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## SECTION

### WIPER, WASHER & HORN

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# PRECAUTION

## PRECAUTION

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### Precautions for Supplemental Restraint System (SRS) “AIR BAG” and “SEAT BELT PRE-TENSIONER”

AKS00AC5

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 and SB section of this Service Manual.

#### **WARNING:**

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

### Precautions for Battery Service

AKS003RE

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.

### Wiring Diagrams and Trouble Diagnosis

AKS000Y5

When You Read Wiring Diagrams, Refer to the Following:

- Refer to [GI-15, "How to Read Wiring Diagrams"](#) .
- Refer to [PG-4, "POWER SUPPLY ROUTING CIRCUIT"](#) for power distribution circuit.

When You Perform Trouble Diagnosis, Refer to the Following:

- Refer to [GI-11, "How to Follow Trouble Diagnoses"](#) .
- Refer to [GI-27, "How to Perform Efficient Diagnosis for an Electrical Incident"](#) .

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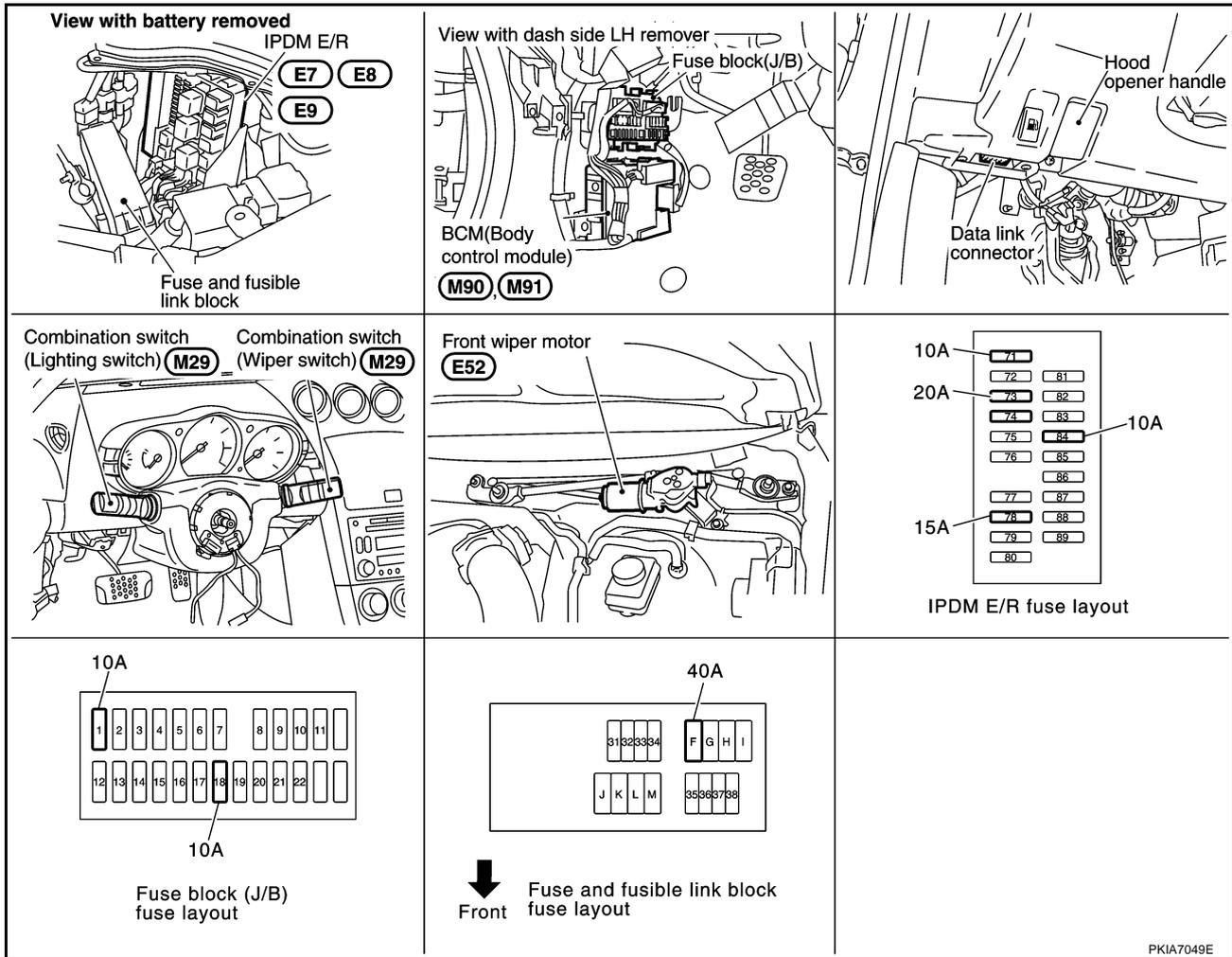
# FRONT WIPER AND WASHER SYSTEM

## FRONT WIPER AND WASHER SYSTEM

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### Components Parts and Harness Connector Location

AKS000Y6



### System Description

AKS000Y7

- All front wiper relays (HI, LO) are included in IPDM E/R.
- Wiper switch (combination switch) is composed of a combination of 5 output terminals and 5 input terminals. Terminal combination status is read by BCM (body control module) when switch is turned ON.
- BCM (body control module) controls front wiper LO, HI, and INT (intermittent) operation.
- IPDM E/R (intelligent power distribution module engine room) operates wiper motor according to CAN communication signals from BCM (body control module).

Power is supplied at all times

- through 40 A fusible link (letter F, located in fusible link block)
- to BCM (body control module) terminal 55
- through 10 A fuse [No.18 located in fuse block (J/B)]
- to BCM (body control module) terminal 42
- through 20 A fuse [No.73 located in IPDM E/R (intelligent power distribution module engine room)]
- to front wiper relay [built in IPDM E/R (intelligent power distribution module engine room)]
- through 15 A fuse [No.78 located in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)]
- through 10 A fuse [No.71 located in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)].

When ignition switch is in ON or START position, power is supplied

# FRONT WIPER AND WASHER SYSTEM

- to ignition relay [built in IPDM E/R (intelligent power distribution module engine room)]
- through 10 A fuse [No.1 located in fuse block (J/B)]
- to BCM (body control module) terminal 38
- through ignition relay [built in IPDM E/R (intelligent power distribution module engine room)]
- to front wiper relay [built in IPDM E/R (intelligent power distribution module engine room)]
- to front wiper high relay [built in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)]
- through 10 A fuse [No.84 located in IPDM E/R (intelligent power distribution module engine room)]
- through IPDM E/R (intelligent power distribution module engine room) terminal 44
- to front washer motor terminal 2.

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Ground is supplied

- to BCM (body control module) terminal 52
- through grounds M30 and M66,
- to IPDM E/R (intelligent power distribution module engine room) terminals 38 and 60
- through grounds E17, E43 and F152,
- to combination switch (wiper switch) terminal 12
- through grounds M30 and M66.

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## LOW SPEED WIPER OPERATION

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When front wiper switch is in LO position, BCM detect low speed wiper ON signal by BCM wiper switch reading function.

BCM sent front wiper request signal (LO) with CAN communication line

H

- from BCM terminals 39 and 40
- to IPDM E/R terminals 48 and 49.

When IPDM E/R receives front wiper request signal (LO), it turns ON front wiper relay (built in IPDM E/R), power is supplied

I  
J

- to front wiper motor terminal 3
- through IPDM E/R terminal 21 and front wiper high relay and front wiper relay.

Ground is supplied

- to front wiper motor terminal 4
- through grounds E17, E43 and F152.

WW

with power and ground is supplied, front wiper motor operates at low speed.

## HI SPEED WIPER OPERATION

L

When front wiper switch is in HI position, BCM detect high speed wiper ON signal by BCM wiper switch reading function.

BCM sent front wiper request signal (HI) with CAN communication line

M

- from BCM terminals 39 and 40
- to IPDM E/R terminals 48 and 49.

When IPDM E/R receives front wiper request signal (HI), it turns ON front wiper relay (built in IPDM E/R), power is supplied

- to front wiper motor terminal 2
- through IPDM E/R terminal 31 and front wiper high relay and front wiper relay.

Ground is supplied

- to front wiper motor terminal 4
- through grounds E17, E43 and F152.

with power and ground is supplied, front wiper motor operates at high speed.

## INTERMITTENT OPERATION

Front wiper motor operates wiper arms one time at low speed at a set interval of wiper volume switch and vehicle speeds, this feature is controlled by BCM and IPDM E/R.

When front wiper switch is in HI position BCM detect high speed wiper ON signal by BCM wiper switch reading function. BCM performs the following operations

# FRONT WIPER AND WASHER SYSTEM

- When BCM detects ON/OFF status of intermittent operation dial positions 1, 2, and 3 it determines wiper dial position status. Refer to [WW-9, "Wiper Dial Position Setting"](#) .
- BCM calculates operation interval from wiper dial position and vehicle speed signal received from combination meter with CAN communications.
- BCM sends front wiper request signal (INT) to IPDM E/R at calculated operation interval.
- When IPDM E/R receives front wiper request signal (INT), it turns ON internal front wiper relay. It then sends auto-stop signal to BCM, and conducts intermittent front wiper operation.

With power and ground is supplied, rear wiper operates at intermittent.

## AUTO STOP OPERATION

With wiper switch turned OFF, wiper motor will continue to operate until wiper arms reach windshield base. When wiper arms are not located at base of windshield with wiper switch OFF, ground is provided

- from IPDM E/R terminal 21
- to front wiper motor terminal 3, in order to continue wiper motor operation at low speed.

When wiper arms reach base of windshield, front wiper motor terminals 1 and 4 are connected, and Ground is supplied

- to IPDM E/R terminal 32
- through front wiper motor terminals 1 and 4
- through grounds E17, E43 and F152.

Then IPDM E/R sends auto stop operation signal to BCM with CAN communication line.

When BCM receives auto-stop operation signal, BCM sends wiper stop signal to IPDM E/R with CAN communication line.

IPDM E/R stops wiper motor. Wiper motor will then stop wiper arms at STOP position.

## WASHER OPERATION

When wiper switch is in front wiper washer position, BCM detect front wiper washer signal by BCM wiper switch reading function. (Refer to [WW-6, "COMBINATION SWITCH READING FUNCTION"](#) .)

Combination switch (wiper switch) ground is supplied

- to front washer motor terminal 1
- through combination switch (wiper switch) terminal 11
- to combination switch (wiper switch) terminal 12
- through grounds M30 and M66.

With ground is supplied, front washer motor is operated.

When BCM detects that front washer motor has operated for 0.4 seconds or longer, BCM operates front wiper motor for low speed.

When BCM detects washer switch is OFF, low speed operation cycles approximately 3 times and stops.

## MIST OPERATION

When wiper switch is turned to mist position, wiper low speed operation cycles once and then stops.

For additional information about wiper operation under this condition, refer to [WW-5, "LOW SPEED WIPER OPERATION"](#) .

If switch is held in mist position, low speed operation continues.

## FAIL-SAFE FUNCTION

IPDM E/R includes a fail-safe function to prevent malfunction of electrical components controlled by CAN communications in CAN communications occurs.

When fail-safe status is initiated, IPDM E/R remains in steady unit signals are received.

## COMBINATION SWITCH READING FUNCTION

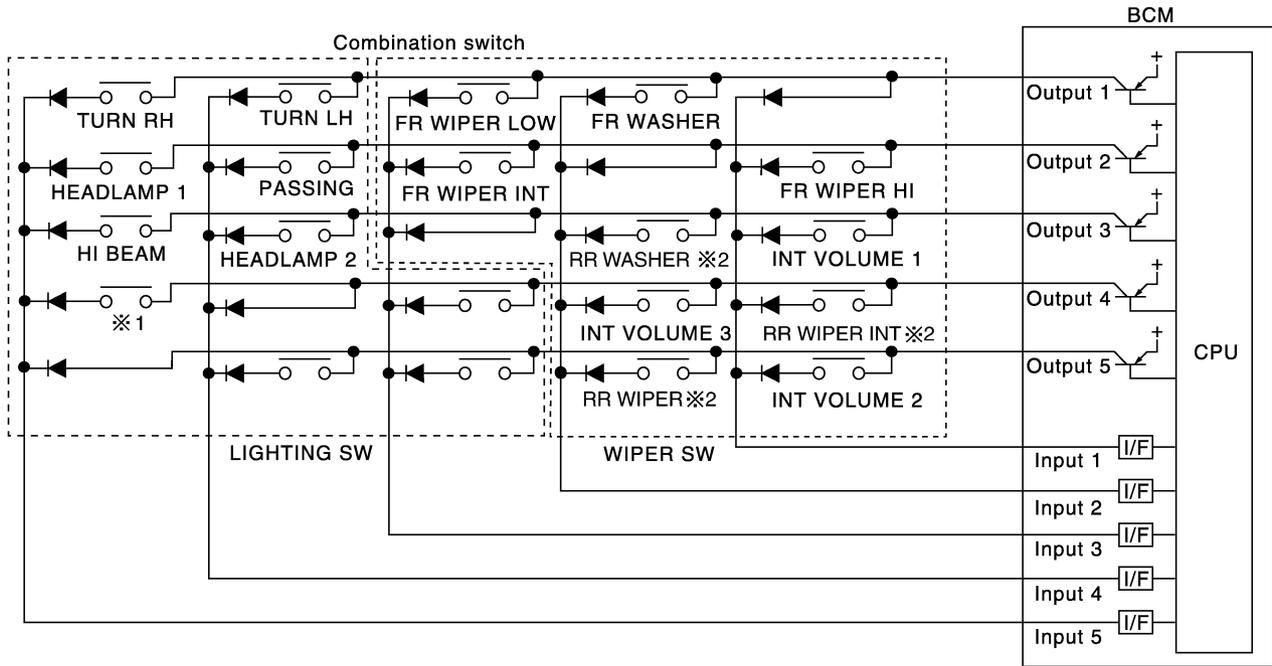
### Description

- BCM reads combination switch (wiper) status, and controls related systems such as head lamps and wipers, according to the results.
- BCM reads information of a maximum of 20 switches by combining five output terminals (OUTPUT 1-5) and five input terminals (INPUT 1-5).

# FRONT WIPER AND WASHER SYSTEM

## Operation Description

- BCM activates transistors of output terminals (OUTPUT 1-5) periodically, and allows current to flow in turn.
- If any (1 or more) switches are turned ON, circuit of output terminals (OUTPUT 1-5) and input terminals (INPUT 1-5) becomes active.
- At this time, transistors of output terminals (OUTPUT 1-5) are activated to allow current to flow. When voltage of input terminals (INPUT 1-5) corresponding to that switch changes, interface in BCM detects voltage change, and BCM determines that switch is ON.



※ 1 : LIGHTING SWITCH 1ST POSITION

※ 2 : COUPE MODELS

PKIA7241E

## BCM - Operation Table of Combination Switches

- BCM reads operation status of combination switch using combinations shown in table below.

	COMB SW OUTPUT 1		COMB SW OUTPUT 2		COMB SW OUTPUT 3		COMB SW OUTPUT 4		COMB SW OUTPUT 5	
	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
COMB SW INPUT 1	—	—	FR WIPER HI ON	FR WIPER HI OFF	INT VOLUME 1 ON	INT VOLUME 1 OFF	RR WIPER INT ON ※	RR WIPER INT OFF ※	INT VOLUME 2 ON	INT VOLUME 2 OFF
COMB SW INPUT 2	FR WASHER ON	FR WASHER OFF	—	—	RR WASHER ON ※	RR WASHER OFF ※	INT VOLUME 3 ON	INT VOLUME 3 OFF	RR WIPER ON ※	RR WIPER OFF ※
COMB SW INPUT 3	FR WIPER LOW ON	FR WIPER LOW OFF	FR WIPER INT ON	FR WIPER INT OFF	—	—	—	—	—	—
COMB SW INPUT 4	TURN LH ON	TURN LH OFF	PASSING ON	PASSING OFF	HEAD-LAMP 2 ON	HEAD-LAMP 2 OFF	—	—	—	—
COMB SW INPUT 5	TURN RH ON	TURN RH OFF	HEAD-LAMP 1 ON	HEAD-LAMP 1 OFF	HI BEAM ON	HI BEAM OFF	LIGHTING SW (1st) ON	LIGHTING SW (1st) OFF	—	—

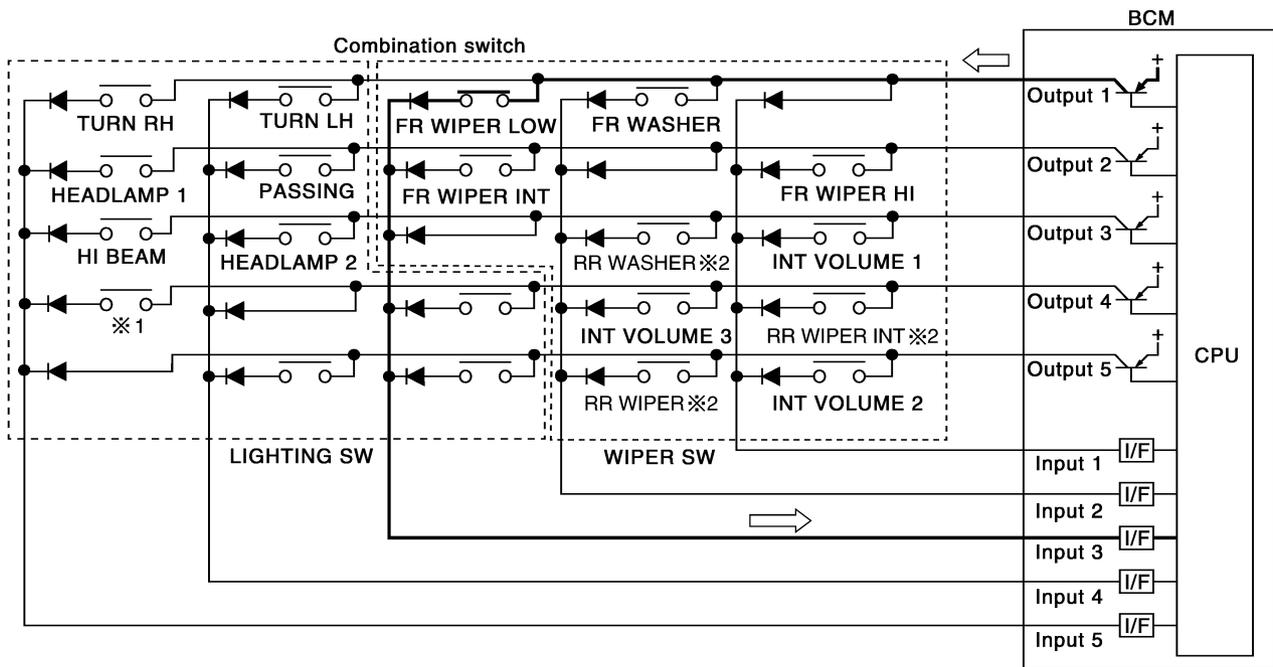
※ : COUPE MODELS

PKIA7242E

# FRONT WIPER AND WASHER SYSTEM

## Sample Operation: (When Wiper Switch Turned ON)

- When wiper switch is turned ON, contact in combination switch turns ON. At this time if OUTPUT 1 transistor is activated, BCM detects that voltage changes in INPUT 3.
- When OUTPUT 1 transistor is ON, BCM detects that voltage changes in INPUT 3, and judges that front wiper low is ON. Then BCM sends front wiper request signal (LO) to IPDM E/R using CAN communication.
- When OUTPUT 1 transistor is activated again, BCM detects that voltage changes in INPUT 3, and recognizes that wiper switch is continuously ON.



※1 : LIGHTING SWITCH 1ST POSITION

※2 : COUPE MODELS

PKIA7243E

### NOTE:

Each OUTPUT terminal transistor is activated at 10 ms intervals. Therefore after switch is turned ON, electrical loads are activated with time delay. But this time delay is so short that it cannot be detected by human senses.

