

WW
SECTION
WIPER & WASHER

A
B
C

CONTENTS

BASIC INSPECTION	FRONT WIPER MOTOR LO CIRCUIT	F
	Component Function Check	
DIAGNOSIS AND REPAIR WORK FLOW	Diagnosis Procedure	
Work Flow	FRONT WIPER MOTOR HI CIRCUIT	G
SYSTEM DESCRIPTION	Component Function Check	
FRONT WIPER AND WASHER SYSTEM	Diagnosis Procedure	H
System Diagram	FRONT WIPER STOP POSITION SIGNAL	
System Description	CIRCUIT	I
Component Parts Location	Component Function Check	
Component Description	Diagnosis Procedure	J
DIAGNOSIS SYSTEM (BCM)	FRONT WIPER MOTOR GROUND CIRCUIT ...	
COMMON ITEM	Diagnosis Procedure	K
COMMON ITEM : CONSULT Function (BCM -	WASHER SWITCH	
COMMON ITEM)	Description	K
WIPER	Component Inspection	
WIPER : CONSULT Function (BCM - WIPER)	FRONT WIPER AND WASHER SYSTEM	WW
DIAGNOSIS SYSTEM (IPDM E/R)	Wiring Diagram - FRONT WIPER AND WASHER	
Diagnosis Description	SYSTEM -	M
CONSULT Function (IPDM E/R)	ECU DIAGNOSIS INFORMATION	
DTC/CIRCUIT DIAGNOSIS	BCM (BODY CONTROL MODULE)	N
WIPER AND WASHER FUSE	Reference Value	
Description	Wiring Diagram - BCM -	O
Diagnosis Procedure	Fail-safe	
POWER SUPPLY AND GROUND CIRCUIT	DTC Inspection Priority Chart	P
BCM (BODY CONTROL MODULE)	DTC Index	
BCM (BODY CONTROL MODULE) : Diagnosis	IPDM E/R (INTELLIGENT POWER DISTRI-	
Procedure	BUTION MODULE ENGINE ROOM)	O
IPDM E/R (INTELLIGENT POWER DISTRI-	Reference Value	
BUTION MODULE ENGINE ROOM)	Wiring Diagram - IPDM E/R -	P
IPDM E/R (INTELLIGENT POWER DISTRI-	Fail-safe	
BUTION MODULE ENGINE ROOM) : Diagnosis Pro-	DTC Index	O
cedure	SYMPTOM DIAGNOSIS	

D
E

WIPER AND WASHER SYSTEM SYMPTOMS	75	REMOVAL AND INSTALLATION	83
Symptom Table	75	WASHER TANK	83
NORMAL OPERATING CONDITION	77	Exploded View	83
Description	77	Removal and Installation	83
FRONT WIPER DOES NOT OPERATE	78	WASHER PUMP	84
Description	78	Exploded View	84
Diagnosis Procedure	78	Removal and Installation	84
PRECAUTION	80	WASHER LEVEL SWITCH	85
PRECAUTIONS	80	Removal and Installation	85
FOR USA AND CANADA	80	FRONT WASHER NOZZLE AND TUBE	86
FOR USA AND CANADA : Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	80	Hydraulic Layout	86
FOR USA AND CANADA : Precaution for Procedure without Cowl Top Cover	80	Removal and Installation	86
FOR USA AND CANADA : Precaution for Battery Service	80	Inspection and Adjustment	86
FOR MEXICO	80	FRONT WIPER ARM	88
FOR MEXICO : Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"	81	Exploded View	88
FOR MEXICO : Precaution for Procedure without Cowl Top Cover	81	Removal and Installation	88
FOR MEXICO : Precaution for Battery Service	81	Adjustment	88
PREPARATION	82	WIPER BLADE	90
PREPARATION	82	Exploded View	90
Commercial Service Tool	82	Removal and Installation	90
		Replacement	90
		FRONT WIPER DRIVE ASSEMBLY	92
		Exploded View	92
		Removal and Installation	92
		Disassembly and Assembly	93
		WIPER AND WASHER SWITCH	94
		Exploded View	94

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

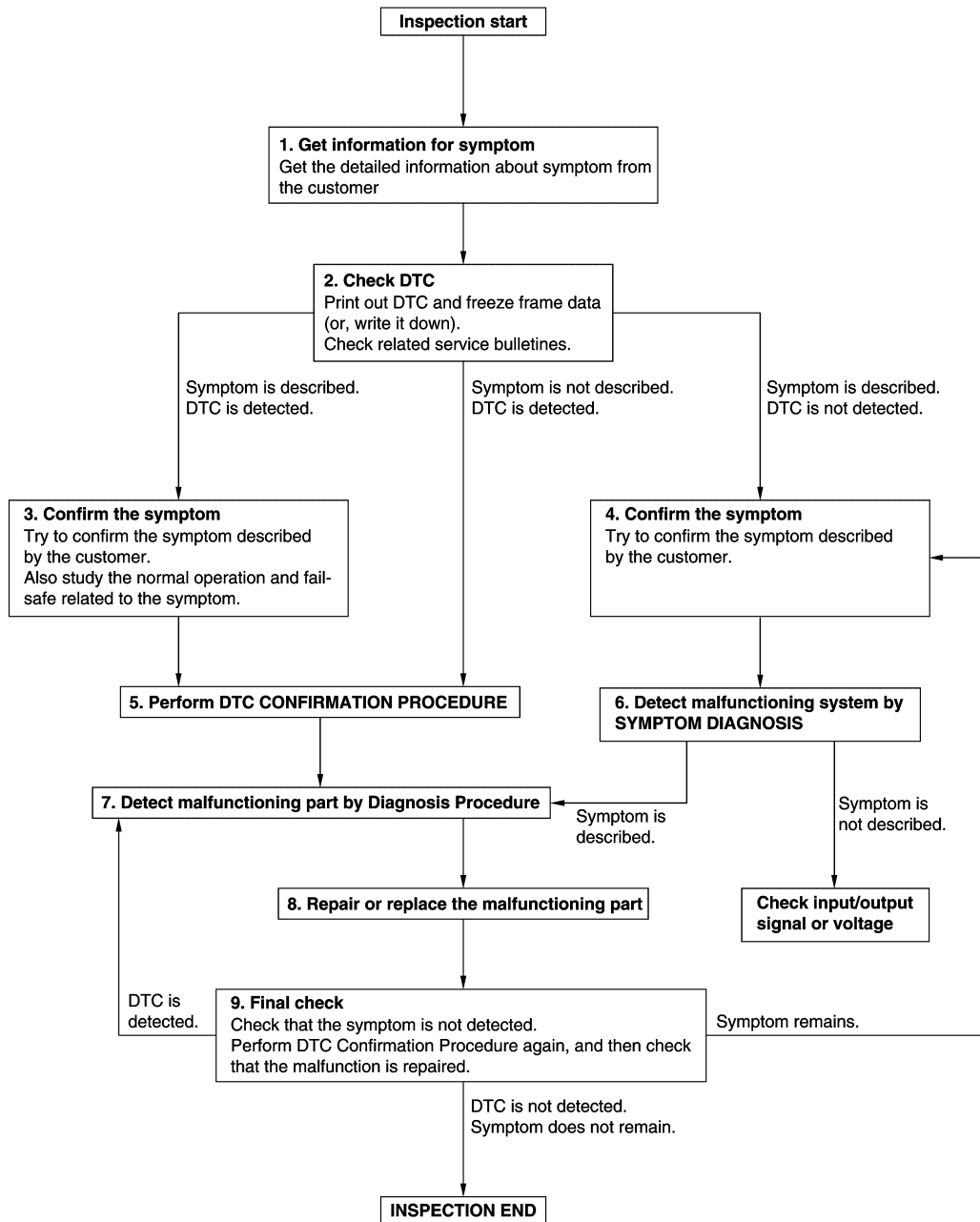
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORK FLOW

Work Flow

INFOID:000000008194779

OVERALL SEQUENCE



DETAILED FLOW

JMKIA8652GB

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

1. GET INFORMATION FOR SYMPTOM

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

>> GO TO 2.

2. CHECK DTC

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

Are any symptoms described and any DTC detected?

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

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

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

3. CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

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

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

>> GO TO 5.

4. CONFIRM THE SYMPTOM

Try to confirm the symptom described by the customer.

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

>> GO TO 6.

5. PERFORM DTC CONFIRMATION PROCEDURE

Perform DTC CONFIRMATION PROCEDURE for the detected DTC, and then check that DTC is detected again. At this time, always connect CONSULT to the vehicle, and check self diagnostic results in real time.

If two or more DTCs are detected, refer to [BCS-87. "DTC Inspection Priority Chart"](#) (BCM) or [PCS-30. "DTC Index"](#) (IPDM E/R), and determine trouble diagnosis order.

NOTE:

- Freeze frame data is useful if the DTC is not detected.
- Perform Component Function Check if DTC CONFIRMATION PROCEDURE is not included on Service Manual. This simplified check procedure is an effective alternative though DTC cannot be detected during this check.
If the result of Component Function Check is NG, it is the same as the detection of DTC by DTC CONFIRMATION PROCEDURE.

Is DTC detected?

YES >> GO TO 7.

NO >> Check according to [GI-45. "Intermittent Incident"](#).

6. DETECT MALFUNCTIONING SYSTEM BY SYMPTOM DIAGNOSIS

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

Is the symptom described?

YES >> GO TO 7.

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

7. DETECT MALFUNCTIONING PART BY DIAGNOSIS PROCEDURE

DIAGNOSIS AND REPAIR WORK FLOW

< BASIC INSPECTION >

Inspect according to Diagnosis Procedure of the system.

Is malfunctioning part detected?

YES >> GO TO 8.

NO >> Check according to [GI-45. "Intermittent Incident"](#).

8. REPAIR OR REPLACE THE MALFUNCTIONING PART

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

>> GO TO 9.

9. FINAL CHECK

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

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

Is DTC detected and does symptom remain?

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

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

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

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

WW

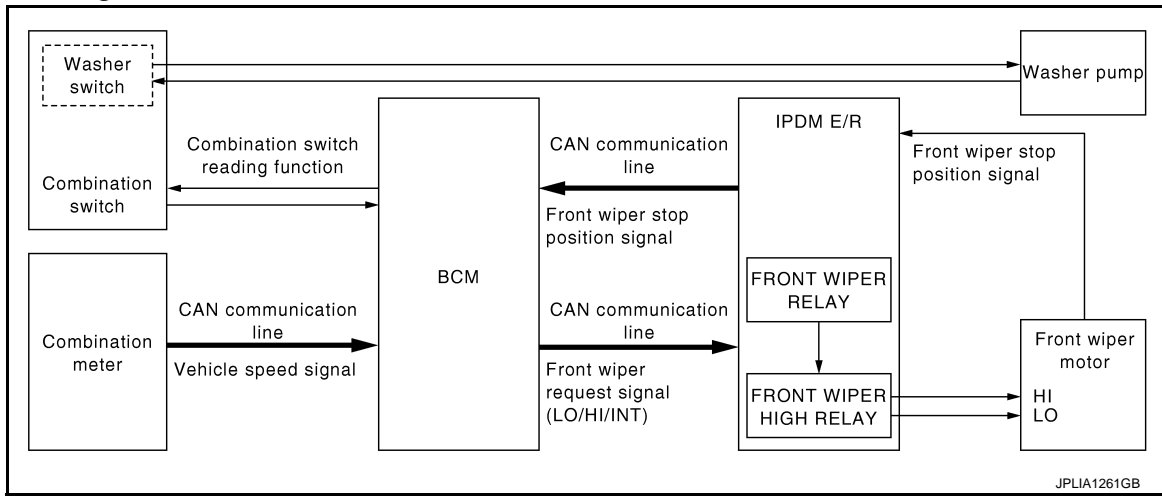
FRONT WIPER AND WASHER SYSTEM

< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

FRONT WIPER AND WASHER SYSTEM

System Diagram



System Description

INFOID:000000008194781

OUTLINE

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

Control by BCM

- Combination switch reading function
- Front wiper control function

Control by IPDM E/R

- Front wiper control function
- Relay control function

Combination meter indicates low washer fluid warning judged with the signal from the washer level switch. For details of low washer fluid warning, refer to [MWI-27, "INFORMATION DISPLAY : System Description"](#).

FRONT WIPER BASIC OPERATION

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

FRONT WIPER LO OPERATION

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

Front wiper LO operating condition

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

FRONT WIPER HI OPERATION

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

Front wiper HI operating condition

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

FRONT WIPER AND WASHER SYSTEM

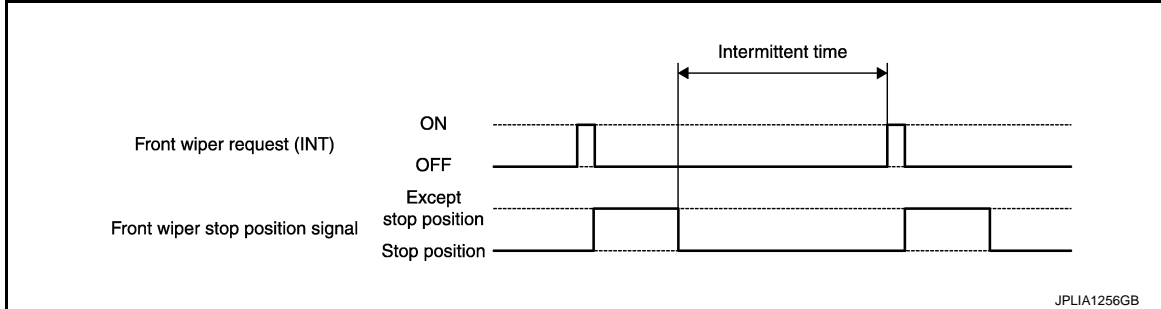
< SYSTEM DESCRIPTION >

FRONT WIPER INT OPERATION

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

Front wiper INT operating condition

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



NOTE:

Factory setting of the front wiper intermittent operation is the operation without vehicle speed. Front wiper intermittent operation can be set to the operation with vehicle speed by CONSULT. Refer to [WW-11, "WIPER : CONSULT Function \(BCM - WIPER\)"](#).

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

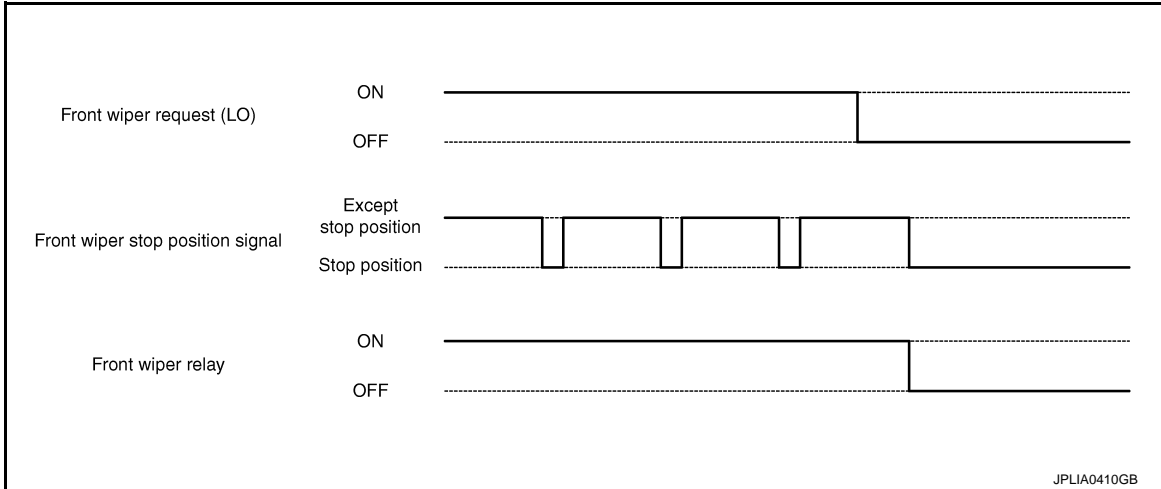
FRONT WIPER AUTO STOP OPERATION

- 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

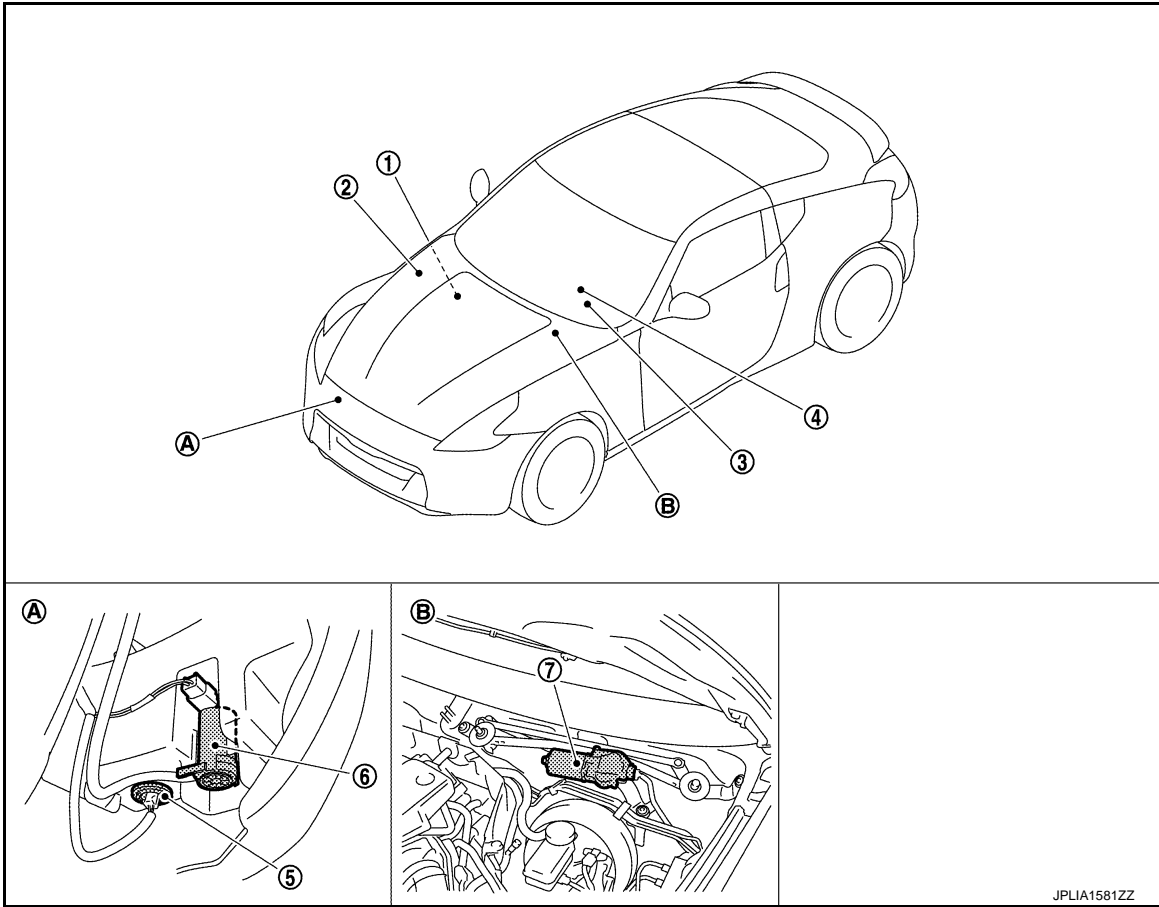
IPDM E/R performs the fail-safe function when the front wiper stop position circuit is malfunctioning. Refer to [PCS-28. "Fail-safe"](#).

FRONT WIPER AND WASHER SYSTEM

< SYSTEM DESCRIPTION >

Component Parts Location

INFOID:000000008194782



- | | | |
|---|---|----------------------|
| 1. BCM
Refer to BCS-10, "Component Parts Location" | 2. IPDM E/R
Refer to PCS-5, "Component Parts Location" | 3. Combination meter |
| 4. Combination switch | 5. Washer level switch | 6. Washer pump |
| 7. Front wiper motor | | |
| A. Radiator core support (RH) | B. Cowl top, left side of engine room | |

Component Description

INFOID:000000008194783

Part	Description
BCM	<ul style="list-style-type: none"> Judges each switch status by the combination switch reading function. Requests (with CAN communication) the front wiper relay and the front wiper high relay ON to IPDM E/R.
IPDM E/R	<ul style="list-style-type: none"> Controls the integrated relay according to the request (with CAN communication) from BCM. Performs the auto stop control of the front wiper.
Combination switch (Wiper & washer switch)	Refer to BCS-11, "System Diagram" .
Combination meter	Transmits the vehicle speed signal to BCM with CAN communication.

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

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000008839288

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

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

SYSTEM APPLICATION

BCM can perform the following functions for each system.

