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SECTION

WIPER, WASHER & HORN

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PRECAUTION

PRECAUTION

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

AKS00AC5

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

WARNING:

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

Precautions for Battery Service

AKS003RE

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

Wiring Diagrams and Trouble Diagnosis

AKS000Y5

When You Read Wiring Diagrams, Refer to the Following:

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

When You Perform Trouble Diagnosis, Refer to the Following:

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

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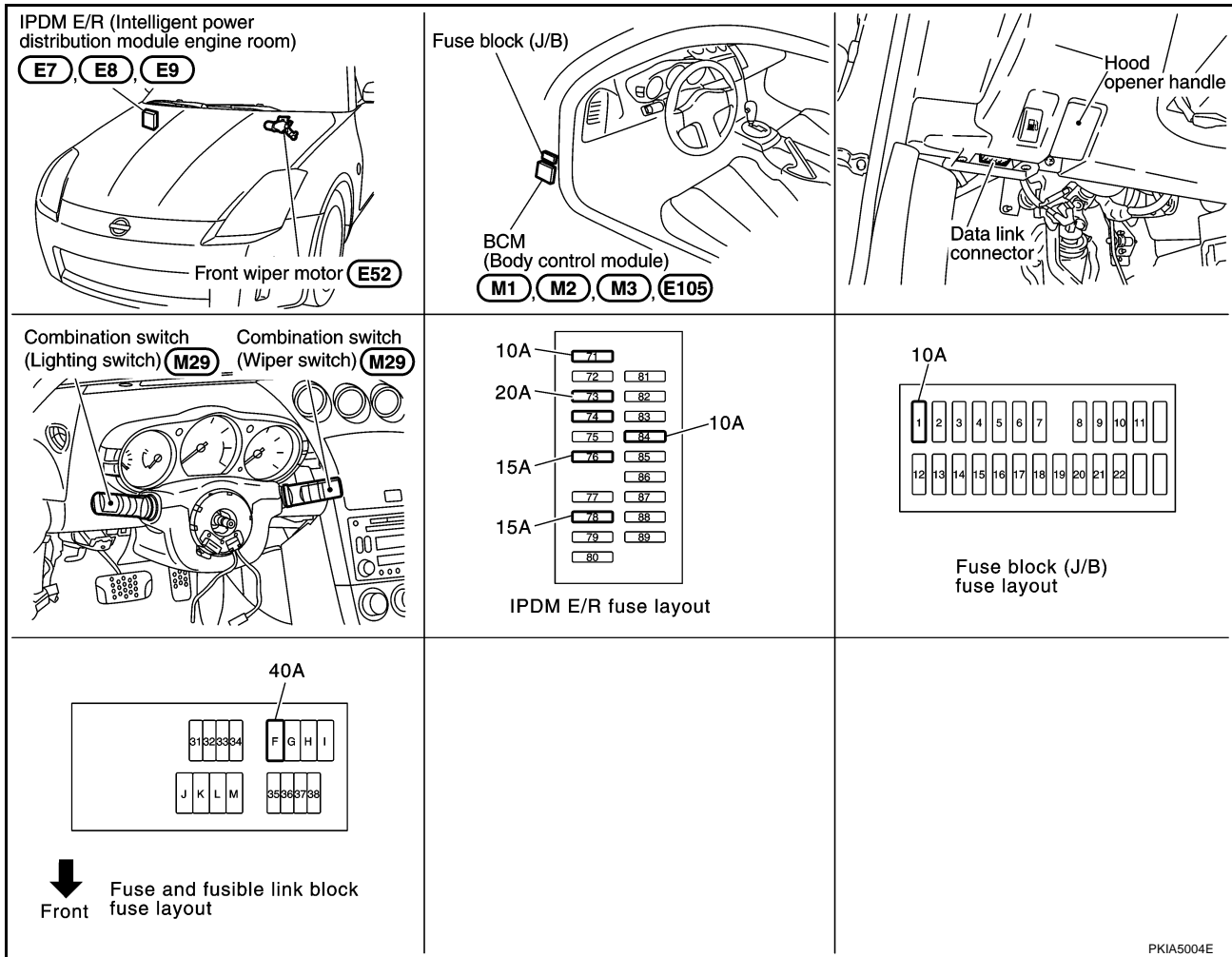
FRONT WIPER AND WASHER SYSTEM

FRONT WIPER AND WASHER SYSTEM

PFP:28810

Components Parts and Harness Connector Location

AKS000Y6



System Description

AKS000Y7

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

Power is supplied at all times

- through 40 A fusible link (letter F, located in fuse and fusible link block)
- to BCM (body control module) terminal 7
- through 20 A fuse [No.73, located in IPDM E/R (intelligent power distribution module engine room)]
- to front wiper relay [built in IPDM E/R (intelligent power distribution module engine room)]
- through 15 A fuse [No.78, located in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)]
- through 10 A fuse [No.71, located in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)]

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

- to ignition relay [built in IPDM E/R (intelligent power distribution module engine room)]
- through 10 A fuse [No.1, located in fuse block (J/B)]
- to BCM (body control module) terminal 35

FRONT WIPER AND WASHER SYSTEM

- through 10 A fuse [No.84 located in IPDM E/R (intelligent power distribution module engine room)]
- through IPDM E/R (intelligent power distribution module engine room) terminal 44
- to front washer motor terminal 2.

When power is supplied to ignition relay coil, ignition relay turned on and power is supplied

- to front wiper relay [built in IPDM E/R (intelligent power distribution module engine room)]
- to front wiper high relay [built in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in IPDM E/R (intelligent power distribution module engine room)].

Ground is supplied

- to BCM (body control module) terminal 8
- through grounds E17, E43 and F152,
- to IPDM E/R (intelligent power distribution module engine room) terminals 38 and 60
- through grounds E17, E43 and F152,
- to combination switch (wiper switch) terminal 12
- through grounds M30 and M66.

LOW SPEED WIPER OPERATION

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

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

- from BCM terminals 70 and 71
- to IPDM E/R terminals 48 and 49.

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

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

Ground is supplied

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

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

HI SPEED WIPER OPERATION

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

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

- from BCM terminals 70 and 71
- to IPDM E/R terminals 48 and 49.

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

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

Ground is supplied

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

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

INTERMITTENT OPERATION

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

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

- When BCM detects ON/OFF status of intermittent operation dial positions 1, 2, and 3 it determines wiper dial position status. Refer to [WW-9, "Wiper Dial Position Setting"](#).

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FRONT WIPER AND WASHER SYSTEM

- BCM calculates operation interval from wiper dial position and vehicle speed signal received from combination meter with CAN communications.
- BCM sends front wiper request signal (INT) to IPDM E/R at calculated operation interval.
- When IPDM E/R receives front wiper request signal (INT), it turns ON internal front wiper relay. It then sends auto-stop signal to BCM, and conducts intermittent front wiper operation.

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

AUTO STOP OPERATION

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

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

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

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

Then 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, BCM detect front wiper washer signal by BCM wiper switch reading function. (Refer to [WW-7, "BCM WIPER SWITCH READING FUNCTION"](#) .)

Combination switch (wiper switch) ground is supplied

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

With ground is supplied, front washer motor is operated.

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

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

MIST OPERATION

When 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.

FAIL-SAFE FUNCTION

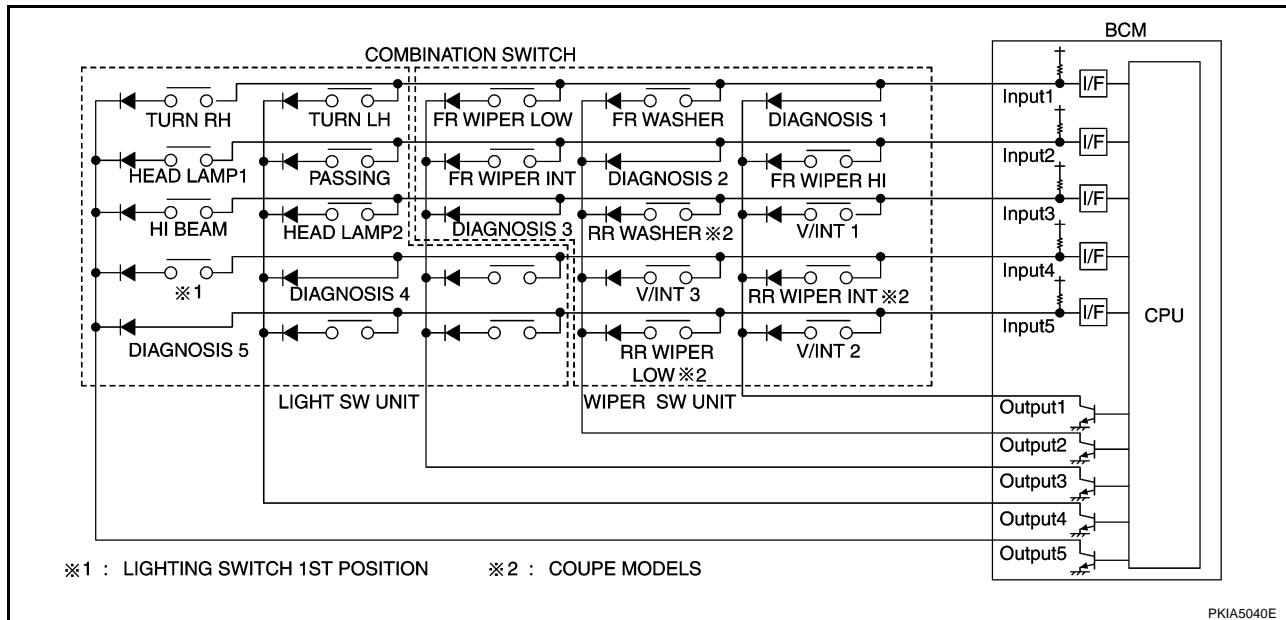
IPDM E/R includes a fail-safe function to prevent malfunction of electrical components controlled by CAN communications in CAN communications occurs.

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

FRONT WIPER AND WASHER SYSTEM

BCM WIPER SWITCH READING FUNCTION

BCM reads combination switch (wiper switch) status, and controls front wipers based on the results. BCM is a combination of 5 output terminals (OUTPUT 1 - 5) and 5 input terminals (INPUT 1 - 5). It reads 20 types of switch data and 5 types of diagnosis data.



Operation Description

BCM continuously outputs power voltage from input terminals (INPUT 1 - 5). At this time, output terminals (OUTPUT 1 - 5) operate transistors in sequence and carry current. If any switch (or switches) becomes ON at this time, the input terminal corresponding to that switch detects current flowing, and BCM determines that the switch is ON.

