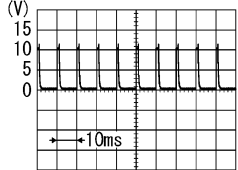
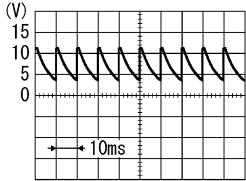
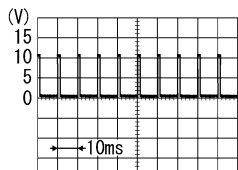
Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
23 (R/Y)	Ground	Security indicator lamp	Output	Security indicator	ON	0 V
					Blinking (Ignition switch OFF)	 <p style="text-align: right; font-size: small;">JPMA0590GB</p>
					OFF	Battery voltage
24* (GR/R)	Ground	Dongle link	Input/ Output	Ignition switch OFF		5 V
25 (LG)	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.
27 (Y/G)	Ground	A/C switch	Input	Air conditioner	OFF (A/C switch indicator: OFF)	 <p style="text-align: right; font-size: small;">JPMA0012GB</p>
					ON (A/C switch indicator: ON)	1.0 - 1.5 V
28 (G/W)	Ground	Blower fan switch	Input	Blower fan	OFF	0 V
					ON	 <p style="text-align: right; font-size: small;">PKIB4960J</p>
					ON	7.0 - 8.0 V
29 (L/W)	Ground	Hazard switch	Input	Hazard switch	OFF	12 V
					ON	0 V
31 (G/B)	Ground	Front door lock assembly driver side (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)	 <p style="text-align: right; font-size: small;">PKIB4960J</p>
					UNLOCK status (Unlock sensor switch ON)	7.0 - 8.0 V
					UNLOCK status (Unlock sensor switch ON)	0 V

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# BCM (BODY CONTROL MODULE)

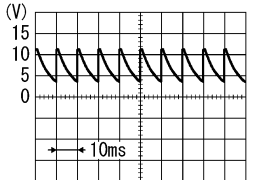
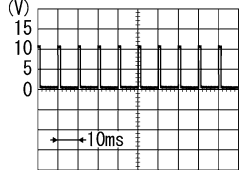
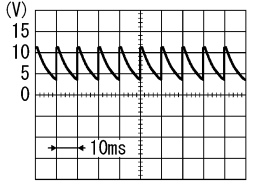
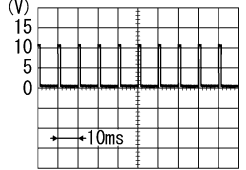
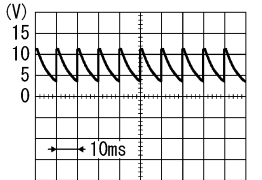
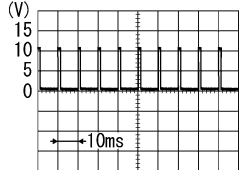
## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
32 (LG)	Ground	Combination switch OUTPUT 5	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">PKIB4960J</p> <p style="text-align: center;">7.0 - 8.0 V</p>
					Front fog lamp switch ON (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">PKIB4966J</p> <p style="text-align: center;">1.0 V</p>
					Rear wiper switch ON (Wiper intermittent dial 4)	
Any of the condition below with all switch OFF						
<ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 2</li> <li>• Wiper intermittent dial 6</li> <li>• Wiper intermittent dial 7</li> </ul>						
33 (Y/L)	Ground	Combination switch OUTPUT 4	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">PKIB4960J</p> <p style="text-align: center;">7.0 - 8.0 V</p>
					Lighting switch 1ST (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">PKIB4958J</p> <p style="text-align: center;">1.2 V</p>
					Lighting switch AUTO (Wiper intermittent dial 4)	
					Rear wiper switch INT (Wiper intermittent dial 4)	
Any of the condition below with all switch OFF						
<ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 5</li> <li>• Wiper intermittent dial 6</li> </ul>						



# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

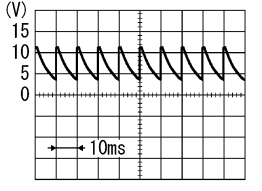
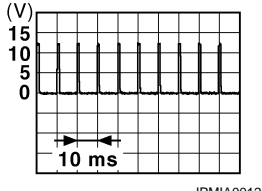
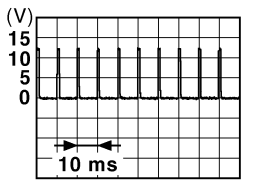
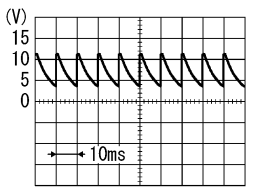
Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
34 (W)	Ground	Combination switch OUTPUT 3	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 <p style="text-align: right;">PKIB4960J</p> <p style="text-align: center;">7.0 - 8.0 V</p>
					Lighting switch 2ND (Wiper intermittent dial 4)	 <p style="text-align: right;">PKIB4958J</p> <p style="text-align: center;">1.2 V</p>
					Lighting switch HI (Wiper intermittent dial 4)	
					Rear washer switch ON (Wiper intermittent dial 4)	
Any of the condition below with all switch OFF						
<ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 2</li> <li>• Wiper intermittent dial 3</li> </ul>						
35 (R/L)	Ground	Combination switch OUTPUT 2	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	 <p style="text-align: right;">PKIB4960J</p> <p style="text-align: center;">7.0 - 8.0 V</p>
					Lighting switch 2ND	 <p style="text-align: right;">PKIB4958J</p> <p style="text-align: center;">1.2 V</p>
					Lighting switch PASS	
					Front wiper switch INT	
Front wiper switch HI						
36 (L/O)	Ground	Combination switch OUTPUT 1	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	 <p style="text-align: right;">PKIB4960J</p> <p style="text-align: center;">7.0 - 8.0 V</p>
					Turn signal switch RH	 <p style="text-align: right;">PKIB4958J</p> <p style="text-align: center;">1.2 V</p>
					Turn signal switch LH	
					Front wiper switch LO (Front wiper switch MIST)	
Front washer switch ON						

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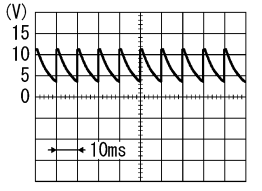
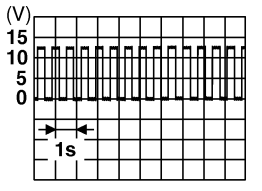
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	-					
37 (G/O)	Ground	Selector lever P position switch	Input	Selector lever	P position	0 V
					Any position other than P	12 V
38 (O)	Ground	IGN feedback	Input	Ignition switch	OFF or ACC	0 V
					ON	Battery voltage
39 (L)	Ground	CAN-H	Input/ Output		—	—
40 (P)	Ground	CAN-L	Input/ Output		—	—
43 (W)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	 <p style="text-align: center;">9.5 - 10.0 V</p>
					ON (When back door opened)	0 V
44 (LG)	Ground	Rear wiper stop position	Input	Ignition switch ON	Rear wiper stop position	12 V
					Any position other than rear wiper stop position	0 V
45 (GR)	Ground	Door lock and unlock switch LOCK	Input	Door lock and unlock switch	NEUTRAL position	 <p style="text-align: center;">1.0 - 1.5 V</p>
					LOCK position	0 V
46 (BR)	Ground	Door lock and unlock switch UNLOCK	Input	Door lock and unlock switch	NEUTRAL position	 <p style="text-align: center;">1.0 - 1.5 V</p>
					UNLOCK position	0 V
47 (BR/Y)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	 <p style="text-align: center;">7.0 - 8.0 V</p>
					ON (When driver door opened)	0 V

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

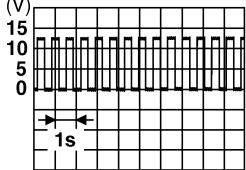
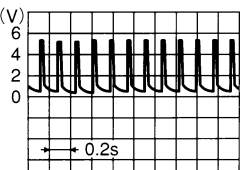
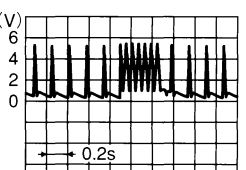
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
48 (W/G)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (When rear LH door closed)	 7.0 - 8.0 V
					ON (When rear door LH opened)	0 V
49 (Y)	Ground	Luggage room lamp	Output	Luggage room lamp switch DOOR position	Back door is closed (Back door lamp turns OFF)	12 V
					Back door is opened (Back door lamp turns ON)	0 V
54 (L/W)	Ground	Rear wiper	Output	Rear wiper	OFF (Stopped)	0 V
					ON (Activated)	12 V
55 (G)	Ground	Rear door UNLOCK	Output	Rear door	UNLOCK (Actuator is activated)	12 V
					Other than UNLOCK (Actuator is not activated)	0 V
56 (L)	Ground	Interior room lamp power supply	Output		Interior room lamp battery saver is activated. (Cuts the interior room lamp power supply)	0 V
					Interior room lamp battery saver is not activated. (Outputs the interior room lamp power supply)	12 V
57 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	
59 (G)	Ground	Passenger door UNLOCK	Output	Passenger door	UNLOCK (Actuator is activated)	12 V
					Other than UNLOCK (Actuator is not activated)	0 V
60 (W/B)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch LH	 6.0 V

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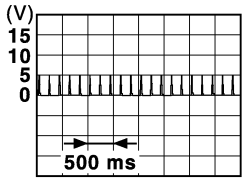
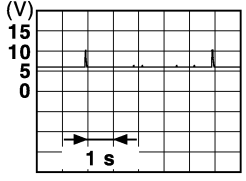
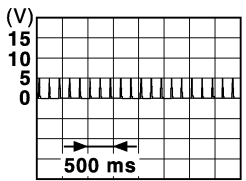
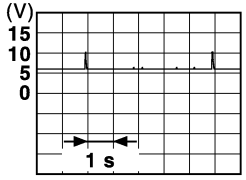
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
61 (W/L)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch OFF  0 V
				Turn signal switch RH	 <small>PKIC6370E</small> 6.0 V
63 (BR)	Ground	Interior room lamp timer control	Output	Interior room lamp	OFF  12 V
				ON	0 V
65 (V)	Ground	All doors LOCK	Output	All doors	LOCK (Actuator is activat- ed)  12 V
				Other then LOCK (Actua- tor is not activated)	0 V
66 (L/B)	Ground	Driver door UN- LOCK	Output	Driver door	UNLOCK (Actuator is activat- ed)  12 V
				Other then UNLOCK (Ac- tuator is not activated)	0 V
67 (B)	Ground	Ground	Output	Ignition switch ON	0 V
68 (L)	Ground	P/W power supply (IGN)	Output	Ignition switch ON	12 V
69 (L/W)	Ground	P/W power supply (BAT)	Output	Ignition switch OFF	12 V
70 (Y)	Ground	Battery power sup- ply	Input	Ignition switch OFF	Battery voltage
71 (R)	Ground	Tire pressure receiv- er communication	Input/ Output	Ignition switch ON	Standby state   <small>OCC3881D</small>
				When receiving the signal from the transmitter	 <small>OCC3880D</small>
72 (R/W)	Ground	Back door lock actu- ator relay control	Output	Back door	LOCK (Actuator is activat- ed)  0 V
				Other than LOCK (Actua- tor is not activated)	Battery voltage
75 (SB)	Ground	Driver door request switch	Input	Driver door re- quest switch	ON (Pressed)  0 V
				OFF (Not pressed)	12 V

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
76 (G)	Ground	Passenger door re- quest switch	Input	Passenger door re- quest switch	ON (Pressed)	0 V
					OFF (Not pressed)	12 V
77 (W)	Ground	Back door request switch	Input	Back door re- quest switch	ON (Pressed)	0 V
					OFF (Not pressed)	12 V
78 (LG)	Ground	Driver door antenna (+)	Output	When the driver door request switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detec- tion area	
					When Intelligent Key is in the antenna detection area	
79 (V)	Ground	Driver door antenna (-)	Output	When the driver door request switch is operat- ed with ignition switch OFF	When Intelligent Key is not in the antenna detec- tion area	
					When Intelligent Key is in the antenna detection area	

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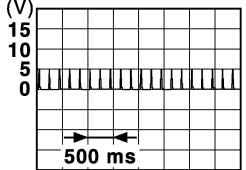
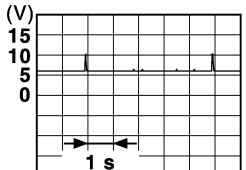
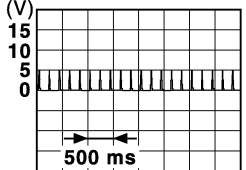
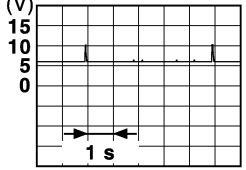
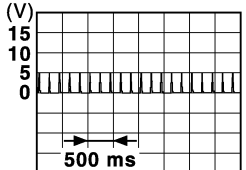
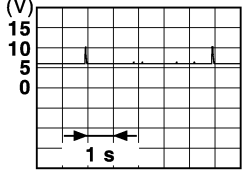
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
80 (BR/Y)	Ground	Passenger door antenna (+)	Output	When Intelligent Key is not in the antenna detection area	<p style="text-align: right; font-size: small;">JMkia3838GB</p>
				When the passenger door request switch is operated with ignition switch OFF	<p style="text-align: right; font-size: small;">JMkia3839GB</p>
81 (L/Y)	Ground	Passenger door antenna (-)	Output	When Intelligent Key is not in the antenna detection area	<p style="text-align: right; font-size: small;">JMkia3838GB</p>
				When the passenger door request switch is operated with ignition switch OFF	<p style="text-align: right; font-size: small;">JMkia3839GB</p>
82 (W/B)	Ground	Back door antenna (+)	Output	When Intelligent Key is not in the antenna detection area	<p style="text-align: right; font-size: small;">JMkia3838GB</p>
				When the back door request switch is operated with ignition switch OFF	<p style="text-align: right; font-size: small;">JMkia3839GB</p>

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

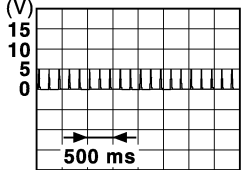
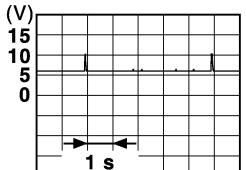
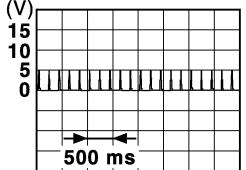
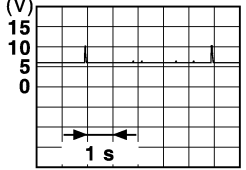
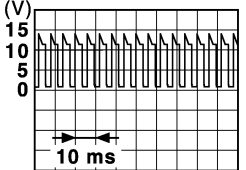
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	-				
83 (B/W)	Ground	Back door antenna (-)	Output	When the back door request switch is operated with ignition switch OFF	 <p style="text-align: right; font-size: small;">JMkia3838GB</p>
				When Intelligent Key is in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia3839GB</p>
84 (Y/G)	Ground	Room antenna (+) (Instrument panel)	Output	Ignition switch OFF	 <p style="text-align: right; font-size: small;">JMkia3838GB</p>
				When Intelligent Key is in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia3839GB</p>
85 (Y/L)	Ground	Room antenna (-) (Instrument panel)	Output	Ignition switch OFF	 <p style="text-align: right; font-size: small;">JMkia3838GB</p>
				When Intelligent Key is in the antenna detection area	 <p style="text-align: right; font-size: small;">JMkia3839GB</p>

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# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
86 (P)	Ground	Luggage room antenna (+)	Output	Ignition switch OFF	 <p style="text-align: right; font-size: small;">JMKIA3838GB</p>
				When Intelligent Key is in the antenna detection area	 <p style="text-align: right; font-size: small;">JMKIA3839GB</p>
87 (L)	Ground	Luggage room antenna (-)	Output	Ignition switch OFF	 <p style="text-align: right; font-size: small;">JMKIA3838GB</p>
				When Intelligent Key is in the antenna detection area	 <p style="text-align: right; font-size: small;">JMKIA3839GB</p>
90 (W/L)	Ground	Push-button ignition switch illumination	Output	Push-button ignition switch illumination	ON 12 V OFF 0 V
91 (Y)	Ground	ACC/ON indicator lamp	Output	Ignition switch OFF	Battery voltage
				ACC or ON	0.5 V
92 (BR/R)	Ground	Push-button ignition switch illumination ground	Output	Tail lamp OFF	0 V
				ON	<p><b>NOTE:</b> When the illumination brightening/dimming level is in the neutral position</p>  <p style="text-align: right; font-size: small;">JPMIA1554GB</p> <p style="text-align: center;">6.0 - 7.0 V</p>



# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
93 (GR/W)	Ground	Intelligent Key warn- ing buzzer	Output	Intelligent Key warning buzzer	Sounding	0 V
					Not sounding	12 V
94 (Y/R)	Ground	Steering lock unit communication	Input/ Output	Steering lock	LOCK status	12 V
					LOCK or UNLOCK	
					For 15 seconds after UN- LOCK	12 V
					15 seconds or later after UNLOCK	0 V
95 (W/G)	Ground	Steering lock unit power supply	Output	Ignition switch	OFF or ACC	12 V
					ON	0 V
96 (BR/W)	Ground	ACC relay control	Output	Ignition switch	OFF	0 V
					ACC or ON	12 V
97 (L/R)	Ground	Starter relay control	Output	Ignition switch ON	When selector lever is in P or N position	Battery voltage
					When selector lever is not in P or N position	0 V
98 (BR)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	OFF or ACC	12 V
					ON	0 V
99 (W/R)	Ground	Ignition relay control	Output	Ignition switch	OFF or ACC	0 V
					ON	12 V
100 (L/O)	Ground	Push-button ignition switch (push switch)	Input	Push-button ig- nition switch (push switch)	Pressed	0 V
					Not pressed	12 V
102 (G)	Ground	Selector lever P/N position	Input	Selector lever	P or N position	Battery voltage
					Except P and N positions	0 V
104 (Y/R)	Ground	CVT shift selector (detention switch) power supply	Output	Ignition switch ON	12 V	
105 (B/O)	Ground	Stop lamp switch 2	Input	Ignition switch OFF	Battery voltage	
106 (Y/B)	Ground	Blower fan motor re- lay control	Output	Ignition switch	OFF or ACC	0 V
					ON	12 V
107 (L/W)	Ground	Steering lock condi- tion No. 1	Input	Steering lock	LOCK status	0 V
					UNLOCK status	12 V
108 (P/L)	Ground	Steering lock condi- tion No. 2	Input	Steering lock	LOCK status	12 V
					UNLOCK status	0 V
110 (BR/W)	Ground	Tire pressure receiv- er power supply	Output	Ignition switch	OFF or ACC	0 V
					ON	5 V

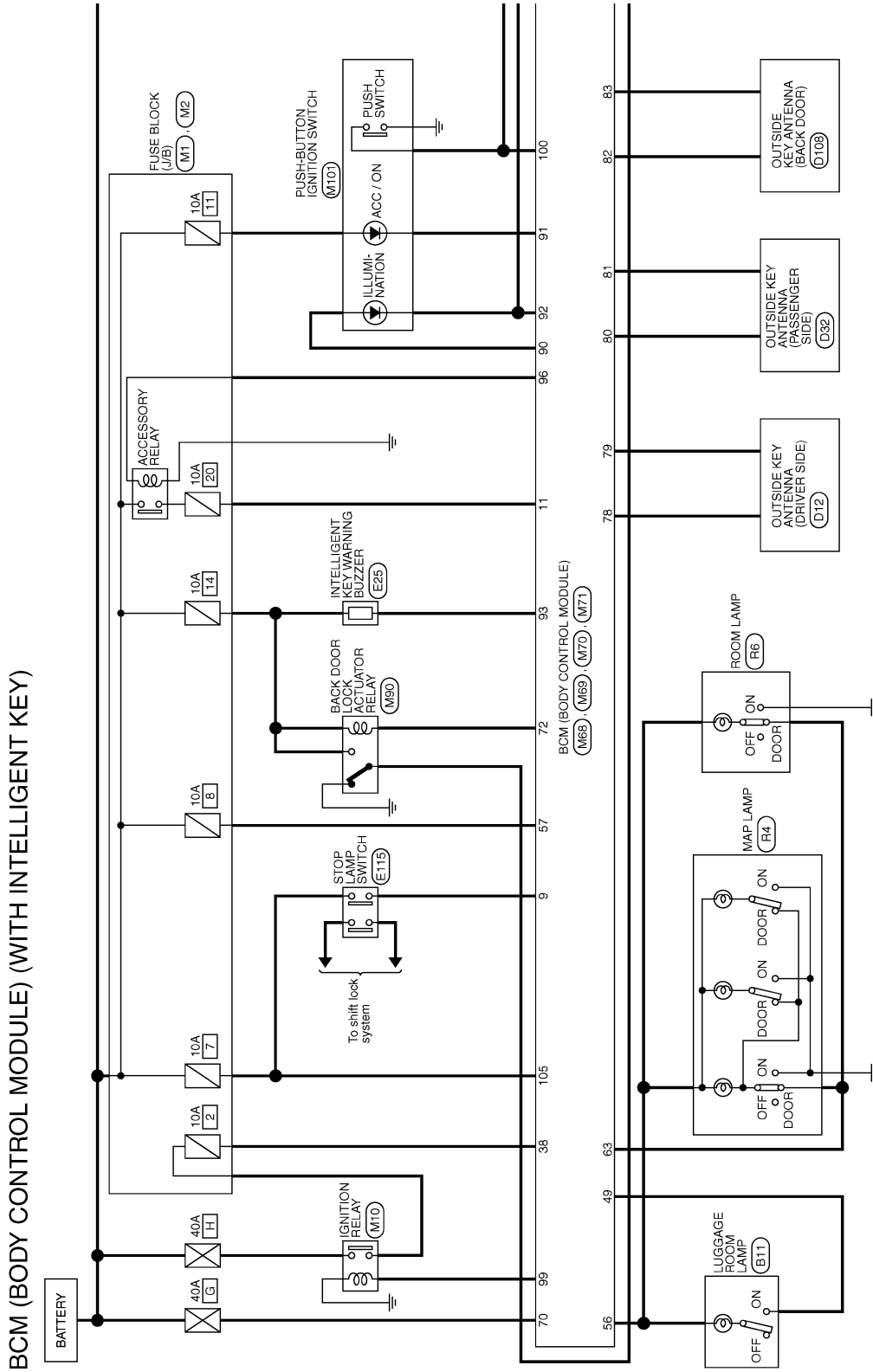
\*: For Canada

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

## WITH INTELLIGENT KEY : Wiring Diagram - BCM -

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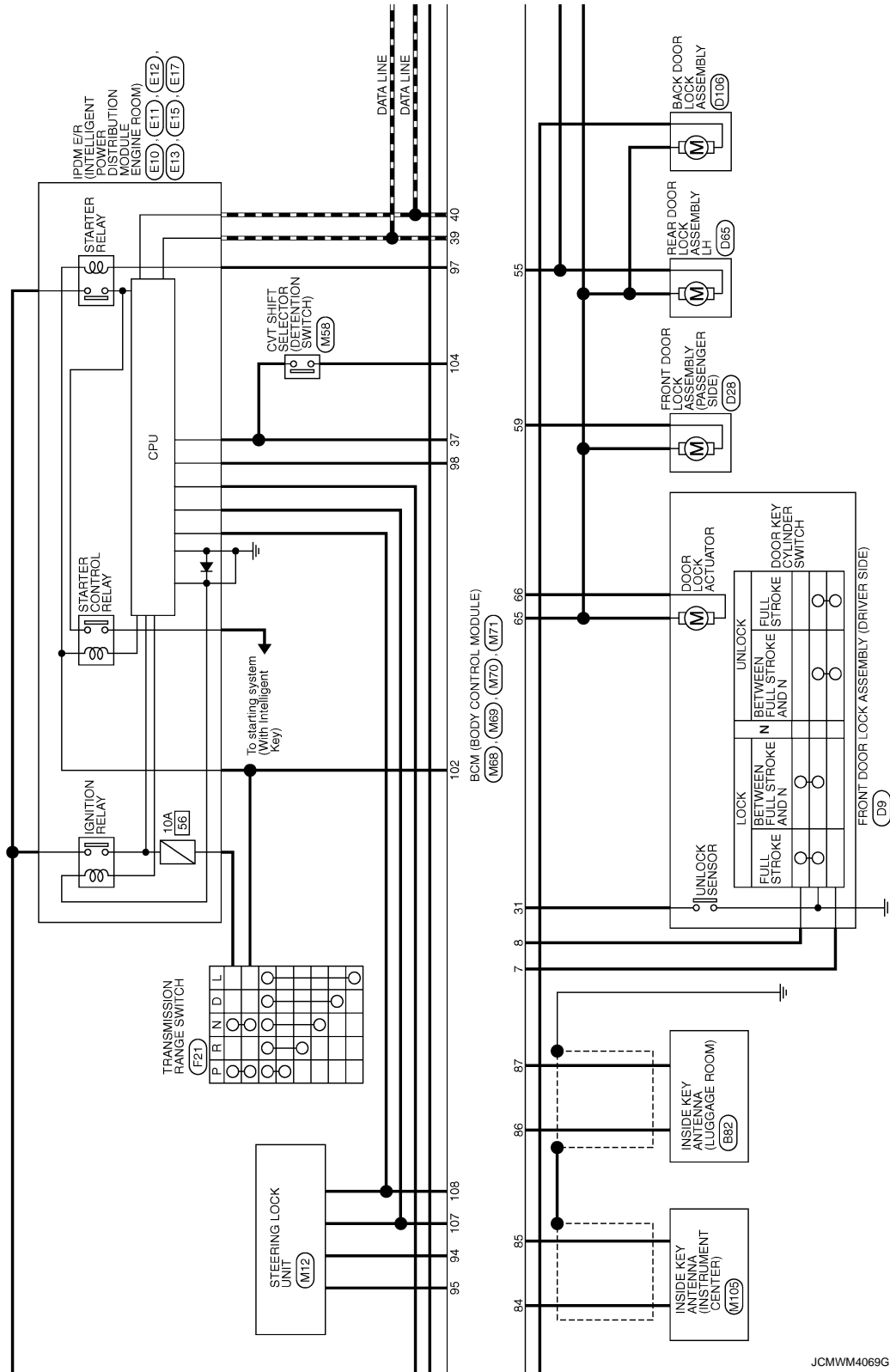
BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)