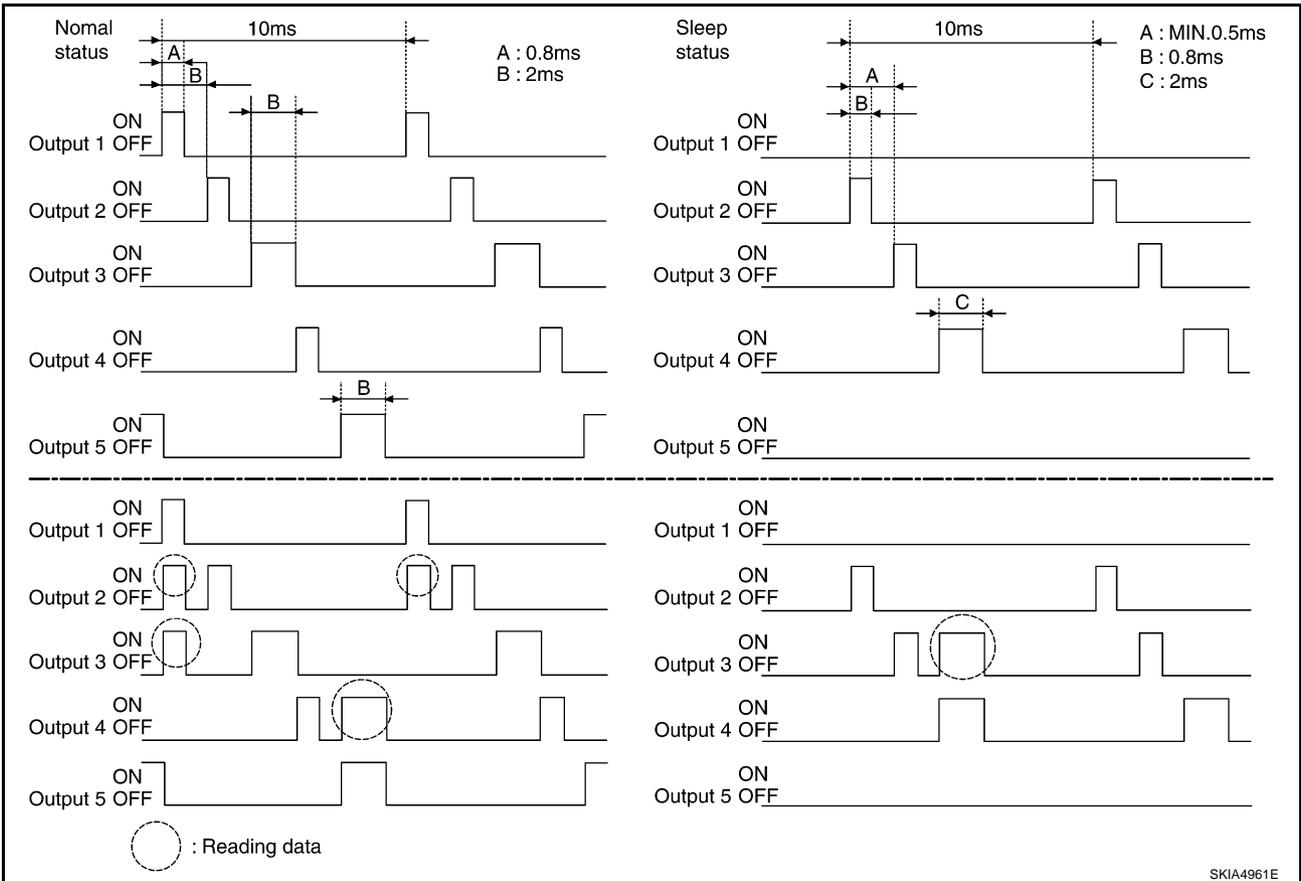
### Operation Mode

Combination switch reading function has operation modes shown below.

1. Normal status
  - When BCM is not in sleep status, OUTPUT terminals (1-5) each turn ON-OFF every 10 ms.
2. Sleep status

# FRONT WIPER AND WASHER SYSTEM

- When BCM is in sleep status, transistors of OUTPUT (1 and 5) stop the output, and BCM enters low current consumption mode. OUTPUT (2, 3, and 4) turn ON-OFF every 10 ms, and only input from light switch system is accepted.



## Intermittent Operation

Wiper intermittent operation delay interval is determined from a combination of 3 switches (intermittent operation dial position 1, intermittent operation dial position 2, and intermittent operation dial position 3) and vehicle speed signal.

During each intermittent operation delay interval, BCM sends front wiper request signal to IPDM E/R.

## Wiper Dial Position Setting

Wiper dial position	Intermittent operation interval	Combination switch		
		Intermittent operation dial position 1	Intermittent operation dial position 2	Intermittent operation dial position 3
Wiper dial position 1	Small	ON	ON	ON
Wiper dial position 2		ON	ON	OFF
Wiper dial position 3		ON	OFF	OFF
Wiper dial position 4	↓	OFF	OFF	OFF
Wiper dial position 5		OFF	OFF	ON
Wiper dial position 6		OFF	ON	ON
Wiper dial position 7		OFF	ON	OFF

Example: For wiper dial position 1...

Using combination switch reading function, BCM detects ON/OFF status of intermittent operation dial positions 1, 2, and 3.

When combination switch status is as listed below, BCM determines that it is wiper dial position 1.

- Intermittent operation dial position 1: ON (input 3 and output 1 are conducting.)
- Intermittent operation dial position 2: ON (input 5 and output 1 are conducting.)
- Intermittent operation dial position 3: ON (input 4 and output 2 are conducting.)

# FRONT WIPER AND WASHER SYSTEM

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BCM determines front wiper intermittent operation delay interval from wiper dial position 1 and vehicle speed, and sends wiper request signal (INT) to IPDM E/R.

## **CAN Communication System Description**

AKS000Y8

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-vehicle multiplex communication line with high data communication speed and excellent error detection ability. Many electronic control units are equipped onto a vehicle, and each control unit shares information and links with other control units during operation (not independent). In CAN communication, control units are connected with 2 communication lines (CAN H line, CAN L line) allowing a high rate of information transmission with less wiring. Each control unit transmits/receives data but selectively reads required data only.

## **CAN Communication Unit**

AKS003M9

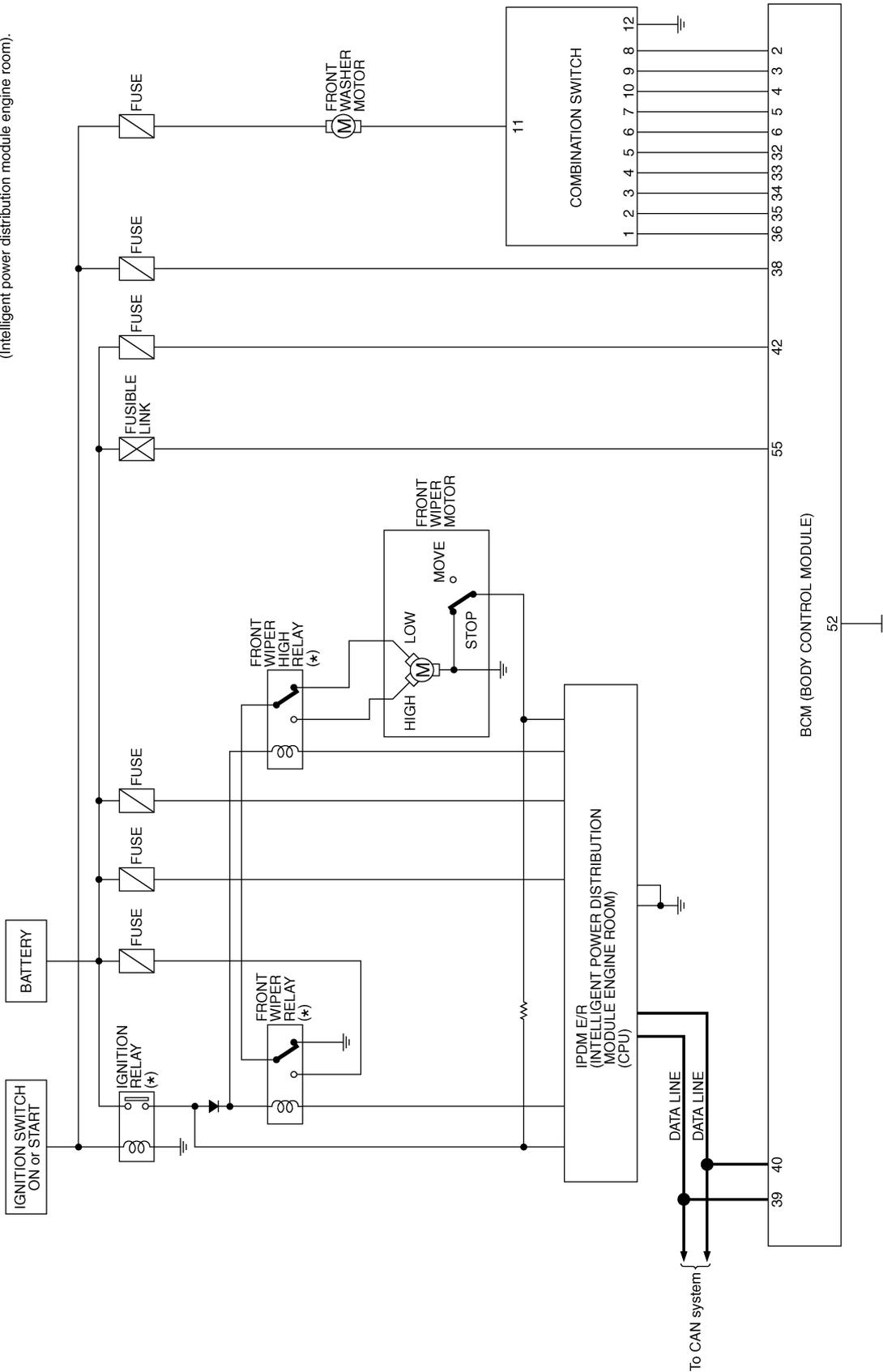
Refer to [LAN-5, "CAN Communication Unit"](#) .

# FRONT WIPER AND WASHER SYSTEM

## Schematic

AKS000Y9

\* : This relay is built into the IPDM E/R  
(Intelligent power distribution module engine room).



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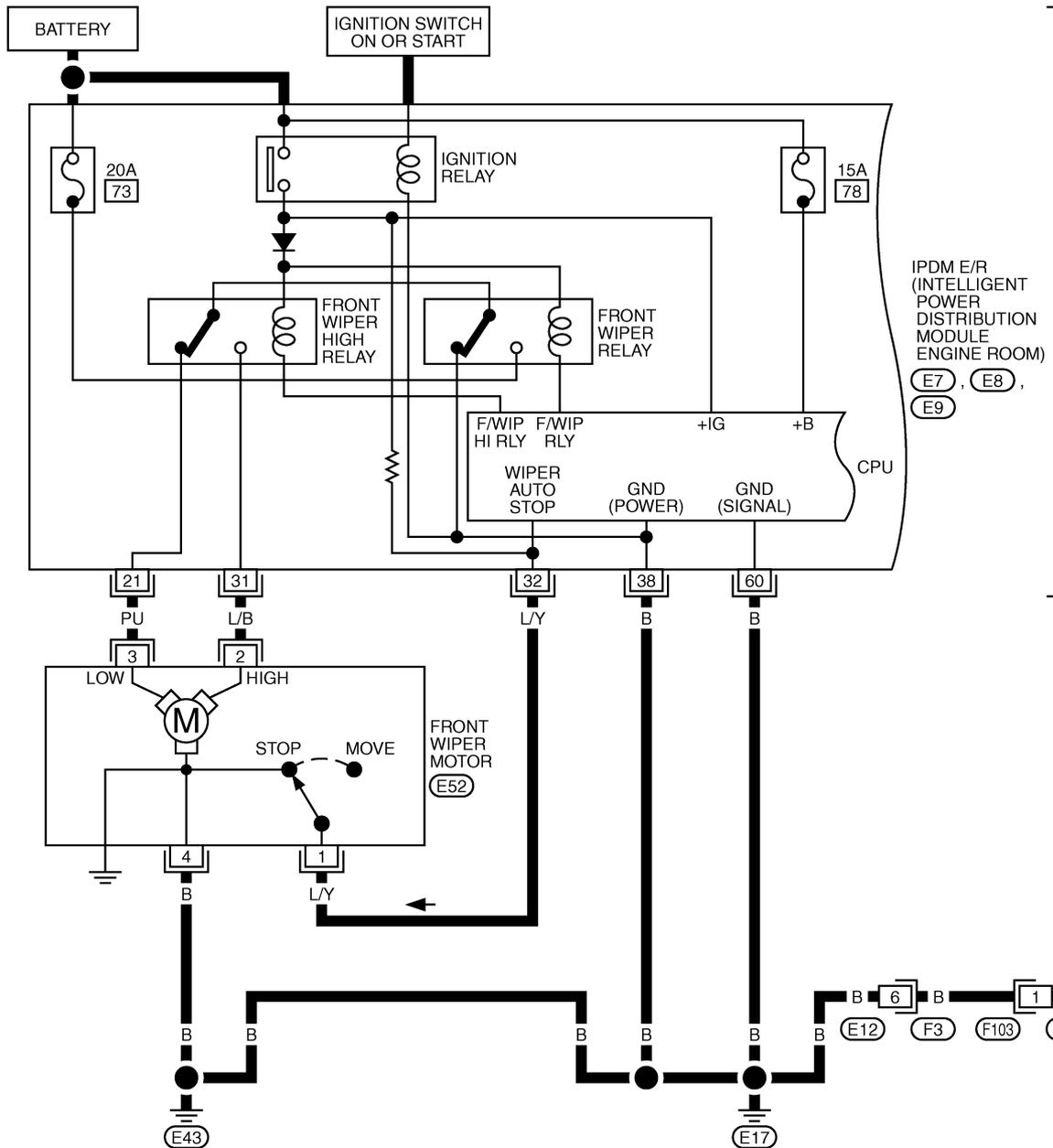
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# FRONT WIPER AND WASHER SYSTEM

## Wiring Diagram — WIPER —

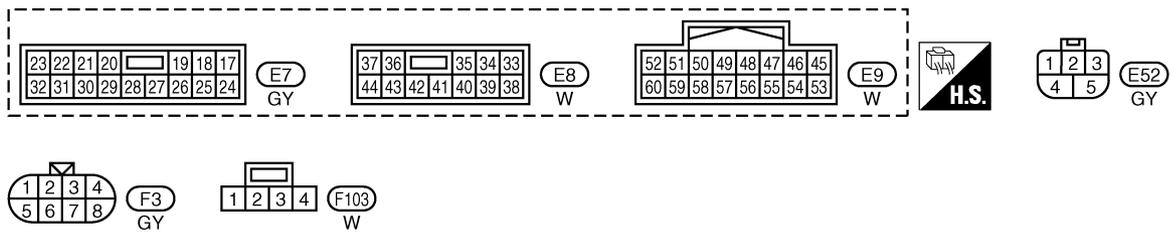
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WW-WIPER-01



REFER TO PG-POWER.

IPDM E/R  
(INTELLIGENT  
POWER  
DISTRIBUTION  
MODULE  
ENGINE ROOM)  
E7, E8,  
E9

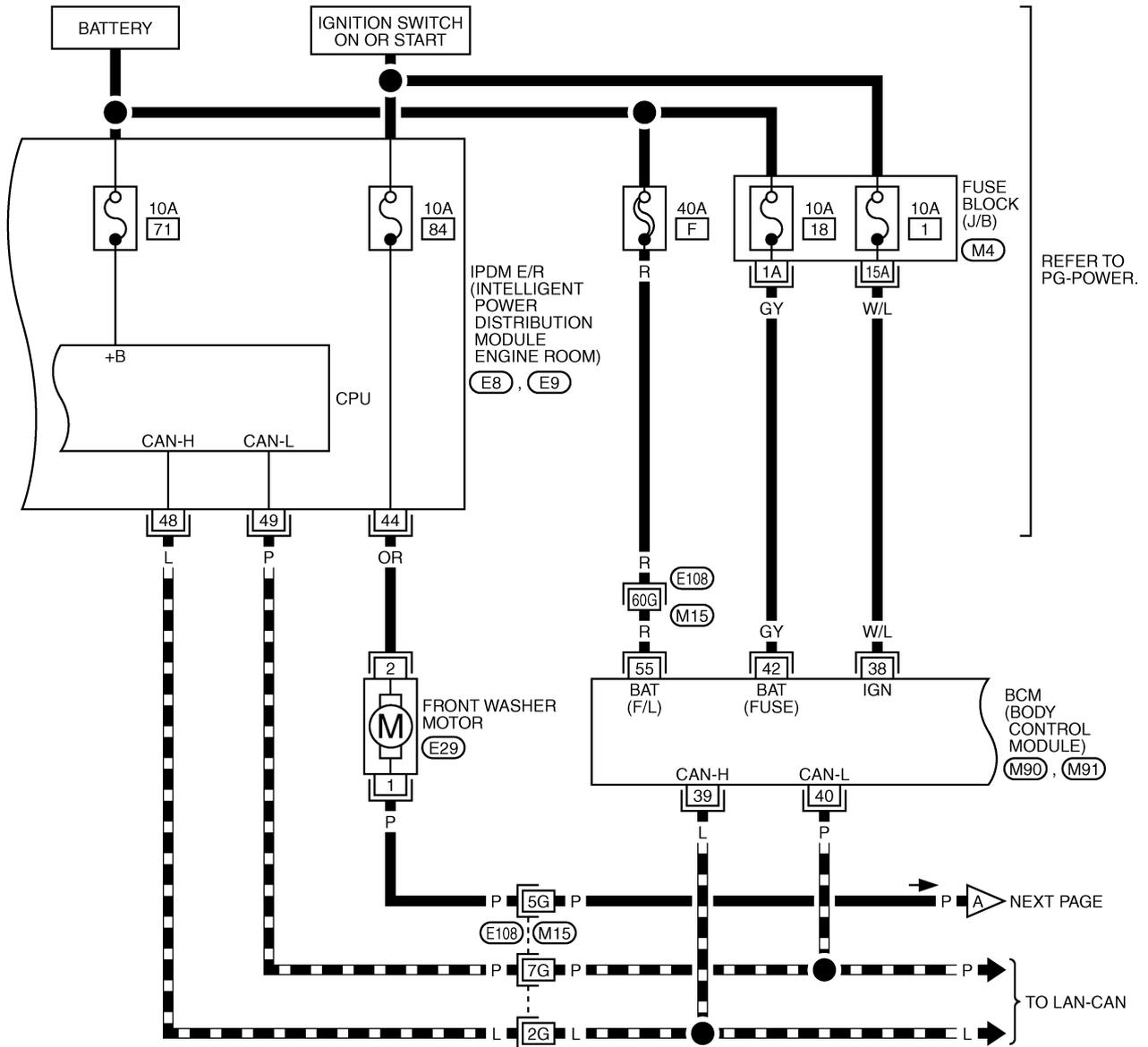


TKWT1853E

# FRONT WIPER AND WASHER SYSTEM

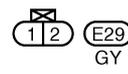
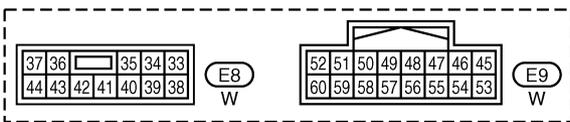
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DATA LINE



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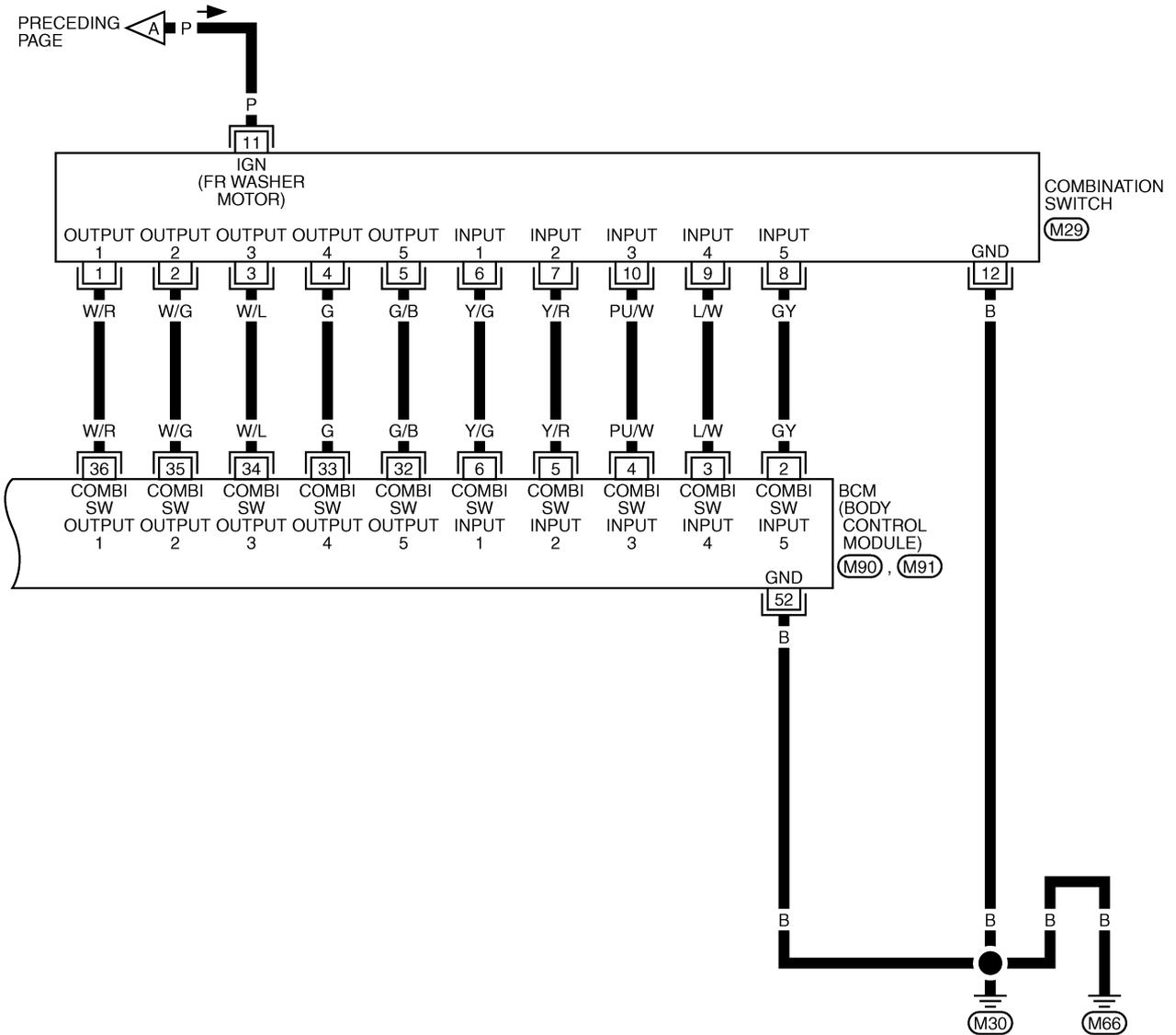


