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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”

AKS007KQ

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.

Wiring Diagrams and Trouble Diagnosis

AKS0056N

When you read Wiring diagrams, refer to the following:

- Refer to [GI-15, "How to Read Wiring Diagrams"](#) .
- Refer to [PG-3, "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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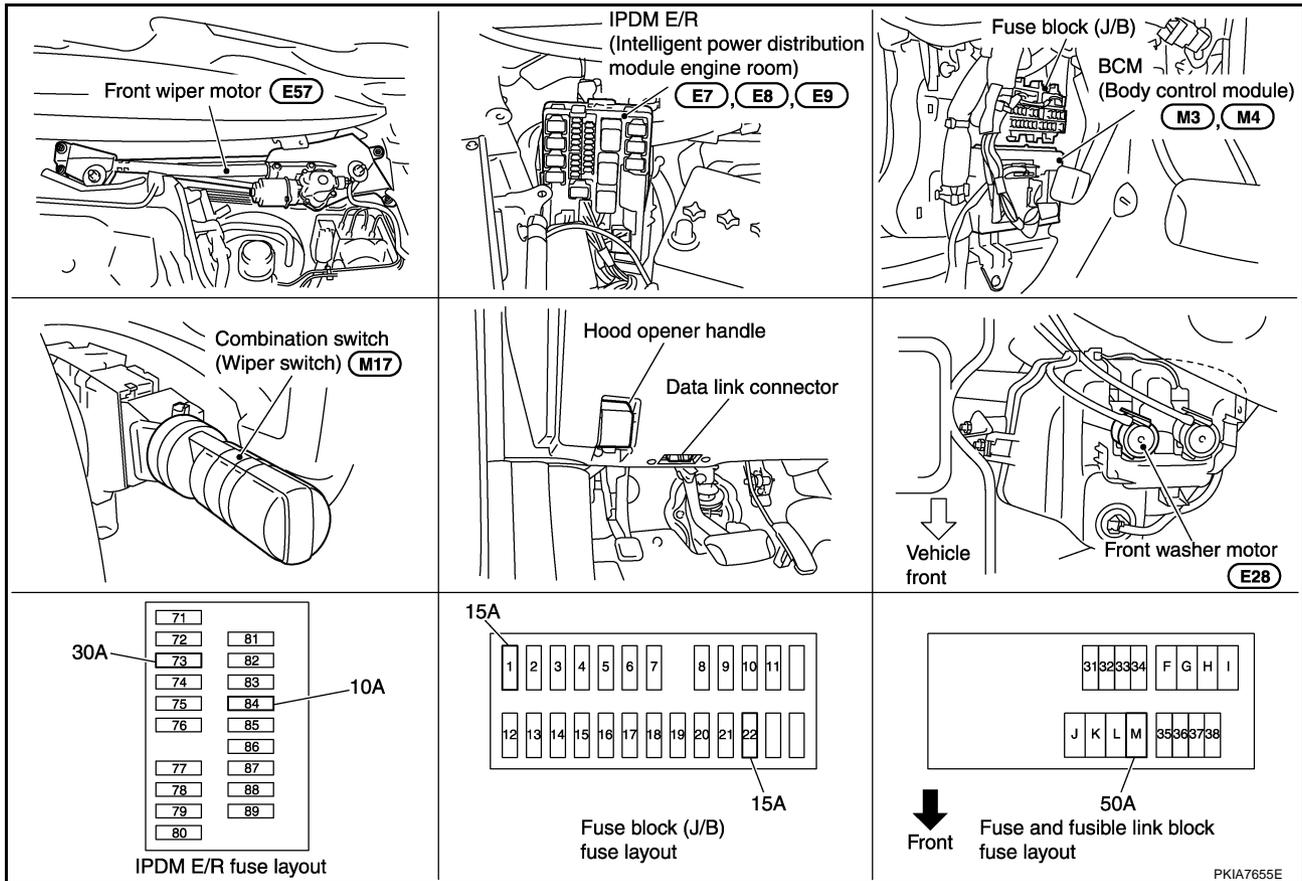
FRONT WIPER AND WASHER SYSTEM

FRONT WIPER AND WASHER SYSTEM

PFP:28810

Components Parts and Harness Connector Location

AKS00560



PKIA7655E

System Description

AKS0056P

- 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 when switch is turned ON.
- BCM controls front wiper LO, HI, and INT (intermittent) operation.
- IPDM E/R operates wiper motor according to CAN communication signals from BCM.

Power is supplied at all times

- through 50 A fusible link (letter M, located in fusible link block.)
- to BCM terminal 55,
- through 15 A fuse [No. 22, located in fuse block (J/B)]
- to BCM terminal 42,
- through 30 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)]
- through 10 A fuse [No. 71, located in IPDM E/R (intelligent power distribution module engine room)]
- to IPDM E/R (CPU).

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

- through 15 A fuse [No. 1, located in fuse block (J/B)]
- to BCM terminal 38 and
- 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)] and
- to front wiper high relay [built in IPDM E/R (intelligent power distribution module engine room)] and
- through 10 A fuse [No. 84, located in IPDM E/R (intelligent power distribution module engine room)]

FRONT WIPER AND WASHER SYSTEM

- through IPDM E/R terminal 44
- to front washer motor terminal 1.

Ground is supplied

- to BCM terminals 49 and 52
- through body grounds M35, M45 and M85,
- to IPDM E/R terminals 38 and 60
- through body grounds E21, E50 and E51.
- to combination switch (wiper switch) terminal 12
- through body grounds M35, M45 and M85.

LOW SPEED WIPER OPERATION

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

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

- 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

- to front wiper motor terminal 1
- through IPDM E/R terminal 21 and front wiper relay and front wiper high relay.

Ground is supplied

- to front wiper motor terminal 2
- through body grounds E21, E50 and E51.

With power and ground supplied, the front wiper motor operates at low speed.

HI SPEED WIPER OPERATION

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

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

- 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 4
- through IPDM E/R terminal 31 and front wiper relay and front wiper high relay.

Ground is supplied

- to front wiper motor terminal 2
- through body grounds E21, E50 and E51.

With power and ground supplied, the front wiper motor operates at high speed.

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.

Speed dependent wiper controlled mode can be changed by the function setting of CONSULT-II or display of NAVI control unit.

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

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FRONT WIPER AND WASHER SYSTEM

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		Large	OFF	ON

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

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.

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 1, in order to continue wiper motor operation at low speed.

When wiper arms reach base of windshield, front wiper motor terminals 5 and 2 are connected, and Ground is supplied

- to IPDM E/R terminal 32
- through front wiper motor terminals 5 and 2
- through body grounds E21, E50 and E51.

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 the STOP position.

WASHER OPERATION

When wiper switch is in front wiper washer position with ignition switch on, BCM detects front wiper switch is on the washer position by BCM wiper switch reading function (Refer to [BCS-3, "COMBINATION SWITCH READING FUNCTION"](#)), combination switch (wiper switch) ground is supplied

- to front washer motor terminal 2
- through combination switch (wiper switch) terminal 11
- to combination switch (wiper switch) terminal 12
- through body grounds M35, M45 and M85

With ground 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.

FRONT WIPER AND WASHER SYSTEM

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.

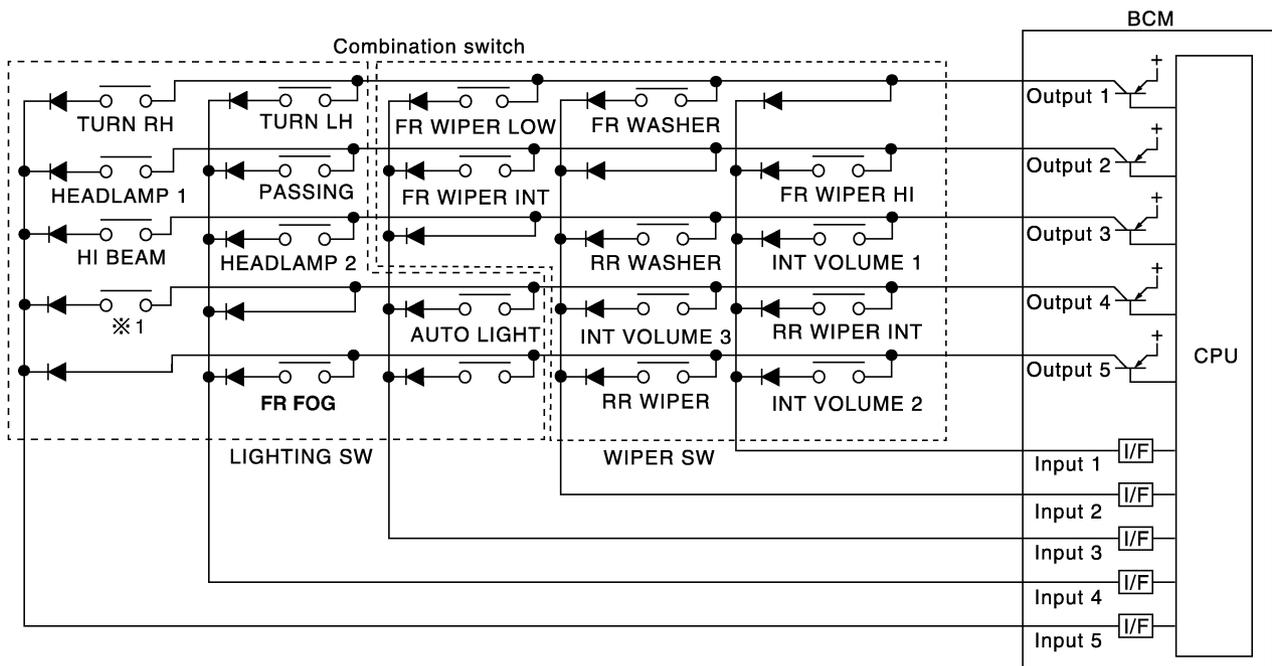
COMBINATION SWITCH READING FUNCTION

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).

Operation description

- BCM activates transistors of output terminals (OUTPUT 1-5) periodically and, 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

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FRONT WIPER AND WASHER SYSTEM

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

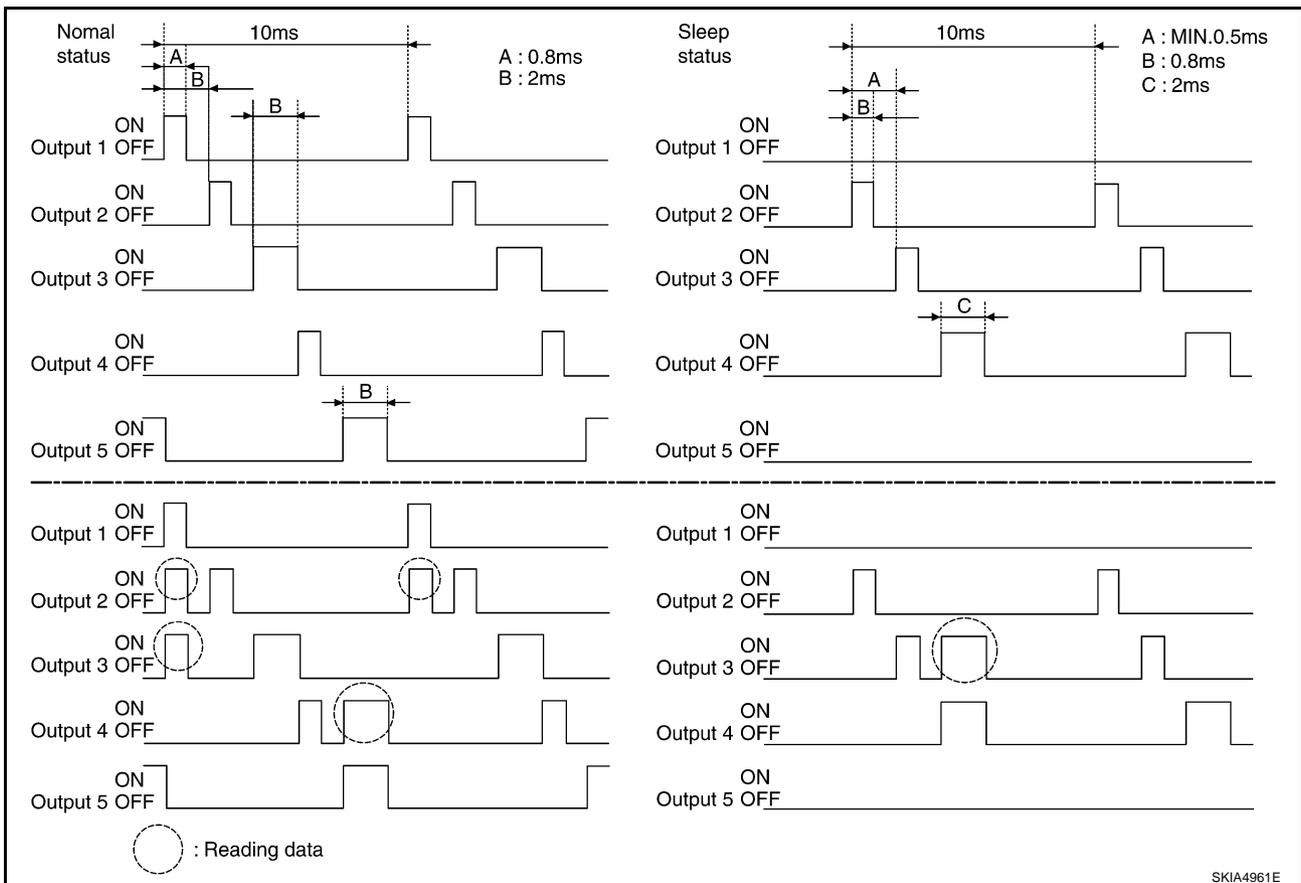
Combination switch reading function has operation modes shown below.

1. Normal status

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

2. Sleep status

- 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.



CAN Communication System Description

AKS0056Q

CAN (Controller Area Network) is a serial communication line for real time application. It is an on-board 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

AKS0080E

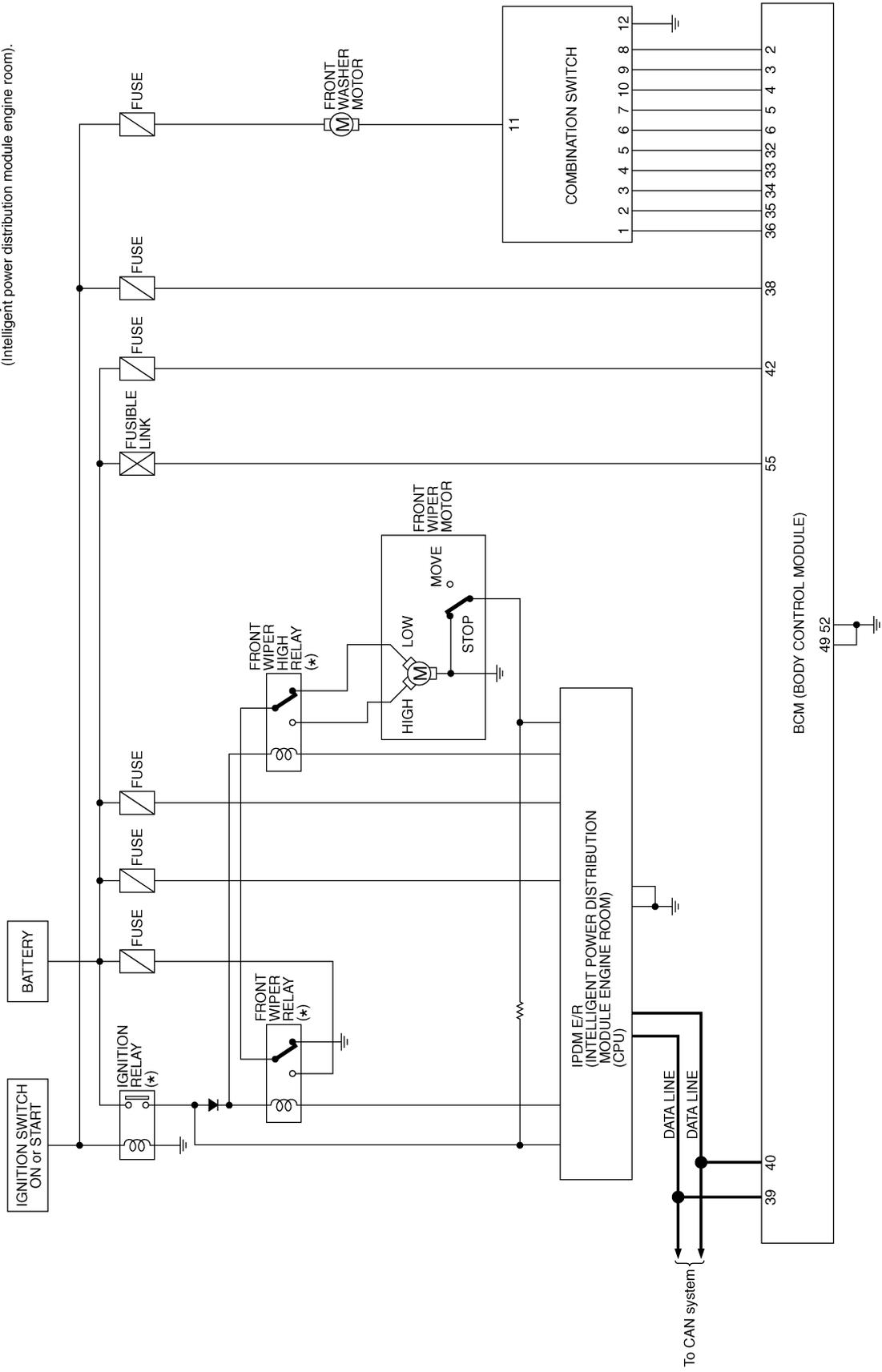
Refer to [LAN-6, "CAN Communication Unit"](#) .