Table of BCM - Combination Switch Operations

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

	COMB SW INPUT 1		COMB SW INPUT 2		COMB SW INPUT 3		COMB SW INPUT 4		COMB SW INPUT 5	
	ON	OFF	ON	OFF	ON	OFF	ON	OFF	ON	OFF
COMB SW OUTPUT 1	DIAGNOSIS 1 OK	DIAGNOSIS 1 NG	FR WIPER HI ON	FR WIPER HI OFF	V/INT 1 ON	V/INT 1 OFF	RR WIPER INT ON ※	RR WIPER INT OFF ※	V/INT 2 ON	V/INT 2 OFF
COMB SW OUTPUT 2	FR WASHER ON	FR WASHER OFF	DIAGNOSIS 2 OK	DIAGNOSIS 2 NG	RR WASHER ON ※	RR WASHER OFF ※	V/INT 3 ON	V/INT 3 OFF	RR WIPER ON ※	RR WIPER OFF ※
COMB SW OUTPUT 3	FR WIPER LOW ON	FR WIPER LOW OFF	FR WIPER INT ON	FR WIPER INT OFF	DIAGNOSIS 3 OK	DIAGNOSIS 3 NG	—	—	—	—
COMB SW OUTPUT 4	TURN LH ON	TURN LH OFF	PASSING ON	PASSING OFF	HEAD LAMP 2 ON	HEAD LAMP 2 OFF	DIAGNOSIS 4 OK	DIAGNOSIS 4 NG	—	—
COMB SW OUTPUT 5	TURN RH ON	TURN RH OFF	HEAD LAMP 1 ON	HEAD LAMP 1 OFF	HI BEAM ON	HI BEAM OFF	LIGHTING SWITCH 1ST POSITION ON	LIGHTING SWITCH 1ST POSITION OFF	DIAGNOSIS 5 OK	DIAGNOSIS 5 NG

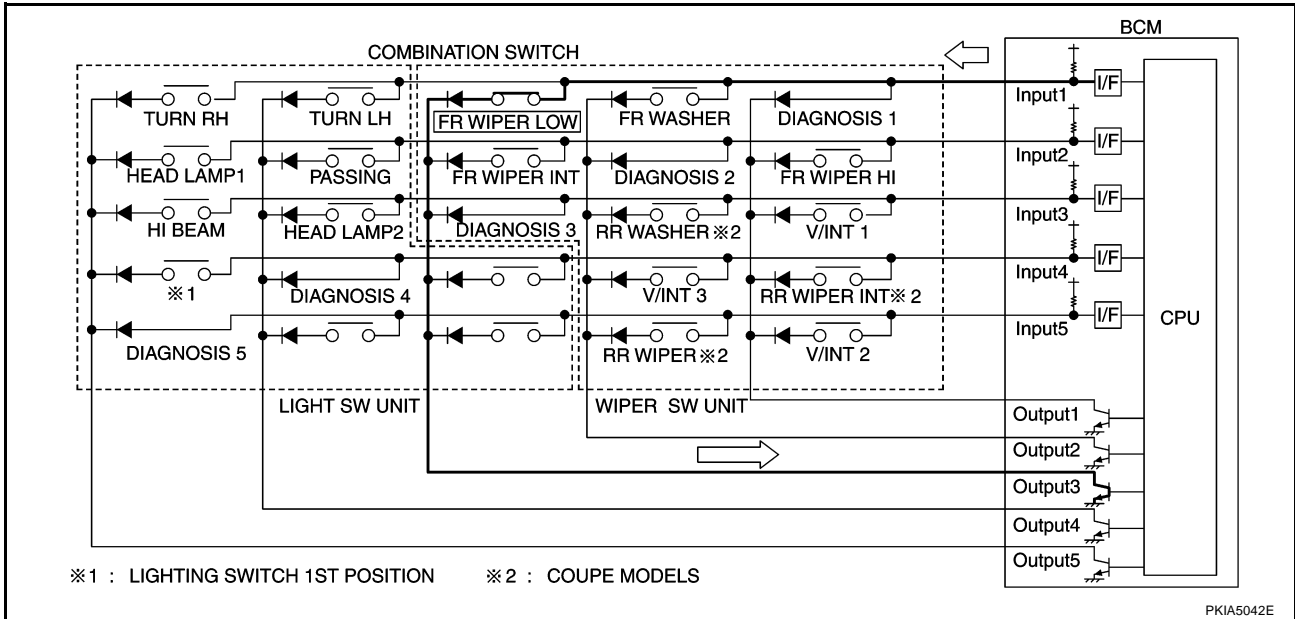
※ : COUPE MODELS

PKIA5041E

FRONT WIPER AND WASHER SYSTEM

Sample Operation: (Wiper Switch Turned To Lo Position)

- When wiper switch is turned to LO position, front wiper LO contact inside combination switch becomes ON. At this time, OUTPUT 3 transistor operates and BCM detects flow of current at INPUT 1.
- When OUTPUT 3 transistor is ON and BCM detects current flowing at INPUT 1, BCM determines that wiper switch is at LO. BCM uses CAN communication and sends front wiper signals to IPDM E/R.
- When OUTPUT 3 transistor operates again and BCM again detects current flowing at INPUT 1, it confirms that front wiper LO operation is continuing.



NOTE:

Each OUTPUT terminal transistor operates at 10 ms intervals. Therefore, a delay occurs between the switch becoming ON and operation of the electric load. However, this delay is so small it is undetectable.

Operating Modes

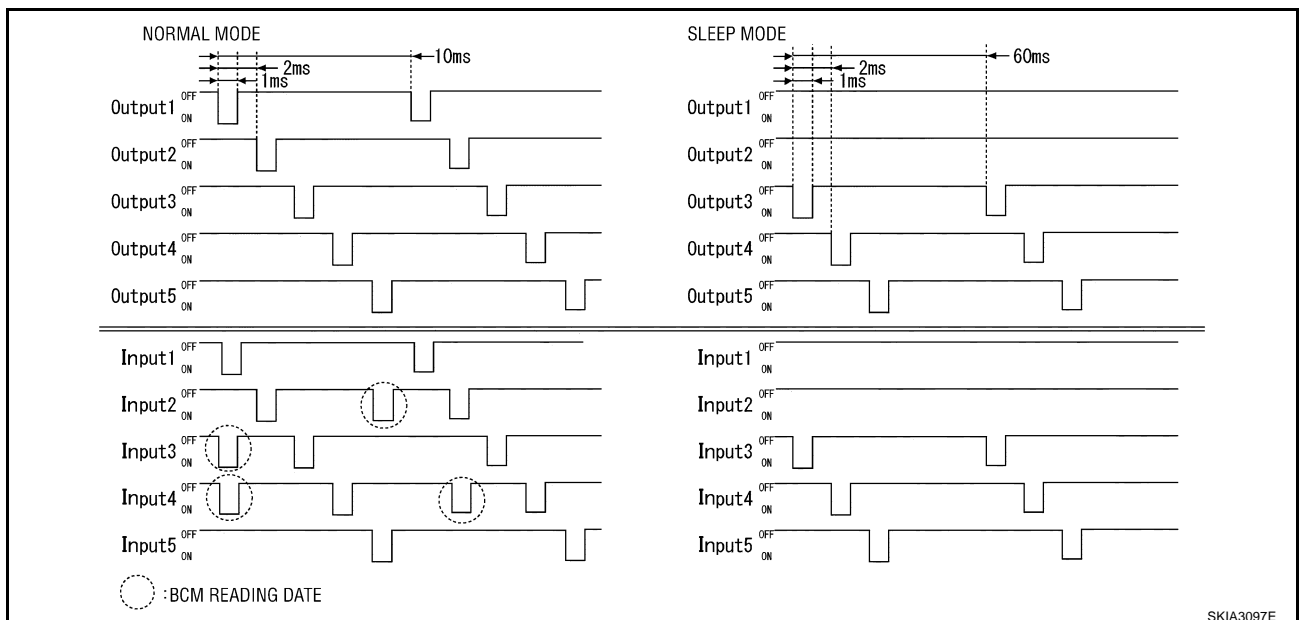
The following operation modes exist for combination switch reading function.

Normal Status

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

Sleep Status

When BCM is in sleep status, output from OUTPUT 1 and 2 transistors stops, with BCM entering a power-saving mode. OUTPUT (3 - 5) turns ON-OFF every 60 ms, and only input from lighting switch system is accepted.



FRONT WIPER AND WASHER SYSTEM

Intermittent Operation

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

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

Wiper Dial Position Setting

Wiper dial position	Intermittent operation interval	Combination switch		
		Intermittent operation dial position 1	Intermittent operation dial position 2	Intermittent operation dial position 3
Wiper dial position 1	Small	ON	ON	ON
Wiper dial position 2		ON	ON	OFF
Wiper dial position 3		ON	OFF	OFF
Wiper dial position 4	↓	OFF	OFF	OFF
Wiper dial position 5		OFF	OFF	ON
Wiper dial position 6		OFF	ON	ON
Wiper dial position 7		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 (input 3 and output 1 are conducting.)
- Intermittent operation dial position 2: ON (input 5 and output 1 are conducting.)
- Intermittent operation dial position 3: ON (input 4 and output 2 are conducting.)

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

CAN Communication System Description

AKS000Y8

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

CAN Communication Unit

AKS003M9

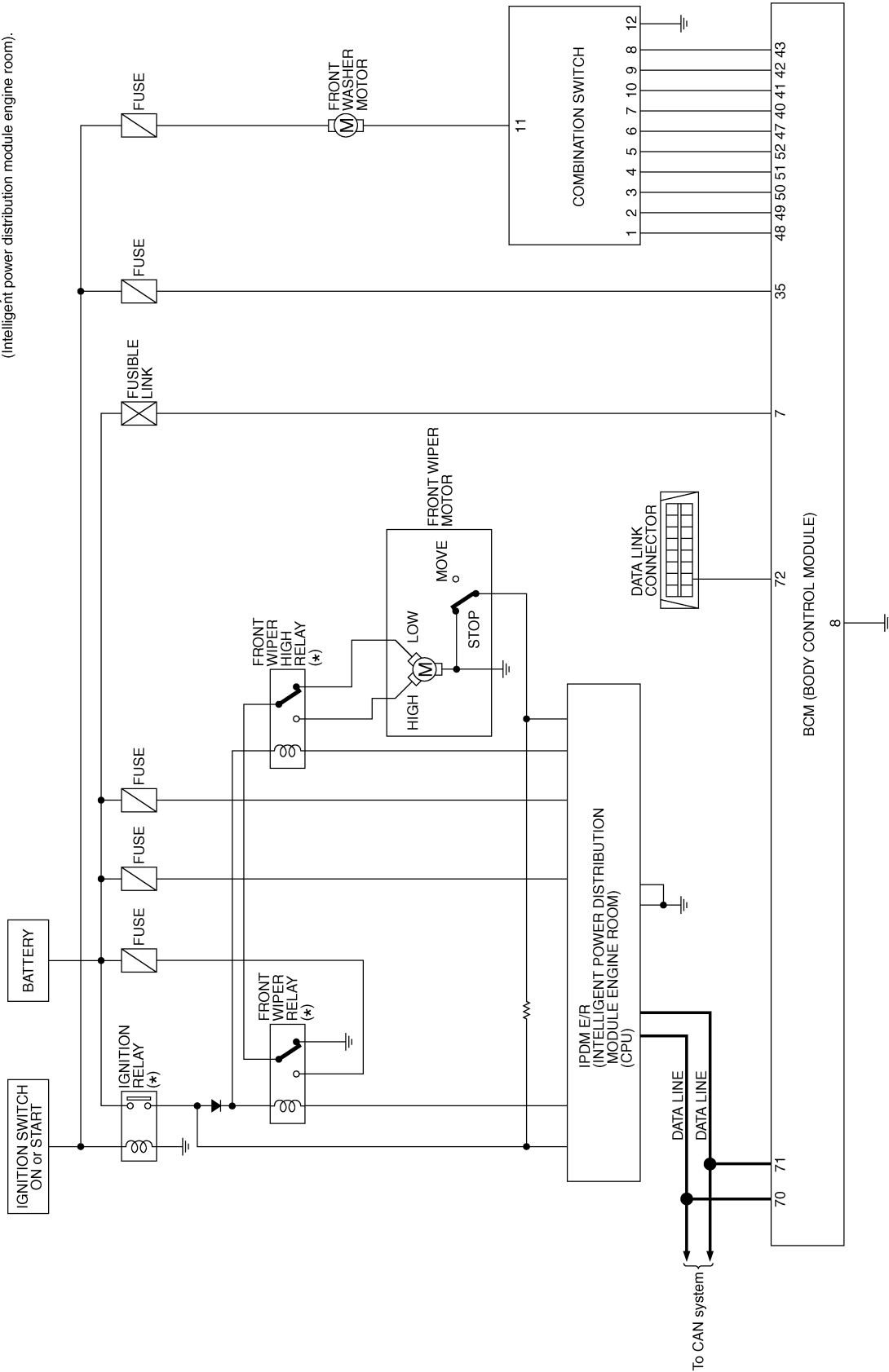
Refer to [LAN-5, "CAN Communication Unit"](#).

