

SECTION **WW**

WIPER, WASHER & HORN

A
B
C

CONTENTS

D
E

PRECAUTION 3		
Precautions for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER" 3		
Wiring Diagrams and Trouble Diagnosis 3		
FRONT WIPER AND WASHER SYSTEM 4		
Components Parts and Harness Connector Location 4		
System Description 4		
LOW SPEED WIPER OPERATION 5		
HI SPEED WIPER OPERATION 5		
INTERMITTENT OPERATION 5		
AUTO STOP OPERATION 6		
WASHER OPERATION 6		
MIST OPERATION 6		
FAIL-SAFE FUNCTION 7		
COMBINATION SWITCH READING FUNCTION... 7		
CAN Communication System Description 9		
CAN Communication Unit 9		
Schematic 10		
Wiring Diagram — WIPER — 11		
Terminals and Reference Values for BCM 14		
Terminals and Reference Values for IPDM E/R 15		
How to Proceed With Trouble Diagnosis 15		
Preliminary Check 16		
CHECK POWER SUPPLY AND GROUND CIRCUIT 16		
CONSULT-II Functions (BCM) 17		
CONSULT-II OPERATION 17		
DATA MONITOR 18		
ACTIVE TEST 19		
CONSULT-II Functions (IPDM E/R) 19		
CONSULT-II OPERATION 19		
SELF-DIAGNOSTIC RESULTS 20		
DATA MONITOR 20		
ACTIVE TEST 21		
Front Wiper Does Not Operate 21	Only Front Wiper HI Does Not Operate 25	F
Front Wiper Does Not Return to Stop Position 24	Only Front Wiper INT Does Not Operate 25	F
Only Front Wiper LO Does Not Operate 24	Front Wiper Interval Time Is Not Controlled by Vehicle Speed 26	G
	Front Wiper Intermittent Operation Switch Position Cannot Be Adjusted 26	G
	Wipers Do Not Wipe When Front Washer Operates.. 26	H
	After Front Wipers Operate for 10 Seconds, They Stop for 20 Seconds, and after repeating the operations five times, they become inoperative 27	H
	Front Wipers Do Not Stop 28	I
	Removal and Installation of Front Wiper Arms, Adjustment of Wiper Arms Stop Location 28	I
	REMOVAL 28	J
	INSTALLATION 28	J
	ADJUSTMENT 29	J
	Removal and Installation of Front Wiper Motor and Linkage 29	J
	REMOVAL 29	J
	INSTALLATION 29	J
	Disassembly and Assembly of Front Wiper Motor and Linkage 30	L
	DISASSEMBLY 30	L
	ASSEMBLY 30	L
	Washer Nozzle Adjustment 30	M
	Washer Tube Layout 32	M
	Removal and Installation of Front Washer Nozzle.. 32	M
	Removal and Installation of Front Washer Tube Joint 32	M
	REMOVAL 32	M
	INSTALLATION 32	M
	Check Valve Inspection 32	M
	Removal and Installation of Front Wiper and Washer Switch 33	M
	REMOVAL 33	M
	INSTALLATION 33	M
	Removal and Installation of Washer Tank 33	M
	REMOVAL 33	M

WW

INSTALLATION	34	REMOVAL	49
Removal and Installation of Washer Motor	34	INSTALLATION	49
REMOVAL	34	Washer Nozzle Adjustment	49
INSTALLATION	34	Removal and Installation of Washer Nozzle	50
REAR WIPER AND WASHER SYSTEM	35	REMOVAL	50
Component Parts and Harness Connector Location..	35	INSTALLATION	50
System Description	35	Washer Tube Layout	50
REAR WIPER OPERATION	35	Check Valve Inspection	51
INTERMITTENT OPERATION	36	Removal and Installation of Rear Wiper and Washer	
AUTO STOP OPERATION	36	Switch	51
WASHER OPERATION	36	Removal and Installation of Washer Tank	51
BCM WIPER SWITCH READING FUNCTION ...	36	Removal and Installation of Washer Pump	51
Wiring Diagram — WIP/ R —	37	CIGARETTE LIGHTER	52
Terminals and Reference Values for BCM	39	Wiring Diagram — CIGAR —	52
How to Proceed With Trouble Diagnosis	40	Removal and Installation of Cigarette Lighter	53
Preliminary Check	40	REMOVAL	53
INSPECTION POWER SUPPLY AND GROUND		INSTALLATION	53
CIRCUIT	40	POWER SOCKET	54
CONSULT-II Functions	41	Wiring Diagram — P/SCKT —	54
CONSULT-II OPERATION	41	Removal and Installation of Center Console Box	
DATA MONITOR	42	Rear Side Power Socket	55
ACTIVE TEST	43	REMOVAL	55
Rear Wiper Does Not Operate	43	INSTALLATION	55
Rear Wiper Does Not Return to Stop Position	45	Removal and Installation of Center Console Box	
Only Rear Wiper ON Does Not Operate	46	Power Socket	55
Only Rear Wiper INT Does Not Operate	46	REMOVAL	55
Wiper Does Not Wipe When Rear Washer Operates..	46	INSTALLATION	55
Rear Wipers Do Not Stop	46	Removal and Installation of Luggage Room Power	
Removal and Installation of Rear Wiper Arm, Adjust-		Socket	55
ment of Wiper Arms Stop Location	48	REMOVAL	55
REMOVAL	48	INSTALLATION	55
INSTALLATION	48	HORN	56
Removal and Installation of Rear Wiper Motor	48	Wiring Diagram — HORN —	56
REMOVAL	49	Removal and Installation	57
INSTALLATION	49	REMOVAL	57
Removal and Installation of Rear Wiper Blade	49	INSTALLATION	57

PRECAUTION

PRECAUTION

PPF:00011

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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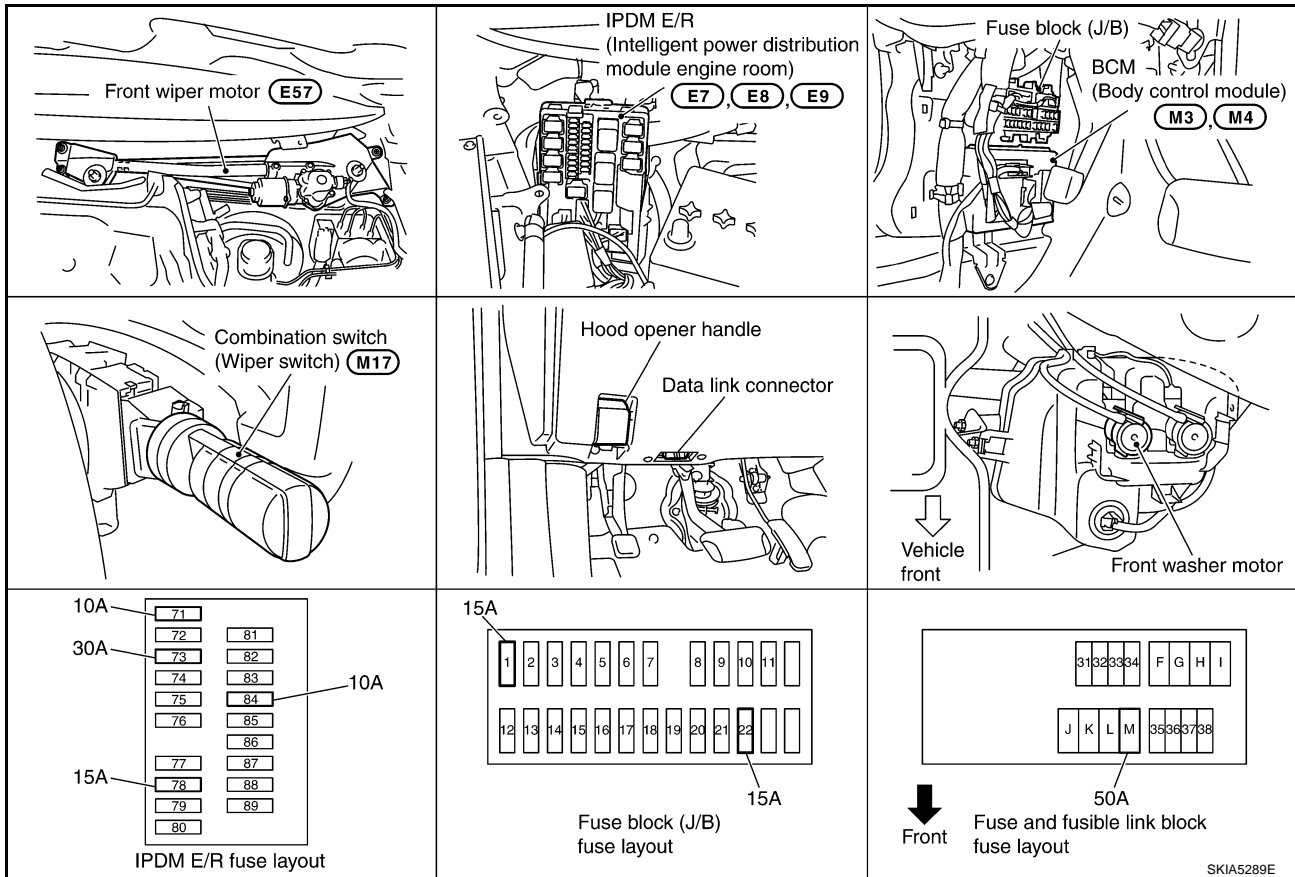
FRONT WIPER AND WASHER SYSTEM

FRONT WIPER AND WASHER SYSTEM

PFP:28810

Components Parts and Harness Connector Location

AKS00560



SKIA5289E

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 (body control module) terminal 55
- through 15 A fuse [No. 22, located in fuse block (J/B)]
- to BCM (body control module) terminal 42
- through 30 A fuse [No. 73, located in IPDM E/R (intelligent power distribution module engine room)]
- to front wiper relay [located in IPDM E/R (intelligent power distribution module engine room)]
- through 15 A fuse [No. 78, located in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)]
- through 10 A fuse [No. 71, located in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)].

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

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

FRONT WIPER AND WASHER SYSTEM

- to front wiper high relay [located in IPDM E/R (intelligent power distribution module engine room)]
- through 10 A fuse [No. 84, located in IPDM E/R (intelligent power distribution module engine room)]
- through IPDM E/R (intelligent power distribution module engine room) terminal 44
- to front washer motor terminal 1.

Ground is supplied

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

Ground is supplied

- to front wiper motor terminal 2
- through 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 (located 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 HI relay.

Ground is supplied

- to front wiper motor terminal 2
- through 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.

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 grounds E21, E50 and E51.

Then the 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 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 the wiper switch is turned to the 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 the switch is held in the 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.

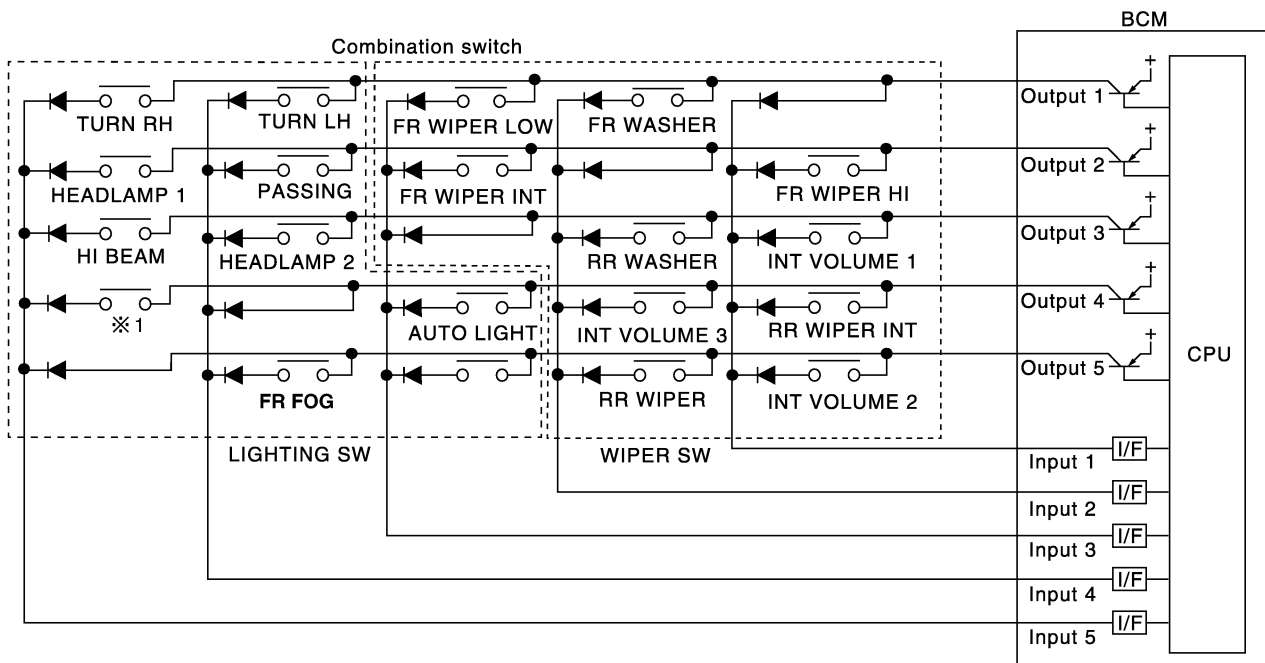
COMBINATION SWITCH READING FUNCTION

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

SKIA4958E

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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

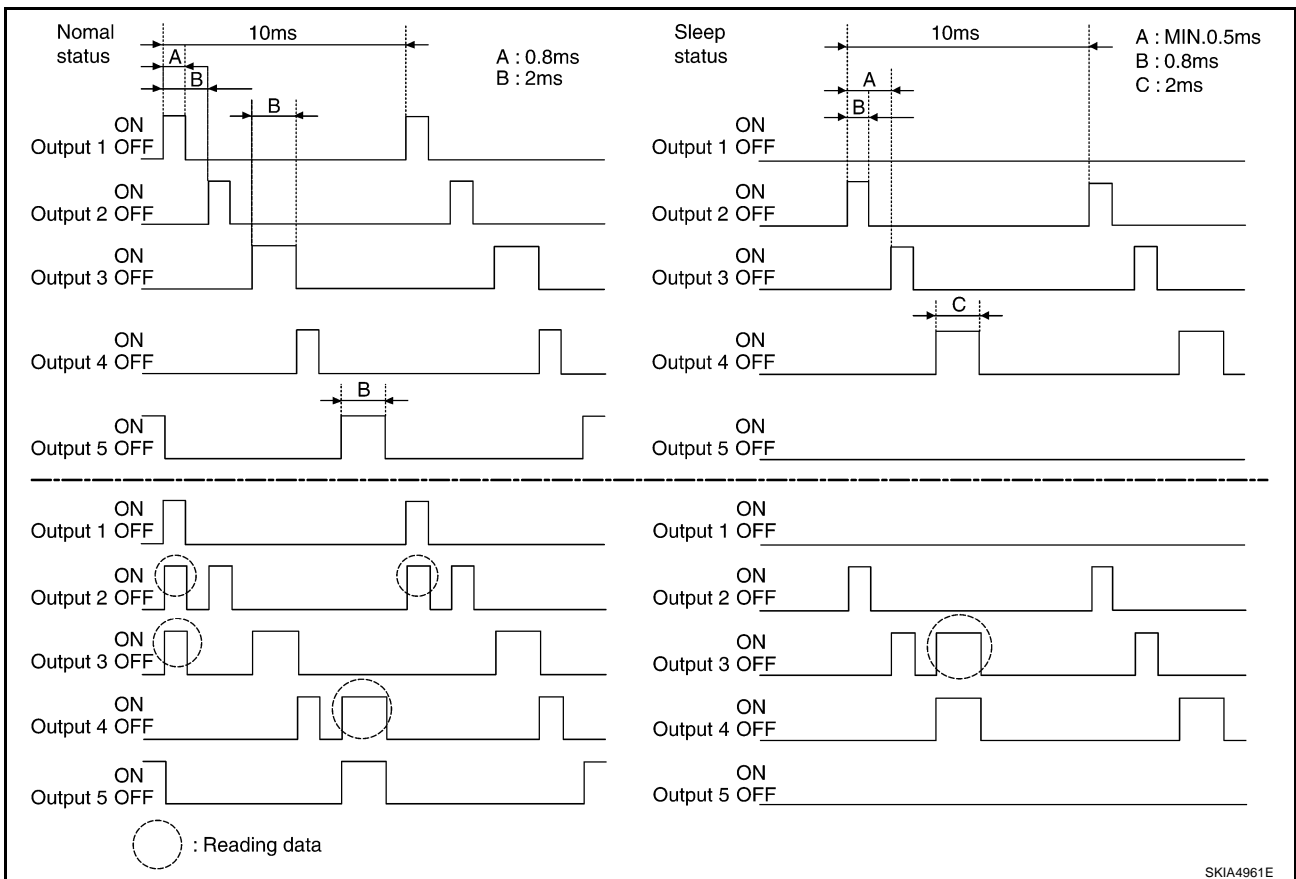
Combination switch reading function has operation modes shown below.