FRONT WIPER AND WASHER SYSTEM

Schematic

AKS0056S

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



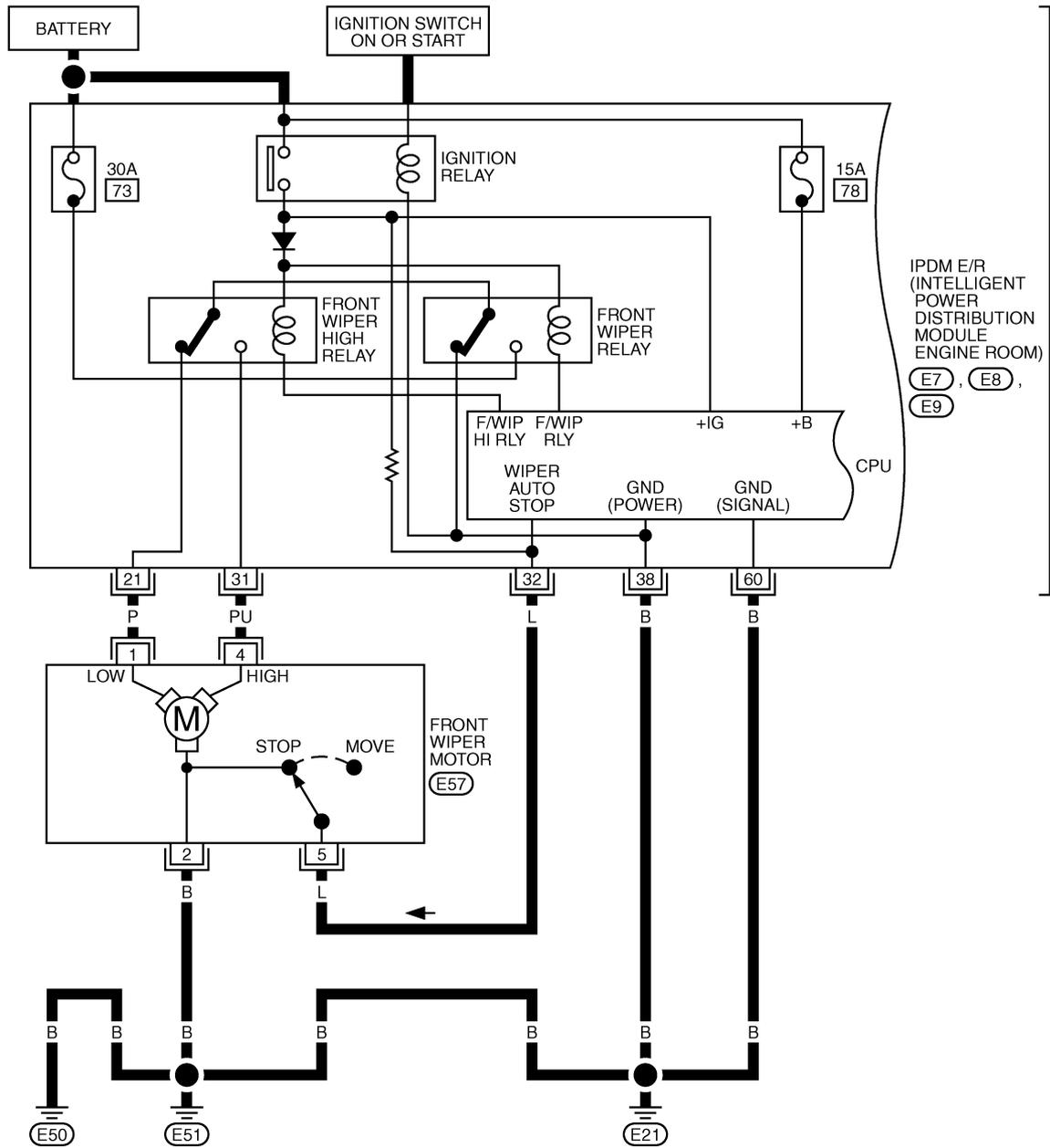
TKWM0940E

FRONT WIPER AND WASHER SYSTEM

Wiring Diagram — WIPER —

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WW-WIPER-01

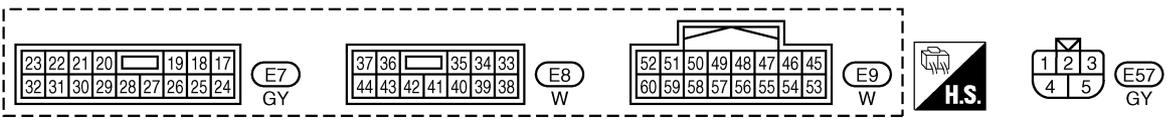


REFER TO PG-POWER.

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

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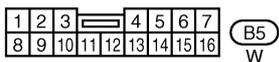
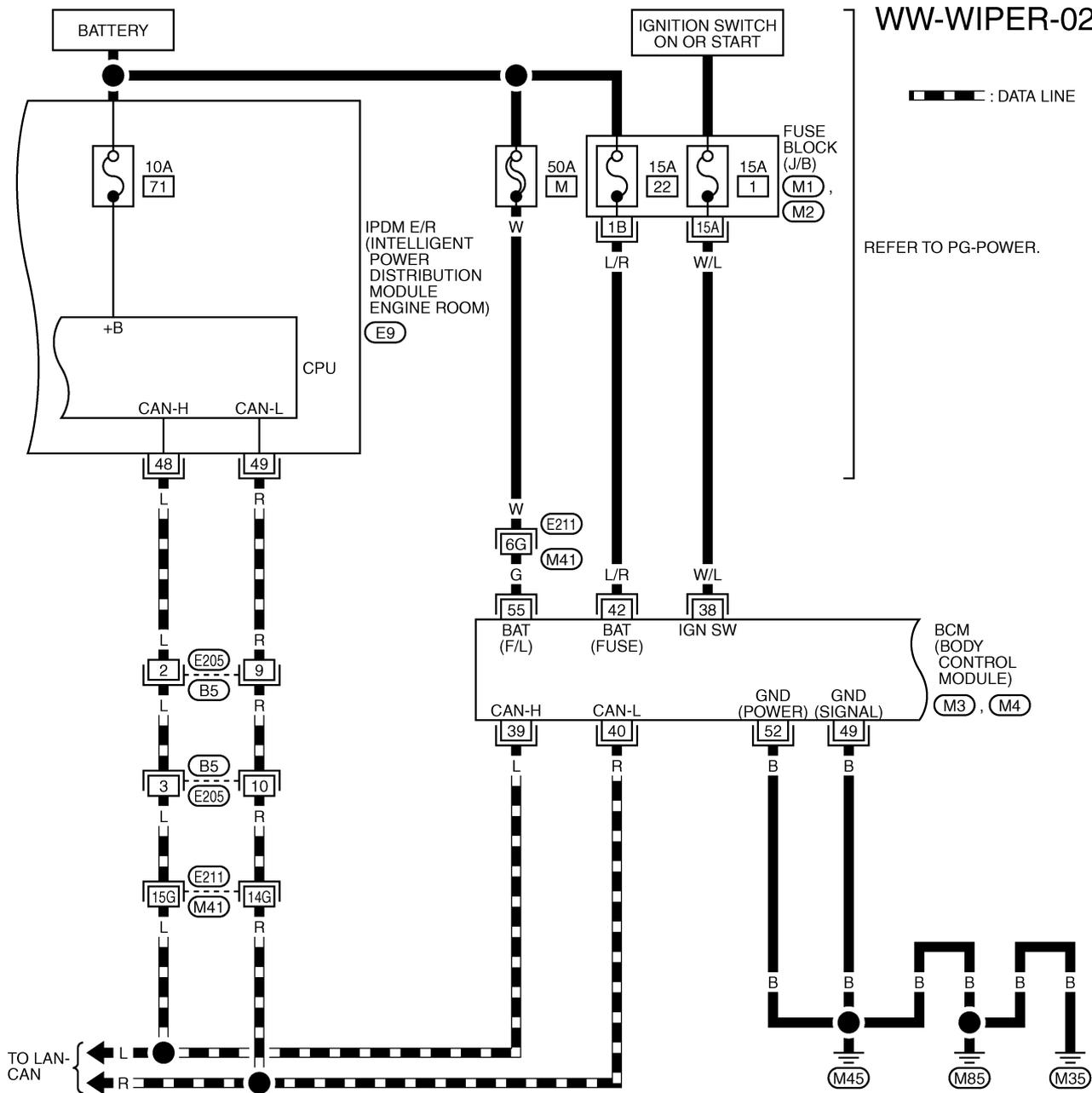
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FRONT WIPER AND WASHER SYSTEM

WW-WIPER-02

▬ : DATA LINE

REFER TO PG-POWER.



REFER TO THE FOLLOWING.

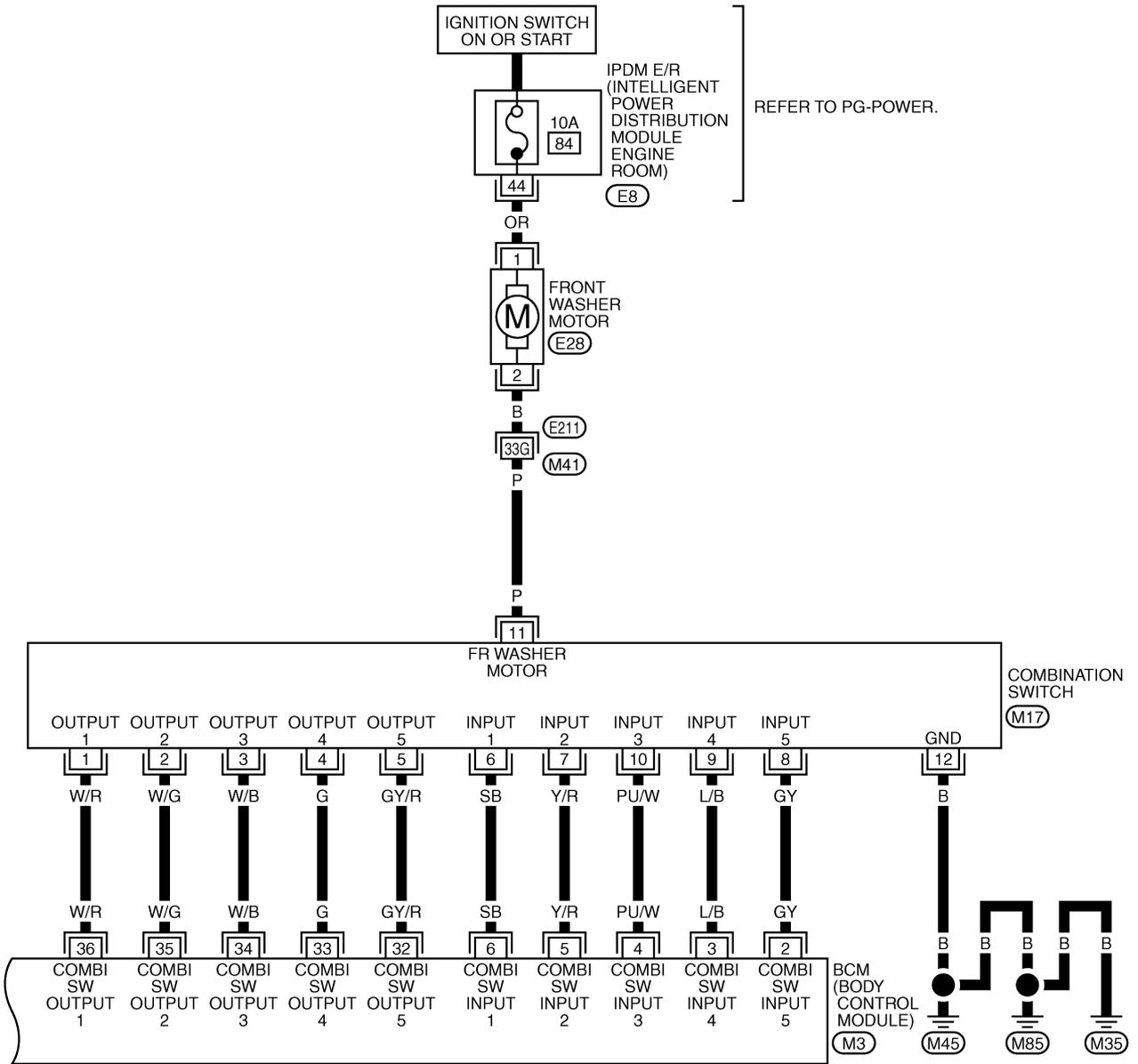
- (E211) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4) -ELECTRICAL UNITS

TKWM0664E

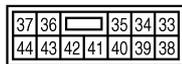
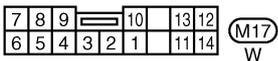
FRONT WIPER AND WASHER SYSTEM

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REFER TO THE FOLLOWING.

(E21) -SUPER MULTIPLE JUNCTION (SMJ)

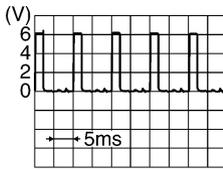
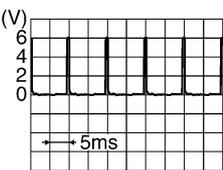
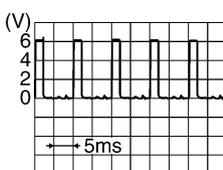
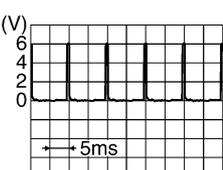
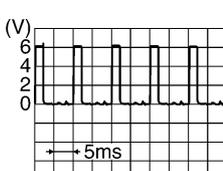
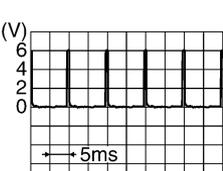
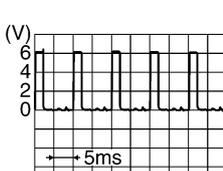
(M3) -ELECTRICAL UNITS

TKWM0827E

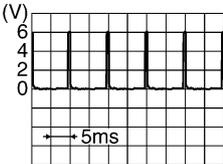
FRONT WIPER AND WASHER SYSTEM

Terminals and Reference Values for BCM

AKS0056U

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"> ● Lighting switch and wiper switch OFF ● Wiper dial position 4 	 <p style="text-align: right;">SKIA5291E</p>
3 (L/B)	Combination switch input 4	ON	<ul style="list-style-type: none"> ● Lighting switch and wiper switch OFF ● Wiper dial position 4 	 <p style="text-align: right;">SKIA5292E</p>
4 (PU/W)	Combination switch input 3	ON	<ul style="list-style-type: none"> ● Lighting switch and wiper switch OFF ● Wiper dial position 4 	 <p style="text-align: right;">SKIA5291E</p>
5 (Y/R)	Combination switch input 2	ON	<ul style="list-style-type: none"> ● Lighting switch and wiper switch OFF ● Wiper dial position 4 	 <p style="text-align: right;">SKIA5292E</p>
6 (SB)	Combination switch input 1	ON		
32 (GY/R)	Combination switch output 5	ON	<ul style="list-style-type: none"> ● Lighting switch and wiper switch OFF ● Wiper dial position 4 	 <p style="text-align: right;">SKIA5291E</p>
33 (G)	Combination switch output 4	ON	<ul style="list-style-type: none"> ● Lighting switch and wiper switch OFF ● Wiper dial position 4 	 <p style="text-align: right;">SKIA5292E</p>
34 (W/B)	Combination switch output 3	ON	<ul style="list-style-type: none"> ● Lighting switch and wiper switch OFF ● Wiper dial position 4 	 <p style="text-align: right;">SKIA5291E</p>

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"> ● Lighting switch and wiper switch OFF ● Wiper dial position 4 	
36 (W/R)	Combination switch output 1			
38 (W/L)	Ignition switch (ON)	ON	—	Battery voltage
39 (L)	CAN H	—	—	—
40 (R)	CAN L	—	—	—
42 (L/R)	Battery power supply	OFF	—	Battery voltage
49 (B)	Ground	ON	—	Approx. 0 V
52 (B)	Ground	ON	—	Approx. 0 V
55 (G)	Battery power supply	OFF	—	Battery voltage

Terminals and Reference Values for IPDM E/R

AKS0056V

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

How to Proceed With Trouble Diagnosis

AKS0056W

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

FRONT WIPER AND WASHER SYSTEM

AKS0056X

Preliminary Check 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
BCM	Battery	M, 22
	Ignition switch ON or START	1

Refer to [WW-11, "Wiring Diagram — WIPER —"](#).

OK or NG

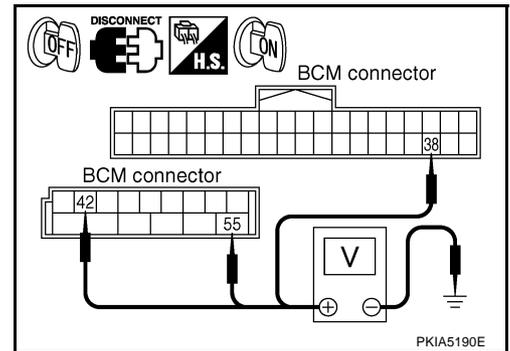
OK >> GO TO 2

NG >> If fuse is blown, be sure to eliminate cause of problem before installing new fuse, Refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#).

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check voltage between BCM harness connector terminal and ground.

Terminals		(-)	Ignition switch position	
(+)			OFF	ON
Connector	Terminal (Wire color)	Ground	Battery voltage	Battery voltage
M4	42 (L/R)		Battery voltage	Battery voltage
M4	55 (G)		0V	Battery voltage
M3	38 (W/L)			



OK or NG

OK >> GO TO 3.

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

3. CHECK GROUND CIRCUIT

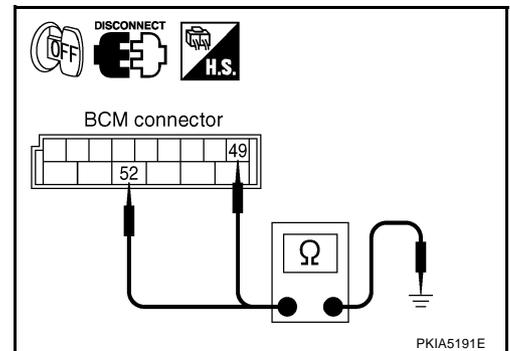
Check continuity between BCM harness connector M4 terminals 49 (B), 52 (B) and ground.

49 (B), 52 (B) - Ground : Continuity should exist.

OK or NG

OK >> INSPECTION END

NG >> Repair harness or connector.



FRONT WIPER AND WASHER SYSTEM

CONSULT-II Functions (BCM)

AKS007AD

CONSULT-II can display each diagnostic item using the following diagnostic test modes: work support, self-diagnostic results, data monitor and active test through data reception and command transmission via the BCM CAN communication line.

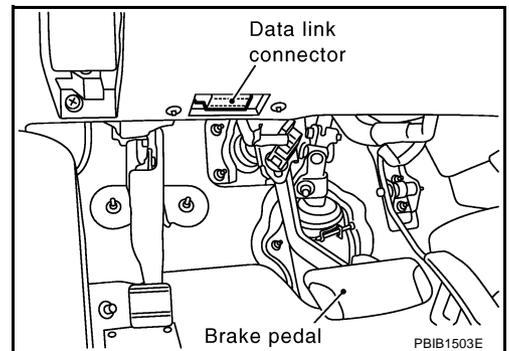
BCM diagnosis position	Check item, Diagnosis mode	Description
Wiper	DATA MONITOR	Displays BCM input data in real time.
	ACTIVE TEST†	Device operation can be checked by applying a drive signal to device.
BCM	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.