NOTE:

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

×: Applicable item

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

NOTE:

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

FREEZE FRAME DATA (FFD)

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

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

CONSULT screen item	Indication/Unit	Description	
Vehicle Speed	km/h	Vehicle speed of the moment a particular DTC is detected	
Odo/Trip Meter	km	Total mileage (Odometer value) of the moment a particular DTC is detected	
Vehicle Condition	SLEEP>LOCK	Power supply 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" (Except emergency stop operation)
	CRANK>RUN		While turning power supply position from "CRANKING" to "RUN" (From cranking up the engine to run it)
	RUN>URGENT		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"*
	OFF		Power supply position is "OFF" (Ignition switch OFF)
	ACC		Power supply position is "ACC" (Ignition switch ACC)
	ON		Power supply position is "IGN" (Ignition switch ON with engine stopped)
ENGINE RUN	Power supply position is "RUN" (Ignition switch ON with engine running)		
CRANKING	Power supply position is "CRANKING" (At engine cranking)		
IGN Counter	0 - 39	The number of times that ignition switch is turned ON after DTC is detected <ul style="list-style-type: none"> • The number is 0 when a malfunction is detected now. • The number increases like 1 → 2 → 3...38 → 39 after returning to the normal condition whenever ignition switch OFF → ON. • The number is fixed to 39 until the self-diagnosis results are erased if it is over 39. 	

NOTE:

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

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

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

WIPER

WIPER : CONSULT Function (BCM - WIPER)

INFOID:000000008194785

WORK SUPPORT

DIAGNOSIS SYSTEM (BCM)

< SYSTEM DESCRIPTION >

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

NOTE:

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

Monitor Item [Unit]	Description
PUSH SW [Off/On]	The switch status input from push-button ignition switch.
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.

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 (IPDM E/R)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (IPDM E/R)

Diagnosis Description

INFOID:000000008839289

AUTO ACTIVE TEST

Description

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

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

Operation Procedure

1. Close the hood and lift the wiper arms from the windshield. (Prevent windshield damage due to wiper operation)
NOTE:
When auto active test is performed with hood opened, sprinkle water on windshield beforehand.
2. Turn the ignition switch OFF.
3. Turn the ignition switch ON, and within 20 seconds, press the front door switch (driver side) 10 times. Then turn the ignition switch OFF.
CAUTION:
Close passenger door.
4. Turn the ignition switch ON within 10 seconds. After that the horn sounds once and the auto active test starts.
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-63](#), "[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.

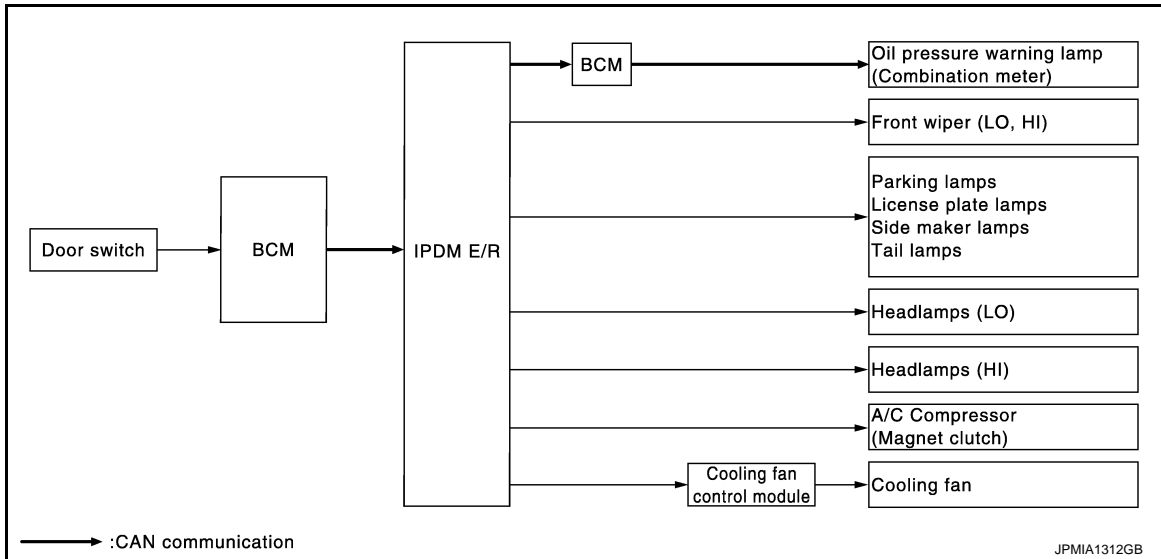
Operation sequence	Inspection location	Operation
1	Oil pressure warning lamp	Blinks continuously during operation of auto active test
2	Front wiper	LO for 5 seconds → HI for 5 seconds
3	<ul style="list-style-type: none">• Parking lamps• License plate lamps• Side maker lamps• Tail lamps	10 seconds
4	Headlamps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

*: Outputs duty ratio of 50% for 5 seconds → duty ratio of 100% for 5 seconds on the cooling fan control module.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

Concept of auto active test



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

Diagnosis chart in auto active test mode

Symptom	Inspection contents	Possible cause
Any of the following components do not operate <ul style="list-style-type: none"> • Parking lamps • License plate lamps • Side maker lamps • Tail lamps • Headlamp (HI, LO) • Front wiper (HI, LO) 	Perform auto active test. Does the applicable system operate?	YES BCM signal input circuit
		NO <ul style="list-style-type: none"> • Lamp or motor • Lamp or motor ground circuit • Harness or connector between IPDM E/R and applicable system • IPDM E/R
A/C compressor does not operate	Perform auto active test. Does the magnet clutch operate?	YES <ul style="list-style-type: none"> • Unified meter and A/C amp. signal input circuit • CAN communication signal between unified meter and A/C amp. and ECM • CAN communication signal between ECM and IPDM E/R
		NO <ul style="list-style-type: none"> • Magnet clutch • Harness or connector between IPDM E/R and magnet clutch • IPDM E/R
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"> • Harness or connector between IPDM E/R and oil pressure switch • Oil pressure switch • IPDM E/R
		NO <ul style="list-style-type: none"> • CAN communication signal between IPDM E/R and BCM • CAN communication signal between BCM and unified meter and A/C amp. • Combination meter

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

Symptom	Inspection contents	Possible cause
Cooling fan does not operate	Perform auto active test. Does the cooling fan operate?	YES <ul style="list-style-type: none"> • ECM signal input circuit • CAN communication signal between ECM and IPDM E/R
		NO <ul style="list-style-type: none"> • Cooling fan • Harness or connector between cooling fan and cooling fan control module • Cooling fan control module • Harness or connector between IPDM E/R and cooling fan control module • Cooling fan relay • Harness or connector between IPDM E/R and cooling fan relay • IPDM E/R

CONSULT Function (IPDM E/R)

INFOID:000000008839290

APPLICATION ITEM

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

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

SELF DIAGNOSTIC RESULT

Refer to [PCS-30, "DTC Index"](#).

DATA MONITOR

NOTE:

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

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

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	MAIN SIG- NALS	Description
WIP PROT [Off/BLOCK]	×	Displays the status of the front wiper fail-safe operation judged by IPDM E/R.
IGN RLY1 -REQ [Off/On]		Displays the status of the ignition switch ON signal received from BCM via CAN communication.
IGN RLY [Off/On]	×	Displays the status of the ignition relay judged by IPDM E/R.
PUSH SW [Off/On]		Displays the status of the push-button ignition switch judged by IPDM E/R.
INTER/NP SW [Off/On]		Displays the status of the clutch interlock switch (M/T models) or shift position (A/T 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 A/T shift selector (detention switch) judged by IPDM E/R.
S/L RLY -REQ [Off/On]		NOTE: The item is indicated, but not monitored.
S/L STATE [LOCK/UNLOCK/UNKWN]		NOTE: The item is indicated, but not monitored.
DTRL REQ [Off/On]		NOTE: The item is indicated, but not monitored.
OIL P SW [Open/Close]		Displays the status of the oil pressure switch judged by IPDM E/R.
HOOD SW [Off/On]		Displays the status of the hood switch judged by IPDM E/R.
HL WASHER REQ [Off/On]		NOTE: The item is indicated, but not monitored.
THFT HRN REQ [Off/On]		Displays the status of the theft warning horn request signal received from BCM via CAN communication.
HORN CHIRP [Off/On]		Displays the status of the horn reminder signal received from BCM via CAN communication.
CRNRNG LMP REQ [Off/On]		NOTE: The item is indicated, but not monitored.

ACTIVE TEST

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

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

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

A
B
C
D
E
F

G
H
I
J
K

WW

M
N
O
P

WIPER AND WASHER FUSE

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

WIPER AND WASHER FUSE

Description

INFOID:000000008194788

Fuse list

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

Diagnosis Procedure

INFOID:000000008194789

1.CHECK FUSES

Check that the following fuses are not fusing.

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

Is the fuse fusing?

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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

POWER SUPPLY AND GROUND CIRCUIT

BCM (BODY CONTROL MODULE)

BCM (BODY CONTROL MODULE) : Diagnosis Procedure

INFOID:000000008194790

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	K
	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.

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

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

INFOID:000000008194791

1. CHECK FUSES AND FUSIBLE LINK

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

POWER SUPPLY AND GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

Is the fuse fusing?

- YES >> Replace the blown fuse or fusible link after repairing the affected circuit if a fuse or fusible link is blown.
 NO >> GO TO 2.

2.CHECK POWER SUPPLY CIRCUIT

1. Turn 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		Battery voltage
Connector	Terminal	
E4	1	

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		
E5	12		
E6	41		

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:000000008194792

1.CHECK FRONT WIPER LO OPERATION

⊗ IPDM E/R AUTO ACTIVE TEST

1. Start IPDM E/R auto active test. Refer to [PCS-10, "Diagnosis Description"](#).
2. Check that the front wiper operates at the LO operation.

Ⓜ CONSULT 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-21, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000008194793

1.CHECK FRONT WIPER MOTOR (LO) OUTPUT VOLTAGE

Ⓜ CONSULT 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 IPDM E/R harness connector and ground.

Terminals		Test item	Voltage (Approx.)
(+)	(-)		
IPDM E/R		FRONT WIPER	Battery voltage
Connector	Terminal		
E5	4		
		Lo	Battery voltage
		Off	0 V

Is the measurement value normal?

- YES >> GO TO 2.
 NO >> Replace IPDM E/R.

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	
E5	4	E42	1	Existed

Does continuity exist?

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

3.CHECK FRONT WIPER MOTOR (LO) SHORT CIRCUIT

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

FRONT WIPER MOTOR LO CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

IPDM E/R		Ground	Continuity
Connector	Terminal		
E5	4		Not existed

Does continuity exist?

YES >> Repair the harness or connector.

NO >> Replace front wiper motor.

FRONT WIPER MOTOR HI CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

FRONT WIPER MOTOR HI CIRCUIT

Component Function Check

INFOID:000000008194794

1.CHECK FRONT WIPER HI OPERATION

IPDM E/R AUTO ACTIVE TEST

1. Start IPDM E/R auto active test. Refer to [PCS-10, "Diagnosis Description"](#).
2. Check that the front wiper operates at the HI operation.

CONSULT 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-23, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000008194795

1.CHECK FRONT WIPER MOTOR (HI) OUTPUT VOLTAGE

CONSULT 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 IPDM E/R harness connector and ground.

Terminals		Test item	Voltage (Approx.)
(+)	(-)		
IPDM E/R		FRONT WIPER	Battery voltage
Connector	Terminal		
E5	5		
		Hi	Battery voltage
		Off	0 V

Is the measurement value normal?

- YES >> GO TO 2.
NO >> Replace IPDM E/R.

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	
E5	5	E42	4	Existed

Does continuity exist?

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

3.CHECK FRONT WIPER MOTOR (HI) SHORT CIRCUIT

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		
E5	5		Not existed

Does continuity exist?

YES >> Repair the harness or connector.

NO >> Replace front wiper motor.

FRONT WIPER STOP POSITION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

FRONT WIPER STOP POSITION SIGNAL CIRCUIT

Component Function Check

INFOID:000000008194796

1.CHECK FRONT WIPER STOP POSITION SIGNAL

CONSULT 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 stop position signal circuit is normal.
NO >> Refer to [WW-25, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000008194797

1.CHECK FRONT WIPER MOTOR OUTPUT VOLTAGE

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

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

Is the measurement value normal?

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

2.CHECK FRONT WIPER MOTOR 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.

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

Does continuity exist?

- YES >> Repair the harnesses or connectors.
NO >> Replace IPDM E/R.

3.CHECK FRONT WIPER MOTOR CIRCUIT CONTINUITY

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

FRONT WIPER STOP POSITION SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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

Does continuity exist?

- YES >> Replace front wiper motor.
- NO >> Repair the harnesses or connectors.

FRONT WIPER MOTOR GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

FRONT WIPER MOTOR GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000008194798

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
E42	2		

Does continuity exist?

- YES >> Front wiper motor ground circuit is normal.
NO >> Repair the harnesses or connectors.

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

WW

WASHER SWITCH

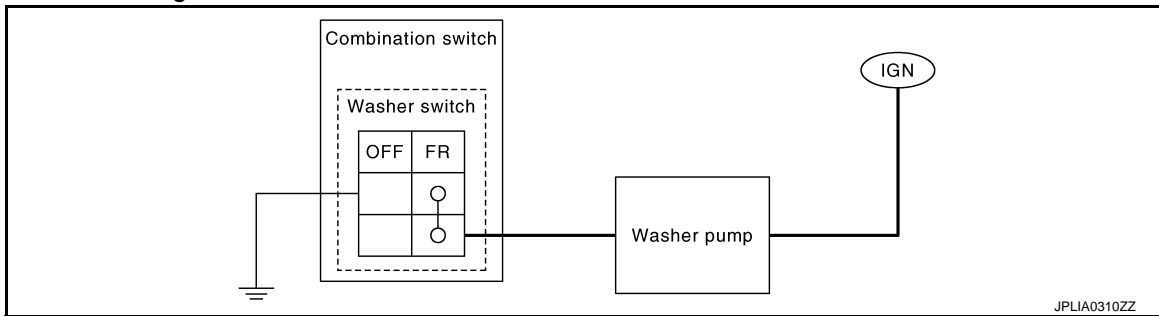
< DTC/CIRCUIT DIAGNOSIS >

WASHER SWITCH

Description

INFOID:000000008194799

Washer switch is integrated with combination switch.



Component Inspection

INFOID:000000008194800

1. CHECK WIPER SWITCH

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

Combination switch		Condition	Continuity
Terminal			
1	6	Front washer switch ON	Existed

Does continuity exist?

- YES >> Wiper and washer switch is normal.
NO >> Replace combination switch (Wiper and washer switch).


FRONT WIPER AND WASHER SYSTEM

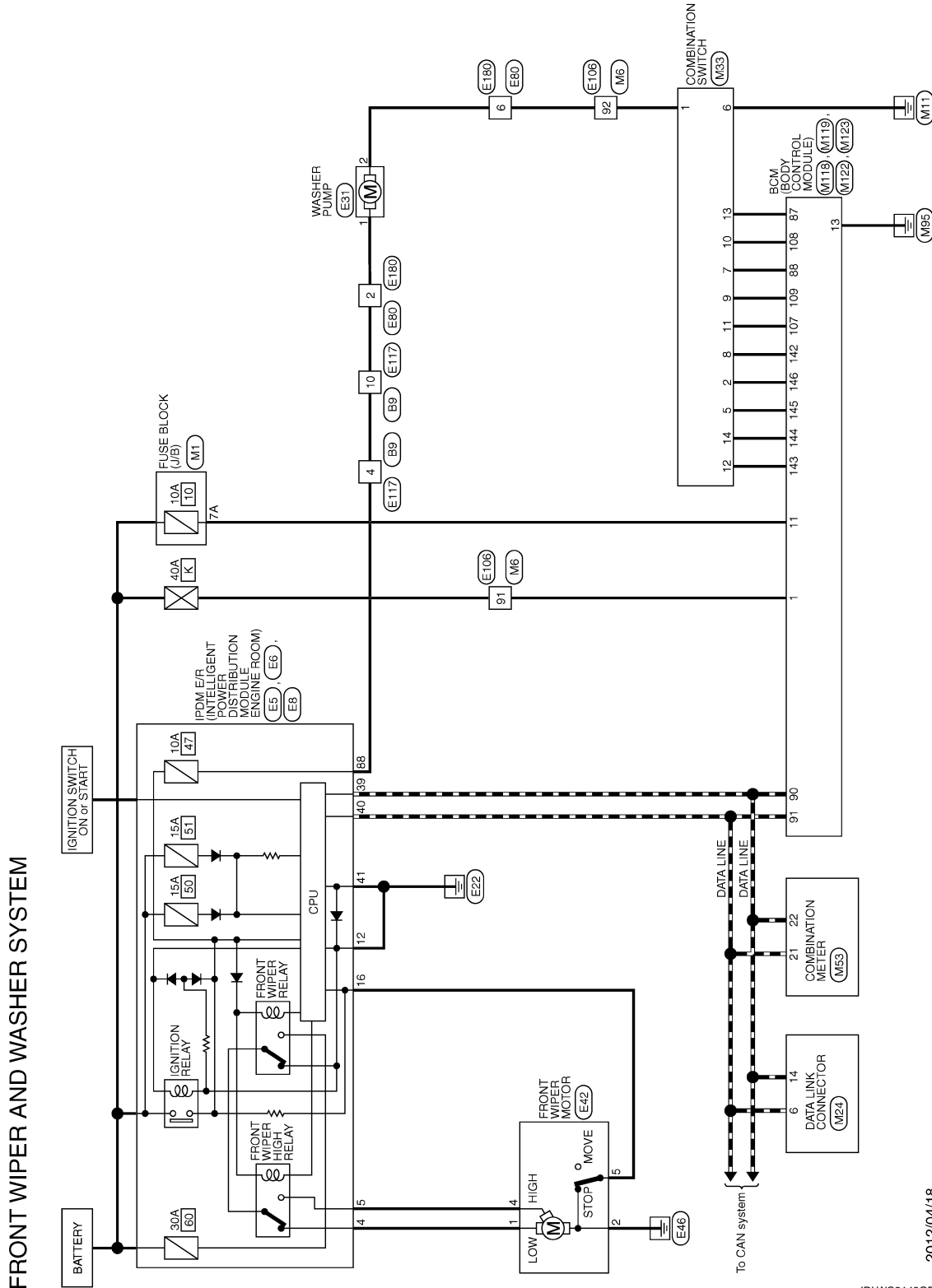
< DTC/CIRCUIT DIAGNOSIS >

FRONT WIPER AND WASHER SYSTEM

Wiring Diagram - FRONT WIPER AND WASHER SYSTEM -

INFOID:000000008194801

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



A
B
C
D
E
F
G
H
I
J
K
WW

M
N
O
P

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION

BCM (BODY CONTROL MODULE)

Reference Value

INFOID:000000008703181

VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

CONSULT MONITOR ITEM

Monitor Item	Condition	Value/Status
FR WIPER HI	Other than front wiper switch HI	Off
	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	Off
	Front wiper switch INT	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
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
FR FOG SW	NOTE: The item is indicated, but not monitored.	Off
RR FOG SW	Rear fog lamp switch OFF	Off
	Rear 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

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
DOOR SW-RR	NOTE: The item is indicated, but not monitored.	Off	A
DOOR SW-RL	NOTE: The item is indicated, but not monitored.	Off	B
DOOR SW-BK	<ul style="list-style-type: none"> • Back door closed (Coupe models) • Trunk lid closed (Roadster models) 	Off	C
	<ul style="list-style-type: none"> • Back door opened (Coupe models) • Trunk lid opened (Roadster models) 	On	
CDL LOCK SW	Other than door lock and unlock switch LOCK	Off	D
	Door lock and unlock switch LOCK	On	
CDL UNLOCK SW	Other than door lock and unlock switch UNLOCK	Off	E
	Door lock and unlock switch UNLOCK	On	
KEY CYL LK-SW	Other than driver door key cylinder LOCK position	Off	F
	Driver door key cylinder LOCK position	On	
KEY CYL UN-SW	Other than driver door key cylinder UNLOCK position	Off	F
	Driver door key cylinder UNLOCK position	On	
KEY CYL SW-TR	NOTE: The item is indicated, but not monitored.	Off	G
HAZARD SW	Hazard switch is OFF	Off	H
	Hazard switch is ON	On	
REAR DEF SW NOTE: For models with NAVI this item is not monitored.	Rear window defogger switch OFF	Off	I
	Rear window defogger switch ON	On	
H/L WASH SW	NOTE: The item is indicated, but not monitored.	Off	J
TR CANCEL SW	Trunk lid opener cancel switch OFF	Off	J
	Trunk lid opener cancel switch ON	On	
TR/BD OPEN SW	<ul style="list-style-type: none"> • Back door opener switch OFF (Coupe models) • Trunk lid opener switch OFF (Roadster models) 	Off	K
	<ul style="list-style-type: none"> • While the back door opener switch is turned ON (Coupe models) • While the trunk lid opener switch is turned ON (Roadster models) 	On	
TRNK/HAT MNTR	NOTE: The item is indicated, but not monitored.	Off	WW
RKE-LOCK	LOCK button of the Intelligent Key is not pressed	Off	M
	LOCK button of the Intelligent Key is pressed	On	
RKE-UNLOCK	UNLOCK button of the Intelligent Key is not pressed	Off	N
	UNLOCK button of the Intelligent Key is pressed	On	
RKE-TR/BD NOTE: For Coupe models this item is not monitored.	TRUNK OPEN button of the Intelligent Key is not pressed	Off	O
	TRUNK OPEN of the Intelligent Key is pressed	On	
RKE-PANIC	PANIC button of the Intelligent Key is not pressed	Off	P
	PANIC button of the Intelligent Key is pressed	On	
RKE-P/W OPEN	UNLOCK button of the Intelligent Key is not pressed	Off	
	UNLOCK button of the Intelligent Key is pressed and held	On	
RKE-MODE CHG	LOCK/UNLOCK button of the Intelligent Key is not pressed and held simultaneously	Off	
	LOCK/UNLOCK button of the Intelligent Key is pressed and held simultaneously	On	