FRONT WIPER AND WASHER SYSTEM

Schematic

AKS000Y9

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



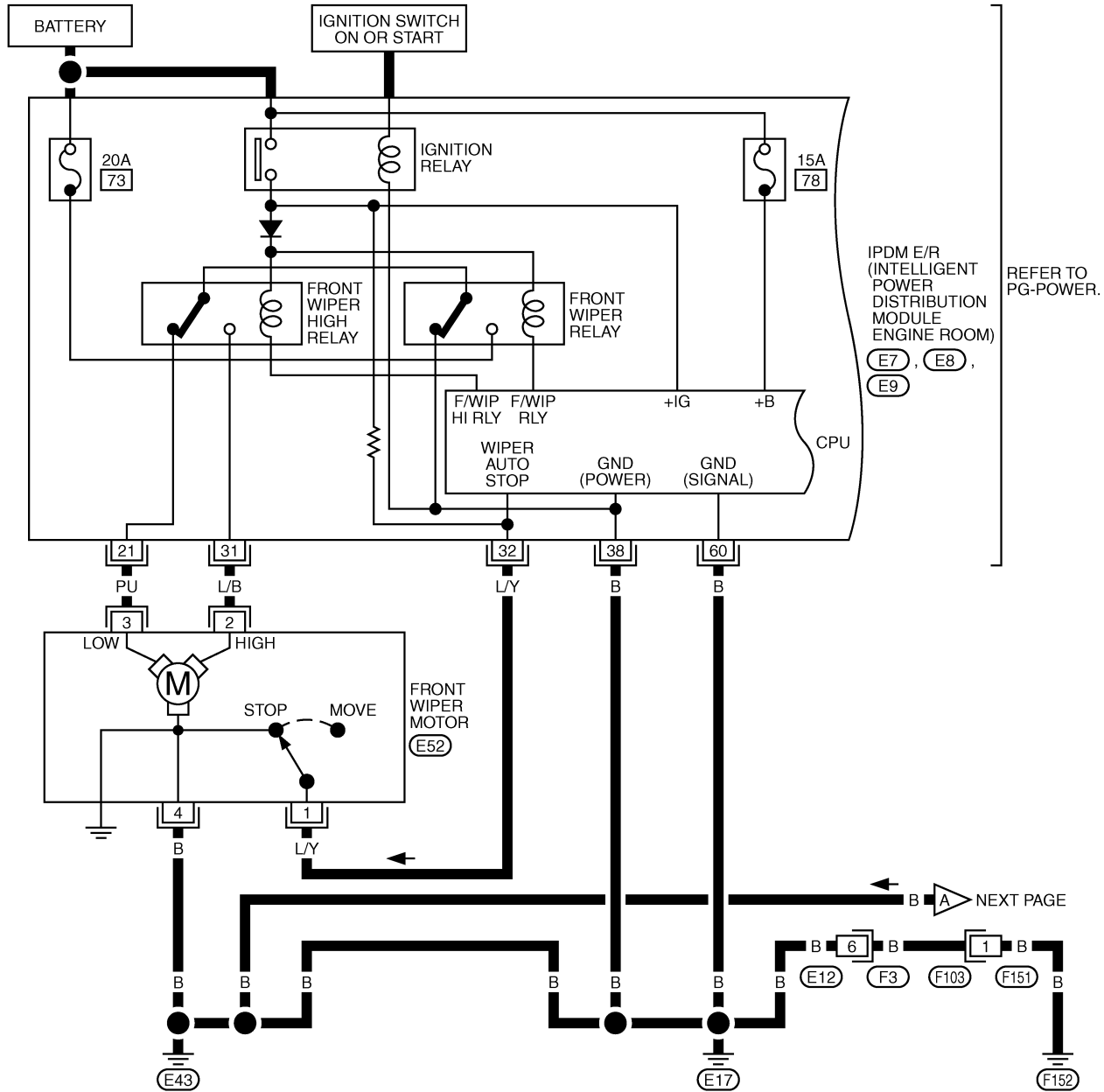
TKWT1285E

FRONT WIPER AND WASHER SYSTEM

Wiring Diagram — WIPER —

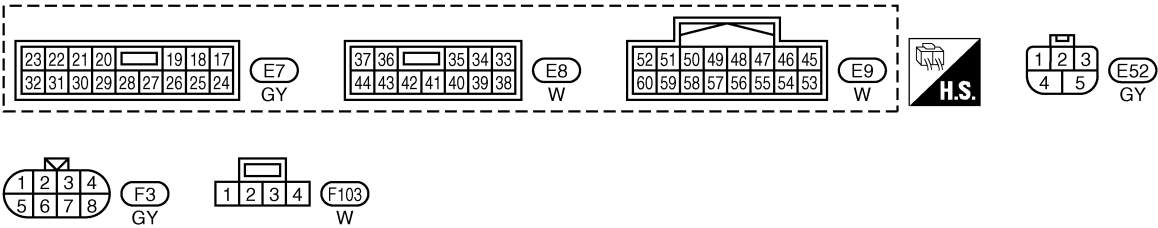
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WW-WIPER-01



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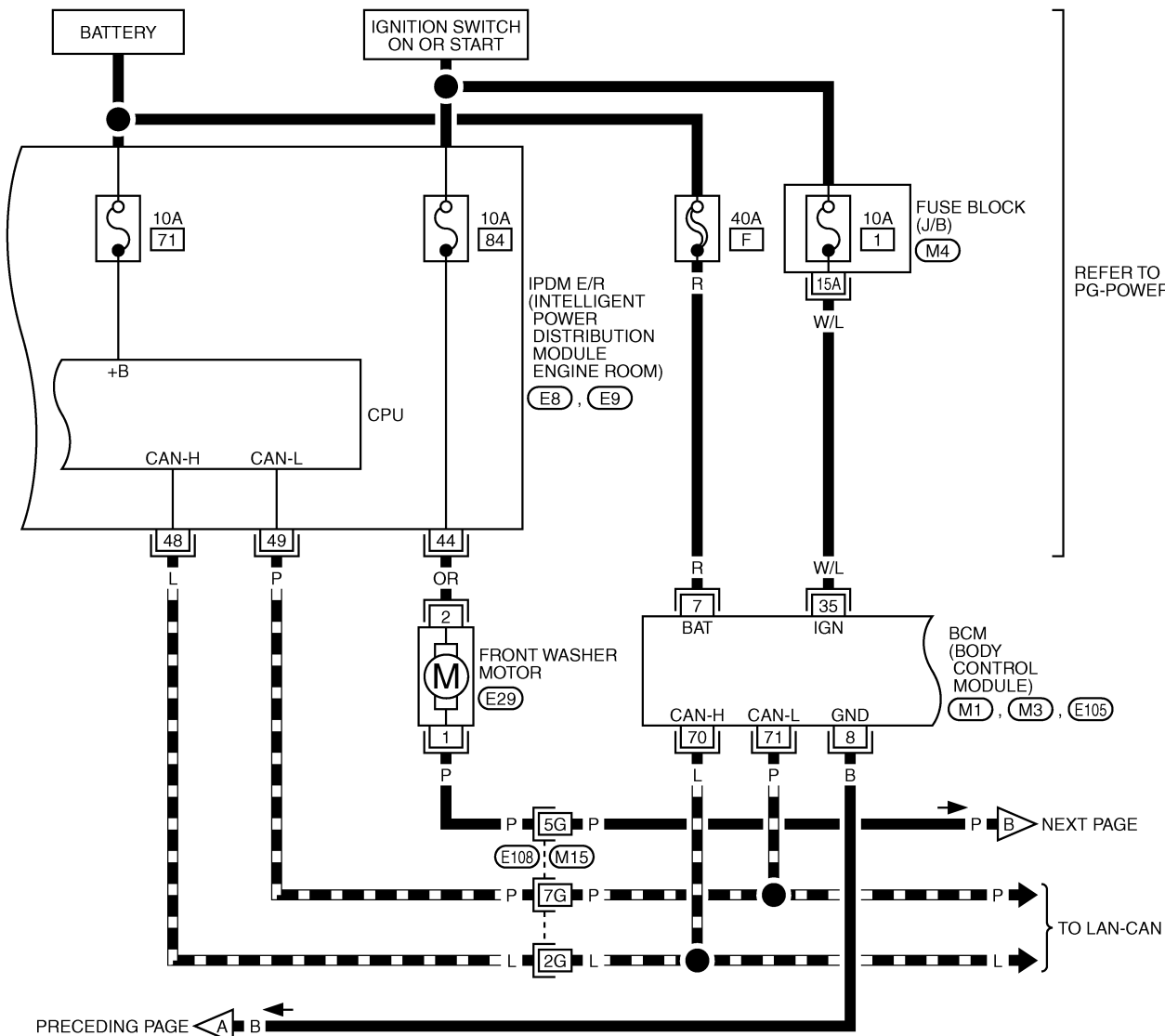


TKWT1286E

FRONT WIPER AND WASHER SYSTEM

WW-WIPER-02

▬ : DATA LINE

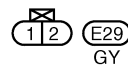
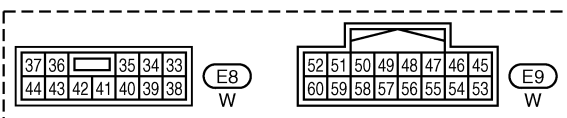


REFER TO PG-POWER.