CONSULT-II OPERATION

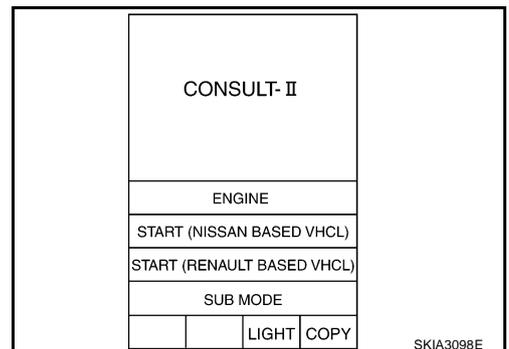
CAUTION:

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.

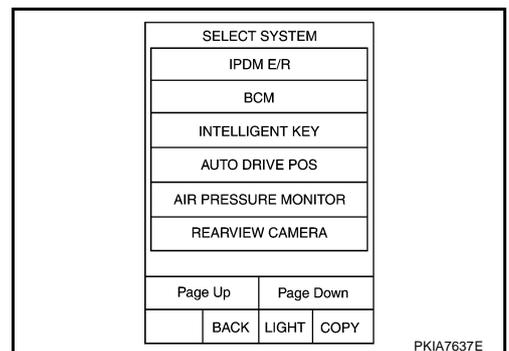
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.



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

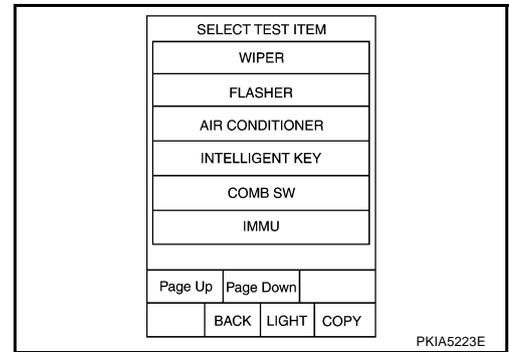


3. Touch "BCM" on "SELECT SYSTEM" screen.
If "BCM" is not indicated, refer to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



FRONT WIPER AND WASHER SYSTEM

4. Touch "WIPER".



DATA MONITOR

Operation Procedure

1. Touch "WIPER" on the "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 signals.
SELECTION FROM MENU	Selects and monitors individual signal.

4. Touch "START".
5. When "SELECTION FROM MENU" is selected, touched items to be monitored. If "ALL ITEMS" is selected, all items will be monitored.
6. Touch "RECORDING START" while monitoring to record the status of the item being monitored. To stop recording, touch "RECORDING 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.
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 the auto-stop signal.
VEHICLE SPEED [km/h]	Displays vehicle speed status as judged from vehicle speed signal.
RR WIPER ON [ON/OFF]	Displays "REAR WIPER ON (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER INT [ON/OFF]	Displays "REAR WIPER INT (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WASHER SW [ON/OFF]	Displays "REAR WASHER Switch (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER STOP [ON/OFF]	Displays "REAR WIPER Stop (ON)/Other (OFF)" status, as judged from wiper switch signal.

FRONT WIPER AND WASHER SYSTEM

ACTIVE TEST

Operation Procedure

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

Display Item List

Test item	Indication on CONSULT-II display	Description
Front wiper output	FR WIPER	With a certain operation (OFF, HI, LO, INT), the front wiper can be operated.
Rear wiper output	RR WIPER	Rear wiper can be operated by any ON-OFF operation.

CONSULT-II Functions (IPDM E/R)

AKS007AE

CONSULT-II can display each diagnostic item using the following diagnostic test modes: work support, self-diagnostic results, data monitor and active test through data reception and command transmission via the IPDM E/R CAN communication line.

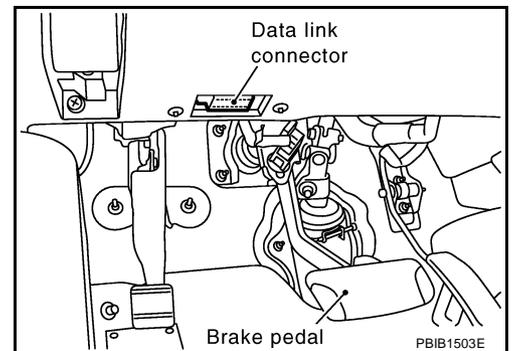
Inspection Item, Diagnosis Mode	Description
SELF-DIAGNOSTIC RESULTS	The IPDM E/R performs self-diagnosis of CAN communication.
DATA MONITOR	The input/output data of the IPDM E/R is displayed in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.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

CONSULT-II OPERATION

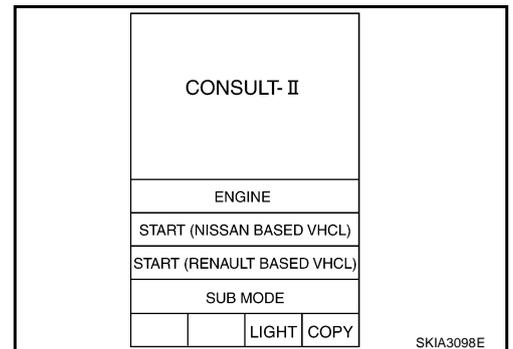
CAUTION:

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

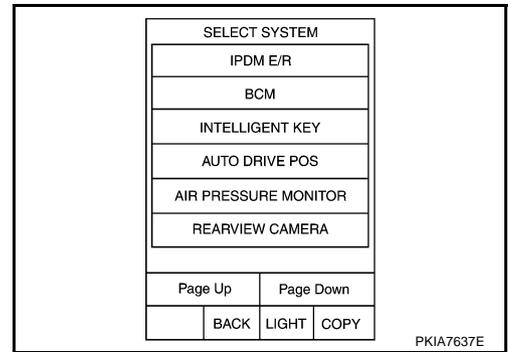


2. Touch "START (NISSAN BASED VHCL)".

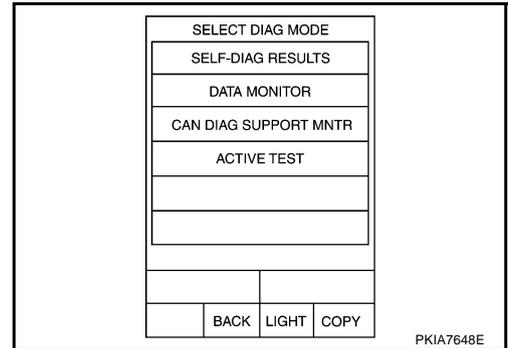


FRONT WIPER AND WASHER SYSTEM

3. Touch "IPDM E/R" on "SELECT SYSTEM" screen.
If "IPDM E/R" is not displayed, print "SELECT SYSTEM" screen, then refer to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



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



SELF-DIAGNOSTIC 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".

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/LS/HS/Block	×	×	×	Control status of IPDM E/R

NOTE:

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

FRONT WIPER AND WASHER SYSTEM

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	FRONT WIPER	With a certain operation (OFF, HI ON, LO ON), the front wiper relay (Lo, Hi) can be operated.

Front Wiper Does Not Operate

AKS0079W

CAUTION:

- During IPDM E/R fail-safe control, front wipers may not operate. Refer to [PG-18, "CAN COMMUNICATION LINE CONTROL"](#) in "PG IPDM E/R" to make sure that it is not in fail-safe status.

1. CHECK IPDM E/R TO FRONT WIPERS (1)

 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.

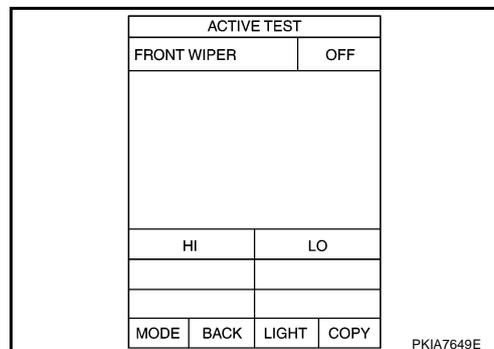
 Without CONSULT-II

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

Does the 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.

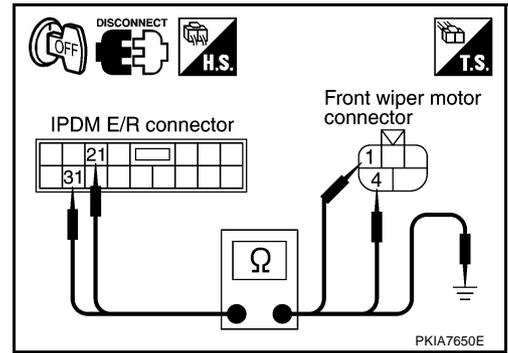
NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse, Refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#).

FRONT WIPER AND WASHER SYSTEM

3. CHECK IPDM E/R TO FRONT WIPERS (2)

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 (P)	E57	1 (P)	Yes
	31 (PU)		4 (PU)	



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

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

OK or NG

- OK >> GO TO 4.
 NG >> Repair harness or connector.

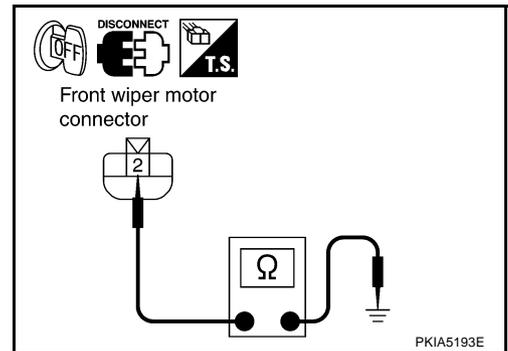
4. CHECK CIRCUITE BETWEEN FRONT WIPERS AND GROUND

Check continuity between front wiper motor harness connector E57 terminal 2 (B) and ground.

2 (B) - Ground : Continuity should exist.

OK or NG

- OK >> GO TO 5.
 NG >> Repair harness or connector.



FRONT WIPER AND WASHER SYSTEM

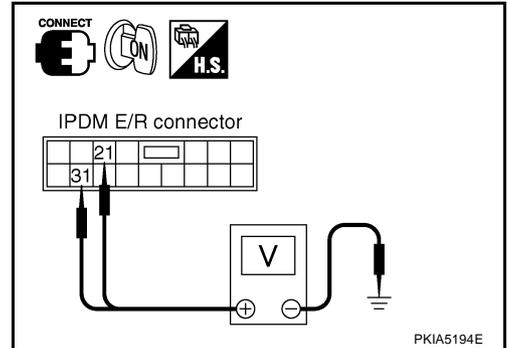
5. CHECK IPDM E/R

Ⓟ With CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Using active test, check voltage between IPDM E/R harness connector terminal and ground while front wiper (HI, LO) is operating.

ⓧ Without CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Start up auto active test, and check voltage between IPDM E/R harness connector terminal and ground while front wiper (HI, LO) is operating.



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

Ⓟ With CONSULT-II

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

ⓧ Without CONSULT-II

Refer to [LT-113, "Combination Switch Inspection"](#).

OK or NG

- OK >> GO TO 7.
 NG >> Check wiper Switch. Refer to [LT-113, "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	0.0km/h
Page Down	
RECORD	
MODE	BACK LIGHT COPY

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-15, "Removal and Installation of BCM"](#).
 CAN COMM CIRCUIT>>Check CAN communication line of BCM.
 GO TO [BCS-14, "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

FRONT WIPER AND WASHER SYSTEM

AKS0079X

Front Wiper Does Not Return to Stop Position

1. CHECK FRONT WIPER STOP SIGNAL

④ 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.

When front wiper stopped : WIP AUTO STOP STOP P

When front wiper operated : WIP AUTO STOP ACT P

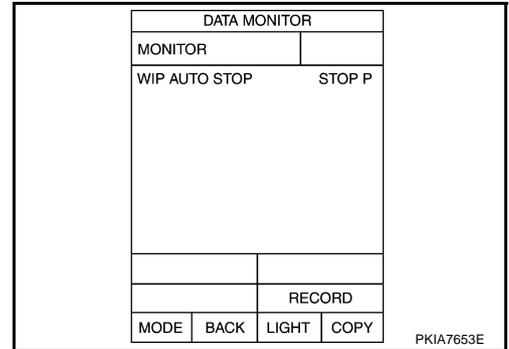
⊗ Without CONSULT-II

GO TO 2.

OK or NG

OK >> Replace IPDM E/R.

NG >> GO TO 2.



2. 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) and front wiper motor harness connector E57 terminal 5 (L).

32 (L) - 5 (L) : Continuity should exist.

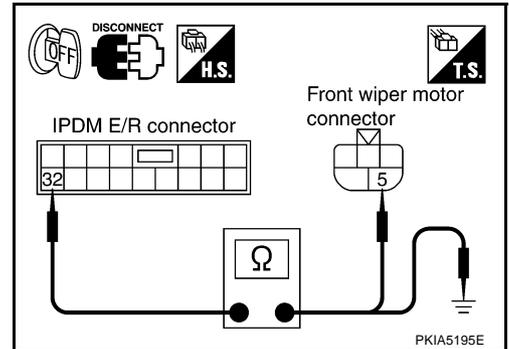
4. Check continuity between IPDM E/R harness connector E7 terminal 32 (L) and Ground.

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

OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.



3. CHECK IPDM E/R (1)

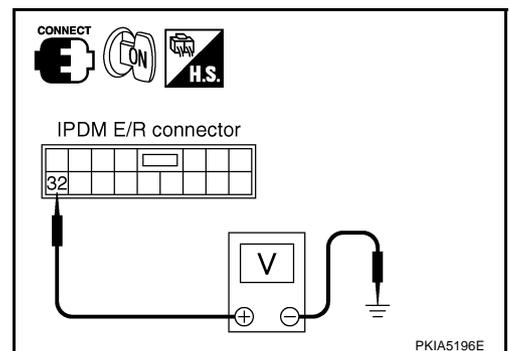
1. Connect IPDM E/R connector and front wiper motor connector.
2. Turn ignition switch ON.
3. Check voltage between IPDM E/R harness connector terminal and ground while front wiper motor is stopped and while it is operating.

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

OK or NG

OK >> Replace IPDM E/R.

NG >> GO TO 4.



FRONT WIPER AND WASHER SYSTEM

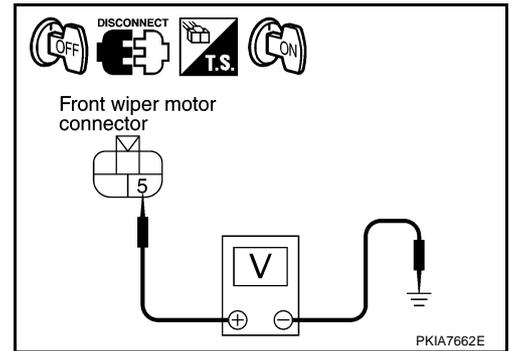
4. CHECK IPDM E/R (2)

1. Turn ignition switch OFF.
2. Disconnect front wiper motor connector.
3. Turn ignition switch ON.
4. Check voltage between front wiper motor connector E57 terminal 5 (L) and ground.

5 (L) – Ground : Battery Voltage should exist.

OK or NG

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



AKS0079Y

Only Front Wiper LO Does Not Operate

Refer to [LT-113, "Combination Switch Inspection"](#) .

Only Front Wiper HI Does Not Operate

AKS0079Z

1. CHECK CIRCUIT BETWEEN IPDM E/R AND FRONT WIPERS (1)

With CONSULT-II

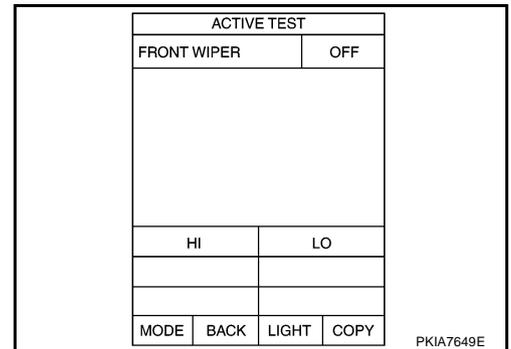
1. Select "IPDM E/R" by CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "FRONT WIPER" on "SELECT TEST ITEM" screen.

Without CONSULT-II

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

Does the front wiper operate normally?

- YES >> GO TO [LT-113, "Combination Switch Inspection"](#) .
 NO >> GO TO 2.



2. CHECK CIRCUIT BETWEEN IPDM E/R AND FRONT WIPERS (2)

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 (PU) and front wiper motor harness E57 connector terminal 4 (PU).

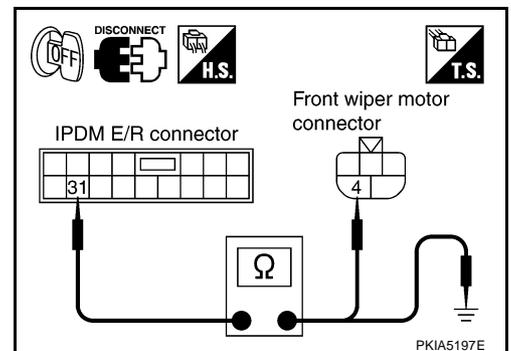
31 (PU) - 4 (PU) : Continuity should exist.

4. Check continuity between IPDM E/R harness connector E7 terminal 31 (PU) and ground.

31 (PU) - Ground : Continuity should not exist.

OK or NG

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



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

WW

FRONT WIPER AND WASHER SYSTEM

3. CHECK IPDM E/R

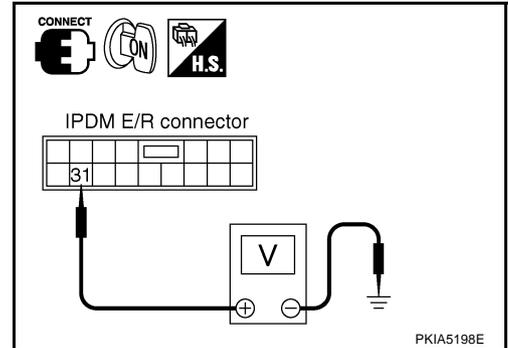
④ With CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Using active test, check voltage between IPDM E/R harness connector E7 terminal 31 (PU) and ground while front wiper (HI) is operating.

⊗ Without CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Start up auto active test, and check voltage between IPDM E/R harness connector E7 terminal 31 (PU) and ground while front wiper HI is operating.

31 (PU) - Ground : Battery voltage



OK or NG

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

Only Front Wiper INT Does Not Operate

AKS007A0

Refer to [LT-113, "Combination Switch Inspection"](#) .

Front Wiper Interval Time Is Not Controlled by Vehicle Speed

AKS007A1

1. CHECK FUNCTION OF COMBINATION METER

Confirm that speedometer operates normally.

Does the front wiper operate normally?

- YES >> GO TO 2.
 NO >> Combination meter vehicle speed system malfunction. GO 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-15, "Removal and Installation of BCM"](#) .
 CAN COMM CIRCUIT>>Check CAN communication line of BCM. GO TO [BCS-14, "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

PKIA7652E

FRONT WIPER AND WASHER SYSTEM

Front Wiper Intermittent Operation Switch Position Cannot Be Adjusted

AKS007YW

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 the intermittent switch dial position.