JCMWM4068GB

2009/02/27

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >



JCMWM4069GB

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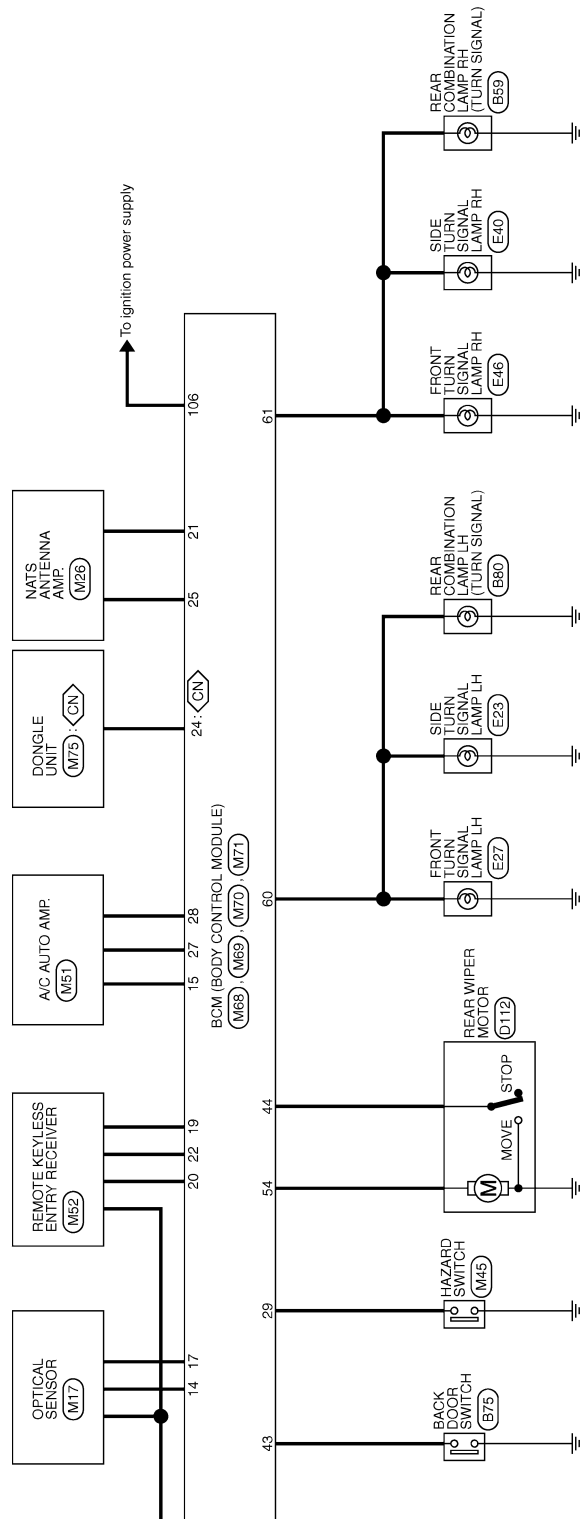
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

 : For Canada



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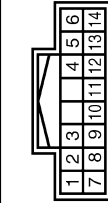
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# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

### BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)

Connector No.	M27
Connector Name	COMBINATION SWITCH
Connector Type	TH16FW-NH



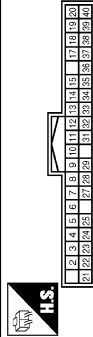
Terminal No.	Color of Wire	Signal Name [Specification]
2	GR	INPUT 4
5	L/Y	INPUT 3
7	W	OUTPUT 3
8	BR/W	INPUT 5
9	R/L	OUTPUT 2
10	Y/L	OUTPUT 4
11	L/O	OUTPUT 1
12	L/R	INPUT 1
13	LG	OUTPUT 5
14	G	INPUT 2

Connector No.	M70
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	FEA09FB-FHA6-SA



Terminal No.	Color of Wire	Signal Name [Specification]
56	L	INTERIOR ROOM LAMP POWER SUPPLY
57	Y	BAT (FUSE)
59	G	PASSENGER DOOR UNLOCK OUTPUT
60	W/B	TURN SIGNAL LH OUTPUT
61	W/L	TURN SIGNAL RH OUTPUT
63	BR	ROOM LAMP TIMER CONTROL
65	V	ALL DOOR LOCK OUTPUT
66	L/B	DRIVER DOOR UNLOCK OUTPUT
67	B	GND
68	L	POWER WINDOW POWER SUPPLY (GN)
69	L/W	POWER WINDOW POWER SUPPLY (BAT)

Connector No.	M66
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	TH4QFB-NH



Terminal No.	Color of Wire	Signal Name [Specification]
2	BR/W	COMBI SW INPUT 5
3	GR	COMBI SW INPUT 4
4	L/Y	COMBI SW INPUT 3
5	G	COMBI SW INPUT 2
6	L/R	COMBI SW INPUT 1
7	W/B	KEY CYL UNLOCK SW
8	W/B	KEY CYL LOCK SW
9	R	STOP LAMP SW 1
10	V/W	TIRE PRESS WARNING CHECK SW
11	L/Y	ACC F/B
12	SB	PASSENGER DOOR SW

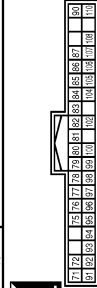
Connector No.	M71
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	TH4QFW-NH



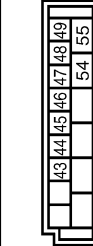
Terminal No.	Color of Wire	Signal Name [Specification]
71	R	TIRE PRESS RECEIVER COMM
72	R/W	BK DR LOCK ACT RELAY CONT
75	SB	DRIVER DOOR REQUEST SW
76	G	PASSENGER DOOR REQUEST SW
77	W	BACK DOOR REQUEST SW
78	LG	DRIVER DOOR ANT+
79	V	DRIVER DOOR ANT-
80	BR/Y	PASSENGER DOOR ANT+
81	L/Y	PASSENGER DOOR ANT-
82	W/B	BACK DOOR ANT+
83	B/W	BACK DOOR ANT-

Terminal No.	Color of Wire	Signal Name [Specification]
13	GR/L	REAR RH DOOR SW
14	L/B	OPTICAL SENSOR
15	W/L	REAR WINDOW DEFROGER SW
17	R/G	OPTICAL SENSOR POWER SUPPLY
18	V	RECEIVER SENSOR GND
19	BR	KEYLESS ENTRY RECEIVER POWER SUPPLY
20	G/Y	KEYLESS ENTRY RECEIVER COMM
21	P/L	NATS ANTENNA AMP-
22	W/G	KEYLESS ENTRY RECEIVER RSSI
23	R/Y	SECURITY INDICATOR LAMP
24	GR/R	DOUBLE LINK
25	LG	NATS ANTENNA AMP-
27	Y/G	A/C SW
28	G/W	BLOWER FAN SW
29	L/W	HAZARD SW
31	G/B	DR DOOR UNLOCK SENSOR
32	LG	COMBI SW OUTPUT 5
33	Y/L	COMBI SW OUTPUT 4
34	W	COMBI SW OUTPUT 3
35	R/L	COMBI SW OUTPUT 2
36	L/O	COMBI SW OUTPUT 1
37	L/O	SHIFT P
38	O	IGN F/B
39	L	CAN-H
40	P	CAN-L

Connector No.	M71
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	TH4QFW-NH



Connector No.	M69
Connector Name	BCM (BODY CONTROL MODULE) (WITH INTELLIGENT KEY)
Connector Type	FEA09FW-FHA6-SA



Terminal No.	Color of Wire	Signal Name [Specification]
43	W	BACK DOOR SW
44	LG	REAR WIPER STOP POSITION
45	GR	CENTRAL DOOR LOCK SW
46	BR	CENTRAL DOOR UNLOCK SW
47	BR/Y	DRIVER DOOR SW
48	W/G	REAR LH DOOR SW
49	V	LUGGAGE ROOM LAMP OUTPUT
54	L/W	REAR WIPER OUTPUT
55	G	REAR DOOR UNLOCK OUTPUT

Terminal No.	Color of Wire	Signal Name [Specification]
84	Y/G	ROOM ANT-
85	Y/L	ROOM ANT-
86	P	LUGGAGE ROOM ANT-
87	L	LUGGAGE ROOM ANT-
90	W/L	PUSH-BUTTON IGNITION SW ILL POWER
91	Y	ACC/ON IND
92	BR/R	PUSH-BUTTON IGNITION SW ILL GND
93	GR/W	H-KEY WARN BUZZER
94	Y/B	S/L UNIT COMM
95	W/G	S/L UNIT POWER SUPPLY
96	BR/W	ACC RELAY CONT
97	L/R	STARTER RELAY CONT
98	BR	IGN RELAY (UPDM E/F) CONT
99	W/R	IGN RELAY CONT
100	L/O	PUSH SW
102	G	SHIFT N/P
104	Y/R	CVT SHIFT SELECTOR POWER SUPPLY
105	B/O	STOP LAMP SW 2
106	Y/B	BLOWER FAN MOTOR RELAY CONT
107	L/W	S/L CONDITION 1
108	P/L	S/L CONDITION 2
110	BR/W	TIRE PRESS POWER SUPPLY

WITH INTELLIGENT KEY : Fail-safe

FAIL-SAFE CONTROL BY DTC  
BCM performs fail-safe control when any DTC are detected.

JCMWM4072GB

INFOID:000000005175453

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS INFORMATION >

Display contents of CONSULT	Fail-safe	Cancellation	
B2013: ID DISCORD BCM-S/L	Inhibit engine cranking	When communication between BCM and steering lock unit are communicated normally.	A
B2014: CHAIN OF S/L-BCM	Inhibit engine cranking	When communication between BCM and steering lock unit are communicated normally.	B
B2192: ID DISCORD BCM-ECM	Inhibit engine cranking	Erase DTC	
B2193: CHAIN OF BCM-ECM	Inhibit engine cranking	Erase DTC	C
B2195: ANTI-SCANNING	Inhibit engine cranking	Ignition switch ON → OFF	
B2196: DONGLE NG	Inhibit engine cranking	Erase DTC	D
B2198: NATS ANTENNA AMP	Inhibit engine cranking	Erase DTC	
B2557: VEHICLE SPEED	Inhibit steering lock	When the following CAN signal status (vehicle speed signal) becomes consistent <ul style="list-style-type: none"> <li>• Vehicle speed signal (ABS)</li> <li>• Vehicle speed signal (Meter)</li> </ul>	E
B2601: SHIFT POSITION	Inhibit steering lock	500 ms after the following signal reception status becomes consistent <ul style="list-style-type: none"> <li>• Selector lever P position switch signal</li> <li>• P range signal (CAN)</li> </ul>	F
B2602: SHIFT POSITION	Inhibit steering lock	5 seconds after the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> <li>• Ignition switch is in the ON position</li> <li>• Selector lever P position switch signal: Except P position (battery voltage)</li> <li>• Vehicle speed: 4 km/h (2.5 MPH) or more</li> </ul>	G
B2603: SHIFT POSI STATUS	Inhibit steering lock	500 ms after any of the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> <li>• Status 1 <ul style="list-style-type: none"> <li>- Ignition switch is in the ON position</li> <li>- Selector lever P position switch signal: Except P position (12 V)</li> <li>- Selector lever P/N position signal: Except P and N positions (0 V)</li> </ul> </li> <li>• Status 2 <ul style="list-style-type: none"> <li>- Ignition switch is in the ON position</li> <li>- Selector lever P position switch signal: P position (0 V)</li> <li>- Selector lever P/N position signal: P or N positions (12 V)</li> </ul> </li> </ul>	H
B2604: PNP/CLUTCH SW	Inhibit steering lock	500 ms after any of the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> <li>• Status 1 <ul style="list-style-type: none"> <li>- Ignition switch is in the ON position</li> <li>- Selector lever P/N position signal: P or N position (12 V)</li> <li>- Shift position signal (CAN): P or N position</li> </ul> </li> <li>• Status 2 <ul style="list-style-type: none"> <li>- Ignition switch is in the ON position</li> <li>- Selector lever P/N position signal: Except P and N positions (0 V)</li> <li>- Shift position signal (CAN): Except P and N position</li> </ul> </li> </ul>	I
B2605: PNP/CLUTCH SW	Inhibit steering lock	500 ms after any of the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> <li>• Status 1 <ul style="list-style-type: none"> <li>- Power position: IGN</li> <li>- Selector lever P/N position signal: Except P and N positions (0 V)</li> <li>- Interlock/PNP switch signal (CAN): OFF</li> </ul> </li> <li>• Status 2 <ul style="list-style-type: none"> <li>- Ignition switch is in the ON position</li> <li>- Selector lever P/N position signal: P or N position (12 V)</li> <li>- Interlock/PNP switch signal (CAN): ON</li> </ul> </li> </ul>	J
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent <ul style="list-style-type: none"> <li>• Starter motor relay control signal</li> <li>• Starter relay status signal (CAN)</li> </ul>	K
B2609: S/L STATUS	<ul style="list-style-type: none"> <li>• Inhibit engine cranking</li> <li>• Inhibit steering lock</li> </ul>	When the following steering lock conditions agree <ul style="list-style-type: none"> <li>• BCM steering lock control status</li> <li>• Steering lock condition No. 1 signal status</li> <li>• Steering lock condition No. 2 signal status</li> </ul>	WW
B260B: STEERING LOCK UNIT	Inhibit steering lock	Erase DTC	M
			N
			O
			P

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Display contents of CONSULT	Fail-safe	Cancellation
B260D: STEERING LOCK UNIT	Inhibit steering lock	Erase DTC
B260F: ENG STATE SIG LOST	Inhibit engine cranking	When any of the following conditions are fulfilled <ul style="list-style-type: none"> <li>• Power position changes to ACC</li> <li>• Receives engine status signal (CAN)</li> </ul>
B2612: S/L STATUS	<ul style="list-style-type: none"> <li>• Inhibit engine cranking</li> <li>• Inhibit steering lock</li> </ul>	When any of the following conditions are fulfilled <ul style="list-style-type: none"> <li>• Steering lock unit status signal (CAN) is received normally</li> <li>• The BCM steering lock control status matches the steering lock status recognized by the steering lock unit status signal (CAN from IPDM E/R)</li> </ul>
B2619: BCM	Inhibit engine cranking	1 second after the steering lock unit power supply output control inside BCM becomes normal
B26EF: STRG LCK RELAY OFF	Inhibit engine cranking	When the following conditions are fulfilled <ul style="list-style-type: none"> <li>• Steering lock relay signal (CAN): ON</li> <li>• Steering lock unit status signal (CAN): ON</li> </ul>
B26F0: STRG LCK RELAY ON	Inhibit engine cranking	When the following conditions are fulfilled <ul style="list-style-type: none"> <li>• Steering lock relay signal (CAN): OFF</li> <li>• Steering lock unit status signal (CAN): OFF</li> </ul>
B26F1: IGN RELAY OFF	Inhibit engine cranking	When the following conditions are fulfilled <ul style="list-style-type: none"> <li>• Ignition switch ON signal (CAN: Transmitted from BCM): ON</li> <li>• Ignition switch ON signal (CAN: Transmitted from IPDM E/R): ON</li> </ul>
B26F2: IGN RELAY ON	Inhibit engine cranking	When the following conditions are fulfilled <ul style="list-style-type: none"> <li>• Ignition switch ON signal (CAN: Transmitted from BCM): OFF</li> <li>• Ignition switch ON signal (CAN: Transmitted from IPDM E/R): OFF</li> </ul>
B26F3: START CONT RLY ON	Inhibit engine cranking	When the following conditions are fulfilled <ul style="list-style-type: none"> <li>• Starter control relay signal (CAN: Transmitted from BCM): OFF</li> <li>• Starter control relay signal (CAN: Transmitted from IPDM E/R): OFF</li> </ul>
B26F4: START CONT RLY OFF	Inhibit engine cranking	When the following conditions are fulfilled <ul style="list-style-type: none"> <li>• Starter control relay signal (CAN: Transmitted from BCM): ON</li> <li>• Starter control relay signal (CAN: Transmitted from IPDM E/R): ON</li> </ul>
B26F7: BCM	Inhibit engine cranking by Intelligent Key system	When room antenna and luggage room antenna functions normally
U0415: VEHICLE SPEED	Inhibit steering lock	When vehicle speed signal (Meter) (CAN) is received normally

### HIGH FLASHER OPERATION

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

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

#### NOTE:

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

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

### WITH INTELLIGENT KEY : DTC Inspection Priority Chart

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



# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Priority	DTC	A
1	B2562: LOW VOLTAGE	A
2	<ul style="list-style-type: none"> <li>• U1000: CAN COMM CIRCUIT</li> <li>• U1010: CONTROL UNIT (CAN)</li> </ul>	B
3	<ul style="list-style-type: none"> <li>• B2192: ID DISCORD BCM-ECM</li> <li>• B2193: CHAIN OF BCM-ECM</li> <li>• B2195: ANTI-SCANNING</li> <li>• B2196: DONGLE NG</li> <li>• B2198: NATS ANTENNA AMP</li> </ul>	C
4	<ul style="list-style-type: none"> <li>• B2013: ID DISCORD BCM-S/L</li> <li>• B2014: CHAIN OF S/L-BCM</li> <li>• B2553: IGNITION RELAY</li> <li>• B2555: STOP LAMP</li> <li>• B2556: PUSH-BTN IGN SW</li> <li>• B2557: VEHICLE SPEED</li> <li>• B2601: SHIFT POSITION</li> <li>• B2602: SHIFT POSITION</li> <li>• B2603: SHIFT POSI STATUS</li> <li>• B2604: PNP/CLUTCH SW</li> <li>• B2605: PNP/CLUTCH SW</li> <li>• B2608: STARTER RELAY</li> <li>• B2609: S/L STATUS</li> <li>• B260B: STEERING LOCK UNIT</li> <li>• B260C: STEERING LOCK UNIT</li> <li>• B260D: STEERING LOCK UNIT</li> <li>• B260F: ENG STATE SIG LOST</li> <li>• B2612: S/L STATUS</li> <li>• B2614: BCM</li> <li>• B2615: BCM</li> <li>• B2616: BCM</li> <li>• B2618: BCM</li> <li>• B2619: BCM</li> <li>• B261A: PUSH-BTN IGN SW</li> <li>• B26E9: LOCK MALFUNCTION</li> <li>• B26EF: STRG LCK RELAY OFF</li> <li>• B26F0: STRG LCK RELAY ON</li> <li>• B26F1: IGN RELAY OFF</li> <li>• B26F2: IGN RELAY ON</li> <li>• B26F3: START CONT RLY ON</li> <li>• B26F4: START CONT RLY OFF</li> <li>• B26F5: STRG LCK STS SW</li> <li>• B26F6: BCM</li> <li>• B26F7: BCM</li> <li>• B26F8: BCM</li> <li>• B26FC: KEY REGISTRATION</li> <li>• C1729: VHCL SPEED SIG ERR</li> <li>• U0415: VEHICLE SPEED</li> </ul>	D E F G H I J K M N O P

WW

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Priority	DTC
5	<ul style="list-style-type: none"> <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>• C1712: [CHECKSUM ERR] FL</li> <li>• C1713: [CHECKSUM ERR] FR</li> <li>• C1714: [CHECKSUM ERR] RR</li> <li>• C1715: [CHECKSUM ERR] RL</li> <li>• C1716: [PRESSDATA ERR] FL</li> <li>• C1717: [PRESSDATA ERR] FR</li> <li>• C1718: [PRESSDATA ERR] RR</li> <li>• C1719: [PRESSDATA ERR] RL</li> <li>• C1720: [CODE ERR] FL</li> <li>• C1721: [CODE ERR] FR</li> <li>• C1722: [CODE ERR] RR</li> <li>• C1723: [CODE ERR] RL</li> <li>• C1724: [BATT VOLT LOW] FL</li> <li>• C1725: [BATT VOLT LOW] FR</li> <li>• C1726: [BATT VOLT LOW] RR</li> <li>• C1727: [BATT VOLT LOW] RL</li> <li>• C1734: CONTROL UNIT</li> </ul>
6	<ul style="list-style-type: none"> <li>• B2621: INSIDE ANTENNA</li> <li>• B2622: INSIDE ANTENNA</li> </ul>
7	<ul style="list-style-type: none"> <li>• B2626: OUTSIDE ANTENNA</li> <li>• B2627: OUTSIDE ANTENNA</li> <li>• B2628: OUTSIDE ANTENNA</li> </ul>

## WITH INTELLIGENT KEY : DTC Index

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### 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 [BCS-18, "COMMON ITEM : CONSULT-III Function \(BCM - COMMON ITEM\)"](#).

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	—	—	—	—	<a href="#">BCS-39</a>
U1010: CONTROL UNIT (CAN)	—	—	—	—	<a href="#">BCS-40</a>
U0415: VEHICLE SPEED	×	—	×	—	<a href="#">BCS-41</a>
B2013: ID DISCORD BCM-S/L	×	×	×	—	<a href="#">SEC-45</a>
B2014: CHAIN OF S/L-BCM	×	×	×	—	<a href="#">SEC-46</a>
B2192: ID DISCORD BCM-ECM	×	—	—	—	<a href="#">SEC-35</a>
B2193: CHAIN OF BCM-ECM	×	—	—	—	<a href="#">SEC-37</a>
B2195: ANTI-SCANNING	×	—	—	—	<a href="#">SEC-38</a>
B2196: DONGLE NG	×	—	—	—	<a href="#">SEC-39</a>

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

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
B2198: NATS ANTENNA AMP	×	—	—	—	<a href="#">SEC-41</a>
B2553: IGNITION RELAY	—	×	×	—	<a href="#">PCS-78</a>
B2555: STOP LAMP	—	×	×	—	<a href="#">SEC-49</a>
B2556: PUSH-BTN IGN SW	—	×	×	—	<a href="#">SEC-51</a>
B2557: VEHICLE SPEED	×	×	×	—	<a href="#">SEC-53</a>
B2562: LOW VOLTAGE	—	×	—	—	<a href="#">BCS-42</a>
B2601: SHIFT POSITION	×	×	×	—	<a href="#">SEC-54</a>
B2602: SHIFT POSITION	×	×	×	—	<a href="#">SEC-57</a>
B2603: SHIFT POSI STATUS	×	×	×	—	<a href="#">SEC-60</a>
B2604: PNP/CLUTCH SW	×	×	×	—	<a href="#">SEC-65</a>
B2605: PNP/CLUTCH SW	×	×	×	—	<a href="#">SEC-68</a>
B2608: STARTER RELAY	×	×	×	—	<a href="#">SEC-70</a>
B2609: S/L STATUS	×	×	×	—	<a href="#">SEC-72</a>
B260B: STEERING LOCK UNIT	×	×	×	—	<a href="#">SEC-75</a>
B260C: STEERING LOCK UNIT	—	×	×	—	<a href="#">SEC-76</a>
B260D: STEERING LOCK UNIT	×	×	×	—	<a href="#">SEC-77</a>
B260F: ENG STATE SIG LOST	×	×	×	—	<a href="#">SEC-78</a>
B2612: S/L STATUS	×	×	×	—	<a href="#">SEC-79</a>
B2614: BCM	—	×	×	—	<a href="#">PCS-80</a>
B2615: BCM	—	×	×	—	<a href="#">PCS-83</a>
B2616: BCM	—	×	×	—	<a href="#">PCS-86</a>
B2618: BCM	—	×	×	—	<a href="#">PCS-89</a>
B2619: BCM	×	×	×	—	<a href="#">SEC-82</a>
B261A: PUSH-BTN IGN SW	—	×	×	—	<a href="#">PCS-90</a>
B2621: INSIDE ANTENNA	—	×	—	—	<a href="#">DLK-44</a>
B2622: INSIDE ANTENNA	—	×	—	—	<a href="#">DLK-46</a>
B2626: OUTSIDE ANTENNA	—	×	—	—	<a href="#">DLK-48</a>
B2627: OUTSIDE ANTENNA	—	×	—	—	<a href="#">DLK-50</a>
B2628: OUTSIDE ANTENNA	—	×	—	—	<a href="#">DLK-52</a>
B26E9: LOCK MALFUNCTION	—	×	× (Turn ON for 15 seconds)	—	<a href="#">SEC-83</a>
B26EF: STRG LCK RELAY OFF	×	×	×	—	<a href="#">SEC-84</a>
B26F0: STRG LCK RELAY ON	×	×	×	—	<a href="#">SEC-86</a>
B26F1: IGN RELAY OFF	×	×	×	—	<a href="#">PCS-92</a>
B26F2: IGN RELAY ON	×	×	×	—	<a href="#">PCS-95</a>
B26F3: START CONT RLY ON	×	×	×	—	<a href="#">SEC-87</a>
B26F4: START CONT RLY OFF	×	×	×	—	<a href="#">SEC-88</a>
B26F5: STRG LCK STS SW	—	×	×	—	<a href="#">SEC-90</a>
B26F6: BCM	—	×	×	—	<a href="#">PCS-98</a>
B26F7: BCM	×	×	×	—	<a href="#">SEC-93</a>
B26F8: BCM	—	×	×	—	<a href="#">SEC-94</a>

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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

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
B26FC: KEY REGISTRATION	—	×	×	—	<a href="#">SEC-95</a>
C1704: LOW PRESSURE FL	—	—	—	×	<a href="#">WT-16</a>
C1705: LOW PRESSURE FR	—	—	—	×	
C1706: LOW PRESSURE RR	—	—	—	×	
C1707: LOW PRESSURE RL	—	—	—	×	
C1708: [NO DATA] FL	—	—	—	×	<a href="#">WT-18</a>
C1709: [NO DATA] FR	—	—	—	×	
C1710: [NO DATA] RR	—	—	—	×	
C1711: [NO DATA] RL	—	—	—	×	
C1712: [CHECKSUM ERR] FL	—	—	—	×	<a href="#">WT-21</a>
C1713: [CHECKSUM ERR] FR	—	—	—	×	
C1714: [CHECKSUM ERR] RR	—	—	—	×	
C1715: [CHECKSUM ERR] RL	—	—	—	×	
C1716: [PRESSDATA ERR] FL	—	—	—	×	<a href="#">WT-24</a>
C1717: [PRESSDATA ERR] FR	—	—	—	×	
C1718: [PRESSDATA ERR] RR	—	—	—	×	
C1719: [PRESSDATA ERR] RL	—	—	—	×	
C1720: [CODE ERR] FL	—	—	—	×	<a href="#">WT-26</a>
C1721: [CODE ERR] FR	—	—	—	×	
C1722: [CODE ERR] RR	—	—	—	×	
C1723: [CODE ERR] RL	—	—	—	×	
C1724: [BATT VOLT LOW] FL	—	—	—	×	<a href="#">WT-29</a>
C1725: [BATT VOLT LOW] FR	—	—	—	×	
C1726: [BATT VOLT LOW] RR	—	—	—	×	
C1727: [BATT VOLT LOW] RL	—	—	—	×	
C1729: VHCL SPEED SIG ERR	—	—	—	×	<a href="#">WT-32</a>
C1734: CONTROL UNIT	—	—	—	×	<a href="#">WT-34</a>