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

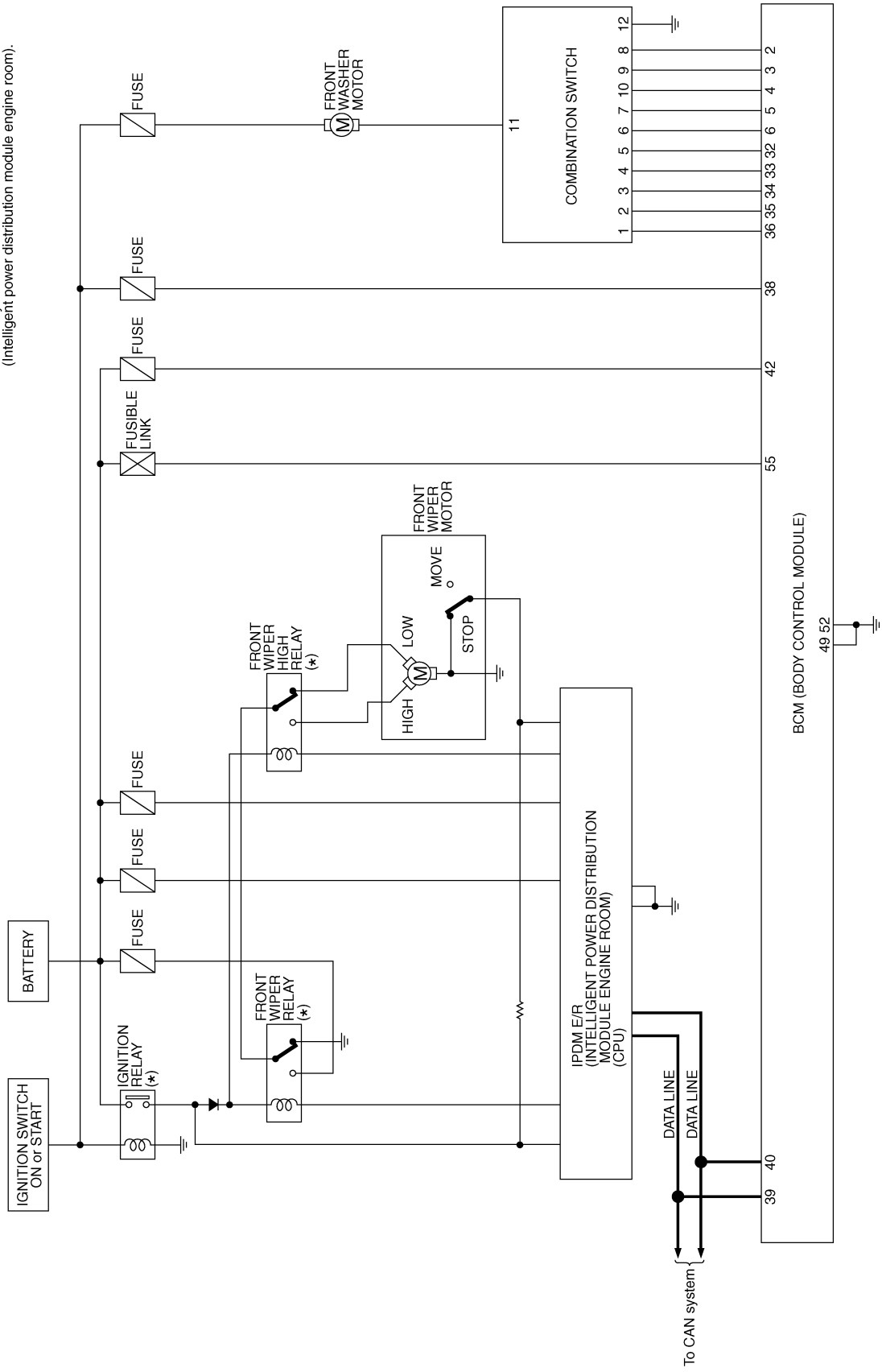
Refer to [LAN-6, "CAN Communication Unit"](#) .

FRONT WIPER AND WASHER SYSTEM

Schematic

AKS0056S

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



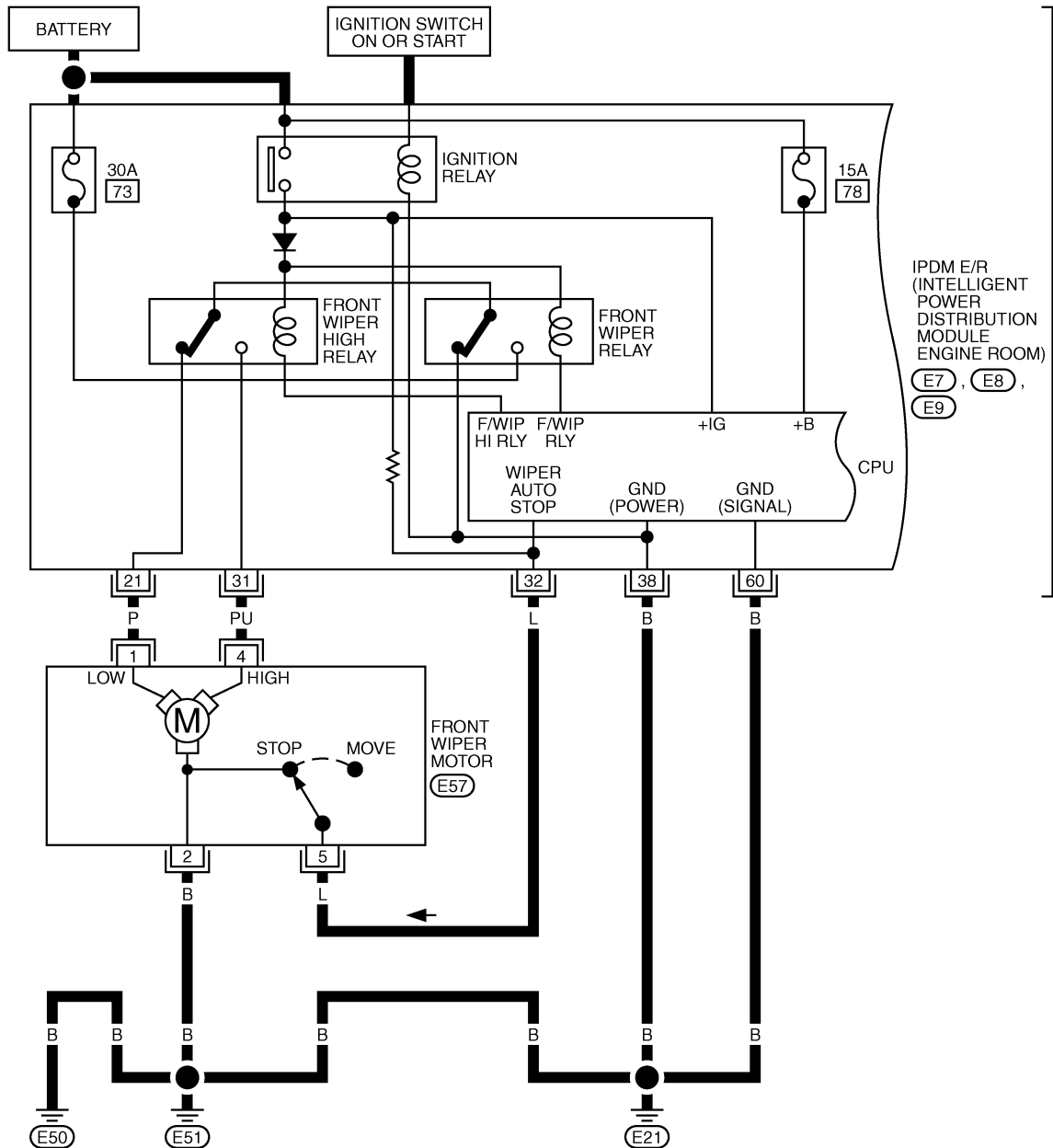
TKWM0940E

FRONT WIPER AND WASHER SYSTEM

Wiring Diagram — WIPER —

AKS0056T

WW-WIPER-01

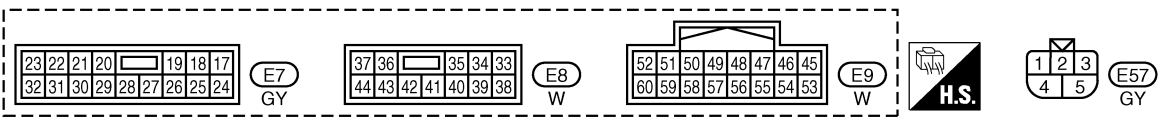


REFER TO PG-POWER.

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

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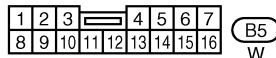
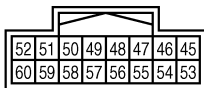
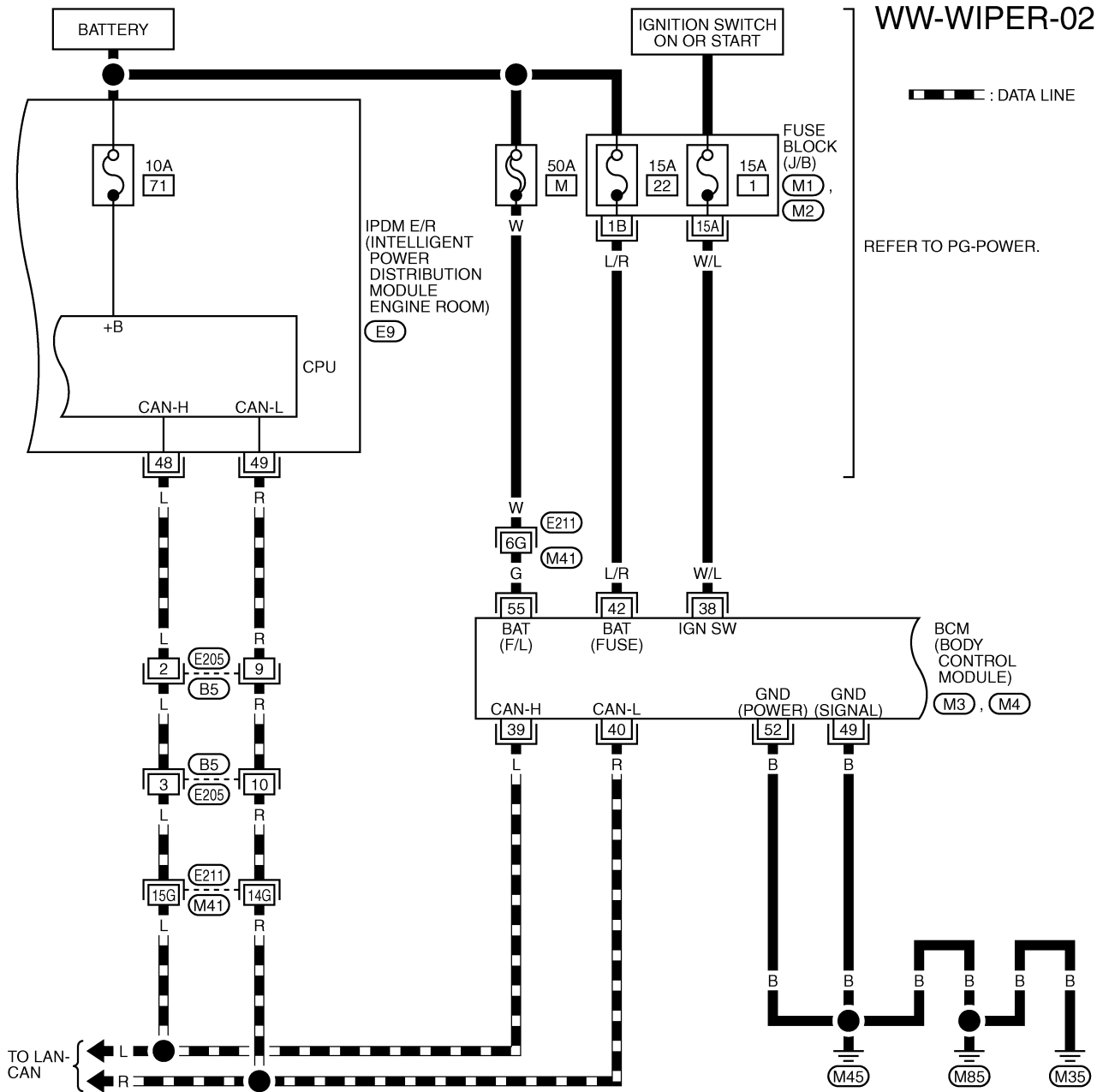
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FRONT WIPER AND WASHER SYSTEM

WW-WIPER-02

▬ : DATA LINE

REFER TO PG-POWER.



REFER TO THE FOLLOWING.