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
OPTICAL SENSOR	Bright outside of the vehicle	Close to 5 V
	Dark outside of the vehicle	Close to 0 V
REQ SW -DR	Driver door request switch is not pressed	Off
	Driver door request switch is pressed	On
REQ SW -AS	Passenger door request switch is not pressed	Off
	Passenger door request switch is pressed	On
REQ SW -RR	NOTE: The item is indicated, but not monitored.	Off
REQ SW -RL	NOTE: The item is indicated, but not monitored.	Off
REQ SW -BD/TR	<ul style="list-style-type: none"> • Back door request switch is not pressed (Coupe models) • Trunk lid door request switch is not pressed (Roadster models) 	Off
	<ul style="list-style-type: none"> • Back door request switch is pressed (Coupe models) • Trunk lid door request switch is pressed (Roadster models) 	On
PUSH SW	Push-button ignition switch (push switch) is not pressed	Off
	Push-button ignition switch (push switch) is pressed	On
IGN RLY2 -F/B	NOTE: The item is indicated, but not monitored.	Off
ACC RLY -F/B	NOTE: The item is indicated, but not monitored.	Off
CLUCH SW NOTE: For A/T models this item is not monitored.	The clutch pedal is not depressed	Off
	The clutch pedal is depressed	On
BRAKE SW 1	The brake pedal is depressed when No. 7 fuse is blown	Off
	The brake pedal is not depressed when No. 7 fuse is blown, or No. 7 fuse is normal	On
BRAKE SW 2	The brake pedal is not depressed	Off
	The brake pedal is depressed	On
DETE/CANCL SW NOTE: For M/T models with Synchro-Rev Match mode this item is not monitored.	<ul style="list-style-type: none"> • Selector lever in P position (A/T models) • The clutch pedal is depressed (M/T models without SynchroRev Match mode) 	Off
	<ul style="list-style-type: none"> • Selector lever in any position other than P (A/T models) • The clutch pedal is not depressed (M/T models without SynchroRev Match mode) 	On
SFT PN/N SW NOTE: For roadster M/T models and coupe M/T models without SynchroRev Match mode this item is not monitored.	<ul style="list-style-type: none"> • Selector lever in any position other than P and N (A/T models) • Control lever in any position other than neutral position (Coupe M/T models with SynchroRev Match mode) 	Off
	<ul style="list-style-type: none"> • Selector lever in P or N position (A/T models) • Control lever in neutral position (Coupe M/T models with SynchroRev Match mode) 	On
S/L -LOCK	NOTE: The item is indicated but not monitored.	Off
S/L -UNLOCK	NOTE: The item is indicated but not monitored.	Off
S/L RELAY-F/B	NOTE: The item is indicated but not monitored.	Off
UNLK SEN -DR	Driver door is unlocked	Off
	Driver door is locked	On
PUSH SW -IPDM	Push-button ignition switch (push-switch) is not pressed	Off
	Push-button ignition switch (push-switch) is pressed	On

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status	
IGN RLY1 -F/B	Ignition switch in OFF or ACC position	Off	A
	Ignition switch in ON position	On	
DETE SW -IPDM	Selector lever in any position other than P	Off	B
	Selector lever in P position	On	
SFT PN -IPDM	<ul style="list-style-type: none"> • Selector lever in any position other than P and N (A/T models) • The clutch pedal is not depressed (M/T models) 	Off	C
	<ul style="list-style-type: none"> • Selector lever in P or N position (A/T models) • The clutch pedal is depressed (M/T models) 	On	
SFT P -MET	Selector lever in any position other than P	Off	D
	Selector lever in P position	On	
SFT N -MET	Selector lever in any position other than N	Off	E
	Selector lever in N position	On	
ENGINE STATE	Engine stopped	Stop	F
	While the engine stalls	Stall	
	At engine cranking	Crank	
	Engine running	Run	
S/L LOCK-IPDM	NOTE: The item is indicated but not monitored.	Off	G
S/L UNLK-IPDM	NOTE: The item is indicated but not monitored.	Off	H
S/L RELAY-REQ	NOTE: The item is indicated but not monitored.	Off	I
VEH SPEED 1	While driving	Equivalent to speedometer reading	J
VEH SPEED 2	While driving	Equivalent to speedometer reading	
DOOR STAT-DR	Driver door is locked	LOCK	K
	Wait with selective UNLOCK operation (60 seconds)	READY	
	Driver door is unlocked	UNLOCK	
DOOR STAT-AS	Passenger door is locked	LOCK	WW
	Wait with selective UNLOCK operation (60 seconds)	READY	
	Passenger door is unlocked	UNLOCK	
ID OK FLAG	Driver side door is open after ignition switch is turned OFF (Shift position is in the P position)	Reset	M
	Ignition switch ON	Set	
PRMT ENG STRT	The engine start is prohibited	Reset	N
	The engine start is permitted	Set	
PRMT RKE STRT	NOTE: The item is indicated, but not monitored.	Reset	O
KEY SW -SLOT	The Intelligent Key is not inserted into key slot	Off	P
	The Intelligent Key is inserted into key slot	On	
RKE OPE COUN1	During the operation of the Intelligent Key	Operation frequency of the Intelligent Key	
RKE OPE COUN2	During the operation of the Intelligent Key	Operation frequency of the Intelligent Key	

BCM (BODY CONTROL MODULE)

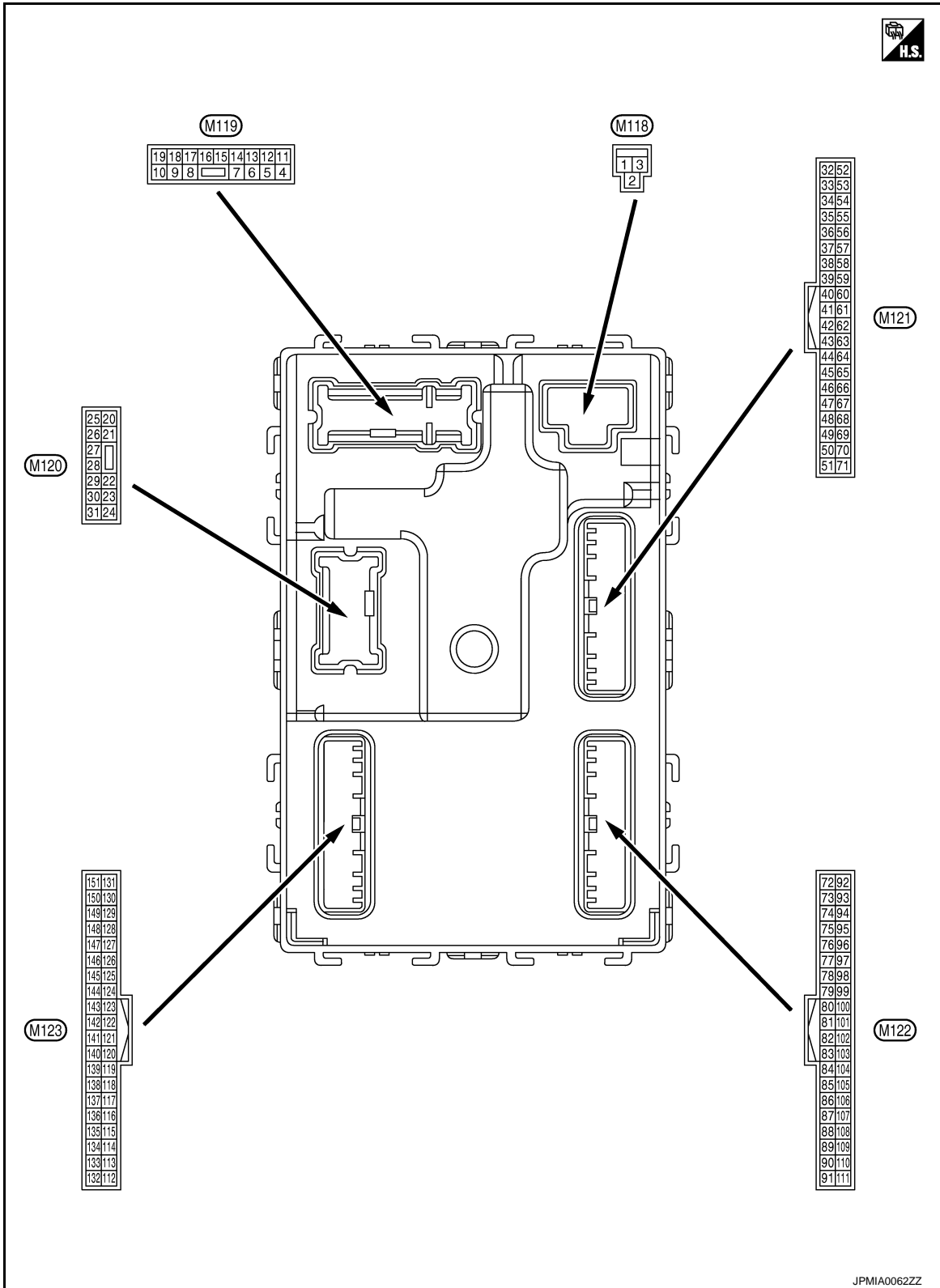
< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
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
CONFIRM ID2	The key ID that the key slot receives is not recognized by the second key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by the second key ID registered to BCM.	Done
CONFIRM ID1	The key ID that the key slot receives is not recognized by the first key ID registered to BCM.	Yet
	The key ID that the key slot receives is recognized by the first key ID registered to BCM.	Done
TP 4	The ID of fourth Intelligent Key is not registered to BCM	Yet
	The ID of fourth Intelligent Key is registered to BCM	Done
TP 3	The ID of third Intelligent Key is not registered to BCM	Yet
	The ID of third Intelligent Key is registered to BCM	Done
TP 2	The ID of second Intelligent Key is not registered to BCM	Yet
	The ID of second Intelligent Key is registered to BCM	Done
TP 1	The ID of first Intelligent Key is not registered to BCM	Yet
	The ID of first Intelligent Key is registered to BCM	Done
AIR PRESS FL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front LH tire
AIR PRESS FR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of front RH tire
AIR PRESS RR	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear RH tire
AIR PRESS RL	Ignition switch ON (Only when the signal from the transmitter is received)	Air pressure of rear LH tire
ID REGST FL1	ID of front LH tire transmitter is registered	Done
	ID 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
	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
WARNING LAMP	Tire pressure indicator OFF	Off
	Tire pressure indicator ON	On
BUZZER	Tire pressure warning alarm is not sounding	Off
	Tire pressure warning alarm is sounding	On

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

TERMINAL LAYOUT

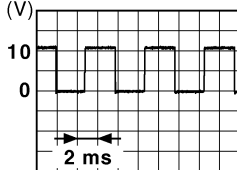


PHYSICAL VALUES

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

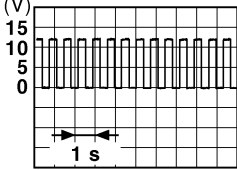
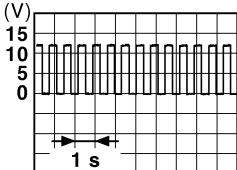
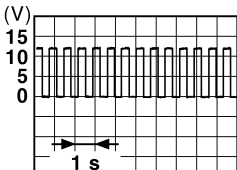
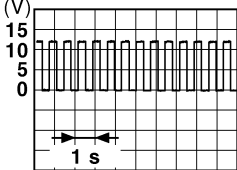
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)
		Signal name	Input/ Output			
+	-					
1 (W)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (W)	Ground	P/W power supply (BAT)	Output	Ignition switch OFF		12 V
3 (Y)	Ground	P/W power supply (IGN)	Output	Ignition switch ON		12 V
4 (R)	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
5 (G)	Ground	Passenger door UN- LOCK	Output	Passenger door	UNLOCK (Actuator is activated)	12 V
					Other than UNLOCK (Ac- tuator is not activated)	0 V
8 (V)	Ground	All doors, fuel lid LOCK	Output	All doors, fuel lid	LOCK (Actuator is activated)	12 V
					Other than LOCK (Actuator is not activated)	0 V
9 (G)	Ground	Driver door, fuel lid UNLOCK	Output	Driver door, fuel lid	UNLOCK (Actuator is activated)	12 V
					Other than UNLOCK (Actuator is not activated)	0 V
11 (BR)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
13 (B)	Ground	Ground	—	Ignition switch ON		0 V
14 (R)	Ground	Push-button ignition switch illumination ground	Output	Tail lamp	OFF	0 V
					ON	<p>NOTE: When the illumination brighten- ing/dimming level is in the neutral position.</p>  <p style="text-align: right; font-size: small;">JSNIA0010GB</p>
15 (Y)	Ground	ACC indicator lamp	Output	Ignition switch	OFF (LOCK indicator is not illuminated)	Battery voltage
					ACC	0 V

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)		
		Signal name	Input/ Output				
+	-						
17 (W)	Ground	Turn signal RH (Front and side)	Output	Ignition switch ON	Turn signal switch OFF	0 V	A
					Turn signal switch RH	 <small>PKID0926E</small>	6.5 V
18 (O)	Ground	Turn signal LH (Front and side)	Output	Ignition switch ON	Turn signal switch OFF	0 V	E
					Turn signal switch LH	 <small>PKID0926E</small>	6.5 V
19 (P)	Ground	Interior room lamp control	Output	Interior room lamp	OFF	12 V	H
					ON	0 V	I
20 (V)	Ground	Turn signal RH (Rear)	Output	Ignition switch ON	Turn signal switch OFF	0 V	J
					Turn signal switch RH	 <small>PKID0926E</small>	6.5 V
23 (L) ^{*1} (Y) ^{*2}	Ground	Back door/Trunk lid open	Output	Back door/ Trunk lid	OPEN (Back door/Trunk lid opener actuator is activated)	12 V	WW
					Other than OPEN (Back door/Trunk lid opener actuator is not activated)	0 V	M
24 ^{*8} (O)	Ground	Rear fog lamp	Output	Rear fog lamp	OFF	0 V	N
					ON	12 V	O
25 (LG)	Ground	Turn signal LH (Rear)	Output	Ignition switch ON	Turn signal switch OFF	0 V	P
					Turn signal switch LH	 <small>PKID0926E</small>	6.5 V
30 (R)	Ground	Luggage room/Trunk room lamp	Output	Luggage room/ Trunk room lamp	ON	0 V	
					OFF	12 V	

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
34 (G)	Ground	Luggage room/Trunk room antenna (-)	Output	Ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compartment	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>
35 (R)	Ground	Luggage room/Trunk room antenna (+)	Output	Ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compartment	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>
38 (B)	Ground	Rear bumper antenna (-)	Output	When the back door/trunk lid door request switch is operated with ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
39 (W)	Ground	Rear bumper antenna (+)	Output	When Intelligent Key is in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>	
				When Intelligent Key is not in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>	
47 (V)	Ground	Ignition relay (IPDM E/R) control	Output	Ignition switch	OFF or ACC: 12 V ON: 0 V	
52 (SB)	Ground	Starter relay control	Output	Ignition switch ON (A/T models)	When selector lever is in P or N position: 12 V When selector lever is not in P or N position: 0 V	
				Ignition switch ON (M/T models)	When the clutch pedal is depressed: Battery voltage When the clutch pedal is not depressed: 0 V	
				Push-button ignition switch (Push switch)	Input	Push-button ignition switch (push switch) Pressed: 0 V Not pressed: Battery voltage
					61 (W)	Ground
64 (G)	Ground	Intelligent Key warning buzzer	Output	Intelligent Key warning buzzer Sounding: 0 V Not sounding: 12 V		
66 (R)	Ground	Back door/Trunk room lamp switch	Input	Back door/Trunk room lamp switch OFF (Door close): <p style="text-align: right; font-size: small;">JPMIA0011GB</p> 11.8 V		
				ON (Door open): 0 V		

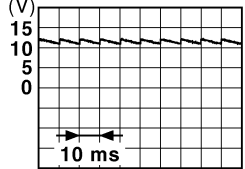
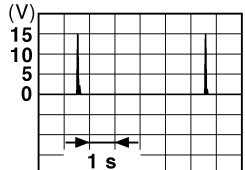
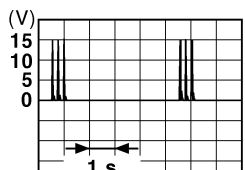
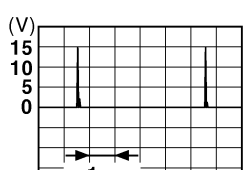
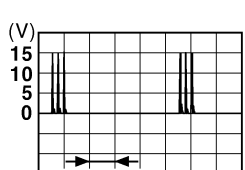
A
B
C
D
E
F
G
H
I
J
K

WW

M
N
O
P

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
67 (GR)	Ground	Back door/Trunk lid opener switch	Input	Back door/ Trunk lid open- er switch	Pressed	0 V
				Not pressed	 <p style="text-align: right; font-size: small;">JPMIA0011GB</p>	
72 (L)	Ground	Room antenna 2 (-) (Center console)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	 <p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compart- ment	 <p style="text-align: right; font-size: small;">JMKIA0063GB</p>	
73 (P)	Ground	Room antenna 2 (+) (Center console)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compart- ment	 <p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When Intelligent Key is not in the passenger compart- ment	 <p style="text-align: right; font-size: small;">JMKIA0063GB</p>	

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

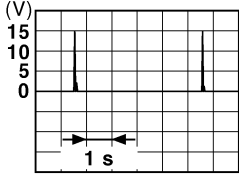
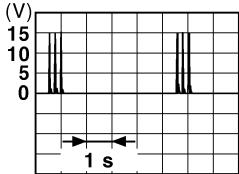
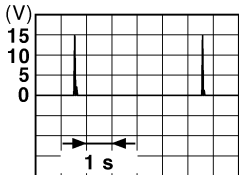
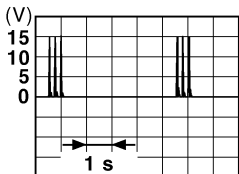
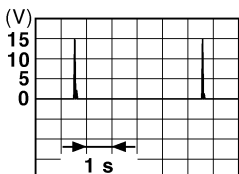
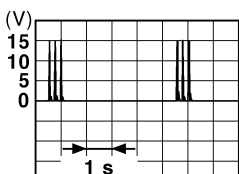
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
74 (SB)	Ground	Passenger door antenna (-)	Output	When Intelligent Key is in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When the passenger door request switch is operated with ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>
75 (BR)	Ground	Passenger door antenna (+)	Output	When Intelligent Key is in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When the passenger door request switch is operated with ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>
76 (V)	Ground	Driver door antenna (-)	Output	When Intelligent Key is in the antenna detection area	<p style="text-align: right; font-size: small;">JMKIA0062GB</p>
				When the driver door request switch is operated with ignition switch OFF	<p style="text-align: right; font-size: small;">JMKIA0063GB</p>

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

WW

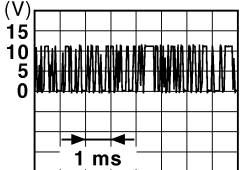
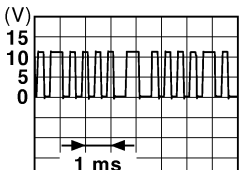

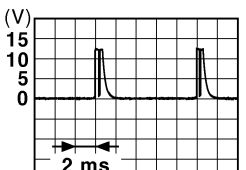

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
+	-	Signal name	Input/ Output		
77 (LG)	Ground	Driver door antenna (+)	Output	When the driver door request switch is operated with ignition switch OFF	When Intelligent Key is in the antenna detection area  <small>JMKIA0062GB</small>
				When Intelligent Key is not in the antenna detection area	 <small>JMKIA0063GB</small>
78*2 (L)	Ground	Room antenna 1 (-) (Instrument panel)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment  <small>JMKIA0062GB</small>
				When Intelligent Key is not in the passenger compartment	 <small>JMKIA0063GB</small>
79*2 (R)	Ground	Room antenna 1 (+) (Instrument panel)	Output	Ignition switch OFF	When Intelligent Key is in the passenger compartment  <small>JMKIA0062GB</small>
				When Intelligent Key is not in the passenger compartment	 <small>JMKIA0063GB</small>

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

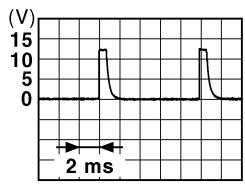
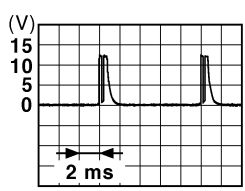