## WITHOUT INTELLIGENT KEY

WITHOUT INTELLIGENT KEY : Reference Value

INFOID:000000005175457

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition	Value/Status
IGN ON SW	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
KEY ON SW	Mechanical key is removed from key cylinder	Off
	Mechanical key is inserted to key cylinder	On
CDL LOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the lock side	On
CDL UNLOCK SW	Door lock/unlock switch does not operate	Off
	Press door lock/unlock switch to the unlock side	On

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
DOOR SW-DR	Driver's door closed	Off	A
	Driver's door opened	On	
DOOR SW-AS	Passenger door closed	Off	B
	Passenger door opened	On	
DOOR SW-RR	Rear RH door closed	Off	C
	Rear RH door opened	On	
DOOR SW-RL	Rear LH door closed	Off	D
	Rear LH door opened	On	
BACK DOOR SW	Back door closed	Off	E
	Back door opened	On	
LOCK STATUS	<b>NOTE:</b> The item is indicated, but not monitored.	Off	
ACC ON SW	Ignition switch OFF	Off	F
	Ignition switch ACC or ON	On	
KEYLESS LOCK	"LOCK" button of key fob is not pressed	Off	G
	"LOCK" button of key fob is pressed	On	
KEYLESS UNLOCK	"UNLOCK" button of key fob is not pressed	Off	H
	"UNLOCK" button of key fob is pressed	On	
SHOCK SENSOR	<b>NOTE:</b> The item is indicated, but not monitored.	NORMAL	
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	Off	I
	Driver door key cylinder LOCK position	On	
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	Off	J
	Driver door key cylinder UNLOCK position	On	
VEHICLE SPEED	While driving	Equivalent to speedometer reading	
REAR DEF SW	Rear window defogger switch OFF	Off	K
	Rear window defogger switch ON	On	
REVERSE SW CAN	<b>NOTE:</b> The item is indicated, but not used.	Off	WW
		On	
TAIL LAMP SW	Lighting switch OFF	Off	M
	Lighting switch 1ST	On	
FR FOG SW	Front fog lamp switch OFF	Off	N
	Front fog lamp switch ON	On	
BUCKLE SW	The seat belt (driver side) is fastened. [Seat belt switch (driver side) OFF]	Off	O
	The seat belt (driver side) is unfastened. [Seat belt switch (driver side) ON]	On	
TRNK/HAT MNTR	<b>NOTE:</b> The item is indicated, but not monitored.	Off	P
ACC SW	Ignition switch OFF	Off	
	Ignition switch ACC or ON	On	
KYLS TRNK/HAT	<b>NOTE:</b> The item is indicated, but not monitored.	Off	
KEYLESS PANIC	PANIC button of key fob is not pressed	Off	
	PANIC button of key fob is pressed	On	
HI BEAM SW	Lighting switch OFF	Off	
	Lighting switch HI	On	

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
HEAD LAMP SW 1	Lighting switch OFF	Off
	Lighting switch 2ND	On
HEAD LAMP SW 2	Lighting switch OFF	Off
	Lighting switch 2ND	On
AUTO LIGHT SW	Lighting switch OFF	Off
	Lighting switch AUTO	On
PASSING SW	Other than lighting switch PASS	Off
	Lighting switch PASS	On
RR FOG SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off
TURN SIGNAL R	Turn signal switch OFF	Off
	Turn signal switch RH	On
TURN SIGNAL L	Turn signal switch OFF	Off
	Turn signal switch LH	On
PKB SW	Parking brake switch is OFF	Off
	Parking brake switch is ON	On
ENGINE RUN	Engine stopped	Off
	Engine running	On
OPTI SEN (DTCT)	Bright outside of the vehicle	Close to 5 V
	Dark outside of the vehicle	Close to 0 V
OPTI SEN (FILT)	Bright outside of the vehicle (Lighting switch AUTO)	Close to 5 V
	Dark outside of the vehicle (Lighting switch AUTO)	Close to 1.50 V
LIG SEN COND	<b>NOTE:</b> The item is indicated, but not monitored.	OFF
IGN SW CAN	Ignition switch OFF or ACC	Off
	Ignition switch ON	On
FR WIPER HI	Front wiper switch OFF	Off
	Front wiper switch HI	On
FR WIPER LOW	Front wiper switch OFF	Off
	Front wiper switch LO	On
FR WIPER INT	Front wiper switch OFF	Off
	Front wiper switch INT	On
FR WASHER SW	Front washer switch OFF	Off
	Front washer switch ON	On
INT VOLUME	Wiper intermittent dial is in a dial position 1 - 7	1 - 7
FR WIPER STOP	Any position other than front wiper stop position	Off
	Front wiper stop position	On
RR WIPER ON	Rear wiper switch OFF	Off
	Rear wiper switch ON	On
RR WIPER INT	Rear wiper switch OFF	Off
	Rear wiper switch INT	On
RR WASHER SW	Rear washer switch OFF	Off
	Rear washer switch ON	On
RR WIPER STOP	Rear wiper stop position	Off
	Other than rear wiper stop position	On

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS INFORMATION >

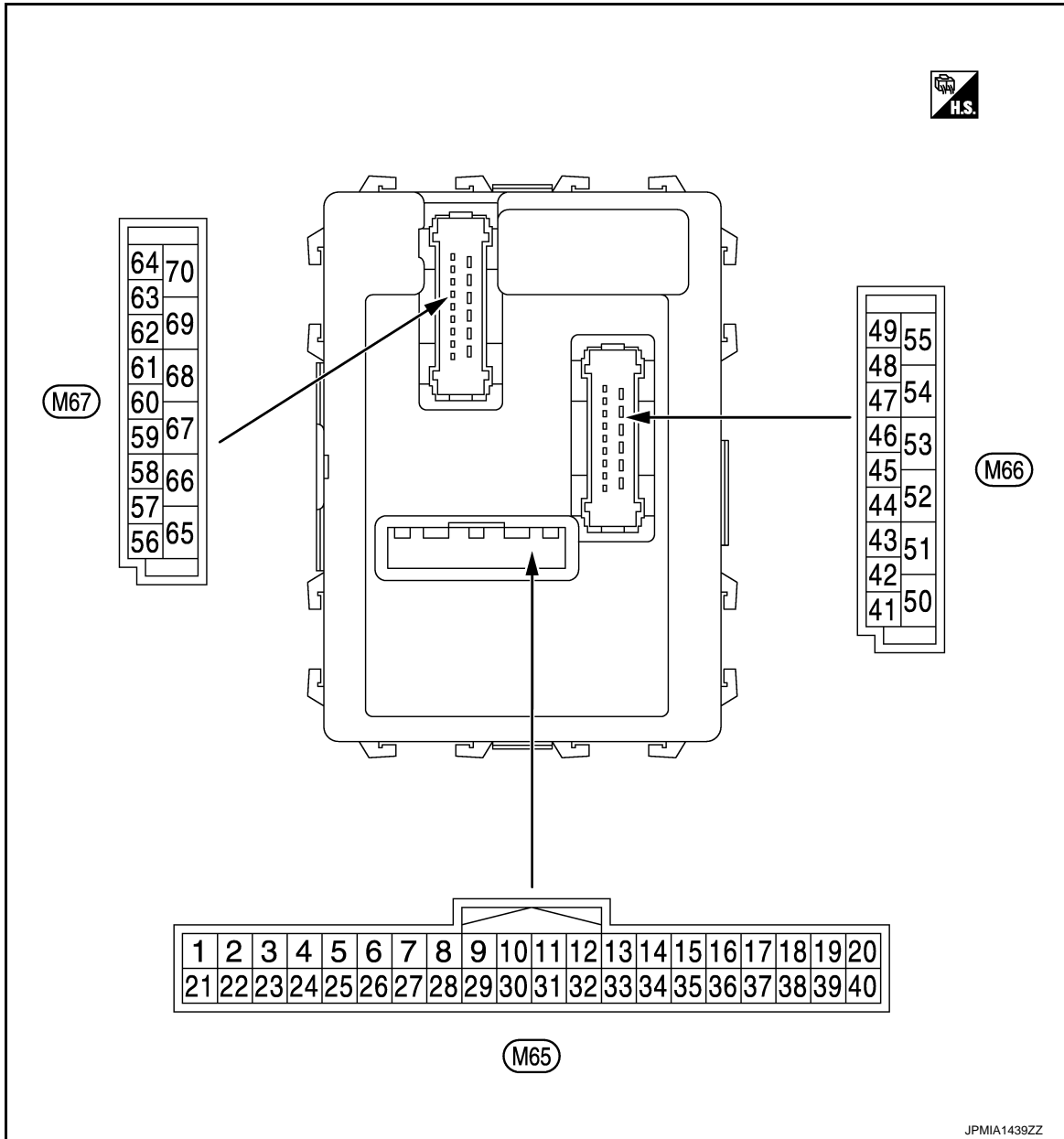
Monitor Item	Condition	Value/Status	
RAIN SENSOR	<b>NOTE:</b> The item is indicated, but not monitored.	Off	A
HAZARD SW	Hazard switch OFF	Off	B
	Hazard switch ON	On	
FAN ON SIG	Blower control dial OFF	Off	C
	Other than blower control dial OFF	On	
AIR COND SW	<ul style="list-style-type: none"> <li>• Air conditioner OFF (A/C switch indicator OFF) (Automatic air conditioner)</li> <li>• A/C switch OFF (Manual air conditioner)</li> </ul>	Off	D
	<ul style="list-style-type: none"> <li>• Air conditioner ON (A/C switch indicator ON) (Automatic air conditioner)</li> <li>• A/C switch ON (Manual air conditioner)</li> </ul>	On	
THERMO AMP <b>NOTE:</b> At models with automatic air conditioner this item is not monitored.	Ignition switch ON	Off	E
	Evaporator is extremely low temperature	On	
FR DEF SW	Other than A/C mode defroster ON position	Off	F
	A/C mode defroster ON position	On	
KEYLESS TRUNK	<b>NOTE:</b> The item is indicated, but not monitored.	Off	G
TRNK OPNR SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off	
TRNK OPN MNTR	<b>NOTE:</b> The item is indicated, but not monitored.	Off	H
HOOD SW	Close the hood	Off	I
	Open the hood	On	
TRANSPONDER	Other than the ignition switch is ON by key registered to BCM.	Off	J
	The ignition switch is ON by key registered to BCM.	On	
INTELLI KEY	<b>NOTE:</b> The item is indicated, but not used.	Off	
AUTO RELOCK	<b>NOTE:</b> The item is indicated, but not monitored.	Off	K
OIL PRESS SW	<ul style="list-style-type: none"> <li>• Ignition switch OFF or ACC</li> <li>• Engine running</li> </ul>	Off	WW
	Ignition switch ON	On	
BRAKE SW	Brake pedal is not depressed	Off	M
	Brake pedal is depressed	On	

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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

## TERMINAL LAYOUT



**NOTE:**

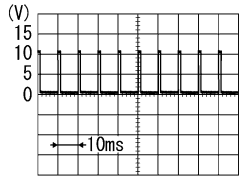
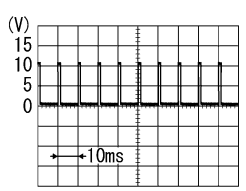
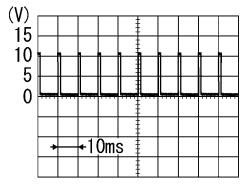
- M65, M66: White
- M67: Black

PHYSICAL VALUES



# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
2 (BR/W)	Ground	Combination switch INPUT 5	Input	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V
					Turn signal switch RH	
					Lighting switch HI	
					Lighting switch 1ST	
					Lighting switch 2ND	
3 (GR)	Ground	Combination switch INPUT 4	Input	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V
					Turn signal switch LH	
					Lighting switch PASS	
					Lighting switch 2ND	
					Front fog lamp switch ON	
4 (L/Y)	Ground	Combination switch INPUT 3	Input	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	0 V
					Front wiper switch LO	
					Front wiper switch MIST	
					Front wiper switch INT	
					Lighting switch AUTO	

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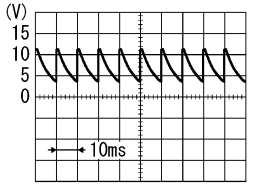
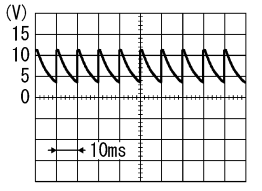
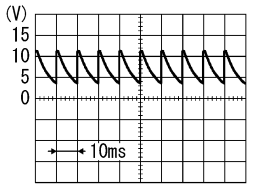
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)						
+	-	Signal name	Input/ Output								
5 (G)	Ground	Combination switch INPUT 2	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V					
					Front washer switch (Wiper intermittent dial 4)						
					Rear washer switch ON (Wiper intermittent dial 4)						
					Any of the condition below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 5</li> <li>• Wiper intermittent dial 6</li> </ul>						
				Rear wiper switch ON (Wiper intermittent dial 4)		1.0 V					
6 (L/R)	Ground	Combination switch INPUT 1	Input	Combination switch	All switch OFF (Wiper intermittent dial 4)	0 V					
					Front wiper switch HI (Wiper intermittent dial 4)						
					Rear wiper switch INT (Wiper intermittent dial 4)						
					Wiper intermittent dial 3 (All switch OFF)						
									Any of the condition below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 2</li> </ul>		1.0 V
									Any of the condition below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 6</li> <li>• Wiper intermittent dial 7</li> </ul>		1.9 V
						0.8 V					

# BCM (BODY CONTROL MODULE)

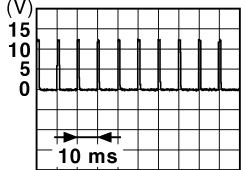
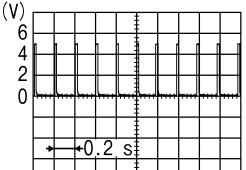
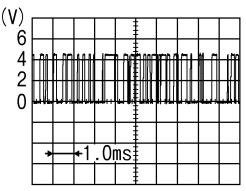
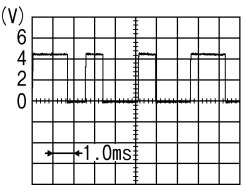
## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
7 (W/R)	Ground	Door key cylinder switch UNLOCK	Input	Door key cylinder switch	NEUTRAL position  7.0 - 8.0 V
				UNLOCK position	0 V
8 (W/B)	Ground	Door key cylinder switch LOCK	Input	Door key cylinder switch	NEUTRAL position 12 V
				LOCK position	0 V
9 (R)	Ground	Stop lamp switch	Input	Stop lamp switch	OFF (Brake pedal is not depressed) 0 V
				ON (Brake pedal is de- pressed)	Battery voltage
10 (W/L)	Ground	Rear window defog- ger switch	Input	Rear window defogger switch	OFF (Not pressed) 12 V
				ON (Pressed)	0 V
11 (L/Y)	Ground	Ignition switch ACC	Input	Ignition switch OFF	0 V
				Ignition switch ACC or ON	Battery voltage
12 (SB)	Ground	Passenger door switch	Input	Passenger door switch	OFF (When passenger door closed)  7.0 - 8.0 V
				ON (When passenger door opened)	0 V
13 (GR/L)	Ground	Rear RH door switch	Input	Rear RH door switch	OFF (When rear RH door closed)  7.0 - 8.0 V
				ON (When rear RH door opened)	0 V
14 (L/B)	Ground	Optical sensor	Input	Ignition switch ON	When bright outside of the vehicle Close to 5 V
				When dark outside of the vehicle	Close to 0 V

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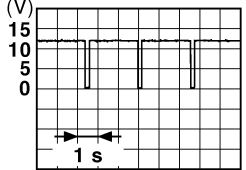
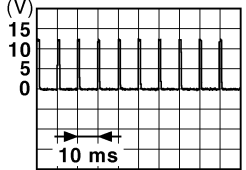
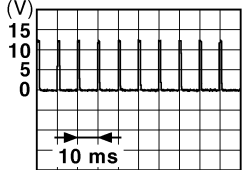
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
15 (V/W)	Ground	Tire pressure warning check switch	Input	Ignition switch OFF		 <p style="text-align: right; font-size: small;">JPMA0012GB</p> <p style="text-align: center;">1.0 - 1.5 V</p>
17 (R/G)	Ground	Optical sensor power supply	Output	Ignition switch	OFF, ACC	0 V
					ON	5 V
18 (V)	Ground	Receiver and sensor ground	Input	Ignition switch ON		0 V
19 (BR)	Ground	Remote keyless entry receiver power supply	Input	Ignition switch OFF	Insert mechanical key into ignition key cylinder	0 V
					Remove mechanical key from ignition key cylinder (Any door opened)	5 V
					Remove mechanical key from ignition key cylinder (Any door closed)	 <p style="text-align: right; font-size: small;">JPMA00338JP</p>
20 (G/Y)	Ground	Remote keyless entry receiver communication	Input	Ignition switch OFF	Insert mechanical key into ignition key cylinder	0 V
					Waiting	 <p style="text-align: right; font-size: small;">PIIB7728J</p>
					Signal receiving	 <p style="text-align: right; font-size: small;">PIIB7729J</p>
21 (P/L)	Ground	Immobilizer antenna (Clock)	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.

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

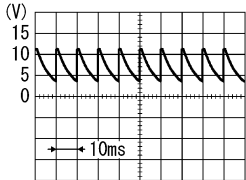
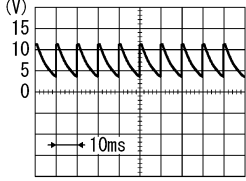
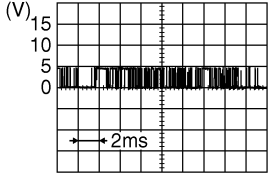
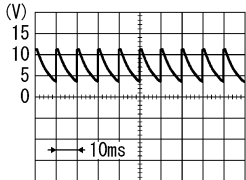
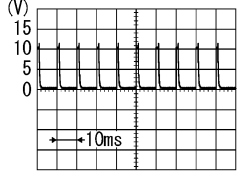
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
23 (R/Y)	Ground	Security indicator	Input	Security indicator	ON	0 V
					Blinking (Ignition switch OFF)	
					OFF	12 V
24 (GR/R)	Ground	Dongle link	Input/ Output	Ignition switch OFF		5 V
25 (LG)	Ground	Immobilizer antenna (Rx, Tx)	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.
26*1 (GR)	Ground	Thermo control amp.	Input	Ignition switch ON		0 V
				Evaporator is extremely low temperature		12 V
27 (Y/G)*2 (Y/R)*3	Ground	A/C switch (Automatic air conditioner)	Input	A/C	OFF (A/C switch indicator: OFF)	
		ON (A/C switch indicator: ON)			0 V	
		A/C switch (Manual air conditioner)	Input	A/C switch	OFF	
		ON			0 V	

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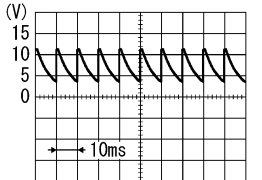
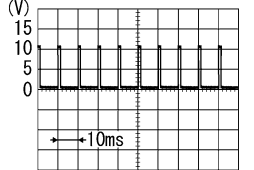
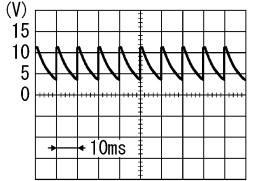
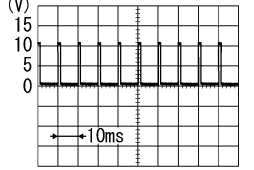
# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
28 (G/W)	Ground	Blower fan switch (Automatic air conditioner)	Input	Fan switch	Blower fan switch OFF	0 V
				Fan switch	Blower fan switch ON	 PKIB4960J 7.0 - 8.0 V
		Blower fan switch (Manual air conditioner)	Fan switch	Fan switch	Blower fan switch OFF	 PKIB4960J 7.0 - 8.0 V
				Fan switch	Blower fan switch ON	0 V
29 (L/W)	Ground	Hazard switch	Input	Hazard switch	OFF	Battery voltage
				Hazard switch	ON	0 V
31 (G/Y)	Ground	Front defroster switch	Input	Ignition switch ON	A/C mode defroster ON position	0 V
				Ignition switch ON	Other than A/C mode de- froster ON position	 JPMA0589GB 8.0 - 9.0 V
32 (LG)	Ground	Combination switch OUTPUT 5	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 PKIB4960J 7.0 - 8.0 V
				Combination switch	Front fog lamp switch ON (Wiper intermittent dial 4)	 PKIB4956J 1.0 V
				Combination switch	Any of the condition below with all switch OFF <ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 2</li> <li>• Wiper intermittent dial 6</li> <li>• Wiper intermittent dial 7</li> </ul>	

# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

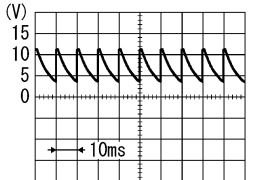
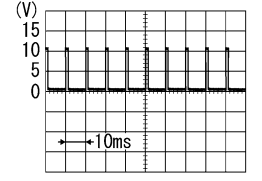
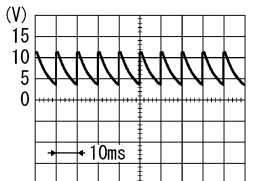
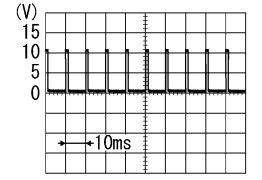
Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
33 (Y/L)	Ground	Combination switch OUTPUT 4	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 <p style="text-align: center;">7.0 - 8.0 V</p>
					Lighting switch 1ST (Wiper intermittent dial 4)	 <p style="text-align: center;">1.2 V</p>
					Lighting switch AUTO (Wiper intermittent dial 4)	
					Rear wiper switch INT (Wiper intermittent dial 4)	
Any of the condition below with all switch OFF						
<ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 5</li> <li>• Wiper intermittent dial 6</li> </ul>						
34 (W)	Ground	Combination switch OUTPUT 3	Output	Combination switch	All switch OFF (Wiper intermittent dial 4)	 <p style="text-align: center;">7.0 - 8.0 V</p>
					Lighting switch 2ND (Wiper intermittent dial 4)	 <p style="text-align: center;">1.2 V</p>
					Lighting switch HI (Wiper intermittent dial 4)	
					Rear washer switch ON (Wiper intermittent dial 4)	
Any of the condition below with all switch OFF						
<ul style="list-style-type: none"> <li>• Wiper intermittent dial 1</li> <li>• Wiper intermittent dial 2</li> <li>• Wiper intermittent dial 3</li> </ul>						

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# BCM (BODY CONTROL MODULE)

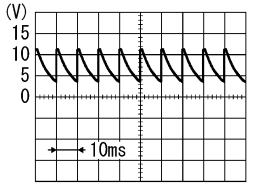
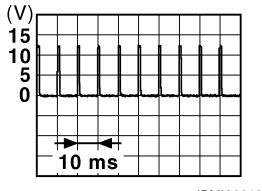
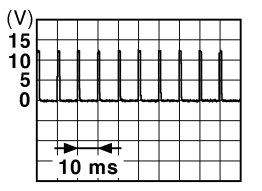
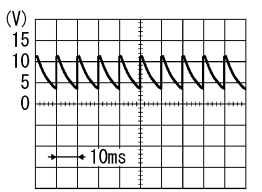
## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
35 (R/L)	Ground	Combination switch OUTPUT 2	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	 7.0 - 8.0 V
					Lighting switch 2ND	 1.2 V
					Lighting switch PASS	
					Front wiper switch INT	
Front wiper switch HI						
36 (L/O)	Ground	Combination switch OUTPUT 1	Output	Combination switch (Wiper intermit- tent dial 4)	All switch OFF	 7.0 - 8.0 V
					Turn signal switch RH	 1.2 V
					Turn signal switch LH	
					Front wiper switch LO (Front wiper switch MIST)	
Front washer switch ON						
37 (R/W)	Ground	Key switch	Input	Insert mechanical key into ignition key cylinder	Battery voltage	
				Remove mechanical key from ignition key cylinder	0 V	
38 (O)	Ground	Ignition switch ON	Input	Ignition switch OFF or ACC	0 V	
				Ignition switch ON	Battery voltage	
39 (L)	Ground	CAN-H	Input/ Output	—	—	
40 (P)	Ground	CAN-L	Input/ Output	—	—	



# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

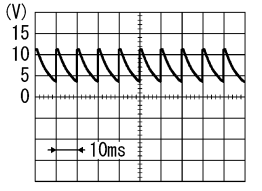
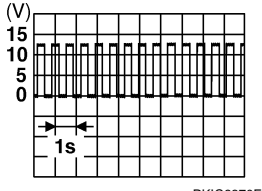
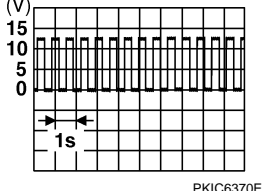
Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
43 (W)	Ground	Back door switch	Input	Back door switch	OFF (When back door closed)	 7.0 - 8.0 V
				ON (When back door opened)	0 V	
44 (LG)	Ground	Rear wiper stop position	Input	Ignition switch ON	Rear wiper stop position	12 V
				Any position other than rear wiper stop position	0 V	
45 (GR)	Ground	Door lock and unlock switch LOCK	Input	Door lock and unlock switch	NEUTRAL position	 1.0 - 1.5 V
				LOCK position	0 V	
46 (BR)	Ground	Door lock and unlock switch UNLOCK	Input	Door lock and unlock switch	NEUTRAL position	 1.0 - 1.5 V
				UNLOCK position	0 V	
47 (BR/Y)	Ground	Driver door switch	Input	Driver door switch	OFF (When driver door closed)	 7.0 - 8.0 V
				ON (When driver door opened)	0 V	