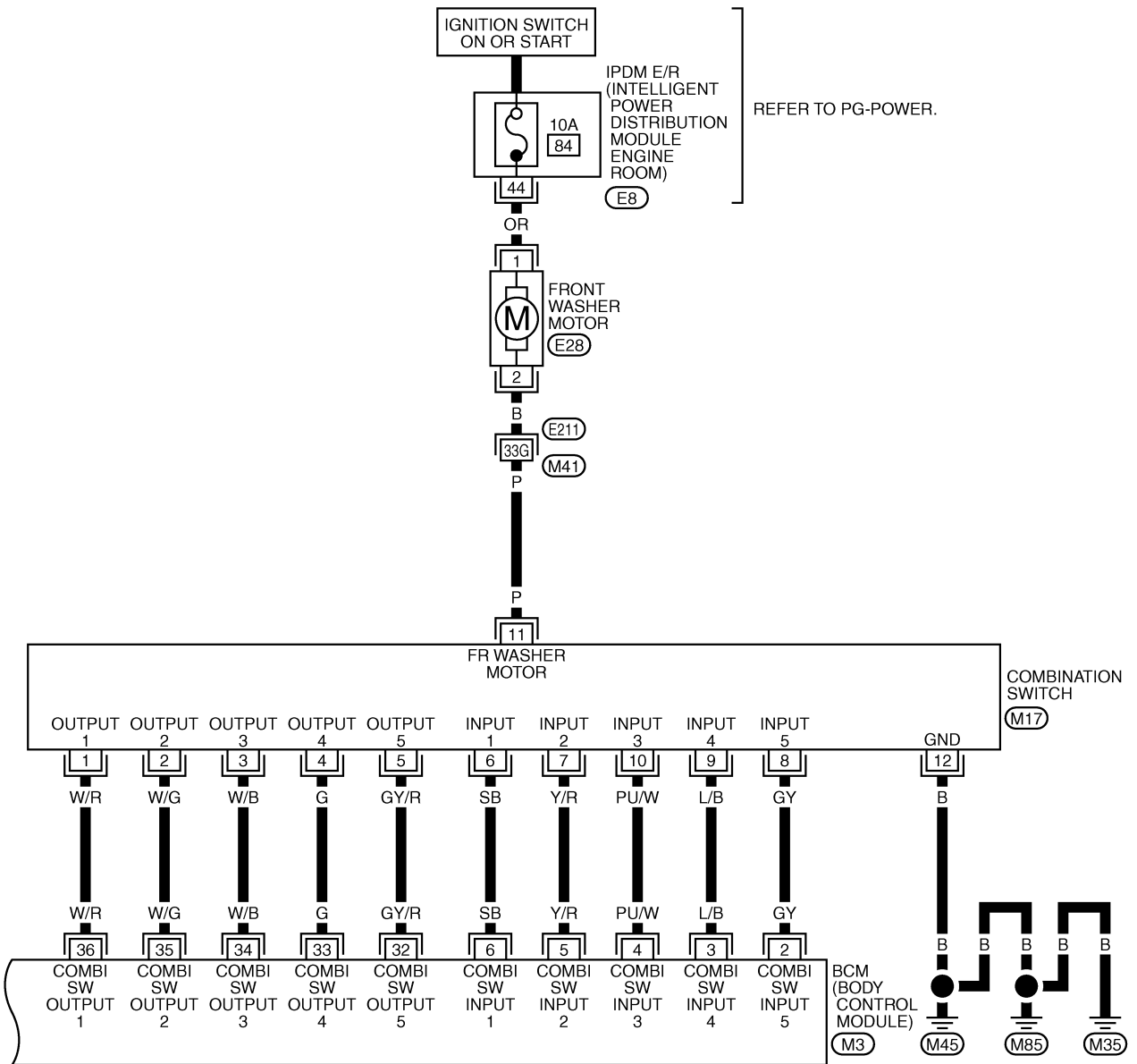
- (E211) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1) , (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3) , (M4) -ELECTRICAL UNITS

TKWM0664E

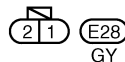
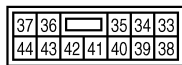
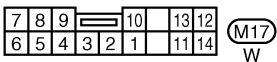
FRONT WIPER AND WASHER SYSTEM

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REFER TO THE FOLLOWING.

(E21) -SUPER MULTIPLE JUNCTION (SMJ)

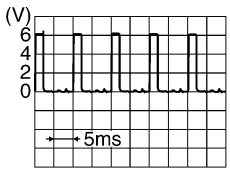
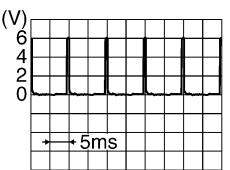
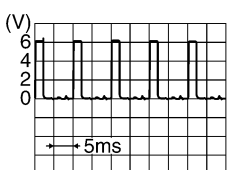


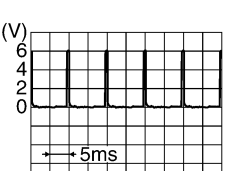

(M3) -ELECTRICAL UNITS

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

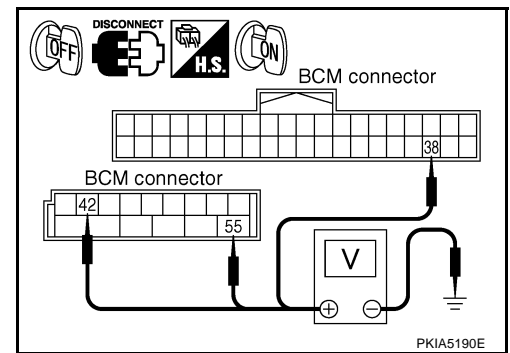
OK >> GO TO 2

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

2. CHECK POWER SUPPLY CIRCUIT

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

Terminals		(-)	Ignition switch position	
(+) Terminal (Wire color)			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

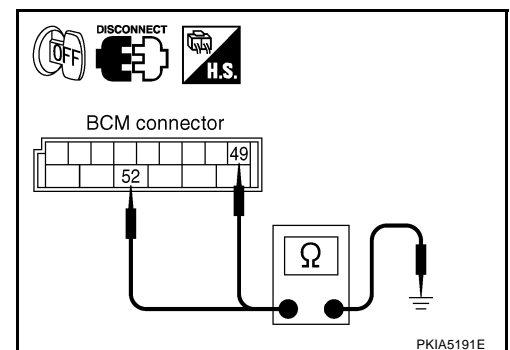
Check continuity between BCM harness connector M4 terminals 49 (B), 52 (B) and ground.

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.

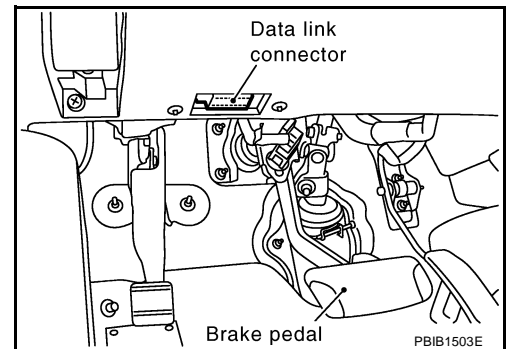
BCM diagnosis position	Check item, Diagnosis mode	Description
Wiper	DATA MONITOR	Displays BCM input data in real time.
	ACTIVE TEST	Device operation can be checked by applying a drive signal to device.
BCM	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.

CONSULT-II OPERATION

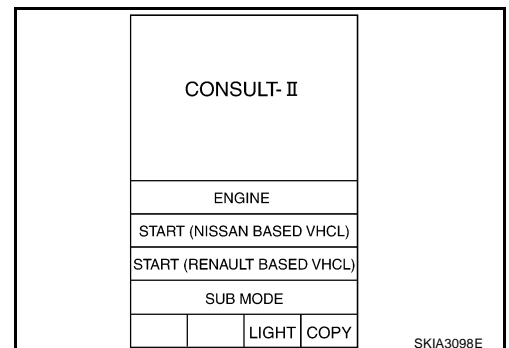
CAUTION:

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.

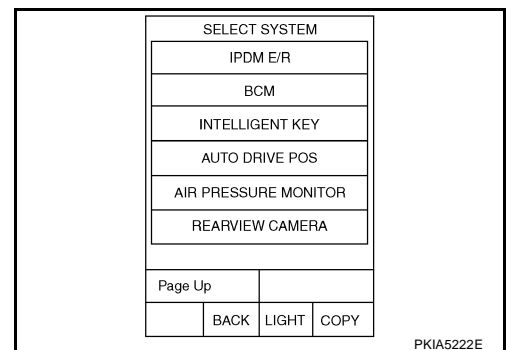
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.



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

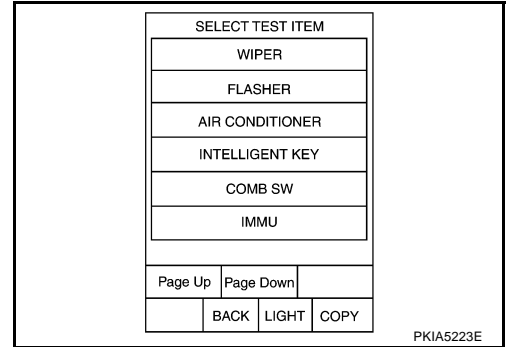


3. Touch "BCM" on "SELECT SYSTEM" screen.
If "BCM" is not indicated, refer to [GI-40, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



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 ITEMS" or "SELECTION FROM MENU" on "DATA MONITOR" screen.

ALL SIGNALS	Monitors all the signals.
SELECTION FROM MENU	Selects and monitors individual signals.

4. Touch "START".
5. When "SELECTION FROM MENU" is selected, touched items to be monitored. If "ALL SIGNALS" 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	FRONT 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.

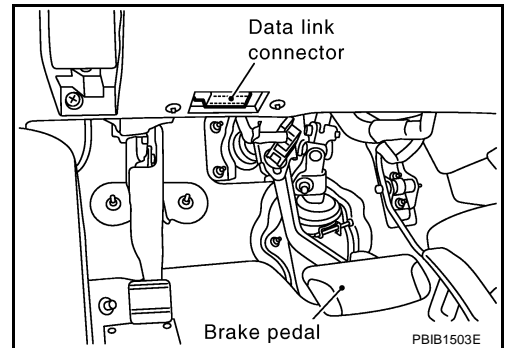
Inspection Item, Diagnosis Mode	Description
SELF-DIAGNOSTIC RESULTS	The IPDM E/R performs self-diagnosis of CAN communication.
DATA MONITOR	The input/output data of the IPDM E/R is displayed in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.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

CONSULT-II OPERATION

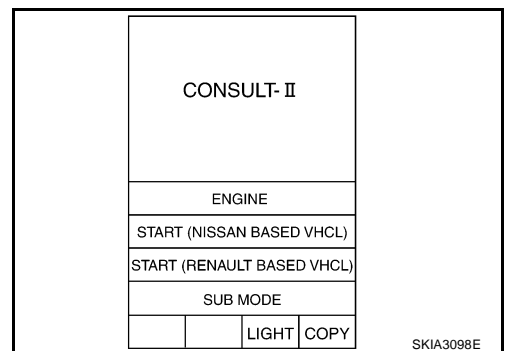
CAUTION:

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.

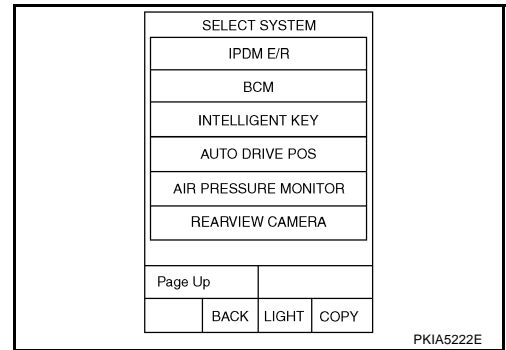


2. Touch "START (NISSAN BASED VHCL)".

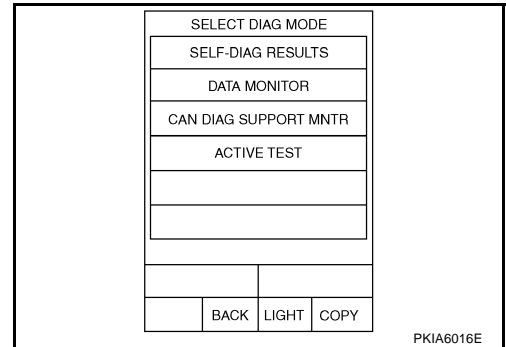


FRONT WIPER AND WASHER SYSTEM

- 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"](#).



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



SELF-DIAGNOSTIC RESULTS

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

DATA MONITOR

Operation Procedure

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

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

- Touch "START".
- Touch the required monitoring item on "SELECTION FROM MENU". In "ALL SIGNALS", all items are monitored. In "MAIN SIGNALS", predetermined items are monitored.
- 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 the ignition switch ON. When the ignition switch is at ACC, the 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" on CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "FRONT WIPER" on "SELECT TEST ITEM" screen.

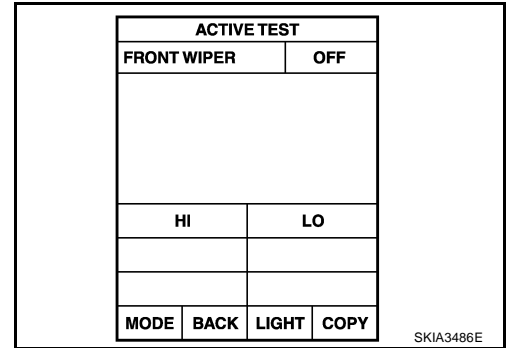
 Without CONSULT-II

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"](#).

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

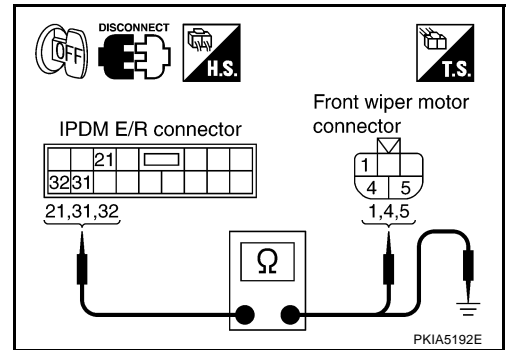
WW

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)	
	32 (L)		5 (L)	



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)	Ground	No	
	31 (PU)			
	32 (L)			

OK or NG

OK >> GO TO 4.

NG >> Repair harness or connector.

4. CHECK CIRCUITE BETWEEN FRONT WIPERS AND GROUND

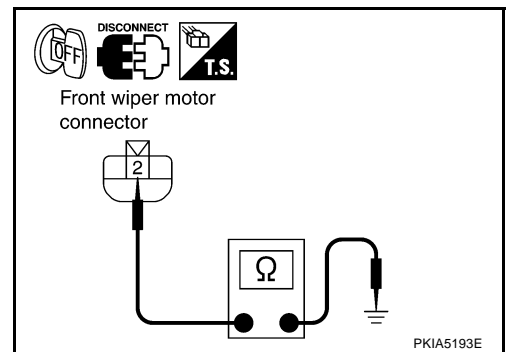
Check continuity between front wiper motor harness connector E57 terminal 2 (B) and ground.

2 (B) - Ground : Continuity should exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness or connector.



FRONT WIPER AND WASHER SYSTEM

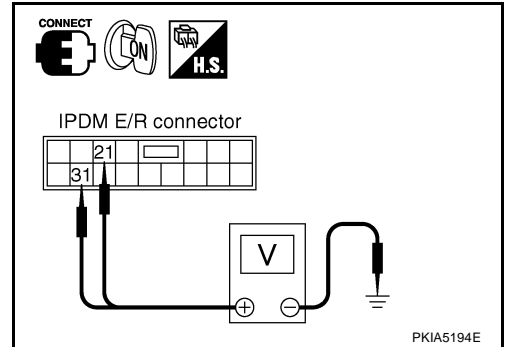
5. CHECK IPDM E/R

Ⓟ 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	0.0 km/h
	Page Down
	RECORD
MODE	BACK LIGHT COPY

SKIA5300E

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

SKIA1039E

FRONT WIPER AND WASHER SYSTEM

AKS0079X

Front Wiper Does Not Return to Stop Position

1. CHECK CIRCUIT BETWEEN IPDM E/R AND WIPER MOTOR (1)

☑ With CONSULT-II

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

☒ Without CONSULT-II

GO TO 2.

OK or NG

OK >> Replace IPDM E/R.

NG >> GO TO 2.

DATA MONITOR	
MONITOR	
MOTOR FAN REQ	1
AC COMP REQ	OFF
TAIL&CLR REQ	OFF
HL LO REQ	OFF
HL HI REQ	OFF
FR FOG REQ	OFF
FR WIP REQ	STOP
WIP AUTO STOP	STOP P
WIP PROT	OFF
Page DOWN	
RECORD	
MODE	BACK LIGHT COPY

SKIA5301E

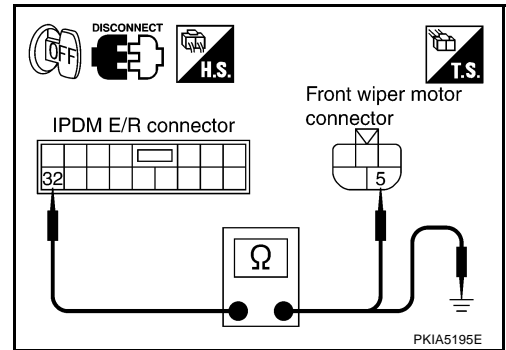
2. CHECK CIRCUIT BETWEEN IPDM E/R AND WIPER MOTOR (2)

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 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. 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
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 >> Replace front wiper motor.