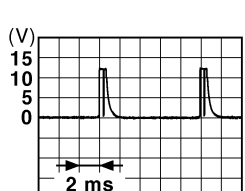
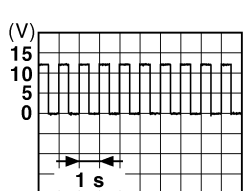
Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
80 (GR)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
81 (W)	Ground	NATS antenna amp.	Input/ Output	During waiting	Ignition switch is pressed while inserting the Intelligent Key into the key slot.	Just after pressing ignition switch. Pointer of tester should move.
82 (R)	Ground	Ignition relay [Fuse block (J/B)] control	Output	Ignition switch	OFF or ACC	0 V
					ON	12 V
83 (GR)	Ground	Remote keyless entry receiver (front) communication	Input/ Output	During waiting		 <p style="text-align: right; font-size: small;">JMKIA0064GB</p>
				When operating either button on the Intelligent Key		 <p style="text-align: right; font-size: small;">JMKIA0065GB</p>
87 (BR)	Ground	Combination switch INPUT 5	Input	Combination switch	All switches OFF (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">JPMIA0041GB</p> <p style="text-align: center;">1.4 V</p>
					Rear fog lamp switch ON (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">JPMIA0038GB</p> <p style="text-align: center;">1.3 V</p>
					Any of the conditions below with all switches OFF <ul style="list-style-type: none"> • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 6 • Wiper intermittent dial 7 	 <p style="text-align: right; font-size: small;">JPMIA0040GB</p> <p style="text-align: center;">1.3 V</p>

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

WW

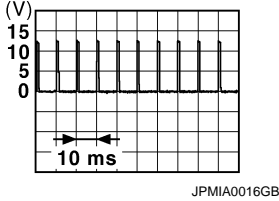
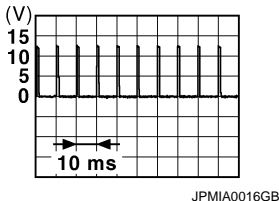
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
88 (V)	Ground	Combination switch INPUT 3	Input	Combination switch	All switches OFF (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">JPMA0041GB</p> <p style="text-align: center;">1.4 V</p>
					Lighting switch HI (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">JPMA0036GB</p> <p style="text-align: center;">1.3 V</p>
					Lighting switch 2ND (Wiper intermittent dial 4)	 <p style="text-align: right; font-size: small;">JPMA0037GB</p> <p style="text-align: center;">1.3 V</p>
					Any of the conditions below with all switches OFF <ul style="list-style-type: none"> • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3 	 <p style="text-align: right; font-size: small;">JPMA0040GB</p> <p style="text-align: center;">1.3 V</p>
90 (P)	Ground	CAN-L	Input/ Output	—	—	
91 (L)	Ground	CAN-H	Input/ Output	—	—	
92 (LG)	Ground	Key slot illumination	Output	Key slot illumi- nation	OFF	0 V
					Blinking	 <p style="text-align: right; font-size: small;">JPMA0015GB</p> <p style="text-align: center;">6.5 V</p>
93 (V)	Ground	ON indicator lamp	Output	Ignition switch	OFF (LOCK indicator is not illuminated)	Battery voltage
					ON	0 V

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

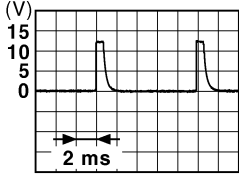




Terminal No. (Wire color)		Description		Condition		Value (Approx.)
+	-	Signal name	Input/ Output			
95 (O)	Ground	ACC relay control	Output	Ignition switch	OFF	0 V
					ACC or ON	12 V
96*3 (Y)	Ground	A/T shift selector (Detention switch) power supply	Output	—		12 V
99*6 (R)	Ground	Selector lever P position switch (A/T models)	Input	Selector lever	P position	0 V
					Any position other than P	12 V
		Clutch pedal position switch (M/T models without SynchroRev Match mode)		Clutch pedal position switch	OFF (Clutch pedal is depressed)	0 V
					ON (Clutch pedal is not depressed)	Battery voltage
100 (GR)	Ground	Passenger door request switch	Input	Passenger door request switch	ON (Pressed)	0 V
					OFF (Not pressed)	 <p style="text-align: center;">1.0 V</p>
101 (Y)	Ground	Driver door request switch	Input	Driver door request switch	ON (Pressed)	0 V
					OFF (Not pressed)	 <p style="text-align: center;">1.0 V</p>
102 (O)	Ground	Blower fan motor relay control	Output	Ignition switch	OFF or ACC	0 V
					ON	12 V
103 (LG)	Ground	Remote keyless entry receiver (front) power supply	Output	Ignition switch OFF		12 V

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

WW

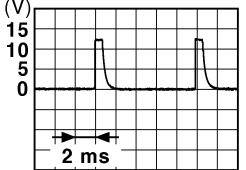

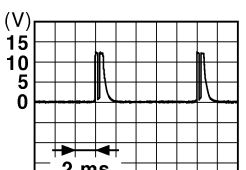
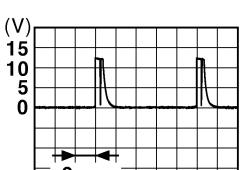
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
107 (LG)	Ground	Combination switch INPUT 1	Input	Combination switch (Wiper intermit- tent dial 4)	All switches OFF	 <p style="text-align: right;">1.4 V</p>
					Turn signal switch LH	 <p style="text-align: right;">1.3 V</p>
					Turn signal switch RH	 <p style="text-align: right;">1.3 V</p>
					Front wiper switch LO	 <p style="text-align: right;">1.3 V</p>
					Front washer switch ON	 <p style="text-align: right;">1.3 V</p>

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

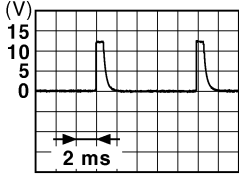



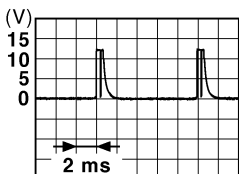
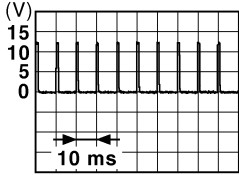
Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	-				
108 (R)	Ground	Combination switch INPUT 4	Input	Combination switch	All switches OFF (Wiper intermittent dial 4) <div style="text-align: right;">  <p style="font-size: small; margin: 0;">JPMIA0041GB</p> <p style="margin: 0;">1.4 V</p> </div>
				Combination switch	Lighting switch AUTO (Wiper intermittent dial 4) <div style="text-align: right;">  <p style="font-size: small; margin: 0;">JPMIA0038GB</p> <p style="margin: 0;">1.3 V</p> </div>
				Combination switch	Lighting switch 1ST (Wiper intermittent dial 4) <div style="text-align: right;">  <p style="font-size: small; margin: 0;">JPMIA0036GB</p> <p style="margin: 0;">1.3 V</p> </div>
				Combination switch	Any of the conditions be- low with all switches OFF <ul style="list-style-type: none"> • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6 <div style="text-align: right;">  <p style="font-size: small; margin: 0;">JPMIA0039GB</p> <p style="margin: 0;">1.3 V</p> </div>

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

WW

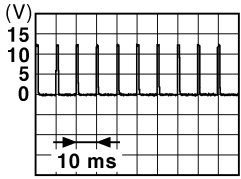
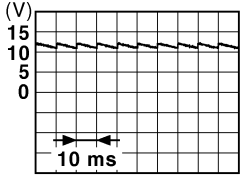
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
109 (Y)	Ground	Combination switch INPUT 2	Input	Combination switch (Wiper intermittent dial 4)	All switches OFF	 <p style="text-align: right;">1.4 V</p>
					Lighting switch PASS	 <p style="text-align: right;">1.3 V</p>
					Lighting switch 2ND	 <p style="text-align: right;">1.3 V</p>
					Front wiper switch INT	 <p style="text-align: right;">1.3 V</p>
					Front wiper switch HI	 <p style="text-align: right;">1.3 V</p>
					ON	0 V
110 (P)	Ground	Hazard switch	Input	Hazard switch	OFF	 <p style="text-align: right;">1.1 V</p>

BCM (BODY CONTROL MODULE)

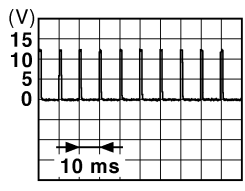
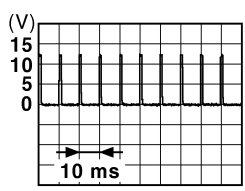
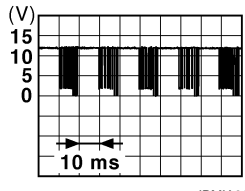
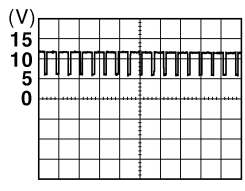
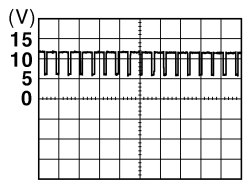
< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)
		Signal name	Input/ Output		
+	-				
113 (O)	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
114*4 (R)	Ground	Clutch interlock switch	Input	Clutch interlock switch	OFF (Clutch pedal is not depressed) 0 V
					ON (Clutch pedal is de- pressed) Battery voltage
115*9 (O)	—	—	—	—	—
116 (SB)	Ground	Stop lamp switch 1	Input	—	Battery voltage
118 (P)	Ground	Stop lamp switch 2	Input	Stop lamp switch	OFF (Brake pedal is not depressed) 0 V
					ON (Brake pedal is de- pressed) Battery voltage
119 (SB)	Ground	Driver side door lock assembly (Unlock sensor)	Input	Driver door	LOCK status (Unlock sensor switch OFF)  1.1 V
					UNLOCK status (Unlock switch sensor ON) 0 V
121 (R)	Ground	Key slot switch	Input	When the Intelligent Key is inserted into key slot	12 V
				When the Intelligent Key is not inserted into key slot	0 V
123 (W)	Ground	IGN feedback	Input	Ignition switch	OFF or ACC 0 V
					ON Battery voltage
124 (LG)	Ground	Passenger door switch	Input	Passenger door switch	OFF (Door close)  11.8 V
					ON (Door open) 0 V

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

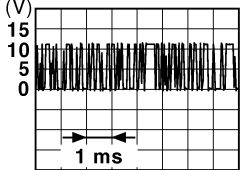
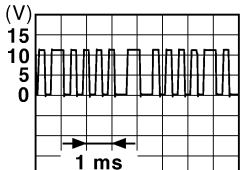
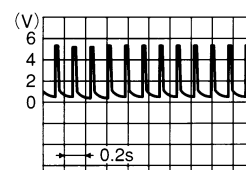
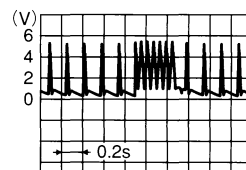
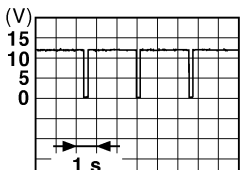
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
129*2 (O)	Ground	Trunk lid opener cancel switch	Input	Trunk lid opener cancel switch	 <p style="text-align: right; font-size: small;">JPMA0012GB</p>	
				CANCEL	1.1 V	
					ON	0 V
130*7 (L)	Ground	Rear window defogger switch	Input	Ignition switch ON	 <p style="text-align: right; font-size: small;">JPMA0012GB</p>	
				Rear window defogger switch OFF	1.1 V	
					Rear window defogger switch ON	0 V
132 (Y)*1 (V)*2	Ground	Power window switch and soft top control unit communication	Input/ Output	Ignition switch ON	 <p style="text-align: right; font-size: small;">JPMA0013GB</p>	
				Ignition switch OFF or ACC	10.2 V	
					Ignition switch OFF	12 V
133 (G)	Ground	Push-button ignition switch illumination	Output	Push-button ignition switch illumination	<p style="text-align: center;">NOTE: The pulse width of this wave is varied by the illumination brightening/dimming level.</p>  <p style="text-align: right; font-size: small;">JPMA0159GB</p>	
				ON (Tail lamps OFF)	9.5 V	
				ON (Tail lamps ON)	<p style="text-align: center;">NOTE: The pulse width of this wave is varied by the illumination brightening/dimming level.</p>  <p style="text-align: right; font-size: small;">JPMA0159GB</p>	
OFF	0 V					
134 (GR)	Ground	LOCK indicator lamp	Output	LOCK indicator lamp	OFF	Battery voltage
				ON	0 V	
137 (P)	Ground	Receiver and sensor ground	Input	Ignition switch ON	0 V	
138 (V)	Ground	Receiver and sensor power supply	Output	Ignition switch	OFF	0 V
				ACC or ON	5.0 V	

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

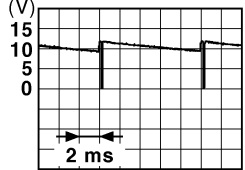
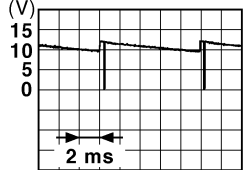



Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
139 (L)	Ground	Tire pressure receiver communication	Input/ Output	Ignition switch OFF (Remote key-less entry receiver communication)	During waiting	
					When operating either button on the Intelligent Key	
				Ignition switch ON (Tire pressure receiver communication)	Standby state	
				When receiving the signal from the transmitter		
140*5 (G)	Ground	Selector lever P/N position (A/T models)	Input	Selector lever	P or N position	12 V
					Except P and N positions	0 V
		Park/neutral position switch (Coupe M/T models with Synchro-Rev Match mode)	Ignition switch ON	Control lever in neutral position	Battery voltage	
				Control lever in any position other than neutral	0 V	
141 (Y)	Ground	Security indicator lamp	Output	Security indicator lamp	ON	0 V
					Blinking	
					OFF	12 V

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

WW

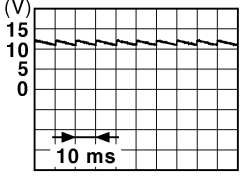
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
+	-	Signal name	Input/ Output			
142 (O)	Ground	Combination switch OUTPUT 5	Output	Combination switch (Wiper intermit- tent dial 4)	All switches OFF	0 V
				Lighting switch 1ST		
				Lighting switch HI		
				Lighting switch 2ND		
				Turn signal switch RH		10.7 V
143 (P)	Ground	Combination switch OUTPUT 1	Output	Combination switch	All switches OFF (Wiper intermittent dial 4)	0 V
				Any of the conditions be- low with all switches OFF		
				<ul style="list-style-type: none"> • Wiper intermittent dial 1 • Wiper intermittent dial 2 • Wiper intermittent dial 3 • Wiper intermittent dial 6 • Wiper intermittent dial 7 		10.7 V
144 (G)	Ground	Combination switch OUTPUT 2	Output	Combination switch	All switches OFF (Wiper intermittent dial 4)	0 V
				Any of the conditions be- low with all switches OFF		
				<ul style="list-style-type: none"> • Wiper intermittent dial 1 • Wiper intermittent dial 5 • Wiper intermittent dial 6 		10.7 V
145 (L)	Ground	Combination switch OUTPUT 3	Output	Combination switch (Wiper intermit- tent dial 4)	All switches OFF	0 V
				Front wiper switch INT		
				Front wiper switch LO		
				Lighting switch AUTO		
				Rear fog lamp switch ON		10.7 V
146 (SB)	Ground	Combination switch OUTPUT 4	Output	Combination switch (Wiper intermit- tent dial 4)	All switches OFF	0 V
				Lighting switch 2ND		
				Lighting switch PASS		
				Turn signal switch LH		10.7 V

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition	Value (Approx.)	
		Signal name	Input/ Output			
+	-					
150 (GR)	Ground	Driver door switch	Input	Driver door switch	OFF (Door close)	 <p style="text-align: center;">11.8 V</p>
				ON (Door open)	0 V	
151 (G)	Ground	Rear window defogger relay control	Output	Rear window defogger	Active	0 V
				Not activated	Battery voltage	

- *1: Coupe models
- *2: Roadster models
- *3: A/T models
- *4: M/T models
- *5: With A/T or coupe models with M/T and SynchroRev Match mode
- *6: With A/T or with M/T without SynchroRev Match mode
- *7: Without NAVI
- *8: With rear fog lamp
- *9: BCM does not use this terminal for control.

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


WW

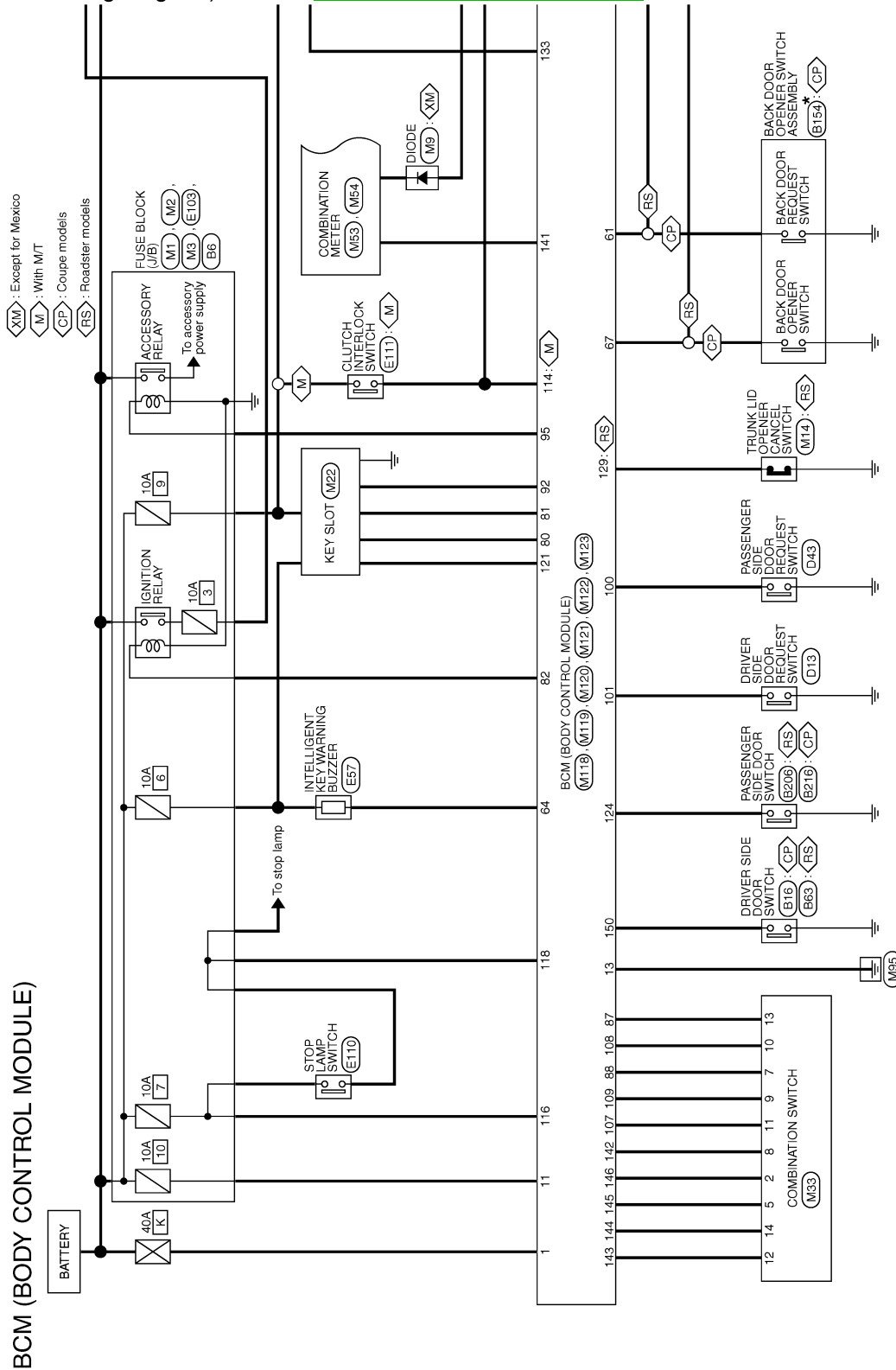
BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Wiring Diagram - BCM -

INFOID:000000008703182

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



* : This connector is not shown in "Harness Layout".