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# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
48 (W/G)	Ground	Rear LH door switch	Input	Rear LH door switch	OFF (When rear LH door closed)	 <p style="text-align: right; font-size: small;">PKIB4960J</p>
					ON (When rear LH door opened)	0 V
49 (Y)	Ground	Luggage room lamp	Output	Luggage room lamp switch DOOR position	Back door is closed (Back door lamp turns OFF)	12 V
					Back door is opened (Back door lamp turns ON)	0 V
50*1 (SB)	Ground	A/C indicator	Output	A/C indicator	OFF	12 V
					ON	0 V
54 (L/W)	Ground	Rear wiper	Output	Ignition switch ON	Rear wiper switch OFF	0 V
					Rear wiper switch ON	12 V
56 (L)	Ground	Interior room lamp power supply	Output	Interior room lamp battery saver is activated. (Cuts the interior room lamp power supply)	0 V	
					Interior room lamp battery saver is not activated. (Outputs the interior room lamp power supply)	12 V
57 (Y)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage	
59 (L/B)	Ground	Driver door UN-LOCK	Output	Driver door	UNLOCK (Actuator is activated)	12 V
					Other than UNLOCK (Actuator is not activated)	0 V
60 (W/B)	Ground	Turn signal LH	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch LH	 <p style="text-align: right; font-size: small;">PKIC6370E</p>
61 (W/L)	Ground	Turn signal RH	Output	Ignition switch ON	Turn signal switch OFF	0 V
					Turn signal switch RH	 <p style="text-align: right; font-size: small;">PKIC6370E</p>

## BCM (BODY CONTROL MODULE)

### < ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
63 (BR)	Ground	Interior room lamp timer control	Output	Interior room lamp	OFF	12 V
					ON	0 V
65 (V)	Ground	All doors LOCK	Output	All doors	LOCK (Actuator is activated)	12 V
					Other then LOCK (Actuator is not activated)	0 V
66 (G)	Ground	Passenger door and rear door UNLOCK	Output	Passenger door and rear door	UNLOCK (Actuator is activated)	12 V
					Other then UNLOCK (Actuator is not activated)	0 V
67 (B)	Ground	Ground	Output	Ignition switch ON		0 V
68 (L)	Ground	P/W power supply (IGN)	Output	Ignition switch ON		12 V
69 (L/W)	Ground	P/W power supply (BAT)	Output	Ignition switch OFF		12 V
70 (Y)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage

- \*1: Only manual air conditioner
- \*2: Automatic air conditioner
- \*3: Manual air conditioner

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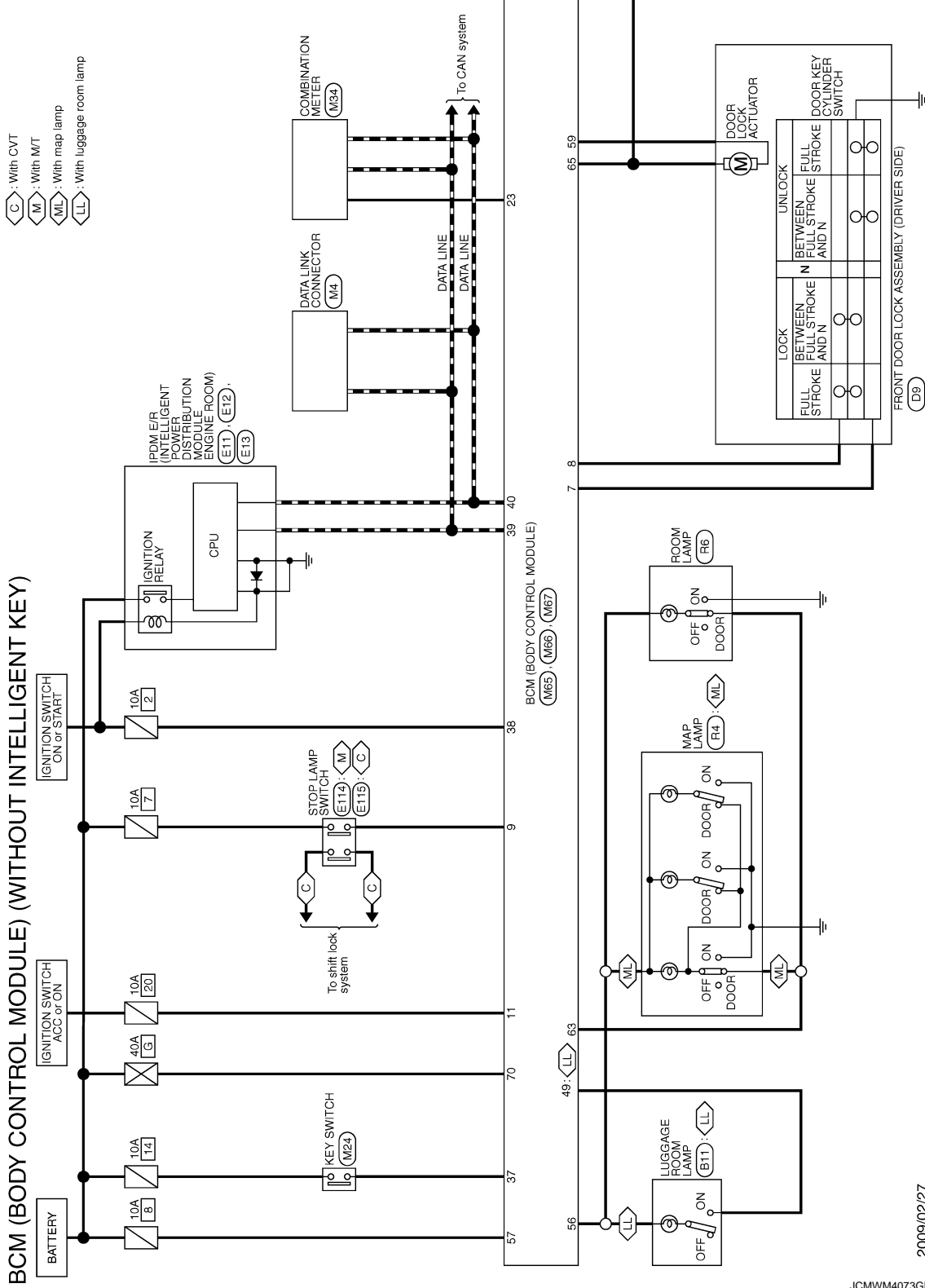
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

## WITHOUT INTELLIGENT KEY : Wiring Diagram - BCM -

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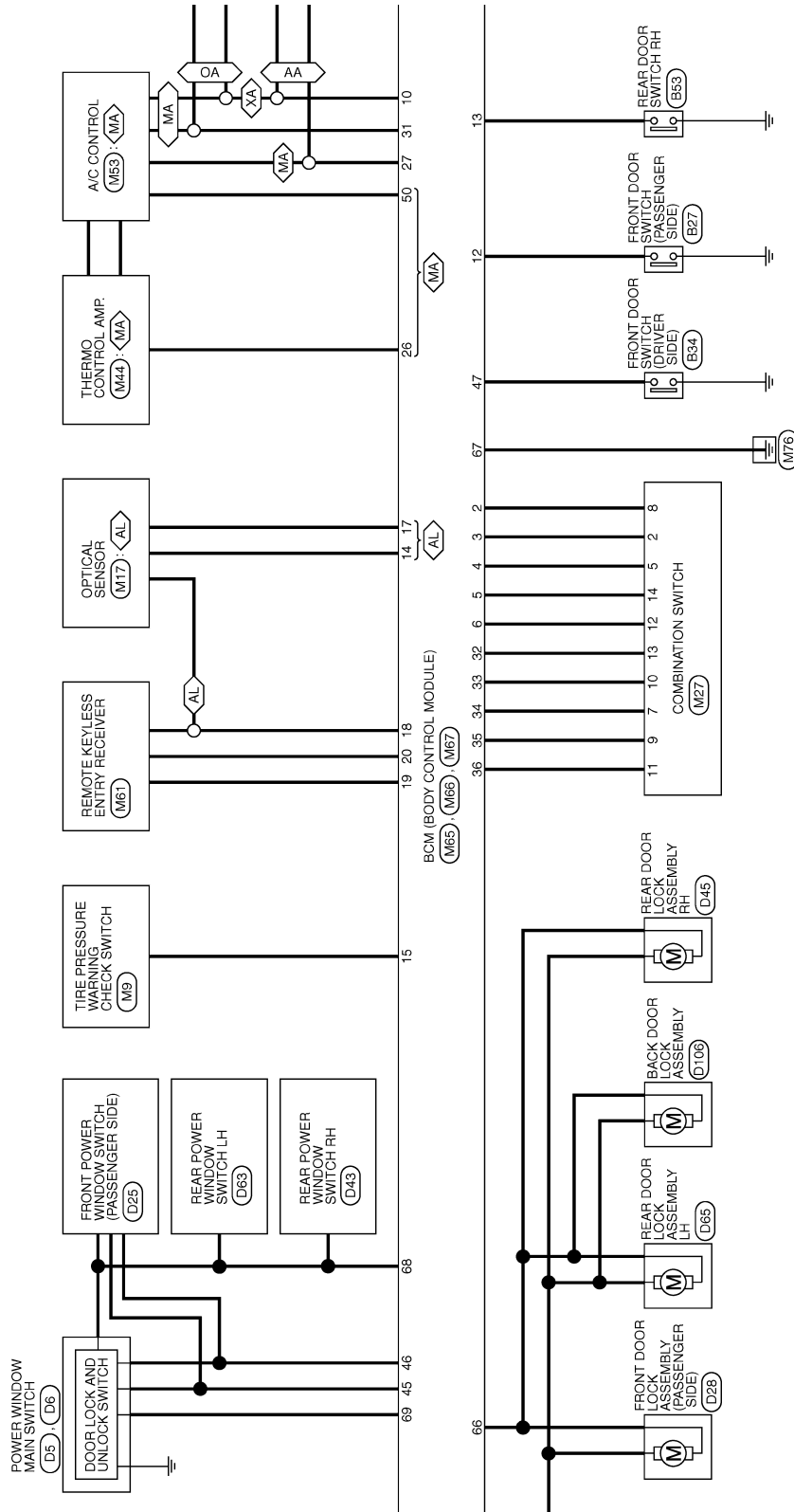
2009/02/27

JCMWM4073GB

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

- AA: With auto A/C
- MA: With manual A/C
- OA: Without A/C
- XA: Except with auto A/C
- AL: With auto light system



JCMW4074GB

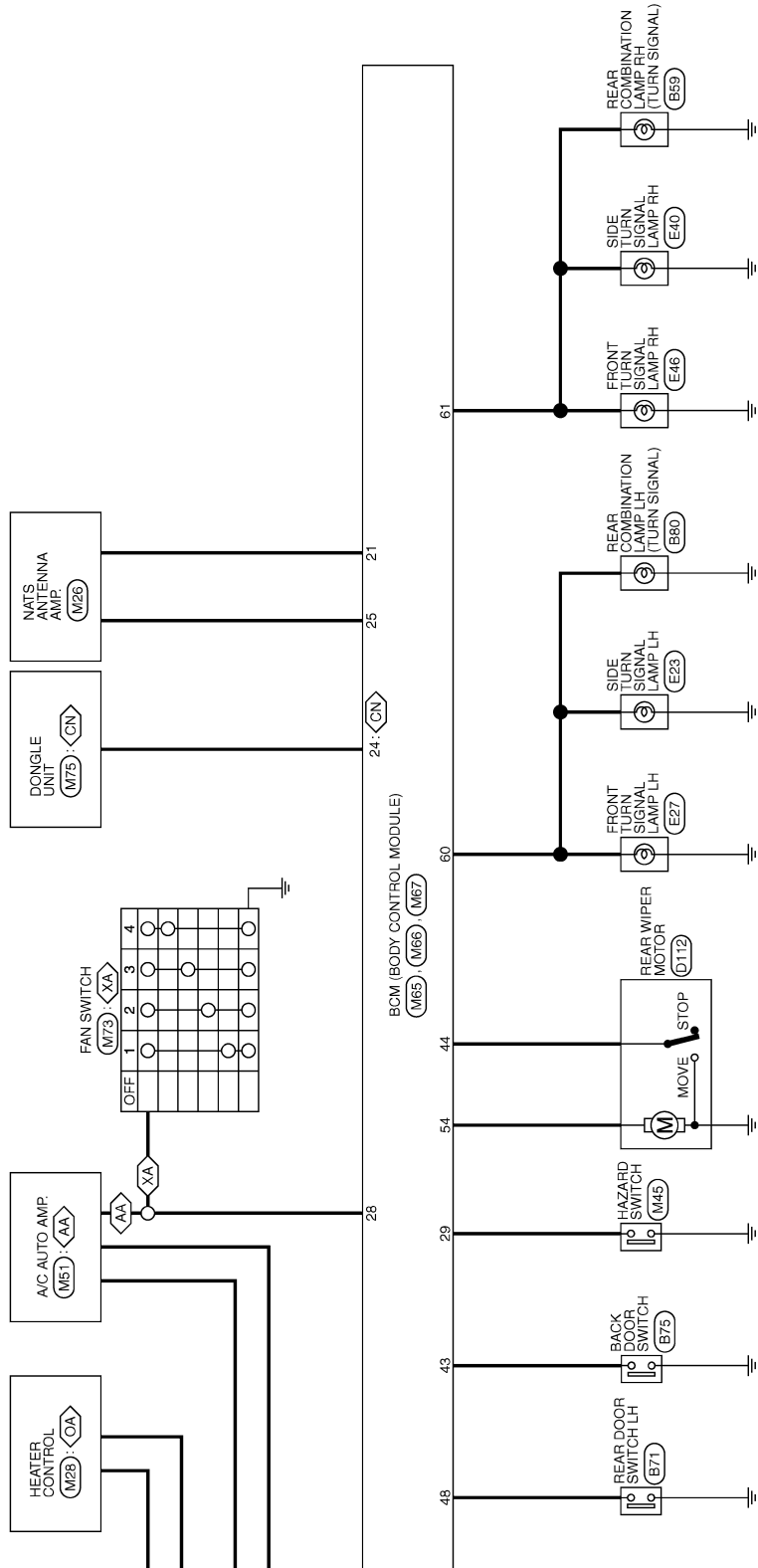
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# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

- : For Canada
- : With auto A/C
- : Without A/C
- : Except with auto A/C



JCMWM4075GB

# BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

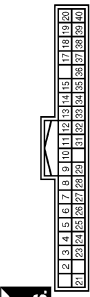
40	P	CAN-L
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13	GR/L	REAR RH DOOR SW
14	L/B	OPTICAL SENSOR
15	V/W	TIRE PRESS WARNING CHECK SW
17	R/G	OPTICAL SENSOR POWER SUPPLY
18	V	RECEIVER SENSOR GND
19	BR	KEYLESS ENTRY RECEIVER POWER SUPPLY
20	GY	KEYLESS ENTRY RECEIVER COMM
21	P/L	NATS ANTENNA AMP
23	R/Y	SECURITY INDICATOR LAMP
24	GR/R	DOUBLE LINK
25	LG	NATS ANTENNA AMP
26	GR	THERMO CONTROL AMP
27	Y/G	A/C SW(With auto A/C)
27	Y/R	A/C SW(With manual A/C)
28	G/W	BLOWER FAN SW
29	L/W	HAZARD SW
31	G/Y	FR DEFROSTER SW
32	LG	COMBI SW OUTPUT 5
33	Y/L	COMBI SW OUTPUT 4
34	W	COMBI SW OUTPUT 3
35	R/L	COMBI SW OUTPUT 2
36	L/O	COMBI SW OUTPUT 1
37	R/W	KEY SWITCH
38	O	IGN
39	L	CAN-H

70	Y	BAT (F/L)
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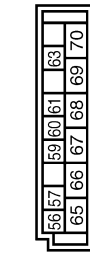
## BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY)

Connector No.	M65
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY)
Connector Type	TH40FP-NH



Terminal No.	Color of Wire	Signal Name [Specification]
2	BR/W	COMBI SW INPUT 5
3	GR	COMBI SW INPUT 4
4	L/Y	COMBI SW INPUT 3
5	G	COMBI SW INPUT 2
6	L/R	COMBI SW INPUT 1
7	W/R	KEY CYL UNLOCK SW
8	W/B	KEY CYL LOCK SW
9	R	STOP LAMP SW
10	W/L	REAR WINDOW DEFROGGER SW
11	L/Y	ACC
12	SB	PASSENGER DOOR SW

Connector No.	M67
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY)
Connector Type	FEA09FB-FHA6-SA



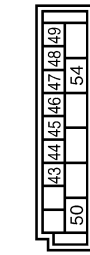
Terminal No.	Color of Wire	Signal Name [Specification]
56	L	INTERIOR ROOM LAMP POWER SUPPLY
57	Y	BAT (FUSE)
59	L/B	DRIVER DOOR UNLOCK OUTPUT
60	W/B	TURN SIGNAL LH OUTPUT
61	W/L	TURN SIGNAL RH OUTPUT
63	BR	ROOM LAMP TIMER CONTROL
65	V	ALL DOOR LOCK OUTPUT
66	G	PASSENGER DOOR REAR DOOR UNLOCK OUTPUT
67	B	GND
68	L/W	POWER WINDOW POWER SUPPLY (GND)
68	L/W	POWER WINDOW POWER SUPPLY (BAT)

Connector No.	M67
Connector Name	COMBINATION SWITCH
Connector Type	TH16FW-NH



Terminal No.	Color of Wire	Signal Name [Specification]
2	GR	INPUT 4
5	L/Y	INPUT 3
7	W	OUTPUT 3
8	BR/W	INPUT 5
9	R/L	OUTPUT 2
10	Y/L	OUTPUT 4
11	L/O	OUTPUT 1
12	L/R	INPUT 1
13	LG	OUTPUT 5
14	G	INPUT 2

Connector No.	M68
Connector Name	BCM (BODY CONTROL MODULE) (WITHOUT INTELLIGENT KEY)
Connector Type	FEA09FW-FHA6-SA



Terminal No.	Color of Wire	Signal Name [Specification]
43	W	BACK DOOR SW
44	LG	REAR WIPER STOP POSITION
45	GR	CENTRAL DOOR LOCK SW
46	BR	CENTRAL DOOR UNLOCK SW
47	BR/Y	DRIVER DOOR SW
48	W/G	REAR LH DOOR SW
49	Y	LUGGAGE ROOM LAMP
50	SB	A/C INDICATOR OUTPUT
54	L/W	REAR WIPER OUTPUT

WITHOUT INTELLIGENT KEY : Fail-safe

FAIL-SAFE CONTROL BY DTC  
BCM performs fail-safe control when any DTC are detected.

JCMWM4076GB

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# BCM (BODY CONTROL MODULE)

## < 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
B2196: DONGLE NG	Inhibit engine cranking	Erase DTC

### REAR WIPER MOTOR PROTECTION

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

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

Condition of cancellation

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

### HIGH FLASHER OPERATION

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

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

#### **NOTE:**

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

### WITHOUT INTELLIGENT KEY : DTC Inspection Priority Chart

INFOID:000000005175460

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

Priority	DTC
1	<ul style="list-style-type: none"> <li>• U1000: CAN COMM</li> <li>• U1010: CONTROL UNIT (CAN)</li> </ul>
2	<ul style="list-style-type: none"> <li>• B2190: NATS ANTENNA AMP</li> <li>• B2191: DIFFERENCE OF KEY</li> <li>• B2192: ID DISCORD BCM-ECM</li> <li>• B2193: CHAIN OF BCM-ECM</li> <li>• B2195: ANTI SCANNING</li> <li>• B2196: DONGLE NG</li> </ul>



# BCM (BODY CONTROL MODULE)

## < ECU DIAGNOSIS INFORMATION >

Priority	DTC	
3	C1735: IGN CIRCUIT OPEN	A
4	<ul style="list-style-type: none"> <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>• C1712: [CHECKSUM ERR] FL</li> <li>• C1713: [CHECKSUM ERR] FR</li> <li>• C1714: [CHECKSUM ERR] RR</li> <li>• C1715: [CHECKSUM ERR] RL</li> <li>• C1716: [PRESSDATA ERR] FL</li> <li>• C1717: [PRESSDATA ERR] FR</li> <li>• C1718: [PRESSDATA ERR] RR</li> <li>• C1719: [PRESSDATA ERR] RL</li> <li>• C1720: [CODE ERR] FL</li> <li>• C1721: [CODE ERR] FR</li> <li>• C1722: [CODE ERR] RR</li> <li>• C1723: [CODE ERR] RL</li> <li>• C1724: [BATT VOLT LOW] FL</li> <li>• C1725: [BATT VOLT LOW] FR</li> <li>• C1726: [BATT VOLT LOW] RR</li> <li>• C1727: [BATT VOLT LOW] RL</li> <li>• C1729: VHCL SPEED SIG ERR</li> <li>• C1734: CONTROL UNIT</li> </ul>	<p>B</p> <p>C</p> <p>D</p> <p>E</p> <p>F</p> <p>G</p> <p>H</p>

## WITHOUT INTELLIGENT KEY : DTC Index

INFOID:000000005175461

### NOTE:

Details of time display

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

CONSULT display	Fail-safe	Tire pressure monitor warning lamp ON	Reference
U1000: CAN COMM	—	—	<a href="#">BCS-116</a>
U1010: CONTROL UNIT (CAN)	—	—	<a href="#">BCS-117</a>
B2190: NATS ANTENNA AMP	×	—	<a href="#">SEC-217</a>
B2191: DIFFERENCE OF KEY	×	—	<a href="#">SEC-220</a>
B2192: ID DISCORD BCM-ECM	×	—	<a href="#">SEC-221</a>
B2193: CHAIN OF BCM-ECM	×	—	<a href="#">SEC-223</a>
B2195: ANTI SCANNING	×	—	<a href="#">SEC-224</a>
B2196: DONGLE NG	×	—	<a href="#">SEC-225</a>
C1704: LOW PRESSURE FL	—	×	<a href="#">WT-16</a>
C1705: LOW PRESSURE FR	—	×	
C1706: LOW PRESSURE RR	—	×	
C1707: LOW PRESSURE RL	—	×	

## BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

CONSULT display	Fail-safe	Tire pressure monitor warn- ing lamp ON	Reference
C1708: [NO DATA] FL	—	×	<a href="#">WT-18</a>
C1709: [NO DATA] FR	—	×	
C1710: [NO DATA] RR	—	×	
C1711: [NO DATA] RL	—	×	
C1712: [CHECKSUM ERR] FL	—	×	<a href="#">WT-21</a>
C1713: [CHECKSUM ERR] FR	—	×	
C1714: [CHECKSUM ERR] RR	—	×	
C1715: [CHECKSUM ERR] RL	—	×	
C1716: [PRESS DATA ERR] FL	—	×	<a href="#">WT-24</a>
C1717: [PRESS DATA ERR] FR	—	×	
C1718: [PRESS DATA ERR] RR	—	×	
C1719: [PRESS DATA ERR] RL	—	×	
C1720: [CODE ERR] FL	—	×	<a href="#">WT-26</a>
C1721: [CODE ERR] FR	—	×	
C1722: [CODE ERR] RR	—	×	
C1723: [CODE ERR] RL	—	×	
C1724: [BATT VOLT LOW] FL	—	×	<a href="#">WT-29</a>
C1725: [BATT VOLT LOW] FR	—	×	
C1726: [BATT VOLT LOW] RR	—	×	
C1727: [BATT VOLT LOW] RL	—	×	
C1729: VHCL SPEED SIG ERR	—	×	<a href="#">WT-32</a>
C1734: CONTROL UNIT	—	×	<a href="#">WT-34</a>
C1735: IGN CIRCUIT OPEN	—	—	<a href="#">BCS-118</a>

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

< ECU DIAGNOSIS INFORMATION >

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

WITH INTELLIGENT KEY

WITH INTELLIGENT KEY : Reference Value

INFOID:000000005189327

VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition		Value/Status
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	1/2/3/4
AC COMP REQ	Engine running	A/C switch OFF	Off
		A/C switch ON (Compressor is operating)	On
TAIL&CLR REQ	Lighting switch OFF		Off
	Lighting switch 1ST, 2ND, HI or AUTO (Light is illuminated)		On
HL LO REQ	Lighting switch OFF		Off
	Lighting switch 2ND, HI or AUTO (Light is illuminated)		On
HL HI REQ	Lighting switch OFF		Off
	Lighting switch HI		On
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	Front fog lamp switch OFF	Off
		Front fog lamp switch ON	On
FR WIP REQ	Ignition switch ON	Front wiper switch OFF	Stop
		Front wiper switch INT	1LOW
		Front wiper switch LO	Low
		Front wiper switch HI	Hi
WIP AUTO STOP	Ignition switch ON	Front wiper stop position	STOP P
		Any position other than front wiper stop position	ACT P
WIP PROT	Ignition switch ON	Front wiper operates normally	Off
		Front wiper stops at fail-safe operation	BLOCK
IGN RLY1 -REQ	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
IGN RLY	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
PUSH SW	Release the push-button ignition switch		Off
	Press the push-button ignition switch		On
INTER/NP SW	Ignition switch ON	<ul style="list-style-type: none"> <li>Selector lever in any position other than P or N (CVT models)</li> <li>Release clutch pedal (M/T models)</li> </ul>	Off
		<ul style="list-style-type: none"> <li>Selector lever in P or N position (CVT models)</li> <li>Depress clutch pedal (M/T models)</li> </ul>	On
ST RLY CONT	Ignition switch ON		Off
	At engine cranking		On