Only Front Wiper LO Does Not Operate

AKS0079Y

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

FRONT WIPER AND WASHER SYSTEM

AKS0079Z

Only Front Wiper HI Does Not Operate

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

☑ With CONSULT-II

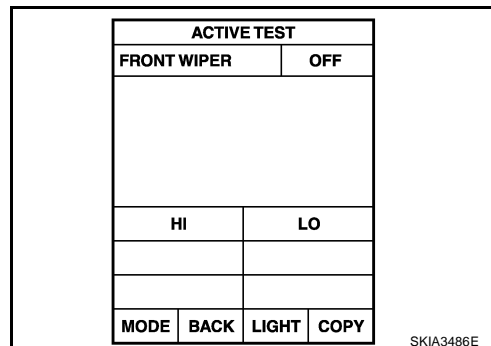
1. Select "IPDM E/R" on CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "FRONT WIPER" on "SELECT TEST ITEM" screen.

☒ 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.



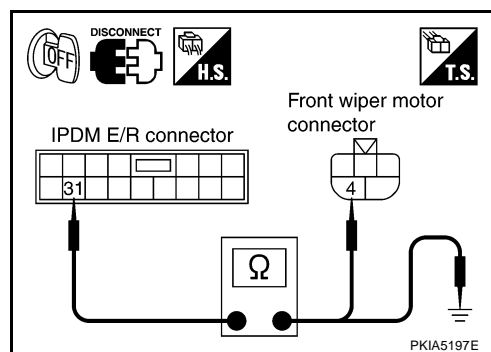
2. CHECK CIRCUIT BETWEEN IPDM E/R AND FRONT WIPERS (2)

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.

3. CHECK IPDM E/R

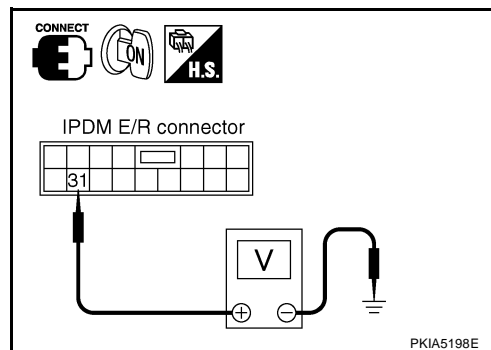
☑ With CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Using active test, check voltage between IPDM E/R harness connector 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 AND WASHER SYSTEM

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-17, "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

SKIA1039E

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

SKIA4234E

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	0.0 km/h
Page Down	
RECORD	
MODE	BACK
LIGHT	COPY

SKIA5300E

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 CIRCUIT BETWEEN IPDM E/R AND WIPER MOTOR (1)

☑ With CONSULT-II

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

☒ Without CONSULT-II

GO TO 2.

OK or NG

- OK >> Replace IPDM E/R.
- NG >> GO TO 2.

DATA MONITOR	
MONITOR	
MOTOR FAN REQ	1
AC COMP REQ	OFF
TAIL&CLR REQ	OFF
HL LO REQ	OFF
HL HI REQ	OFF
FR FOG REQ	OFF
FR WIP REQ	STOP
WIP AUTO STOP	STOP P
WIP PROT	OFF
Page DOWN	
RECORD	
MODE	BACK
LIGHT	COPY

SKIA5301E

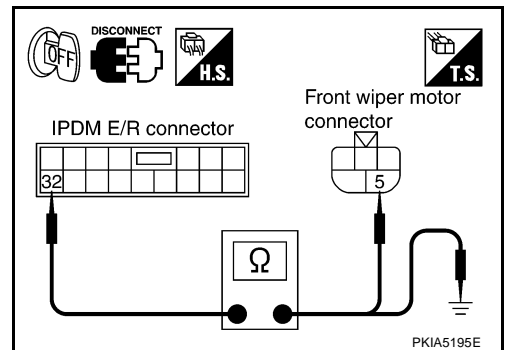
2. CHECK CIRCUIT BETWEEN IPDM E/R AND WIPER MOTOR (2)

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 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

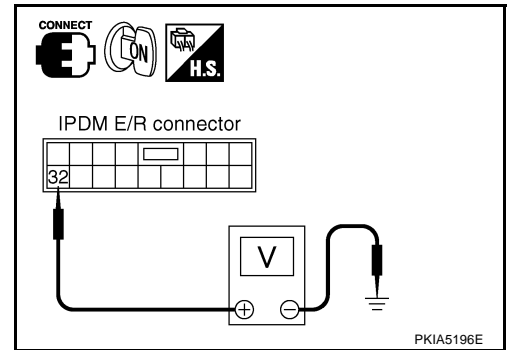
- OK >> GO TO 3.
- NG >> Repair harness or connector.

FRONT WIPER AND WASHER SYSTEM

3. CHECK CIRCUIT BETWEEN IPDM E/R AND WIPER MOTOR (3)

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 >> Replace front wiper motor.

Front Wipers Do Not Stop

AKS007A3

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	0.0 km/h
Page Down	
RECORD	
MODE	BACK LIGHT COPY

SKIA5300E

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

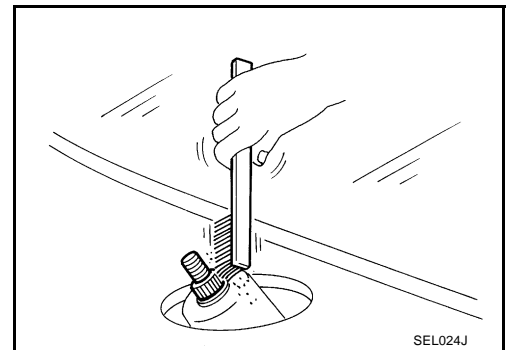
AKS00576

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.

INSTALLATION

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



FRONT WIPER AND WASHER SYSTEM

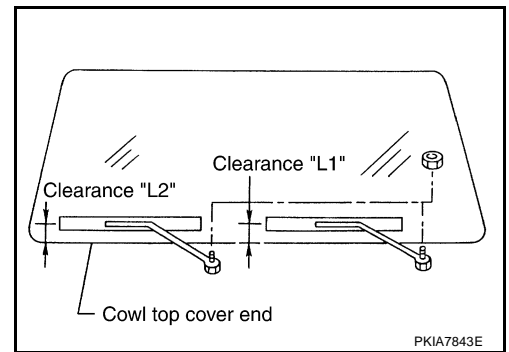
2. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (auto stop).
3. Push wiper arm onto pivot shaft, paying attention to blind spline.
4. Attach washer tube to washer tube joint.
5. Lift the blade up and then set it down onto glass surface to set the 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

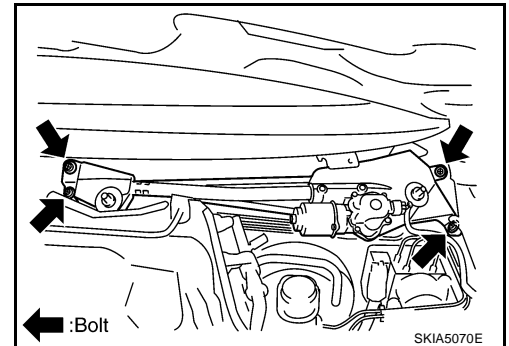
Refer to [WW-28, "INSTALLATION"](#) .

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-28, "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-28, "Removal and Installation of Front Wiper Arms, Adjustment of Wiper Arms Stop Location"](#) .
6. Attach wiper arm washer tube.

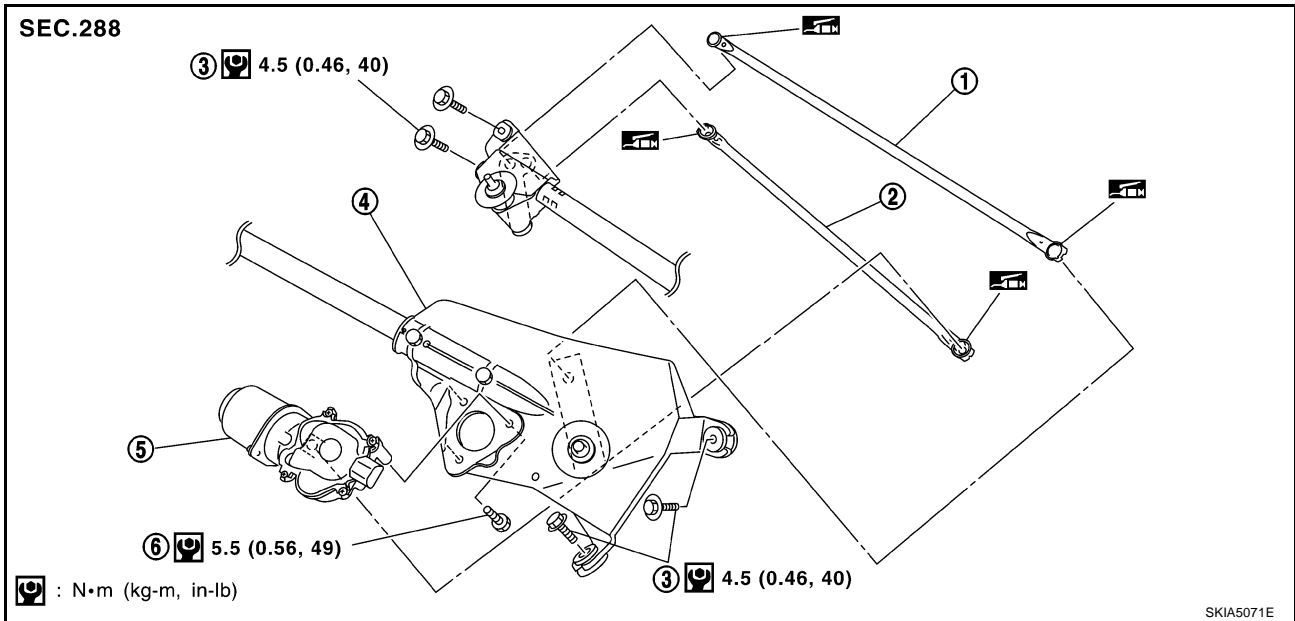
CAUTION:

- 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.

FRONT WIPER AND WASHER SYSTEM

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

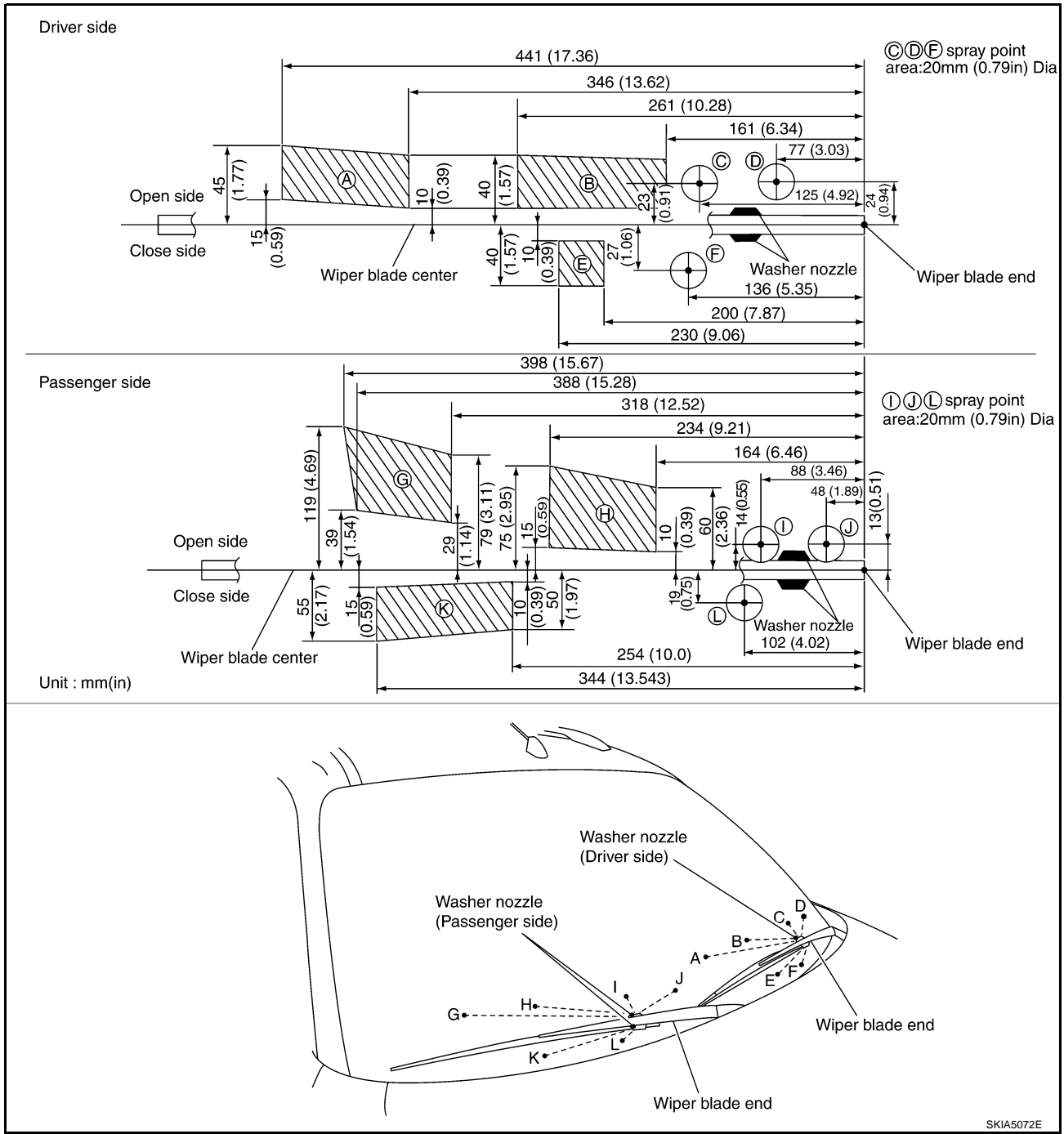
AKS00579

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:

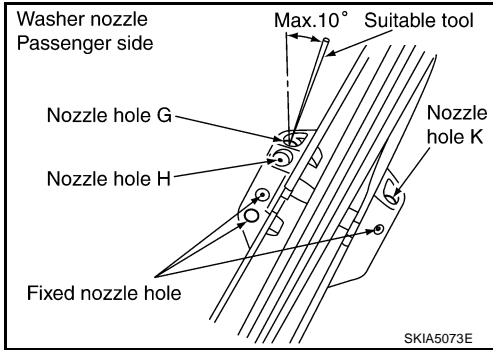
Only washer nozzles (A, B, E, G, H, and K) can be adjusted. Washer nozzles (C, D, F, I, J, and L) cannot be adjusted because of fixed nozzles.