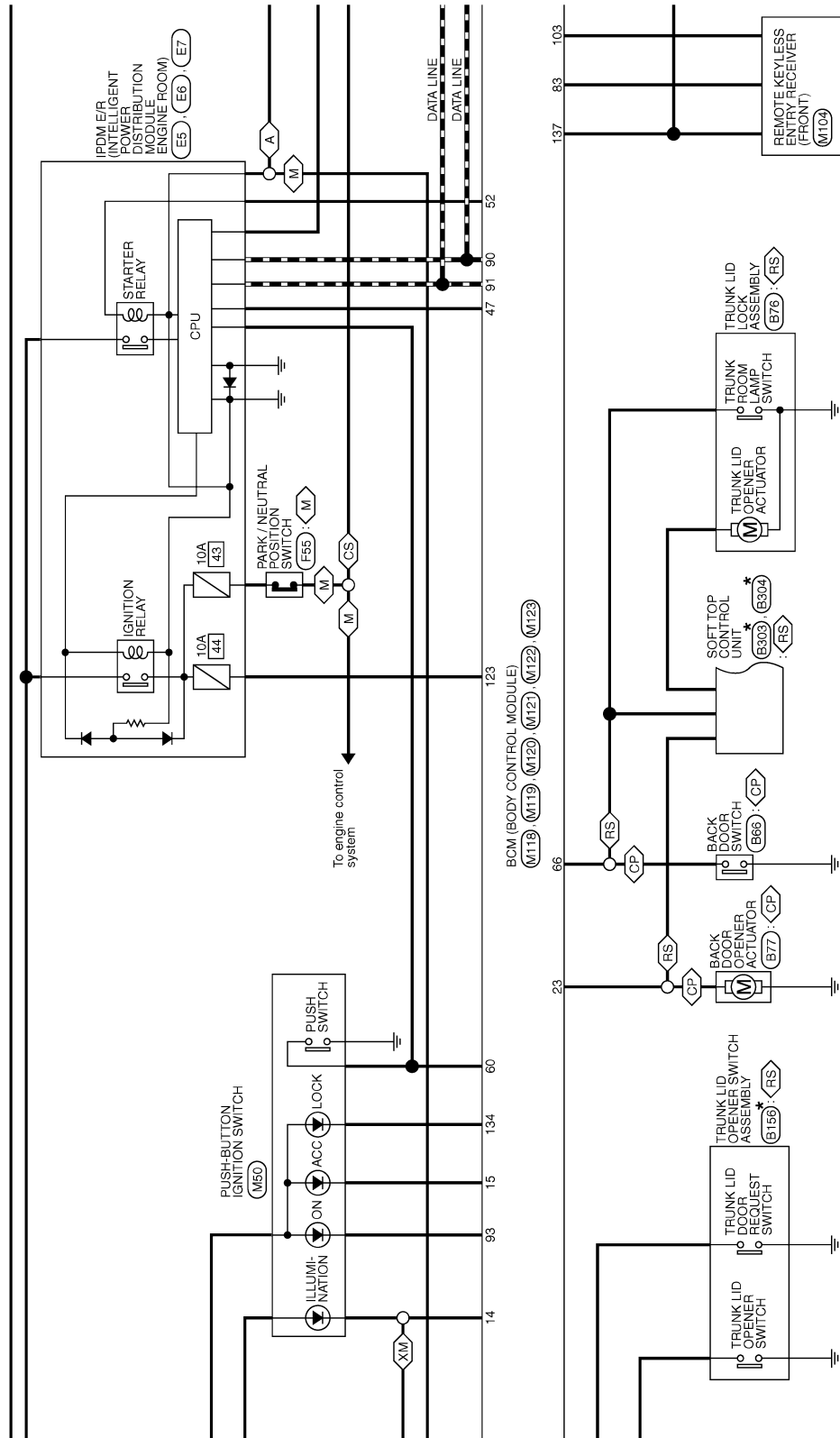
2012/04/18

JRMWD0778GB

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

- XM**: Except for Mexico
- CP**: Coupe models
- A**: With AT
- RS**: Roadster models
- M**: With M/T
- CS**: Coupe models with M/T and SynchroRev Match mode



*: This connector is not shown in "Harness Layout".

JRMWD0779GB

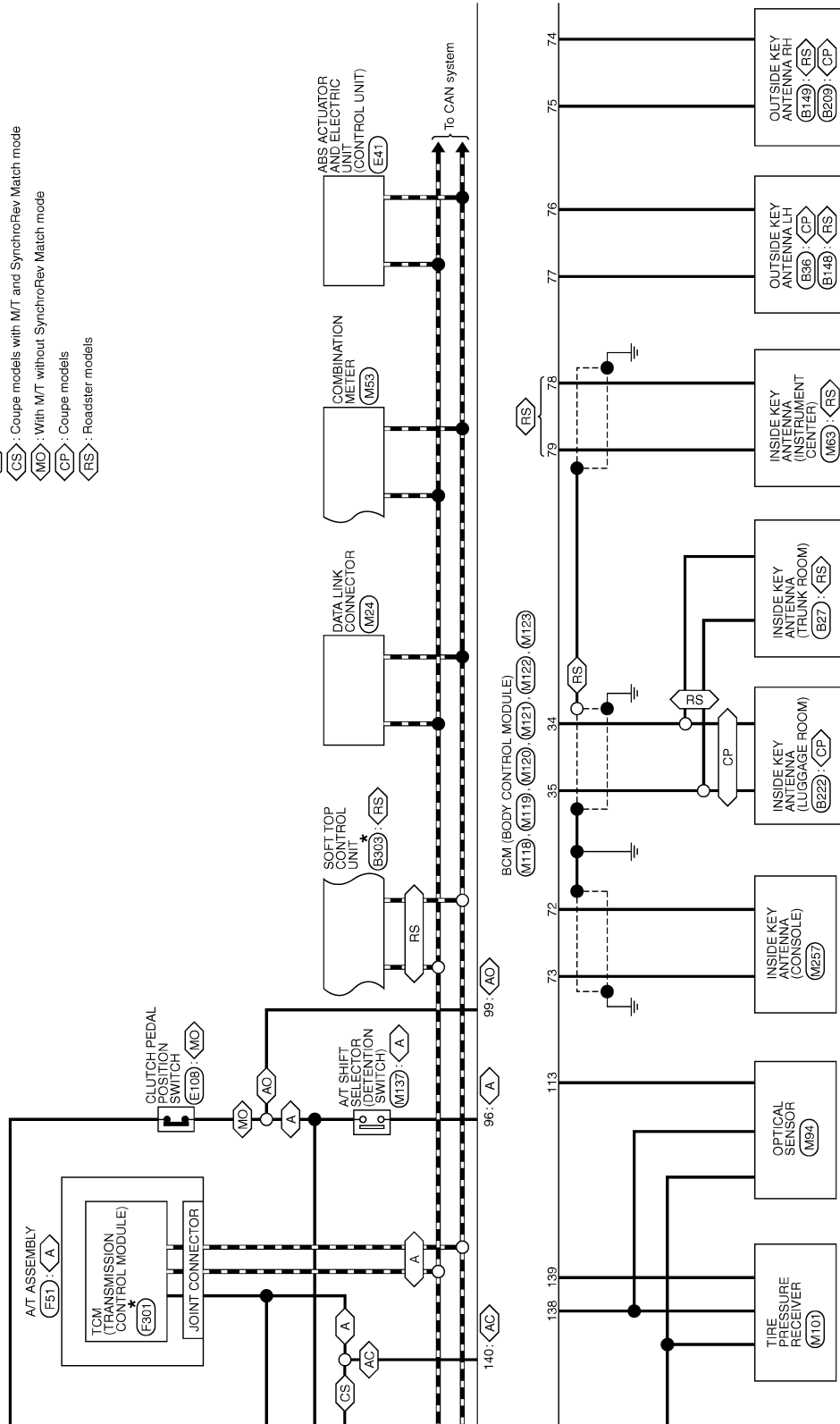
A
B
C
D
E
F
G
H
I
J
K
M
N
O
P

WW

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

- : With A/T
- : With A/T or coupe models with M/T and SynchroRev Match mode
- : With A/T or with M/T without SynchroRev Match mode
- : Coupe models with M/T and SynchroRev Match mode
- : With M/T without SynchroRev Match mode
- : Coupe models
- : Roadster models



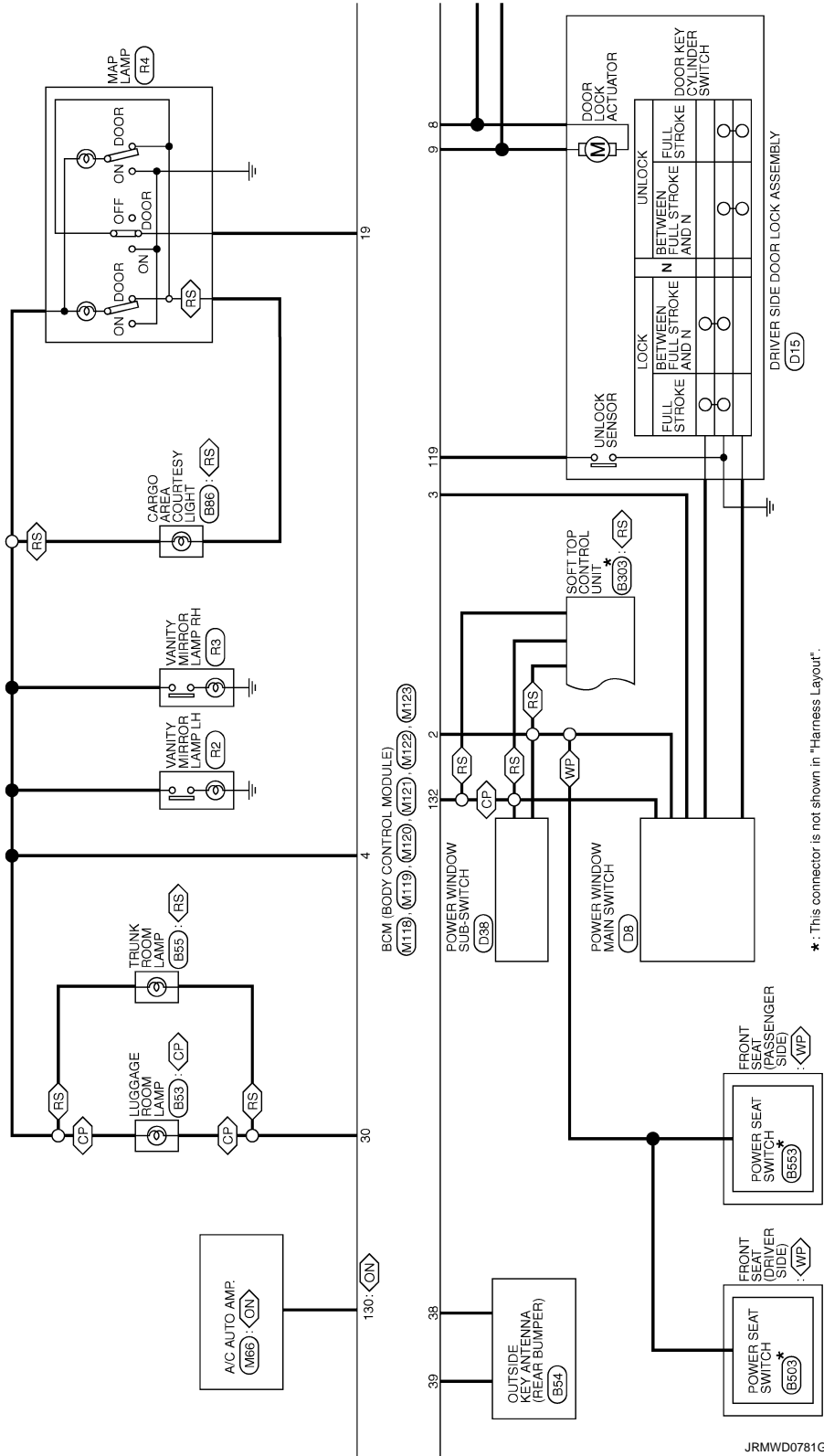
*: This connector is not shown in "Harness Layout".

JRMWD0780GB

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

- ◊CF◊ : Coupe models
- ◊RS◊ : Roadster models
- ◊WP◊ : With power seat
- ◊ON◊ : Without NAVI

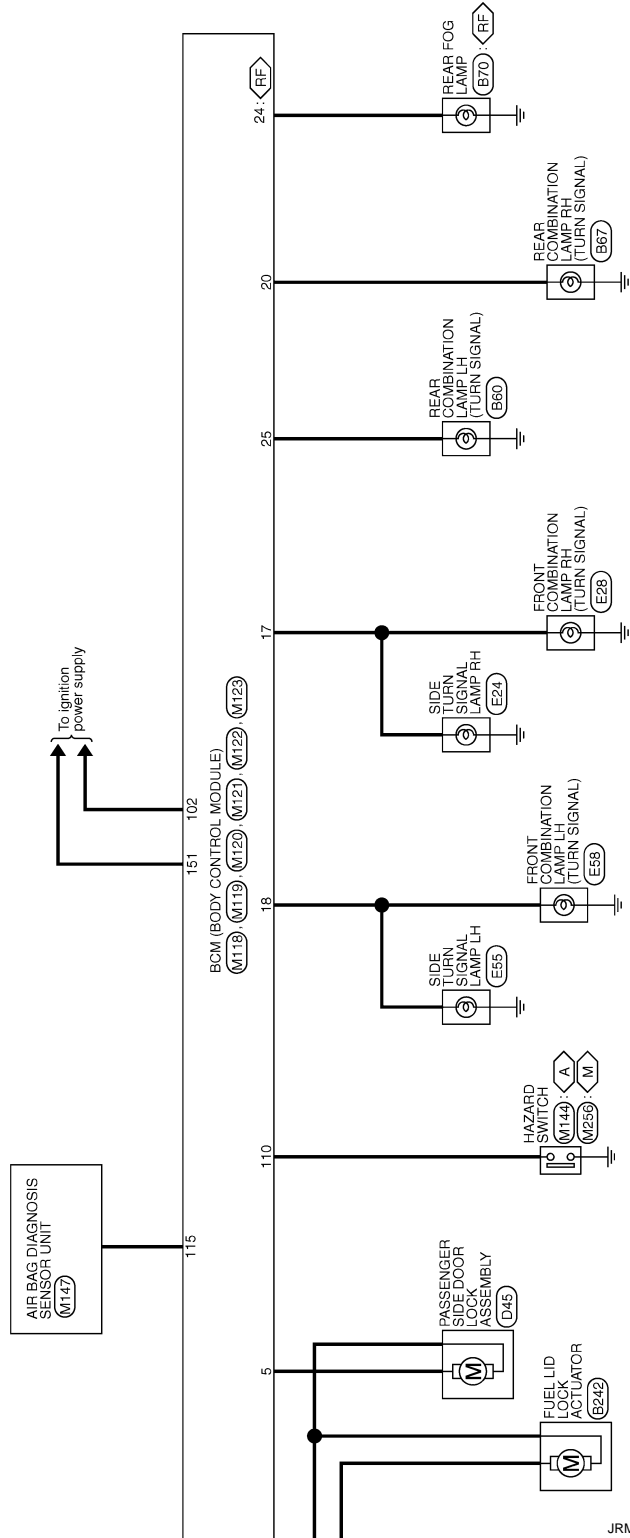
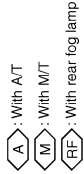


A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P

WW

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >



JRMWD0782GB

Fail-safe

INFOID:000000008703183

FAIL-SAFE CONTROL BY DTC

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

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
B2560: STARTER CONT RELAY	Inhibit engine cranking	500 ms after the following CAN signal communication status becomes consistent <ul style="list-style-type: none"> • Starter control relay signal • Starter relay status signal
B2608: STARTER RELAY	Inhibit engine cranking	500 ms after the following signal communication status becomes consistent <ul style="list-style-type: none"> • Starter motor relay control signal • Starter relay status signal (CAN)
B260A: IGNITION RELAY	Inhibit engine cranking	500 ms after the following conditions are fulfilled <ul style="list-style-type: none"> • IGN relay (IPDM E/R) control signal: OFF (Battery voltage) • Ignition ON signal (CAN to IPDM E/R): OFF (Request signal) • Ignition ON signal (CAN from IPDM E/R): OFF (Condition signal)
B260F: ENG STATE SIG LOST	Maintains the power supply position attained at the time of DTC detection	When any of the following conditions are fulfilled <ul style="list-style-type: none"> • Power position changes to ACC • Receives engine status signal (CAN)
B2617: STARTER RELAY CIRC	Inhibit engine cranking	1 second after the starter motor relay control inside BCM becomes normal
B2618: BCM	Inhibit engine cranking	1 second after the ignition relay (IPDM E/R) control inside BCM becomes normal
B261E: VEHICLE TYPE	Inhibit engine cranking	BCM initialization
B26E8: CLUTCH SW	Inhibit engine cranking	When any of the following BCM recognition conditions are fulfilled <ul style="list-style-type: none"> • Status 1 <ul style="list-style-type: none"> - Clutch switch signal (CAN from ECM): ON - Clutch interlock switch signal: OFF (0 V) • Status 2 <ul style="list-style-type: none"> - Clutch switch signal (CAN from ECM): OFF - Clutch interlock switch signal: ON (Battery voltage)

DTC Inspection Priority Chart

INFOID:000000008703184

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

Priority	DTC
1	B2562: LOW VOLTAGE
2	<ul style="list-style-type: none"> • U1000: CAN COMM CIRCUIT • U1010: CONTROL UNIT (CAN)
3	<ul style="list-style-type: none"> • B2190: NATS ANTENNA AMP • B2191: DIFFERENCE OF KEY • B2192: ID DISCORD BCM-ECM • B2193: CHAIN OF BCM-ECM • B2195: ANTI SCANNING

BCM (BODY CONTROL MODULE)

< ECU DIAGNOSIS INFORMATION >

Priority	DTC
4	<ul style="list-style-type: none"> • B2553: IGNITION RELAY • B2555: STOP LAMP • B2556: PUSH-BTN IGN SW • B2557: VEHICLE SPEED • B2560: STARTER CONT RELAY • B2601: SHIFT POSITION • B2602: SHIFT POSITION • B2603: SHIFT POSI STATUS • B2604: PNP SW • B2605: PNP SW • B2608: STARTER RELAY • B260A: IGNITION RELAY • B260F: ENG STATE SIG LOST • B2614: BCM • B2615: BCM • B2616: BCM • B2617: BCM • B2618: BCM • B261A: PUSH-BTN IGN SW • B261E: VEHICLE TYPE • B26E8: CLUTCH SW • B26EA: KEY REGISTRATION • C1729: VHCL SPEED SIG ERR • U0415: VEHICLE SPEED SIG
5	<ul style="list-style-type: none"> • C1704: LOW PRESSURE FL • C1705: LOW PRESSURE FR • C1706: LOW PRESSURE RR • C1707: LOW PRESSURE RL • C1708: [NO DATA] FL • C1709: [NO DATA] FR • C1710: [NO DATA] RR • C1711: [NO DATA] RL • C1716: [PRESSDATA ERR] FL • C1717: [PRESSDATA ERR] FR • C1718: [PRESSDATA ERR] RR • C1719: [PRESSDATA ERR] RL • C1734: CONTROL UNIT
6	<ul style="list-style-type: none"> • B2621: INSIDE ANTENNA • B2622: INSIDE ANTENNA • B2623: INSIDE ANTENNA

DTC Index

INFOID:000000008703185

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-20, "COMMON ITEM : CONSULT 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
No DTC is detected. further testing may be required.	—	—	—	—	—
U1000: CAN COMM CIRCUIT	—	—	—	—	BCS-49
U1010: CONTROL UNIT (CAN)	—	—	—	—	BCS-50
U0415: VEHICLE SPEED SIG	—	—	—	—	BCS-51

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
B2190: NATS ANTENNA AMP	×	—	—	—	SEC-46
B2191: DIFFERENCE OF KEY	×	—	—	—	SEC-49
B2192: ID DISCORD BCM-ECM	×	—	—	—	SEC-50
B2193: CHAIN OF BCM-ECM	×	—	—	—	SEC-52
B2195: ANTI SCANNING	×	—	—	—	SEC-53
B2553: IGNITION RELAY	—	×	—	—	PCS-50
B2555: STOP LAMP	—	×	—	—	SEC-54
B2556: PUSH-BTN IGN SW	—	×	×	—	SEC-56
B2557: VEHICLE SPEED	×	×	×	—	SEC-58
B2560: STARTER CONT RELAY	×	×	×	—	SEC-59
B2562: LOW VOLTAGE	—	×	—	—	BCS-52
B2601: SHIFT POSITION	×	×	×	—	SEC-60
B2602: SHIFT POSITION	×	×	×	—	SEC-63
B2603: SHIFT POSI STATUS	×	×	×	—	SEC-66
B2604: PNP SW	×	×	×	—	SEC-69
B2605: PNP SW	×	×	×	—	SEC-71
B2608: STARTER RELAY	×	×	×	—	SEC-73
B260A: IGNITION RELAY	×	×	×	—	PCS-52
B260F: ENG STATE SIG LOST	×	×	×	—	SEC-75
B2614: BCM	—	×	×	—	PCS-54
B2615: BCM	—	×	×	—	PCS-57
B2616: BCM	—	×	×	—	PCS-60
B2617: BCM	×	×	×	—	SEC-79
B2618: BCM	×	×	×	—	PCS-63
B261A: PUSH-BTN IGN SW	—	×	×	—	PCS-64
B261E: VEHICLE TYPE	×	×	× (Turn ON for 15 seconds)	—	SEC-82
B2621: INSIDE ANTENNA	—	×	—	—	DLK-228
B2622: INSIDE ANTENNA	—	×	—	—	• DLK-59 (Coupe) • DLK-230 (Roadster)
B2623: INSIDE ANTENNA	—	×	—	—	• DLK-61 (Coupe) • DLK-232 (Roadster)
B26E8: CLUTCH SW	×	×	×	—	SEC-76
B26EA: KEY REGISTRATION	—	×	× (Turn ON for 15 seconds)	—	SEC-78
C1704: LOW PRESSURE FL	—	—	—	×	WT-20
C1705: LOW PRESSURE FR	—	—	—	×	
C1706: LOW PRESSURE RR	—	—	—	×	
C1707: LOW PRESSURE RL	—	—	—	×	