REFER TO THE FOLLOWING.  
 (E108) -SUPER MULTIPLE JUNCTION (SMJ)  
 (M4) -FUSE BLOCK-JUNCTION BOX (J/B)  
 (M90), (M91) -ELECTRICAL UNITS

TKWT1854E

# FRONT WIPER AND WASHER SYSTEM

WW-WIPER-03



7	8	9	10	13	12
6	5	4	3	2	1

(M29)  
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REFER TO THE FOLLOWING.  
(M90), (M91) -ELECTRICAL  
UNITS

TKWT1855E

# FRONT WIPER AND WASHER SYSTEM

## Terminals and Reference Values for BCM

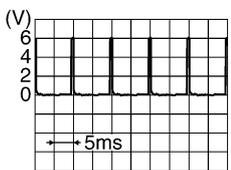
AKS00APG

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
2	GY	Combination switch input 5	ON	<ul style="list-style-type: none"> <li>● Lighting switch and wiper switch OFF</li> <li>● Wiper dial position 4</li> </ul>	<p style="text-align: right;">SKIA5291E</p>
3	L/W	Combination switch input 4	ON	<ul style="list-style-type: none"> <li>● Lighting switch and wiper switch OFF</li> <li>● Wiper dial position 4</li> </ul>	<p style="text-align: right;">SKIA5292E</p>
4	PU/W	Combination switch input 3	ON	<ul style="list-style-type: none"> <li>● Lighting switch and wiper switch OFF</li> <li>● Wiper dial position 4</li> </ul>	<p style="text-align: right;">SKIA5291E</p>
5	Y/R	Combination switch input 2	ON	<ul style="list-style-type: none"> <li>● Lighting switch and wiper switch OFF</li> <li>● Wiper dial position 4</li> </ul>	<p style="text-align: right;">SKIA5292E</p>
6	Y/G	Combination switch input 1	ON		
32	G/B	Combination switch output 5	ON	<ul style="list-style-type: none"> <li>● Lighting switch and wiper switch OFF</li> <li>● Wiper dial position 4</li> </ul>	<p style="text-align: right;">SKIA5291E</p>
33	G	Combination switch output 4	ON	<ul style="list-style-type: none"> <li>● Lighting switch and wiper switch OFF</li> <li>● Wiper dial position 4</li> </ul>	<p style="text-align: right;">SKIA5292E</p>
34	W/L	Combination switch output 3	ON	<ul style="list-style-type: none"> <li>● Lighting switch and wiper switch OFF</li> <li>● Wiper dial position 4</li> </ul>	<p style="text-align: right;">SKIA5291E</p>

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WW

# FRONT WIPER AND WASHER SYSTEM

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
35	W/G	Combination switch output 2	ON	<ul style="list-style-type: none"> <li>Lighting switch and wiper switch OFF</li> <li>Wiper dial position 4</li> </ul>	 <small>SKIA5292E</small>
36	W/R	Combination switch output 1			
38	W/L	Ignition switch (ON)	ON	—	Battery voltage
39	L	CAN- H	—	—	—
40	P	CAN- L	—	—	—
42	GY	Battery power supply	OFF	—	Battery voltage
52	B	Ground	ON	—	Approx. 0V
55	R	Battery power supply	OFF	—	Battery voltage

## Terminals and Reference Values for IPDM E/R

AKS00APH

Terminal No.	Wire color	Signal name	Measuring condition		Reference value	
			Ignition switch	Operation or condition		
21	PU	Low speed signal	ON	Wiper switch	OFF	Approx. 0V
					LO	Battery voltage
31	L/B	High speed signal	ON	Wiper switch	OFF	Approx. 0V
					HI	Battery voltage
32	L/Y	Wiper auto - stop signal	ON	Wiper operating		Battery voltage
				Wiper stopped		Approx. 0V
38	B	Ground	ON	—	Approx. 0V	
44	OR	Washer motor power supply	ON	—	Battery voltage	
48	L	CAN- H	—	—	—	
49	P	CAN- L	—	—	—	
60	B	Ground	ON	—	Approx. 0V	

## How to Proceed With Trouble Diagnosis

AKS00API

1. Confirm the symptoms and customer complaint.
2. Understand operation description and function description. Refer to [WW-4, "System Description"](#) .
3. Perform preliminary check. Refer to [WW-16, "Preliminary Check"](#) .
4. Check symptom and repair or replace the cause of malfunction.
5. Does warning chime operate normally? If YES, GO TO 6. If NO, GO TO 4.
6. INSPECTION END

## Preliminary Check

AKS00APJ

### CHECK POWER SUPPLY AND GROUND CIRCUIT

Inspection Procedure

#### 1. CHECK FUSE

- Check if wiper and washer fuse is blown.

Unit	Power source	Fuse and fusible link No.
Front washer motor	Ignition switch ON or START	84
Front wiper motor, front wiper relay, front wiper HI relay	Battery	73

# FRONT WIPER AND WASHER SYSTEM

Unit	Power source	Fuse and fusible link No.
BCM	Battery	F
		18
	Ignition switch ON or START	1

Refer to [WW-12, "Wiring Diagram — WIPER —"](#) .

OK or NG

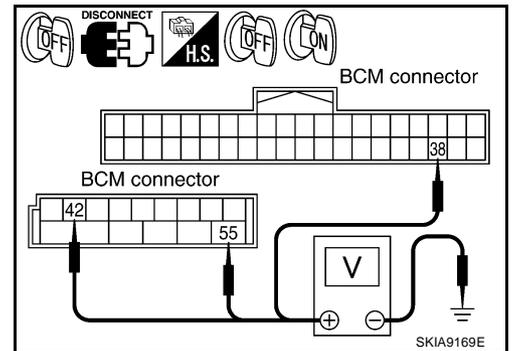
OK >> GO TO 2

NG >> If fuse is blown, be sure to eliminate cause of problem before installing new fuse, Refer to [PG-4, "POWER SUPPLY ROUTING CIRCUIT"](#) .

## 2. CHECK POWER SUPPLY CIRCUIT

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

Terminals		(-)	Ignition switch position	
(+) (+)			OFF	ON
Connector	Terminal (Wire color)	Ground	OFF	ON
M91	42 (GY)		Battery voltage	Battery voltage
M91	55 (R)		Battery voltage	Battery voltage
M90	38 (W/L)	0V	Battery voltage	



OK or NG

OK >> GO TO 3.

NG >> Check harness for open or short between fuse, fusible link and BCM.

## 3. CHECK GROUND CIRCUIT

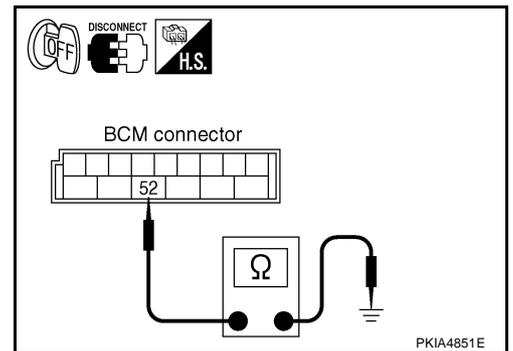
Check continuity between BCM harness connector and ground.

Terminals		Ground	Continuity
Connector	Terminal (Wire color)		
M91	52 (B)	Ground	Yes

OK or NG

OK >> INSPECTION END

NG >> Repair harness or connector.



# FRONT WIPER AND WASHER SYSTEM

## CONSULT-II Functions (BCM)

AKS00APK

CONSULT-II performs the following functions communicating with the BCM.

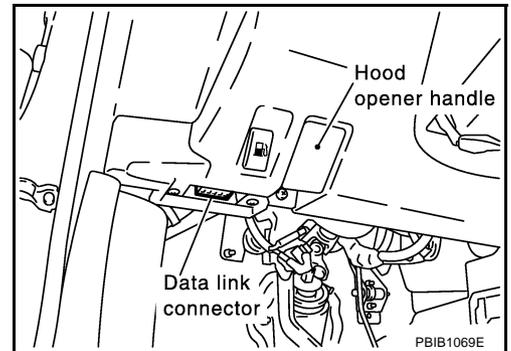
BCM diagnosis position	Check item, Diagnosis mode	Description
Wiper	WORK SUPPORT	Changes the setting for each function.
	DATA MONITOR	Displays BCM input data in real time.
	ACTIVE TEST	Device operation can be checked by applying a drive signal to device.
BCM	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.

## CONSULT-II OPERATION

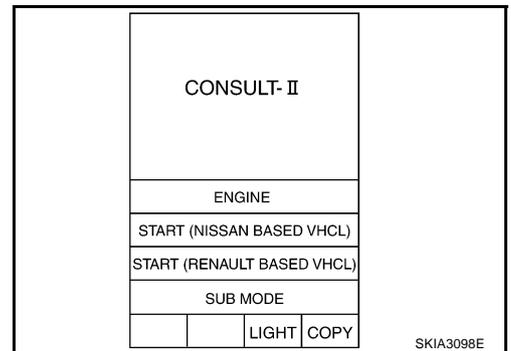
### CAUTION:

If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

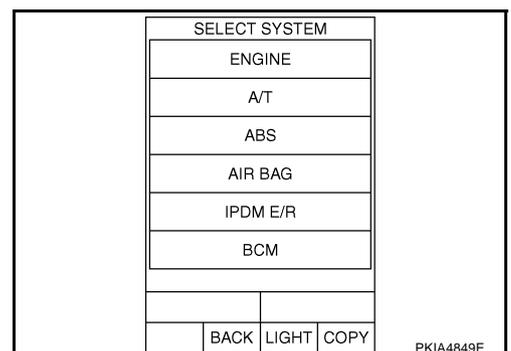
1. With ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to data link connector, then turn ignition switch ON.



2. Touch "START (NISSAN BASED VHCL)".

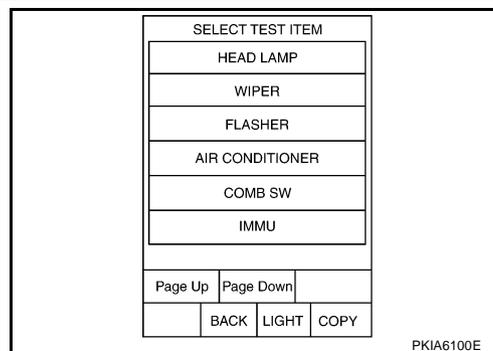


3. Touch "BCM" on "SELECT SYSTEM" screen. If "BCM" is not indicated, refer to [GI-39, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



# FRONT WIPER AND WASHER SYSTEM

4. Touch "WIPER" on "SELET TEST ITEM" screen.



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## WORK SUPPORT

### Operation Procedure

1. Touch "WIPER" on "SELECT TEST ITEM" screen.
2. Touch "WORK SUPPORT" on "SELECT DIAG MODE" screen.
3. Touch "WIPER SPEED SETTING" on "SELECT WORK ITEM" screen.
4. Touch "START".
5. Touch "CHANGE SETT".
6. The setting will be changed and "CUSTOMIZING COMPLETED" will be displayed.
7. Touch "END".

### Display Item List

Item	Description	CONSULT-II	Factory setting
WIPER SPEED SETTING	Vehicle speed sousing type wiper control mode can be changed in this mode. Vehicle speed sousing type wiper control mode between two ON/OFF.	ON	×
		OFF	—

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## DATA MONITOR

### Operation Procedure

1. Touch "WIPER" on "SELECT TEST ITEM" screen.
2. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
3. Touch either "ALL SIGNALS" or "SELECTION FROM MENU" on "DATA MONITOR" screen.

ALL SIGNALS	Monitors all the items.
SELECTION FROM MENU	Selects and monitors the individual item selected.

WW

4. Touch "START".
5. When "SELECTION FROM MENU" is selected, touch items to be monitored. When "ALL SIGNALS" is selected, all the items will be monitored.
6. Touch "RECORD" while monitoring, then the status of the monitored item can be recorded. To stop recording, touch "STOP".

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### Display Item List

Monitor item [operation or unit]	Display content
IGN ON SW [ON/OFF]	Displays "ignition switch ON (ON)/Other OFF or ACC (OFF)" status as judged from ignition switch signal.
IGN SW CAN [ON/OFF]	Displays "ignition switch ON (ON)/Other OFF or ACC (OFF)" status as judged from CAN communication signal.
FR WIPER HI [ON/OFF]	Displays "FRONT WIPER HI (ON)/Other (OFF)" status as judged from wiper switch signal.
FR WIPER LOW [ON/OFF]	Displays "FRONT WIPER LOW (ON)/Other (OFF)" status as judged from wiper switch signal.
FR WIPER INT [ON/OFF]	Displays "FRONT WIPER INT (ON)/Other (OFF)" status as judged from wiper switch signal.
FR WASHER SW [ON/OFF]	Displays "FRONT WASHER Switch (ON)/Other (OFF)" status as judged from wiper switch signal.
INT VOLUME [1 - 7]	Displays intermittent operation dial position setting (1 - 7) as judged from wiper switch signal.
FR WIPER STOP [ON/OFF]	Displays "Stopped (ON)/Operating (OFF)" status as judged from auto-stop signal.

# FRONT WIPER AND WASHER SYSTEM

Monitor item [operation or unit]	Display content
VEHICLE SPEED [km/h]	Displays vehicle speed status as judged from vehicle speed signal.
RR WIPER ON <sup>NOTE 1</sup> [ON/OFF]	Displays "Rear Wiper ON (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER INT <sup>NOTE 1</sup> [ON/OFF]	Displays "Rear Wiper INT (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WASHER SW <sup>NOTE 1</sup> [ON/OFF]	Displays "Rear Washer Switch (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER STOP <sup>NOTE 1</sup> [ON/OFF]	Displays "Rear Wiper Stop (ON)/Other (OFF)" status, as judged from wiper switch signal.
RR WIPER STP2 <sup>NOTE 2</sup> [OFF]	—

**NOTE:**

1. Coupe models
2. This item is displayed, but cannot monitor it.

## ACTIVE TEST

### Operation Procedure

1. Touch "WIPER" on "SELECT TEST ITEM" screen.
2. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Touch item to be tested and check operation of the selected item.
4. During the operation check, touching "BACK" deactivates the operation.

### Display Item List

Test item	Display on CONSULT-II screen	Description
Front wiper output	FR WIPER	With a certain operation (OFF, HI, LO, INT), front wiper can be operated.
Rear wiper output <sup>NOTE</sup>	RR WIPER	Rear wiper can be operated by any ON-OFF operation

**NOTE:**

Coupe models

## CONSULT-II Functions (IPDM E/R)

AKS00APL

CONSULT-II performs the following functions communicating with the IPDM E/R.

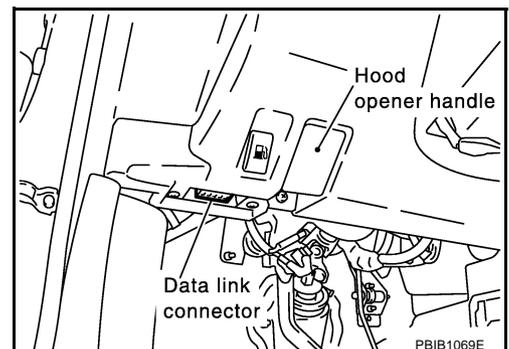
Inspection Item, Diagnosis Mode	Description
SELF-DIAG RESULTS	IPDM E/R performs diagnosis of CAN communication and self-diagnosis.
DATA MONITOR	The input/output data of IPDM E/R is displayed in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
ACTIVE TEST	IPDM E/R sends a drive signal to electronic components to check their operation.

## CONSULT-II OPERATION

**CAUTION:**

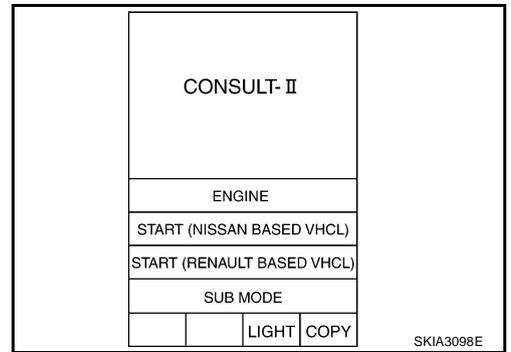
If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

1. With ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to data link connector, then turn ignition switch ON.

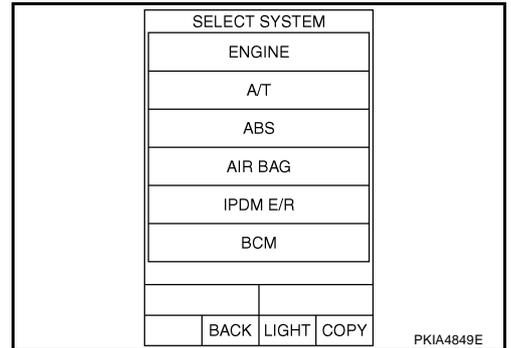


# FRONT WIPER AND WASHER SYSTEM

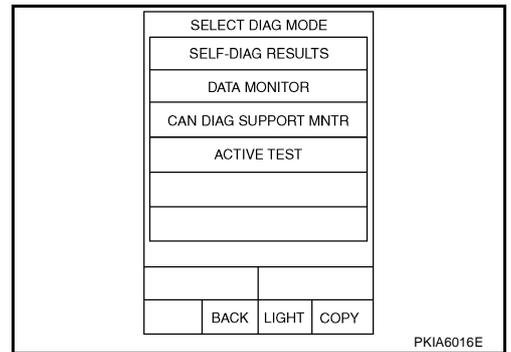
2. Touch "START (NISSAN BASED VHCL)".



3. Touch "IPDM E/R" on "SELECT SYSTEM" screen. If "IPDM E/R" is not displayed, print "SELECT SYSTEM" screen, then refer to [GI-39, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



4. Select the desired part to be diagnosed on "SELECT DIAG MODE" screen.



## SELF-DIAG RESULTS

Refer to [PG-21, "SELF-DIAG RESULTS"](#).

## DATA MONITOR

### Operation Procedure

1. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
2. Touch "ALL SIGNALS", "MAIN SIGNALS" or "SELECTION FROM MENU" on "DATA MONITOR" screen.

ALL SIGNALS	All items will be monitored.
MAIN SIGNALS	Monitor the predetermined item.
SELECTION FROM MENU	Select any item for monitoring.

3. Touch "START".
4. Touch the required monitoring item on "SELECTION FROM MENU". In "ALL SIGNALS", all items are monitored. In "MAIN SIGNALS", predetermined items are monitored.
5. Touch "RECORD" while monitoring to record the status of the item being monitored. To stop recording, touch "STOP".

# FRONT WIPER AND WASHER SYSTEM

## All Signals, Main Signals, Selection From Menu

Item name	CONSULT-II screen display	Display or unit	Monitor item selection			Description
			ALL SIGNALS	MAIN SIGNALS	SELECTION FROM MENU	
FR wiper request	FR WIP REQ	STOP/1LO/LO/HI	×	×	×	Signal status input from BCM
Wiper auto stop	WIP AUTO STOP	ACT P/STOP P	×	×	×	Output status of IPDM E/R
Wiper protection	WIP PROT	OFF/Block	×	×	×	Control status of IPDM E/R

**NOTE:**

Perform monitoring of IPDM E/R data with ignition switch ON. When ignition switch is at ACC, the display may not be correct.

**ACTIVE TEST**

**Operation Procedure**

1. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Touch item to be tested, and check operation.
3. Touch "START".
4. Touch "STOP" while testing to stop the operation.

Test item	CONSULT-II screen display	Description
Front wiper (HI, LO) output	FR WIPER	With a certain operation (OFF, HI ON, LO ON), front wiper relay (Lo, Hi) can be operated.

## Front Wiper Does Not Operate

AKS00APM

**CAUTION:**

- During IPDM E/R fail-safe control, front wipers may not operate. Refer to [PG-17, "CAN COMMUNICATION LINE CONTROL"](#) in "PG IPDM E/R" to make sure that it is not in fail-safe status.

### 1. ACTIVE TEST

☑ With CONSULT-II

1. Select "IPDM E/R" by CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "FRONT WIPER" on "SELECT TEST ITEM" screen.
3. Touch "LO" or "HI" screen.

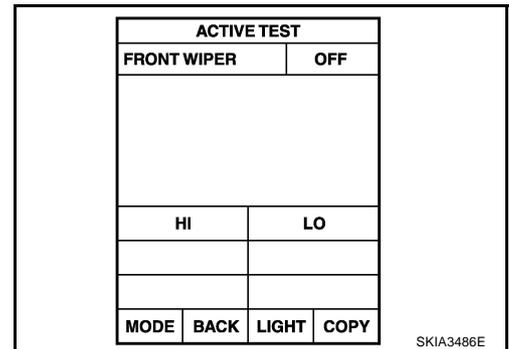
☒ Without CONSULT-II

Start up auto active test. Refer to [PG-24, "Auto Active Test"](#) .

Does front wiper operate normally?

YES >> GO TO 6.

NO >> GO TO 2.



### 2. CHECK FUSE

1. Turn ignition switch OFF.
2. Check fuse No.73 of IPDM E/R.

OK or NG

OK >> GO TO 3.

NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse. Refer to [PG-4, "POWER SUPPLY ROUTING CIRCUIT"](#) .