OK or NG

- OK >> Replace BCM. Refer to [LT-113, "Combination Switch Inspection"](#).
- NG >> Replace wiper switch.

DATA MONITOR			
MONITOR			
INT VOLUME		5	
		RECORD	
MODE	BACK	LIGHT	COPY

PKIA7654E

Wipers Do Not Wipe When Front Washer Operates

AKS00575

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-15, "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	0.0km/h		
Page Down			
RECORD			
MODE	BACK	LIGHT	COPY

PKIA7651E

A
B
C
D
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J
L
M

WW

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

AKS007A2

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

☑ 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.

When front wiper stopped : WIP AUTO STOP STOP P

When front wiper operated : WIP AUTO STOP ACT P

☒ 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	
RECORD			
MODE	BACK	LIGHT	COPY

PKIA7653E

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) and front wiper motor harness connector E57 terminal 5 (L).

32 (L) - 5 (L) : Continuity should exist.

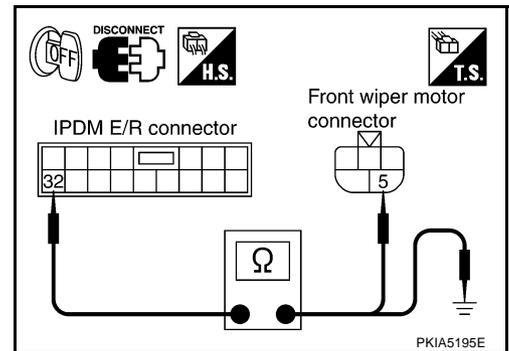
4. Check continuity between IPDM E/R harness connector E7 terminal 32 (L) and ground.

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

OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.

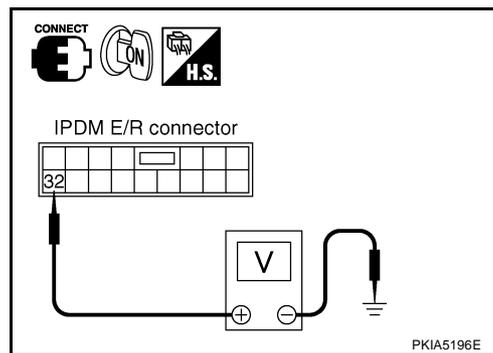


FRONT WIPER AND WASHER SYSTEM

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) 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)	Ground	Wiper stopped	Approx. 0V
			Wiper operating	Battery Voltage



OK or NG

- OK >> Replace IPDM E/R.
 NG >> GO TO 4.

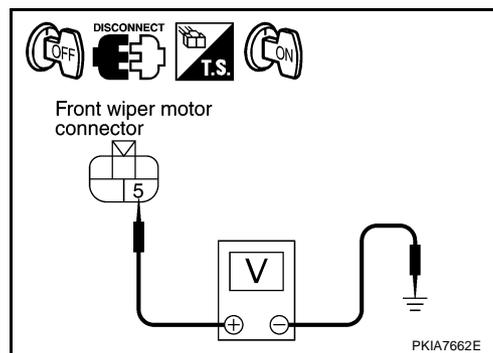
4. CHECK IPDM E/R (2)

1. Turn ignition switch OFF.
2. Disconnect front wiper motor connector.
3. Turn ignition switch ON.
4. Check voltage between front wiper motor connector E57 terminal 5 (L) and ground.

5 (L) – Ground : Battery Voltage should exist.

OK or NG

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



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 "FRONT WIPER INT", "FRONT WIPER LOW", "FRONT WIPER HI", and "FRONT WASHER SW" turn ON-OFF according to wiper switch operation.

Without CONSULT-II

Refer to [LT-113, "Combination Switch Inspection"](#) .

OK or NG

- OK >> Replace IPDM E/R.
 NG >> Check wiper Switch. Refer to [LT-113, "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	0.0km/h
Page Down	
RECORD	
MODE	BACK
LIGHT	COPY

PKIA7651E

Removal and Installation of Front Wiper Arms, Adjustment of Wiper Arms Stop Location

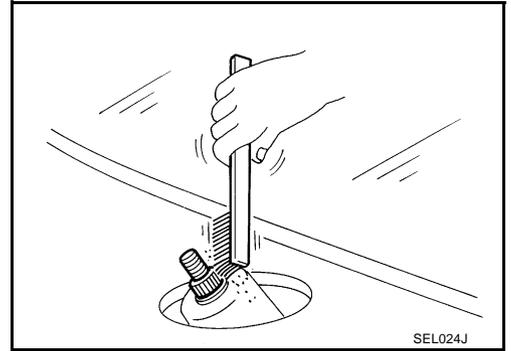
REMOVAL

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

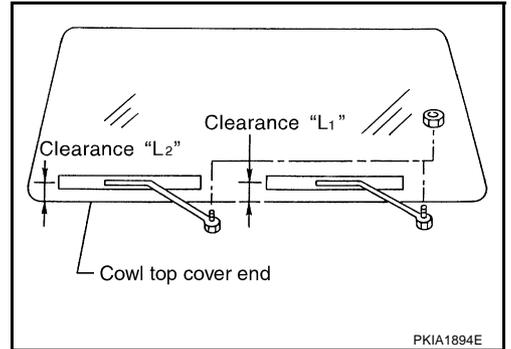
FRONT WIPER AND WASHER SYSTEM

INSTALLATION

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



2. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (auto stop).
3. Push 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 wiper motor and then turn it "OFF".
7. Ensure that wiper blades stop within clearance "L1" & "L2".



Clearance "L1" : 44.4 - 54.4 mm (1.75 - 2.14 in)

Clearance "L2" : 38 - 48 mm (1.50 - 1.89 in)

- Tighten wiper arm nuts to specified torque.

Front wiper arm nuts  : 23.6 N·m (2.4 kg·m, 17 ft·lb)

ADJUSTMENT

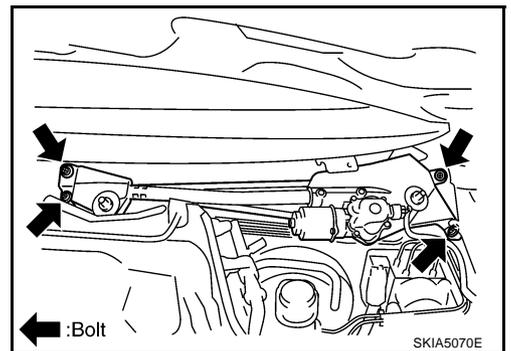
Refer to [WW-30, "INSTALLATION"](#) .

Removal and Installation of Front Wiper Motor and Linkage

AKS00577

REMOVAL

1. Prior to wiper motor and linkage removal, turn ON wiper switch to operate wiper motor and then turn it "OFF" (auto stop).
2. Remove wiper arm. Refer to [WW-29, "REMOVAL"](#) .
3. Remove cowl top cover. Refer to [EI-24, "Removal and Installation"](#) in "EI" section.
4. Remove washer tube.
5. Disconnect wiper motor connector.
6. Remove wiper motor and linkage mounting bolts, and remove wiper motor and linkage.



INSTALLATION

1. Install wiper motor and linkage to the vehicle.
2. Connect wiper motor assembly to the connector. Turn wiper switch ON to operate 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-24, "Removal and Installation"](#) in "EI" section.
5. Install wiper arms. Refer to [WW-29, "Removal and Installation of Front Wiper Arms, Adjustment of Wiper Arms Stop Location"](#) .

FRONT WIPER AND WASHER SYSTEM

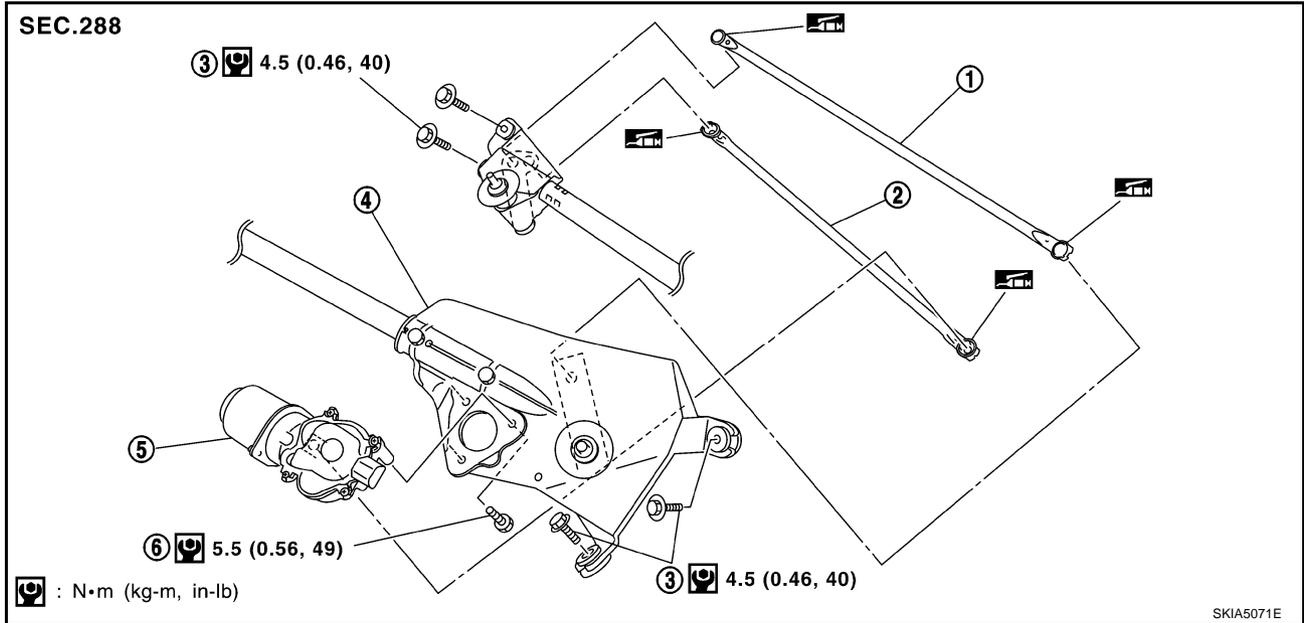
6. Attach wiper arm washer tube.

CAUTION:

- Do not drop the 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.

Disassembly and Assembly of Front Wiper Motor and Linkage

AKS00578



- | | | |
|-------------------------------|-----------------|------------------------------------|
| 1. Wiper link 2 | 2. Wiper link 1 | 3. Wiper motor frame mounting bolt |
| 4. Wiper motor mounting frame | 5. Wiper motor | 6. Wiper motor mounting bolt |

DISASSEMBLY

1. Remove wiper link 1 and 2 from wiper motor mounting frame and wiper motor arm.
2. Remove wiper motor mounting bolts, and remove wiper motor from wiper motor mounting frame.

ASSEMBLY

Paying attention to the work listed below, assemble in reverse order of disassembly.

Washer Nozzle Adjustment

AKS00579

1. When wiper blade position is in auto stop condition, remove wiper motor connector to ensure wiper arms do not move.
2. Adjust each nozzle position (A, B, E, G, H, and K) so that spray positions are in the range of shaded parts.

CAUTION:

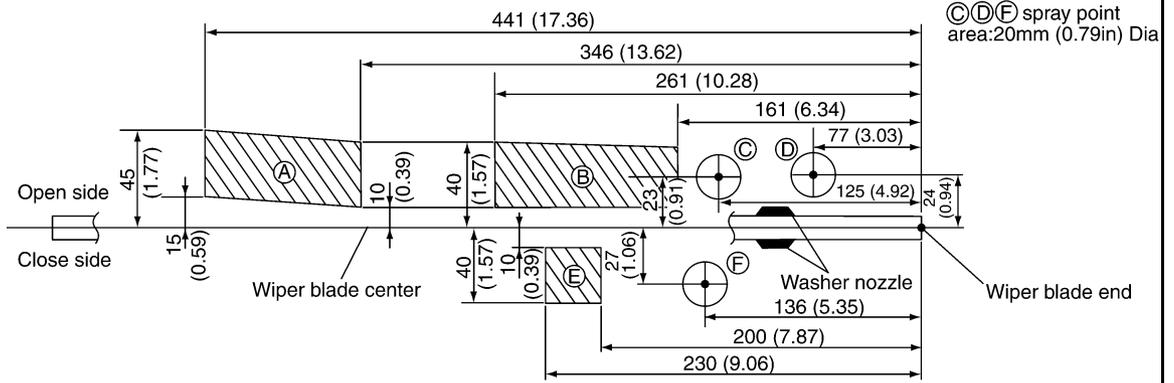
Only washer nozzles (A, B, E, G, H, and K) can be adjusted. Washer nozzles (C, D, F, I, J, and L) cannot be adjusted because of fixed nozzles.

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

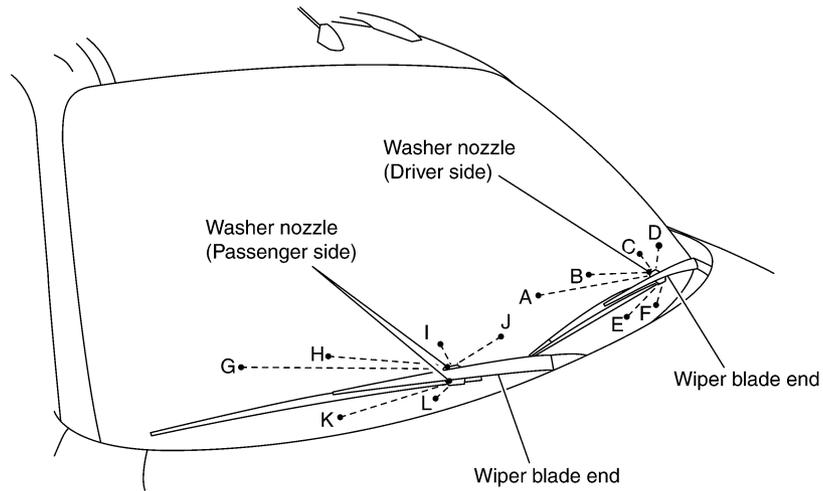
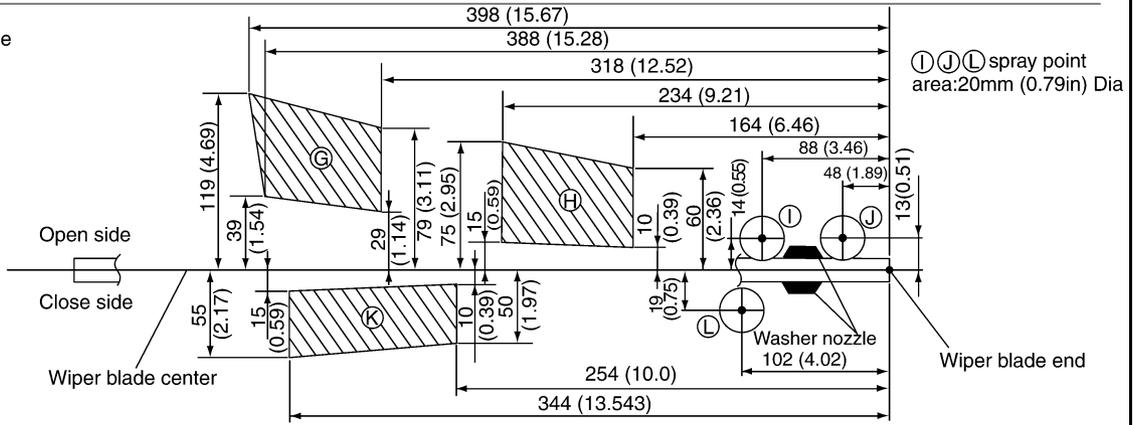
WW

FRONT WIPER AND WASHER SYSTEM

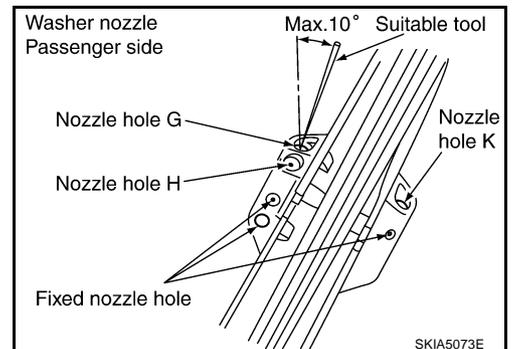
Driver side



Passenger side



SKIA5072E

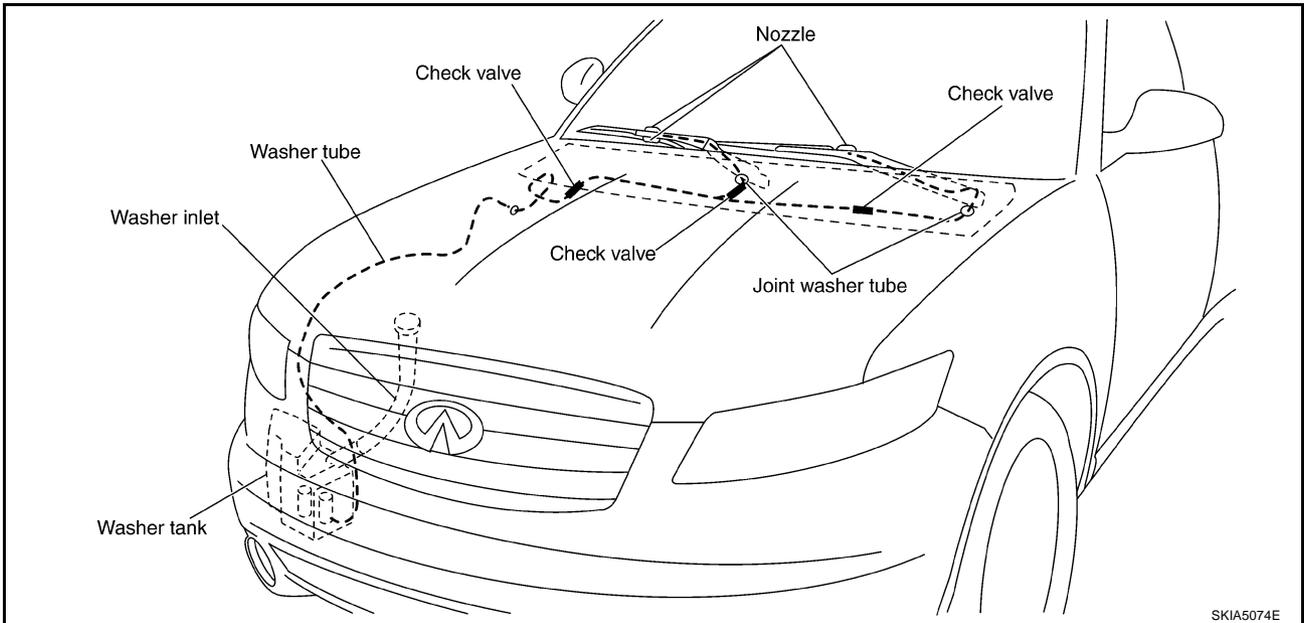


SKIA5073E

FRONT WIPER AND WASHER SYSTEM

Washer Tube Layout

AKS0057A



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

Removal and Installation of Front Washer Nozzle

AKS0057B

Replace wiper arm assembly. Refer to [WW-29, "Removal and Installation of Front Wiper Arms, Adjustment of Wiper Arms Stop Location"](#) .