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

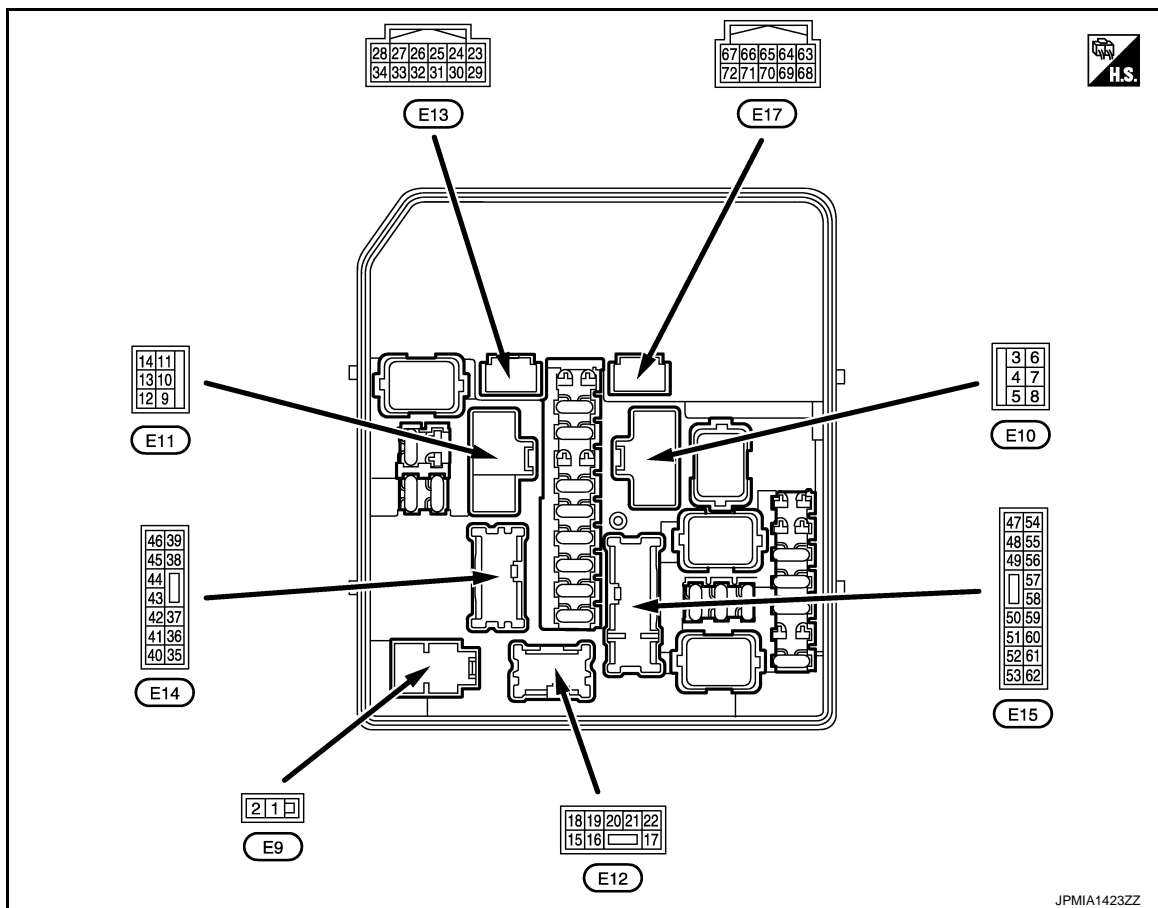
## < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
IHBT RLY -REQ	Ignition switch ON	Off
	At engine cranking	On
ST/INHI RLY	Ignition switch ON	Off
	At engine cranking	INHI ON → ST ON
	The status of starter relay or starter control relay cannot be recognized by the battery voltage malfunction, etc. when the starter relay is ON and the starter control relay is OFF	UNKWN
DETENT SW	Ignition switch ON <ul style="list-style-type: none"> <li>• Pull the selector lever with selector lever in P position</li> <li>• Selector lever in any position other than P</li> </ul>	Off
	Release the selector lever with selector lever in P position <b>NOTE:</b> Fixed On for M/T models	On
S/L RLY -REQ	None of the conditions below are present	Off
	<ul style="list-style-type: none"> <li>• Open the driver door after the ignition switch is turned OFF (for a few seconds)</li> <li>• Press the push-button ignition switch when the steering lock is activated</li> </ul>	On
S/L STATE	Steering lock is activated	LOCK
	Steering lock is deactivated	UNLOCK
	[DTC: B210A] is detected	UNKWN
DTRL REQ <b>NOTE:</b> This item is monitored only on the vehicle with the daytime running light system.	Not operation	Off
	Daytime running light system is operated.	On
OIL P SW	Ignition switch OFF, ACC or engine running	Open
	Ignition switch ON	Close
HOOD SW	<b>NOTE:</b> The item is indicated, but not monitored.	Off
THFT HRN REQ	Not operation	Off
	<ul style="list-style-type: none"> <li>• Panic alarm is activated</li> <li>• Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM</li> </ul>	On
HORN CHIRP	Not operating	Off
	Door locking with Intelligent Key (horn chirp mode)	On

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

< ECU DIAGNOSIS INFORMATION >

## TERMINAL LAYOUT



## PHYSICAL VALUES

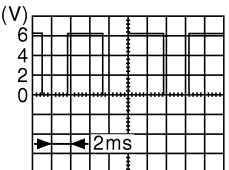
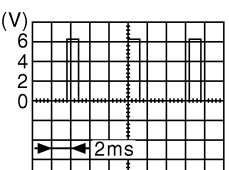
Terminal NO. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
2 (G)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
3 (BR)	Ground	Starter motor	Output	Ignition switch ON	0 V
				At engine cranking	Battery voltage
4 (P)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
5 (LG)	Ground	Cooling fan relay-1 power supply	Output	Cooling fan OFF	0 V
				Cooling fan operated	Battery voltage
7 (Y)	Ground	Cooling fan relay-2 power supply	Output	Cooling fan OFF	0 V
				Cooling fan LO operated	9.0 V
				Cooling fan HI operated	Battery voltage
8 (V)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
9 (B/W)	Ground	Ground	—	Ignition switch ON	0 V
10 (L)	Ground	Cooling fan motor ground	Output	Cooling fan OFF	0 V
				Cooling fan LO operated	5.0 V
				Cooling fan HI operated	0 V

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

## < ECU DIAGNOSIS INFORMATION >

Terminal NO. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
13 (W)	Ground	Rear window defogger	Output	Ignition switch OFF	Rear window defogger switch OFF	0 V
				Ignition switch ON	Rear window defogger switch ON	Battery voltage
19 (B/W)	Ground	Ground	—	Ignition switch ON		0 V
21 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND OFF	Front fog lamp switch OFF	0 V
				Lighting switch 2ND ON	Front fog lamp switch ON	Battery voltage
22 (V)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND OFF	Front fog lamp switch OFF	0 V
				Lighting switch 2ND ON	Front fog lamp switch ON	Battery voltage
24 (G)	Ground	Oil pressure switch	Input	Ignition switch ON	Engine stopped	0 V
				Ignition switch ON	Engine running	Battery voltage
25 (Y)	Ground	Front wiper auto stop	Input	Ignition switch ON	Front wiper stop position	0 V
				Ignition switch ON	Any position other than front wiper stop position	Battery voltage
26 (P)	Ground	CAN-L	Input/ Output	—		—
27 (L)	Ground	CAN-H	Input/ Output	—		—
28*1 (P)	Ground	Daytime running light relay-1 control	Output	Daytime running light deactivated		0 V
				Daytime running light activated		Battery voltage
30 (SB)	Ground	Starter relay control	Output	At engine cranking		0 V
				Ignition switch ON		Battery voltage
31 (W)	Ground	Fuel pump relay control	Output	<ul style="list-style-type: none"> <li>Approximately 1 second after turning the ignition switch ON</li> <li>Engine running</li> </ul>		0 - 1.5 V
				Approximately 1 second or more after turning the ignition switch ON		Battery voltage
33 (O)	Ground	Power generation command signal	Output	Ignition switch ON		Battery voltage
				40 % is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		 <p style="text-align: right;">JPMA0002GB</p> <p style="text-align: center;">3.8 V</p>
				80 % is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		 <p style="text-align: right;">JPMA0003GB</p> <p style="text-align: center;">1.4 V</p>

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

## < ECU DIAGNOSIS INFORMATION >

Terminal NO. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
34 (R)	Ground	Horn relay control	Output	The horn is deactivated	Battery voltage	A
				The horn is activated	0 V	B
36 (O)	Ground	Parking lamp (LH)	Output	Ignition switch ON	0 V	C
				Lighting switch OFF	Battery voltage	
37 (V)	Ground	Parking lamp (RH)	Output	Ignition switch ON	0 V	D
				Lighting switch OFF	Battery voltage	
38 (G)	Ground	Tail lamp (RH) & illuminations	Output	Ignition switch ON	0 V	E
				Lighting switch OFF	Battery voltage	
39 (V)	Ground	Front wiper HI	Output	Ignition switch ON	0 V	F
				Lighting switch OFF	Battery voltage	
40 (R)	Ground	ECM relay control	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)	Battery voltage	G
				<ul style="list-style-type: none"> <li>• Ignition switch ON</li> <li>• Ignition switch OFF (For a few seconds after turning ignition switch OFF)</li> </ul>	0 - 1.5 V	H
41 (SB)	Ground	Tail lamp (LH) & license plate lamps	Output	Ignition switch ON	0 V	I
				Lighting switch OFF	Battery voltage	
42 (W)	Ground	Steering lock unit power supply	Output	Ignition switch ACC or ON	0 V	J
				Ignition switch ON	Battery voltage	
				Ignition switch LOCK	Battery voltage	K
43 (G)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)	0 V	WW
				<ul style="list-style-type: none"> <li>• Ignition switch ON</li> <li>• Ignition switch OFF (For a few seconds after turning ignition switch OFF)</li> </ul>	Battery voltage	M
44 (P)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)	0 V	N
				<ul style="list-style-type: none"> <li>• Ignition switch ON</li> <li>• Ignition switch OFF (For a few seconds after turning ignition switch OFF)</li> </ul>	Battery voltage	O
45 (Y)	Ground	TCM power supply	Output	Ignition switch OFF	Battery voltage	P
46 (O)	Ground	Front wiper LO	Output	Ignition switch ON	0 V	
				Front wiper switch OFF	Battery voltage	

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

## < ECU DIAGNOSIS INFORMATION >

Terminal NO. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
47 (BR)	Ground	Transmission range switch* <sup>2</sup>	Input	Select lever in any position other than P or N (Ignition switch ON)		0 V
				Select lever P or N (Ignition switch ON)		Battery voltage
		Clutch interlockk switch* <sup>3</sup>		Release the clutch pedal		0 V
				Depress the clutch pedal		Battery voltage
49 (W)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					<ul style="list-style-type: none"> <li>• Lighting switch HI</li> <li>• Lighting switch PASS</li> </ul>	
				Daytime running light activated* <sup>1</sup>		7.0 V
50 (GR)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					<ul style="list-style-type: none"> <li>• Lighting switch HI</li> <li>• Lighting switch PASS</li> </ul>	
				Daytime running light activated* <sup>1</sup>		7.0 V
51 (R)	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	
52 (P)	Ground	Headlamp LO (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
		Daytime running light relay-2* <sup>1</sup>			Lighting switch 2ND	
54 (GR)	Ground	Throttle control motor relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V
				<ul style="list-style-type: none"> <li>• Ignition switch ON</li> <li>• Ignition switch OFF (For a few seconds after turning ig- nition switch OFF)</li> </ul>		Battery voltage
55 (P)	Ground	Fuel pump power sup- ply	Output	Approximately 1 second or more than after turning the ignition switch ON		0 V
				<ul style="list-style-type: none"> <li>• Approximately 1 second after turn- ing the ignition switch ON</li> <li>• Engine running</li> </ul>		Battery voltage
56 (SB)	Ground	A/C relay power supply	Output	Engine running	A/C switch OFF	0 V
					A/C switch ON (A/C compressor is oper- ating)	
57 (G)	Ground	Throttle control motor relay control	Output	Ignition switch ON → OFF		0 - 1.0 V ↓ Battery voltage ↓ 0 V
				Ignition switch ON		0 - 1.0 V
58 (R) <sup>*2</sup> (Y) <sup>*3</sup>	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
59 (Y)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
60 (V)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage



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

## < ECU DIAGNOSIS INFORMATION >

Terminal NO. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
61 (W)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
62 (L)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
64*2 (R)	Ground	CVT shift selector (Detention switch)	Input	Ignition switch ON	Select lever P	0 V
					Select lever in any position other than P	Battery voltage
65 (Y)	Ground	Steering lock unit condition-1	Input	Steering lock is activated		0 V
				Steering lock is deactivated		Battery voltage
66 (L)	Ground	Push-button ignition switch	Input	Press the push-button ignition switch		0 V
				Release the push-button ignition switch		Battery voltage
68 (W)	Ground	Steering lock unit condition-2	Input	Steering lock is activated		Battery voltage
				Steering lock is deactivated		0 V
69 (O)	Ground	Ignition relay monitor	Input	Ignition switch OFF or ACC		Battery voltage
				Ignition switch ON		0 V

\*1: With daytime running light system

\*2: CVT models

\*3: M/T models

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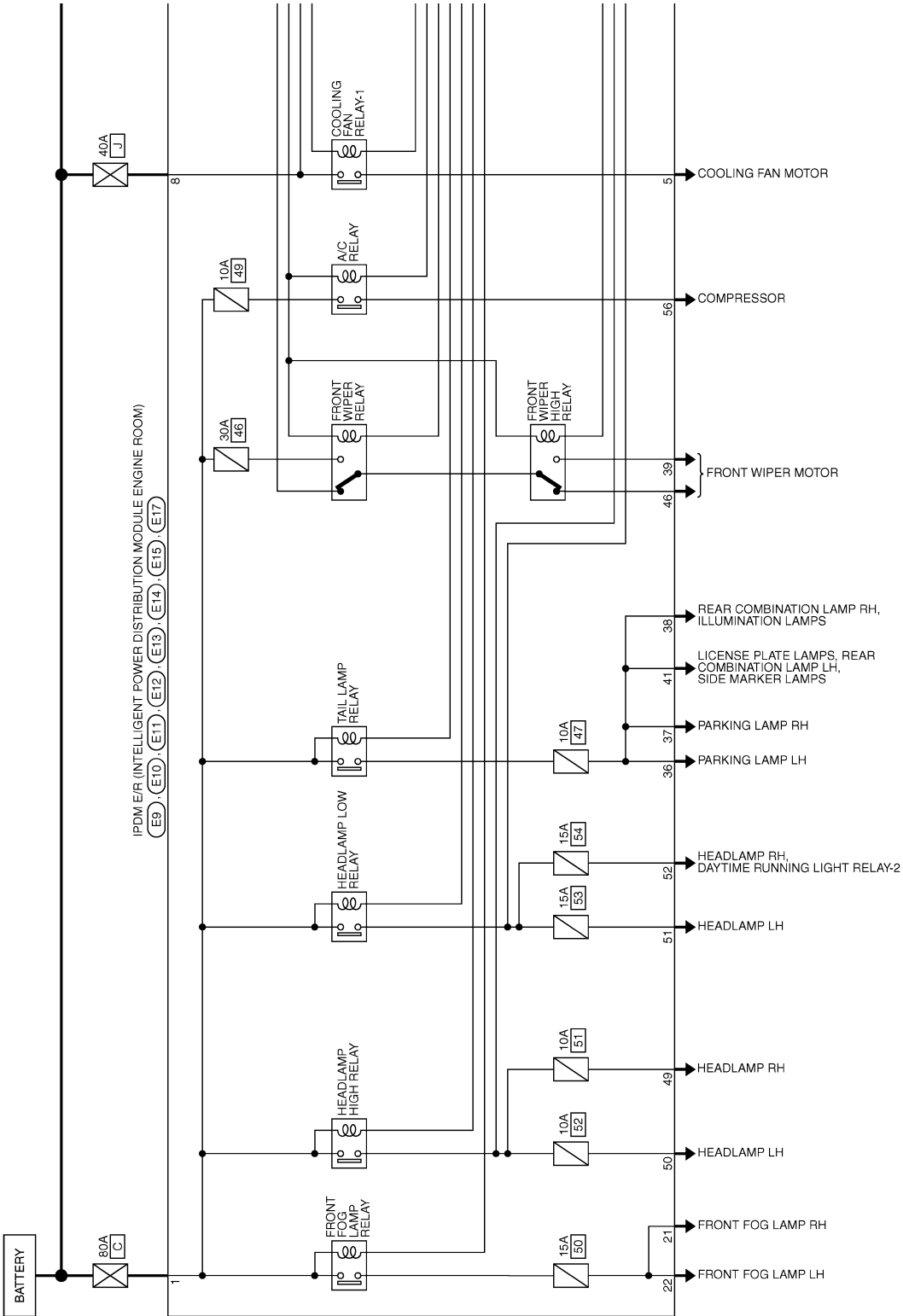
# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

## WITH INTELLIGENT KEY : Wiring Diagram — IPDM E/R —

INFOID:000000005189328

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

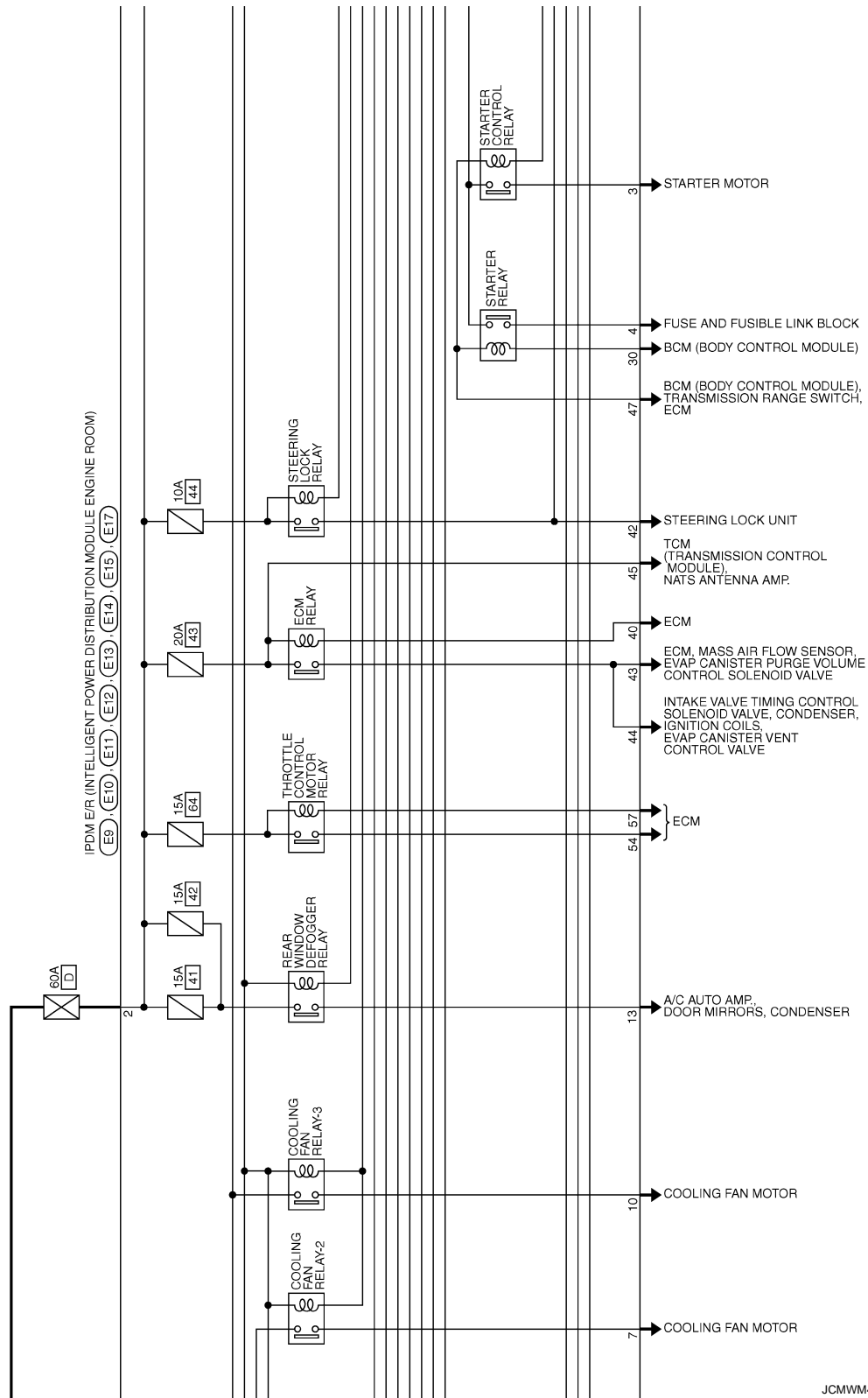


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JCMWM4080GB

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

< ECU DIAGNOSIS INFORMATION >



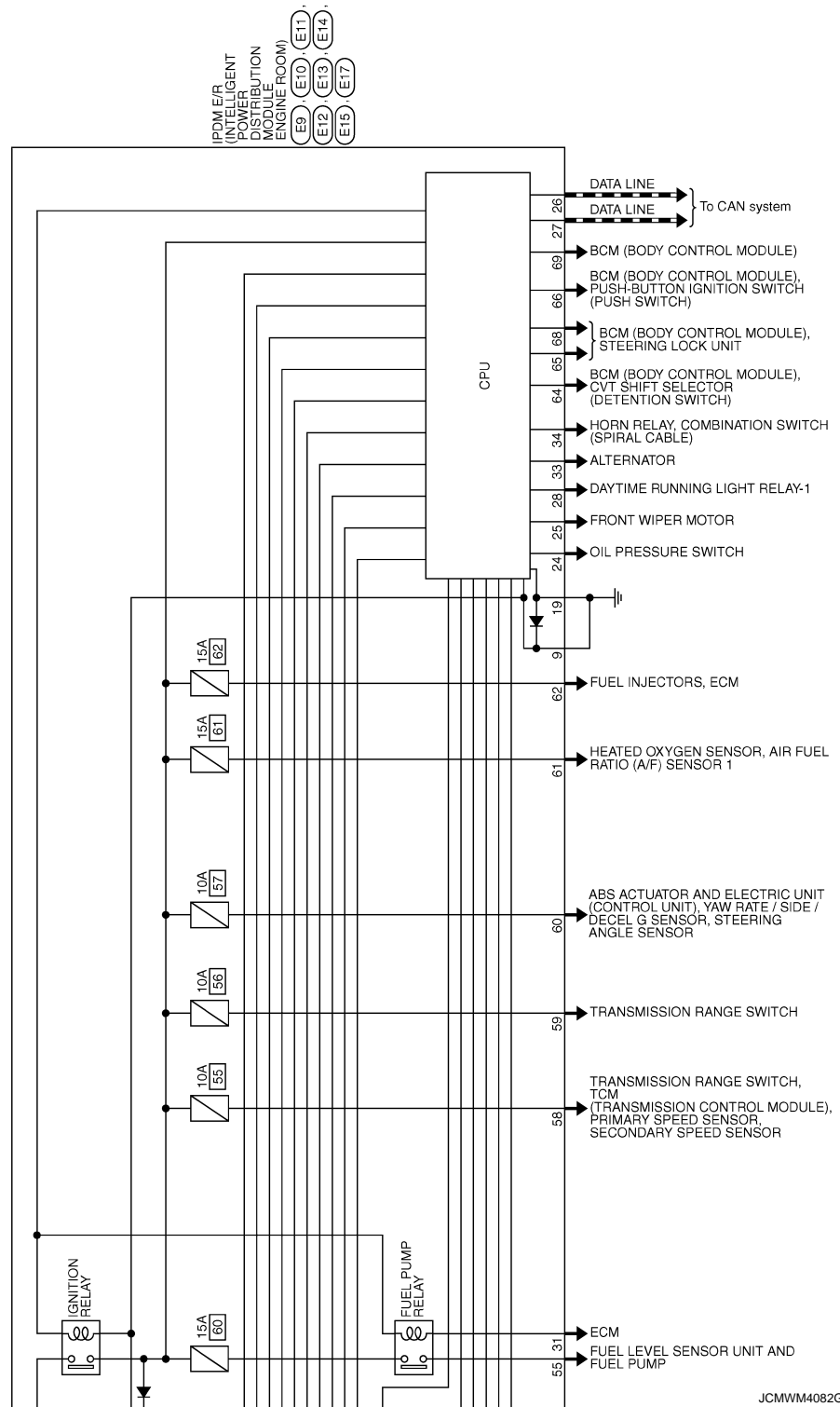
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# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >



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

## < ECU DIAGNOSIS INFORMATION >

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

Connector No.	E12
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS33FBR-CS



22	21	19	18
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Terminal No.	Color of Wire	Signal Name [Specification]
19	B/W	-
21	W	-
22	V	-

Connector No.	E11
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	MSDFE-LC



10	9
13	

Terminal No.	Color of Wire	Signal Name [Specification]
9	B/W	-
10	L	-
13	W	-

Connector No.	E10
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	MSDFW-LC



5	4	3
8	7	6

Terminal No.	Color of Wire	Signal Name [Specification]
3	BR	-
4	P	-
5	LG	-
7	Y	-
8	V	-

Connector No.	E9
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	LCPE-MC



1	2
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Terminal No.	Color of Wire	Signal Name [Specification]
1	R	-
2	G	-

Connector No.	E15
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS18FW-CS



52	51	50	49	47				
62	61	60	59	58	57	56	55	54

Terminal No.	Color of Wire	Signal Name [Specification]
60	V	-
61	W	-
62	L	-

Connector No.	E14
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	NS12FBR-CS



39	38	37	36			
46	45	44	43	42	41	40

Connector No.	E13
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Type	TH12FW-NH



28	27	26	25	24
34	33	31	30	

Terminal No.	Color of Wire	Signal Name [Specification]
39	O	-
37	V	-
38	G	-
39	V	-
40	R	-
41	SB	-
42	W	-
43	G	-
44	P	-
45	Y	-
46	O	-

Terminal No.	Color of Wire	Signal Name [Specification]
47	BR	-
49	W	-
50	GR	-
51	R	-
52	P	-
54	GR	-
55	P	-
56	SB	-
57	G	-
58	R	-
59	Y	-

Terminal No.	Color of Wire	Signal Name [Specification]
36	O	-
37	V	-
38	G	-
39	V	-
40	R	-
41	SB	-
42	W	-
43	G	-
44	P	-
45	Y	-
46	O	-

Terminal No.	Color of Wire	Signal Name [Specification]
24	G	-
25	Y	-
26	P	-
27	L	-
28	P	-
30	SB	-
31	W	-
33	O	-
34	R	-

JCMWM4083GB

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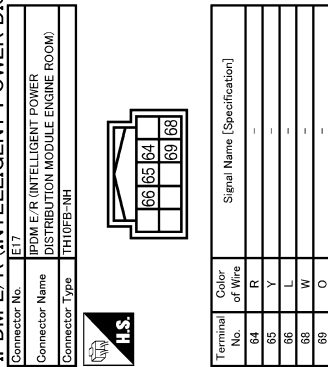
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# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

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



JCMWM4084GB

INFOID:000000005189329

## WITH INTELLIGENT KEY : Fail-Safe

### CAN COMMUNICATION CONTROL

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

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

## < ECU DIAGNOSIS INFORMATION >

Control part	Fail-safe operation
Cooling fan	<ul style="list-style-type: none"> <li>The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn ON when the ignition switch is turned ON (Cooling fan HI operation)</li> <li>The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn OFF 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 style="list-style-type: none"> <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> <li>Daytime running light relay OFF*</li> </ul>
<ul style="list-style-type: none"> <li>Parking lamps</li> <li>Side marker lamps</li> <li>License plate lamps</li> <li>Illuminations</li> <li>Tail lamps</li> </ul>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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 OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control relay OFF
Steering lock unit	Steering lock relay OFF

\*: With daytime running light system

### 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		IPDM E/R judgment	Operation
Ignition relay contact side	Ignition relay excitation coil side		
ON	ON	Ignition relay ON normal	—
OFF	OFF	Ignition relay OFF normal	—
ON	OFF	Ignition relay ON stuck	<ul style="list-style-type: none"> <li>Detects DTC "B2098: IGN RELAY ON"</li> <li>Turns ON the tail lamp relay for 10 minutes</li> </ul>
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.