# FRONT WIPER AND WASHER SYSTEM

## 3. CHECK FRONT WIPER CIRCUIT

1. Disconnect IPDM E/R connector and front wiper motor connector.
2. Check continuity between IPDM E/R harness connector and front wiper motor harness connector terminal.

Terminals				Continuity
IPDM E/R		Front wiper motor		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
E7	21 (PU)	E52	3 (PU)	Yes
	31 (L/B)		2 (L/B)	

3. Check continuity between IPDM E/R harness connector terminal and Ground.

Terminals			Continuity
IPDM E/R		Ground	
Connector	Terminal (Wire color)		
E7	21 (PU)		No
	31 (L/B)		

OK or NG

OK >> GO TO 4.

NG >> Repair harness or connector.

## 4. CHECK GROUND CIRCUIT

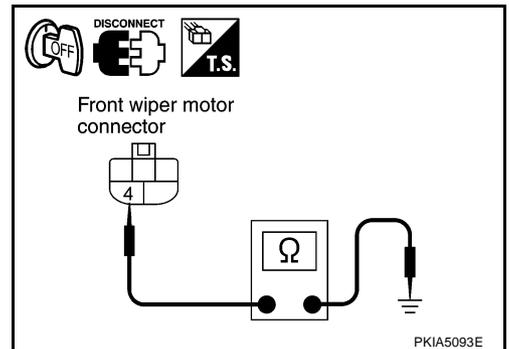
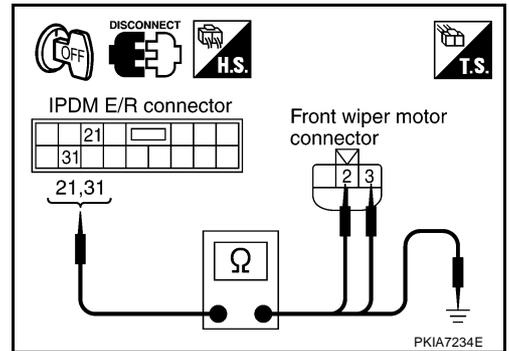
Check continuity between front wiper motor harness connector E52 terminal 4 (B) and ground.

**4 (B) – Ground : Continuity should exist.**

OK or NG

OK >> GO TO 5.

NG >> Repair harness or connector.

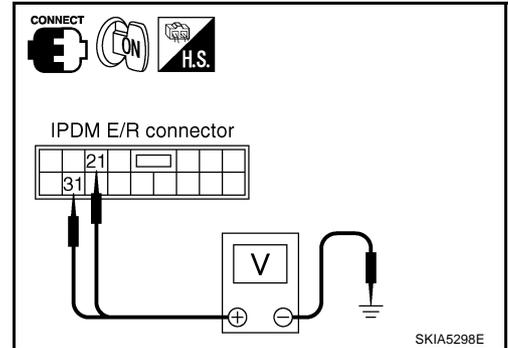


# FRONT WIPER AND WASHER SYSTEM

## 5. CHECK IPDM E/R

④ With CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Select "IPDM E/R" by CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Select "FRONT WIPER" on "SELECT TEST ITEM" screen.
4. Touch "LO" or "HI" screen.
5. Check voltage between IPDM E/R harness connector E7 terminal 21 (PU) or 31 (L/B) and ground while front wiper (HI, LO) is operating.



Terminals		(-)	Condition	Voltage
IPDM E/R(+)				
Connector	Terminal (Wire color)			
E7	21 (PU)	Ground	Stopped	Approx. 0V
			LO operation	Battery voltage
	31 (L/B)		Stopped	Approx. 0V
			HI operation	Battery voltage

⊗ Without CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Start up auto active test. Refer to [PG-24, "Auto Active Test"](#).
3. Check voltage between IPDM E/R harness connector E7 terminal 21 (PU) or 31 (L/B) and ground while front wiper (HI, LO) is operating.

Terminals		(-)	Condition	Voltage
IPDM E/R(+)				
Connector	Terminal (Wire color)			
E7	21 (PU)	Ground	Stopped	Approx. 0V
			LO operation	Battery voltage
	31 (L/B)		Stopped	Approx. 0V
			HI operation	Battery voltage

OK or NG

- OK >> Replace front wiper motor.  
 NG >> Replace IPDM E/R.

## 6. CHECK CIRCUIT BETWEEN COMBINATION SWITCH AND BCM

④ With CONSULT-II

Select "BCM" on CONSULT-II. With "WIPER" on "DATA MONITOR", confirm that "FR WIPER INT", "FR WIPER LOW", and "FR WIPER HI" turn ON-OFF according to wiper switch operation.

⊗ Without CONSULT-II

Refer to [LT-170, "Combination Switch Inspection"](#).

OK or NG

- OK >> GO TO 7.  
 NG >> Check wiper Switch. Refer to [LT-170, "Combination Switch Inspection"](#).

DATA MONITOR	
MONITOR	
IGN ON SW	ON
IGN SW CAN	ON
FR WIPER HI	OFF
FR WIPER LOW	OFF
FR WIPER INT	OFF
FR WASHER SW	OFF
INT VOLUME	7
FR WIPER STOP	ON
VEHICLE SPEED	0.0 km/h
▽	
RECORD	
MODE	BACK
LIGHT	COPY

PKIA6313E

# FRONT WIPER AND WASHER SYSTEM

## 7. CHECK CIRCUIT BETWEEN IPDM E/R AND BCM

Select "BCM" on CONSULT-II, and perform self-diagnosis for "BCM".

### Displayed self-diagnosis results

NO DTC>>Replace BCM. Refer to [BCS-17, "Removal and Installation of BCM"](#).

CAN COMM CIRCUIT>>Check CAN communication line of BCM. Refer to [BCS-16, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#).

SELF-DIAG RESULTS			
DTC RESULTS		TIME	
CAN COMM CIRCUIT [U1000]		PAST	
ERASE		PRINT	
MODE	BACK	LIGHT	COPY

SKIA1039E

## Front Wiper Does Not Return to Stop Position

### 1. CHECK FRONT WIPER STOP SIGNAL

Ⓟ With CONSULT-II

Select "IPDM E/R" on CONSULT-II. With "DATA MONITOR", confirm that "WIP AUTO STOP" turns "ACT P" - "STOP P" linked with wiper operation.

ⓧ Without CONSULT-II

GO TO 2.

OK or NG

OK >> Replace IPDM E/R.

NG >> GO TO 2.

DATA MONITOR	
MONITOR	
WIP AUTO STOP	STOP P

PKIA5546E

### 2. CHECK IPDM E/R

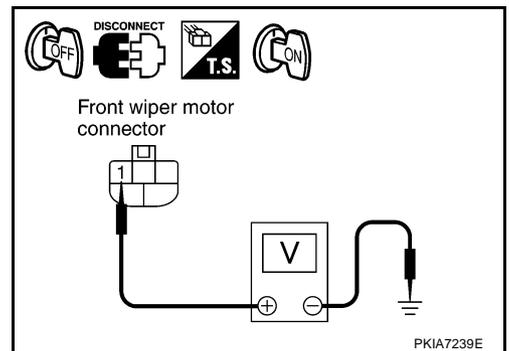
1. Turn ignition switch OFF.
2. Disconnect front wiper motor connector.
3. Turn ignition switch ON.
4. Check voltage between front wiper harness connector E52 terminal 1 (L/Y) and Ground.

**1 (L/Y) – Ground : Battery voltage should exist.**

OK or NG

OK >> GO TO 4.

NG >> GO TO 3.



# FRONT WIPER AND WASHER SYSTEM

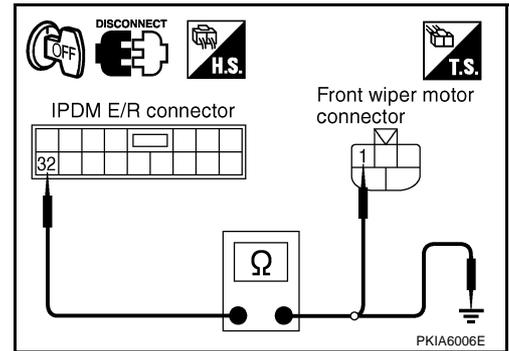
## 3. CHECK FRONT WIPER AUTO STOP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and front wiper motor connector.
3. Check continuity between IPDM E/R harness connector E7 terminal 32 (L/Y) and front wiper motor harness connector E52 terminal 1 (L/Y).

**32 (L/Y) – 1 (L/Y) : Continuity should exist.**

4. Check continuity between IPDM E/R harness connector E7 terminal 32(L/Y) and Ground.

**32 (L/Y) – Ground : Continuity should not exist.**



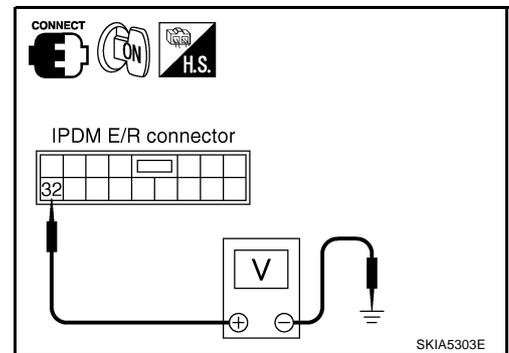
OK or NG

- OK >> Replace IPDM E/R.
- NG >> Repair harness or connector.

## 4. CHECK IPDM E/R

1. Connect IPDM E/R connector and front wiper motor connector.
2. Turn ignition switch ON.
3. Check voltage between IPDM E/R harness connector terminal and ground while front wiper motor is stopped and while it is operating.

Terminals		(-)	Condition	Voltage
IPDM E/R (+)				
Connector	Terminal (Wire color)			
E7	32 (L/Y)	Ground	Wiper stopped	Approx. 0V
			Wiper operating	Battery voltage



OK or NG

- OK >> Replace IPDM E/R.
- NG >> Replace front wiper motor.

## Only Front Wiper Low Does Not Operate

AKS00APO

### 1. ACTIVE TEST

☑ With CONSULT-II

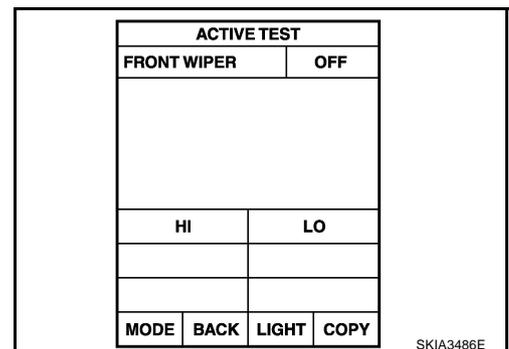
1. Select "IPDM E/R" by CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "FRONT WIPER" on "SELECT TEST ITEM" screen.
3. Touch "LO" screen.

☒ Without CONSULT-II

Start up auto active test. Refer to [PG-24, "Auto Active Test"](#)

Does front wiper operate normally?

- YES >> Refer to [LT-170, "Combination Switch Inspection"](#).
- NO >> GO TO 2.



# FRONT WIPER AND WASHER SYSTEM

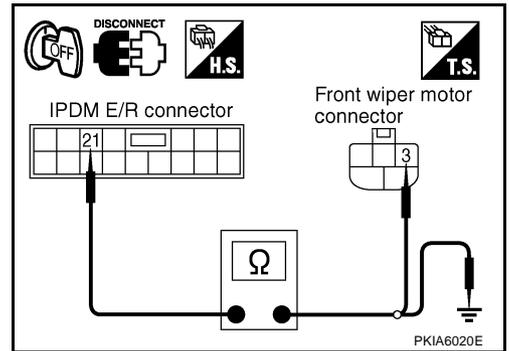
## 2. CHECK FRONT WIPER MOTOR CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and front wiper motor connector.
3. Check continuity between IPDM E/R harness connector E7 terminal 21 (PU) and front wiper motor harness E52 connector terminal 3 (PU).

**21 (PU) – 3 (PU) : Continuity should exist.**

4. Check continuity between IPDM E/R harness connector E7 terminal 21 (PU) and ground.

**21 (PU) – Ground : Continuity should not exist.**



OK or NG

OK >> GO TO 3.

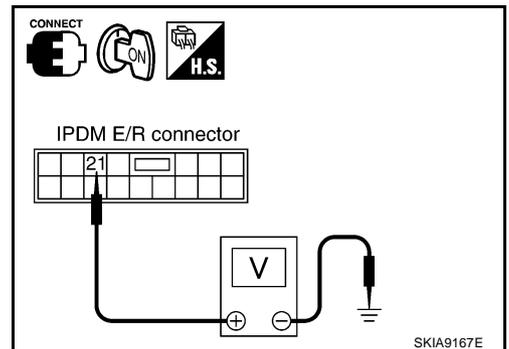
NG >> Repair harness or connector.

## 3. CHECK IPDM E/R

With CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Select "IPDM E/R" by CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Select "FRONT WIPER" on "SELECT TEST ITEM" screen.
4. Touch "LO" screen.
5. Check voltage between IPDM E/R harness connector E7 terminal 21 (PU) and ground while front wiper LO is operating.

**21 (PU) – Ground : Battery voltage should exist.**



Without CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Start up auto active test. Refer to [PG-24, "Auto Active Test"](#).
3. Check voltage between IPDM E/R harness connector E7 terminal 21 (PU) and ground while front wiper LO is operating.

**21 (PU) – Ground : Battery voltage should exist.**

OK or NG

OK >> Replace front wiper motor.

NG >> Replace IPDM E/R.

## Only Front Wiper HI Does Not Operate

AKS00APP

### 1. ACTIVE TEST

With CONSULT-II

1. Select "IPDM E/R" by CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "FRONT WIPER" on "SELECT TEST ITEM" screen.
3. Touch "HI" screen.

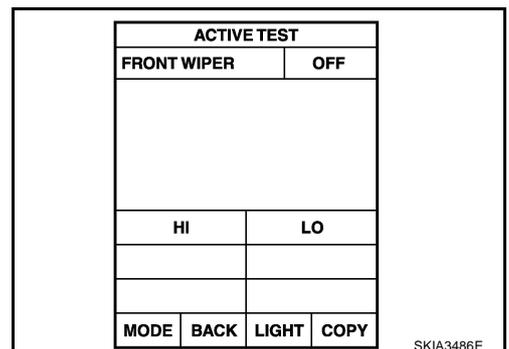
Without CONSULT-II

Start up auto active test. Refer to [PG-24, "Auto Active Test"](#)

Does front wiper operate normally?

YES >> Refer to [LT-170, "Combination Switch Inspection"](#).

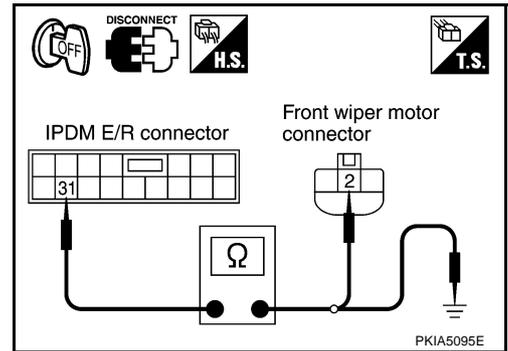
NO >> GO TO 2.



# FRONT WIPER AND WASHER SYSTEM

## 2. CHECK FRONT WIPER MOTOR CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and front wiper motor connector.
3. Check continuity between IPDM E/R harness connector E7 terminal 31 (L/B) and front wiper motor harness E52 connector terminal 2 (L/B).  
**31 (L/B) – 2 (L/B) : Continuity should exist.**
4. Check continuity between IPDM E/R harness connector E7 terminal 31(L/B) and ground.  
**31 (L/B) – Ground : Continuity should not exist.**



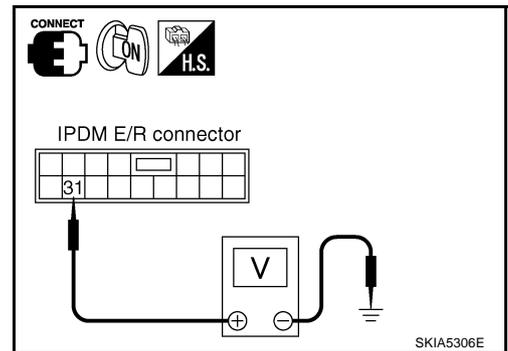
OK or NG

- OK >> GO TO 3.  
NG >> Repair harness or connector.

## 3. CHECK IPDM E/R

Ⓟ With CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Select "IPDM E/R" by CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Select "FRONT WIPER" on "SELECT TEST ITEM" screen.
4. Touch "HI" screen.
5. Check voltage between IPDM E/R harness connector E7 terminal 31 (L/B) and ground while front wiper HI is operating.  
**31 (L/B) - Ground : Battery voltage should exist.**



ⓧ Without CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Start up auto active test. Refer to [PG-24, "Auto Active Test"](#).
3. Check voltage between IPDM E/R harness connector E7 terminal 31 (L/B) and ground while front wiper HI is operating.  
**31 (L/B) - Ground : Battery voltage should exist.**

OK or NG

- OK >> Replace front wiper motor.  
NG >> Replace IPDM E/R.

## Only Front Wiper Intermittent Does Not Operate

AKS00APQ

### 1. CHECK COMBINATION SWITCH

Select "BCM" on CONSULT-II. With "WIPER" data monitor, check that "FR WIPER INT" turns ON-OFF according to operation of wiper switch.

**When wiper switch INT position : FR WIPER INT ON**

OK or NG

- OK >> Replace BCM. Refer to [BCS-17, "Removal and Installation of BCM"](#).
- NG >> Replace wiper switch.

DATA MONITOR	
MONITOR	
IGN ON SW	ON
IGN SW CAN	ON
FR WIPER HI	OFF
FR WIPER LOW	OFF
FR WIPER INT	OFF
FR WASHER SW	OFF
INT VOLUME	7
FR WIPER STOP	ON
VEHICLE SPEED	0.0 km/h
▽	
RECORD	
MODE	BACK
LIGHT	COPY

PKIA6313E

# FRONT WIPER AND WASHER SYSTEM

## Front Wiper Interval Time Is Not Controlled by Vehicle Speed

AKS00APR

### 1. CHECK FUNCTION OF COMBINATION METER

Confirm that speedometer operates normally.

Does front wiper operate normally?

YES >> GO TO 2.

NO >> Combination meter vehicle speed system malfunction. Refer to [DI-18, "Vehicle Speed Signal Inspection"](#).

### 2. CHECK CAN COMMUNICATION BETWEEN BCM AND COMBINATION METER

Select "BCM" on CONSULT-II, and perform self-diagnosis for "BCM".

Displayed self-diagnosis results

NO DTC>>Replace BCM. Refer to [BCS-17, "Removal and Installation of BCM"](#).

CAN COMM CIRCUIT>>Check CAN communication line of BCM. Refer to [BCS-16, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#).

SELF-DIAG RESULTS			
DTC RESULTS		TIME	
CAN COMM CIRCUIT [U1000]		PAST	
ERASE		PRINT	
MODE	BACK	LIGHT	COPY

SKIA1039E

## Front Wiper Intermittent Operation Switch Position Cannot Be Adjusted

AKS00APS

### 1. CHECK COMBINATION SWITCH INPUT SIGNAL

Select "BCM" on CONSULT-II. With "WIPER" data monitor, make sure "INT VOLUME" changes in order from 1 to 7 according to operation of intermittent switch dial position.

OK or NG

OK >> Replace BCM. Refer to [LT-170, "Combination Switch Inspection"](#).

NG >> Replace wiper switch.

DATA MONITOR	
MONITOR	
INT VOLUME	5

SKIA4234E

## Wipers Do Not Wipe When Front Washer Operates

AKS00APT

### 1. CHECK CIRCUIT BETWEEN COMBINATION SWITCH AND BCM

Select "BCM" on CONSULT-II. With "WIPER" on "DATA MONITOR", make sure "FR WASHER SW" turns ON-OFF according to operation of front washer switch.

**When front wiper switch washer position : FR WASHER SW ON**

OK or NG

OK >> Replace BCM. Refer to [BCS-17, "Removal and Installation of BCM"](#).

NG >> Replace wiper switch.

DATA MONITOR	
MONITOR	
FR WASHER SW	ON

PKIA5545E

# FRONT WIPER AND WASHER SYSTEM

**After Front Wipers Operate for 10 Seconds, They Stop for 20 Seconds, and After Repeating the Operations Five Times, They Become Inoperative**

AKS00APU

## CAUTION:

- When auto-stop signal has not varied for 10 seconds or longer while IPDM E/R is operating front wipers, IPDM E/R considers that front wipers are locked, and stops wiper output. That causes this symptom.
- This status can be checked by “DATA MONITOR” of “IPDM E/R” on which “WIPER PROTECTION” item shows “BLOCK”.

## 1. CHECK WIPER MOTOR SIGNAL

④ With CONSULT-II

Select “IPDM E/R” by CONSULT-II. With “DATA MONITOR”, confirm that “WIP AUTO STOP” turns “ACT P” - “STOP P” linked with wiper operation.

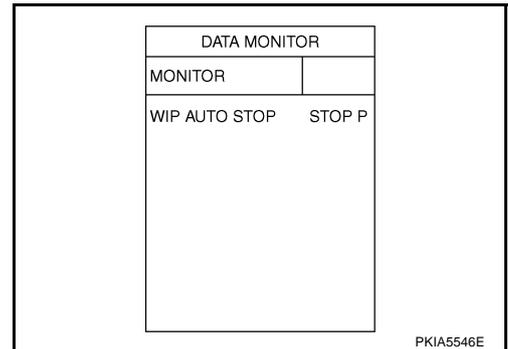
⊗ Without CONSULT-II

GO TO 2.