▶ NEXT PAGE

TO LAN-CAN

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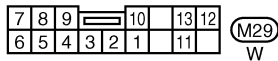
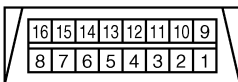
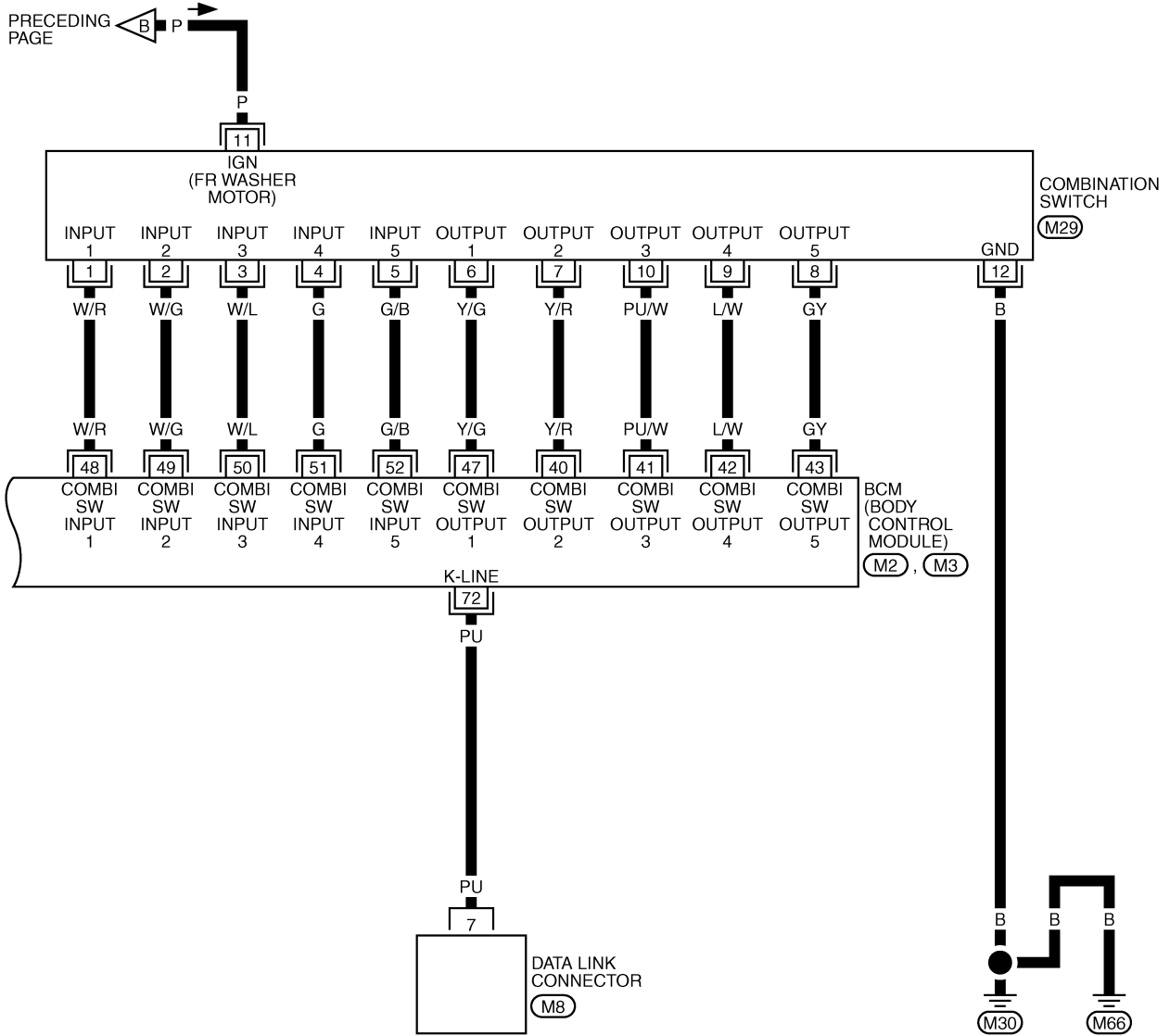
REFER TO THE FOLLOWING.

- (E108) -SUPER MULTIPLE JUNCTION (SMJ)
- (M4) -FUSE BLOCK-JUNCTION BOX (J/B)
- (M1), (M3), (E105) -ELECTRICAL UNITS

TKWT1522E

FRONT WIPER AND WASHER SYSTEM

WW-WIPER-03



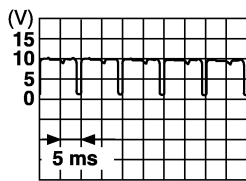
REFER TO THE FOLLOWING.
(M2), (M3) -ELECTRICAL UNITS

TKWT1288E

FRONT WIPER AND WASHER SYSTEM

Terminals and Reference Values for BCM

AKS000YB

Terminal No. (Wire color)	Signal name	Measuring condition		Reference value
		Ignition switch	Operation or condition	
7 (R)	Battery power supply	OFF	—	Battery voltage
8 (B)	Ground	ON	—	Approx. 0 V
35 (W/L)	Ignition switch (ON)	ON	—	Battery voltage
40 (Y/R)	Combination switch output 2	ON	Lighting switch and wiper switch OFF	
41 (PU/W)	Combination switch output 3			
42 (L/W)	Combination switch output 4			
43 (GY)	Combination switch output 5			
47 (Y/G)	Combination switch output 1			
48 (W/R)	Combination switch input 1	ON	Lighting switch and wiper switch OFF	4.5V or more
49 (W/G)	Combination switch input 2	ON		
50 (W/L)	Combination switch input 3	ON		
51 (G)	Combination switch input 4	ON		
52 (G/B)	Combination switch input 5	ON		
70 (L)	CAN- H	—	—	—
71 (P)	CAN- L	—	—	—
72 (PU)	K- LINE	—	—	—

SKIA1119J

Terminals and Reference Values for IPDM E/R

AKS000YC

Terminal No. (Wire color)	Signal name	Measuring condition		Reference value	
		Ignition switch	Operation or condition		
21 (PU)	Low speed signal	ON	Wiper switch	OFF	Approx. 0 V
				LO	Battery voltage
31 (L/B)	High speed signal	ON	Wiper switch	OFF	Approx. 0 V
				HI	Battery voltage
32 (L/Y)	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 (P)	CAN- L	—	—	—	
60 (B)	Ground	ON	—	Approx. 0 V	

How to Proceed With Trouble Diagnosis

AKS000YD

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-15, "Preliminary Check"](#) .
4. Check symptom and repair or replace the cause of malfunction.
5. Does the warning chime operate normally? If YES, GO TO 6. If NO, GO TO 4.
6. INSPECTION END

FRONT WIPER AND WASHER SYSTEM

AKS000YE

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 high relay	Battery	73
BCM	Battery	F
	Ignition switch ON or START	1

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

OK or NG

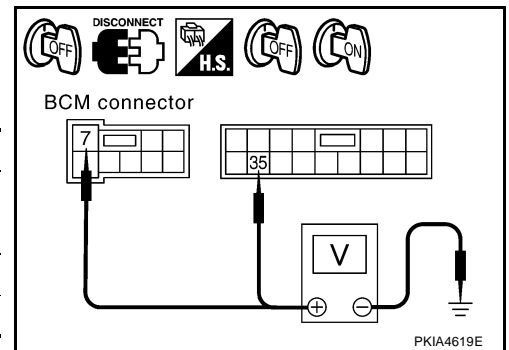
OK >> GO TO 2.

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

2. CHECK POWER SUPPLY CIRCUIT

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

Terminals		(-)	Ignition switch position	
(+) Connector			OFF	ON
E105	7 (R)	Ground	Battery voltage	Battery voltage
M1	35 (W/L)		0V	Battery voltage



OK or NG

OK >> GO TO 3.

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

3. CHECK GROUND CIRCUIT

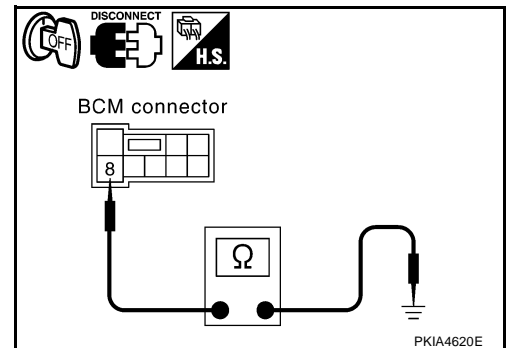
Check continuity between BCM harness connector and ground.

Terminals		Ground	Continuity
Connector	Terminal (wire color)		Yes
E105	8 (B)		Yes

OK or NG

OK >> INSPECTION END

NG >> Check harness ground circuit.



FRONT WIPER AND WASHER SYSTEM

CONSULT-II Functions (BCM)

AKS000YF

CONSULT-II executes the following functions by combining data reception and command transmission via the communication line from BCM. Work support, self-diagnosis, data monitor, and active test display.

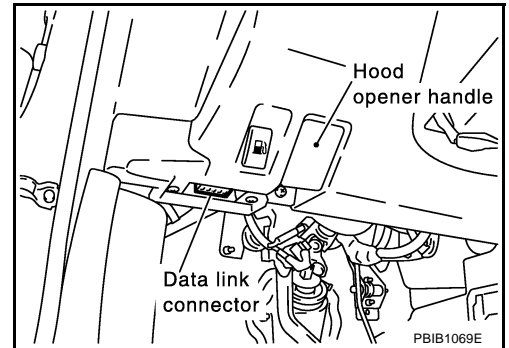
BCM diagnosis position	Check item, Diagnosis mode	Description
Wiper	DATA MONITOR	Displays BCM input data in real time.
	ACTIVE TEST	Device operation can be checked by applying a drive signal to device.
BCM	CAN DIAG SUPPORT MNTR	The result of transmit/receive of CAN communication can be read.

CONSULT-II OPERATION

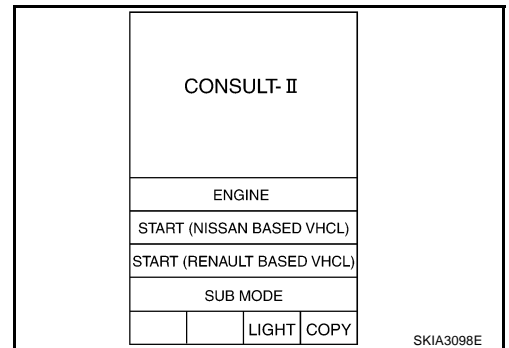
CAUTION:

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.

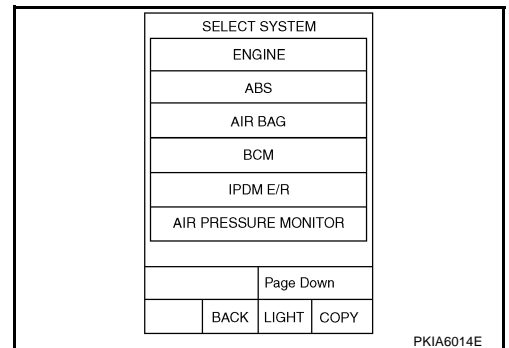
1. With ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to data link connector, then turn ignition switch ON.



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

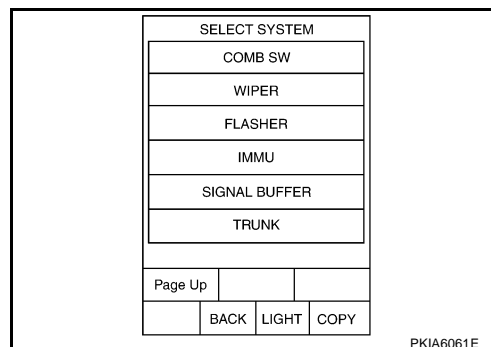


3. Touch "BCM" on "SELECT SYSTEM" screen. If "BCM" is not indicated, refer to [GI-39, "CONSULT-II Data Link Connector \(DLC\) Circuit"](#).



FRONT WIPER AND WASHER SYSTEM

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



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DATA MONITOR

Operation Procedure

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

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

F
G

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

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Display Item List

Monitor item name "operation or unit"	Contents
IGN ON SW "ON/OFF"	Displays "IGN Position (ON)/OFF, ACC Position (OFF)" status as judged from ignition switch signal.
FR WIPER INT "ON/OFF"	Displays "Front Wiper INT (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 HI "ON/OFF"	Displays "Front Wiper HI (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.
VHCL SPEED SEN "ON/OFF"	Displays "Driving (ON)/Stopped (OFF)" status as judged from vehicle speed signal.
FR WIPER STOP "ON/OFF"	Displays "Stopped (ON)/Operating (OFF)" status as judged from the auto-stop signal.
RR WIPER INT ^{NOTE} "ON/OFF"	Displays "Rear Wiper INT (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER ON ^{NOTE} "ON/OFF"	Displays "Rear Wiper (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WASHER SW ^{NOTE} "ON/OFF"	Displays "Rear Washer Switch (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER STOP ^{NOTE} "ON/OFF"	Displays "Stopped (OFF)/Operating (ON)" status as judged from the auto-stop signal.

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NOTE:

Coupe models

ACTIVE TEST

Operation Procedure

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

FRONT WIPER AND WASHER SYSTEM

Display Item List

Test item	Display on CONSULT-II screen	Description
Front wiper HI output	FR WIPER (HI)	Front wiper HI can be operated by any ON-OFF operation.
Front wiper LO output	FR WIPER (LO)	Front wiper LO can be operated by any ON-OFF operation.
Front wiper INT output	FR WIPER (INT)	Front wiper INT can be operated by any ON-OFF operation.
Rear wiper output ^{Note}	RR WIPER	Rear wiper can be operated by any ON-OFF operation

NOTE:

Coupe models

CONSULT-II Functions (IPDM E/R)

AKS009PP

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.