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

## < ECU DIAGNOSIS INFORMATION >

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.

### 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.

### WITH INTELLIGENT KEY : DTC Index

INFOID:000000005189330

### 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 → 2 ... 38 → 39 after returning to the normal condition whenever IGN OFF → ON.
  - The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

×: Applicable

CONSULT display	Fail-safe	Refer to
No DTC is detected. further testing may be required.	—	—
U1000: CAN COMM CIRCUIT	×	<a href="#">PCS-16</a>
B2098: IGN RELAY ON	×	<a href="#">PCS-17</a>
B2099: IGN RELAY OFF	—	<a href="#">PCS-18</a>
B2108: STRG LCK RELAY ON	—	<a href="#">SEC-96</a>
B2109: STRG LCK RELAY OFF	—	<a href="#">SEC-97</a>
B210A: STRG LCK STATE SW	—	<a href="#">SEC-98</a>
B210B: START CONT RLY ON	—	<a href="#">SEC-101</a>
B210C: START CONT RLY OFF	—	<a href="#">SEC-102</a>
B210D: STARTER RELAY ON	—	<a href="#">SEC-103</a>
B210E: STARTER RELAY OFF	—	<a href="#">SEC-104</a>
B210F: INTRLCK/PNP SW ON	—	<a href="#">SEC-106</a>
B2110: INTRLCK/PNP SW OFF	—	<a href="#">SEC-108</a>

### WITHOUT INTELLIGENT KEY

### WITHOUT INTELLIGENT KEY : Reference Value

INFOID:000000005189331

### VALUES ON THE DIAGNOSIS TOOL

Monitor Item	Condition		Value/Status
MOTOR FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	1/2/3/4



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

## < ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition		Value/Status
AC COMP REQ	Engine running	A/C switch OFF	Off
		A/C switch ON (Compressor is operating)	On
TAIL&CLR REQ	Lighting switch OFF		Off
	Lighting switch 1ST, 2ND, HI or AUTO (Light is illuminated)		On
HL LO REQ	Lighting switch OFF		Off
	Lighting switch 2ND, HI or AUTO (Light is illuminated)		On
HL HI REQ	Lighting switch OFF		Off
	Lighting switch HI		On
FR FOG REQ	Lighting switch 2ND or AUTO (Light is illuminated)	Front fog lamp switch OFF	Off
		Front fog lamp switch ON	On
FR WIP REQ	Ignition switch ON	Front wiper switch OFF	Stop
		Front wiper switch INT	1LOW
		Front wiper switch LO	Low
		Front wiper switch HI	Hi
WIP AUTO STOP	Ignition switch ON	Front wiper stop position	STOP P
		Any position other than front wiper stop position	ACT P
WIP PROT	Ignition switch ON	Front wiper operates normally	Off
		Front wiper stops at fail-safe opera- tion	BLOCK
IGN RLY	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
INTER/NP SW	Ignition switch ON	Selector lever in any position other than P or N (CVT models)	Off
		Selector lever in P or N position (CVT models)	On
ST RLY -REQ	Ignition switch OFF or ACC		Off
	Ignition switch ON		On
DTRL REQ <b>NOTE:</b> This item is monitored only on the vehicle with the daytime running light system.	Not operation		Off
	Daytime running light system is operated.		On
OIL P SW	Ignition switch OFF, ACC or engine running		Open
	Ignition switch ON		Close
HOOD SW	<b>NOTE:</b> The item is indicated, but not monitored.		Off
THFT HRN REQ	Not operation		Off
	<ul style="list-style-type: none"> <li>Panic alarm is activated</li> <li>Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYS- TEM</li> </ul>		On
HORN CHIRP	Not operating		Off
	Door locking with key fob (horn chirp mode)		On

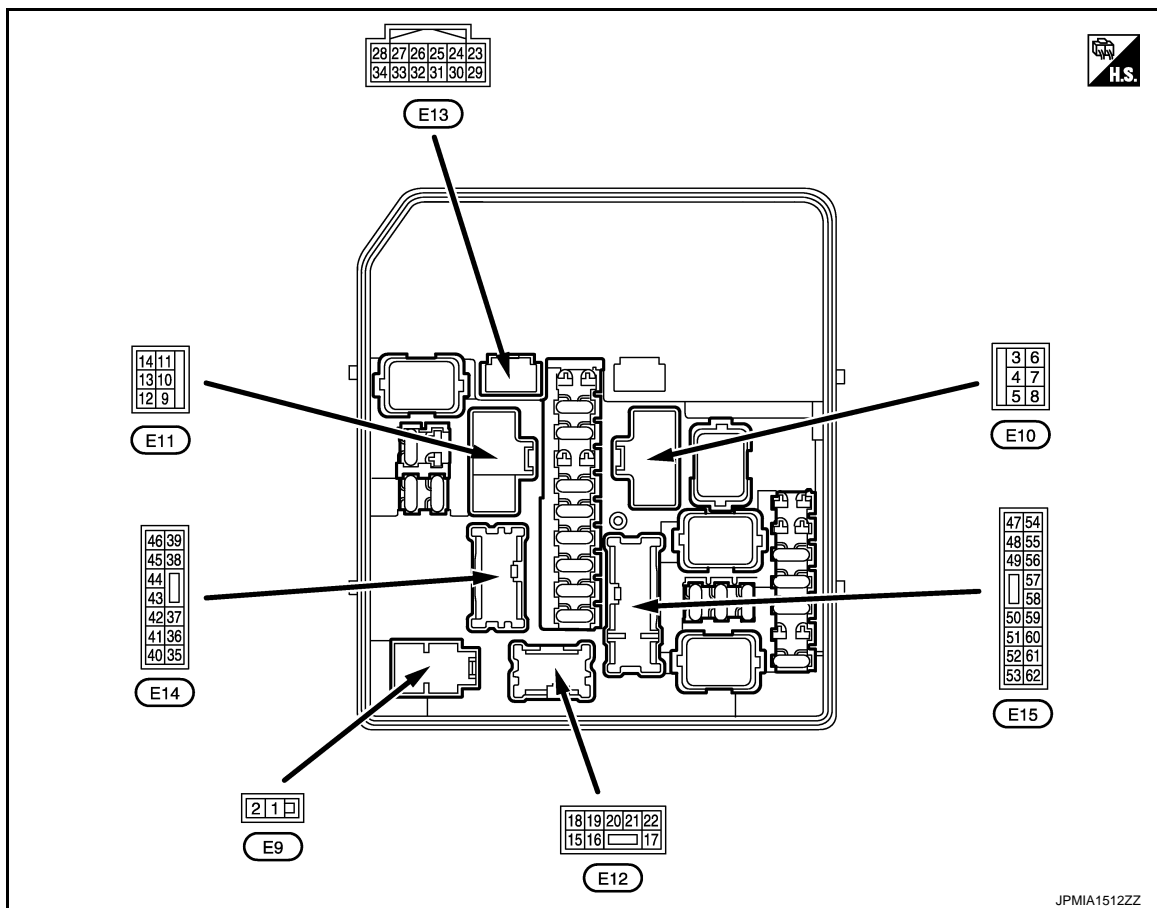
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# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

## TERMINAL LAYOUT



## PHYSICAL VALUES

Terminal NO. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
1 (R)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
2 (G)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
3 (BR)	Ground	Starter motor	Output	Ignition switch ON	0 V
				At engine cranking	Battery voltage
5 (LG)	Ground	Cooling fan relay-1 power supply	Output	Cooling fan OFF	0 V
				Cooling fan operated	Battery voltage
6 (SB)	Ground	Ignition switch START	Output	Any position other ignition switch START	0 V
				Ignition switch START	Battery voltage
7 (Y)	Ground	Cooling fan relay-2 power supply	Output	Cooling fan OFF	0 V
				Cooling fan LO operated	9.0 V
				Cooling fan HI operated	Battery voltage
8 (V)	Ground	Battery power supply	Input	Ignition switch OFF	Battery voltage
9 (B/W)	Ground	Ground	—	Ignition switch ON	0 V

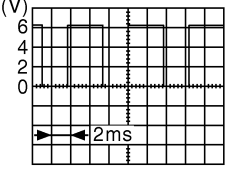
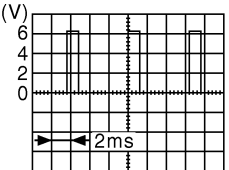
# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

## < ECU DIAGNOSIS INFORMATION >

Terminal NO. (Wire color)		Description		Condition		Value (Approx.)	
+	-	Signal name	Input/ Output				
10 (L)	Ground	Cooling fan motor ground	Output	Cooling fan OFF		0 V	A
				Cooling fan LO operated		5.0 V	B
				Cooling fan HI operated		0 V	
13 (W)	Ground	Rear window defogger	Output	Ignition switch OFF	Rear window defogger switch OFF	0 V	C
				ON	Rear window defogger switch ON	Battery voltage	D
18 (Y)	Ground	Ignition switch	Output	Ignition switch OFF		0 V	
				Ignition switch ON		Battery voltage	E
19 (B/W)	Ground	Ground	—	Ignition switch ON		0 V	
21 (W)	Ground	Front fog lamp (RH)	Output	Lighting switch 2ND	Front fog lamp switch OFF	0 V	F
					Front fog lamp switch ON	Battery voltage	
22 (V)	Ground	Front fog lamp (LH)	Output	Lighting switch 2ND	Front fog lamp switch OFF	0 V	G
					Front fog lamp switch ON	Battery voltage	
24 (G)	Ground	Oil pressure switch	Input	Ignition switch ON	Engine stopped	0 V	H
					Engine running	Battery voltage	
25 (Y)	Ground	Front wiper auto stop	Input	Ignition switch ON	Front wiper stop position	0 V	I
					Any position other than front wiper stop position	Battery voltage	
26 (P)	Ground	CAN-L	Input/ Output	—		—	J
27 (L)	Ground	CAN-H	Input/ Output	—		—	
28*1 (P)	Ground	Daytime running light relay-1 control	Output	Daytime running light deactivated		0 V	K
				Daytime running light activated		Battery voltage	
31 (W)	Ground	Fuel pump relay control	Output	<ul style="list-style-type: none"> <li>Approximately 1 second after turning the ignition switch ON</li> <li>Engine running</li> </ul>		0 - 1.5 V	WW
				Approximately 1 second or more after turning the ignition switch ON		Battery voltage	M

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

## < ECU DIAGNOSIS INFORMATION >

Terminal NO. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
33 (O)	Ground	Power generation command signal	Output	Ignition switch ON	Battery voltage
				40 % is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"	 <p style="text-align: right; font-size: small;">JPMIA0002GB</p>
				80 % is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"	 <p style="text-align: right; font-size: small;">JPMIA0003GB</p>
34 (R)	Ground	Horn relay control	Output	The horn is deactivated	Battery voltage
				The horn is activated	0 V
36 (O)	Ground	Parking lamp (LH)	Output	Ignition switch OFF	Lighting switch OFF
				Ignition switch ON	Lighting switch 1ST
37 (V)	Ground	Parking lamp (RH)	Output	Ignition switch OFF	Lighting switch OFF
				Ignition switch ON	Lighting switch 1ST
38 (G)	Ground	Tail lamp (RH) & illuminations	Output	Ignition switch OFF	Lighting switch OFF
				Ignition switch ON	Lighting switch 1ST
39 (V)	Ground	Front wiper HI	Output	Ignition switch OFF	Front wiper switch OFF
				Ignition switch ON	Front wiper switch HI
40 (R)	Ground	ECM relay control	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)	Battery voltage
				<ul style="list-style-type: none"> <li>• Ignition switch ON</li> <li>• Ignition switch OFF (For a few seconds after turning ignition switch OFF)</li> </ul>	0 - 1.5 V
41 (SB)	Ground	Tail lamp (LH) & license plate lamps	Output	Ignition switch OFF	Lighting switch OFF
				Ignition switch ON	Lighting switch 1ST
43 (G)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)	0 V
				<ul style="list-style-type: none"> <li>• Ignition switch ON</li> <li>• Ignition switch OFF (For a few seconds after turning ignition switch OFF)</li> </ul>	Battery voltage

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

## < ECU DIAGNOSIS INFORMATION >

Terminal NO. (Wire color)		Description		Condition		Value (Approx.)		
+	-	Signal name	Input/ Output					
44 (P)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V	A	
				<ul style="list-style-type: none"> <li>Ignition switch ON</li> <li>Ignition switch OFF (For a few seconds after turning ignition switch OFF)</li> </ul>		Battery voltage	B	
45 (Y)	Ground	TCM power supply	Output	Ignition switch OFF		Battery voltage	C	
46 (O)	Ground	Front wiper LO	Output	Ignition switch ON	Front wiper switch OFF	0 V	D	
					Front wiper switch LO	Battery voltage	E	
47 (BR)	Ground	Transmission range switch <sup>*2</sup>	Input	Select lever in any position other than P or N (Ignition switch ON)		0 V	F	
				Select lever P or N (Ignition switch ON)		Battery voltage	G	
		Clutch interlock switch <sup>*3</sup>	Input	Release the clutch pedal		0 V	H	
				Depress the clutch pedal		Battery voltage	I	
49 (W)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V	J	
					<ul style="list-style-type: none"> <li>Lighting switch HI</li> <li>Lighting switch PASS</li> </ul>		Battery voltage	K
					Daytime running light activated <sup>*1</sup>		7.0 V	L
50 (GR)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V	M	
					<ul style="list-style-type: none"> <li>Lighting switch HI</li> <li>Lighting switch PASS</li> </ul>		Battery voltage	N
					Daytime running light activated <sup>*1</sup>		7.0 V	O
51 (R)	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V	P	
					Lighting switch 2ND		Battery voltage	
52 (P)	Ground	Headlamp LO (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V		
		Daytime running light relay-2 <sup>*1</sup>			Lighting switch 2ND	Battery voltage	WW	
54 (GR)	Ground	Throttle control motor relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V		
				<ul style="list-style-type: none"> <li>Ignition switch ON</li> <li>Ignition switch OFF (For a few seconds after turning ignition switch OFF)</li> </ul>		Battery voltage		
55 (P)	Ground	Fuel pump power supply	Output	Approximately 1 second or more than after turning the ignition switch ON		0 V		
				<ul style="list-style-type: none"> <li>Approximately 1 second after turning the ignition switch ON</li> <li>Engine running</li> </ul>		Battery voltage		
56 (SB)	Ground	A/C relay power supply	Output	Engine running	A/C switch OFF	0 V		
					A/C switch ON (A/C compressor is operating)		Battery voltage	

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

## < ECU DIAGNOSIS INFORMATION >

Terminal NO. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
57 (G)	Ground	Throttle control motor relay control	Output	Ignition switch ON → OFF	0 - 1.0 V ↓ Battery voltage ↓ 0 V
				Ignition switch ON	0 - 1.0 V
58 (R) <sup>*2</sup> (Y) <sup>*3</sup>	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
59 (Y)	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
60 (V)	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
61 (W)	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage
62 (L)	Ground	Ignition relay power supply	Output	Ignition switch OFF	0 V
				Ignition switch ON	Battery voltage

\*1: With daytime running light system

\*2: CVT models

\*3: M/T models

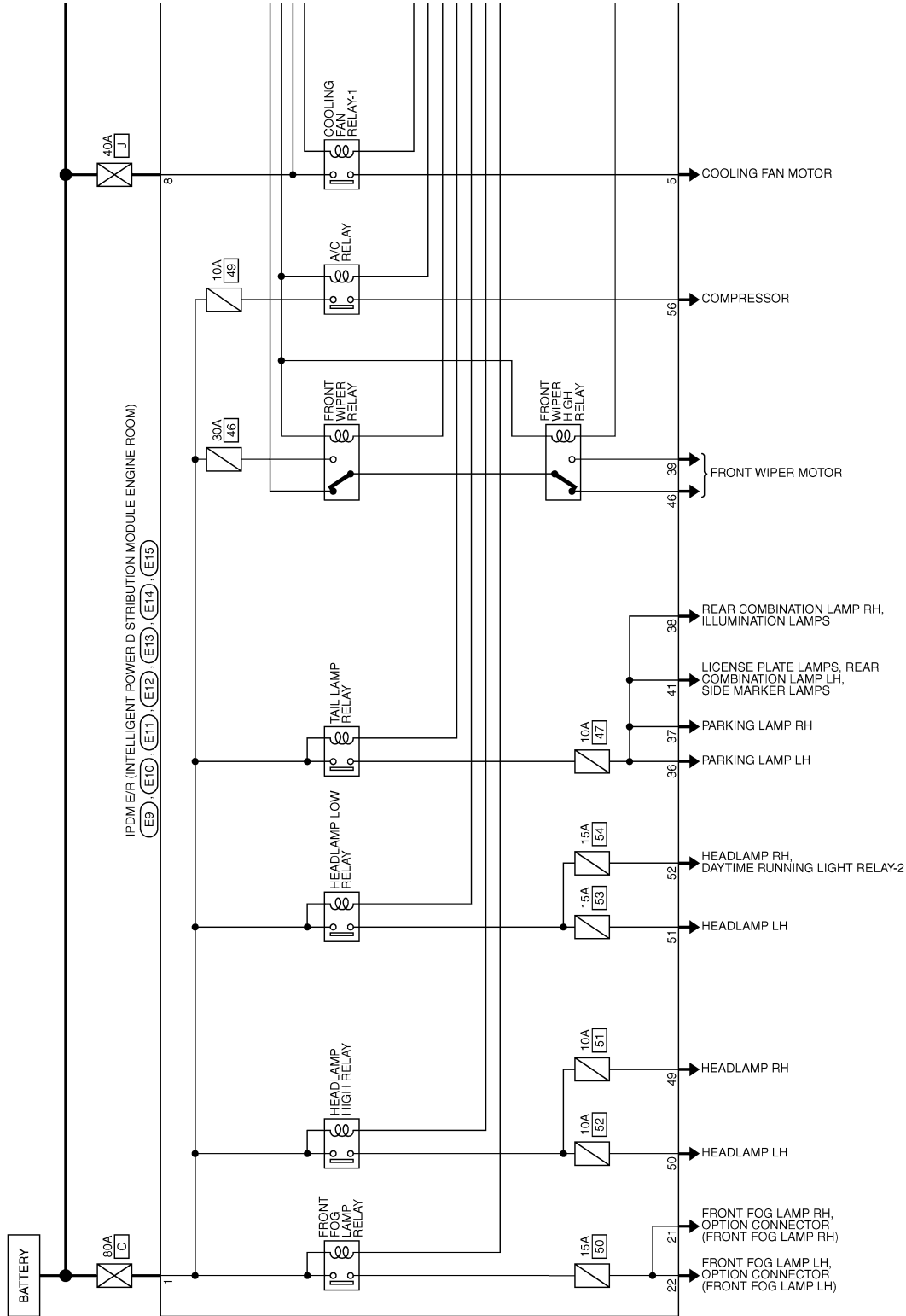
# IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

## WITHOUT INTELLIGENT KEY : Wiring Diagram — IPDM E/R —

INFOID:000000005189332

IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM) (WITHOUT INTELLIGENT KEY)



2009/02/27

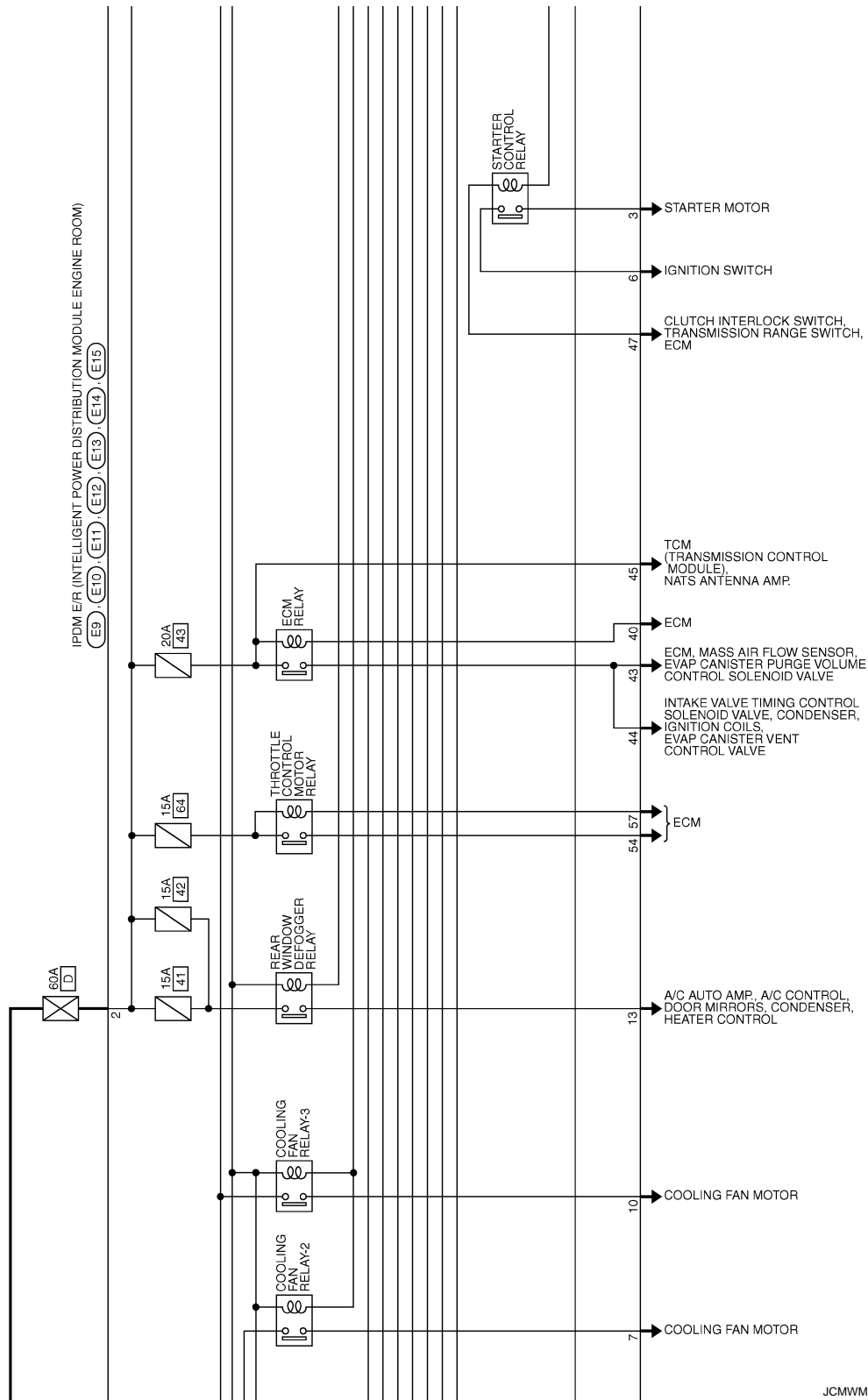
JCMWM4085GB

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

< ECU DIAGNOSIS INFORMATION >

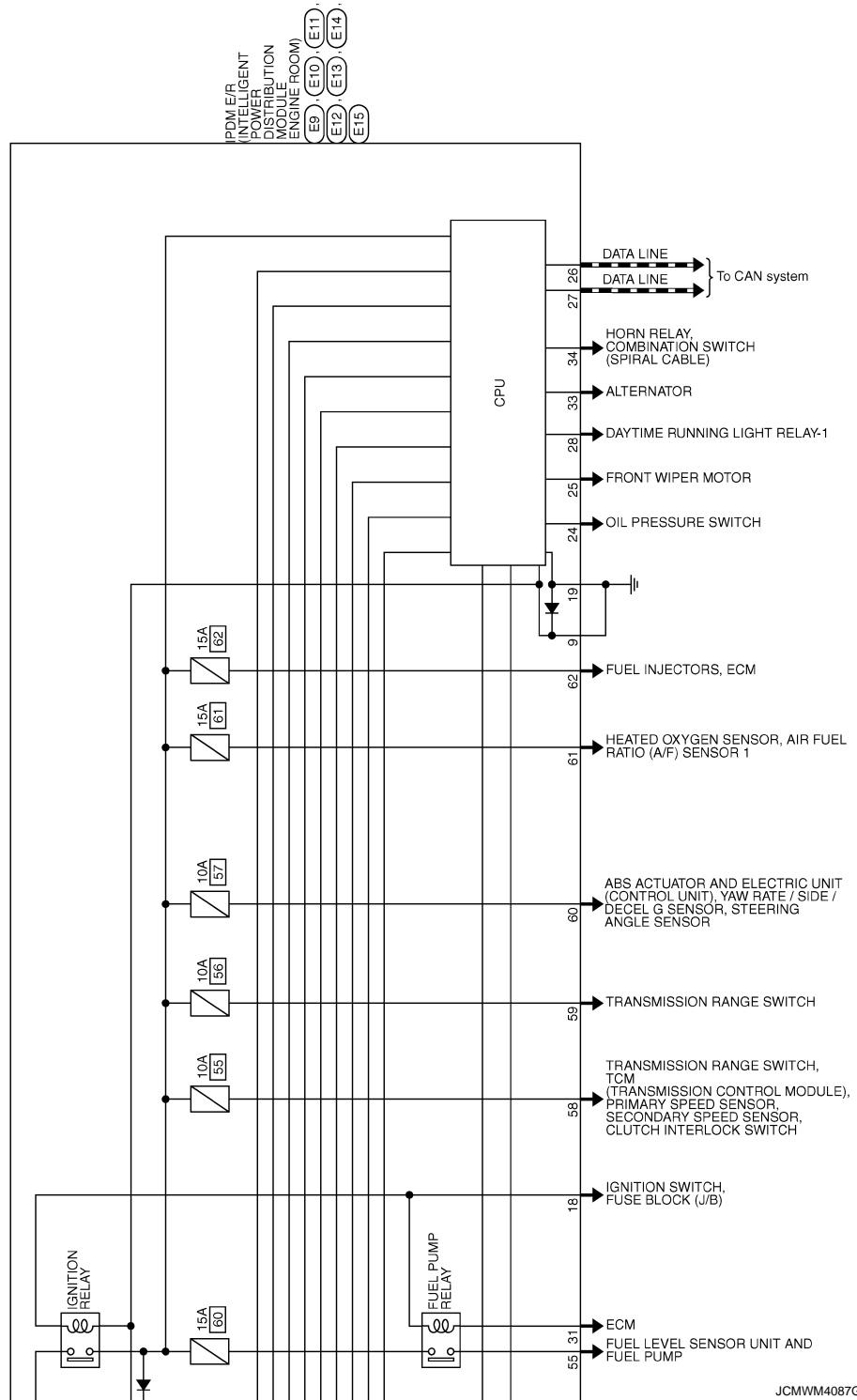


JCMWM4086GB



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

< ECU DIAGNOSIS INFORMATION >



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

## < ECU DIAGNOSIS INFORMATION >

Control part	Fail-safe operation
Cooling fan	<ul style="list-style-type: none"> <li>The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn ON when the ignition switch is turned ON (Cooling fan HI operation)</li> <li>The cooling fan relay-1, the cooling fan relay-2 and the cooling fan relay-3 turn OFF 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 style="list-style-type: none"> <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> <li>Daytime running light relay OFF*</li> </ul>
<ul style="list-style-type: none"> <li>Parking lamps</li> <li>Side marker lamps</li> <li>License plate lamps</li> <li>Illuminations</li> <li>Tail lamps</li> </ul>	<ul style="list-style-type: none"> <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 style="list-style-type: none"> <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
Rear window defogger relay	Rear window defogger relay OFF
Horn	Horn OFF

\*: With daytime running light system

### IGNITION RELAY MALFUNCTION DETECTION FUNCTION

- IPDM E/R monitors the voltage at the contact circuit of the ignition relay inside and ignition switch status from BCM via CAN communication.
- IPDM E/R judges the ignition relay error if the voltage differs between the contact circuit and the ignition switch status from BCM via CAN communication.
- 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		IPDM E/R judgment	Operation
Ignition relay contact side	Ignition switch status from BCM		
ON	ON	Ignition relay ON normal	—
OFF	OFF	Ignition relay OFF normal	—
ON	OFF	Ignition relay ON stuck	<ul style="list-style-type: none"> <li>Detects DTC "B2098: IGN RELAY ON"</li> <li>Turns ON the tail lamp relay for 10 minutes</li> </ul>
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.