OK or NG

OK >> Replace IPDM E/R.

NG >> GO TO 2.



## 2. CHECK WIPER AUTO STOP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and front wiper motor connector.
3. Check continuity between IPDM E/R harness connector E7 terminal 32 (L/Y) and front wiper motor harness connector E52 terminal 1 (L/Y).

**32 (L/Y) - 1 (L/Y) : Continuity should exist.**

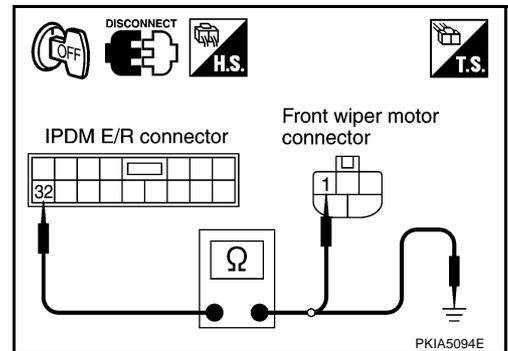
4. Check continuity between IPDM E/R harness connector E7 terminal 32 (L/Y) and ground.

**32 (L/Y) - Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.

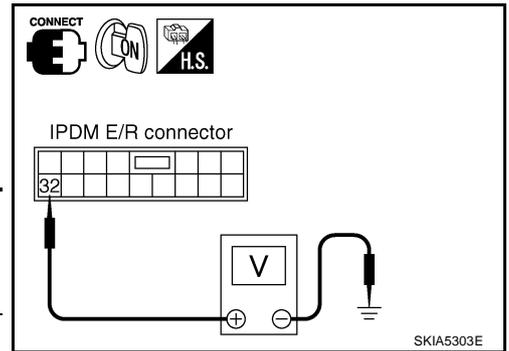


# FRONT WIPER AND WASHER SYSTEM

## 3. CHECK FRONT WIPER MOTOR

1. Connect IPDM E/R connector and front wiper connector.
2. Turn ignition switch ON.
3. Check voltage between IPDM E/R harness connector E7 terminal 32 (L/Y) and ground while front wiper motor is stopped and while it is operating.

Terminals		(-)	Condition	Voltage
IPDM E/R (+)				
Connector	Terminal (Wire color)			
E7	32 (L/Y)	Ground	Wiper stopped	Approx. 0V
			Wiper operating	Battery voltage



OK or NG

- OK >> Replace IPDM E/R.
- NG >> Replace front wiper motor.

## Front Wipers Do Not Stop

### 1. CHECK CIRCUIT BETWEEN COMBINATION SWITCH AND BCM

With CONSULT-II  
Select "BCM" on CONSULT-II. With "WIPER" on "DATA MONITOR", confirm that "FR WIPER INT", "FR WIPER LOW", "FR WIPER HI", and "FR WASHER SW" turn ON-OFF according to wiper switch operation.

Without CONSULT-II  
Refer to [LT-170. "Combination Switch Inspection"](#).

OK or NG

- OK >> Replace IPDM E/R.
- NG >> Check wiper Switch. Refer to [LT-170. "Combination Switch Inspection"](#).

DATA MONITOR	
MONITOR	
IGN ON SW	ON
IGN SW CAN	ON
FR WIPER HI	OFF
FR WIPER LOW	OFF
FR WIPER INT	OFF
FR WASHER SW	OFF
INT VOLUME	7
FR WIPER STOP	ON
VEHICLE SPEED	0.0 km/h
▽	
RECORD	
MODE	BACK
LIGHT	COPY

PKIA6313E

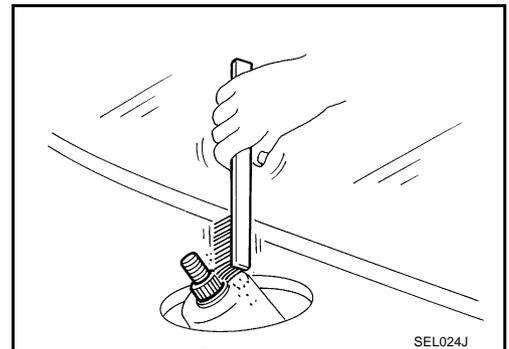
## Removal and Installation for Front Wiper Arms, Adjustment for Wiper Arms Stop Location

### REMOVAL

1. Operate front wiper motor, and stop it at the auto stop position.
2. Remove washer tube from washer tube joint.
3. Remove front wiper arm mounting nuts and front wiper arm from vehicle.

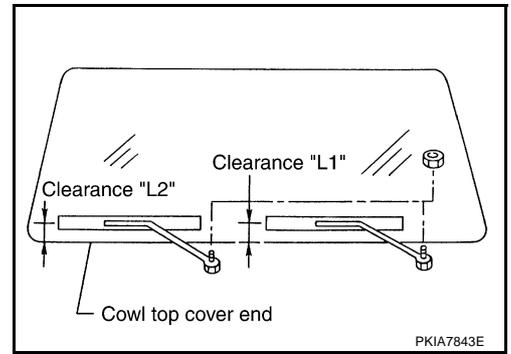
### INSTALLATION

1. Clean up the pivot area as illustrated. This will reduce possibility of front wiper arm looseness.



# FRONT WIPER AND WASHER SYSTEM

2. Prior to front wiper arm installation, turn on wiper switch to operate front wiper motor and then turn it "OFF" (Auto Stop).
3. Push front wiper arm onto pivot shaft, paying attention to blind spline.
4. Attach washer tube to washer tube joint.
5. Lift the blade up and then set it down onto glass surface to set the blade center to clearance "L1" & "L2" immediately before tightening nut.
6. Eject washer fluid. Turn on wiper switch to operate front wiper motor and then turn it "OFF".
7. Ensure that wiper blades stop within clearance "L1" & "L2".



**Clearance "L1" : 56.4 – 71.4 mm (2.22 – 2.81in)**

**Clearance "L2" : 29.5 – 44.5 mm (1.16 – 1.75in)**

- Tighten front wiper arm nuts to specified torque.

**Front wiper arm nuts  : 23.6 N·m (2.4 kg-m, 18 ft-lb)**

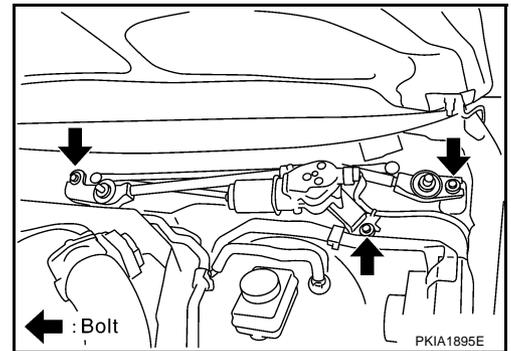
## ADJUSTMENT

Refer to [WW-31, "INSTALLATION"](#) .

## Removal and Installation of Front Wiper Motor and Linkage

### REMOVAL

1. Remove front wiper arm. Refer to [WW-31, "REMOVAL"](#) .
2. Remove cowl top cover. Refer to [EI-20, "COWL TOP"](#) in "EI" section.
3. Remove washer tube.
4. Disconnect front wiper motor connector.
5. Remove front wiper motor and linkage mounting bolts, and remove front wiper motor and linkage.



### INSTALLATION

1. Install front wiper motor and linkage to the vehicle.
2. Connect front wiper motor assembly to the connector. Turn wiper switch ON to operate front wiper motor, then turn wiper switch OFF (auto stop).
3. Attach washer tube to washer tube joint.
4. Install cowl top cover. Refer to [EI-20, "COWL TOP"](#) in "EI" section.
5. Install front wiper arms. Refer to [WW-31, "Removal and Installation for Front Wiper Arms, Adjustment for Wiper Arms Stop Location"](#) .
6. Attach front wiper arm washer tube.

**Front wiper motor and linkage mounting bolts  : 5.5 N·m (0.56 kg-m, 49 in-lb)**

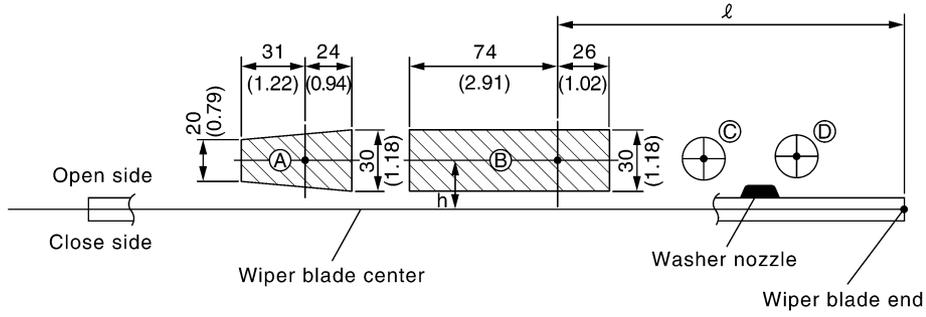
### CAUTION:

- Do not drop front wiper motor or cause it to contact other parts.
- Check grease conditions of the motor arm and wiper link joint (at retainer). Apply grease if necessary.

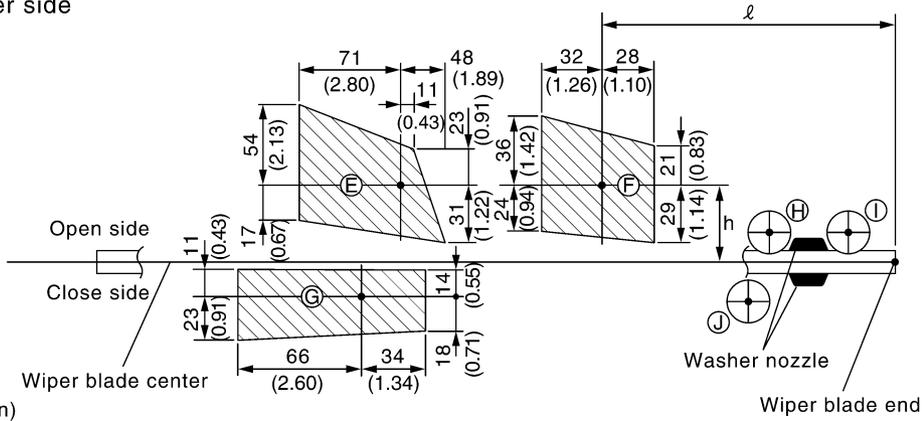


# FRONT WIPER AND WASHER SYSTEM

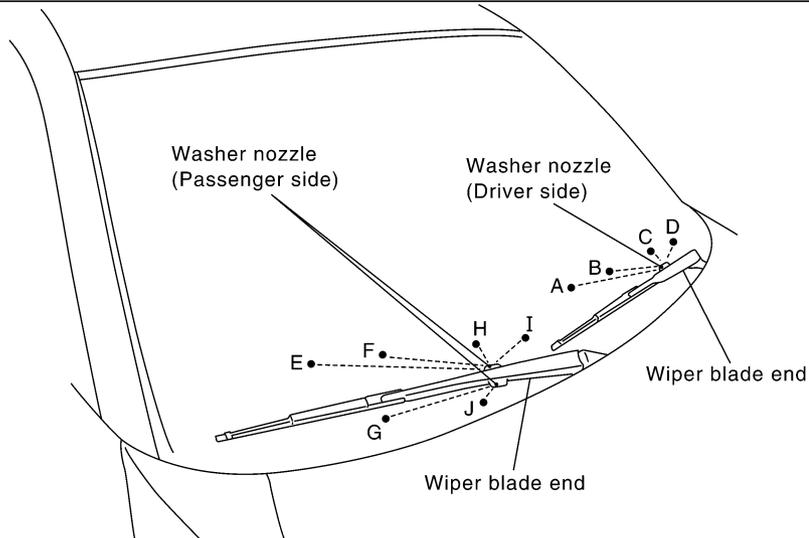
Driver side



Passenger side



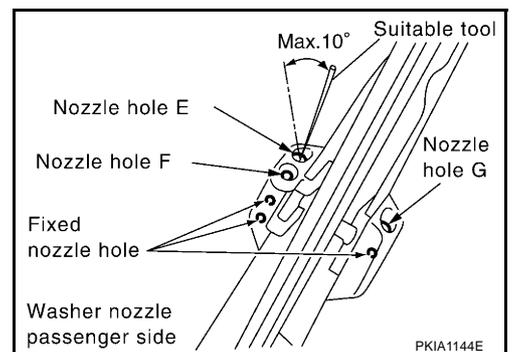
Unit : mm(in)



PKIA1897E

Unit: mm (in)

Spray position	h (height)	ℓ (width)
A	30 (1.18)	282.5 (11.12)
B	20 (0.79)	157.5 (6.20)
(C)	—	—
(D)	—	—
E	70 (2.76)	320 (12.60)
F	35 (1.38)	165 (6.50)
G	-20 (-0.79)	250 (9.84)
(H,I,J)	—	—

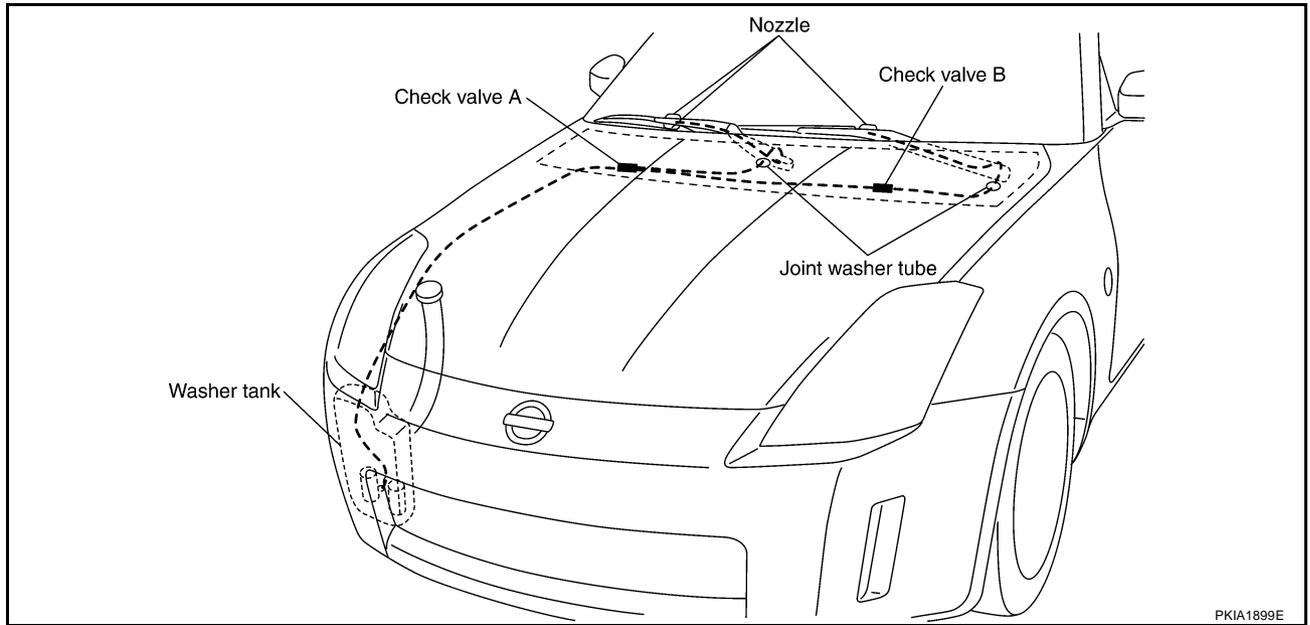


PKIA1144E

# FRONT WIPER AND WASHER SYSTEM

## Washer Tube Layout

AKS00AQ0



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M

## Removal and Installation for Front Washer Nozzle

AKS00AQ1

Replace wiper arm assembly. Refer to [WW-31, "Removal and Installation for Front Wiper Arms, Adjustment for Wiper Arms Stop Location"](#).

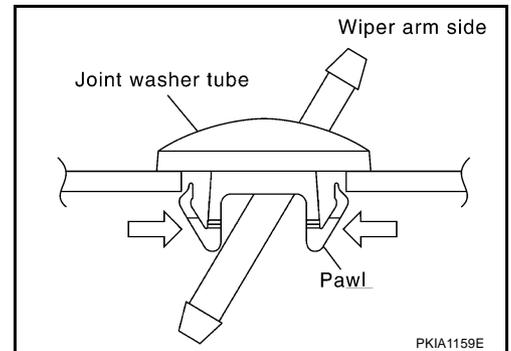
### CAUTION:

Removal/installation of washer nozzle as a unit must not be done.

## Removal and Installation for Front Washer Tube Joint REMOVAL

AKS00AQ2

1. Remove upwards while pressing pawls on reverse side.
2. Remove washer tube.



WW

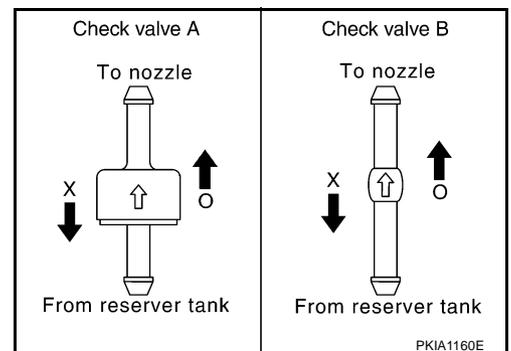
## INSTALLATION

Install in reverse order of removal.

## Inspection for Washer Nozzle CHECK VALVE

AKS00AQ3

Blow air in the injection direction, and check that air flows only one way. Make sure that the reverse direction (inhale) is not possible.



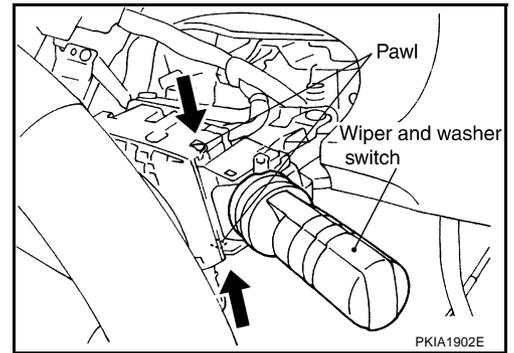
# FRONT WIPER AND WASHER SYSTEM

## Removal and Installation for Front Wiper and Washer Switch

AKS00A04

### REMOVAL

1. Remove steering column lower cover and combination meter. Refer to [IP-10, "INSTRUMENT PANEL ASSEMBLY"](#) in "IP" section.
2. Disconnect wiper and washer switch connector.
3. Pull wiper and washer switch toward the passenger door while pressing pawls in direction shown by the arrow in the figure, and remove it from the base.



### INSTALLATION

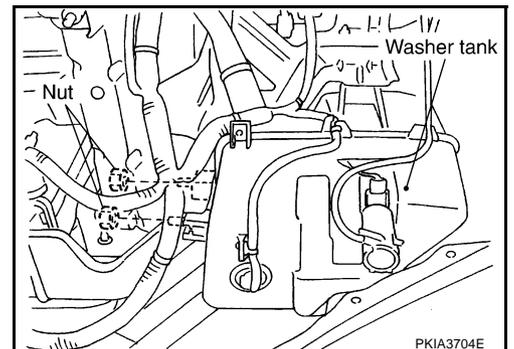
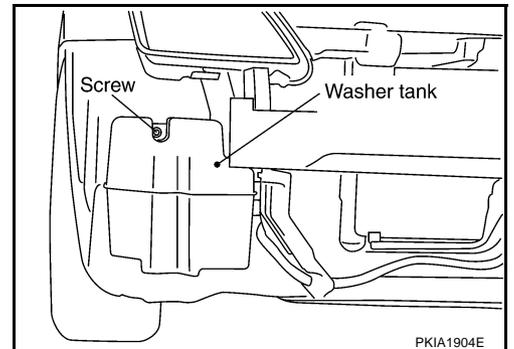
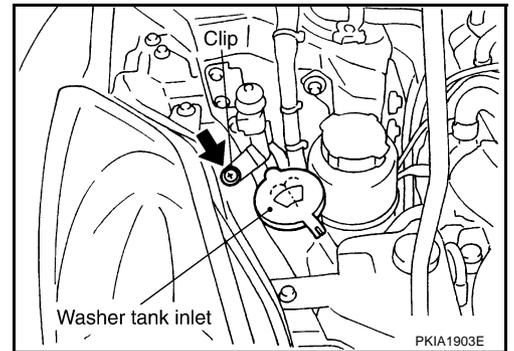
Install in reverse order of removal.

## Removal and Installation for Washer Tank

AKS00A05

### REMOVAL

1. Remove clip and pull out washer tank inlet.
2. Remove fender protector. Refer to [EI-21, "FENDER PROTECTOR"](#) in "EI" section.
3. Remove front bumper fascia. Refer to [EI-14, "FRONT BUMPER"](#) in "EI" section.
4. Disconnect washer pump connector.
5. Remove washer tank mounting screw and nuts.
6. Remove washer tube, and remove washer tank from the vehicle.