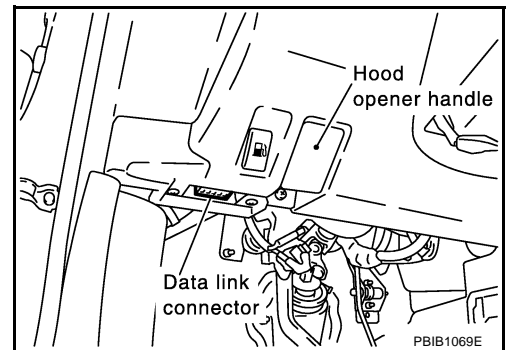
Inspection Item, Diagnosis Mode	Description
SELF-DIAG RESULTS	The IPDM E/R performs diagnosis of the CAN communication and self-diagnosis.
DATA MONITOR	The input/output data of the IPDM E/R is displayed in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive of CAN communication can be read.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

CONSULT-II OPERATION

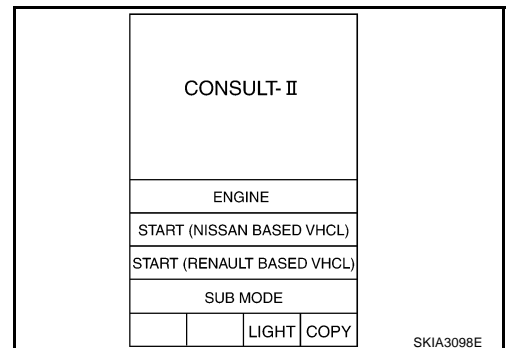
CAUTION:

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

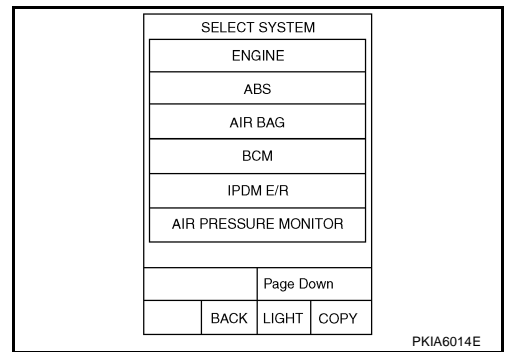


2. Touch "START (NISSAN BASED VHCL)".

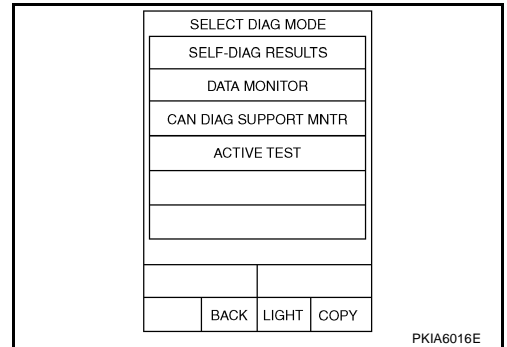


FRONT WIPER AND WASHER SYSTEM

- Touch "IPDM E/R" on "SELECT SYSTEM" screen.
If "IPDM E/R" is not displayed, print "SELECT SYSTEM" screen, then refer to [LAN-3, "Precautions When Using CONSULT-II"](#).



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



SELF-DIAG RESULTS

Refer to [PG-20, "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 "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/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.

ACTIVE TEST

Operation Procedure

- Touch "ACTIVE TEST" on "SELECT DIAG MODE" screen.
- Touch item to be tested, and check operation.

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FRONT WIPER AND WASHER SYSTEM

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

AKS009PQ

CAUTION:

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

1. FRONT WIPER ACTIVE TEST

Ⓟ With CONSULT-II

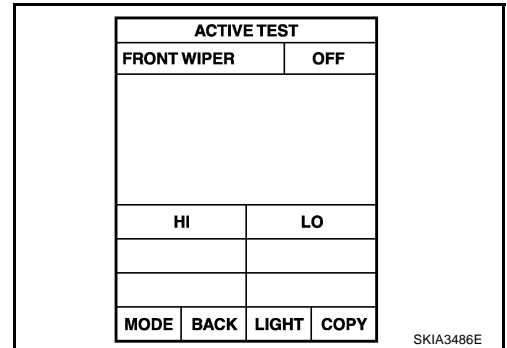
1. Select "IPDM E/R" on CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "FRONT WIPER" on "SELECT TEST ITEM" screen.
3. Touch "HI" or "LO" screen.
4. Check that front wiper operates.

Front wiper should operate.

ⓧ Without CONSULT-II

1. Start up auto active test. Refer to [PG-23, "Auto Active Test"](#).
2. Check that front wiper operates.

Front wiper should operate.



OK or NG

- OK >> GO TO 6.
 NG >> GO TO 2.

2. CHECK FUSE

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

OK or NG

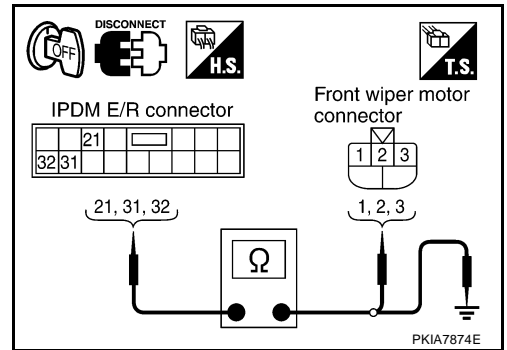
- OK >> GO TO 3.
 NG >> If fuse is blown, be sure to eliminate cause of malfunction before installing new fuse, Refer to [PG-4, "POWER SUPPLY ROUTING CIRCUIT"](#).

FRONT WIPER AND WASHER SYSTEM

3. CHECK FRONT WIPER CIRCUIT

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

Terminals				Continuity
IPDM E/R		Front wiper motor		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
E7	21 (PU)	E52	3 (PU)	Yes
	31 (L/B)		2 (L/B)	
	32 (L/Y)		1 (L/Y)	



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

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

OK or NG

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

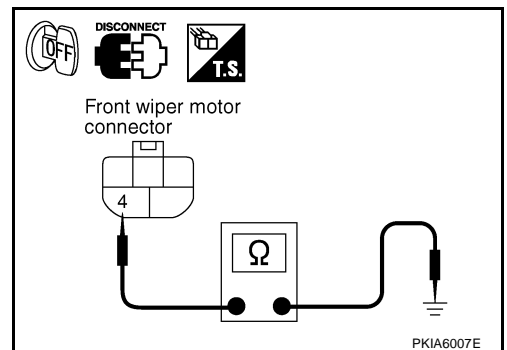
4. CHECK GROUND CIRCUIT

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

4 (B) – Ground : Continuity should exist.

OK or NG

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



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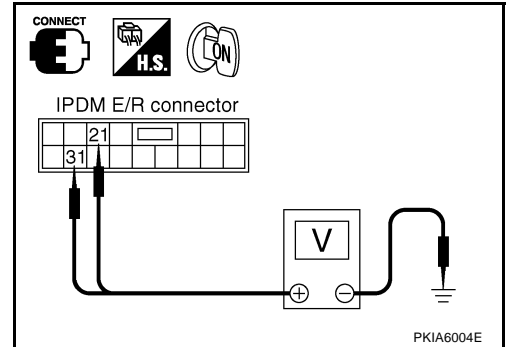
WW

FRONT WIPER AND WASHER SYSTEM

5. CHECK IPDM E/R

④ With CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Select "IPDM E/R" by CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Select "FRONT WIPER" on "SELECT TEST ITEM" screen.
4. Touch "HI" or "LO" screen.
5. 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 (PU)	Ground	Stopped	Approx. 0V
			LO operation	Battery voltage
	31 (L/B)		Stopped	Approx. 0V
			HI operation	Battery voltage

⊗ Without CONSULT-II

1. Connect IPDM E/R connector front wiper motor connector.
2. Start up auto active test. Refer to [PG-23, "Auto Active Test"](#).
3. 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 (PU)	Ground	Stopped	Approx. 0V
			LO operation	Battery voltage
	31 (L/B)		Stopped	Approx. 0V
			HI operation	Battery voltage

OK or NG

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

6. CHECK COMBINATION SWITCH TO BCM

Select "BCM" on CONSULT-II. Carry out self-diagnosis of "BCM C/U".

Displayed self-diagnosis results

No malfunction detected>>GO TO 7.

CAN communications or CAN system>>Inspect the BCM CAN communications system. Go to [BCS-15, "CAN Communication Inspection Using CONSULT-II \(Self-Diagnosis\)"](#)

OPEN DETECT 1 - 5>>Combination switch system malfunction. Go to [LT-162, "Combination Switch Inspection According to Self-Diagnostic Results"](#).

SELF-DIAG RESULTS	
DTC RESULTS	TIME
NO DTC IS DETECTED. FURTHER TESTING MAY BE REQUIRED	

LKIA0073E

FRONT WIPER AND WASHER SYSTEM

7. CHECK COMBINATION SWITCH

Select "BCM" on CONSULT-II, and select "WIPER" on "SELECT TEST ITEM" screen. Check that "FR WIPER INT", "FR WIPER LOW" and "FR WIPER HI" turn ON-OFF according to operation of wiper switch.

When front wiper is low position : FR WIPER LOW ON

When front wiper is HI position : FR WIPER HI ON

When front wiper is INT position : FR WIPER INT ON

OK or NG

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

NG >> Replace wiper switch.

DATA MONITOR	
MONITOR	
IGN ON SW	ON
FR WIPER INT	OFF
FR WIPER LOW	OFF
FR WIPER HI	OFF
FR WASHER SW	OFF
INT VOLUME	5
VHCL SPEED SEN	OFF
FR WIPER STOP	ON
RR WIPER INT	OFF

SKIA3168E

Front Wiper Does Not Return to Stop Position

AKS009PR

1. CHECK FRONT WIPER STOP SIGNAL

Ⓜ With CONSULT-II

Select "BCM" on CONSULT-II, and select "WIPER" on "SELECT TEST ITEM" screen. Check that "FR WIPER STOP" turns ON-OFF according to wiper operation.

When wiper switch OFF : FR WIPER STOP ON

ⓧ Without CONSULT-II

GO TO 2.

OK or NG

OK >> Replace IPDM E/R.

NG >> GO TO 2.

DATA MONITOR	
MONITOR	
IGN ON SW	ON
FR WIPER INT	OFF
FR WIPER LOW	OFF
FR WIPER HI	OFF
FR WASHER SW	OFF
INT VOLUME	5
VHCL SPEED SEN	OFF
FR WIPER STOP	ON
RR WIPER INT	OFF

SKIA3168E

2. CHECK FRONT WIPER AUTO STOP CIRCUIT

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

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

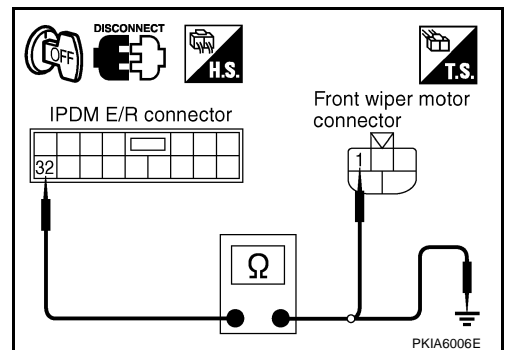
4. Check continuity between IPDM E/R harness connector E7 terminal 32(L/Y) and Ground.

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

OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.