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

## < ECU DIAGNOSIS INFORMATION >

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.

**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.

### WITHOUT INTELLIGENT KEY : DTC Index

INFOID:000000005189334

**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 → 2 ... 38 → 39 after returning to the normal condition whenever IGN OFF → ON.
  - The number is fixed to 39 until the self-diagnosis results are erased if it is over 39.

×: Applicable

CONSULT display	Fail-safe	Refer to
No DTC is detected. further testing may be required.	—	—
U1000: CAN COMM CIRCUIT	×	<a href="#">PCS-16</a>
B2098: IGN RELAY ON	×	<a href="#">PCS-17</a>
B2099: IGN RELAY OFF	—	<a href="#">PCS-49</a>

# WIPER AND WASHER SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

## SYMPTOM DIAGNOSIS

### WIPER AND WASHER SYSTEM SYMPTOMS

#### Symptom Table

INFOID:000000005116501

**CAUTION:**

Perform the self-diagnosis with CONSULT-III 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	<ul style="list-style-type: none"> <li>Combination switch</li> <li>Harness between combination switch and BCM</li> <li>BCM</li> </ul>	Combination switch Refer to <a href="#">BCS-80, "Symptom Table"</a> .
		<ul style="list-style-type: none"> <li>IPDM E/R</li> <li>Harness between IPDM E/R and front wiper motor</li> <li>Front wiper motor</li> </ul>	Front wiper motor (HI) circuit Refer to <a href="#">WW-35, "Component Function Check"</a> .
		Front wiper request signal <ul style="list-style-type: none"> <li>BCM</li> <li>IPDM E/R</li> </ul>	IPDM E/R DATA MONITOR "FR WIP REQ"
	LO and INT	<ul style="list-style-type: none"> <li>Combination switch</li> <li>Harness between combination switch and BCM</li> <li>BCM</li> </ul>	Combination switch Refer to <a href="#">BCS-80, "Symptom Table"</a> .
		<ul style="list-style-type: none"> <li>IPDM E/R</li> <li>Harness between IPDM E/R and front wiper motor</li> <li>Front wiper motor</li> </ul>	Front wiper motor (LO) circuit Refer to <a href="#">WW-33, "Component Function Check"</a> .
		Front wiper request signal <ul style="list-style-type: none"> <li>BCM</li> <li>IPDM E/R</li> </ul>	IPDM E/R DATA MONITOR "FR WIP REQ"
	INT only	<ul style="list-style-type: none"> <li>Combination switch</li> <li>Harness between combination switch and BCM</li> <li>BCM</li> </ul>	Combination switch Refer to <a href="#">BCS-80, "Symptom Table"</a> .
		Front wiper request signal <ul style="list-style-type: none"> <li>BCM</li> <li>IPDM E/R</li> </ul>	IPDM E/R DATA MONITOR "FR WIP REQ"
	HI, LO and INT	SYMPTOM DIAGNOSIS "FRONT WIPER DOES NOT OPERATE" Refer to <a href="#">WW-137, "Diagnosis Procedure"</a> .	

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## WIPER AND WASHER SYSTEM SYMPTOMS

### < SYMPTOM DIAGNOSIS >

Symptom	Probable malfunction location	Inspection item	
Front wiper does not stop.	HI only	<ul style="list-style-type: none"> <li>• Combination switch</li> <li>• BCM</li> </ul>	Combination switch Refer to <a href="#">BCS-80, "Symptom Table"</a> .
		<ul style="list-style-type: none"> <li>Front wiper request signal</li> <li>• BCM</li> <li>• IPDM E/R</li> </ul>	IPDM E/R DATA MONITOR "FR WIP REQ"
		IPDM E/R	—
	LO only	<ul style="list-style-type: none"> <li>• Combination switch</li> <li>• BCM</li> </ul>	Combination switch Refer to <a href="#">BCS-80, "Symptom Table"</a> .
		<ul style="list-style-type: none"> <li>Front wiper request signal</li> <li>• BCM</li> <li>• IPDM E/R</li> </ul>	IPDM E/R DATA MONITOR "FR WIP REQ"
		IPDM E/R	—
	INT only	<ul style="list-style-type: none"> <li>• Combination switch</li> <li>• BCM</li> </ul>	Combination switch Refer to <a href="#">BCS-80, "Symptom Table"</a> .
		<ul style="list-style-type: none"> <li>Front wiper request signal</li> <li>• BCM</li> <li>• IPDM E/R</li> </ul>	IPDM E/R DATA MONITOR "FR WIP REQ"
	Front wiper does not operate normally.	Intermittent adjustment cannot be performed.	<ul style="list-style-type: none"> <li>• Combination switch</li> <li>• Harness between combination switch and BCM</li> <li>• BCM</li> </ul>
BCM			—
Intermittent control linked with vehicle speed cannot be performed.		Check the vehicle speed detection wiper setting. Refer to <a href="#">WW-14, "WIPER : CONSULT-III Function (BCM - WIPER)"</a> .	
Wiper is not linked to the washer operation.		<ul style="list-style-type: none"> <li>• Combination switch</li> <li>• Harness between combination switch and BCM</li> <li>• BCM</li> </ul>	Combination switch Refer to <a href="#">BCS-80, "Symptom Table"</a> .
		BCM	—
Does not return to stop position. [Repeatedly operates for 10 seconds and then stops for 20 seconds. After that, it stops the operation. (Fail-safe)]	<ul style="list-style-type: none"> <li>• IPDM E/R</li> <li>• Harness between IPDM E/R and front wiper motor</li> <li>• Front wiper motor</li> </ul>	Front wiper auto stop signal circuit Refer to <a href="#">WW-37, "Component Function Check"</a> .	
Rear wiper does not operate.	ON only	<ul style="list-style-type: none"> <li>• Combination switch</li> <li>• Harness between combination switch and BCM</li> <li>• BCM</li> </ul>	Combination switch Refer to <a href="#">BCS-80, "Symptom Table"</a> .
	INT only	<ul style="list-style-type: none"> <li>• Combination switch</li> <li>• Harness between combination switch and BCM</li> <li>• BCM</li> </ul>	Combination switch Refer to <a href="#">BCS-80, "Symptom Table"</a> .
	ON and INT	<ul style="list-style-type: none"> <li>• Combination switch</li> <li>• Harness between combination switch and BCM</li> <li>• BCM</li> </ul>	Combination switch Refer to <a href="#">BCS-80, "Symptom Table"</a> .
		<ul style="list-style-type: none"> <li>• BCM</li> <li>• Harness between rear wiper motor and BCM</li> <li>• Harness between rear wiper motor and ground</li> <li>• Rear wiper motor</li> </ul>	Combination switch Refer to <a href="#">BCS-80, "Symptom Table"</a> .

## WIPER AND WASHER SYSTEM SYMPTOMS

### < SYMPTOM DIAGNOSIS >

Symptom		Probable malfunction location	Inspection item
Rear wiper does not stop.	ON only	<ul style="list-style-type: none"> <li>• Combination switch</li> <li>• BCM</li> </ul>	Rear wiper motor circuit Refer to <a href="#">WW-41, "Component Function Check"</a> .
	INT only	<ul style="list-style-type: none"> <li>• Combination switch</li> <li>• BCM</li> </ul>	Combination switch Refer to <a href="#">BCS-80, "Symptom Table"</a> .
Rear wiper does not operate normally.	Wiper is not linked to the washer operation.	<ul style="list-style-type: none"> <li>• Combination switch</li> <li>• Harness between rear wiper motor and BCM</li> <li>• BCM</li> </ul>	Combination switch Refer to <a href="#">BCS-80, "Symptom Table"</a> .
		BCM	—
	Rear wiper does not return to the stop position. [Stops after a five-second operation. (Fail-safe)]	<ul style="list-style-type: none"> <li>• BCM</li> <li>• Harness between rear wiper motor and BCM</li> <li>• Rear wiper motor</li> </ul>	Rear wiper auto stop signal circuit Refer to <a href="#">WW-43, "Component Function Check"</a> .

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## NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

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### NORMAL OPERATING CONDITION

#### Description

INFOID:000000005116502

#### 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.



# FRONT WIPER DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

## FRONT WIPER DOES NOT OPERATE

### Description

INFOID:000000005116503

The front wiper does not operate under any operation conditions.

### Diagnosis Procedure

INFOID:000000005116504

#### 1. CHECK WIPER RELAY OPERATION

##### ⊗ IPDM E/R AUTO ACTIVE TEST

1. Start IPDM E/R auto active test. Refer to [PCS-11, "Diagnosis Description"](#).
2. Check that the front wiper operates at the LO/Hi operation.

##### Ⓜ CONSULT-III 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

**Hi** : Front wiper HI operation

**Off** : Stop the front wiper.

Is front wiper operation normally?

YES >> GO TO 5.

NO >> GO TO 2.

#### 2. CHECK FRONT WIPER MOTOR FUSE

1. Turn the ignition switch OFF.
2. Check that the front wiper motor 30 A (#48) 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 GROUND OPEN CIRCUIT

Refer to [WW-39, "Diagnosis Procedure"](#).

Does continuity exist?

YES >> GO TO 4.

NO >> Repair the harness or connector.

#### 4. CHECK FRONT WIPER MOTOR OUTPUT VOLTAGE

##### Ⓜ CONSULT-III ACTIVE TEST

1. Turn the ignition switch ON.
2. Select "FRONT WIPER" of IPDM E/R active test item.
3. With operating the test item, check voltage between IPDM E/R harness connector and ground.

Terminals		Test item	Voltage (Approx.)		
(+)	(-)				
IPDM E/R		FRONT WIPER			
Connector	Terminal				
E14	46			Lo	Battery voltage
	39			Off	0 V
Ground		Hi	Battery voltage		
		Off	0 V		

Is the measurement value normal?

YES >> Replace front wiper motor.

NO >> Replace IPDM E/R.

# FRONT WIPER DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

## 5. CHECK FRONT WIPER REQUEST SIGNAL INPUT

### CONSULT-III DATA MONITOR

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

Monitor item	Condition	Monitor status	
FR WIP REQ	Front wiper switch HI	ON	Hi
		OFF	Stop
	Front wiper switch LO	ON	Low
		OFF	Stop

Is the status of item normal?

- YES >> Replace IPDM E/R.  
NO >> GO TO 6.

## 6. CHECK COMBINATION SWITCH

Perform the inspection of the combination switch. Refer to [BCS-80, "Symptom Table"](#).

Is combination switch normal?

- YES >> Replace BCM. Refer to [BCS-82, "Exploded View"](#) (with Intelligent Key system) or [BCS-148, "Exploded View"](#) (without Intelligent Key system).  
NO >> Repair or replace the applicable parts.

# PRECAUTIONS

< PRECAUTION >

## PRECAUTION

### PRECAUTIONS

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

INFOID:000000005116505

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

#### **WARNING:**

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

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

#### **WARNING:**

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

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WW

# WASHER TANK

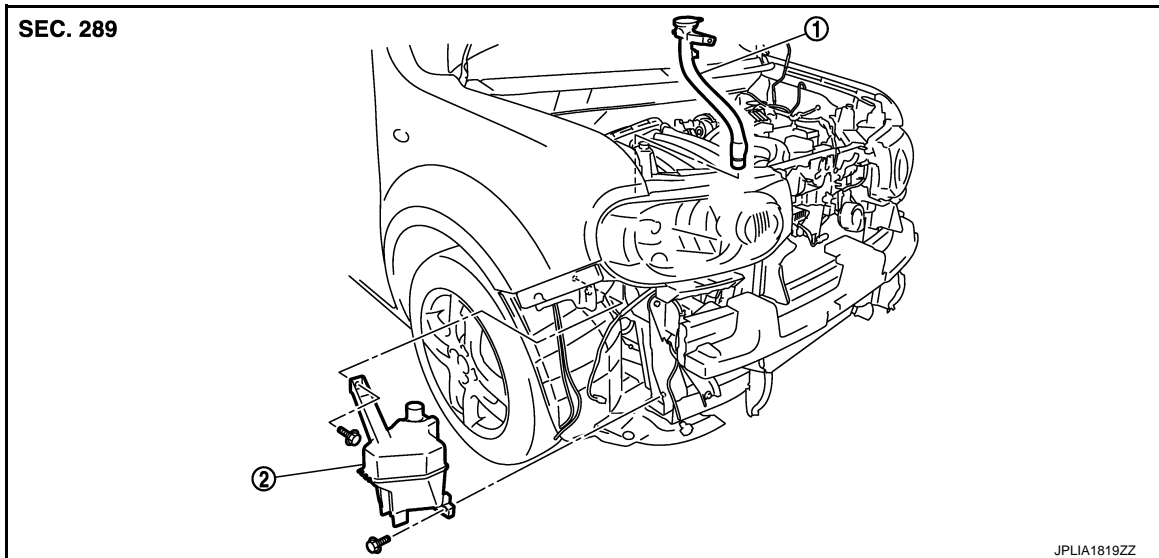
< REMOVAL AND INSTALLATION >

## REMOVAL AND INSTALLATION

### WASHER TANK

Exploded View

INFOID:000000005116506



1. Washer tank inlet

2. Washer tank

### Removal and Installation

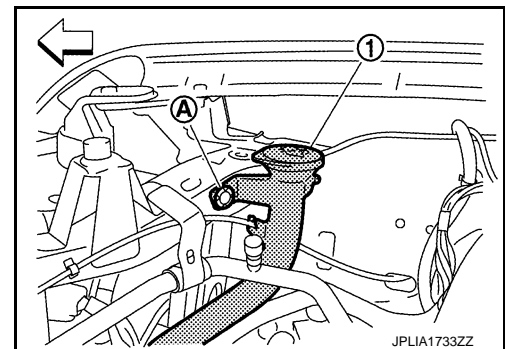
INFOID:000000005116507

#### 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. Refer to [EXT-22, "FENDER PROTECTOR : Exploded View"](#).
4. Disconnect washer pump connector.
5. Disconnect washer level switch connector.
6. Remove front washer tube and rear washer tube.
7. Remove washer tank mounting bolts.
8. Remove the washer tank from the vehicle.



#### INSTALLATION

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.**

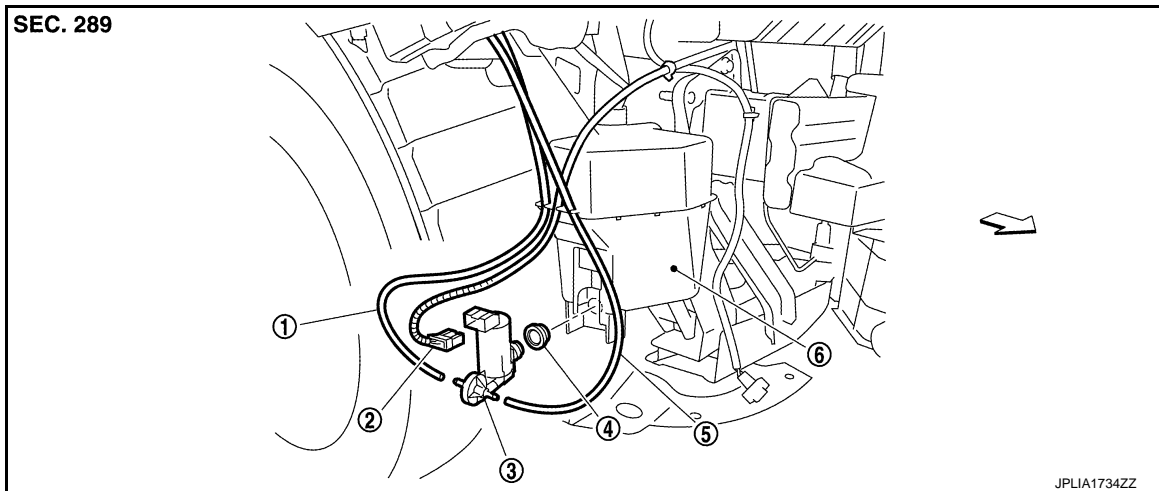
# WASHER PUMP

< REMOVAL AND INSTALLATION >

## WASHER PUMP

### Exploded View

INFOID:000000005116508



- |                     |                          |                |
|---------------------|--------------------------|----------------|
| 1. Rear washer tube | 2. Washer pump connector | 3. Washer pump |
| 4. Packing          | 5. Front washer tube     | 6. Washer tank |

↔ : Vehicle front

### Removal and Installation

INFOID:000000005116509

#### REMOVAL

1. Remove the fender protector RH (front). Refer to [EXT-22, "FENDER PROTECTOR : Exploded View"](#).
2. Disconnect washer pump connector.
3. Disconnect washer level switch connector. (For Canada models)
4. Remove front washer tube and rear washer tube.
5. Remove washer pump from the washer tank.
6. Remove the packing from the washer tank.

#### INSTALLATION

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:000000005116510

The washer level switch must be replaced together with the washer tank as an assembly. Refer to [WW-140](#), "[Removal and Installation](#)".

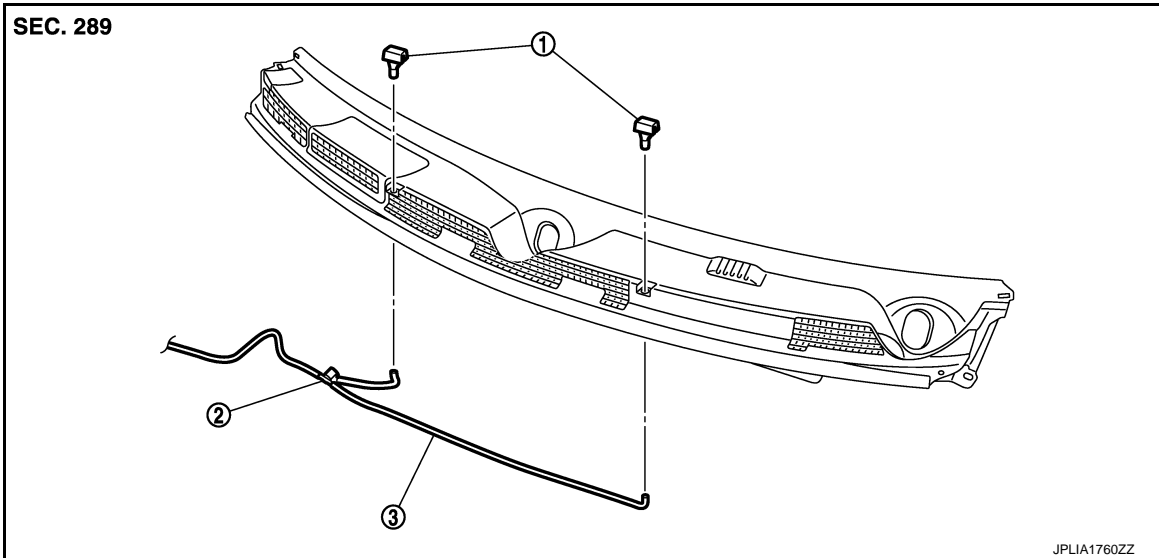
# FRONT WASHER NOZZLE AND TUBE

< REMOVAL AND INSTALLATION >

## FRONT WASHER NOZZLE AND TUBE

Exploded View

INFOID:000000005116511



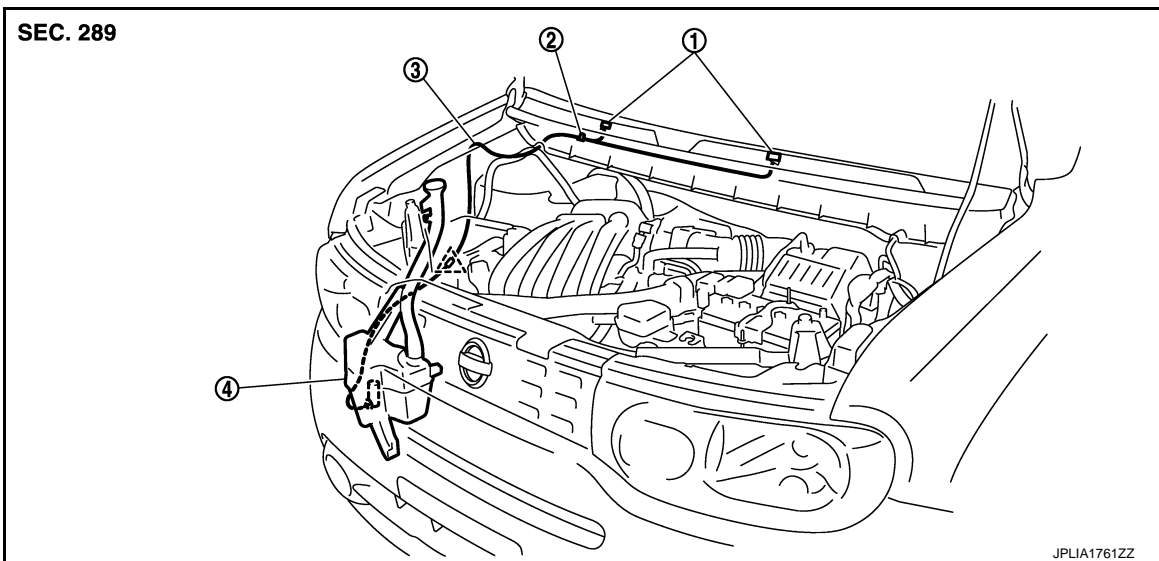
1. Front washer nozzle

2. Check valve

3. Front washer tube

Hydraulic Layout

INFOID:000000005116512




1. Front washer nozzle

2. Check valve

3. Front washer tube

4. Washer tank

 : Clip

Removal and Installation

INFOID:000000005116513

REMOVAL

1. Remove cowl top cover. Refer to [EXT-20, "Exploded View"](#).

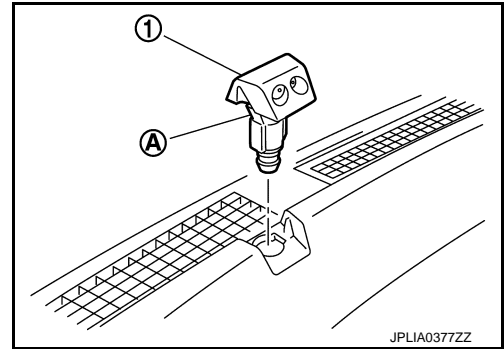
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# FRONT WASHER NOZZLE AND TUBE

## < REMOVAL AND INSTALLATION >

2. Disconnect front washer tube from front washer nozzle (1).
3. While pressing pawl (A) on the cowl top cover front side of front washer nozzle, remove front washer nozzle from cowl top cover.