FRONT WIPER AND WASHER SYSTEM



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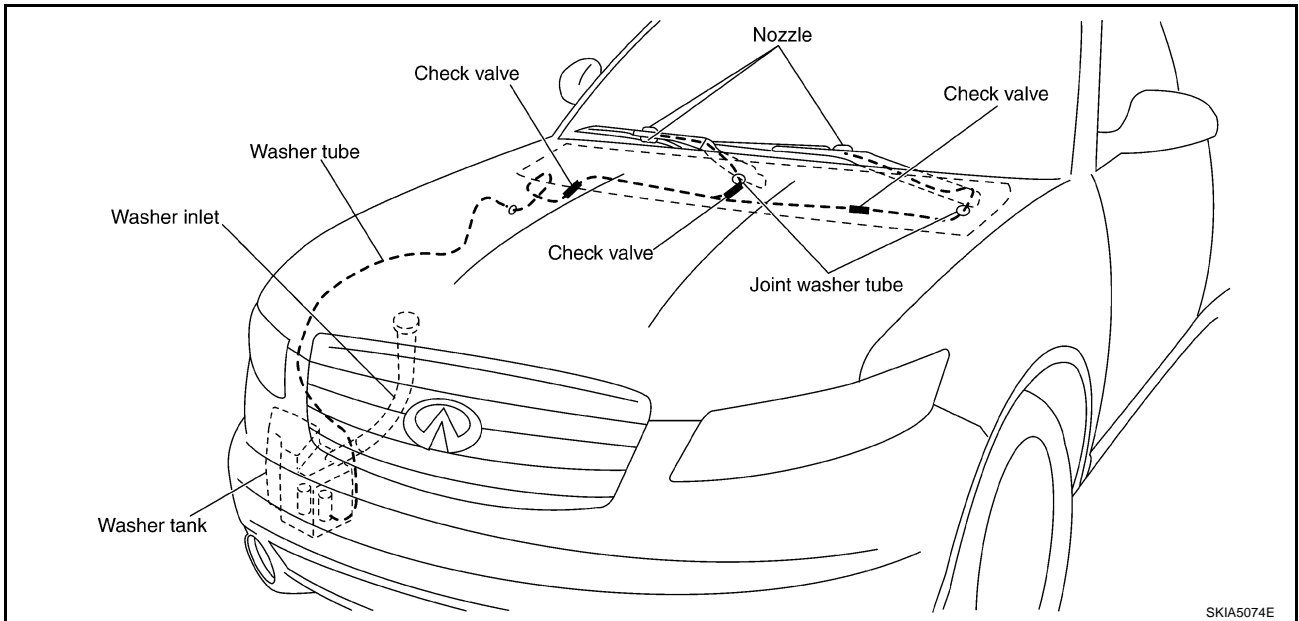
WW



FRONT WIPER AND WASHER SYSTEM

Washer Tube Layout

AKS0057A



Removal and Installation of Front Washer Nozzle

AKS0057B

Replace wiper arm assembly. Refer to [WW-28, "Removal and Installation of Front Wiper Arms, Adjustment of Wiper Arms Stop Location"](#) .

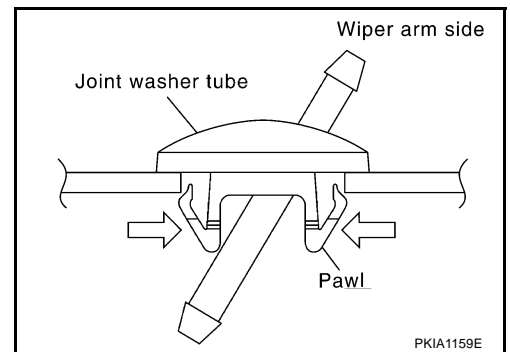
CAUTION:

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

Removal and Installation of Front Washer Tube Joint

AKS0057C

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



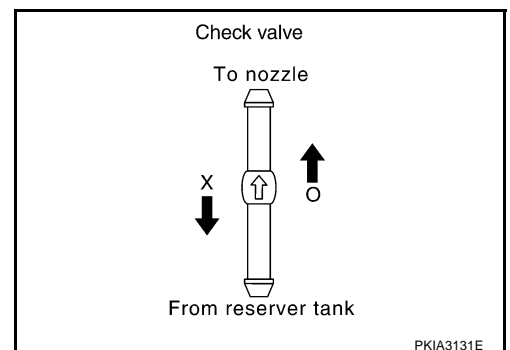
INSTALLATION

Install in the reverse order of removal.

Check Valve Inspection

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.



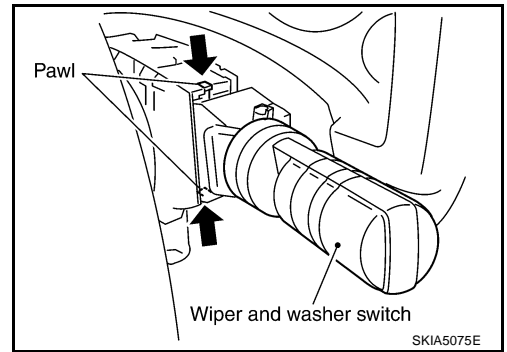
FRONT WIPER AND WASHER SYSTEM

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.



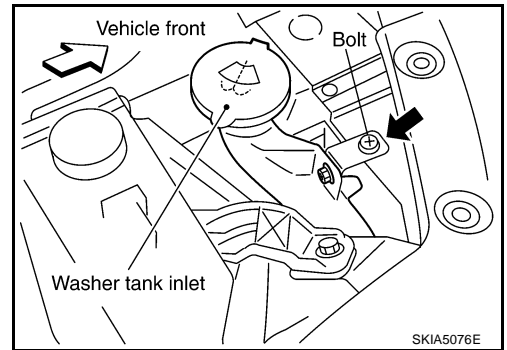
INSTALLATION

Install in the reverse order of removal.

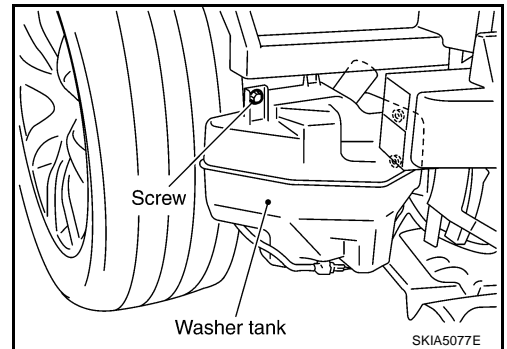
Removal and Installation of Washer Tank

REMOVAL

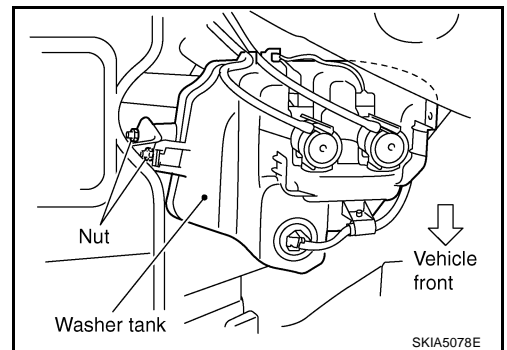
1. Remove bolt and pull out washer tank inlet.



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.



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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)

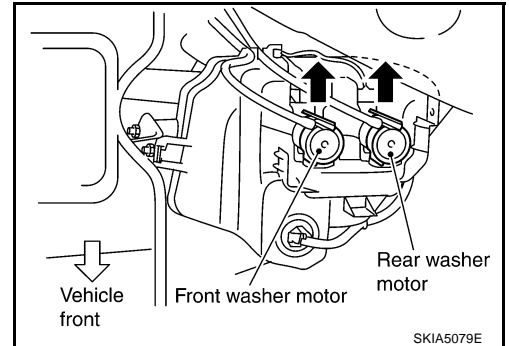
Washer tank inlet mounting bolt  : 6.9 N·m (0.70 kg-m, 61 in-lb)

Removal and Installation of Washer Motor

AKS0057G

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.

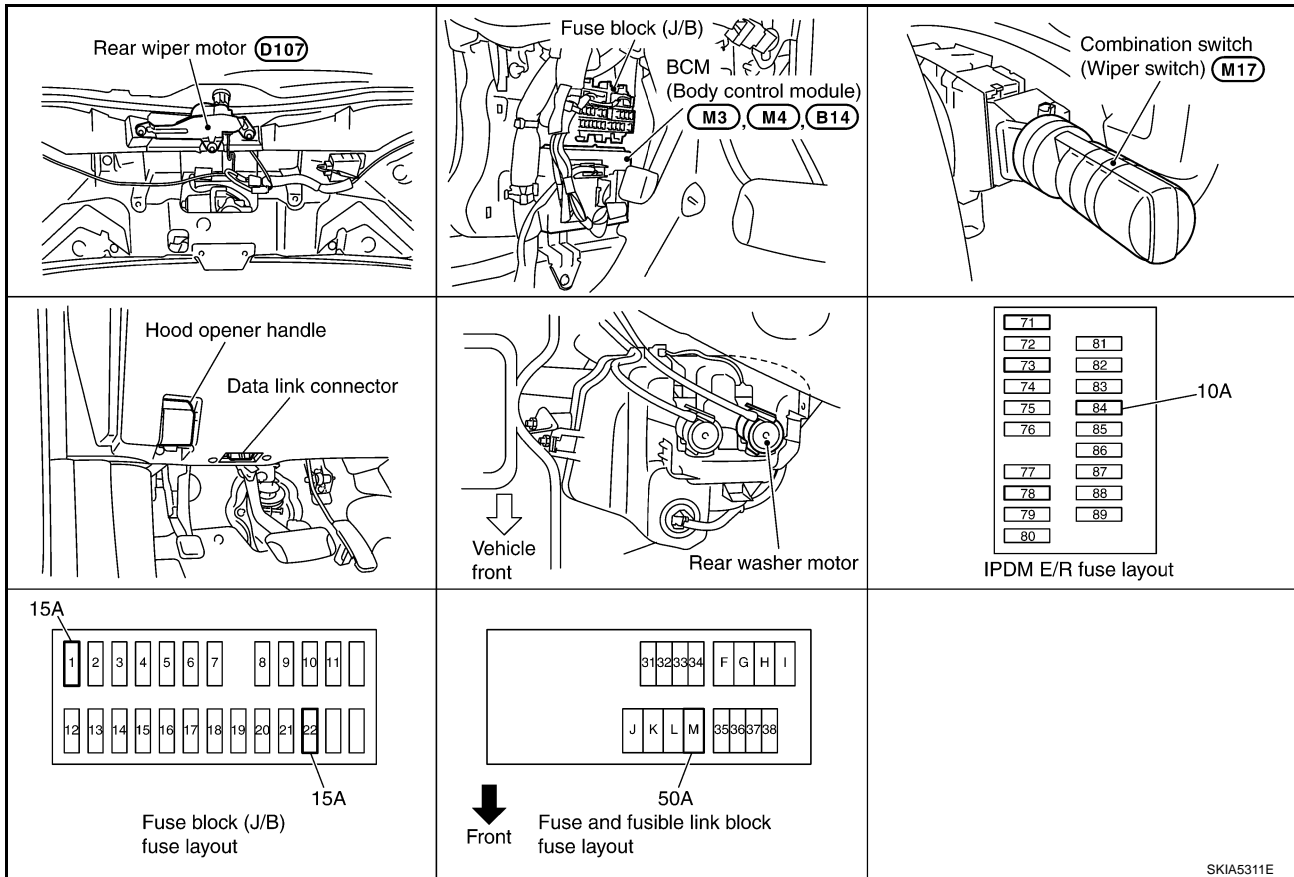
REAR WIPER AND WASHER SYSTEM

REAR WIPER AND WASHER SYSTEM

PPF: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 (body control module) when switch is turned ON.
- BCM (body control module) 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 (body control module) terminal 55
- through 15 A fuse [No. 22, located in fuse block (J/B)]
- to BCM (body control module) 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 (body control module) terminal 38,
- through 10 A fuse [No. 84, located in IPDM E/R (intelligent power distribution module engine room)]
- to rear washer motor terminal 1.

Ground is supplied

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

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REAR WIPER AND WASHER SYSTEM

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

Ground is supplied

- to rear wiper motor terminal 2
- through 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 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 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

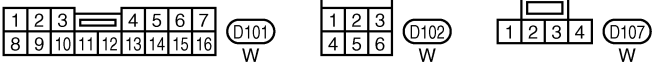
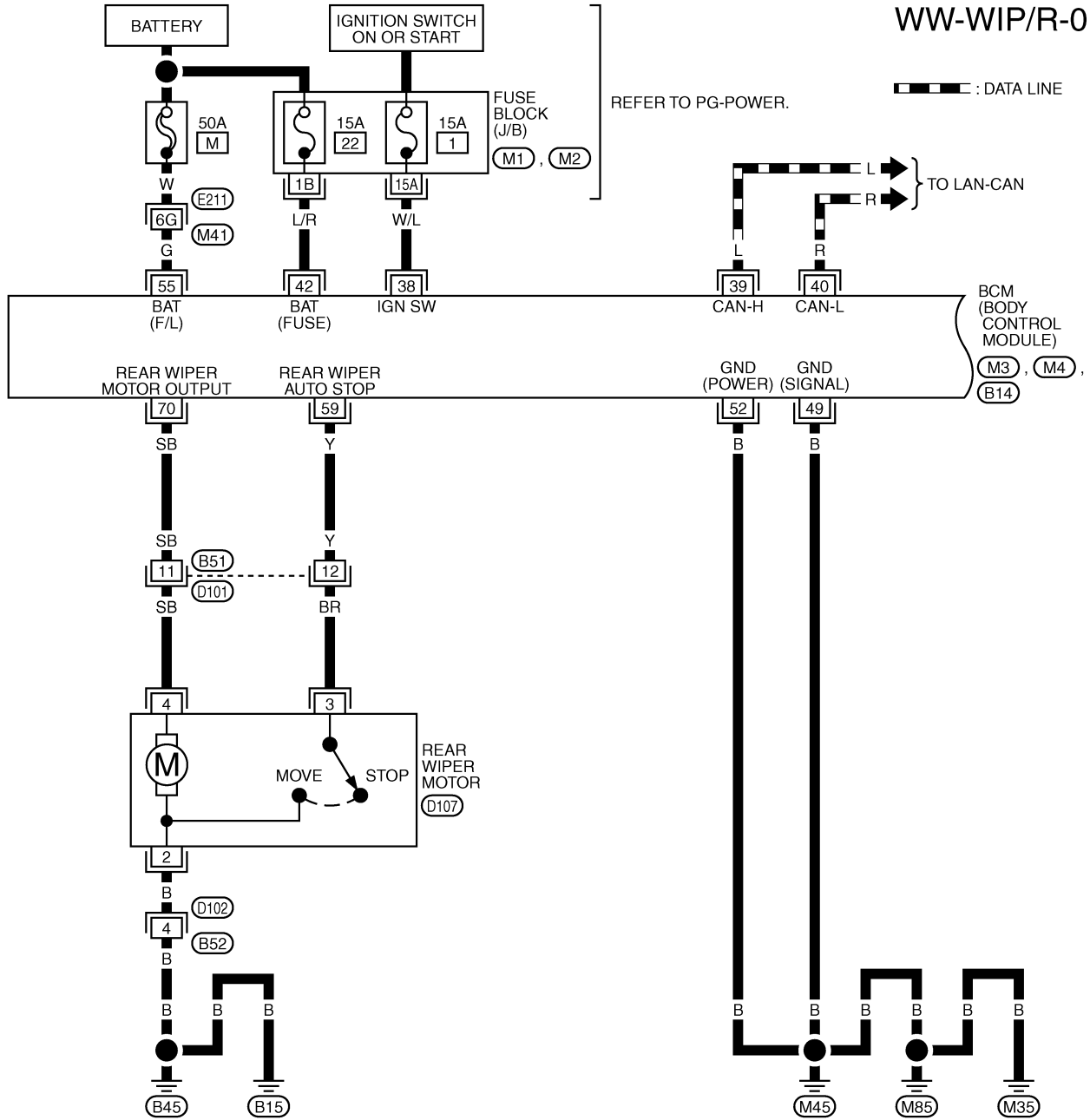
Refer to [BCS-3, "COMBINATION SWITCH READING FUNCTION"](#) in BODY CONTROL SYSTEM.