# FRONT WIPER AND WASHER SYSTEM

## INSTALLATION

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

### CAUTION:

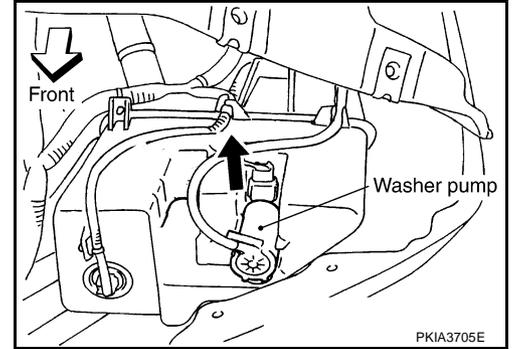
After installation, add water up to the upper level of washer tank inlet, and check for water leaks.

Washer tank mounting screw and nuts  : 5.7 N-m (0.58 kg-m, 50 in-lb)

## Removal and Installation for Washer Pump

### REMOVAL

1. Remove fender protector. Refer to [EI-21, "FENDER PROTECTOR"](#) in "EI" section.
2. Disconnect washer pump connector and tube.
3. Pull out washer pump in direction shown by the arrow in the figure. Remove washer pump from washer tank.



### INSTALLATION

Paying attention to the following, install in reverse order of removal.

### CAUTION:

When installing washer pump, there should be no packing twists, etc.

A

B

C

D

E

F

G

H

I

J

WW

L

M

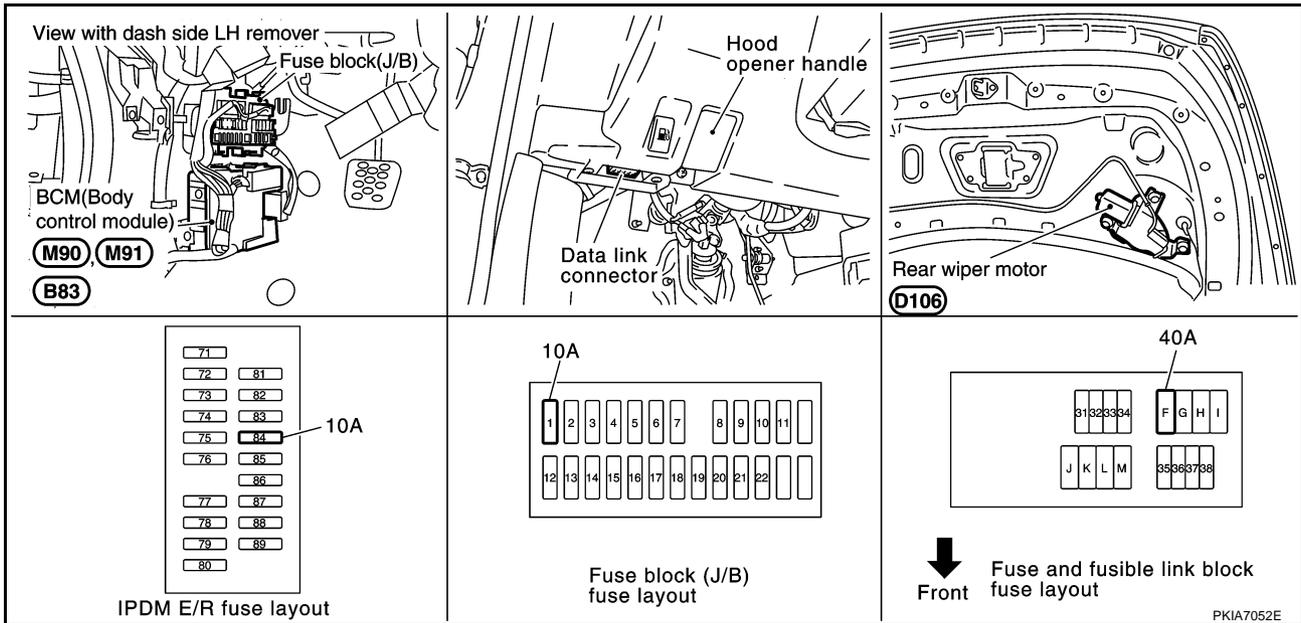
# REAR WIPER AND WASHER SYSTEM

## REAR WIPER AND WASHER SYSTEM

PFP:28710

### Components Parts and Harness Connector Location

AKS009PS



### System Description

AKS009PT

- Wiper switch (combination switch) is composed of a combination of 5 output terminals and 5 input terminals. Terminal combination status is read by BCM when switch is turned ON.
- BCM (body control module) controls rear wiper ON and INT (intermittent) operation.

Power is supplied all time

- through 40 A fusible link (letter F, located in fusible link block)
- to BCM (body control module) terminal 55
- through 10 A fuse [No. 18, located in fuse block (J/B)]
- to BCM (body control module) terminal 42.

When ignition switch is in ON or START position, power is supplied

- through 10 A fuse [No. 1, located in fuse block (J/B)]
- to BCM (body control module) terminal 38
- through 10 A fuse [No. 84, located in IPDM E/R (intelligent power distribution module engine room)]
- to rear washer motor terminal 2.

Ground is supplied

- to BCM (body control module) terminal 52
- through grounds M30 and M66
- to combination switch (wiper switch) terminal 12
- through grounds M30 and M66.

### REAR WIPER OPERATION

When wiper switch is in rear wiper ON position, BCM detect rear wiper ON signal by BCM wiper switch reading function.

BCM operate rear wiper motor, power is supplied

- through BCM terminal 70
- to rear wiper motor 4.

Ground is supplied

- to rear wiper motor terminal 1
- through body grounds B5, B6, D105 and T14.

With power and ground is supplied, rear wiper operates.

# REAR WIPER AND WASHER SYSTEM

## INTERMITTENT OPERATION

Rear wiper motor operates wiper arms at low speed approximately every 7 seconds. When wiper switch is in rear wiper INT position, BCM detect rear wiper INT signal by BCM wiper switch reading function. (Refer to [WW-6, "COMBINATION SWITCH READING FUNCTION"](#) .)  
BCM operate rear wiper motor, power is supplied

- through BCM terminal 70
- to rear wiper motor 4.

Ground is supplied

- to rear wiper motor terminal 1
- through body grounds B5, B6, D105 and T14.

With power and ground is supplied, rear wiper operates at intermittent.

## AUTO STOP OPERATION

With rear wiper switch turned OFF, rear wiper motor will continue to operate until wiper arm reaches rear wiper stopper.

Then wiper motor turns the other way and wiper arm moves once until wiper arm reaches stopper.

## WASHER OPERATION

When wiper switch is in rear wiper washer position, BCM detect rear wiper washer signal by BCM wiper switch reading function (Refer to [WW-6, "COMBINATION SWITCH READING FUNCTION"](#) .), and combination switch (wiper switch) ground is supplied

- to rear washer motor terminal 1
- through combination switch (wiper switch) terminal 13
- to combination switch (wiper switch) terminal 12
- through body grounds M30 and M66.

With ground is supplied, rear washer motor is operated.

When BCM detects that rear washer motor has operated for 0.4 seconds or longer, BCM operates rear wiper motor low speed.

When BCM detects washer switch is OFF, low speed operation cycles approximately 3 times and then stops.

## BCM WIPER SWITCH READING FUNCTION

Refer to [WW-6, "COMBINATION SWITCH READING FUNCTION"](#) in FRONT WIPER AND WASHER SYSTEM.

A

B

C

D

E

F

G

H

I

J

WW

L

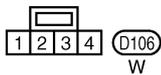
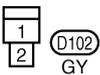
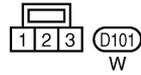
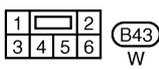
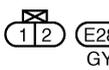
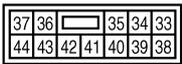
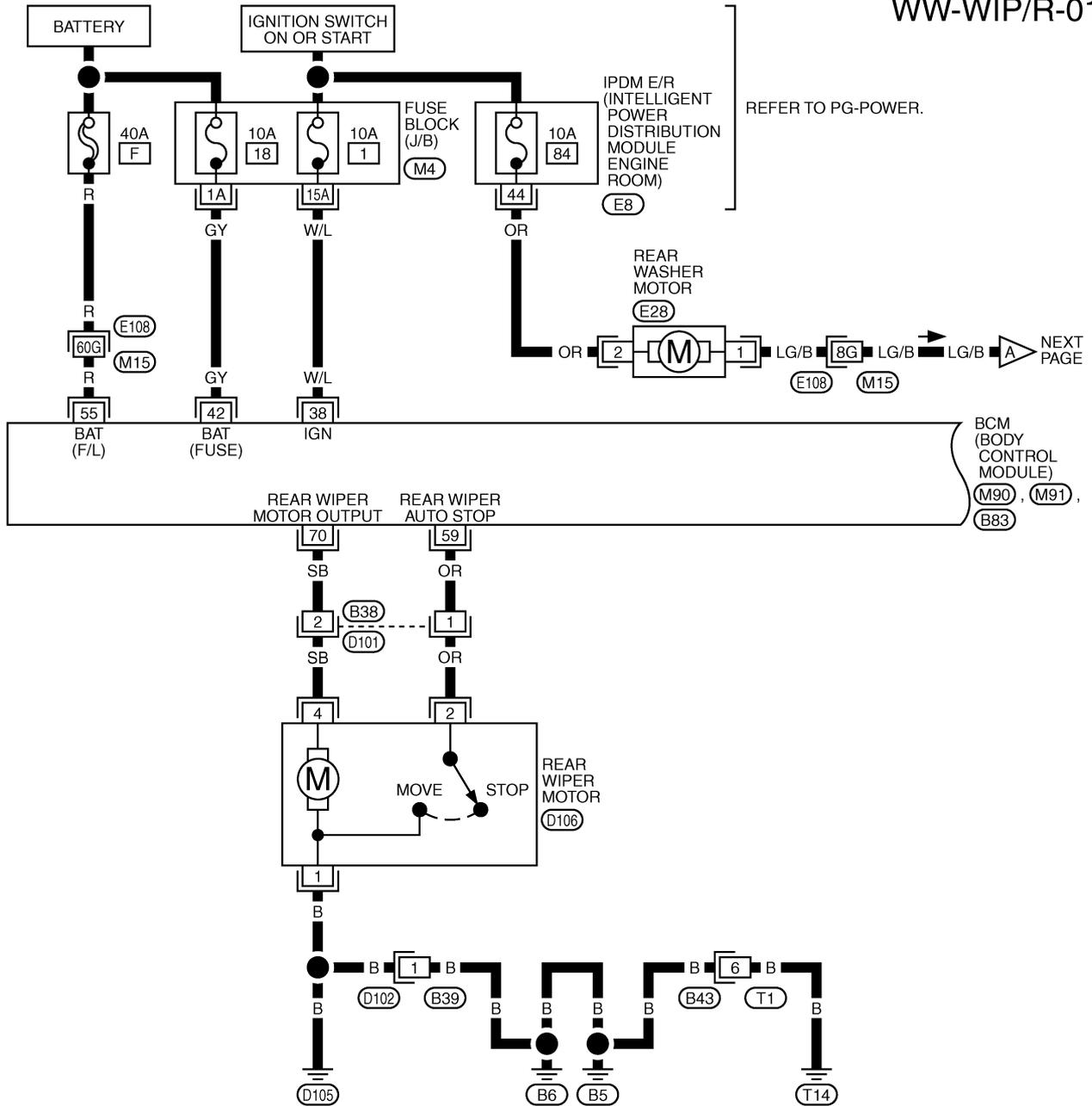
M

# REAR WIPER AND WASHER SYSTEM

AKS009PU

## Wiring Diagram — WIP/ R —

WW-WIP/R-01



REFER TO THE FOLLOWING.

(E108) -SUPER MULTIPLE JUNCTION (SMJ)

(M4) -FUSE BLOCK-JUNCTION BOX (J/B)

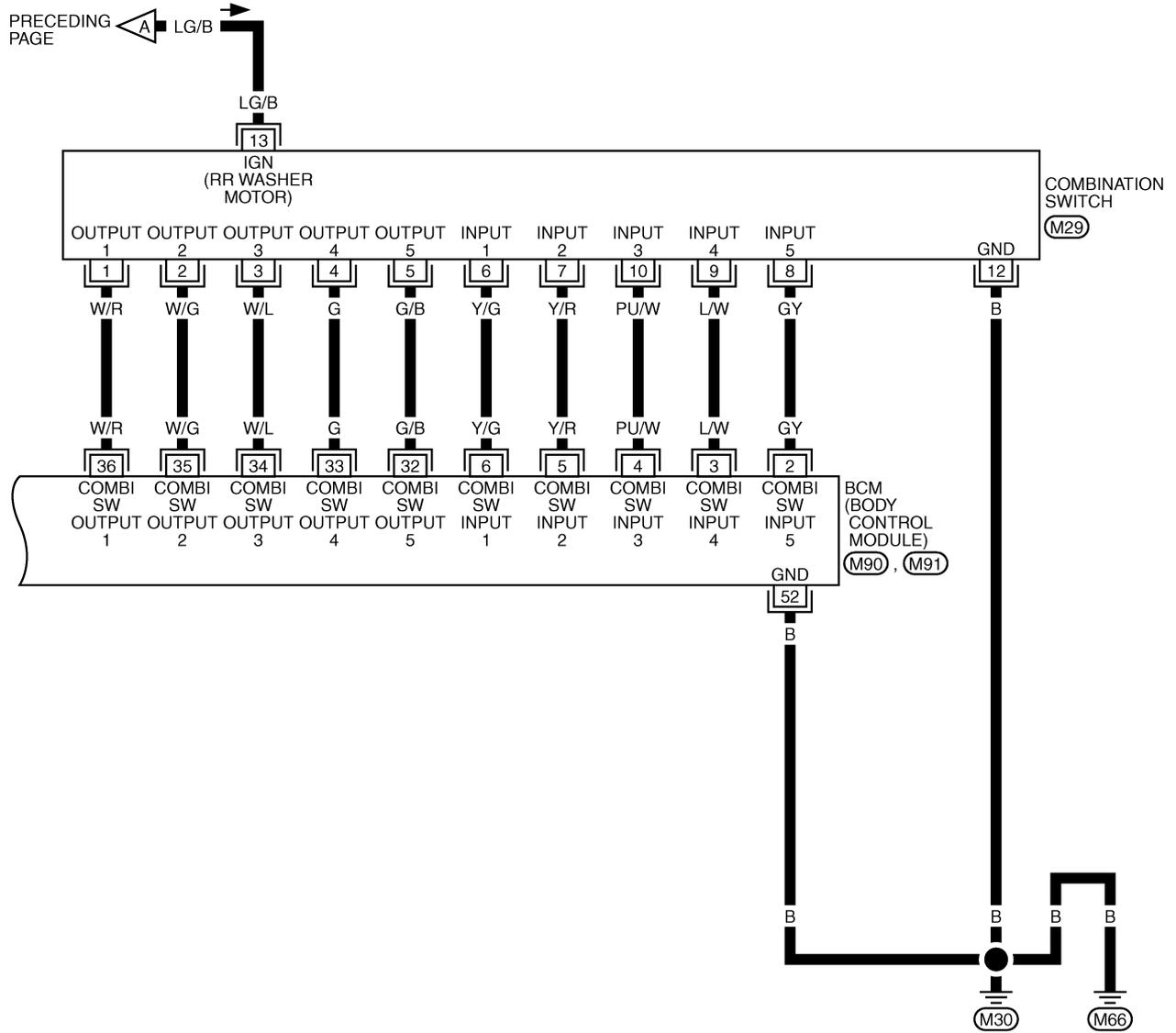
(M90), (M91), (B83)

-ELECTRICAL UNITS

TKWT1856E

# REAR WIPER AND WASHER SYSTEM

WW-WIP/R-02



7	8	9	10	13	12
6	5	4	3	2	1

(M29)  
W

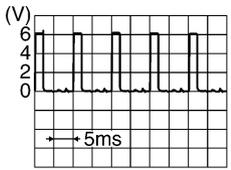
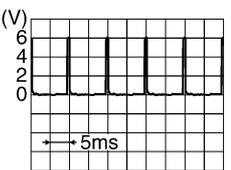
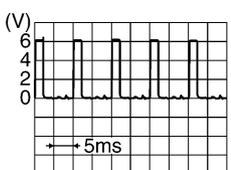
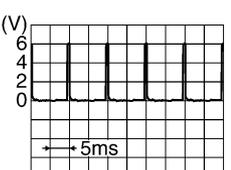
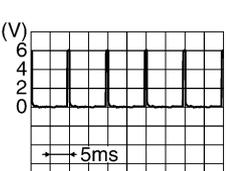
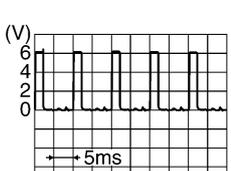
REFER TO THE FOLLOWING.  
(M90), (M91) -ELECTRICAL UNITS

TKWT1857E

# REAR WIPER AND WASHER SYSTEM

## Terminals and Reference Values for BCM

AKS00AQ7

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
2	GY	Combination switch input 5	ON	<ul style="list-style-type: none"> <li>● Lighting switch and wiper switch OFF</li> <li>● Wiper dial position 4</li> </ul>	 <p style="text-align: right;">SKIA5291E</p>
3	L/W	Combination switch input 4	ON	<ul style="list-style-type: none"> <li>● Lighting switch and wiper switch OFF</li> <li>● Wiper dial position 4</li> </ul>	 <p style="text-align: right;">SKIA5292E</p>
4	PU/W	Combination switch input 3	ON	<ul style="list-style-type: none"> <li>● Lighting switch and wiper switch OFF</li> <li>● Wiper dial position 4</li> </ul>	 <p style="text-align: right;">SKIA5291E</p>
5	Y/R	Combination switch input 2	ON	<ul style="list-style-type: none"> <li>● Lighting switch and wiper switch OFF</li> <li>● Wiper dial position 4</li> </ul>	 <p style="text-align: right;">SKIA5292E</p>
6	Y/G	Combination switch input 1			
32	G/B	Combination switch output 5	ON	<ul style="list-style-type: none"> <li>● Lighting switch and wiper switch OFF</li> <li>● Wiper dial position 4</li> </ul>	 <p style="text-align: right;">SKIA5291E</p>
33	G	Combination switch output 4	ON	<ul style="list-style-type: none"> <li>● Lighting switch and wiper switch OFF</li> <li>● Wiper dial position 4</li> </ul>	 <p style="text-align: right;">SKIA5292E</p>
34	W/L	Combination switch output 3	ON	<ul style="list-style-type: none"> <li>● Lighting switch and wiper switch OFF</li> <li>● Wiper dial position 4</li> </ul>	 <p style="text-align: right;">SKIA5291E</p>

# REAR WIPER AND WASHER SYSTEM

Terminal No.	Wire color	Signal name	Measuring condition		Reference value	
			Ignition switch	Operation or condition		
35	W/G	Combination switch output 2	ON	<ul style="list-style-type: none"> <li>Lighting switch and wiper switch OFF</li> <li>Wiper dial position 4</li> </ul>		
36	W/R	Combination switch output 1				
38	W/L	Ignition switch (ON)	ON	—	Battery voltage	
42	GY	Battery power supply	OFF	—	Battery voltage	
52	B	Ground	ON	—	Approx. 0V	
55	R	Battery power supply	OFF	—	Battery voltage	
59	OR	Rear wiper auto stop signal	ON	Wiper operating	Approx. 0V	
				Wiper stopped	Battery voltage	
70	SB	Rear wiper motor output signal	ON	Wiper switch	OFF	Approx. 0V
					ON	Battery voltage

## How to Proceed With Trouble Diagnosis

AKS009PW

1. Confirm the symptoms and customer complaint.
2. Understand operation description and function description. Refer to [WW-38, "System Description"](#).
3. Perform preliminary check. Refer to [WW-43, "Preliminary Check"](#).
4. Check symptom and repair or replace the cause of malfunction.
5. Does warning chime operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. INSPECTION END

## Preliminary Check CHECK POWER SUPPLY AND GROUND CIRCUIT

AKS009PX

Inspection Procedure

### 1. CHECK FUSE

- Check if wiper and washer fuse is blown.

Unit	Power source	Fuse and fusible link No.
Rear washer motor	Ignition ON or START	84
BCM	Ignition ON or START	1
	Battery	F
		18

Refer to [WW-40, "Wiring Diagram — WIP/ R —"](#).

OK or NG

OK >> GO TO 2.

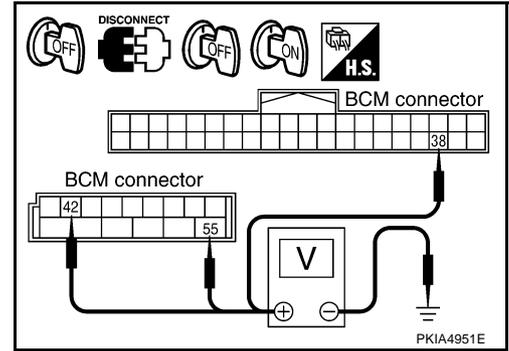
NG >> If fuse is blown, be sure to eliminate cause of problem before installing new fuse. Refer to [PG-4, "POWER SUPPLY ROUTING CIRCUIT"](#).

# REAR WIPER AND WASHER SYSTEM

## 2. CHECK POWER SUPPLY CIRCUIT

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

Terminals		Ignition switch position	
(+)		(-)	
Connector	Terminal (Wire color)	OFF	ON
M91	42 (GY)	Battery voltage	Battery voltage
	55 (R)	Battery voltage	Battery voltage
M90	38 (W/L)	0V	Battery voltage



OK or NG

- OK >> GO TO 3.  
 NG >> Check harness for open or short between BCM and fuse.