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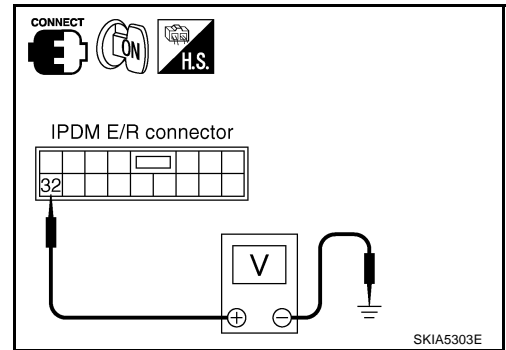
WW

FRONT WIPER AND WASHER SYSTEM

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	
IPDM E/R (+)				
Connector	Terminal (Wire color)	(-)		
E7	32 (L/Y)	Ground	Wiper stopped	Approx. 0V
			Wiper operating	Approx. 12V



OK or NG

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

Only Front Wiper Low Does Not Operate

AKS000Y1

1. FRONT WIPER ACTIVE TEST

☑ With CONSULT-II

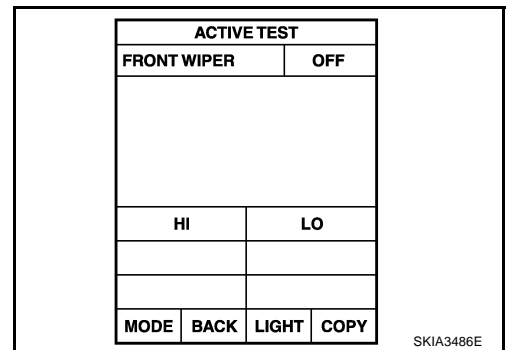
1. Select "IPDM E/R" on CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "FRONT WIPER" on "SELECT TEST ITEM" screen.
3. Touch "LO" screen.
4. Check that front wiper low operates.

Front wiper low should operate.

☒ Without CONSULT-II

1. Start up auto active test. Refer to [PG-23, "Auto Active Test"](#).
2. Check that front wiper low operates.

Front wiper low should operate.



OK or NG

- OK >> GO TO 4.
 NG >> GO TO 2.

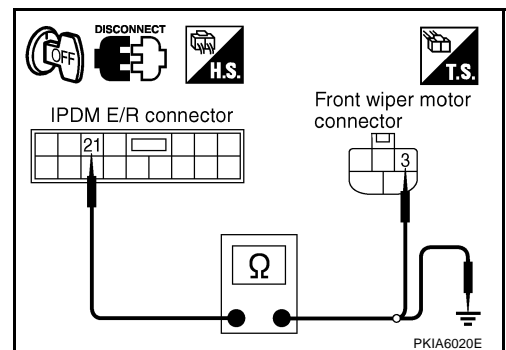
2. CHECK FRONT WIPER CIRCUIT

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

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

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

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



OK or NG

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

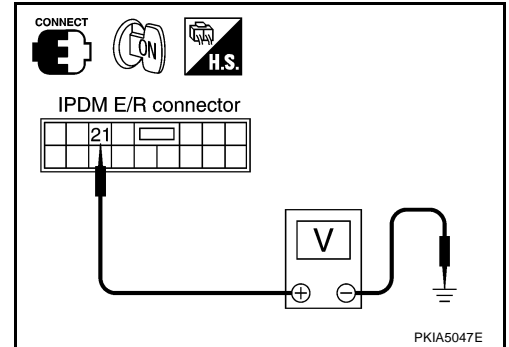
FRONT WIPER AND WASHER SYSTEM

3. CHECK IPDM E/R

With CONSULT-II

1. Connect IPDM E/R connector.
2. Select "IPDM E/R" by CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Select "FRONT WIPER" on "SELECT TEST ITEM" screen.
4. Check voltage between IPDM E/R harness connector and ground while front wiper low is operating.

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



Without CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Start up auto active test. Refer to [PG-23, "Auto Active Test"](#), and check voltage between IPDM E/R harness connector and ground while front wiper low is operating.

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

OK or NG

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

4. CHECK COMBINATION SWITCH

Select "BCM" on CONSULT-II, and select "WIPER" on "SELECT TEST ITEM" screen. Check that "FR WIPER LOW" turns ON-OFF according to operation of wiper switch.

When wiper switch LOW position : FR WIPER LOW ON

OK or NG

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

DATA MONITOR	
MONITOR	
IGN ON SW	ON
FR WIPER INT	OFF
FR WIPER LOW	OFF
FR WIPER HI	OFF
FR WASHER SW	OFF
INT VOLUME	5
VHCL SPEED SEN	OFF
FR WIPER STOP	ON
RR WIPER INT	OFF

SKIA3168E

FRONT WIPER AND WASHER SYSTEM

AKS000YJ

Only Front Wiper Hi Does Not Operate

1. FRONT WIPER ACTIVE TEST

① With CONSULT-II

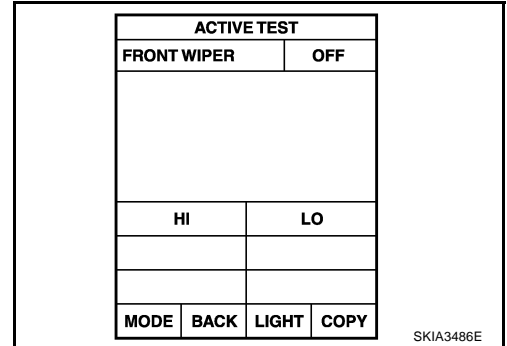
1. Select "IPDM E/R" on CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
2. Select "FRONT WIPER" on "SELECT TEST ITEM" screen.
3. Touch "HI" screen.
4. Check that front wiper high operates.

Front wiper high should operate.

② Without CONSULT-II

1. Start up auto active test. Refer to [PG-23, "Auto Active Test"](#).
2. Check that front wiper high operates.

Front wiper high should operate.



OK or NG

- OK >> GO TO 4.
NG >> GO TO 2.

2. CHECK FRONT WIPER CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and front wiper motor connector.
3. Check continuity between IPDM E/R harness connector E7 terminal 31 (L/B) and front wiper motor harness E52 connector terminal 2 (L/B).

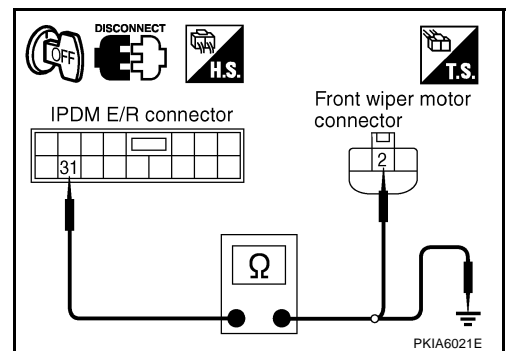
31 (L/B) – 2 (L/B) : Continuity should exist.

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

31 (L/B) – Ground : Continuity should not exist.

OK or NG

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

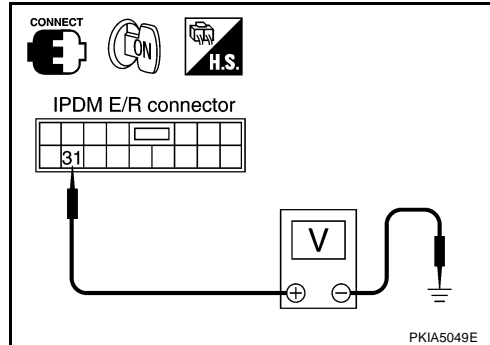


FRONT WIPER AND WASHER SYSTEM

3. CHECK IPDM E/R

With CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Select "IPDM E/R" on CONSULT-II, and select "ACTIVE TEST" on "SELECT DIAG MODE" screen.
3. Select "FRONT WIPER" on "SELECT TEST ITEM" screen.
4. Check voltage between IPDM E/R harness connector and ground while front wiper high is operating.



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

Without CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Start up auto active test. Refer to [PG-23, "Auto Active Test"](#), and check voltage between IPDM E/R harness connector and ground while front wiper high is operating.

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

OK or NG

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

4. CHECK COMBINATION SWITCH

Select "BCM" on CONSULT-II, and select "WIPER" on "SELECT TEST ITEM" screen. Check that "FR WIPER HI" turns ON-OFF according to operation of wiper switch.

When wiper switch HI position : FR WIPER HI ON

OK or NG

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

DATA MONITOR	
MONITOR	
IGN ON SW	ON
FR WIPER INT	OFF
FR WIPER LOW	OFF
FR WIPER HI	OFF
FR WASHER SW	OFF
INT VOLUME	5
VHCL SPEED SEN	OFF
FR WIPER STOP	ON
RR WIPER INT	OFF

SKIA3168E

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WW

FRONT WIPER AND WASHER SYSTEM

Only Front Wiper Intermittent Does Not Operate

AKS000YK

1. CHECK COMBINATION SWITCH

Select "BCM" on CONSULT-II, and select "WIPER" on "SELECT TEST ITEM" screen. Check that "FR WIPER INT" turns ON-OFF according to operation of wiper switch.

When wiper switch INT position : FR WIPER INT ON

OK or NG

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

DATA MONITOR	
MONITOR	
IGN ON SW	ON
FR WIPER INT	OFF
FR WIPER LOW	OFF
FR WIPER HI	OFF
FR WASHER SW	OFF
INT VOLUME	5
VHCL SPEED SEN	OFF
FR WIPER STOP	ON
RR WIPER INT	OFF

SKIA3168E

Front Wiper Intermittent Operation Switch Position Cannot Be Adjusted

AKS000YL

1. CHECK COMBINATION SWITCH

Select "BCM" on CONSULT-II, and select "WIPER" on "SELECT TEST ITEM" screen. Check that "INT VOLUME" changes in order from 1 to 7 according to operation of the intermittent switch dial position.

When the intermittent switch : INT VOLUME 1 to 7 dial position operate

OK or NG

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

DATA MONITOR	
MONITOR	
IGN ON SW	ON
FR WIPER INT	OFF
FR WIPER LOW	OFF
FR WIPER HI	OFF
FR WASHER SW	OFF
INT VOLUME	5
VHCL SPEED SEN	OFF
FR WIPER STOP	ON
RR WIPER INT	OFF

SKIA3168E

Wipers Do Not Wipe When Front Washer Operates

AKS000YM

1. CHECK COMBINATION SWITCH

Select "BCM" on CONSULT-II, and select "WIPER" on "SELECT TEST ITEM" screen. Check that "FR WASHER SW" turns ON-OFF according to operation of front washer switch.

When wiper switch washer : FR WASHER SW ON position

OK or NG

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

DATA MONITOR	
MONITOR	
IGN ON SW	ON
FR WIPER INT	OFF
FR WIPER LOW	OFF
FR WIPER HI	OFF
FR WASHER SW	OFF
INT VOLUME	5
VHCL SPEED SEN	OFF
FR WIPER STOP	ON
RR WIPER INT	OFF

SKIA3168E

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

AKS000YN

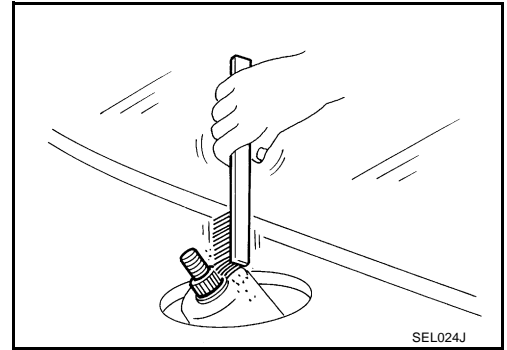
REMOVAL

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

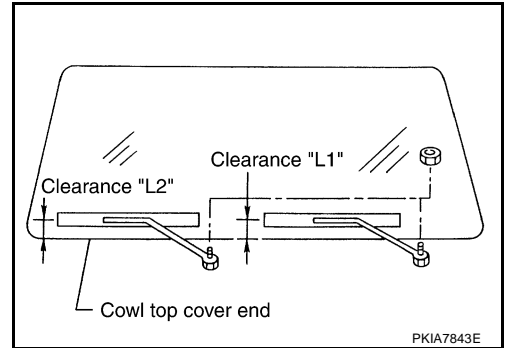
FRONT WIPER AND WASHER SYSTEM

INSTALLATION

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



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



Clearance "L1" : 56.4 - 71.4 mm (2.220 - 2.811 in)

Clearance "L2" : 30.5 - 43.5 mm (1.201 - 1.713 in)

- Tighten front wiper arm nuts to specified torque.