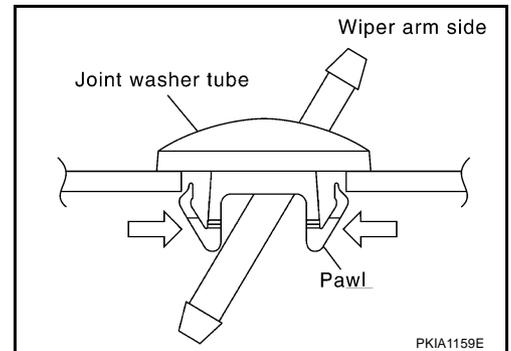
CAUTION:

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

Removal and Installation of Front Washer Tube Joint REMOVAL

AKS0057C

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



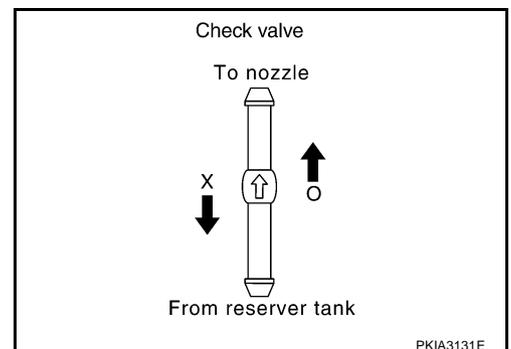
INSTALLATION

Install in the reverse order of removal.

Inspection of Washer Nozzle CHECK VALVE

AKS0057D

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



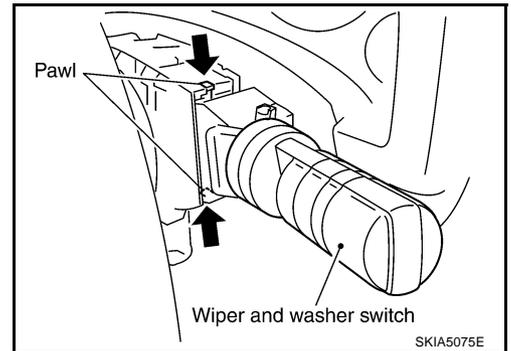
FRONT WIPER AND WASHER SYSTEM

Removal and Installation of Front Wiper and Washer Switch

AKS0057E

REMOVAL

1. Remove steering column upper cover. Refer to [IP-14, "\(N\) Steering Column Upper Cover"](#) 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

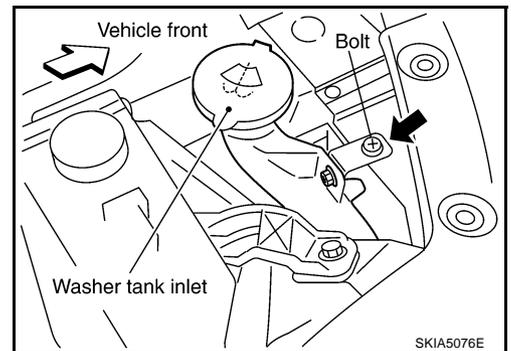
Install in the reverse order of removal.

Removal and Installation of Washer Tank

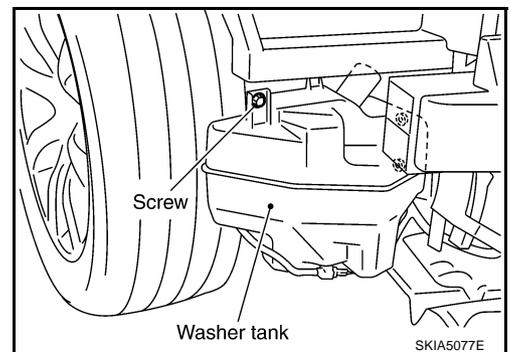
AKS0057F

REMOVAL

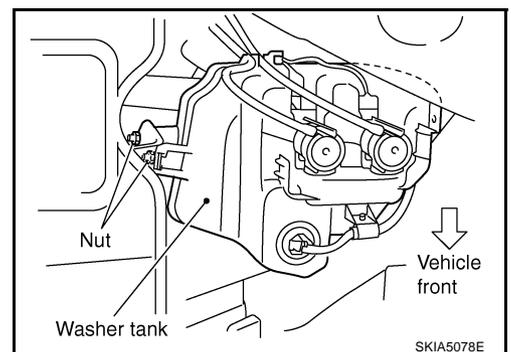
1. Remove bolt and pull out washer tank inlet.



2. Remove fillet molding (RH) and fender protector (RH). Refer to [EI-14, "Removal and Installation"](#), [EI-25, "Removal and Installation"](#) in "EI" section.
3. Remove bumper fascia assembly. Refer to [EI-14, "Removal and Installation"](#) in "EI" section.
4. Disconnect washer pump connector and wash fluid level sensor 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 the reverse order of removal.

NOTE:

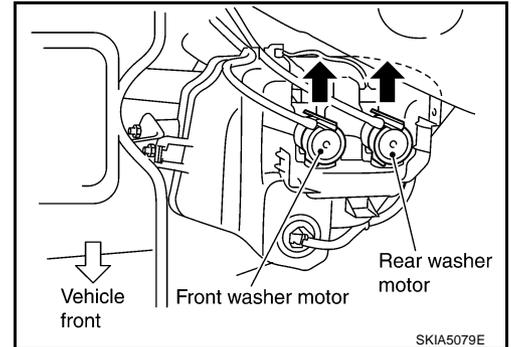
After installation, add water up to the upper level of the washer tank inlet, and check for water leaks.

- | | |
|---------------------------------|---|
| Washer tank mounting screw |  : 5.8 N·m (0.59 kg·m, 51 in·lb) |
| Washer tank mounting nut |  : 5.8 N·m (0.59 kg·m, 51 in·lb) |
| Washer tank inlet mounting bolt |  : 6.9 N·m (0.70 kg·m, 61 in·lb) |

Removal and Installation of Washer Motor

REMOVAL

1. Remove fillet molding (RH) and fender protector (RH). Refer to [EI-14, "Removal and Installation"](#) , [EI-25, "Removal and Installation"](#) in "EI" section.
2. Disconnect washer motor connector and tube.
3. Pull out washer motor in direction shown by the arrow in the figure. Remove washer motor from washer tank.



INSTALLATION

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

NOTE:

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

A
B
C
D
E
F
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L
M

WW

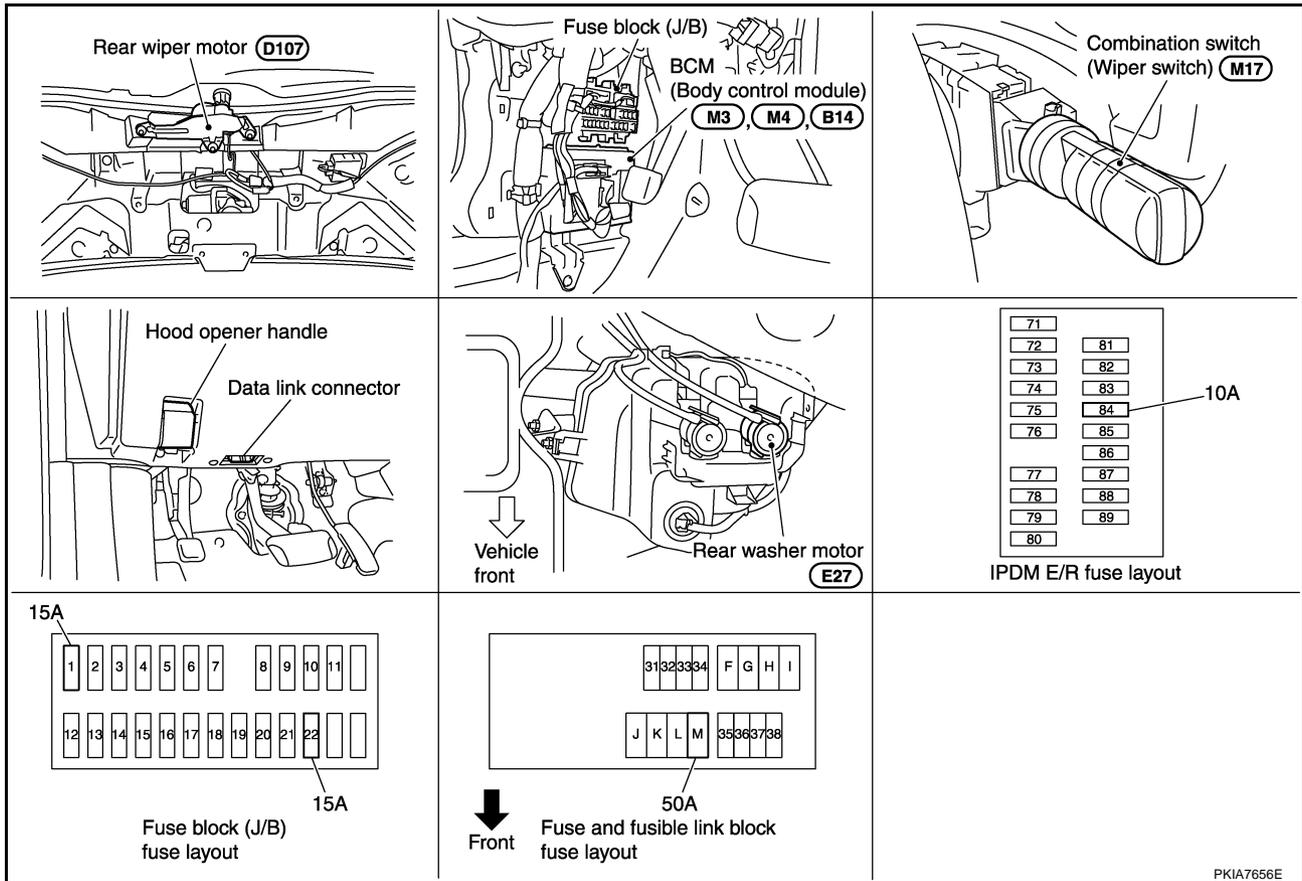
REAR WIPER AND WASHER SYSTEM

REAR WIPER AND WASHER SYSTEM

PFP:28710

Component Parts and Harness Connector Location

AKS0057H



System Description

AKS0057I

- 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 controls rear wiper ON and INT (intermittent) operation.

Power supplied all time

- through 50 A fusible link (letter M, located in fusible link block)
- to BCM terminal 55
- through 15 A fuse [No. 22, located in fuse block (J/B)]
- to BCM terminal 42.

When ignition switch ON or START position, power is supplied

- through 15 A fuse [No.1, located in fuse block (J/B)]
- to BCM terminal 38,
- through 10 A fuse [No. 84, located in IPDM E/R (intelligent power distribution module engine room)]
- to rear washer motor terminal 1.

Ground is supplied

- to BCM terminals 49 and 52
- through body grounds M35, M45 and M85
- to combination switch (wiper switch) terminal 12
- through body grounds M35, M45 and M85.

REAR WIPER OPERATION

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

BCM operates rear wiper motor, power is supplied

REAR WIPER AND WASHER SYSTEM

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

Ground is supplied

- to rear wiper motor terminal 2
- through body grounds B15 and B45.

With power and ground supplied, the rear wiper operates.

INTERMITTENT OPERATION

The rear wiper motor operates the wiper arms at low speed approximately every 7 seconds.

When wiper switch is in rear wiper INT position, BCM detects rear wiper INT signal by BCM wiper switch reading function (Refer to [BCS-3, "COMBINATION SWITCH READING FUNCTION"](#))

BCM operates rear wiper motor, power supplied

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

Ground is supplied

- to rear wiper motor terminal 2
- through body grounds B15 and B45.

With power and ground 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 detects rear wiper washer signal by BCM wiper switch reading function (Refer to [BCS-3, "COMBINATION SWITCH READING FUNCTION"](#)), and combination switch (wiper switch) ground is supplied

- to rear washer motor terminal 2
- through combination switch (wiper switch) terminal 13
- to combination switch (wiper switch) terminal 12
- through body grounds M35, M45 and M85.

With ground 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 [BCS-3, "COMBINATION SWITCH READING FUNCTION"](#) in BODY CONTROL SYSTEM.

A
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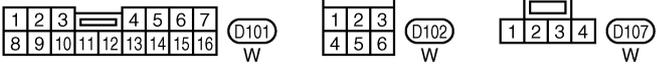
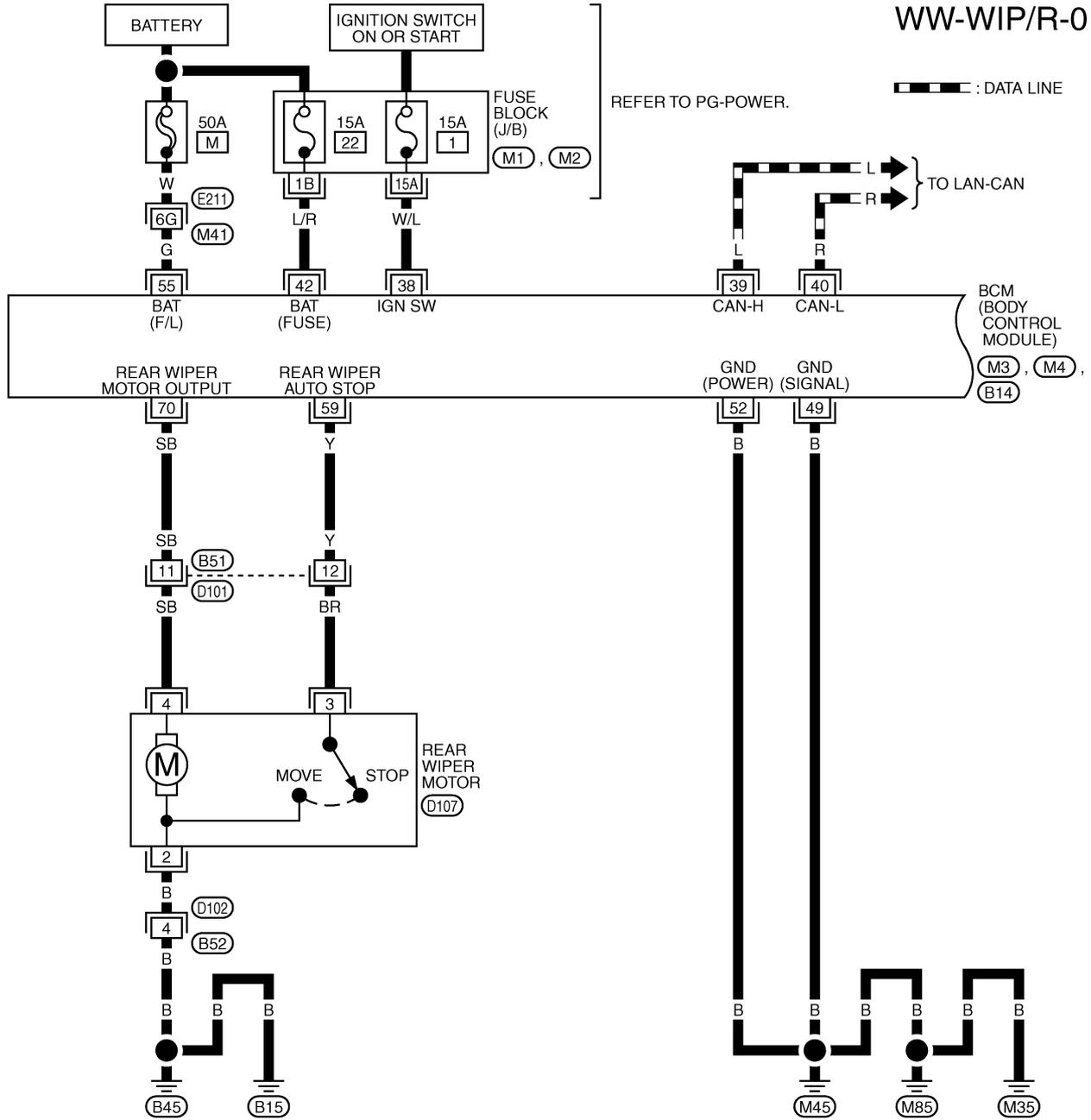
WW

REAR WIPER AND WASHER SYSTEM

Wiring Diagram — WIP/ R —

AKS0057J

WW-WIP/R-01



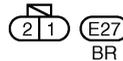
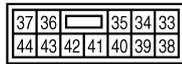
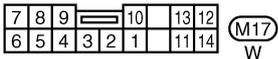
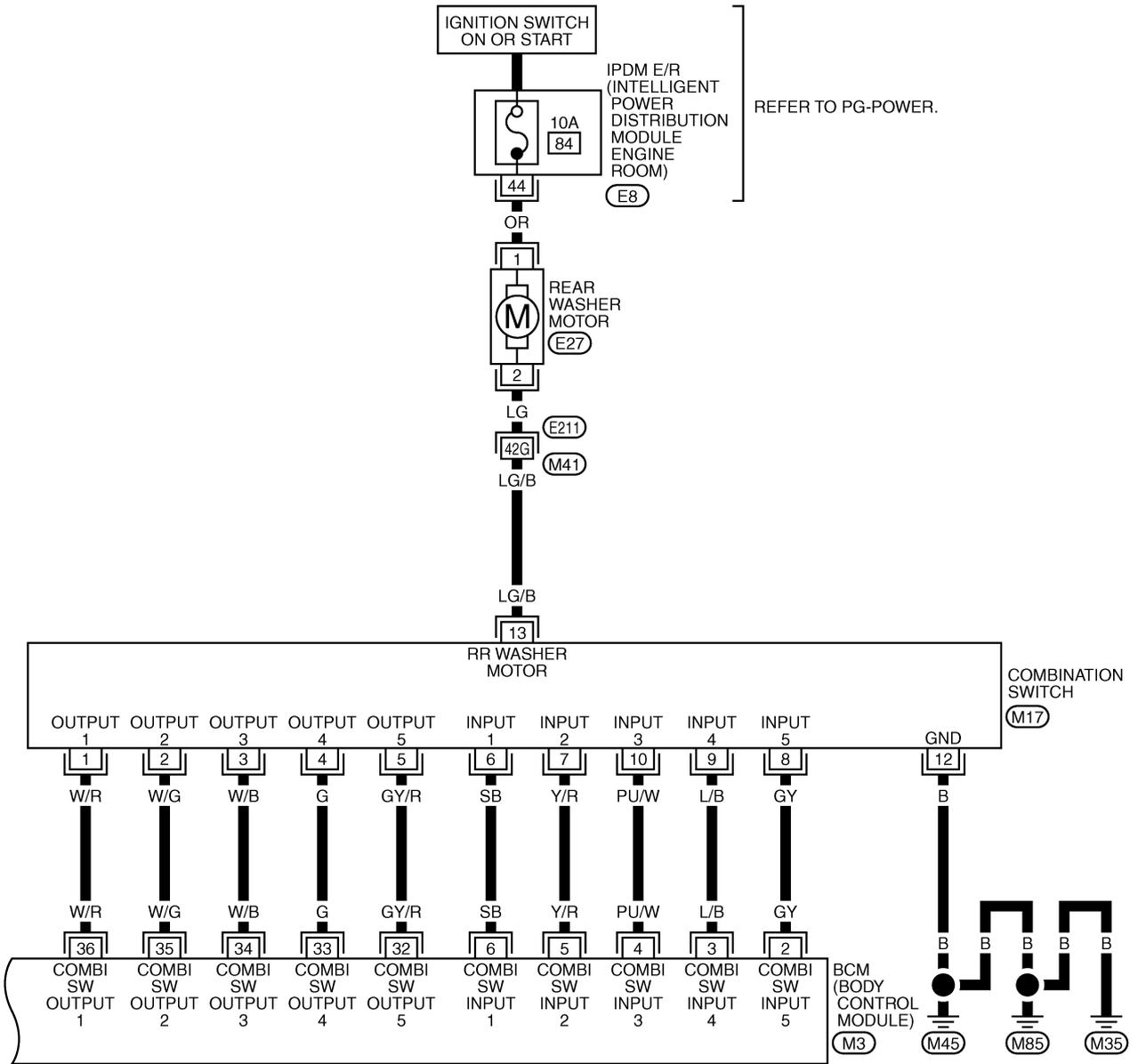
REFER TO THE FOLLOWING.
 (E21) -SUPER MULTIPLE JUNCTION (SMJ)
 (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
 (M3), (M4), (B14) -ELECTRICAL UNITS

TKWM0666E

REAR WIPER AND WASHER SYSTEM

WW-WIP/R-02

A
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L
M



REFER TO THE FOLLOWING.