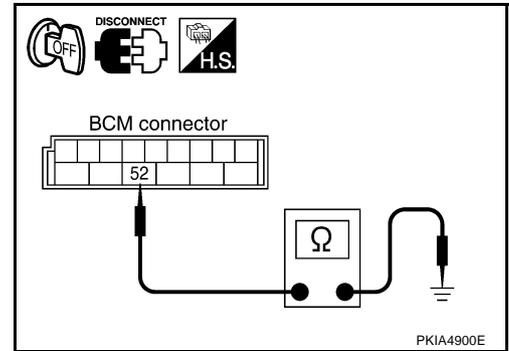
## 3. CHECK GROUND CIRCUIT

Check continuity between BCM and ground.

Terminals		Ground	Continuity
Connector	Terminal (Wire color)		
M91	52 (B)		Yes

OK or NG

- OK >> INSPECTION END  
 NG >> Check harness ground circuit.



## CONSULT-II Functions

CONSULT-II performs the following functions communicating with the BCM.

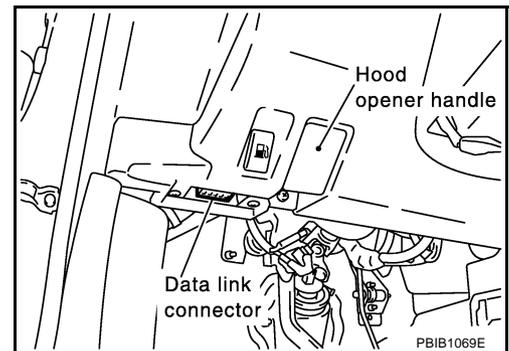
BCM diagnosis position	Check item, Diagnosis mode	Description
Wiper	DATA MONITOR	Displays BCM input data in real time.
	ACTIVE TEST	Device operation can be checked by applying a drive signal to device.

## CONSULT-II OPERATION

### CAUTION:

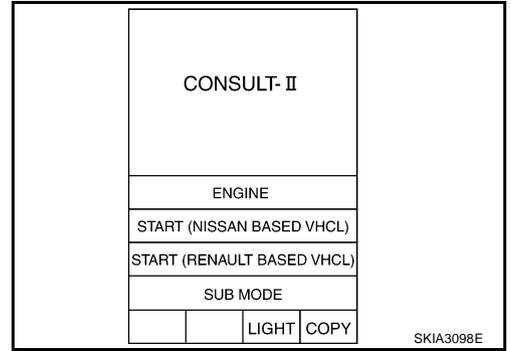
If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

1. With ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to data link connector, then turn ignition switch ON.

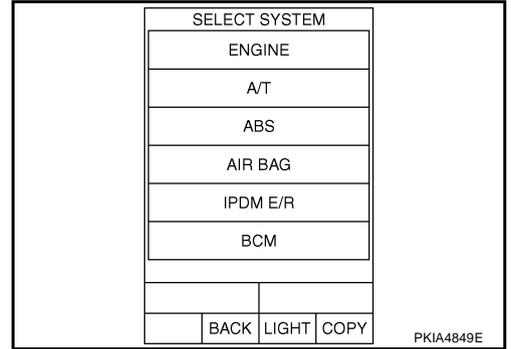


# REAR WIPER AND WASHER SYSTEM

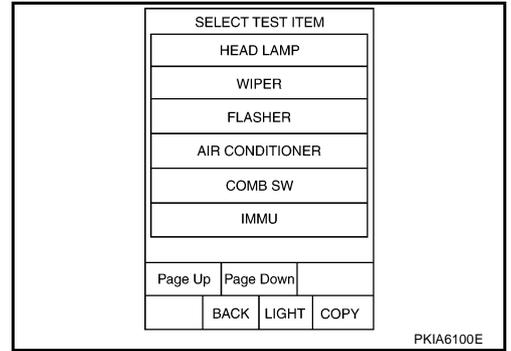
2. Touch "START(NISSAN BASED VHCL)".



3. Touch "BCM" on "SELECT SYSTEM" screen  
If "BCM" is not indicated, refer to [GI-39, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#) .



4. Touch "WIPER" on "SELET TEST ITEM" screen.



## DATA MONITOR

### Operation Procedure

1. Touch "WIPER" on "SELECT TEST ITEM" screen.
2. Touch "DATA MONITOR" on "SELECT DIAG MODE" screen.
3. Touch either "ALL SIGNALS" or "SELECTION FROM MENU" on "DATA MONITOR" screen.

ALL SIGNALS	All items will be monitored.
SELECTION FROM MENU	Selects and monitors individual items.

4. Touch "START".
5. When "SELECTION FROM MENU" is selected, touch items to be monitored. When "ALL SIGNALS" is selected, all the items will be monitored.
6. Touch "RECORD" while monitoring, then the status of the monitored item can be recorded. To stop recording, touch "STOP".

### Display Item List

Monitor item [operation or unit]	Display content
IGN ON SW [ON/OFF]	Displays "ignition switch ON (ON)/Other OFF or ACC (OFF)" status as judged from ignition switch signal.
IGN SW CAN [ON/OFF]	Displays "ignition switch ON (ON)/Other OFF or ACC (OFF)" status as judged from CAN communication signal.
FR WIPER HI [ON/OFF]	Displays "FRONT WIPER HI (ON)/Other (OFF)" status as judged from wiper switch signal.

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# REAR WIPER AND WASHER SYSTEM

Monitor item [operation or unit]	Display content
FR WIPER LOW [ON/OFF]	Displays "FRONT WIPER LOW (ON)/Other (OFF)" status as judged from wiper switch signal.
FR WIPER INT [ON/OFF]	Displays "FRONT WIPER INT (ON)/Other (OFF)" status as judged from wiper switch signal.
FR WASHER SW [ON/OFF]	Displays "FRONT WASHER Switch (ON)/Other (OFF)" status as judged from wiper switch signal.
INT VOLUME [1 - 7]	Displays intermittent operation dial position setting (1 - 7) as judged from wiper switch signal.
FR WIPER STOP [ON/OFF]	Displays "Stopped (ON)/Operating (OFF)" status as judged from auto-stop signal.
VEHICLE SPEED [km/h]	Displays vehicle speed status as judged from vehicle speed signal.
RR WIPER ON <sup>NOTE 1</sup> [ON/OFF]	Displays "Rear Wiper ON (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER INT <sup>NOTE 1</sup> [ON/OFF]	Displays "Rear Wiper INT (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WASHER SW <sup>NOTE 1</sup> [ON/OFF]	Displays "Rear Washer Switch (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER STOP <sup>NOTE 1</sup> [ON/OFF]	Displays "Rear Wiper Stop (ON)/Other (OFF)" status, as judged from wiper switch signal.
RR WIPER STP2 <sup>NOTE 2</sup> [OFF]	—

## NOTE:

1. Coupe models
2. This item is displayed, but cannot monitor it.

## ACTIVE TEST

### Operation Procedure

1. Touch "WIPERS" on "SELECT TEST ITEM" screen.
2. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Touch item to be tested and check operation of the selected item.
4. During the operation check, touching "BACK" deactivates the operation.

### Display Item List

Test item	Display on CONSULT-II screen	Description
Front wiper output	FR WIPER	With a certain operation (OFF, HI, LO, INT), front wiper can be operated.
Rear wiper output <sup>Note</sup>	RR WIPER	Rear wiper can be operated by any ON-OFF operation

## Rear Wiper Does Not Operate

AKS00A08

### 1. CHECK FUSE AND FUSIBLE LINK

Check fuse No.1, 18 and fusible link No. F.

#### OK or NG

OK >> GO TO 2.

NG >> If fuse or fusible link is blown, be sure to eliminate cause of malfunction before installing new fuse or fusible link, refer to [PG-4, "POWER SUPPLY ROUTING CIRCUIT"](#).

### 2. ACTIVE TEST

#### ① With CONSULT-II

1. Select "BCM" on CONSULT-II, and select "WIPER" on "SELECT SYSTEM" screen.
2. Select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Select "REAR WIPER" on "SELECT TEST ITEM" screen.
4. Confirm that rear wiper operates normally.

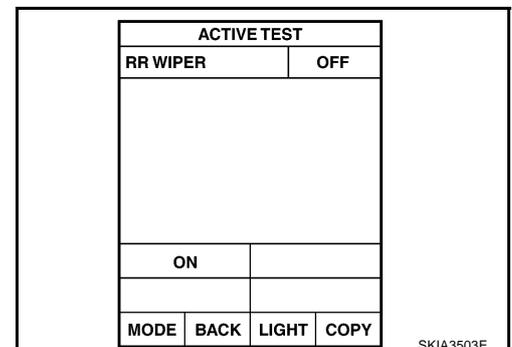
#### ② Without CONSULT-II

GO TO 3.

#### Does rear wiper operate normally?

YES >> Refer to [LT-170, "Combination Switch Inspection"](#).

NO >> GO TO 3.



# REAR WIPER AND WASHER SYSTEM

## 3. CHECK REAR WIPER CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and rear wiper motor connector.
3. Check continuity between BCM harness connector B83 terminals 70 (SB) and rear wiper motor harness connector D106 terminals 4 (SB).

**70 (SB) - 4 (SB) : Continuity should exist.**

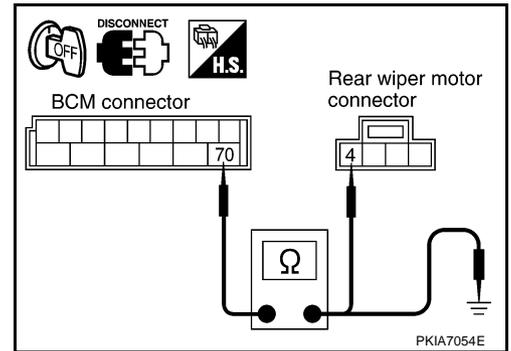
4. Check continuity between BCM harness connector B83 terminals 70 (SB) and ground.

**70 (SB) - Ground : Continuity should not exist.**

OK or NG

OK >> GO TO 4.

NG >> Repair harness or connector.



## 4. CHECK GROUND CIRCUIT

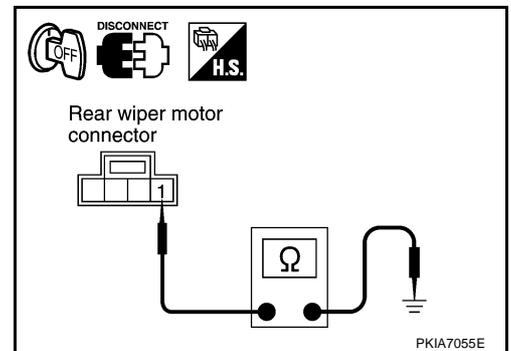
Check continuity between rear wiper motor harness connector D106 terminal 1 (B) and ground.

**1 (B) - Ground : Continuity should exist.**

OK or NG

OK >> GO TO 5.

NG >> Repair harness or connector.



## 5. CHECK BCM

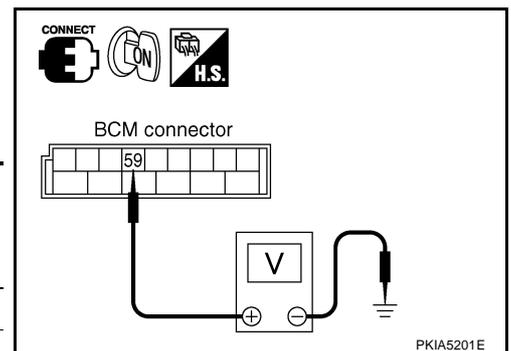
1. Connect BCM connector and rear wiper motor connector.
2. Turn ignition switch ON.
3. With rear wiper switch ON, check voltage between BCM harness connector B83 terminal 59 (OR) and ground.

Terminals		(-)	Condition	Voltage
BCM (+)				
Connector	Terminal (Wire color)			
B83	59 (OR)	Ground	Wiper stopped	Battery voltage
			Wiper operating	Approx. 0V

OK or NG

OK >> Replace rear wiper motor.

NG >> Replace BCM. Refer to [BCS-17, "Removal and Installation of BCM"](#).



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# REAR WIPER AND WASHER SYSTEM

AKS00A09

## Rear Wiper Does Not Return to Stop Position

### 1. CHECK REAR WIPER MOTOR CIRCUIT

④ With CONSULT-II

Select "BCM" on CONSULT-II. With "WIPER" on "DATA MONITOR", confirm that "RR WIPER STOP" turns ON-OFF linked with wiper operation.

⊗ Without CONSULT-II

GO TO 2.

OK or NG

OK >> Replace BCM. Refer to [BCS-17, "Removal and Installation of BCM"](#).

NG >> GO TO 2.

DATA MONITOR	
MONITOR	
FR WIPER INT	OFF
FR WASHER SW	OFF
INT VOLUME	7
FR WIPER STOP	ON
VEHICLE SPEED	0.0 km/h
RR WIPER ON	OFF
RR WIPER INT	OFF
RR WASHER SW	OFF
RR WIPER STOP	OFF
Page Up	
RECORD	
MODE	BACK LIGHT COPY

SKIA5322E

### 2. CHECK REAR WIPER AUTO STOP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and rear wiper motor connector.
3. Check continuity between BCM harness connector B83 terminal 59 (OR) and rear wiper motor harness connector D106 terminal 2 (OR).

**59 (OR) - 2 (OR) : Continuity should exist.**

4. Check continuity between BCM harness connector B83 terminal 59 (OR) and ground.

**59 (OR) - Ground : Continuity should not exist.**

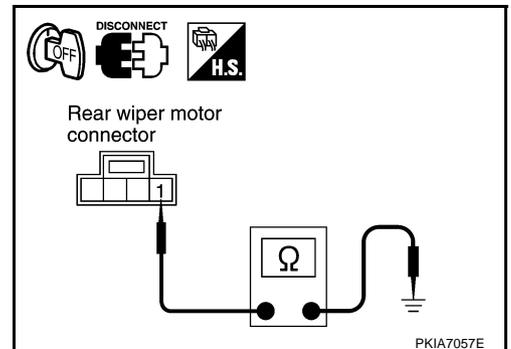
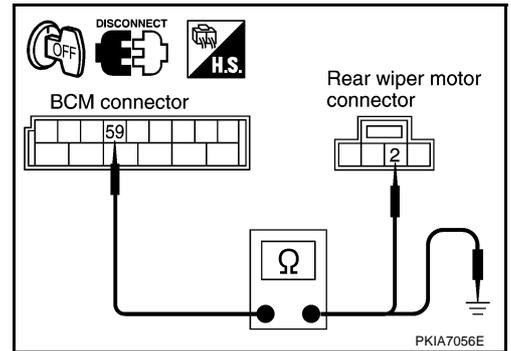
5. Check continuity between rear wiper motor harness connector D106 terminal 1 (B) and ground.

**1 (B) - Ground : Continuity should exist.**

OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.

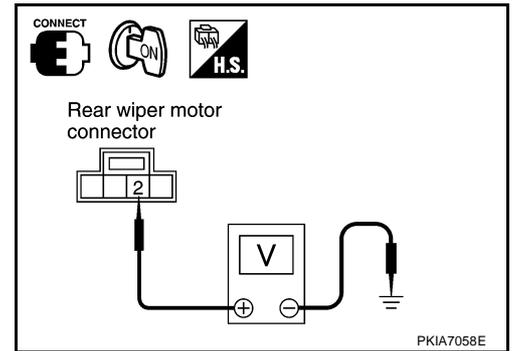


# REAR WIPER AND WASHER SYSTEM

## 3. CHECK REAR WIPER MOTOR SIGNAL

1. Connect BCM connector and rear wiper motor connector.
2. Turn ignition switch ON.
3. Check voltage between rear wiper motor harness connector terminal and ground while rear wiper motor is stopped and while it is operating.

Terminals		Condition	Voltage
Rear wiper motor (+)			
Connector	Terminal (Wire color)	(-)	
D106	2 (OR)	Ground	Wiper stopped
			Wiper operating
			Battery voltage
			Approx. 0V



OK or NG

- OK >> Replace BCM. Refer to [BCS-17, "Removal and Installation of BCM"](#).
- NG >> Replace rear wiper motor.

### Only Rear Wiper ON Does Not Operate

AKS00AQA

Refer to [LT-170, "Combination Switch Inspection"](#), and inspect it.

### Only Rear Wiper INT Does Not Operate

AKS00AQB

Refer to [LT-170, "Combination Switch Inspection"](#), and inspect it.

### Wiper Does Not Wipe When Rear Washer Operates

AKS00AQC

Refer to [LT-170, "Combination Switch Inspection"](#), and inspect it.

### Rear Wipers Do Not Stop

AKS00AQD

## 1. CHECK CIRCUIT BETWEEN COMBINATION SWITCH AND BCM

With CONSULT-II

Select "BCM" on CONSULT-II. With "WIPER" on "DATA MONITOR", confirm that "RR WIPER INT", "RR WIPER ON", and "RR WASHER SW" turn ON-OFF according to wiper switch operation.

Without CONSULT-II

Refer to [LT-170, "Combination Switch Inspection"](#).

OK or NG

- OK >> Replace BCM. Refer to [BCS-17, "Removal and Installation of BCM"](#).
- NG >> Check wiper Switch. Refer to [LT-170, "Combination Switch Inspection"](#).

DATA MONITOR			
MONITOR			
FR WIPER INT	OFF		
FR WASHER SW	OFF		
INT VOLUME	7		
FR WIPER STOP	ON		
VEHICLE SPEED	0.0 km/h		
RR WIPER ON	OFF		
RR WIPER INT	OFF		
RR WASHER SW	OFF		
RR WIPER STOP	OFF		
Page Up		RECORD	
MODE	BACK	LIGHT	COPY

SKIA5322E

## Removal and Installation for Rear Wiper Arm, Adjustment for Wiper Arms Stop Location

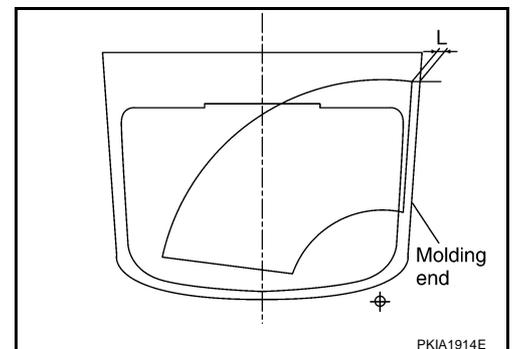
AKS009Q4

1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
2. Lift blade up and then set it down onto glass surface to set blade center to clearance "L" immediately before tightening nut.
3. Eject washer fluid. Turn on wiper switch to operate wiper motor and then turn it "OFF".
4. Ensure that wiper blades stop within clearance "L".

**Clearance "L" : 22.5 - 37.5 mm (0.886 - 1.476 in)**

- Tighten wiper arm nuts to specified torque.