REAR WIPER AND WASHER SYSTEM

Wiring Diagram — WIP/ R —

AKS0057J

WW-WIP/R-01



REFER TO THE FOLLOWING.

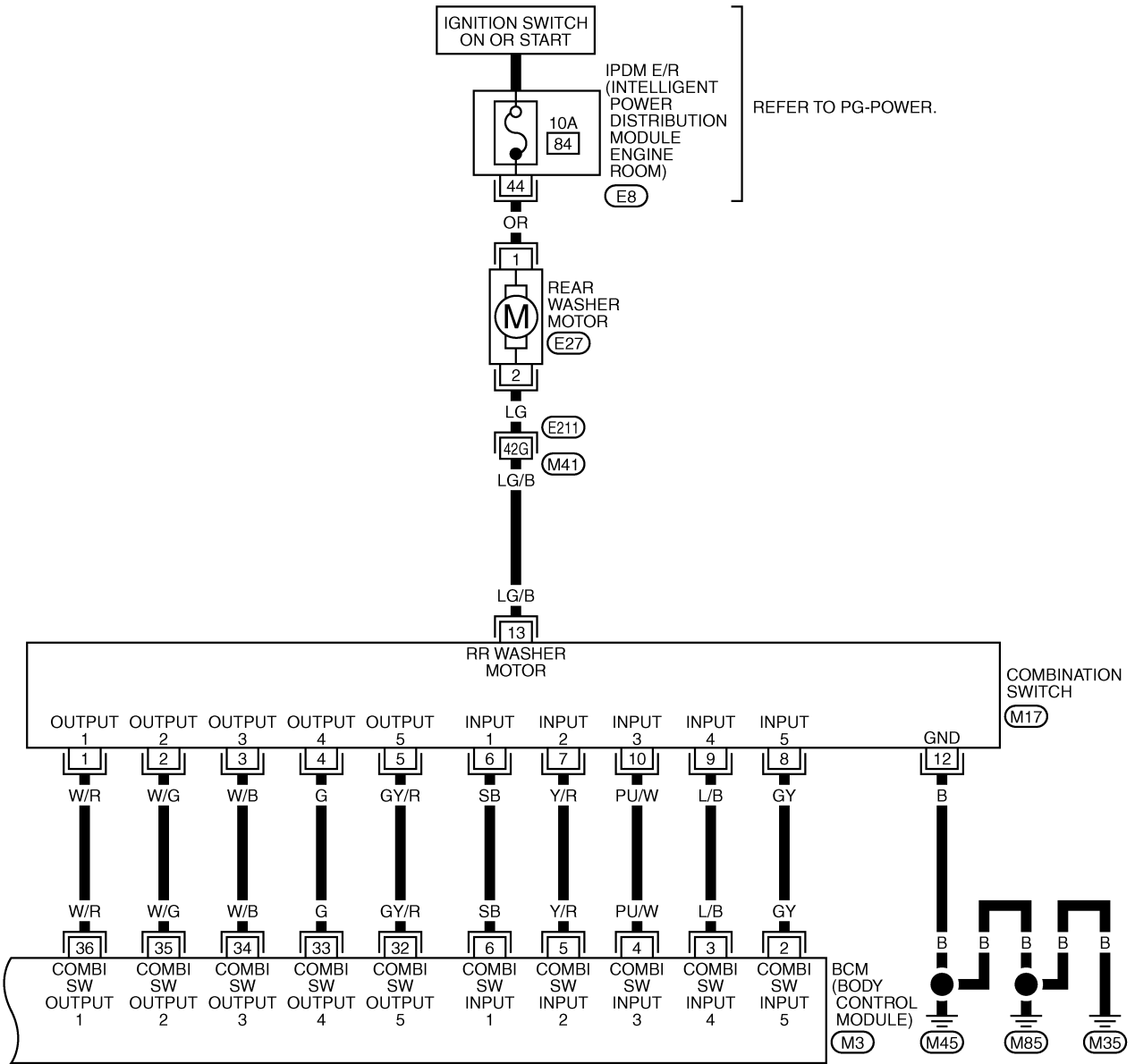
- (E211) -SUPER MULTIPLE JUNCTION (SMJ)
- (M1), (M2) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M3), (M4), (B14) -ELECTRICAL UNITS

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REAR WIPER AND WASHER SYSTEM

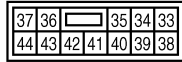
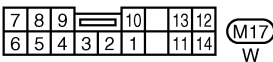
WW-WIP/R-02



REFER TO PG-POWER.

COMBINATION SWITCH (M17)

BCM (BODY CONTROL MODULE) (M3)



REFER TO THE FOLLOWING.

(E21) -SUPER MULTIPLE JUNCTION (SMJ)

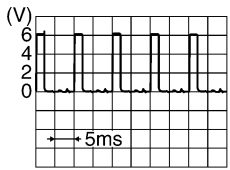
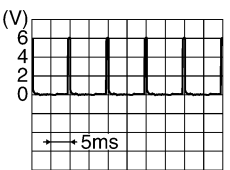
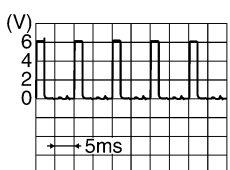
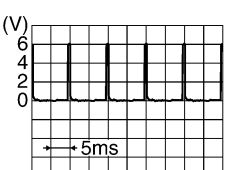

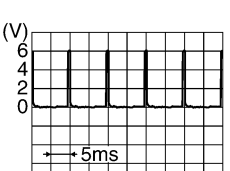
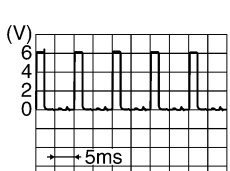
(M3) -ELECTRICAL UNITS

TKWM0828E

REAR WIPER AND WASHER SYSTEM

Terminals and Reference Values for BCM

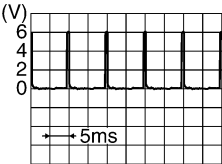
AKS0079S

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>

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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 	 SKIA5292E	
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-35, "System Description"](#) .
3. Perform the Preliminary Check. Refer to [WW-40, "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 and fusible link No.
BCM	Battery	M
		22
	Ignition ON or START	1
Rear washer motor	Ignition ON or START	84

Refer to [WW-37, "Wiring Diagram — WIP/R —"](#) .

OK or NG

OK >> GO TO 2.

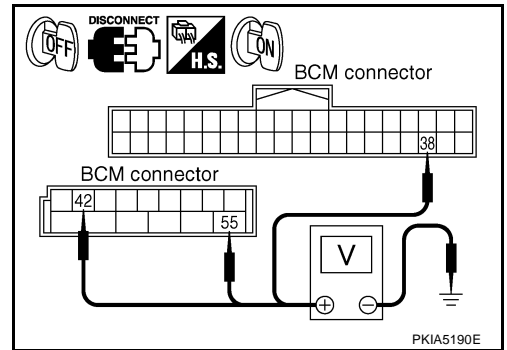
NG >> If fuse or fusible link is blown, be sure to eliminate cause of malfunction before installing new fuse or fusible link. Refer to [PG-3, "POWER SUPPLY ROUTING CIRCUIT"](#) .

REAR WIPER AND WASHER SYSTEM

2. CHECK POWER SUPPLY CIRCUIT

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

Terminals		Ignition switch position	
(+)		(-)	
Connector	Terminal (Wire color)	OFF	ON
M4	42 (L/R)	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

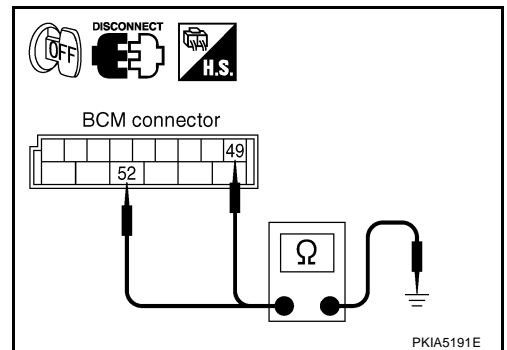
Check continuity between BCM harness connector M4 terminal 49 (B), 52 (B) and ground.

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

OK or NG

OK >> INSPECTION END

NG >> Repair harness or connector.



CONSULT-II Functions

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.

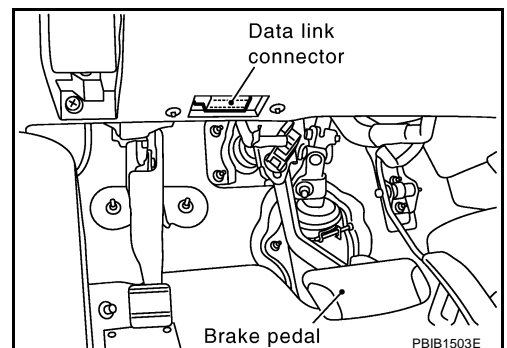
BCM diagnosis position	Check item, Diagnosis mode	Description
Wiper	Data monitor	Displays BCM input data in real time.
	Active test	Device operation can be checked by applying a drive signal to device.
BCM	CAN DIAG SUPPORT MNTR	The result of transmit/receive of CAN communication can be read.

CONSULT-II OPERATION

CAUTION:

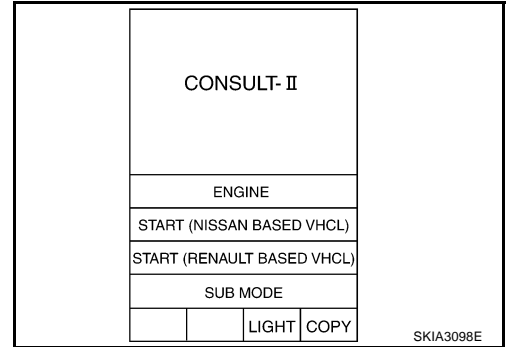
If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

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

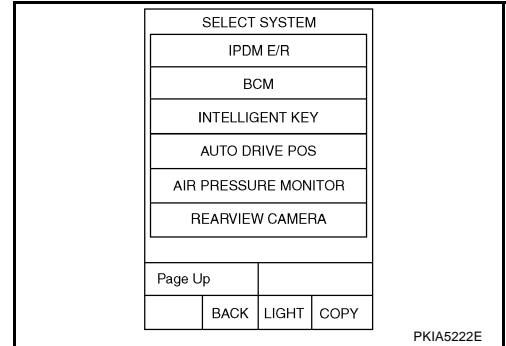


REAR WIPER AND WASHER SYSTEM

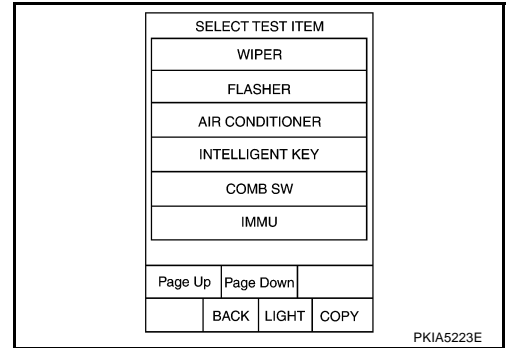
2. Touch "START (NISSAN BASED VHCL)".



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 the "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.
FR WIPER HI [ON/OFF]	Displays "Front Wiper HI (ON)/Other (OFF)" status as judged from wiper switch signal.

REAR WIPER AND WASHER SYSTEM

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

④ With CONSULT-II

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

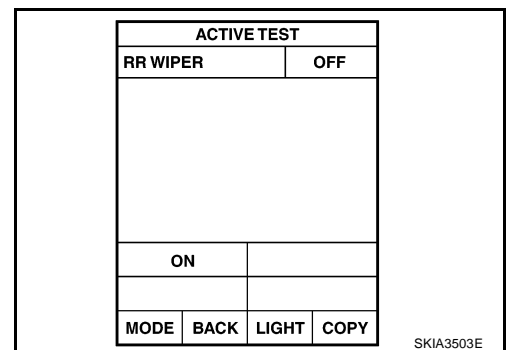
⊗ Without CONSULT-II

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

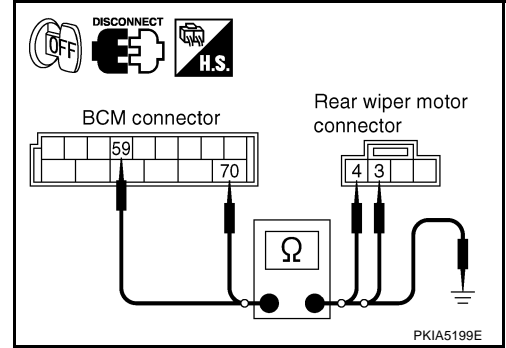
1. Turn ignition switch OFF.
2. Disconnect BCM connector and rear wiper motor connector.
3. Check continuity between BCM harness connector B14 terminals 59 (Y), 70 (SB) and rear wiper motor harness connector D107 terminals 3 (BR), 4 (SB).

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

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

4. Check continuity between BCM harness connector B14 terminals 59 (Y), 70 (SB) and ground.

59 (Y), 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

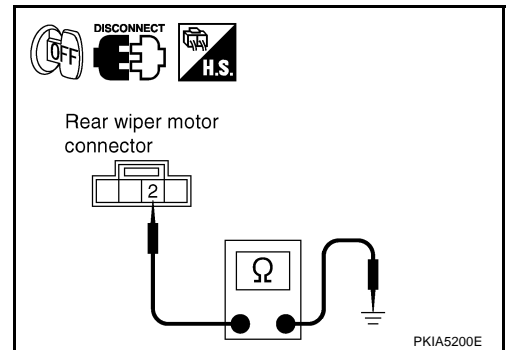
Check continuity between rear wiper motor harness connector D107 terminal 2 (B) and ground.

2 (B) - Ground : Continuity should exist.

OK or NG

OK >> GO TO 5.

NG >> Repair harness or connector.



5. CHECK BCM

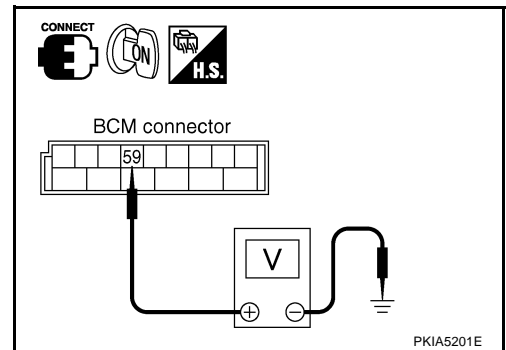
1. Connect BCM connector and rear wiper motor connector.
2. Turn ignition switch ON.
3. With rear wiper switch ON, check voltage between BCM harness connector B14 terminal 59 (Y) and ground.

Terminals		(-)	Condition	Voltage
BCM(+)				
Connector	Terminal (Wire color)			
B14	59 (Y)	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"](#) .



REAR WIPER AND WASHER SYSTEM

Rear Wiper Does Not Return to Stop Position

AKS007A5

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

① 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.