(E21) -SUPER MULTIPLE JUNCTION (SMJ)

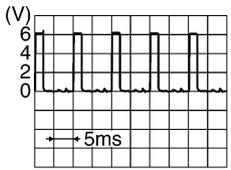
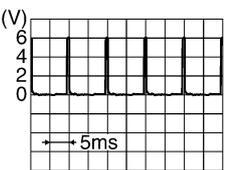
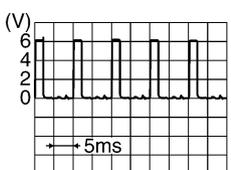
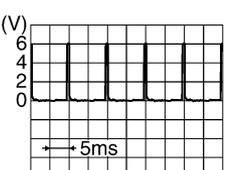
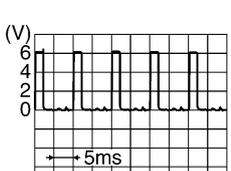
(M3) -ELECTRICAL UNITS

TKWM0828E

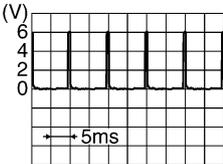
REAR WIPER AND WASHER SYSTEM

Terminals and Reference Values for BCM

AKS0079S

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"> ● Lighting switch and wiper switch OFF ● Wiper dial position 4 	 <p style="text-align: right;">SKIA5291E</p>
3 (L/B)	Combination switch input 4	ON	<ul style="list-style-type: none"> ● Lighting switch and wiper switch OFF ● Wiper dial position 4 	 <p style="text-align: right;">SKIA5292E</p>
4 (PU/W)	Combination switch input 3	ON	<ul style="list-style-type: none"> ● Lighting switch and wiper switch OFF ● Wiper dial position 4 	 <p style="text-align: right;">SKIA5291E</p>
5 (Y/R)	Combination switch input 2	ON	<ul style="list-style-type: none"> ● Lighting switch and wiper switch OFF ● Wiper dial position 4 	 <p style="text-align: right;">SKIA5292E</p>
6 (SB)	Combination switch input 1			
32 (GY/R)	Combination switch output 5	ON	<ul style="list-style-type: none"> ● Lighting switch and wiper switch OFF ● Wiper dial position 4 	 <p style="text-align: right;">SKIA5291E</p>
33 (G)	Combination switch output 4	ON	<ul style="list-style-type: none"> ● Lighting switch and wiper switch OFF ● Wiper dial position 4 	 <p style="text-align: right;">SKIA5292E</p>
34 (W/B)	Combination switch output 3	ON	<ul style="list-style-type: none"> ● Lighting switch and wiper switch OFF ● Wiper dial position 4 	 <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"> Lighting switch and wiper switch OFF Wiper dial position 4 		
36 (W/R)	Combination switch output 1				
38 (W/L)	Ignition switch (ON)	ON	—	Battery voltage	
39 (L)	CAN H	—	—	—	
40 (R)	CAN L	—	—	—	
42 (L/R)	Battery power supply	OFF	—	Battery voltage	
49 (B)	Ground	ON	—	Approx. 0 V	
52 (B)	Ground	ON	—	Approx. 0 V	
55 (G)	Battery power supply	OFF	—	Battery voltage	
59 (Y)	Rear wiper auto stop signal	ON	Wiper operating	Approx. 0 V	
			Wiper stopped	Battery voltage	
70 (SB)	Rear wiper motor output signal	ON	Wiper switch	OFF	Approx. 0 V
				ON	Battery voltage

How to Proceed With Trouble Diagnosis

AKS0057L

1. Confirm the symptoms and customer complaint.
2. Understand operation description and function description. Refer to [WW-36, "System Description"](#).
3. Perform the Preliminary Check. Refer to [WW-41, "Preliminary Check"](#).
4. Check symptom and repair or replace the cause of malfunction.
5. Does the rear wiper and washer operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. INSPECTION END

Preliminary Check INSPECTION POWER SUPPLY AND GROUND CIRCUIT

AKS0057M

Inspection Procedure

1. CHECK FUSE

- Check if wiper and washer fusible link and fuse is blown.

Unit	Power source	Fuse No., fusible link No.
BCM	Battery	M
	Battery	22
	Ignition ON or START	1
Rear washer motor	Ignition ON or START	84

Refer to [WW-38, "Wiring Diagram — WIP/ R —"](#).

OK or NG

OK >> GO TO 2.

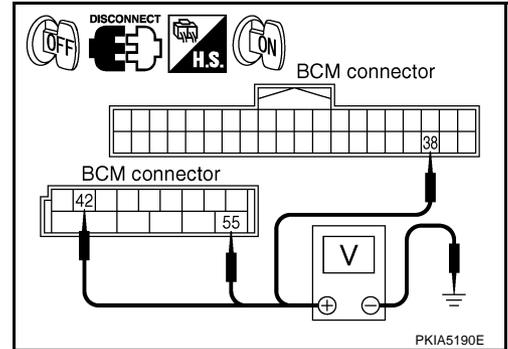
NG >> If fuse or fusible link is blown, be sure to eliminate cause of malfunction before installing new fuse or fusible link, refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#).

REAR WIPER AND WASHER SYSTEM

2. CHECK POWER SUPPLY CIRCUIT

1. Disconnect BCM connector.
2. Check voltage between BCM harness connector terminal and ground.

Terminals		Ignition switch position		
(+)		(-)	OFF	ON
Connector	Terminal (Wire color)		OFF	ON
M4	42 (L/R)	Ground	Battery voltage	Battery voltage
M4	55 (G)		Battery voltage	Battery voltage
M3	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

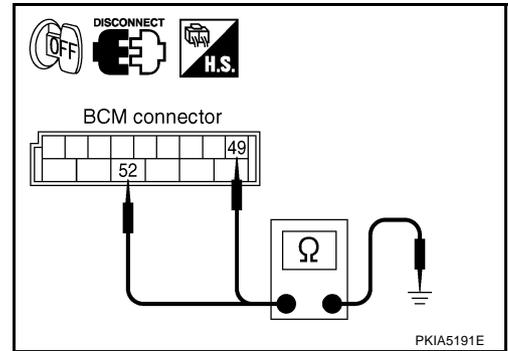
Check continuity between BCM harness connector M4 terminal 49 (B), 52 (B) and ground.

49 (B), 52 (B) - Ground : Continuity should exist

OK or NG

OK >> INSPECTION END

NG >> Repair harness or connector.



CONSULT-II Functions

AKS007AG

CONSULT-II can display each diagnostic item using the following diagnostic test modes: work support, self-diagnostic results, data monitor and active test through data reception and command transmission via the BCM CAN communication line.

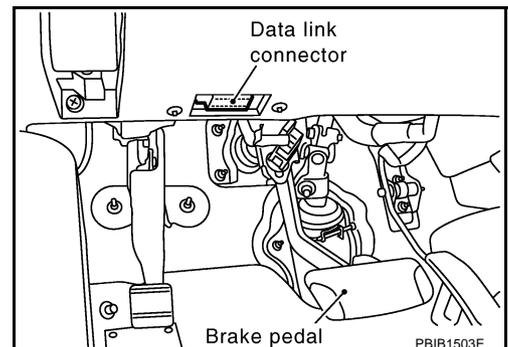
BCM diagnosis position	Check item, Diagnosis mode	Description
Wiper	DATA MONITOR	Displays BCM input data in real time.
	ACTIVE TEST	Device operation can be checked by applying a drive signal to device.
BCM	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.

CONSULT-II OPERATION

CAUTION:

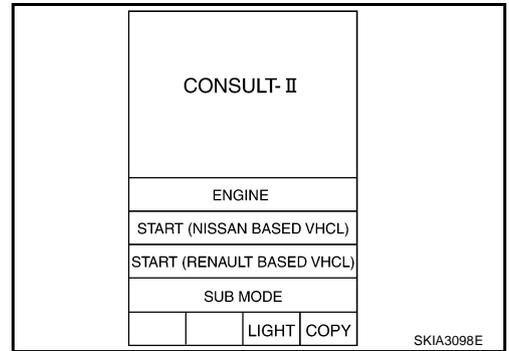
If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

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

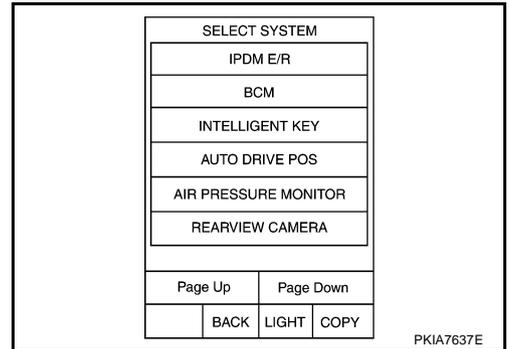


REAR WIPER AND WASHER SYSTEM

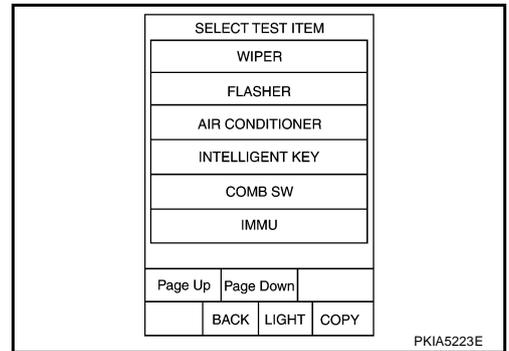
2. Touch "START (NISSAN BASED VHCL)".



3. Touch "BCM".
If "BCM" is not indicated, refer to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



4. Touch "WIPER".



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 ITEMS" or "SELECT ITEM MENU" on "DATA MONITOR" screen.

ALL ITEMS	All items will be monitored.
SELECT ITEM MENU	Selects and monitors individual items.

4. Touch "START".
5. When "SELECT ITEM MENU" is selected, touched items to be monitored. If "ALL ITEMS" is selected, all items will be monitored.
6. Touch "RECORDING START" while monitoring to record the status of the item being monitored. To stop recording, touch "RECORDING 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.

REAR WIPER AND WASHER SYSTEM

Monitor item [operation or unit]	Display content
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 the auto-stop signal.
VEHICLE SPEED [km/h]	Displays vehicle speed status as judged from vehicle speed signal.
RR WIPER ON [ON/OFF]	Displays "Rear Wiper ON (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER INT [ON/OFF]	Displays "Rear Wiper INT (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WASHER SW [ON/OFF]	Displays "Rear Washer Switch (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER STOP [ON/OFF]	Displays "Rear Wiper Stop (ON)/Other (OFF)" status, as judged from wiper switch signal.

ACTIVE TEST

Operation Procedure

1. Touch "WIPER" on "SELECT TEST ITEM" screen.
2. Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Touch items to be tested, and check operation.
4. During operation check, touching "STOP" deactivates operation.

Display Item List

Test item	Indication on CONSULT-II display	Description
Front wiper HI output	FR WIPER	With a certain operation (OFF, HI, LO, INT), the front wiper can be operated.
Rear wiper output	RR WIPER	Rear wiper can be operated by any ON-OFF operation.

Rear Wiper Does Not Operate

AKS007A4

1. CHECK FUSE AND FUSIBLE LINK

Check fuse No.1, 84 and fusible link No. M.

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-3. "POWER SUPPLY ROUTING CIRCUIT"](#).

2. CHECK CIRCUIT BETWEEN BCM AND REAR WIPER

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 "RR WIPER" on "SELECT TEST ITEM" screen.
4. Confirm that rear wiper operates normally.

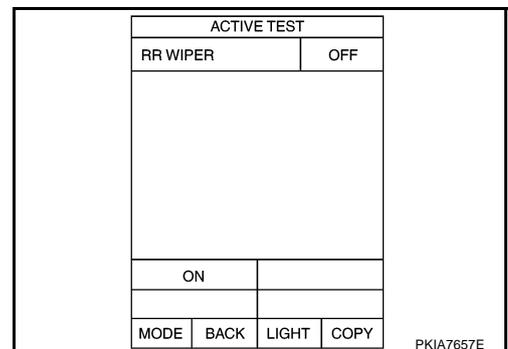
Without CONSULT-II

GO TO 3.

Does rear wiper operate normally?

YES >> GO TO [LT-113. "Combination Switch Inspection"](#).

NO >> GO TO 3.



REAR WIPER AND WASHER SYSTEM

3. CHECK CIRCUIT BETWEEN BCM AND REAR WIPER

1. Turn ignition switch OFF.
2. Disconnect BCM connector and rear wiper motor connector.
3. Check continuity between BCM harness connector B14 terminals, 70 (SB) and rear wiper motor harness connector D107 terminals, 4 (SB).

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

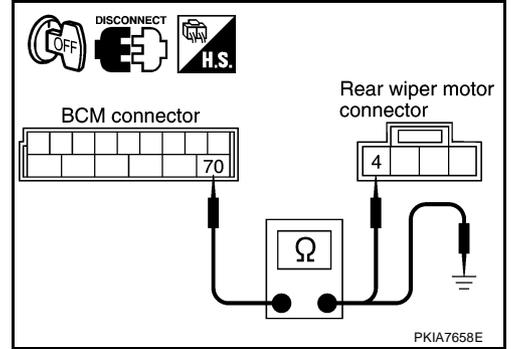
4. Check continuity between BCM harness connector B14 terminals, 70 (SB) and ground.

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

OK or NG

OK >> GO TO 4.

NG >> Repair harness or connector.



4. CHECK REAR WIPER TO GROUND

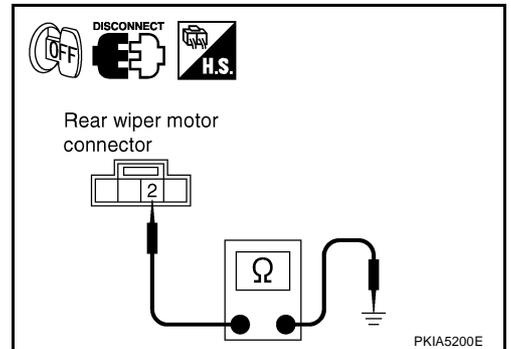
Check continuity between rear wiper motor harness connector D107 terminal 2 (B) and ground.

2 (B) - Ground : Continuity should exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness or connector.



5. CHECK BCM

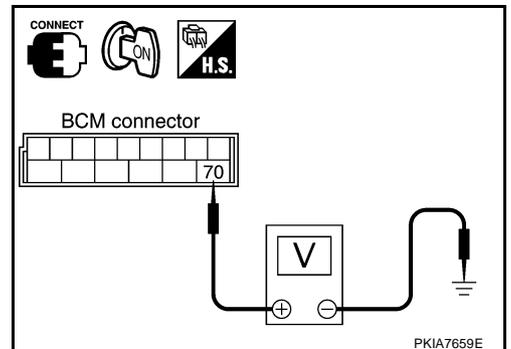
1. Connect BCM connector and rear wiper motor connector.
2. Turn ignition switch ON.
3. With rear wiper switch ON, check voltage between BCM harness connector B14 terminal 70 (SB) and ground.

Terminals			Condition	Voltage
BCM(+)		(-)		
Connector	Terminal (Wire color)			
B14	70 (SB)	Ground	Wiper stopped	Approx. 0V
			Wiper operating	Battery Voltage

OK or NG

OK >> Replace rear wiper motor.

NG >> Replace BCM. Refer to [BCS-15, "Removal and Installation of BCM"](#) .



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M

REAR WIPER AND WASHER SYSTEM

AKS007A5

Rear Wiper Does Not Return to Stop Position

1. CHECK CIRCUIT BETWEEN BCM AND REAR WIPER (1)

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-15, "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	0.0km/h
RR WIPER ON	OFF
RR WIPER INT	OFF
RR WASHER SW	OFF
RR WIPER STOP	OFF
Page Up	
RECORD	
MODE	BACK
LIGHT	COPY

PKIA7660E

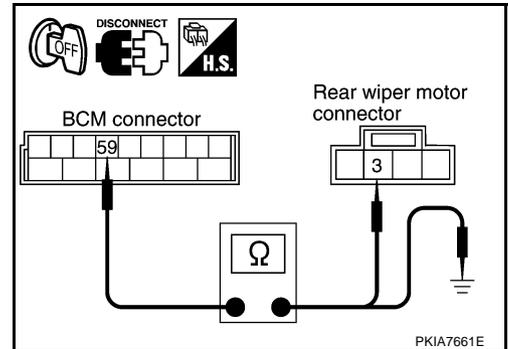
2. CHECK CIRCUIT BETWEEN BCM AND REAR WIPER (2)

1. Turn ignition switch OFF.
2. Disconnect BCM connector and rear wiper motor connector.
3. Check continuity between BCM harness connector B14 terminal 59 (Y) and rear wiper motor harness connector D107 terminal 3 (BR).