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

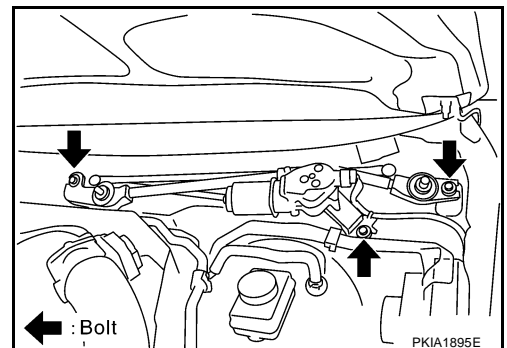
ADJUSTMENT

Refer to [WW-29, "INSTALLATION"](#) .

Removal and Installation of Front Wiper Motor and Linkage

REMOVAL

1. Remove front wiper arm. Refer to [WW-28, "REMOVAL"](#) .
2. Remove cowl top cover. Refer to [EI-20, "COWL TOP"](#) in "EI" section.
3. Remove washer tube.
4. Disconnect front wiper motor connector.
5. Remove front wiper motor and linkage mounting bolts, and remove front wiper motor and linkage.



INSTALLATION

1. Install front wiper motor and linkage to the vehicle.
2. Connect front wiper motor assembly to the connector. Turn wiper switch ON to operate front wiper motor, then turn wiper switch OFF (auto stop).
3. Attach washer tube to washer tube joint.
4. Install cowl top cover. Refer to [EI-20, "COWL TOP"](#) in "EI" section.
5. Install front wiper arms. Refer to [WW-29, "INSTALLATION"](#) .
6. Attach front wiper arm washer tube.

Front wiper motor and linkage mounting bolts  : 4.5 N·m (0.46 kg·m, 40 in·lb)

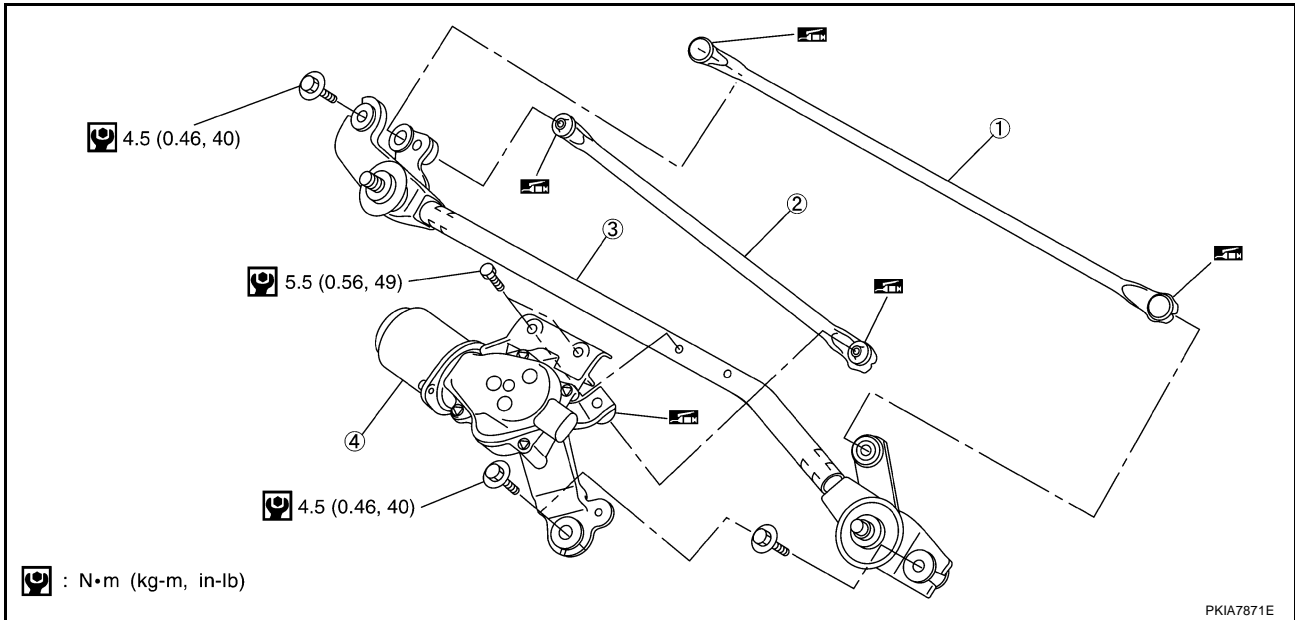
FRONT WIPER AND WASHER SYSTEM

CAUTION:

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

Disassembly and Assembly of Front Wiper Motor and Linkage

AKS000YP



1. Wiper link 1
2. Wiper link 2
3. Wiper frame
4. Front wiper motor

DISASSEMBLY

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

ASSEMBLY

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

Wiper motor mounting bolts  : 5.5 N·m (0.56 kg-m, 49 in-lb)

Washer Nozzle Adjustment

AKS000YQ

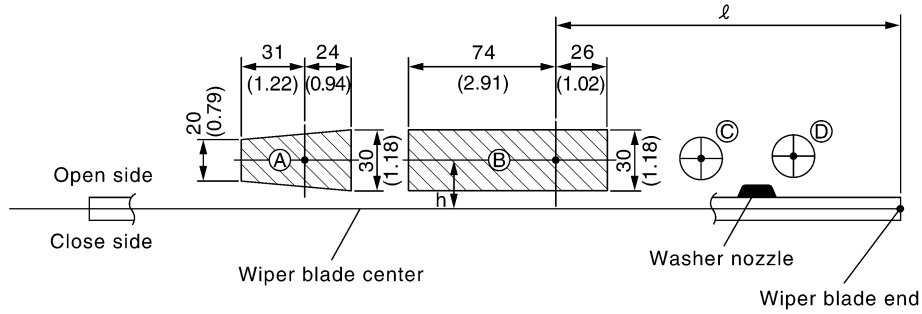
1. When wiper blade position is in auto stop condition, remove front wiper motor connector to ensure front wiper arms do not move.
2. Adjust each nozzle position (A, B, E, F, and G) so that spray positions are in the range of shaded parts.

CAUTION:

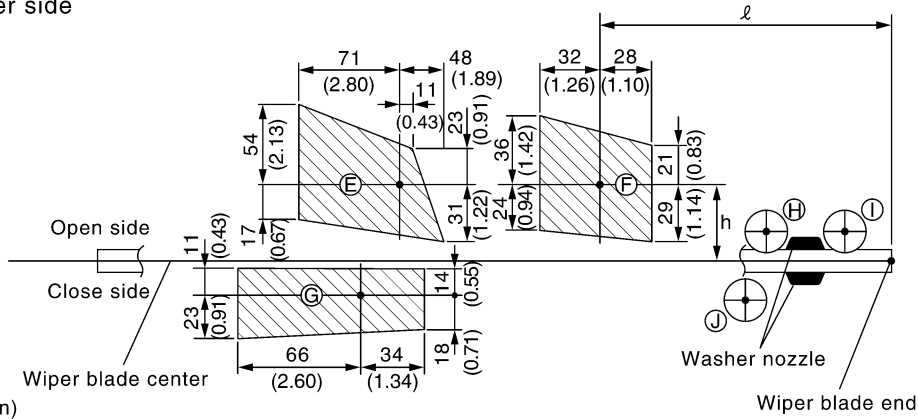
Only washer nozzles (A, B, E, F, and G) can be adjusted. Washer nozzles (C, D, H, I, and J) cannot be adjusted because of fixed nozzles.

FRONT WIPER AND WASHER SYSTEM

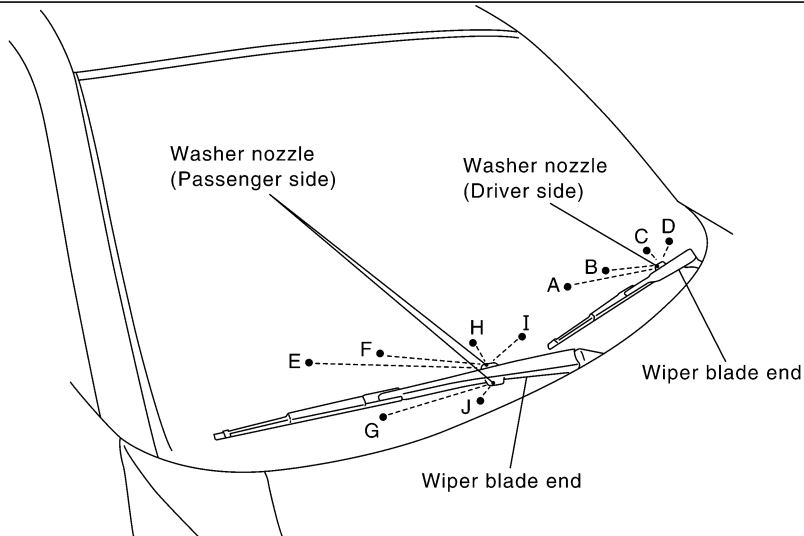
Driver side



Passenger side



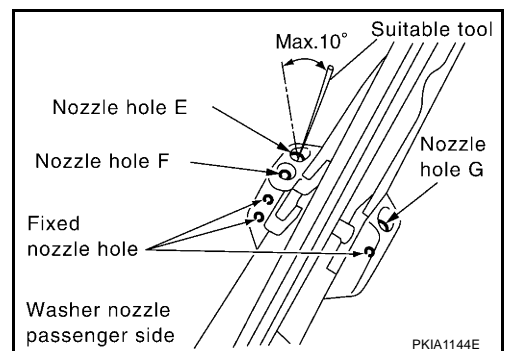
Unit : mm(in)



PKIA1897E

Unit: mm (in)

Spray position	h (height)	ℓ (width)
A	24 (0.94)	296 (11.65)
B	25 (0.98)	174 (6.85)
(C)	—	—
(D)	—	—
E	42 (1.65)	248 (9.76)
F	39 (1.54)	158 (6.22)
G	-19 (-0.75)	244 (9.61)
(H,I,J)	—	—