② 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	0.0 km/h
RR WIPER ON	OFF
RR WIPER INT	OFF
RR WASHER SW	OFF
RR WIPER STOP	OFF
Page Up	
RECORD	
MODE	BACK
LIGHT	COPY

SKIA5322E

2. CHECK 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.

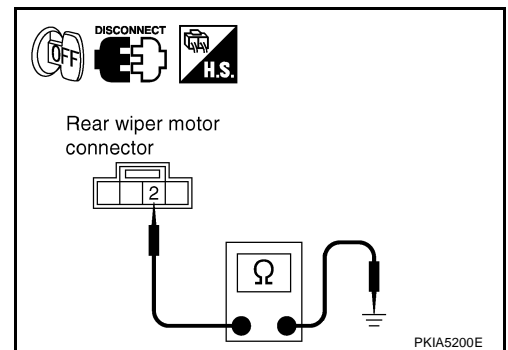
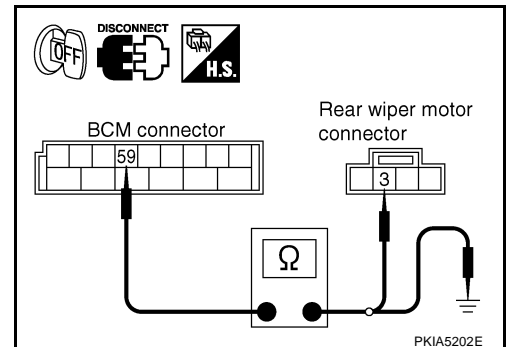
5. Check continuity between rear wiper motor harness connector D107 terminal 2 (B) and ground.

2 (B) - Ground : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.



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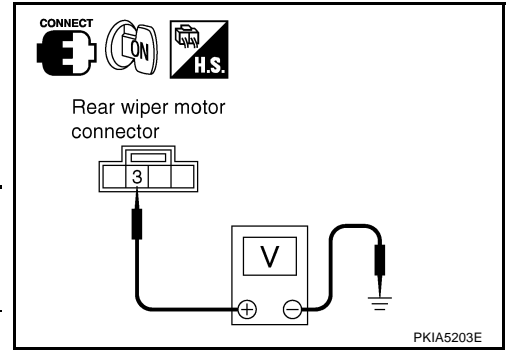
WW

REAR WIPER AND WASHER SYSTEM

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(+)				
Connector	Terminal (Wire color)			
D107	3 (BR)	Ground	Wiper stopped	Approx. 0V
			Wiper operating	Battery voltage



OK or NG

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

Only Rear Wiper ON Does Not Operate

AKS007A7

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

Only Rear Wiper INT Does Not Operate

AKS007A6

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

Wiper Does Not Wipe When Rear Washer Operates

AKS007A9

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

Rear Wipers Do Not Stop

AKS007G0

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

SKIA5322E

REAR WIPER AND WASHER SYSTEM

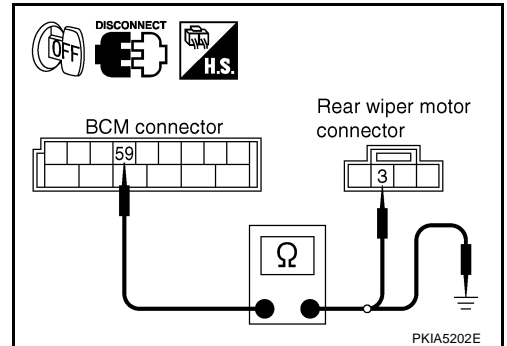
2. CHECK CIRCUIT BETWEEN BCM AND REAR WIPER (2), AND BETWEEN REAR WIPER AND GROUND

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.

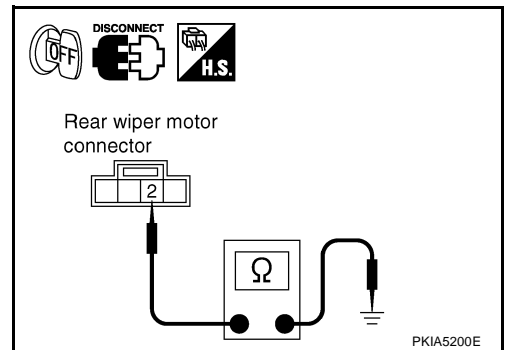


5. Check continuity between rear wiper motor connector D107 terminal 2 (B) and ground.

2 (B) - Ground : Continuity should exist.

OK or NG

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



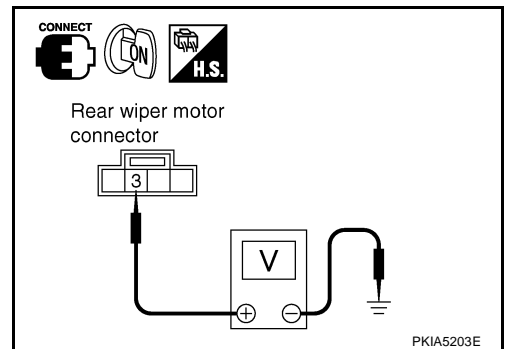
3. CHECK CIRCUIT BETWEEN BCM AND REAR WIPER (3)

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(+)				
Connector	Terminal (Wire color)			
D107	3 (BR)	Ground	Wiper stopped	Approx. 0V
			Wiper operating	Battery voltage

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.

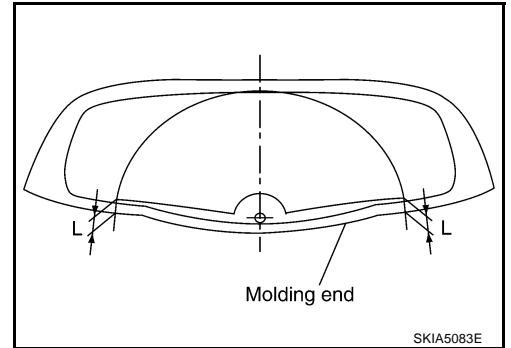
INSTALLATION

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)

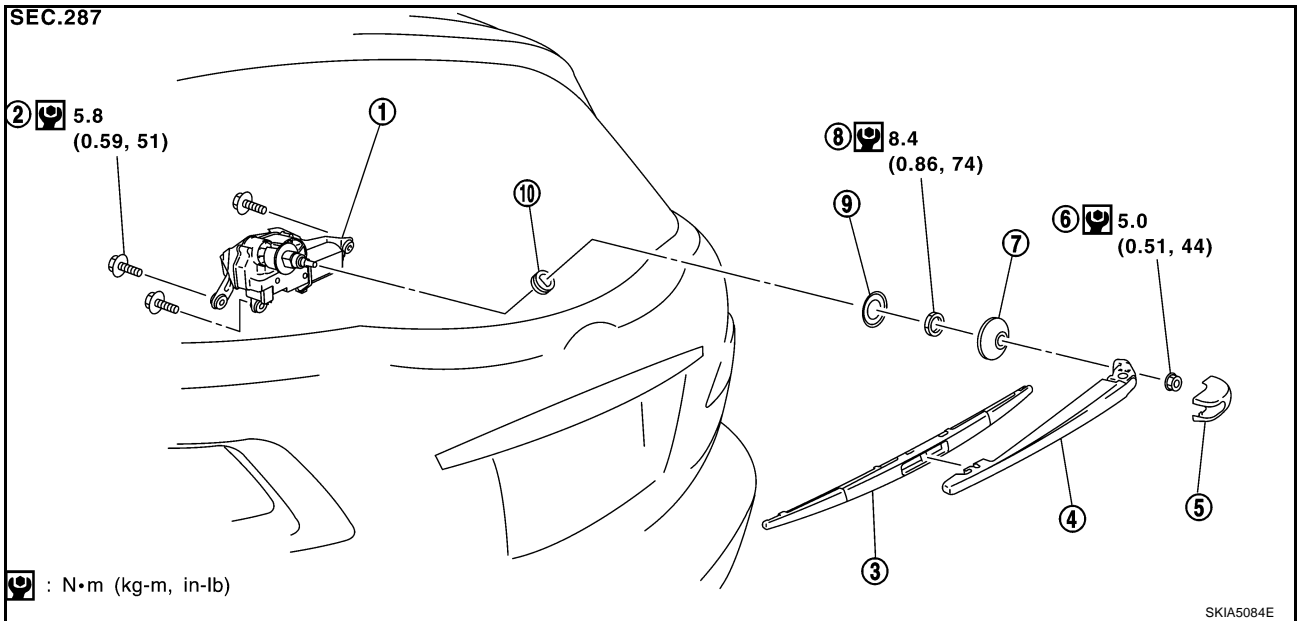


SKIA5083E

Install in the reverse order of removal.

Removal and Installation of Rear Wiper Motor

AKS0057U



SKIA5084E

- | | | |
|---------------------|--------------------|----------------|
| 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 | | |

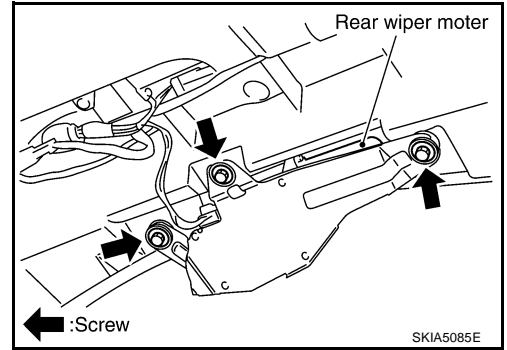
REAR WIPER AND WASHER SYSTEM

REMOVAL

1. Remove wiper arm. Refer to [WW-48, "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.

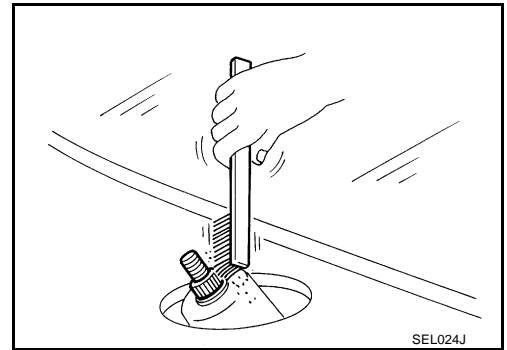


INSTALLATION

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.



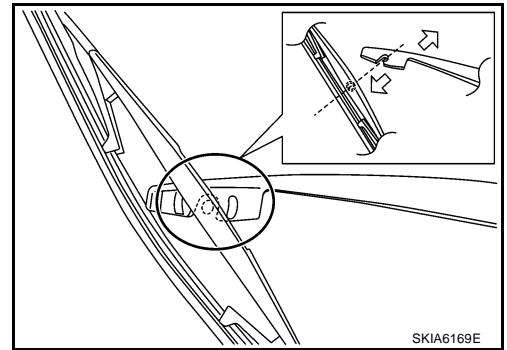
Removal and Installation of Rear Wiper Blade

REMOVAL

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

CAUTION:

Replace wiper blade as wiper blade assembly.



INSTALLATION

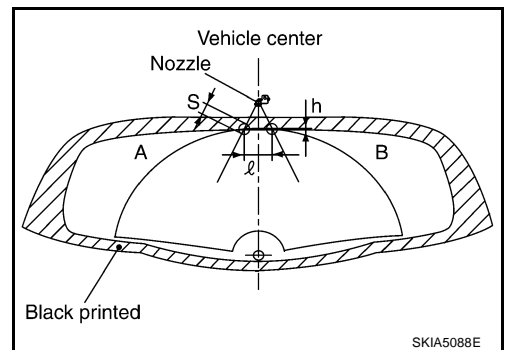
Install in the reverse order of removal.

Washer Nozzle Adjustment

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

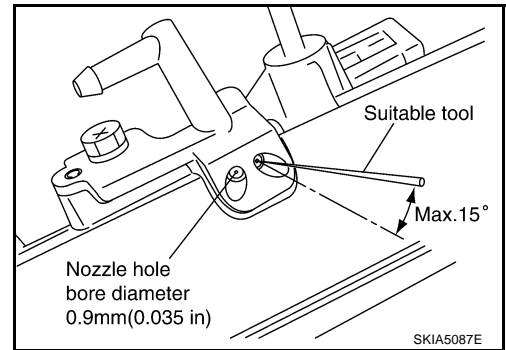
Unit: mm (in)

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



REAR WIPER AND WASHER SYSTEM

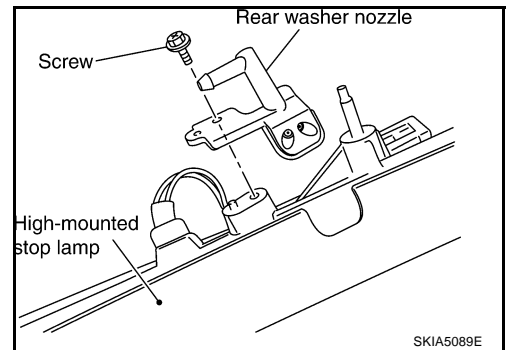
Adjustable range : -15° – $+15^{\circ}$ (In any direction)



Removal and Installation of Washer Nozzle

REMOVAL

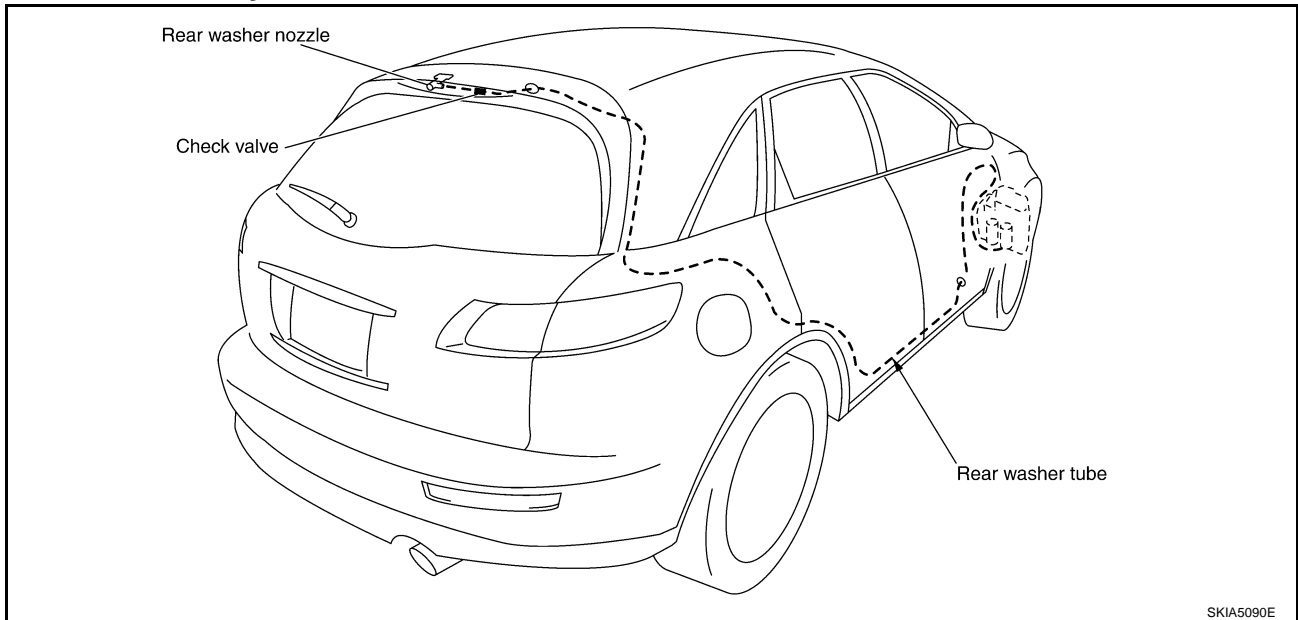
1. Remove high-mounted stop lamp. Refer to [LT-123. "High-Mounted Stop Lamp"](#) in "LT" section.
2. Remove screw and remove washer nozzle from high-mounted stop lamp.



INSTALLATION

Install in the reverse order of removal.