A

B

C

D

E

F

G

H

I

J

K

WW

M

N

O

P

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 warn- ing lamp ON	Reference
C1708: [NO DATA] FL	—	—	—	×	WT-22
C1709: [NO DATA] FR	—	—	—	×	
C1710: [NO DATA] RR	—	—	—	×	
C1711: [NO DATA] RL	—	—	—	×	
C1716: [PRESSDATA ERR] FL	—	—	—	×	WT-25
C1717: [PRESSDATA ERR] FR	—	—	—	×	
C1718: [PRESSDATA ERR] RR	—	—	—	×	
C1719: [PRESSDATA ERR] RL	—	—	—	×	
C1729: VHCL SPEED SIG ERR	—	—	—	×	WT-27
C1734: CONTROL UNIT	—	—	—	×	WT-29

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

< ECU DIAGNOSIS INFORMATION >

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

Reference Value

INFOID:000000008703186

VALUES ON THE DIAGNOSIS TOOL

NOTE:

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

CONSULT MONITOR ITEM

Monitor Item	Condition		Value/Status
RAD FAN REQ	Engine idle speed	Changes depending on engine coolant temperature, air conditioner operation status, vehicle speed, etc.	0 - 100 %
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
	Daytime running light system is operated (With daytime running light system)		
HL HI REQ	Lighting switch OFF		Off
	Lighting switch HI		On
FR FOG REQ	Daytime running light system is not operated		Off
	Daytime running light system is operated		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	Selector lever in any position other than P or N (A/T models)	Off
		Release clutch pedal (M/T models)	
	Ignition switch ON	Selector lever in P or N position (A/T models)	On
		Depress clutch pedal (M/T models)	

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

WW

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

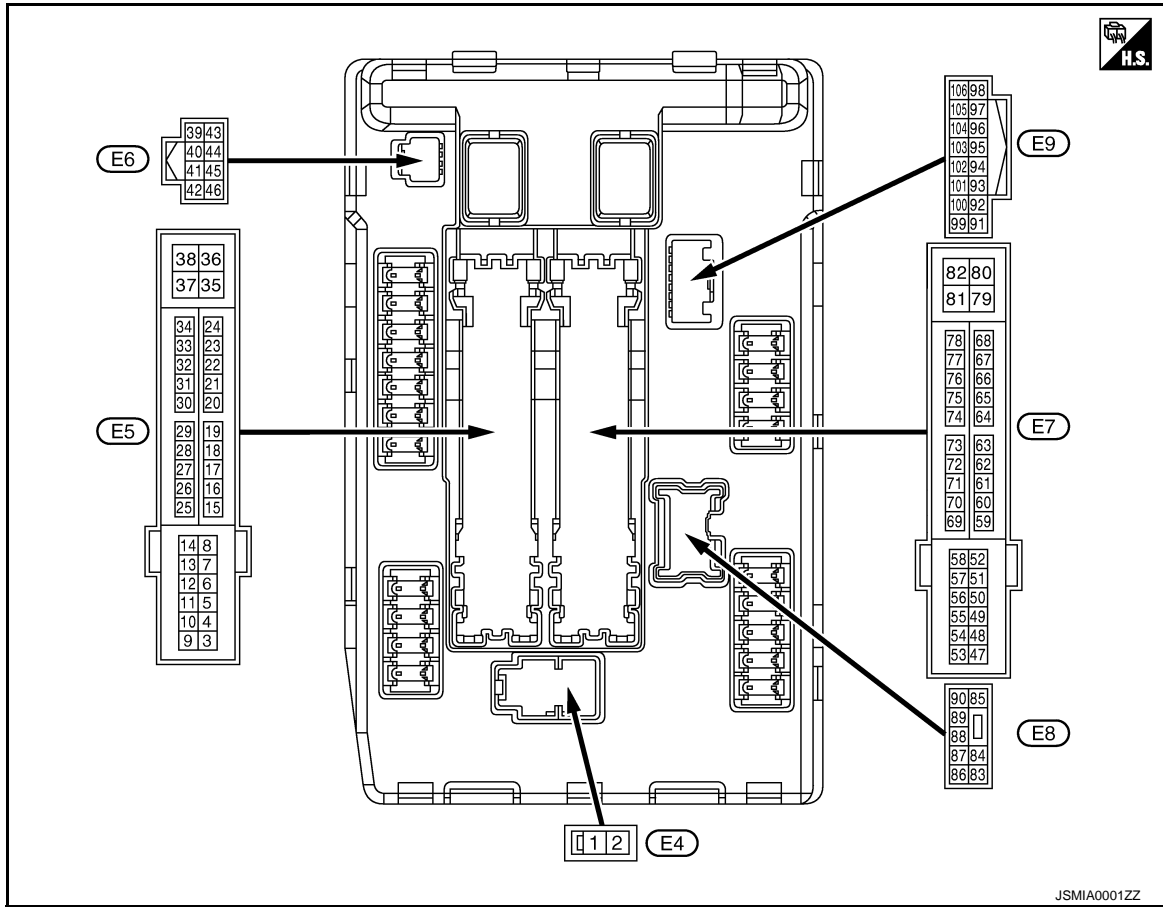
< ECU DIAGNOSIS INFORMATION >

Monitor Item	Condition	Value/Status
ST RLY CONT	Ignition switch ON	Off
	At engine cranking	On
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	Off
	Release the selector button with selector lever in P position NOTE: Fixed On for M/T models	On
S/L RLY -REQ	NOTE: The item is indicated, but not monitored.	Off
S/L STATE	NOTE: The item is indicated, but not monitored.	UNLOCK
DTRL REQ	NOTE: The item is indicated, but not monitored.	Off
OIL P SW	Ignition switch OFF, ACC or engine running	Open
	Ignition switch ON	Close
HOOD SW	Close the hood	Off
	Open the hood	On
HL WASHER REQ	NOTE: The item is indicated, but not monitored.	Off
THFT HRN REQ	Not operation	Off
	<ul style="list-style-type: none"> • Panic alarm is activated • Horn is activated with VEHICLE SECURITY (THEFT WARNING) SYSTEM 	On
HORN CHIRP	Not operating	Off
	Door locking with Intelligent Key (horn chirp mode)	On
CRNRNG LMP REQ	NOTE: The item is indicated, but not monitored.	Off

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 (W)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
2 (L)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
4 (V)	Ground	Front wiper LO	Output	Ignition switch OFF	Front wiper switch OFF	0 V
				Ignition switch ON	Front wiper switch LO	Battery voltage
5 (L)	Ground	Front wiper HI	Output	Ignition switch OFF	Front wiper switch OFF	0 V
				Ignition switch ON	Front wiper switch HI	Battery voltage
7 (R) ^{*3} (V) ^{*4}	Ground	Illuminations Tail, license plate lamps & illuminations	Output	Ignition switch OFF	Lighting switch OFF	0 V
				Ignition switch ON	Lighting switch 1ST	Battery voltage
12 (B/W)	Ground	Ground	—	Ignition switch ON		0 V
13 (Y)	Ground	Fuel pump power supply	Output	Approximately 1 second or more after turning the ignition switch ON		0 V
				<ul style="list-style-type: none"> Approximately 1 second after turning the ignition switch ON Engine running 		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			
16 (LG)	Ground	Front wiper auto stop	Input	Ignition switch ON	Front wiper stop position	0 V
					Any position other than front wiper stop position	Battery voltage
19 (W)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
25 (G)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
27 (Y)	Ground	Ignition relay monitor	Input	Ignition switch OFF or ACC		Battery voltage
				Ignition switch ON		0 V
28 (L)	Ground	Push-button ignition switch	Input	Press the push-button ignition switch		0 V
				Release the push-button ignition switch		Battery voltage
30 (GR)	Ground	Starter relay control	Input	A/T models	Selector lever in any po- sition other than P or N (Ignition switch ON)	0 V
					Selector lever P or N (Ig- nition switch ON)	Battery voltage
				M/T models	Release the clutch pedal	0 V
					Depress the clutch pedal	Battery voltage
36 (G)	Ground	Battery power supply	Input	Ignition switch OFF		Battery voltage
39 (P)	—	CAN-L	Input/ Output	—		—
40 (L)	—	CAN-H	Input/ Output	—		—
41 (B/W)	Ground	Ground	—	Ignition switch ON		0 V
42 (Y)	Ground	Cooling fan relay con- trol	Input	Ignition switch OFF or ACC		0 V
				Ignition switch ON		0.7 V
43*1 (SB)	Ground	A/T shift selector (Detention switch)	Input	Ignition switch ON	<ul style="list-style-type: none"> Press the selector but- ton (selector lever P) Selector lever in any position other than P 	Battery voltage
					Release the selector button (selector lever P)	0 V
44 (W)	Ground	Horn relay control	Input	The horn is deactivated		Battery voltage
				The horn is activated		0 V
45 (G)	Ground	Anti theft horn relay control	Input	The horn is deactivated		Battery voltage
				The horn is activated		0 V
46 (V)	Ground	Starter relay control	Input	A/T models	Selector lever in any po- sition other than P or N (Ignition switch ON)	0 V
					Selector lever P or N (Ignition switch ON)	Battery voltage
				M/T models	Release the clutch pedal	0 V
					Depress the clutch pedal	Battery voltage

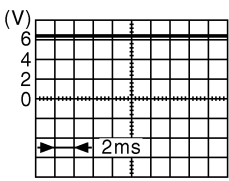
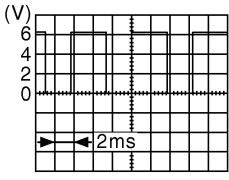
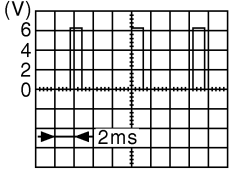
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

Terminal No. (Wire color)		Description		Condition		Value (Approx.)	
+	-	Signal name	Input/ Output				
48 (L)	Ground	A/C relay power supply	Output	Engine running	A/C switch OFF	0 V	A
					A/C switch ON (A/C compressor is operating)	Battery voltage	B
49 (BG)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V	C
				<ul style="list-style-type: none"> Ignition switch ON Ignition switch OFF (For a few seconds after turning ignition switch OFF) 		Battery voltage	D
51 (Y)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V	E
				Ignition switch ON		Battery voltage	F
53 (W)	Ground	ECM relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V	F
				<ul style="list-style-type: none"> Ignition switch ON Ignition switch OFF (For a few seconds after turning ignition switch OFF) 		Battery voltage	G
54 (V)	Ground	Throttle control motor relay power supply	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		0 V	H
				<ul style="list-style-type: none"> Ignition switch ON Ignition switch OFF (For a few seconds after turning ignition switch OFF) 		Battery voltage	I
55 (SB)	Ground	ECM power supply	Output	Ignition switch OFF		Battery voltage	J
56 (LG)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V	K
				Ignition switch ON		Battery voltage	
57 (G)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V	WW
				Ignition switch ON		Battery voltage	
58*1 (P)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V	M
				Ignition switch ON		Battery voltage	
69 (BR)	Ground	ECM relay control	Output	Ignition switch OFF (More than a few seconds after turning ignition switch OFF)		Battery voltage	N
				<ul style="list-style-type: none"> Ignition switch ON Ignition switch OFF (For a few seconds after turning ignition switch OFF) 		0 - 1.5 V	
70 (BG)	Ground	Throttle control motor relay control	Output	Ignition switch ON → OFF		0 - 1.0 V ↓ Battery voltage ↓ 0 V	P
				Ignition switch ON		0 - 1.0 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			
+	-					
72 (GR)	Ground	Starter relay control	Input	A/T models	Selector lever in any position other than P or N (Ignition switch ON)	0 V
					Selector lever P or N (Ignition switch ON)	Battery voltage
				M/T models	Release the clutch pedal	0 V
					Depress the clutch pedal	Battery voltage
73*2 (GR)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
74 (G)	Ground	Ignition relay power supply	Output	Ignition switch OFF		0 V
				Ignition switch ON		Battery voltage
75 (SB)	Ground	Oil pressure switch	Input	Ignition switch ON	Engine stopped	0 V
					Engine running	Battery voltage
76 (Y)	Ground	Power generation command signal	Output	Ignition switch ON		 <small>JPMIA0001GB</small> 6.3 V
				40% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		 <small>JPMIA0002GB</small> 3.8 V
				80% is set on "ACTIVE TEST", "ALTERNATOR DUTY" of "ENGINE"		 <small>JPMIA0003GB</small> 1.4 V
77 (R)	Ground	Fuel pump relay control	Output	<ul style="list-style-type: none"> • Approximately 1 second after turning the ignition switch ON • Engine running 		0 - 1.0 V
				Approximately 1 second or more after turning the ignition switch ON		Battery voltage
80 (W)	Ground	Starter motor	Output	At engine cranking		Battery voltage
83 (R)	Ground	Headlamp LO (RH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	Battery voltage
84 (P)	Ground	Headlamp LO (LH)	Output	Ignition switch ON	Lighting switch OFF	0 V
					Lighting switch 2ND	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		
86 (BG)	Ground	Daytime running light (RH)	Output	Daytime running light system is not operated	0 V
				Daytime running light system is operated	Battery voltage
87 (R)	Ground	Daytime running light (LH)	Output	Daytime running light system is not operated	0 V
				Daytime running light system is operated	Battery voltage
88 (G)	Ground	Washer pump power supply	Output	Ignition switch ON	Battery voltage
89 (BR)	Ground	Headlamp HI (RH)	Output	Ignition switch ON	Lighting switch OFF
					• Lighting switch HI • Lighting switch PASS
90 (LG)	Ground	Headlamp HI (LH)	Output	Ignition switch ON	Lighting switch OFF
					• Lighting switch HI • Lighting switch PASS
91 (P)	Ground	Parking lamp (RH)	Output	Ignition switch ON	Lighting switch OFF
					Lighting switch 1ST
92 (BG)	Ground	Parking lamp (LH)	Output	Ignition switch ON	Lighting switch OFF
					Lighting switch 1ST
97 (V)	Ground	Cooling fan control	Output	Engine idling	0 - 5 V
104 (LG)	Ground	Hood switch	Input	Close the hood	Battery voltage
				Open the hood	0 V

*1: A/T models only

*2: M/T models only

*3: Coupe models

*4: Roadster models

WW

M

N

O


P

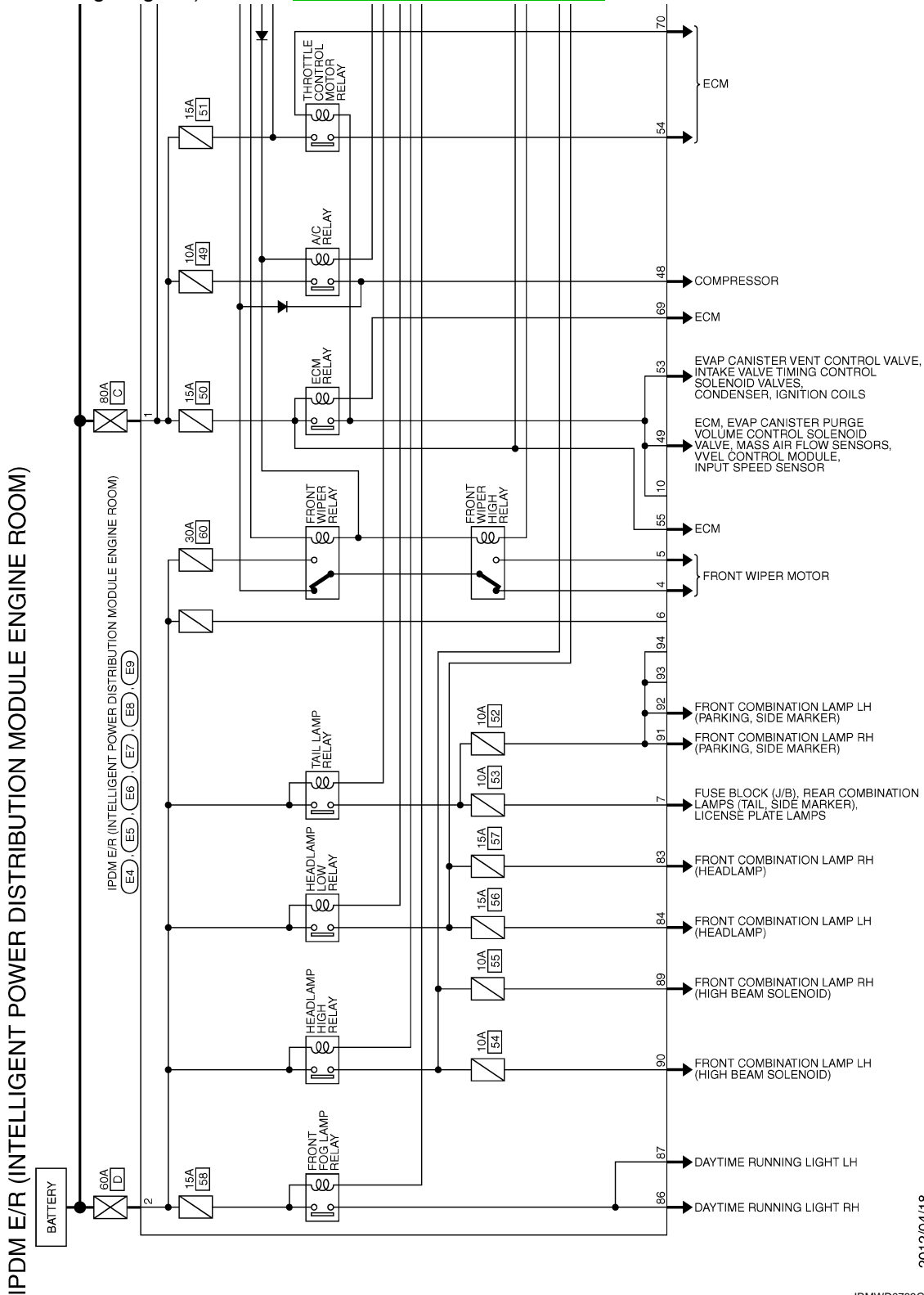
IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)