## INSTALLATION

Install in the reverse order of removal.

### CAUTION:

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

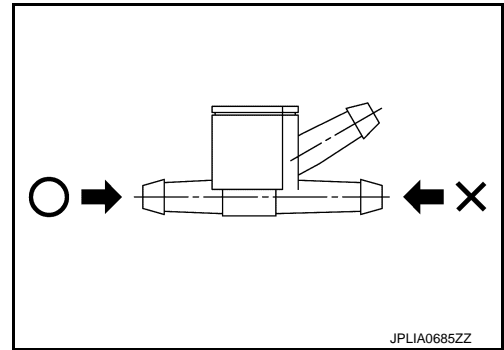
## Inspection and Adjustment

INFOID:000000005116514

## INSPECTION

Check valve Inspection

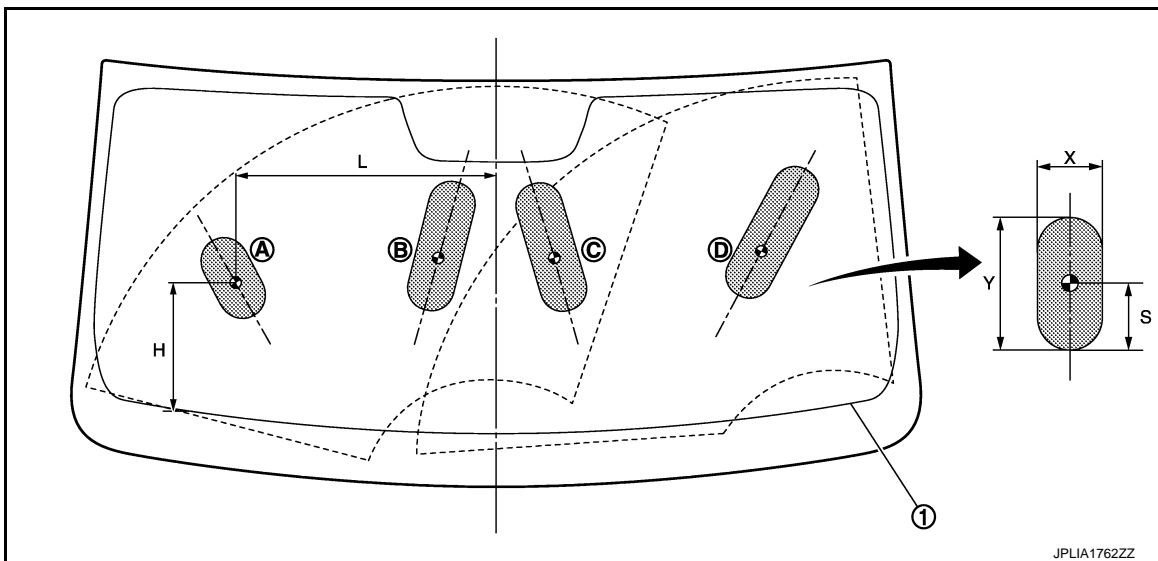
Check that air can pass through the hose by blowing forward (toward the nozzle), and check that air cannot pass through by sucking.



## ADJUSTMENT

Washer Nozzle Spray Position Adjustment

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



1. Black printed frame line

▨ Spray area

● : Target spray position



# FRONT WASHER NOZZLE AND TUBE

## < REMOVAL AND INSTALLATION >

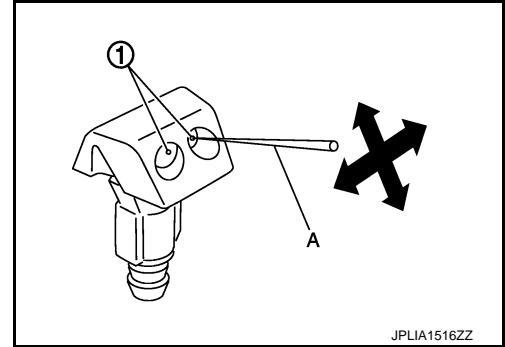
Unit: mm (in)

Spray position	H	L	X	Y	S
A	222 (8.74)	440 (17.32)	80 (3.15)	146 (5.75)	63 (2.48)
B	298 (11.73)	99 (3.90)	80 (3.15)	230 (9.06)	95 (3.74)
C	298 (11.73)	99 (3.90)	80 (3.15)	230 (9.06)	95 (3.74)
D	288 (11.34)	463 (18.23)	80 (3.15)	249 (9.80)	95 (3.74)

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.



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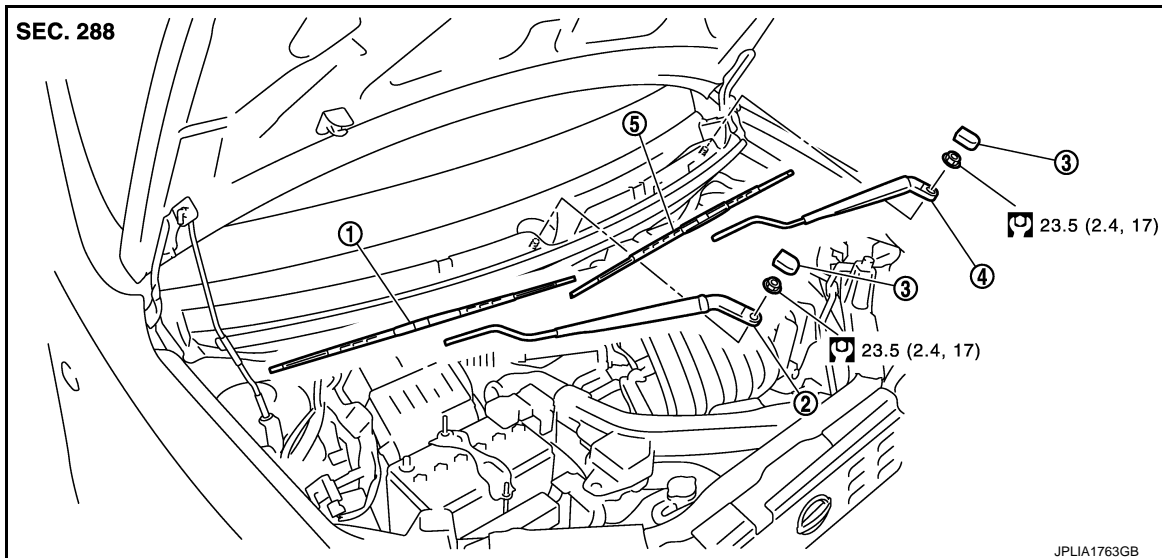
# FRONT WIPER ARM

< REMOVAL AND INSTALLATION >

## FRONT WIPER ARM

Exploded View

INFOID:000000005116515



- |                           |                           |                        |
|---------------------------|---------------------------|------------------------|
| 1. Front wiper blade (LH) | 2. Front wiper arm (LH)   | 3. Front wiper arm cap |
| 4. Front wiper arm (RH)   | 5. Front wiper blade (RH) |                        |

Refer to [GI-4, "Components"](#) for symbols in the figure.

## Removal and Installation

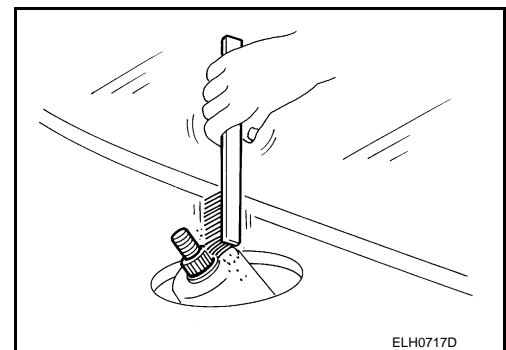
INFOID:000000005116516

### 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.
5. 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-146, "Adjustment"](#).
4. Install the front wiper arms 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.
8. Install front wiper arm caps.



## Adjustment

INFOID:000000005116517

### WIPER BLADE POSITION ADJUSTMENT

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

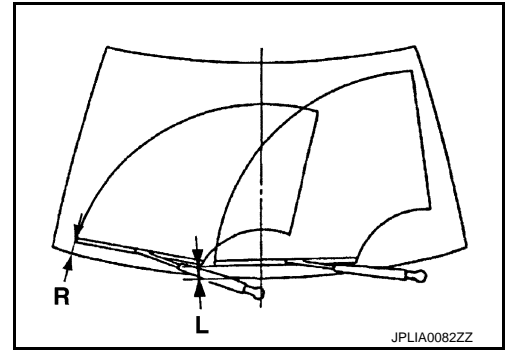
# FRONT WIPER ARM

## < REMOVAL AND INSTALLATION >

Standard clearance

**R** :  $37.1 \pm 7.5 \text{ mm}$  ( $1.461 \pm 0.295 \text{ in}$ )

**L** :  $28.4 \pm 7.5 \text{ mm}$  ( $1.118 \pm 0.295 \text{ in}$ )



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# FRONT WIPER DRIVE ASSEMBLY

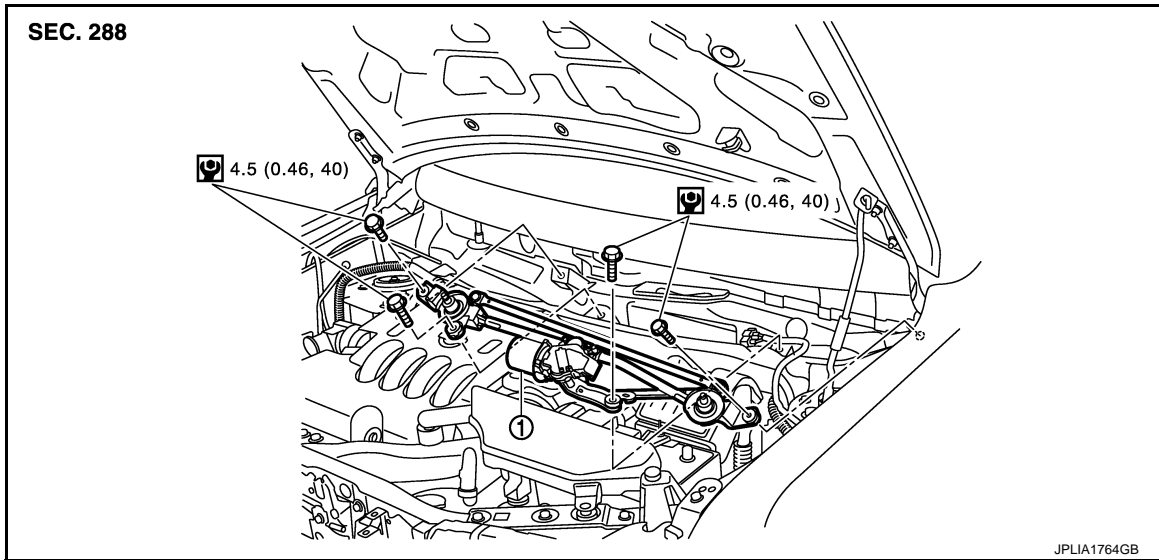
< REMOVAL AND INSTALLATION >

## FRONT WIPER DRIVE ASSEMBLY

Exploded View

INFOID:000000005116518

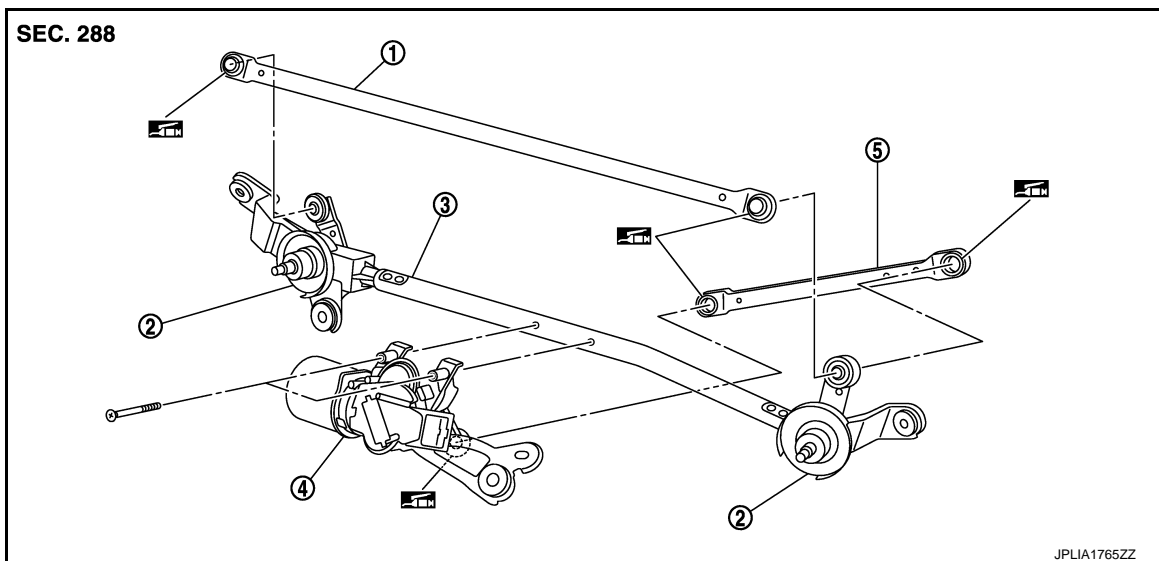
REMOVAL VIEW



1. Front wiper drive assembly

Refer to [GI-4. "Components"](#) for symbols in the figure.

DISASSEMBLY VIEW



1. Front wiper linkage 2

2. Front wiper frame

3. Shaft seal

4. Front wiper motor

5. Front wiper linkage 1

: Multi-purpose grease or an equivalent

Removal and Installation

INFOID:000000005116519

REMOVAL

1. Remove front wiper arm. Refer to [WW-146. "Exploded View"](#).
2. Remove cowl top cover. Refer to [EXT-20. "Exploded View"](#).

# FRONT WIPER DRIVE ASSEMBLY

## < REMOVAL AND INSTALLATION >

---

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

A

## 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-20, "Exploded View"](#).
5. Install front wiper arms. Refer to [WW-146, "Exploded View"](#).

B

C

## Disassembly and Assembly

INFOID:000000005116520

D

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

E

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## ASSEMBLY

1. 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 1 to the front wiper motor and the front wiper frame.
6. Install the front wiper linkage 2 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.**

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## WIPER AND WASHER SWITCH

< REMOVAL AND INSTALLATION >

---

### WIPER AND WASHER SWITCH

Exploded View

INFOID:000000005116521

Refer to [BCS-83, "Exploded View"](#).

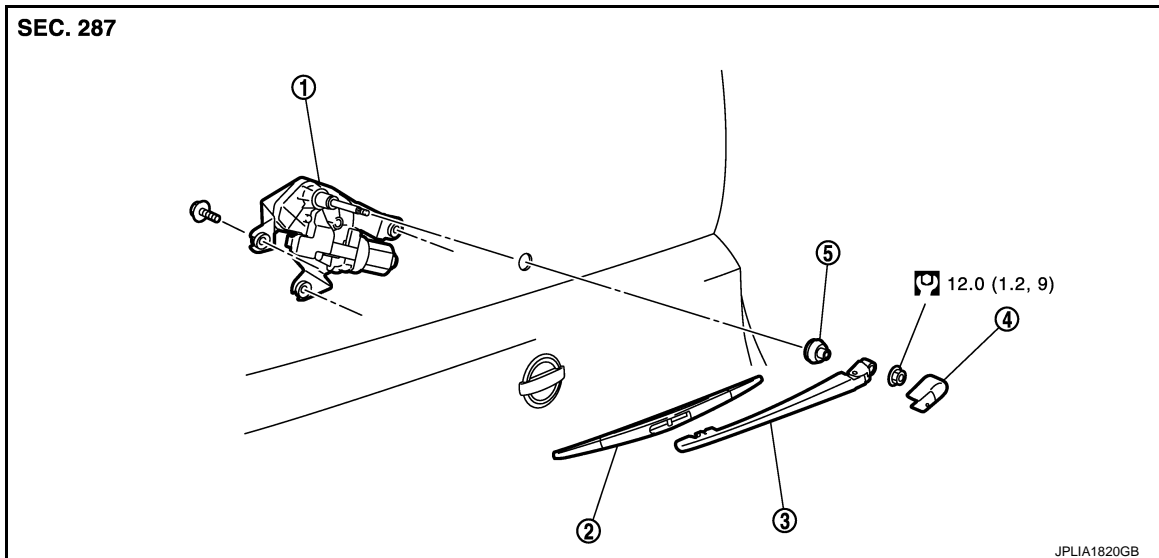
# REAR WIPER ARM

< REMOVAL AND INSTALLATION >

## REAR WIPER ARM

Exploded View

INFOID:000000005116522



- 1. Rear wiper motor
- 2. Rear wiper blade
- 3. Rear wiper arm
- 4. Rear wiper arm cover
- 5. pivot seal

Refer to [GI-4, "Components"](#) for symbols in the figure.

## Removal and Installation

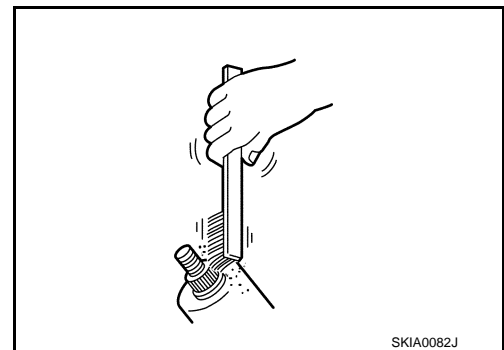
INFOID:000000005116523

### 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 [WW-151, "Adjustment"](#).
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

INFOID:000000005116524

### REAR WIPER BLADE POSITION ADJUSTMENT

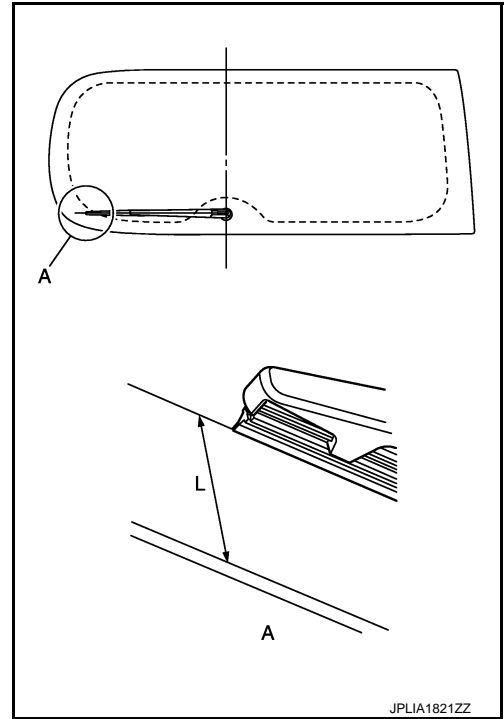
Clearance between the end of back door glass and the top of wiper blade center.

# REAR WIPER ARM

## < REMOVAL AND INSTALLATION >

Standard clearance

**L : 54.5 ± 7.5 mm (2.146 ± 0.295 in)**







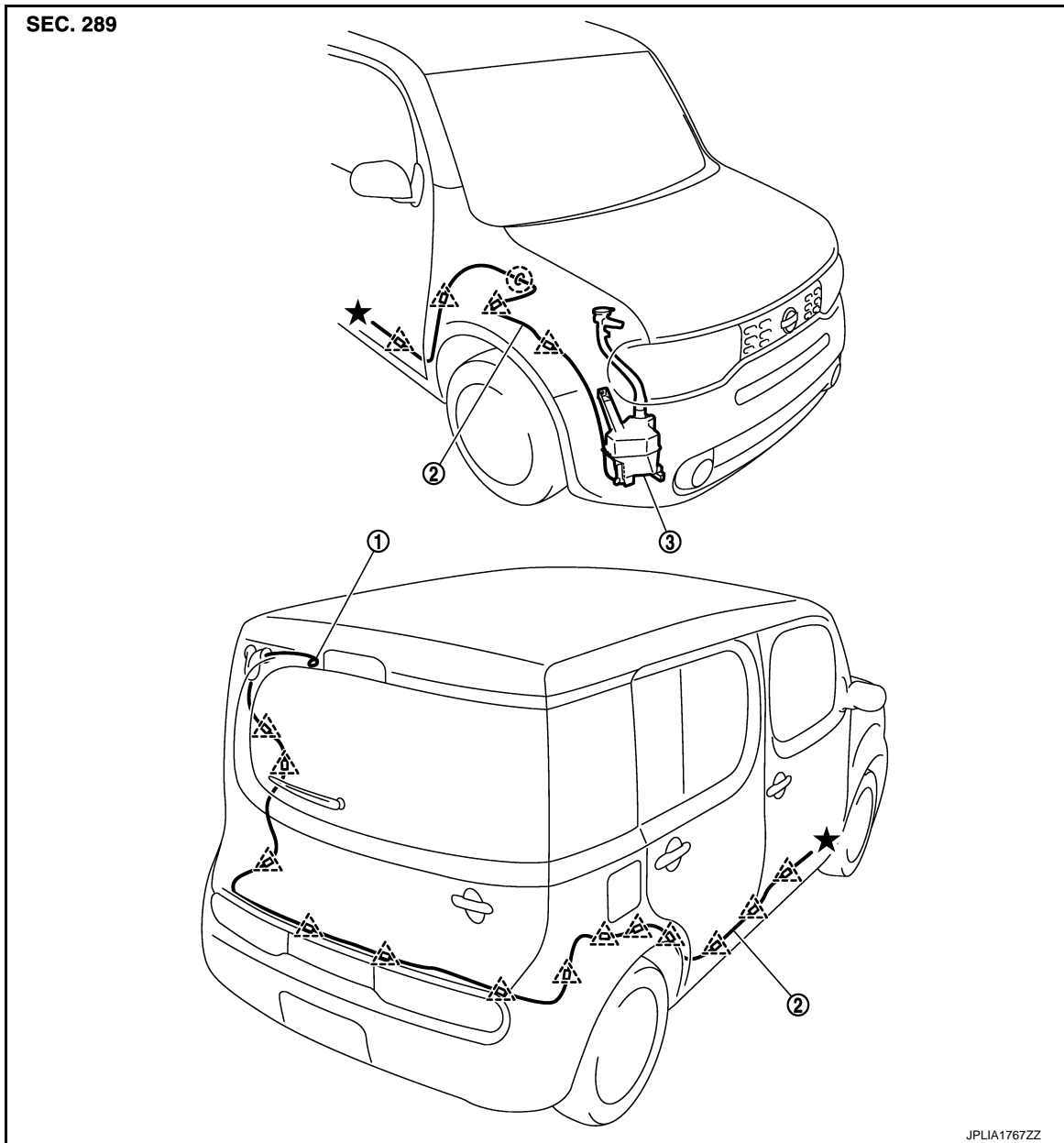
# REAR WASHER NOZZLE AND TUBE

< REMOVAL AND INSTALLATION >

## REAR WASHER NOZZLE AND TUBE

Hydraulic Layout


INFOID:000000005116527



1. Rear washer nozzle

2. Rear washer tube

3. Washer tank

 : Clip

 : Grommet

### Removal and Installation

INFOID:000000005116528

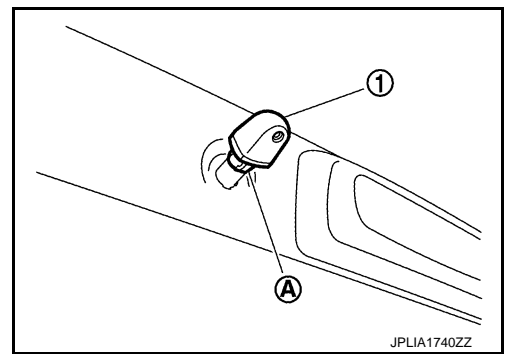
#### REMOVAL

1. Remove the back door finisher upper. Refer to [INT-26, "Exploded View"](#).

# REAR WASHER NOZZLE AND TUBE

## < REMOVAL AND INSTALLATION >

2. Remove the rear washer tube from the rear washer nozzle (1).
3. Push pawl (A), and remove the rear washer nozzle from the back door.



## INSTALLATION

Install in the reverse order of removal.

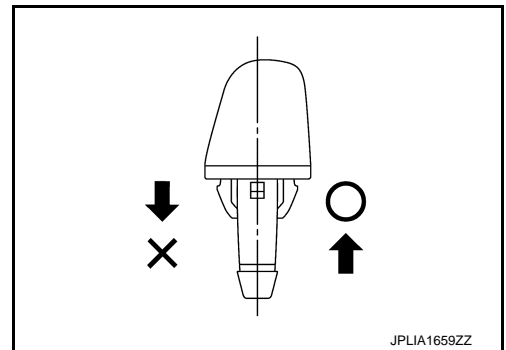
## Inspection and Adjustment

INFOID:000000005116529

## 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

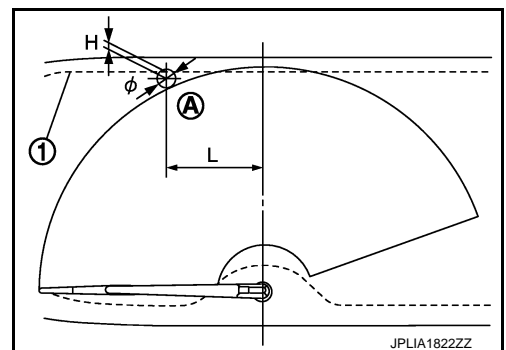
### Washer Nozzle Spray Position adjustment

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

1 : Black printed frame line

Unit: mm (in)

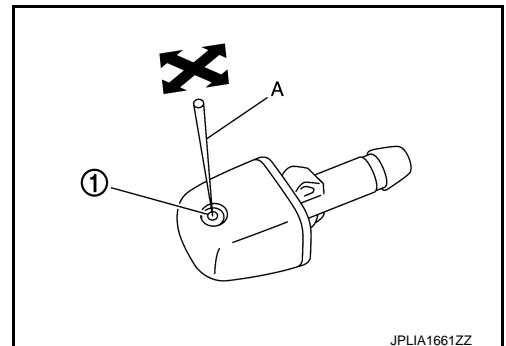
Spray position	H : Height	L : Length	$\phi$ : Spray position area
A	1 (0.04)	164.8 (6.49)	30 (1.18)



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.



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