59 (Y) - 3 (BR) : Continuity should exist.

4. Check continuity between BCM harness connector B14 terminal 59 (Y) and ground.

59 (Y) - Ground : Continuity should not exist.



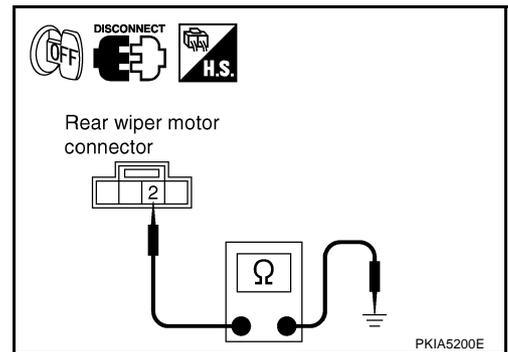
5. Check continuity between rear wiper motor harness connector D107 terminal 2 (B) and ground.

2 (B) - Ground : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.



REAR WIPER AND WASHER SYSTEM

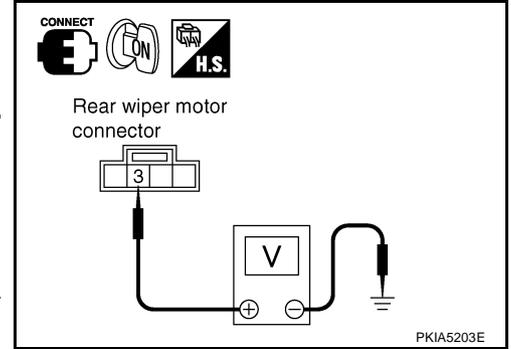
3. CHECK BCM (1)

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(+)	Terminal (Wire color)			
Connector	3 (BR)	Ground	Wiper stopped	Battery Voltage
			Wiper operating	Approx. 0V

OK or NG

- OK >> Replace BCM. Refer to [BCS-15, "Removal and Installation of BCM"](#) .
 NG >> GO TO 4.

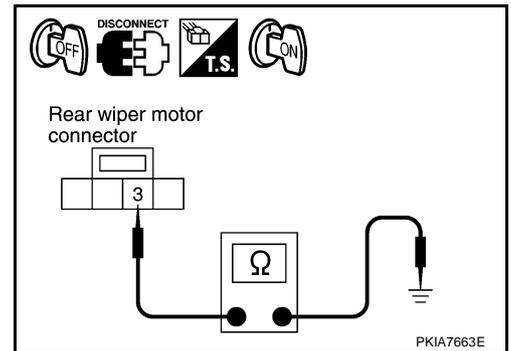


4. CHECK BCM (2)

1. Turn ignition switch OFF.
2. Disconnect rear wiper motor connector.
3. Check voltage between rear wiper motor connector D107 terminal 3 (BR) and ground.

OK or NG

- OK >> Replace rear wiper motor.
 NG >> Replace BCM. Refer to [BCS-15, "Removal and Installation of BCM"](#) .



Only Rear Wiper ON Does Not Operate

Refer to [LT-113, "Combination Switch Inspection"](#) , and inspect it.

Only Rear Wiper INT Does Not Operate

Refer to [LT-113, "Combination Switch Inspection"](#) , and inspect it.

Wiper Does Not Wipe When Rear Washer Operates

Refer to [LT-113, "Combination Switch Inspection"](#) , and inspect it.

Rear 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 "RR WIPER INT", "RR WIPER ON", and "RR WASHER SW" turn ON-OFF according to wiper switch operation.

☒ Without CONSULT-II

Refer to [LT-113, "Combination Switch Inspection"](#) .

OK or NG

- OK >> Replace BCM. Refer to [BCS-15, "Removal and Installation of BCM"](#) .
 NG >> Check wiper Switch. Refer to [LT-113, "Combination Switch Inspection"](#) .

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

REAR WIPER AND WASHER SYSTEM

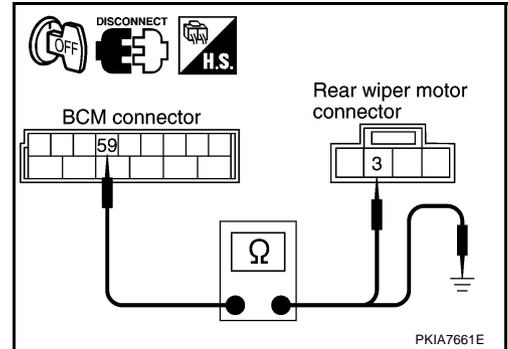
2. CHECK CIRCUIT BETWEEN BCM AND REAR WIPER (2), AND BETWEEN REAR WIPER AND GROUND

1. Turn ignition switch OFF.
2. Disconnect BCM connector and rear wiper motor connector.
3. Check continuity between BCM connector B14 terminal 59 (Y) and rear wiper motor connector D107 terminal 3 (BR).

59 (Y) - 3 (BR) : Continuity should exist.

4. Check continuity between BCM connector B14 terminals 59 (Y) and Ground.

59 (Y) - Ground : Continuity should not exist.



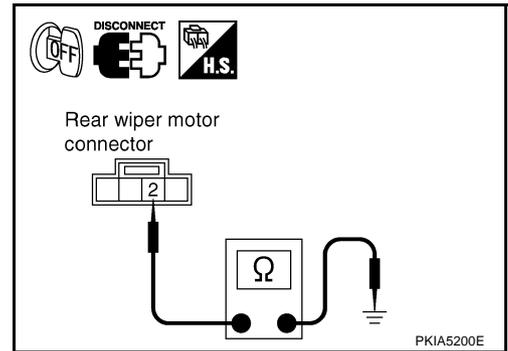
5. Check continuity between rear wiper motor connector D107 terminal 2 (B) and ground.

2 (B) - Ground : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.



3. CHECK CIRCUIT BETWEEN BCM AND REAR WIPER (3)

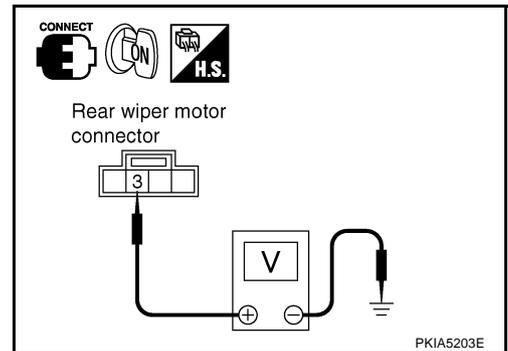
1. Connect BCM connector and rear wiper motor connector.
2. Turn ignition switch ON.
3. Check voltage between rear wiper motor harness connector terminal and ground while rear wiper motor is stopped and while it is operating.

Terminals		(-)	Condition	Voltage
Rear wiper motor(+)	Terminal (Wire color)			
Connector	Terminal (Wire color)			
D107	3 (BR)	Ground	Wiper stopped	Battery Voltage
			Wiper operating	Approx. 0V

OK or NG

OK >> Replace BCM. Refer to [BCS-15, "Removal and Installation of BCM"](#) .

NG >> Replace rear wiper motor.



REAR WIPER AND WASHER SYSTEM

Removal and Installation of Rear Wiper Arm, Adjustment of Wiper Arms Stop Location

AKS0057T

REMOVAL

1. Operate wiper motor, and stop it at the auto stop position.
2. Remove cover wiper arm.
3. Remove wiper arm nut, and remove wiper arm from vehicle.

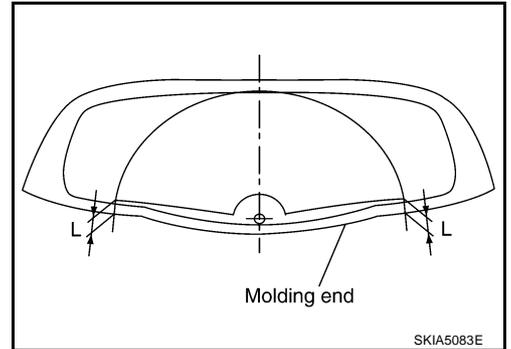
INSTALLATION

1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (auto stop).
2. Lift the blade up and then set it down onto glass surface to set the 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" : 45 - 60 mm (1.77 - 2.36 in)

- Tighten wiper arm nuts to specified torque.

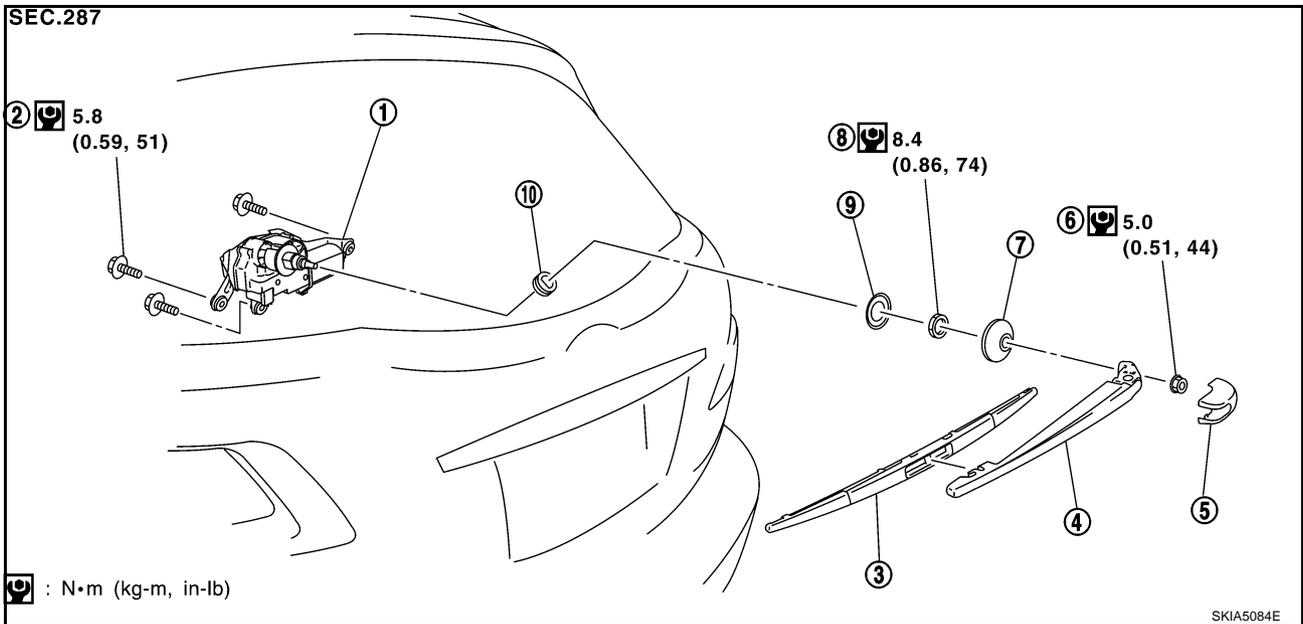
Rear wiper arm nut  : 5.0 N·m (0.51 kg-m, 44 in-lb)



Install in the reverse order of removal.

Removal and Installation of Rear Wiper Motor

AKS0057U



- | | | |
|---------------------|--------------------|----------------|
| 1. Rear wiper motor | 2. Screw | 3. Wiper blade |
| 4. Wiper arm | 5. Cover wiper arm | 6. Nut |
| 7. Pivot cap | 8. Nut | 9. Washer |
| 10. Cushion rubber | | |

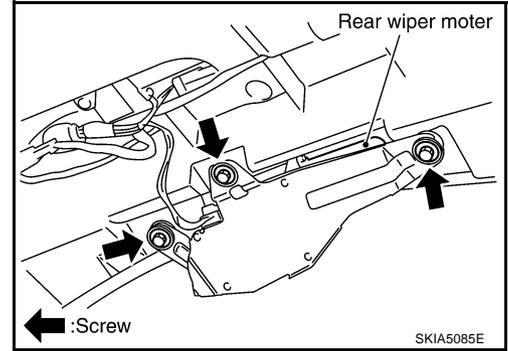
REAR WIPER AND WASHER SYSTEM

REMOVAL

1. Remove wiper arm. Refer to [WW-49, "REMOVAL"](#) .
2. Remove pivot cap, and remove nut and nozzle or tube from vehicle.
3. Remove back door finisher. Refer to [EI-46, "Removal and Installation"](#) in "EI" section.
4. Disconnect wiper motor connector.
5. Remove rear wiper motor mounting screws and remove rear wiper motor.

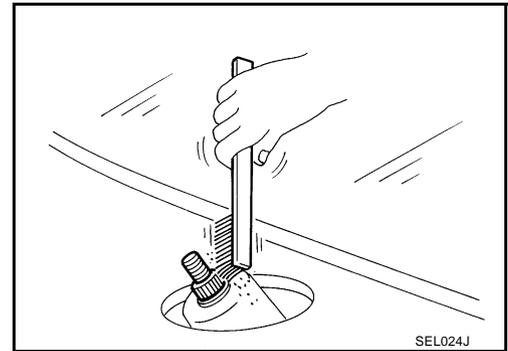
CAUTION:

Do not remove cushion rubber.



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 connector. Turn rear wiper switch ON to operate rear wiper motor, then turn wiper switch OFF (auto stop).
5. Install back door finisher. Refer to [EI-46, "Removal and Installation"](#) in "EI" section.
6. Attach wiper arm.



CAUTION:

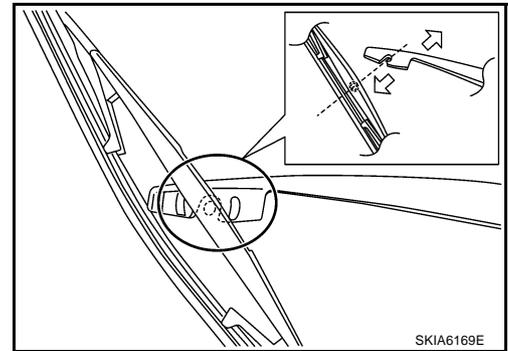
- Do not drop the wiper motor or cause it to contact other parts.

Removal and Installation of Rear Wiper Blade

Turn wiper blade 90 degrees against wiper arm, and pull it out downward for removal.

CAUTION:

Replace wiper blade as wiper blade assembly.



INSTALLATION

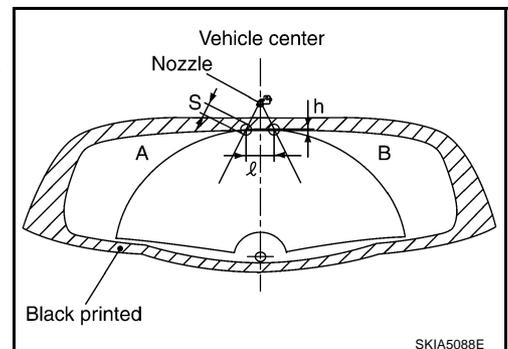
Install in the reverse order of removal.

Washer Nozzle Adjustment

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

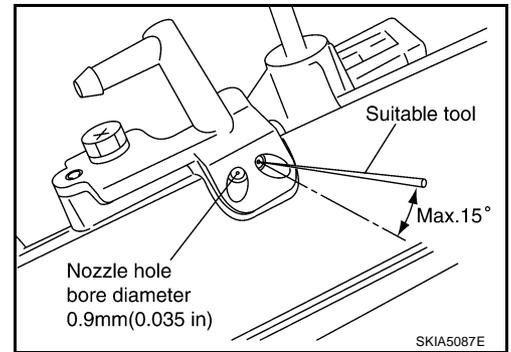
Unit : mm (in)

Spray position	h (height)	ℓ (width)	φS
A , B	2.5 (0.098)	40 (1.57)	30 (1.18)



REAR WIPER AND WASHER SYSTEM

Adjustable range : -15° – $+15^{\circ}$ (In any direction)



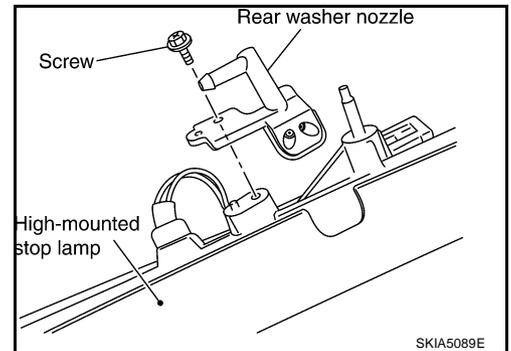
A
B
C
D

Removal and Installation of Washer Nozzle

AKS007AJ

REMOVAL

1. Remove high-mounted stop lamp. Refer to [LT-123. "High-Mounted Stop Lamp"](#) in "LT" section.
2. Remove screw and remove washer nozzle from high-mounted stop lamp.



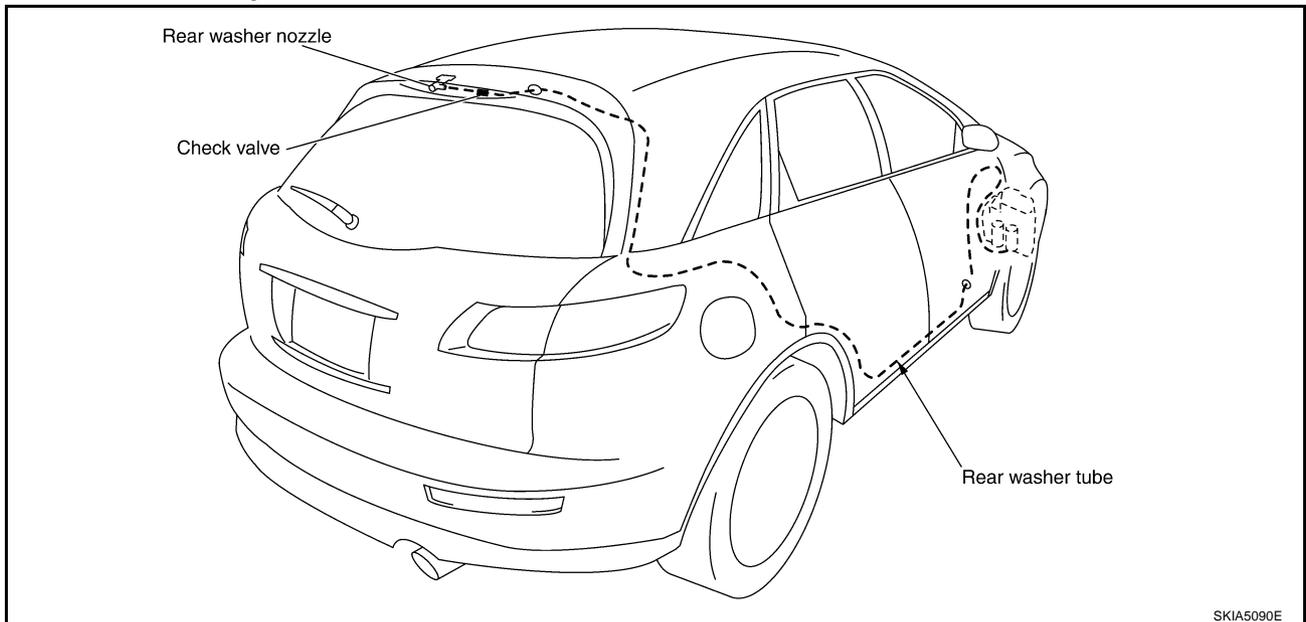
E
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G
H

INSTALLATION

Install in the reverse order of removal.