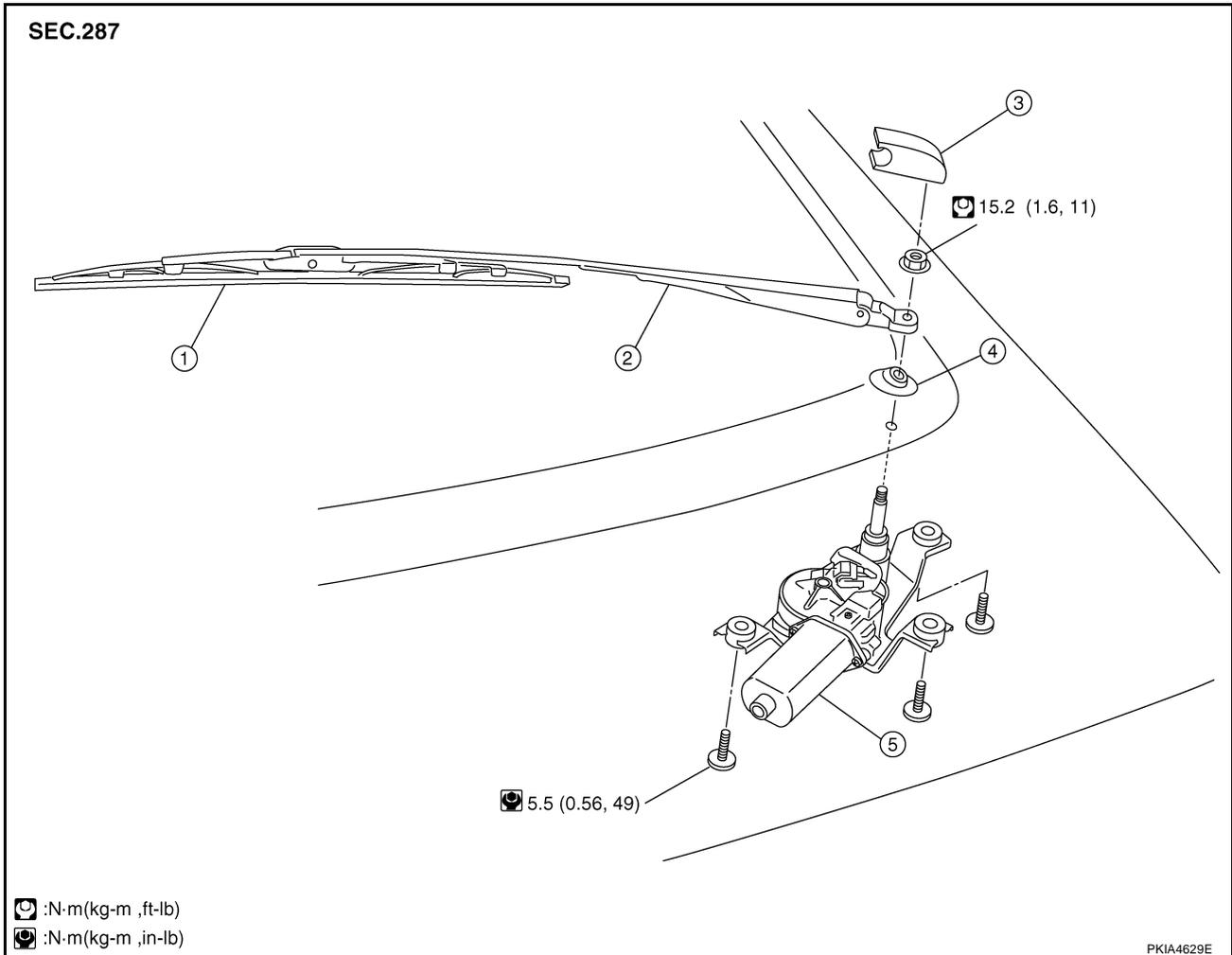
**Rear wiper : 12.7 - 17.6 N·m (1.3 - 1.7 kg·m, 10 - 12 ft·lb)**



# REAR WIPER AND WASHER SYSTEM

## Removal and Installation of Rear Wiper Motor

AKS009Q5



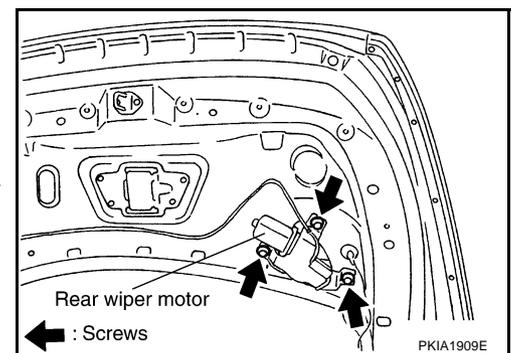
1. Wiper blade
4. Pivot cap

2. Wiper arm
5. Rear wiper motor

3. Cover wiper arm

### REMOVAL

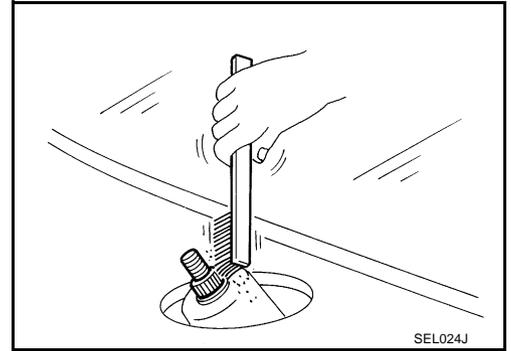
1. Operate wiper motor, and stop it at auto stop position.
2. Remove cover wiper arm.
3. Remove wiper arm nut, and remove wiper arm from vehicle.
4. Remove pivot cap.
5. Remove back door finisher lower. Refer to [EI-47, "BACK DOOR FINISHER"](#) in "EI" section.
6. Remove wiper motor connector.
7. Disconnect rear wiper motor mounting screws and remove rear wiper motor.



# REAR WIPER AND WASHER SYSTEM

## INSTALLATION

1. Clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.
2. Attach pivot cap.
3. Install rear wiper motor to the vehicle.
4. Connect rear wiper motor to connector. Turn rear wiper switch ON to operate rear wiper motor, then turn wiper switch OFF (auto stop).
5. Install back door finisher lower. Refer to [EI-47, "BACK DOOR FINISHER"](#) in "EI" section.
6. Attach wiper arm.



Rear wiper motor mounting screw  : 5.5 N-m (0.56 kg-m, 49 in-lb)

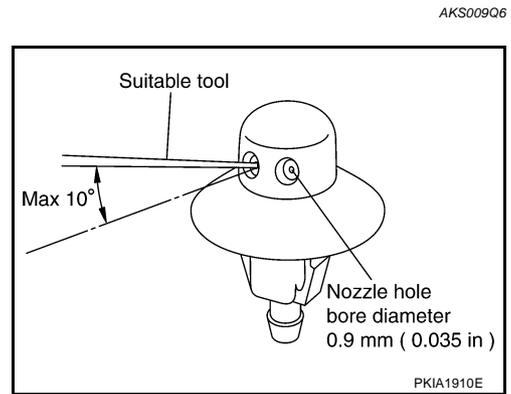
### CAUTION:

- Do not drop wiper motor or cause it to contact other parts.

## Washer Nozzle Adjustment

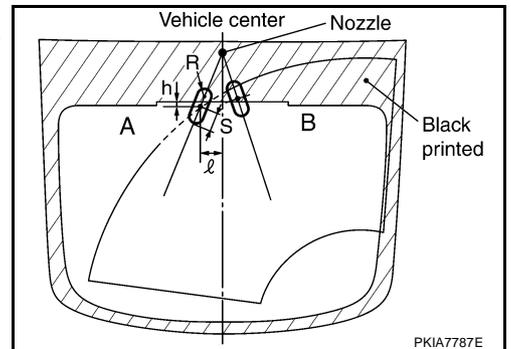
- Adjust washer nozzle with suitable tool as shown in the figure.

Adjustable range :  $\pm 10^\circ$  (In any direction)



Unit: mm (in)

Spray position	h (height)	$\ell$ (width)	S	Spray position range
A	30 (1.22)	73 (2.44)	50 (1.97)	30x80
B	12 (0.47)	50 (1.97)	50 (1.97)	30x80



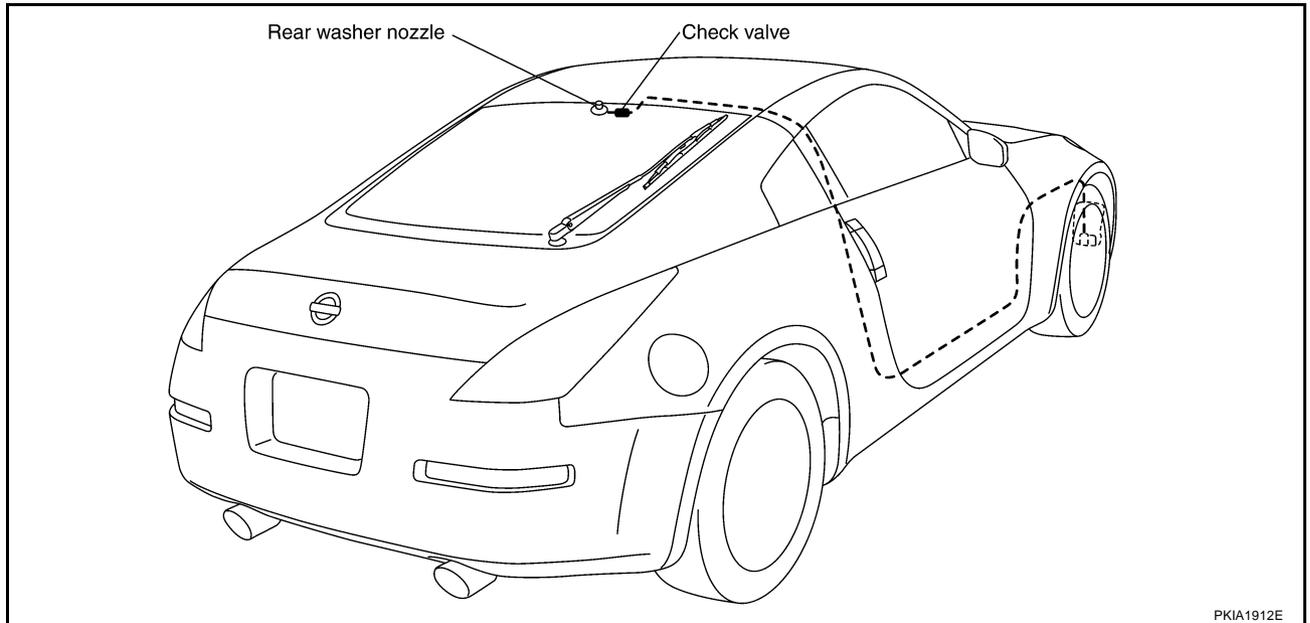
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# REAR WIPER AND WASHER SYSTEM

## Washer Tube Layout

AKS009Q7

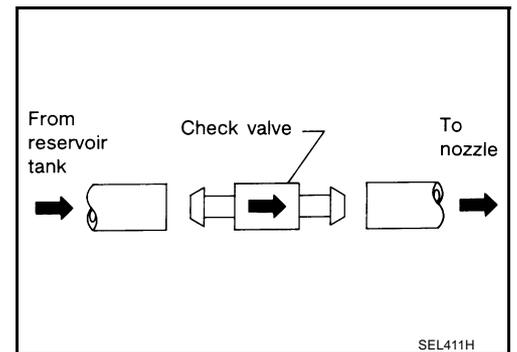


PKIA1912E

## Check Valve

AKS009Q8

- A check valve is provided in washer fluid line. Be careful not to connect check valve to washer tube in the wrong direction.



SEL411H

## Removal and Installation for Rear Wiper and Washer Switch

AKS009Q9

Refer to [WW-36, "Removal and Installation for Front Wiper and Washer Switch"](#) .

## Removal and Installation for Washer Tank

AKS009QA

Refer to [WW-36, "Removal and Installation for Washer Tank"](#) .

## Removal and Installation for Washer Pump

AKS009QB

Refer to [WW-37, "Removal and Installation for Washer Pump"](#) .

# POWER SOCKET

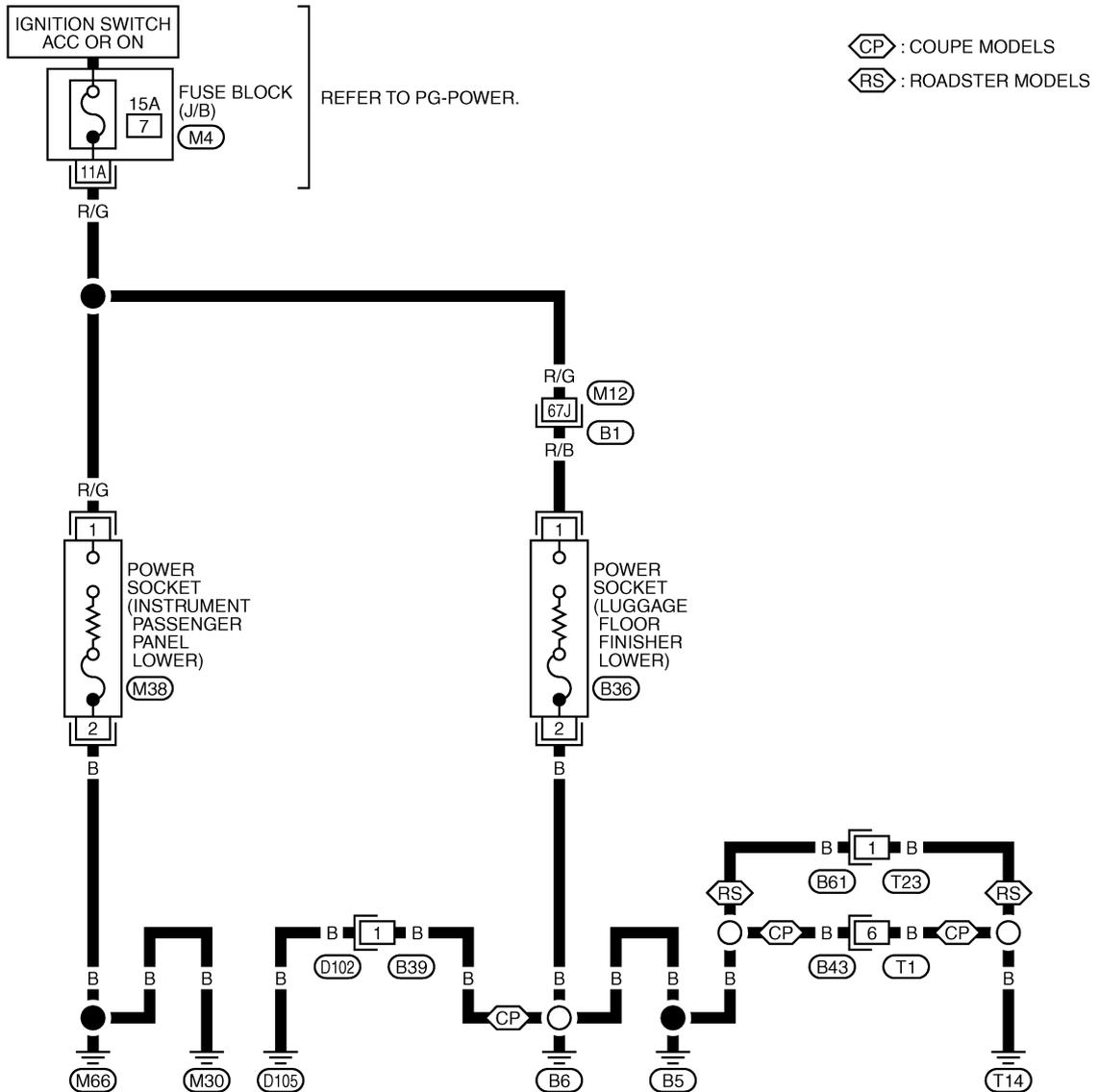
## POWER SOCKET

PFP:253A2

### Wiring Diagram — P/SCKT —

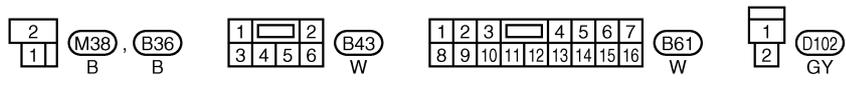
AKS0033M

## WW-P/SCKT-01



A  
B  
C  
D  
E  
F  
G  
H  
I  
J  
L  
M

WW



REFER TO THE FOLLOWING.

- (B1) -SUPER MULTIPLE JUNCTION (SMJ)
- (M4) -FUSE BLOCK-JUNCTION BOX (J/B)

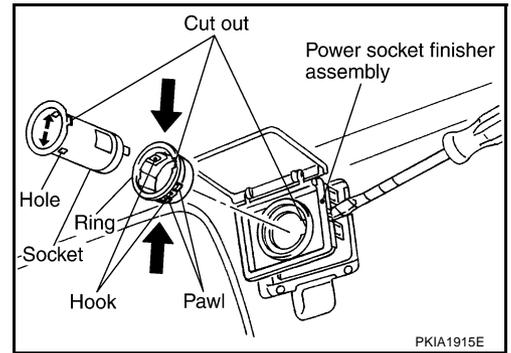
# POWER SOCKET

## Removal and Installation (Luggage Floor Finisher Lower)

AKS0033N

### REMOVAL

1. Remove power socket finisher assembly using a clip driver or a suitable tool.
2. Disconnect power socket connector.
3. Remove inner socket from ring. While pressing hook on ring out from square hole.
4. Remove ring from power socket finisher while pressing pawls.



### INSTALLATION

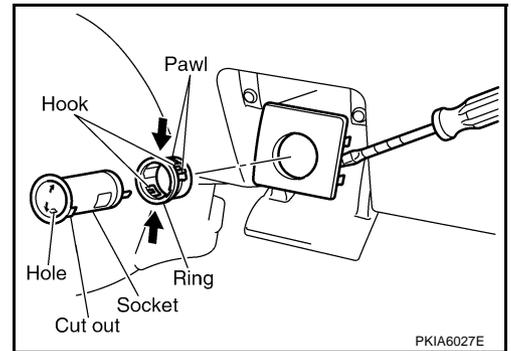
Instal in reverse order of removal.

## Removal and Installation (Instrument Passenger Panel Lower)

AKS00A2A

### REMOVAL

1. Remove power socket finisher assembly using a clip driver or a suitable tool.
2. Disconnect power socket connector.
3. Remove inner socket from ring. While pressing hook on ring out from square hole.
4. Remove ring from power socket finisher while pressing pawls.



### INSTALLATION

Instal in reverse order of removal.

# HORN

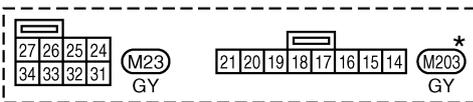
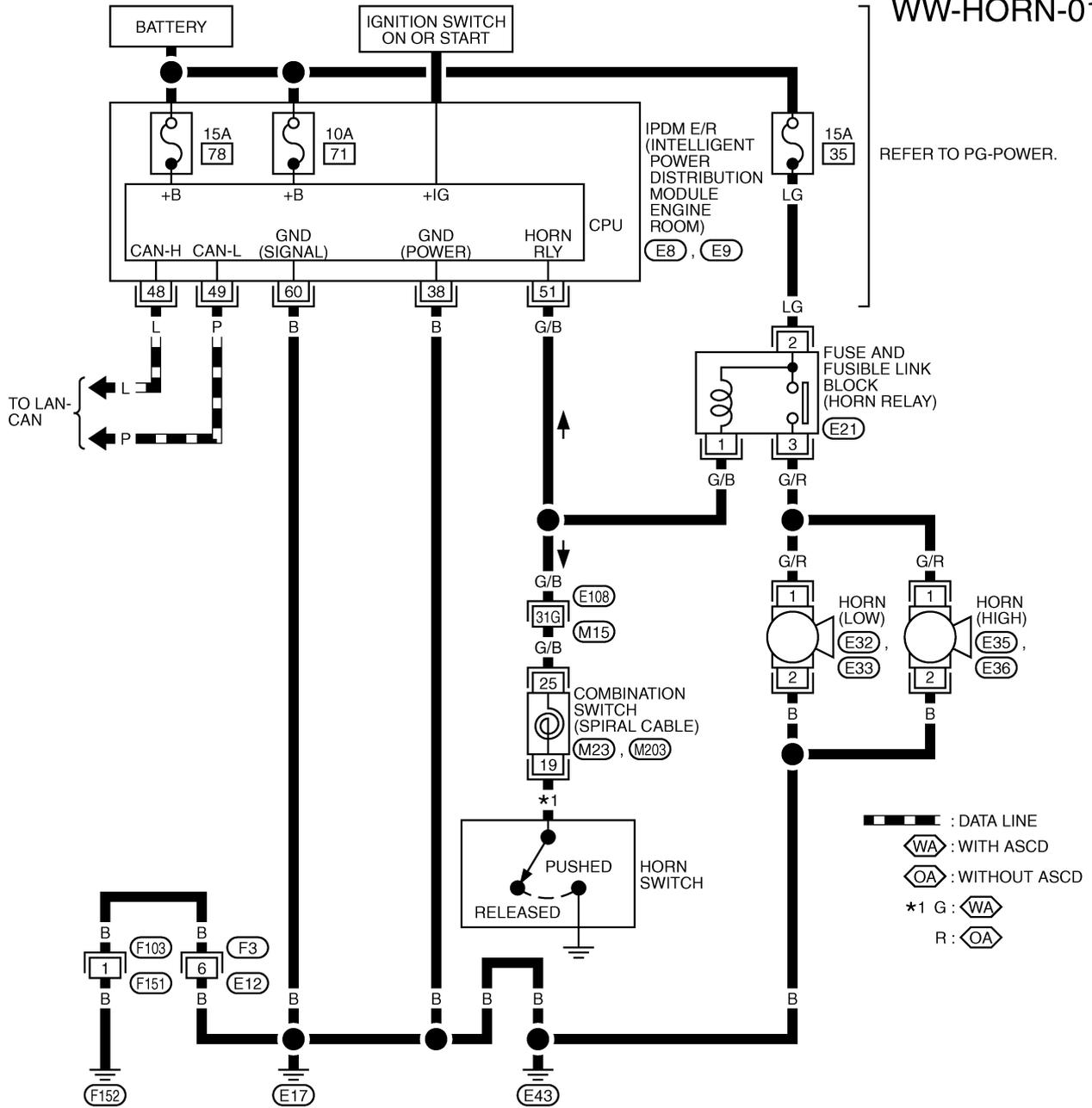
## HORN

PPF:25610

### Wiring Diagram — HORN —

AKS00020

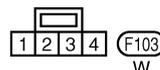
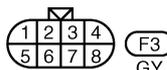
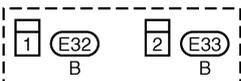
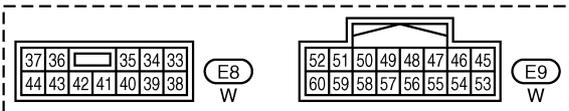
#### WW-HORN-01



\*: THIS CONNECTOR IS NOT SHOWN IN "HARNESS LAYOUT", PG SECTION.

REFER TO THE FOLLOWING.

(E108) -SUPER MULTIPLE JUNCTION (SMJ)



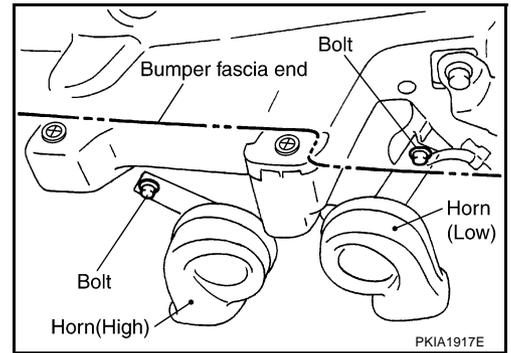
# HORN

## Removal and Installation

### REMOVAL

1. Disconnect all horn connectors.
2. Remove horn mounting bolt and remove horn from vehicle.

AKS000Z1



### INSTALLATION

Tighten horn bolt to specified torque.

**Horn mounting bolt**  : 4.5 N-m (0.46 kg-m, 40 in-lb)