Washer Tube Layout

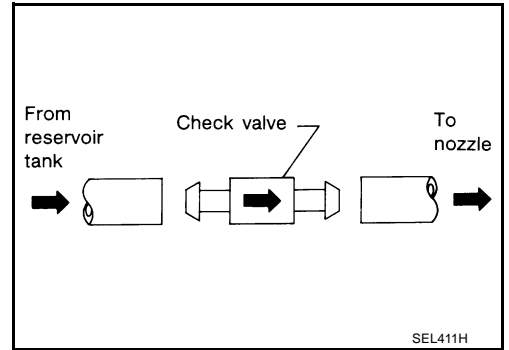


REAR WIPER AND WASHER SYSTEM

Check Valve Inspection

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-33, "Removal and Installation of Front Wiper and Washer Switch"](#) .

Removal and Installation of Washer Tank

AKS0057Z

Refer to [WW-33, "Removal and Installation of Washer Tank"](#) .

Removal and Installation of Washer Pump

AKS00580

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

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CIGARETTE LIGHTER

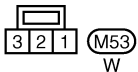
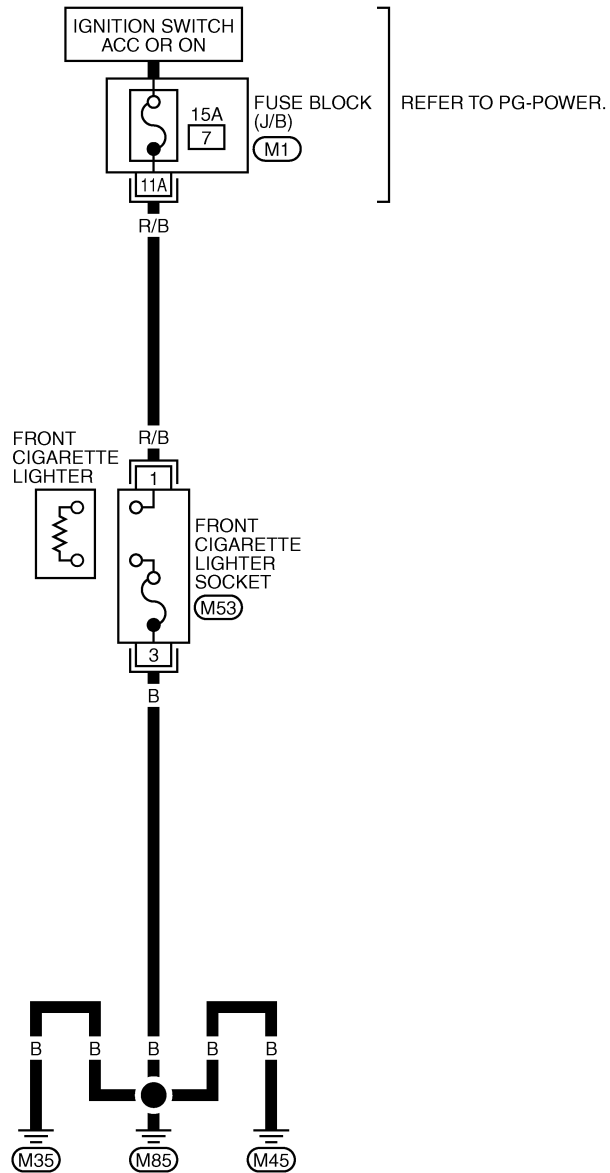
PFP:35330

CIGARETTE LIGHTER

Wiring Diagram — CIGAR —

AKS007AA

WW-CIGAR-01



REFER TO THE FOLLOWING.

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

TKWM0668E

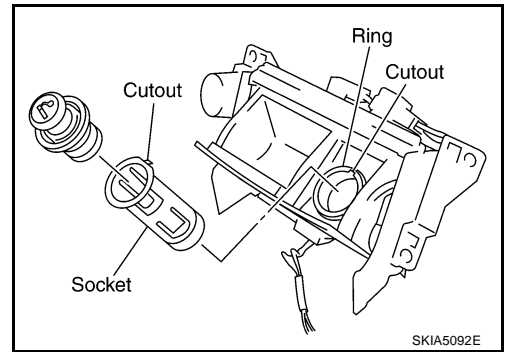
CIGARETTE LIGHTER

Removal and Installation of Cigarette Lighter

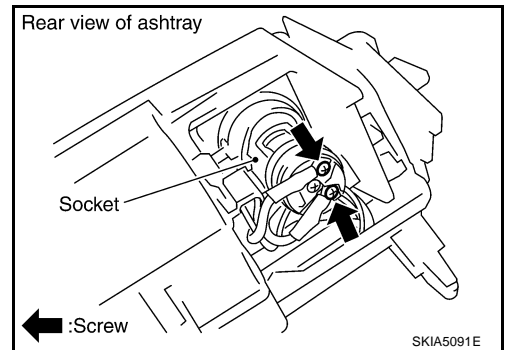
AKS007AB

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-17, "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.

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WW

POWER SOCKET

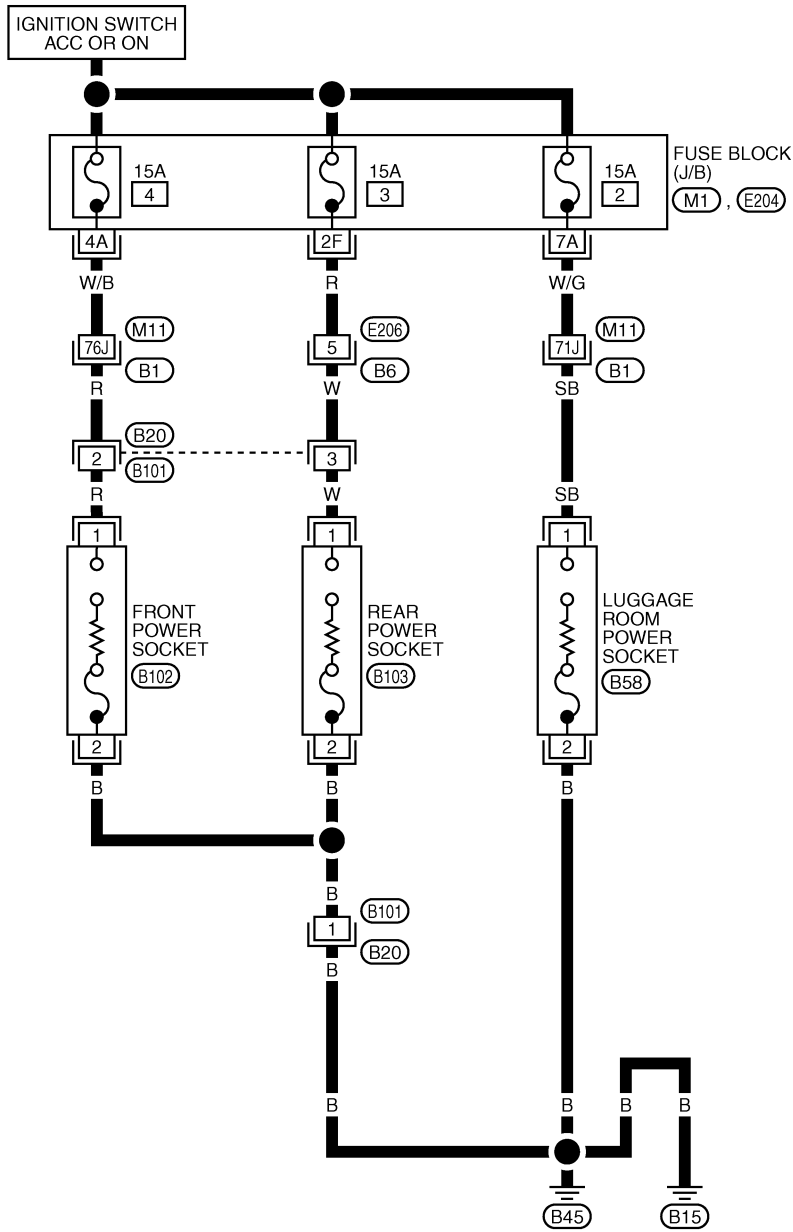
PFP:253A2

AKS00581

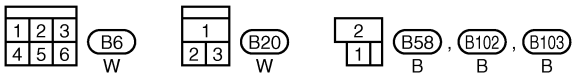
POWER SOCKET

Wiring Diagram — P/SCKT —

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

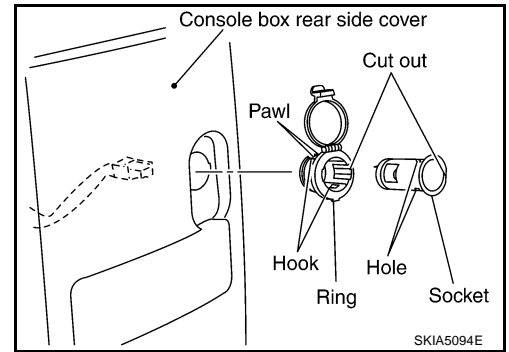
POWER SOCKET

Removal and Installation of Center Console Box Rear Side Power Socket

AKS007AK

REMOVAL

1. Remove console rear finisher. Refer to [IP-18, "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

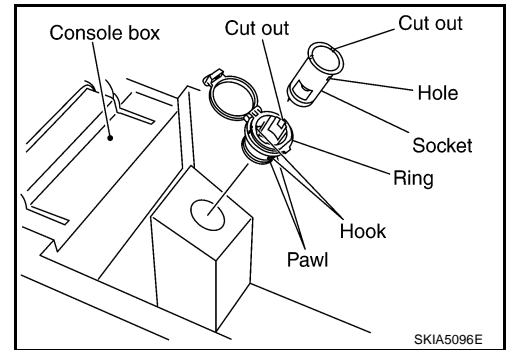
Install in the reverse order of removal.

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

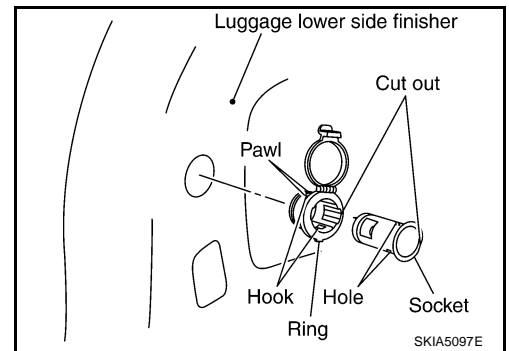
Install in the reverse order of removal.

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.

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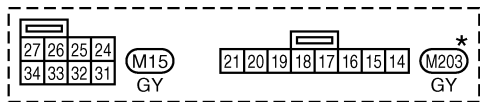
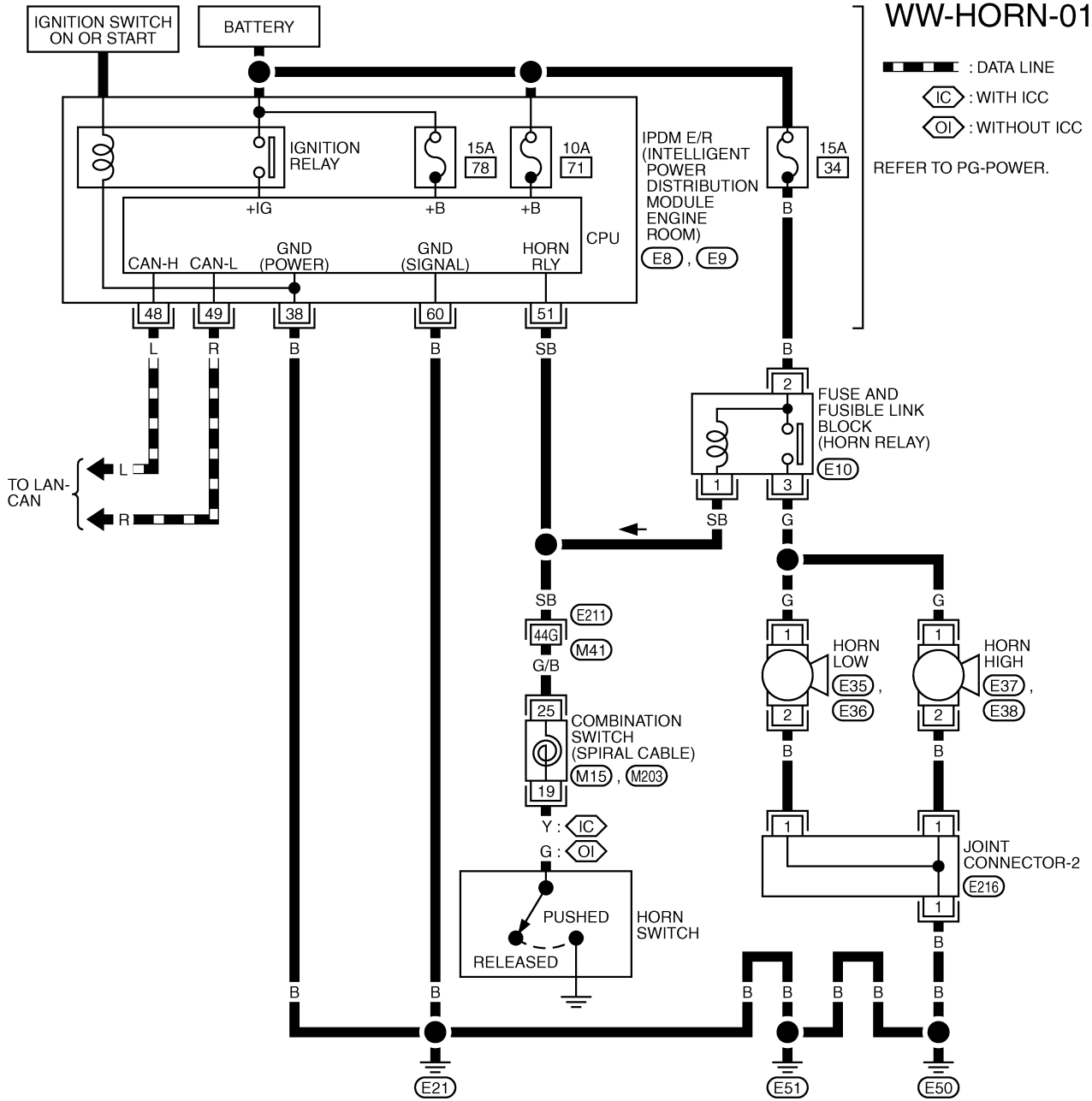
HORN

PFP:25610

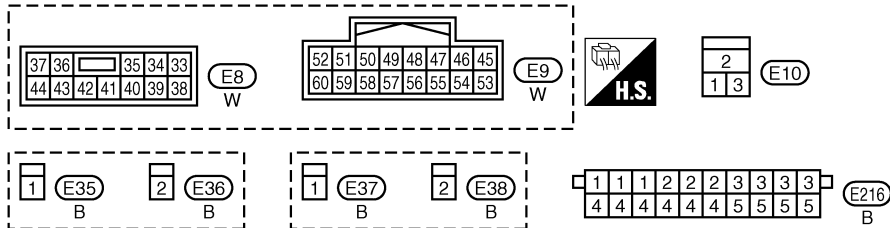
AKS00583

HORN

Wiring Diagram — HORN —



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



REFER TO THE FOLLOWING.

(E21) -SUPER MULTIPLE JUNCTION (SMJ)

TKWM0669E

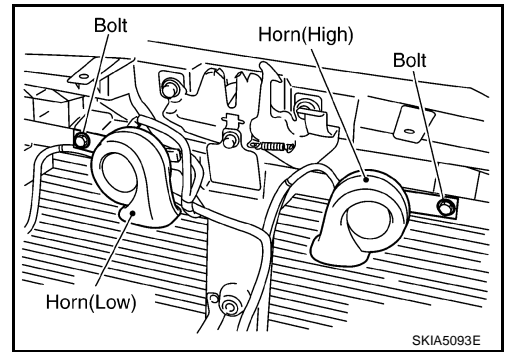
HORN

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)

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

WW

HORN