< ECU DIAGNOSIS INFORMATION >

Wiring Diagram - IPDM E/R -

INFOID:00000008703187

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

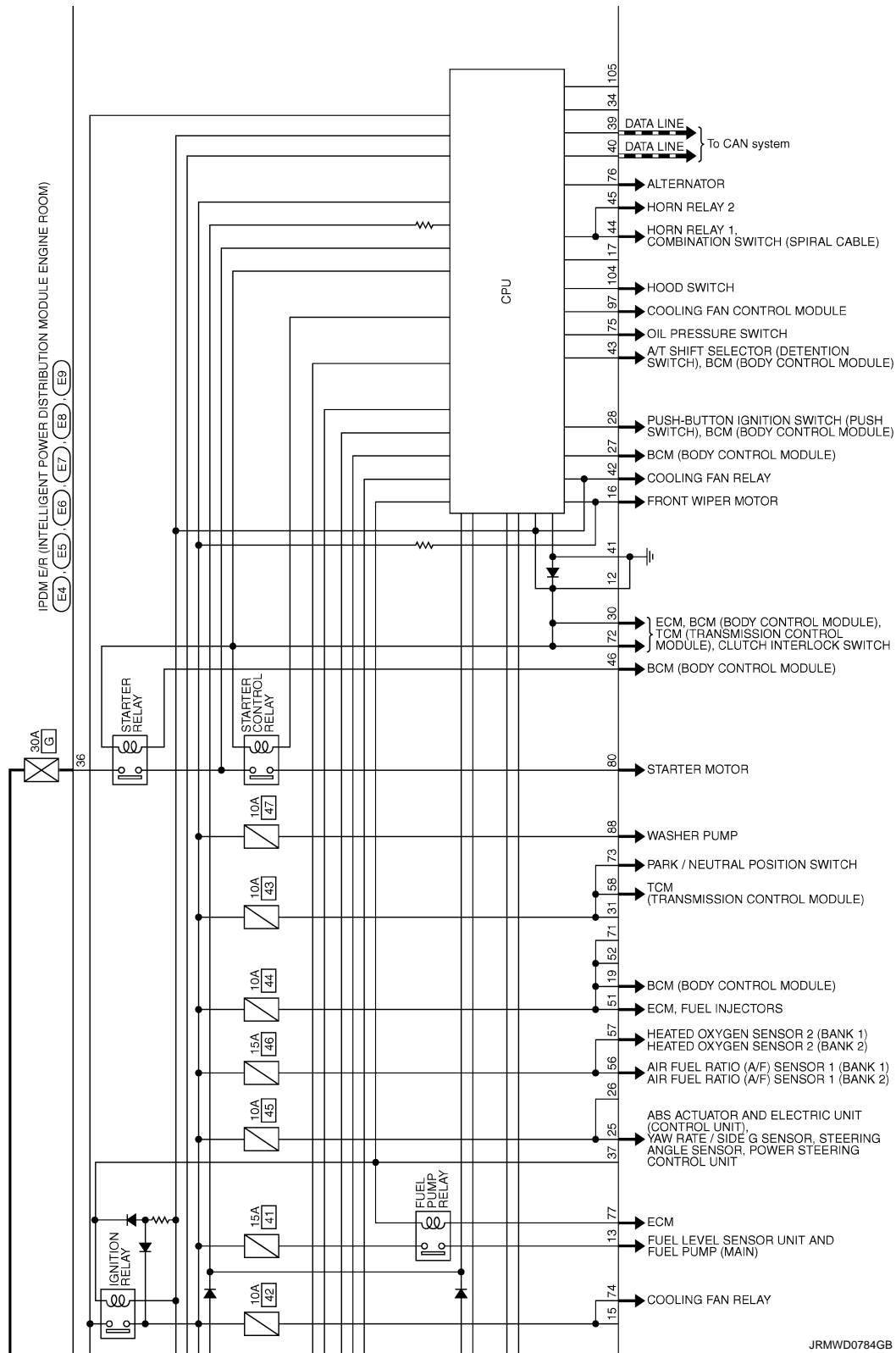


2012/04/18

JRMWD0783GB

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

< ECU DIAGNOSIS INFORMATION >



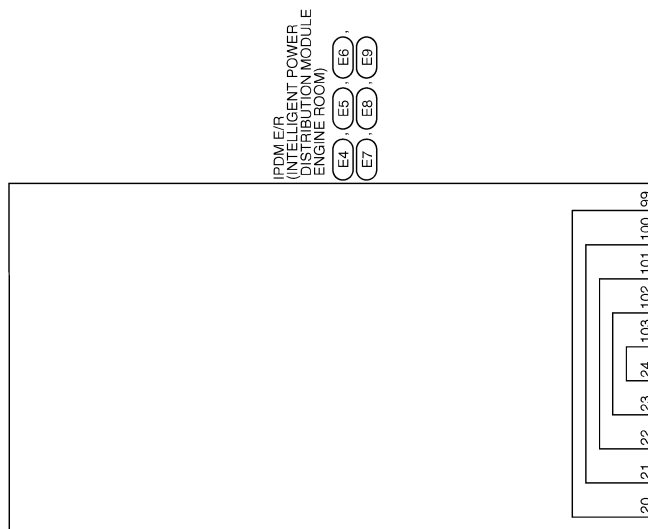
JRMWD0784GB

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

WW

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

< ECU DIAGNOSIS INFORMATION >



JRMWD0785GB

Fail-safe

INFOID:000000008703188

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"> • Outputs the pulse duty signal (PWM signal) 100% when the ignition switch is turned ON • Outputs the pulse duty signal (PWM signal) 0% when the ignition switch is turned OFF
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"> • Turns ON the headlamp low relay when the ignition switch is turned ON • Turns OFF the headlamp low relay when the ignition switch is turned OFF • Headlamp high relay OFF
<ul style="list-style-type: none"> • Parking lamps • Side maker lamp • License plate lamps • Illuminations • Tail lamps 	<ul style="list-style-type: none"> • Turns ON the tail lamp relay and the daytime running light relay*¹ when the ignition switch is turned ON • Turns OFF the tail lamp relay and the daytime running light relay*¹ when the ignition switch is turned OFF
Front wiper	<ul style="list-style-type: none"> • The status just before activation of fail-safe control is maintained until the ignition switch is turned OFF while the front wiper is operating at LO or HI speed. • The 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 AUTO mode and the front wiper motor is operating.
Horn	Horn relay OFF
Ignition relay	The status just before activation of fail-safe is maintained.
Starter motor	Starter control 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 and the daytime running light 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"> • Detects DTC "B2098: IGN RELAY ON" • Turns ON the tail lamp relay and the daytime running light relay* for 10 minutes
OFF	ON	Ignition relay OFF stuck	Detects DTC "B2099: IGN RELAY OFF"

*: With daytime running light system

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.

DTC Index

INFOID:000000008703189

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	×	PCS-15
B2098: IGN RELAY ON	×	PCS-16
B2099: IGN RELAY OFF	—	PCS-17
B210B: START CONT RLY ON	—	SEC-85
B210C: START CONT RLY OFF	—	SEC-86
B210D: STARTER RELAY ON	—	SEC-87
B210E: STARTER RELAY OFF	—	SEC-88
B210F: INTRLCK/PNP SW ON	—	SEC-90
B2110: INTRLCK/PNP SW OFF	—	SEC-92

WIPER AND WASHER SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

WIPER AND WASHER SYSTEM SYMPTOMS

Symptom Table

INFOID:000000008194811

CAUTION:

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

Symptom	Probable malfunction location	Inspection item	
Front wiper does not operate.	HI only	<ul style="list-style-type: none"> • Combination switch • Harness between combination switch and BCM • BCM 	Combination switch Refer to BCS-91, "Symptom Table" .
		<ul style="list-style-type: none"> • IPDM E/R • Harness between IPDM E/R and front wiper motor • Front wiper motor 	Front wiper motor (HI) circuit Refer to WW-23, "Component Function Check" .
		Front wiper request signal <ul style="list-style-type: none"> • BCM • IPDM E/R 	IPDM E/R DATA MONITOR "FR WIP REQ"
	LO and INT	<ul style="list-style-type: none"> • Combination switch • Harness between combination switch and BCM • BCM 	Combination switch Refer to BCS-91, "Symptom Table" .
		<ul style="list-style-type: none"> • IPDM E/R • Harness between IPDM E/R and front wiper motor • Front wiper motor 	Front wiper motor (LO) circuit Refer to WW-21, "Component Function Check" .
		Front wiper request signal <ul style="list-style-type: none"> • BCM • IPDM E/R 	IPDM E/R DATA MONITOR "FR WIP REQ"
	INT only	<ul style="list-style-type: none"> • Combination switch • Harness between combination switch and BCM • BCM 	Combination switch Refer to BCS-91, "Symptom Table" .
		Front wiper request signal <ul style="list-style-type: none"> • BCM • IPDM E/R 	IPDM E/R DATA MONITOR "FR WIP REQ"
	HI, LO and INT	SYMPTOM DIAGNOSIS "FRONT WIPER DOES NOT OPERATE" Refer to WW-78, "Diagnosis Procedure" .	

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

WW

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"> • Combination switch • BCM 	Combination switch Refer to BCS-91, "Symptom Table" .
		Front wiper request signal <ul style="list-style-type: none"> • BCM • IPDM E/R 	IPDM E/R DATA MONITOR "FR WIP REQ"
		IPDM E/R	—
	LO only	<ul style="list-style-type: none"> • Combination switch • BCM 	Combination switch Refer to BCS-91, "Symptom Table" .
		Front wiper request signal <ul style="list-style-type: none"> • BCM • IPDM E/R 	IPDM E/R DATA MONITOR "FR WIP REQ"
		IPDM E/R	—
	INT only	<ul style="list-style-type: none"> • Combination switch • BCM 	Combination switch Refer to BCS-91, "Symptom Table" .
		Front wiper request signal <ul style="list-style-type: none"> • BCM • IPDM E/R 	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"> • Combination switch • Harness between combination switch and BCM • BCM
BCM			—
Intermittent control linked with vehicle speed cannot be performed.		Check the vehicle speed detection wiper setting. Refer to WW-11, "WIPER : CONSULT Function (BCM - WIPER)" . NOTE: Factory setting of the front wiper intermitted operation is the operation without vehicle speed.	
Wiper is not linked to the washer operation.		<ul style="list-style-type: none"> • Combination switch • Harness between combination switch and BCM • BCM 	Combination switch Refer to BCS-91, "Symptom Table" .
		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"> • IPDM E/R • Harness between IPDM E/R and front wiper motor • Front wiper motor 	Front wiper stop position signal circuit Refer to WW-25, "Component Function Check" .	

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

NORMAL OPERATING CONDITION

Description

INFOID:000000008194812

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.

A

B

C

D

E

F

G

H

I

J

K

WW

M

N

O

P

FRONT WIPER DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

FRONT WIPER DOES NOT OPERATE

Description

INFOID:000000008194813

The front wiper does not operate under any operation conditions.

Diagnosis Procedure

INFOID:000000008194814

1. CHECK WIPER RELAY OPERATION

IPDM E/R AUTO ACTIVE TEST

1. Start IPDM E/R auto active test. Refer to [PCS-10. "Diagnosis Description"](#).
2. Check that the front wiper operates at the LO/Hi operation.

CONSULT 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 fuse (#60) 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

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

Front wiper motor		Ground	Continuity
Connector	Terminal		Existed
E42	2		

Does continuity exist?

- YES >> GO TO 4.
NO >> Repair the harness or connector.

4. CHECK FRONT WIPER MOTOR OUTPUT VOLTAGE

CONSULT 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.

FRONT WIPER DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

Terminals		Test item	Voltage (Approx.)	
(+)	(-)			
IPDM E/R		FRONT WIPER		
Connector	Terminal			
E5	4	Ground	Lo	Battery voltage
			Off	0 V
	5	Ground	Hi	Battery voltage
			Off	0 V

Is the measurement value normal?

- YES >> Replace front wiper motor.
- NO >> Replace IPDM E/R.

5.CHECK FRONT WIPER REQUEST SIGNAL INPUT

CONSULT 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-91, "Symptom Table"](#).

Is combination switch normal?

- YES >> Replace BCM. Refer to [BCS-95, "Exploded View"](#).
- NO >> Repair or replace the applicable parts.

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

WW

PRECAUTIONS

< PRECAUTION >

PRECAUTION

PRECAUTIONS

FOR USA AND CANADA

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

INFOID:000000008194815

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

WARNING:

Always observe the following items for preventing accidental activation.

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

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

WARNING:

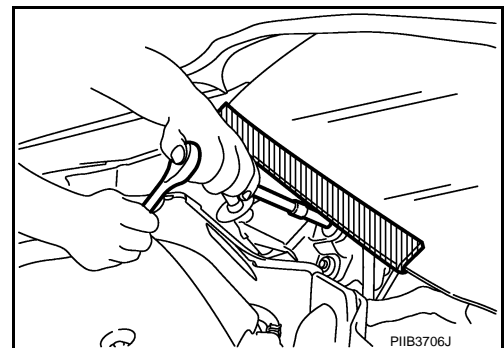
Always observe the following items for preventing accidental activation.

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

FOR USA AND CANADA : Precaution for Procedure without Cowl Top Cover

INFOID:000000008194816

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



FOR USA AND CANADA : Precaution for Battery Service

INFOID:000000008194817

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

FOR MEXICO

PRECAUTIONS

< PRECAUTION >

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

INFOID:000000008194818

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

WARNING:

Always observe the following items for preventing accidental activation.

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

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

WARNING:

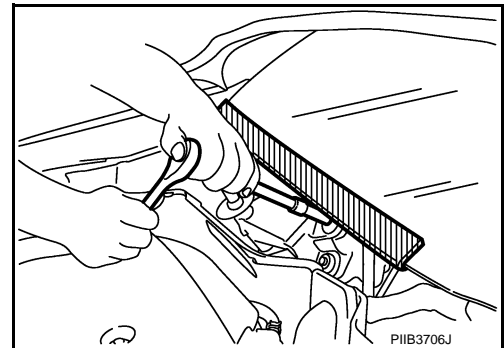
Always observe the following items for preventing accidental activation.

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

FOR MEXICO : Precaution for Procedure without Cowl Top Cover

INFOID:000000008194819

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



FOR MEXICO : Precaution for Battery Service

INFOID:000000008194820

Before disconnecting the battery, lower both the driver and passenger windows. This will prevent any interference between the window edge and the vehicle when the door is opened/closed. During normal operation, the window slightly raises and lowers automatically to prevent any window to vehicle interference. The automatic window function will not work with the battery disconnected.

PREPARATION

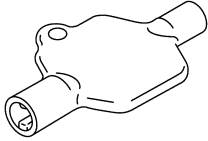
< PREPARATION >

PREPARATION

PREPARATION

Commercial Service Tool

INFOID:000000008194821

Tool name	Description
<p data-bbox="191 516 431 543">Washer nozzle adjuster</p>  <p data-bbox="776 632 859 646">JSLIA0149ZZ</p>	<p data-bbox="927 449 1425 531">Adjusting washer nozzle. (Available in SEC. 289 of PARTS CATALOG: Part No. 28949 1EA0A)</p> <p data-bbox="927 533 1425 611">NOTE: Washer nozzle adjuster is included with shipment of nozzle.</p>

WASHER TANK

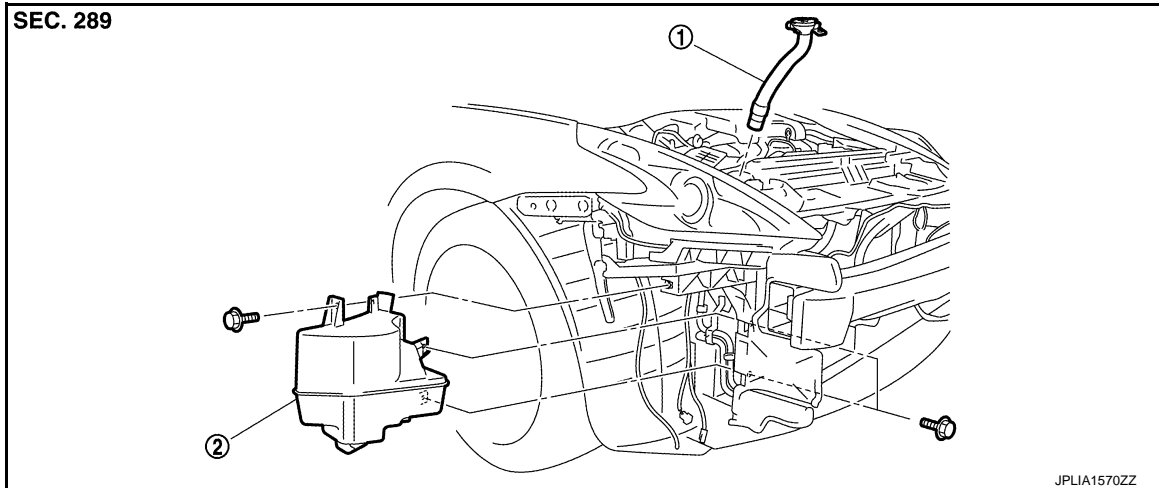
< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

WASHER TANK

Exploded View

INFOID:000000008194822



1. Washer tank inlet

2. Washer tank

Removal and Installation

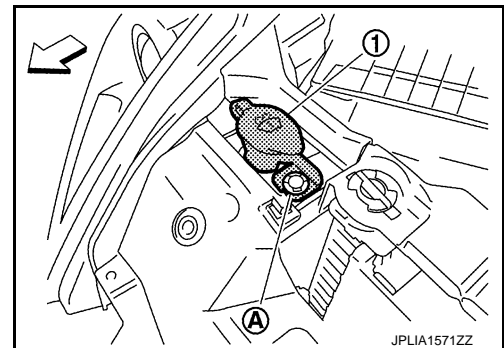
INFOID:000000008194823

REMOVAL

1. Remove the clip (A).

← : Vehicle front

2. Pull out the washer tank inlet (1) from the washer tank.
3. Remove the fender protector RH (front). Refer to [EXT-25](#), "[FENDER PROTECTOR : Exploded View](#)".
4. Disconnect the washer pump connector.
5. Disconnect the washer level switch connector.
6. Disconnect the front washer tube.
7. Remove the 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.

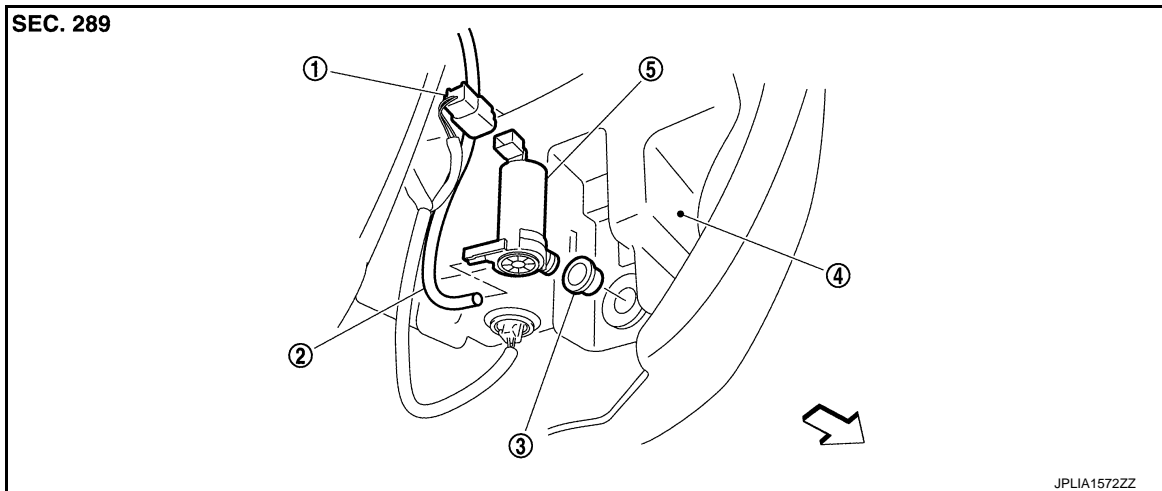
WASHER PUMP

< REMOVAL AND INSTALLATION >

WASHER PUMP

Exploded View

INFOID:000000008194824



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

⇨ : Vehicle front

Removal and Installation

INFOID:000000008194825

REMOVAL

1. Remove the fender protector RH (front). Refer to [EXT-25, "FENDER PROTECTOR : Exploded View"](#).
2. Disconnect the washer pump connector.
3. Disconnect the front washer tube.
4. Remove the washer pump from the washer tank.
5. 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.

WASHER LEVEL SWITCH

< REMOVAL AND INSTALLATION >

WASHER LEVEL SWITCH

Removal and Installation

INFOID:000000008194826

The washer level switch must be replaced together with the washer tank as an assembly. Refer to [WW-83](#), "[Removal and Installation](#)".

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

WW

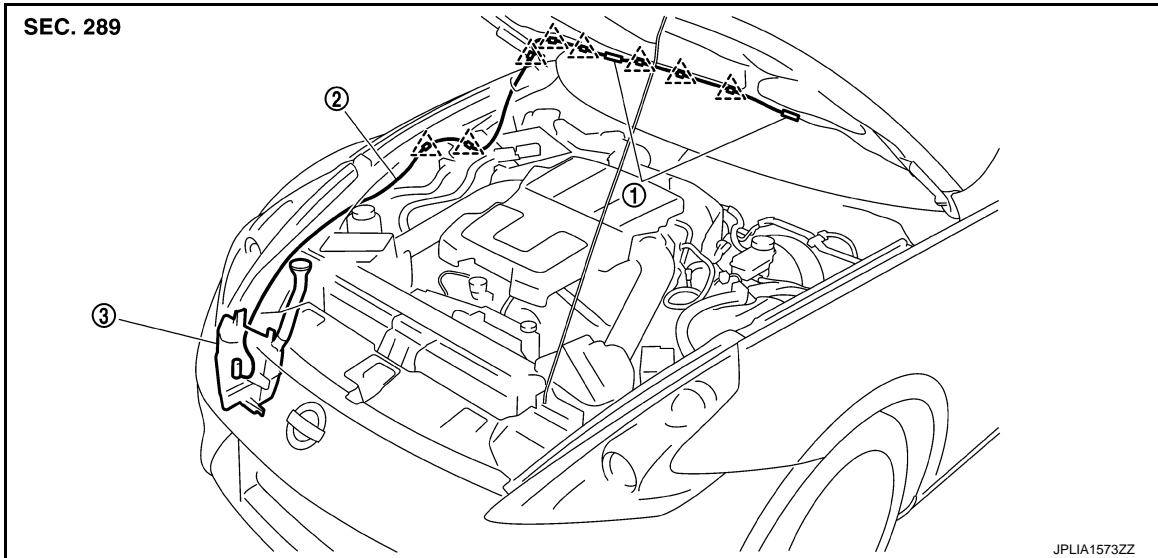
FRONT WASHER NOZZLE AND TUBE

< REMOVAL AND INSTALLATION >

FRONT WASHER NOZZLE AND TUBE

Hydraulic Layout

INFOID:000000008194827



1. Front washer nozzle

2. Front washer tube

3. Washer tank

△ : Clip

Removal and Installation

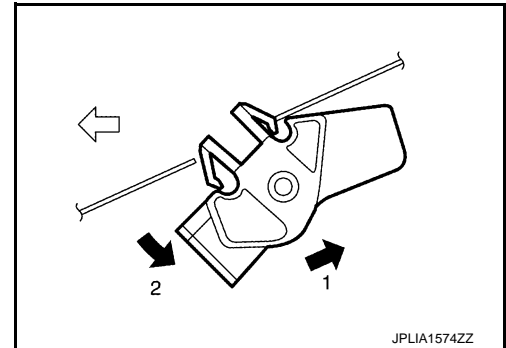
INFOID:000000008194828

REMOVAL

1. Open the hood.
2. Remove the front washer nozzle in numerical order shown in the figure.

⇐ : Vehicle front

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



INSTALLATION

1. Connect the front washer tube into the front washer nozzle.
2. Install the front washer nozzle to the hood.
3. Adjust the front washer nozzle spray position. Refer to [WW-86, "Inspection and Adjustment"](#).