Washer Tube Layout

AKS0057W



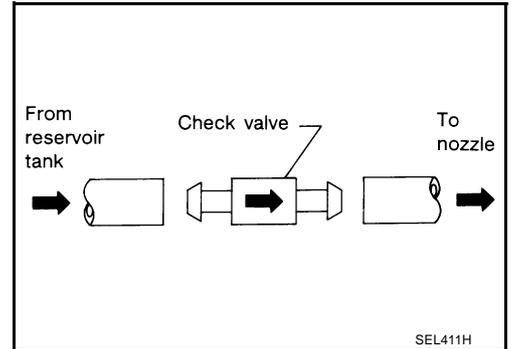
I
J
WW
L
M

REAR WIPER AND WASHER SYSTEM

Check Valve

AKS0057X

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



Removal and Installation of Rear Wiper and Washer Switch

AKS0057Y

Refer to [WW-34, "Removal and Installation of Front Wiper and Washer Switch"](#) .

Removal and Installation of Washer Tank

AKS0057Z

Refer to [WW-34, "Removal and Installation of Washer Tank"](#) .

Removal and Installation of Washer Pump

AKS00580

Refer to [WW-35, "Removal and Installation of Washer Motor"](#) .

CIGARETTE LIGHTER

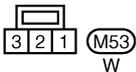
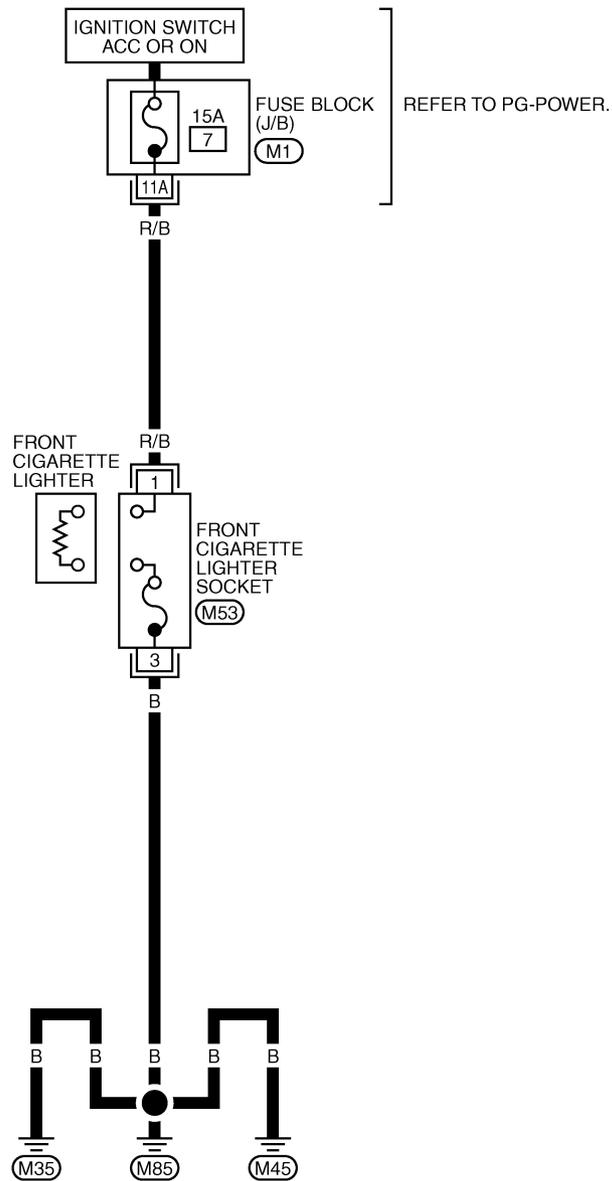
CIGARETTE LIGHTER

Wiring Diagram — CIGAR —

PFP:35330

AKS007AA

WW-CIGAR-01



REFER TO THE FOLLOWING.

(M1) -FUSE BLOCK-JUNCTION BOX (J/B)

TKWM0668E

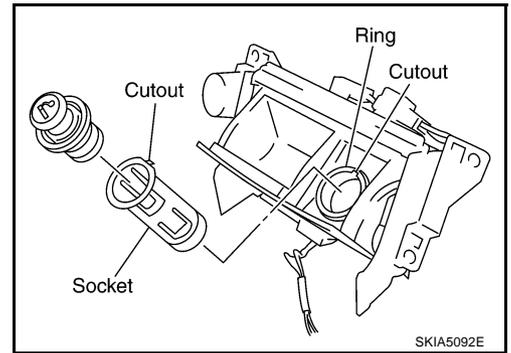
CIGARETTE LIGHTER

AKS007AB

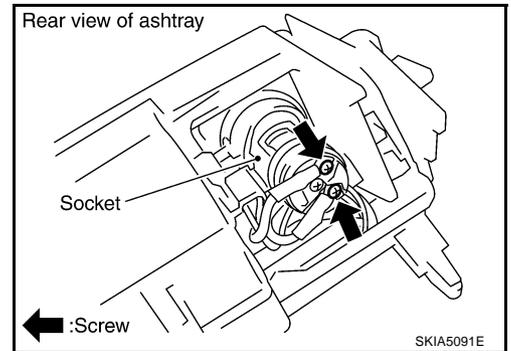
Removal and Installation of Cigarette Lighter

REMOVAL

1. Remove A/T console finisher. Refer to [IP-12, "\(F\) A/T Console Finisher"](#) in "IP" section.
2. Remove instrument ashtray and hazard switch. Refer to [IP-16, "A/T CONSOLE FINISHER"](#) in "IP" section.
3. Pull out the cigarette lighter.



4. Use a screwdriver to undo ashtray finisher hooks.
5. Remove screws and remove socket.



INSTALLATION

Install in the reverse order of removal.

POWER SOCKET

PFP:253A2

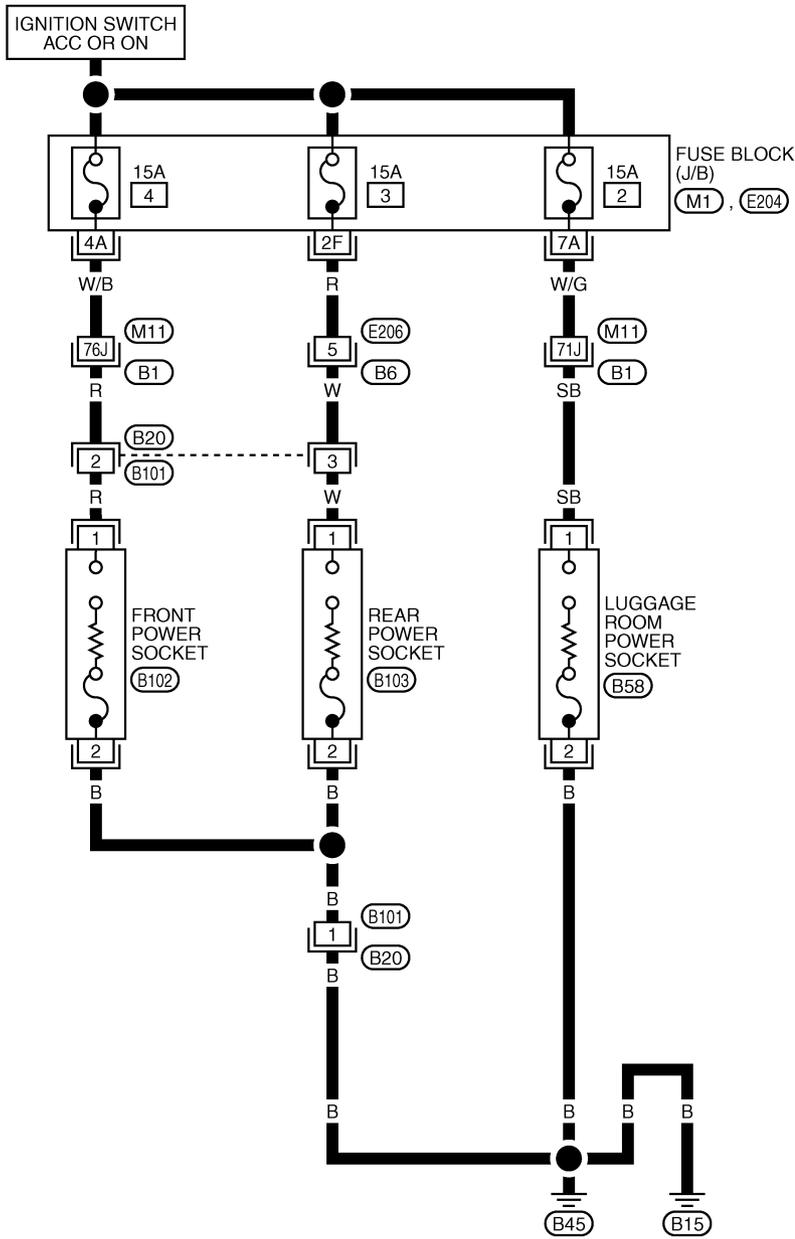
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POWER SOCKET

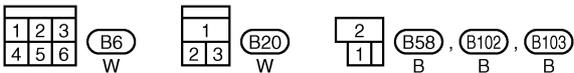
Wiring Diagram — P/SCKT —

AKS00581

WW-P/SCKT-01



REFER TO PG-POWER.



REFER TO THE FOLLOWING.

- (B1) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (E204) -FUSE BLOCK-JUNCTION BOX (J/B)

TKWH0245E

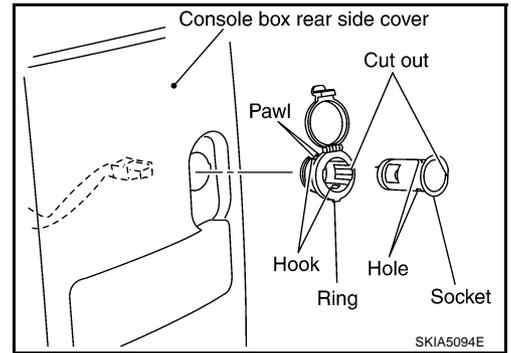
POWER SOCKET

Removal and Installation of Center Console Box Rear Side Power Socket

AKS007AK

REMOVAL

1. Remove console rear finisher. Refer to [IP-17, "CENTER CONSOLE"](#).
2. Disconnect power socket connector.
3. Remove inner socket from the ring. While pressing the hook on the ring out from square hole.
4. Remove ring from power socket finisher while pressing pawls.



INSTALLATION

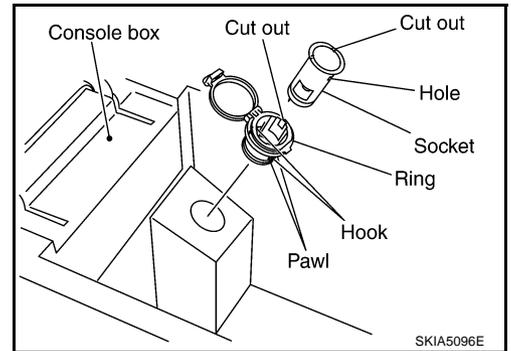
Install in the reverse order of removal.

Removal and Installation of Center Console Box Power Socket

AKS007AL

REMOVAL

1. Remove inner socket from the ring. While pressing the hook on the ring out from square hole.
2. Remove ring from power socket finisher while pressing pawls.
3. Disconnect power socket connector.



INSTALLATION

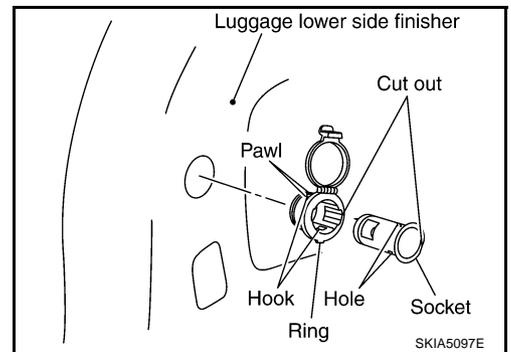
Install in the reverse order of removal.

Removal and Installation of Luggage Room Power Socket

AKS007AM

REMOVAL

1. Remove inner socket from the ring. While pressing the hook on the ring out from square hole.
2. Remove ring from power socket finisher while pressing pawls.
3. Disconnect power socket connector.



INSTALLATION

Install in the reverse order of removal.

HORN

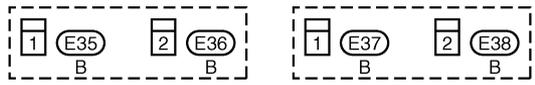
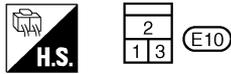
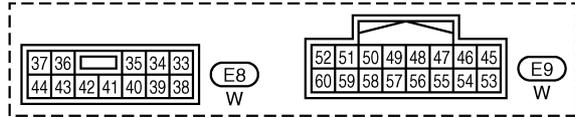
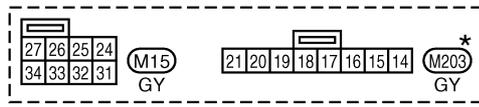
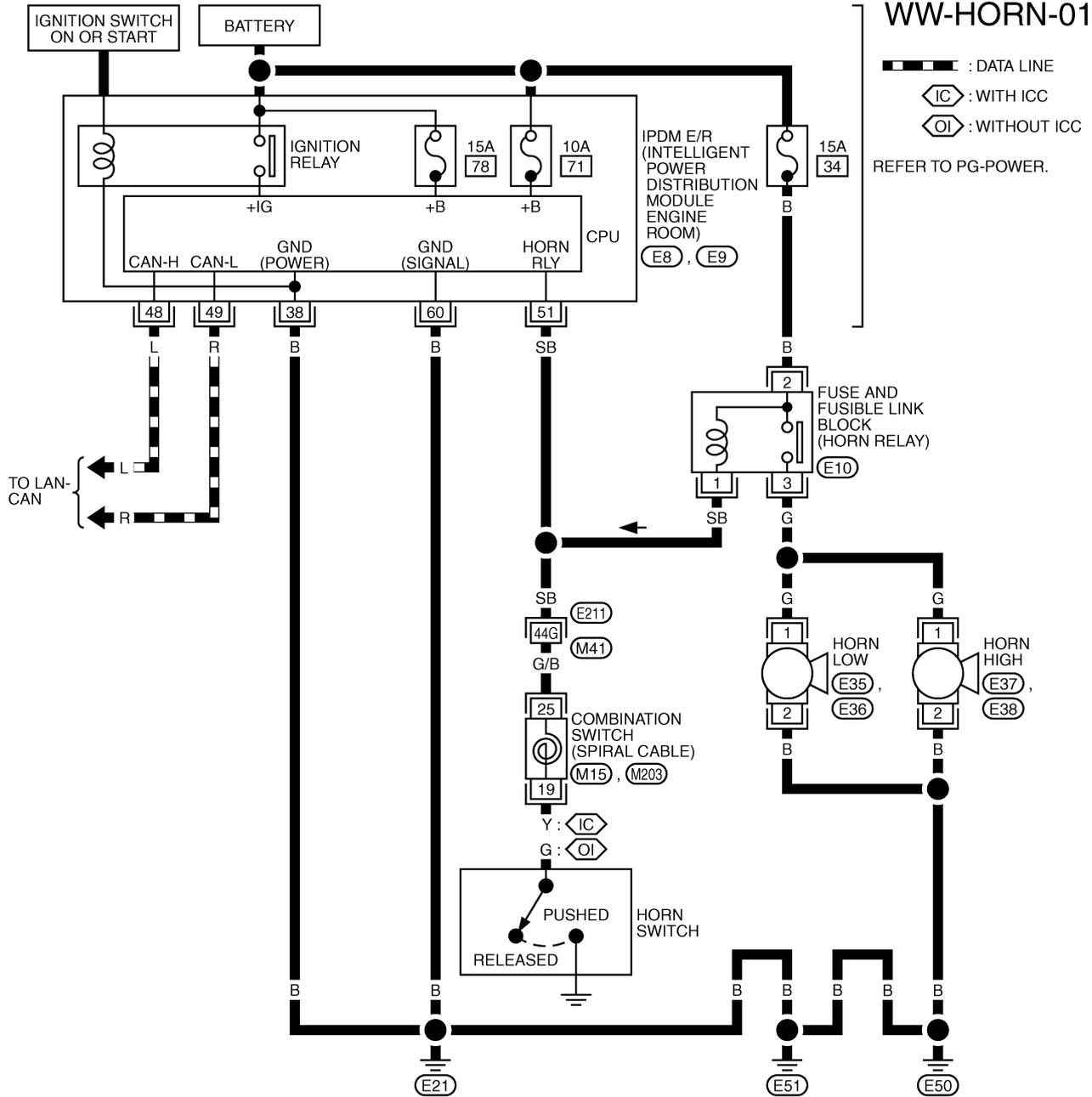
PFP:25610

A
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HORN Wiring Diagram — HORN —

AKS00583

WW-HORN-01



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

REFER TO THE FOLLOWING.
 (E21) -SUPER MULTIPLE JUNCTION (SMJ)

TKWM1089E

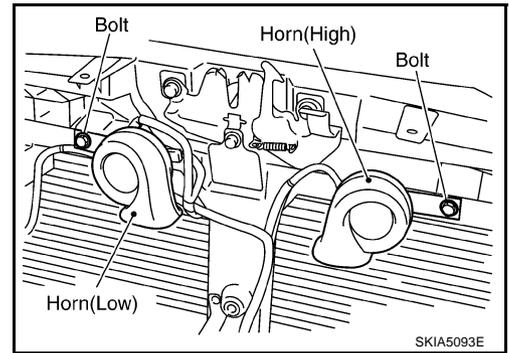
HORN

AKS00584

Removal and Installation

REMOVAL

1. Remove front grille. Refer to [EI-23, "Removal and Installation"](#) in "EI" section.
2. Disconnect all horn connectors.
3. Remove horn mounting bolt and remove horn from vehicle.



INSTALLATION

Tighten horn bolt to specified torque.

Horn mounting bolt

 : 5.8 N·m (0.59 kg·m, 51 in·lb)