CAUTION:

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

Inspection and Adjustment

INFOID:000000008194829

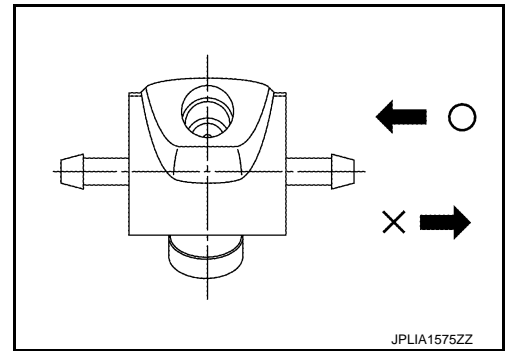
INSPECTION

Washer Nozzle Inspection

FRONT WASHER NOZZLE AND TUBE

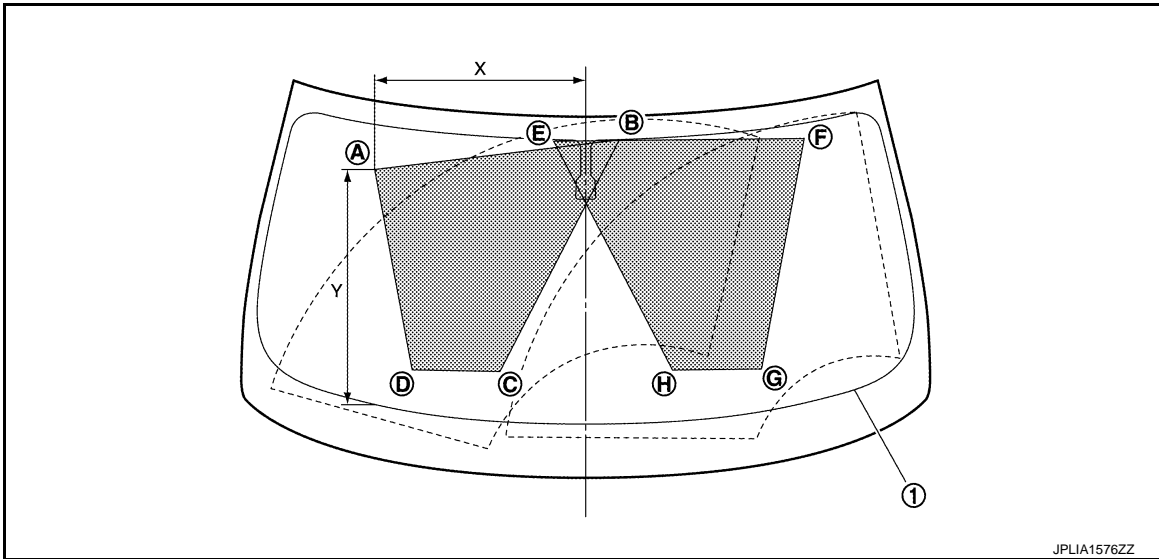
< REMOVAL AND INSTALLATION >

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



ADJUSTMENT

Washer Nozzle Spray Position Adjustment




1. Black printed frame line

 : Spray area

Unit: mm (in)

	Passenger side				Driver side			
	A	B	C	D	E	F	G	H
X	445 (17.52)	69 (2.72)	181 (7.13)	366 (14.41)	68 (2.68)	458 (18.03)	367 (14.45)	180 (7.09)
Y	493 (19.41)	594 (23.39)	104 (4.09)	87 (3.43)	594 (23.39)	555 (21.85)	90 (3.54)	108 (4.25)

Check that washer fluid is splayed on 80% or more the splay area () when spraying washer fluid. If the spray area deviates from the specification, adjust the washer nozzle.

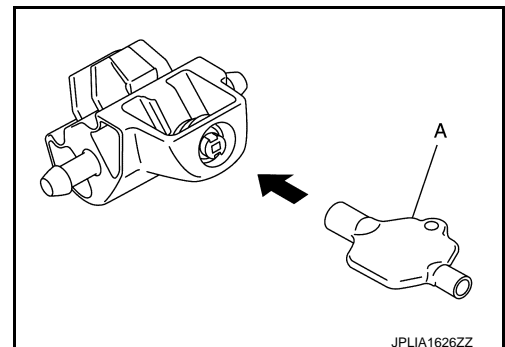
CAUTION:

- Use washer nozzle adjuster* (A) for nozzle adjustment.
- Never use needle or small pin.

*: Washer nozzle adjuster is included with shipment of nozzle.

NOTE:

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



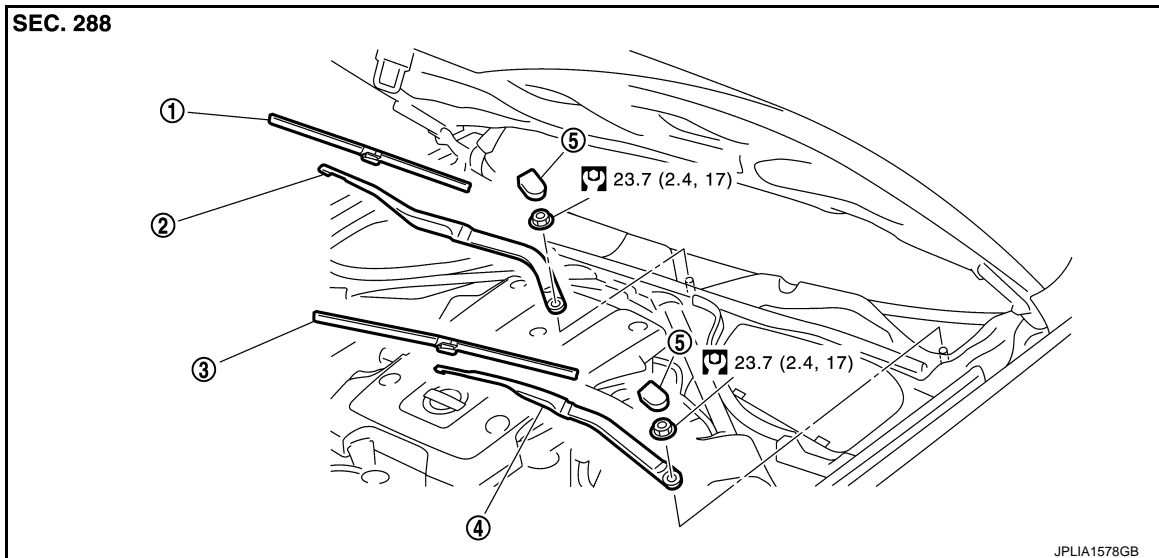
FRONT WIPER ARM

< REMOVAL AND INSTALLATION >

FRONT WIPER ARM

Exploded View

INFOID:000000008194830



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

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

Removal and Installation

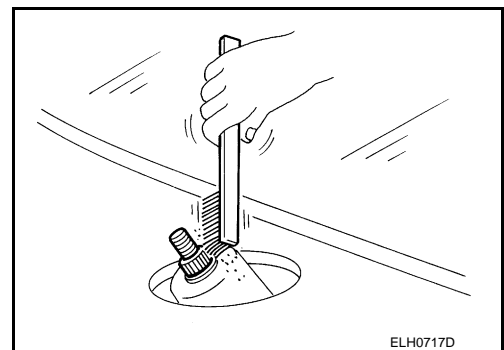
INFOID:000000008194831

REMOVAL

1. Operate the front wiper to move it to the auto stop position.
2. Open the hood.
3. Remove the 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 front 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-88, "Adjustment"](#).
4. Install the front wiper arm by tightening the mounting nuts.
5. Inject the washer fluid.
6. Operate the front wiper to move it to the auto stop position.
7. Check that the front wiper blades stop at the specified position.
8. Install the front wiper arm caps.



Adjustment

INFOID:000000008194832

WIPER BLADE POSITION ADJUSTMENT

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

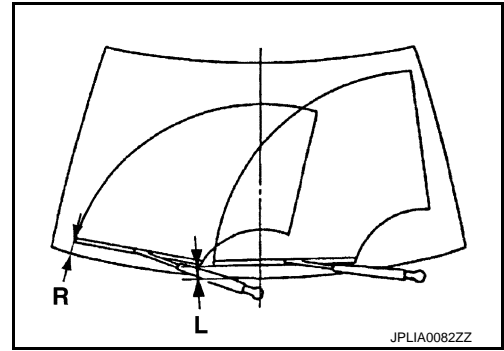
FRONT WIPER ARM

< REMOVAL AND INSTALLATION >

Standard clearance

R : $33.9 \pm 7.5 \text{ mm}$ ($1.335 \pm 0.295 \text{ in}$)

L : $61.4 \pm 7.5 \text{ mm}$ ($2.417 \pm 0.295 \text{ in}$)



A

B

C

D

E

F

G

H

I

J

K

WW

M

N

O

P

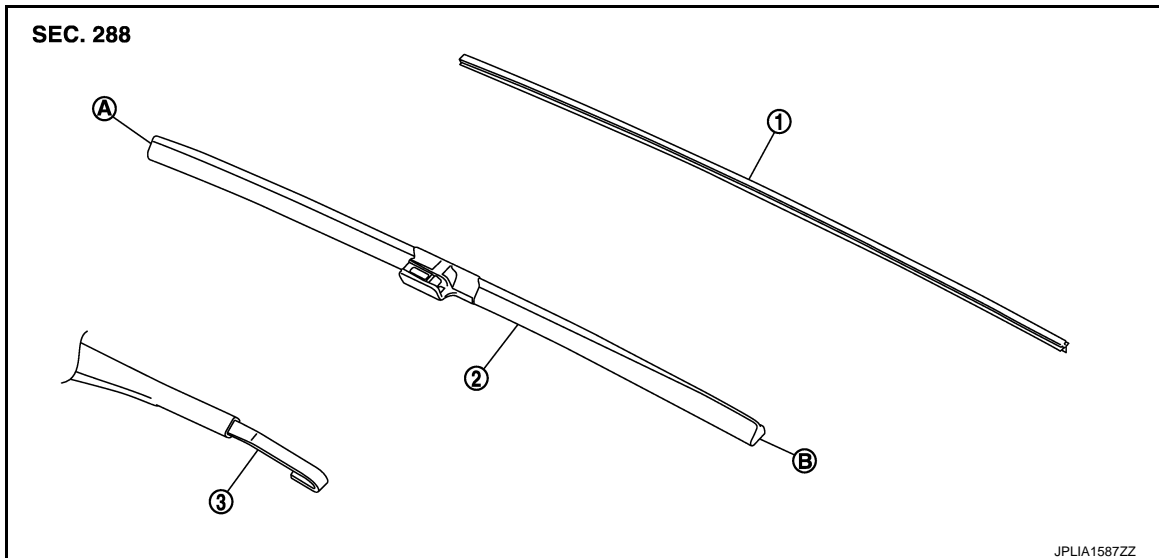
WIPER BLADE

< REMOVAL AND INSTALLATION >

WIPER BLADE

Exploded View

INFOID:000000008194833



- | | | |
|--------------------|--------------------|--------------|
| 1. Wiper refill | 2. Wiper blade | 3. Wiper arm |
| A. Wiper blade end | B. Wiper blade tip | |

Removal and Installation

INFOID:000000008194834

REMOVAL

Remove the wiper blade from the wiper arm.

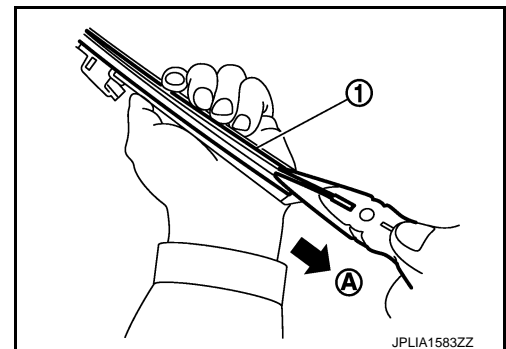
INSTALLATION

Install the front wiper blade to the wiper arm.

Replacement

INFOID:000000008194835

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

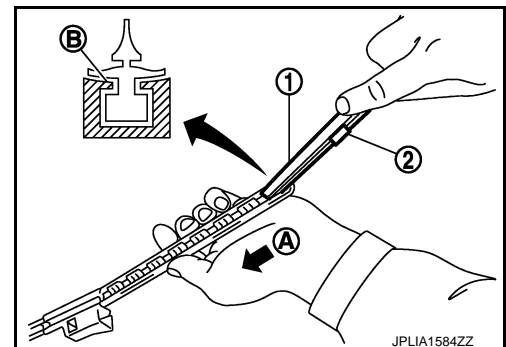


2. Insert the tip of new wiper refill (1) into the rear end of wiper blade. Slide the wiper refill to the direction (A) while pressing the wiper refill onto the wiper blade rear end.

NOTE:

- Insert the wiper refill to be held securely by tab (B) of wiper blade.
- After the wiper refill is fully inserted, remove the holder* (2).

*: Attached to service parts.



WIPER BLADE

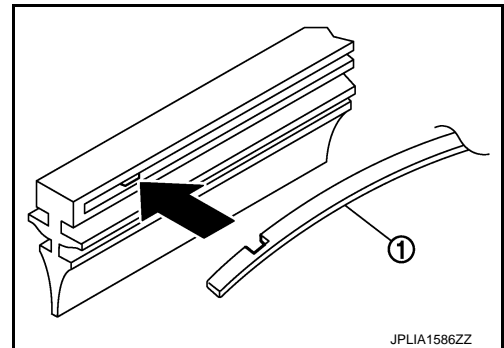
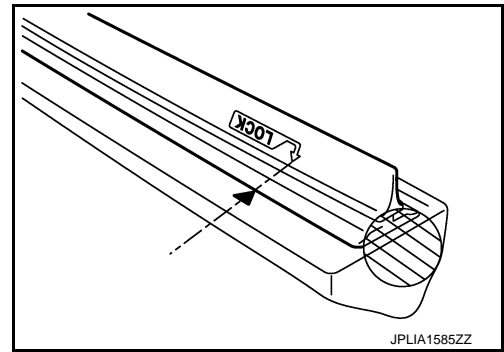
< REMOVAL AND INSTALLATION >

3. Inert the wiper refill until the stopper at the rear end of wiper refill fits in the tab. Check that "LOCK" mark on wiper refill is aligned with "▼" mark on wiper blade.
4. Untwist the twisted wiper refill (▨) at the rear end of wiper blade, if any.
5. Check the following items after replacing wiper refill.
 - Wiper refill is not twisted at all.
 - Wiper refill thoroughly fits in the tab on wiper blade.
 - Wiper refill is inserted from the proper direction.

NOTE:

When the vertebra is detached.

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



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

WW

FRONT WIPER DRIVE ASSEMBLY

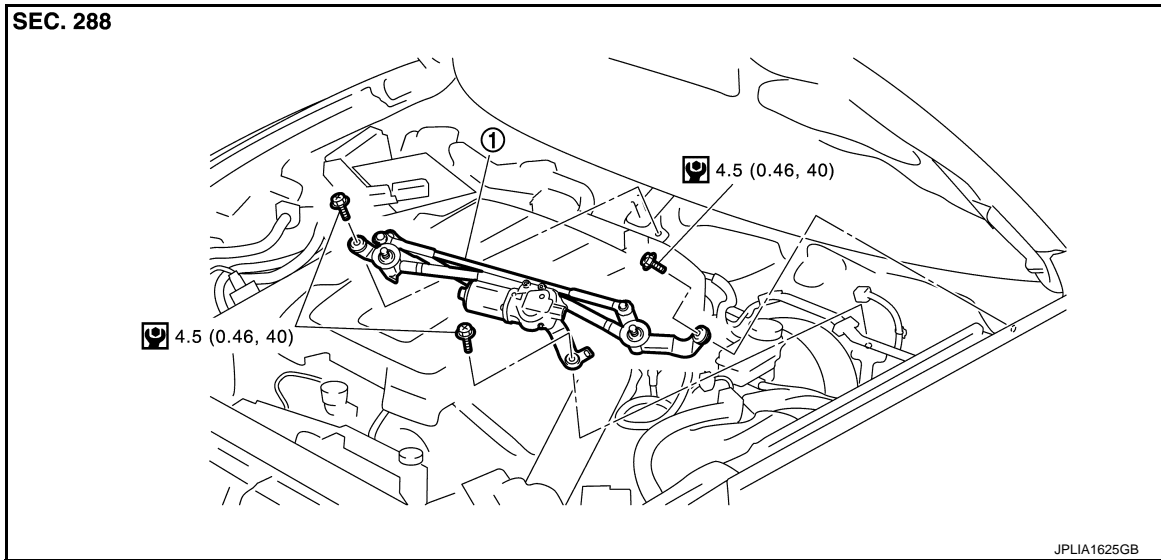
< REMOVAL AND INSTALLATION >

FRONT WIPER DRIVE ASSEMBLY

Exploded View

INFOID:000000008194836

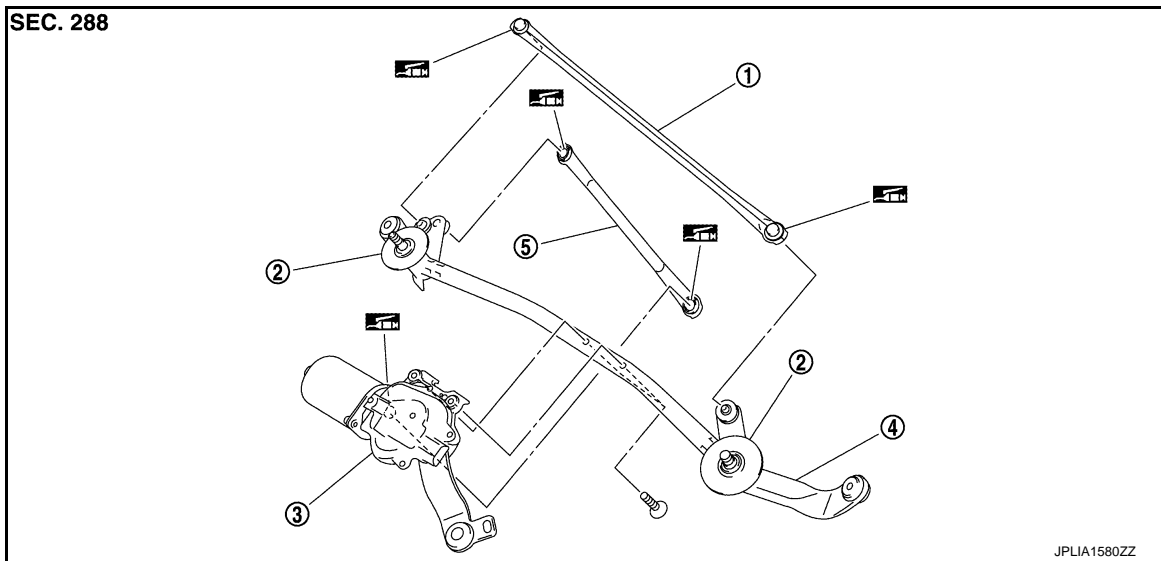
REMOVAL



1. Front wiper drive assembly

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

DISASSEMBLY




1. Front wiper linkage 1

2. Shaft seal

3. Front wiper motor

4. Front wiper frame

5. Front wiper linkage 2

: Multi-purpose grease or an equivalent.

Removal and Installation

INFOID:000000008194837

REMOVAL

1. Remove the front wiper arm. Refer to [WW-88. "Exploded View"](#).
2. Remove the front tower bar and cowl top cover. Refer to [EXT-22. "Exploded View"](#).

FRONT WIPER DRIVE ASSEMBLY

< REMOVAL AND INSTALLATION >

3. Remove the bolts from the front wiper drive assembly.
4. Disconnect the front wiper motor connector.
5. Remove the 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 front tower bar and cowl top cover. Refer to [EXT-22, "Exploded View"](#).
5. Install the front wiper arms. Refer to [WW-88, "Exploded View"](#).

B

C

D

Disassembly and Assembly

INFOID:000000008194838

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

F

G

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 the front wiper motor to the front wiper frame.
5. Install the front wiper linkage 2 to the front wiper motor and the front wiper frame.
6. Install the front wiper linkage 1 to the front wiper frame.
CAUTION:
 - **Never drop front wiper motor or cause it to come into contact with other parts.**
 - **Be careful for the grease condition at the front wiper motor and front wiper linkage joint (retainer). Apply Multi-purpose grease or an equivalent if necessary.**

H

I

J

K

WW

M

N

O

P

WIPER AND WASHER SWITCH

< REMOVAL AND INSTALLATION >

WIPER AND WASHER SWITCH

Exploded View

INFOID:000000008194839

Refer to [BCS-96. "Exploded View"](#).