PKIA1144E

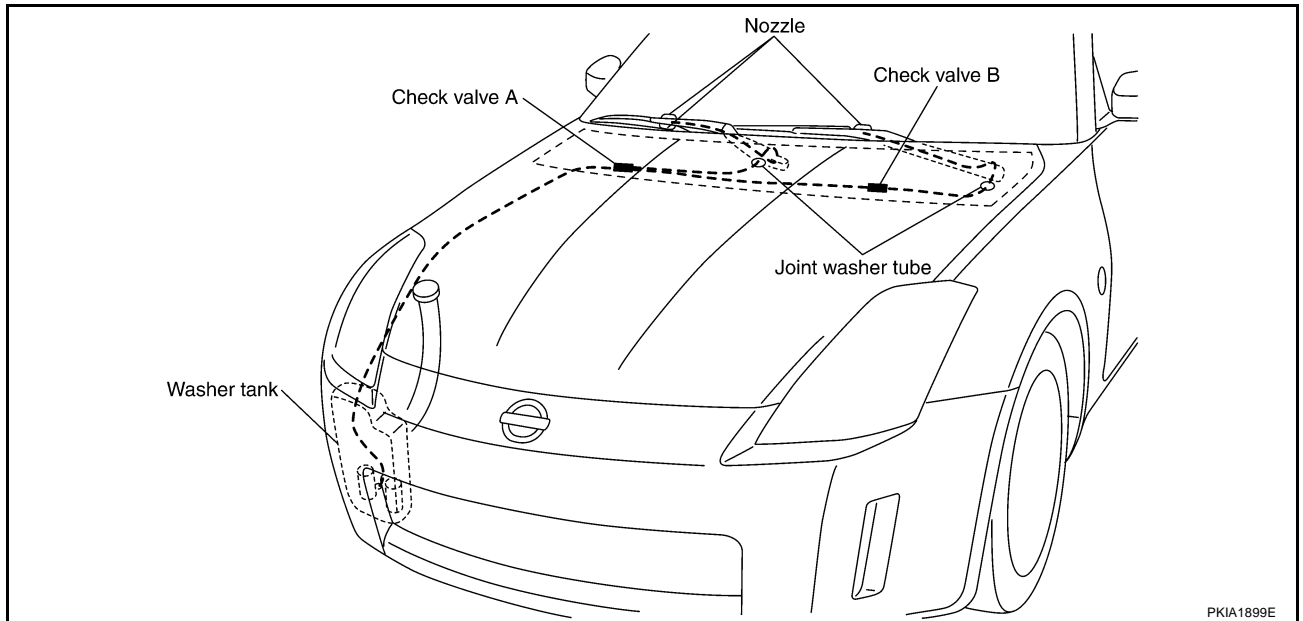
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WW

FRONT WIPER AND WASHER SYSTEM

Washer Tube Layout

AKS000YR



Removal and Installation of Front Washer Nozzle

AKS000YS

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

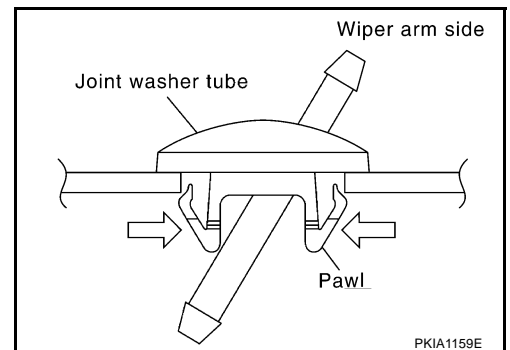
CAUTION:

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

Removal and Installation of Front Washer tube Joint REMOVAL

AKS000YT

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



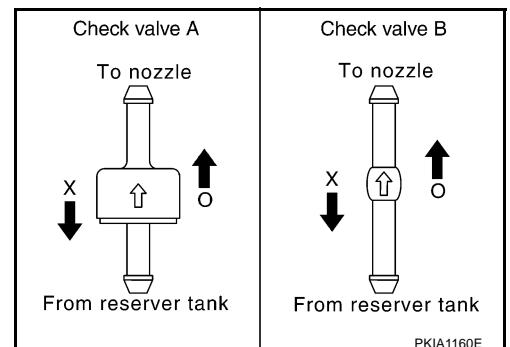
INSTALLATION

Install in reverse order of removal.

Inspection of Washer Nozzle CHECK VALVE

AKS000YU

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



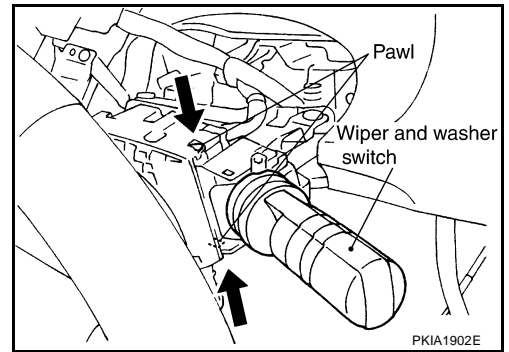
FRONT WIPER AND WASHER SYSTEM

Removal and Installation of Front Wiper and Washer Switch

AKS000YV

REMOVAL

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



INSTALLATION

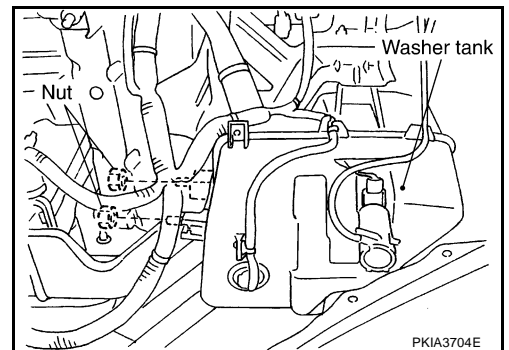
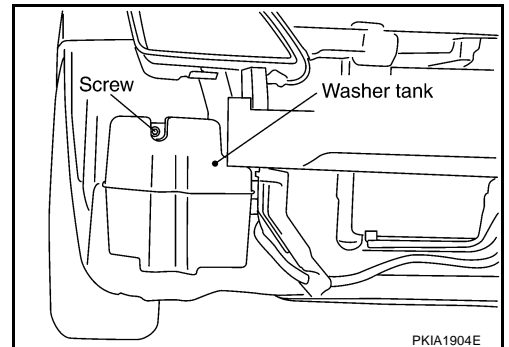
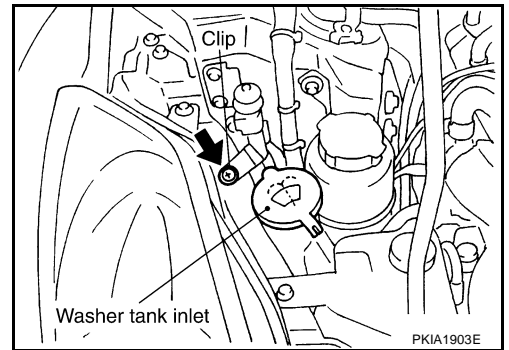
Install in reverse order of removal.

Removal and Installation of Washer Tank

REMOVAL

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

AKS000YV



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WW

FRONT WIPER AND WASHER SYSTEM

INSTALLATION

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

CAUTION:

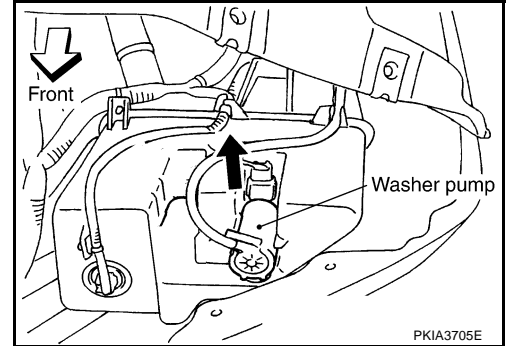
After installation, add water up to the upper level of the washer tank inlet, and check for water leaks.

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

Removal and Installation of Washer Pump

REMOVAL

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



INSTALLATION

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

CAUTION:

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

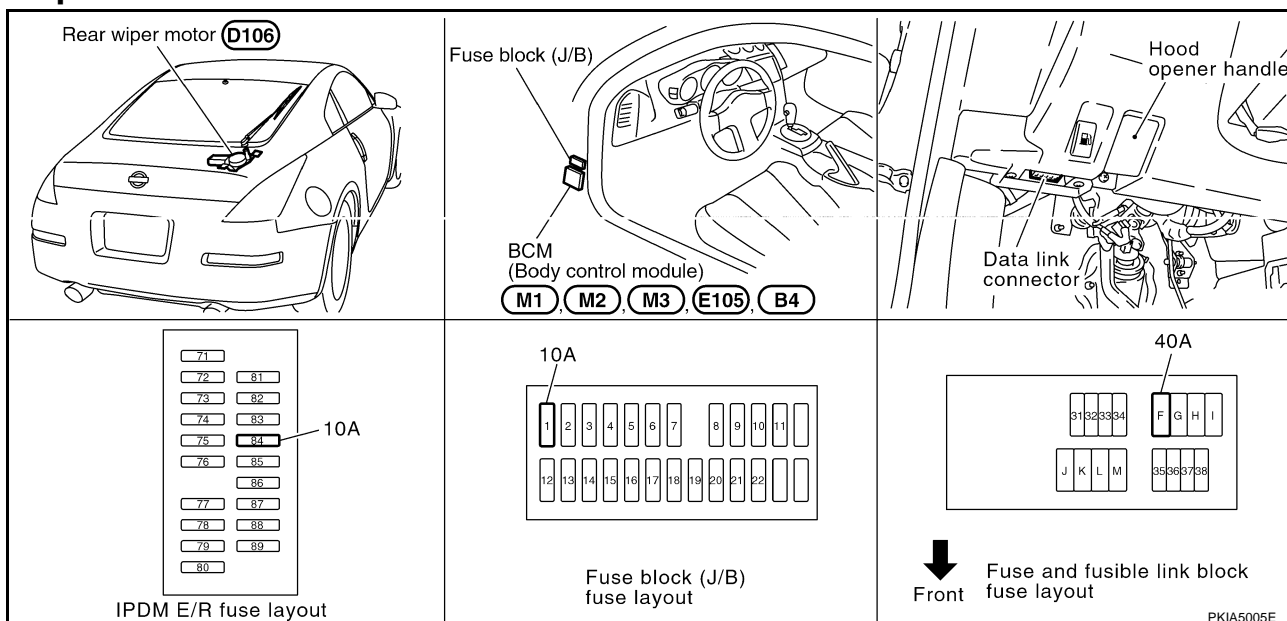
REAR WIPER AND WASHER SYSTEM

REAR WIPER AND WASHER SYSTEM

PPF:28710

Components Parts and Harness Connector Location

AKS009PS



System Description

AKS009PT

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

Power is supplied all time

- through 40 A fusible link (letter F, located in fuse and fusible link block)
- to BCM (body control module) terminal 7.

When ignition switch ON or START position, power is supplied

- through 10 A fuse [No.1, located in fuse block (J/B)]
- to BCM (body control module) terminal 35
- through 10 A fuse [NO.84, located in IPDM E/R (intelligent power distribution module engine room)]
- to rear washer motor terminal 2.

Ground is supplied

- to BCM (body control module) terminal 8
- through grounds E17, E43 and F152
- to combination switch (wiper switch) terminal 12
- through grounds M30 and M66.

REAR WIPER OPERATION

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

BCM operate rear wiper motor, power is supplied

- through BCM terminal 20
- to rear wiper motor terminal 4.

Ground is supplied

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

With power and ground is supplied, the rear wiper operates.

REAR WIPER AND WASHER SYSTEM

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 detect rear wiper INT signal by BCM wiper switch reading function. (Refer to [WW-7, "BCM WIPER SWITCH READING FUNCTION"](#) .)

BCM operate rear wiper motor, power is supplied

- through BCM terminal 20
- to rear wiper motor terminal 4.

Ground is supplied

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

With power and ground is supplied. Rear wiper operates at intermittent.

AUTO STOP OPERATION

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

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

WASHER OPERATION

When wiper switch is in rear wiper washer position, BCM detect rear wiper washer signal by BCM wiper switch reading function (Refer to [WW-7, "BCM WIPER SWITCH READING FUNCTION"](#) .), and combination switch (wiper switch) ground is supplied

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

With ground is supplied, rear washer motor is operated.

When BCM detects that rear washer motor has operated for .04 seconds or longer, BCM operates rear wiper motor low speed.

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

BCM WIPER SWITCH READING FUNCTION

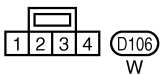
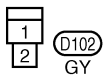
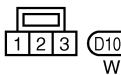
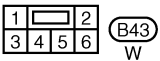
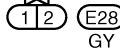
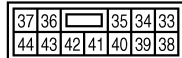
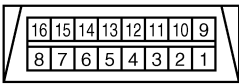
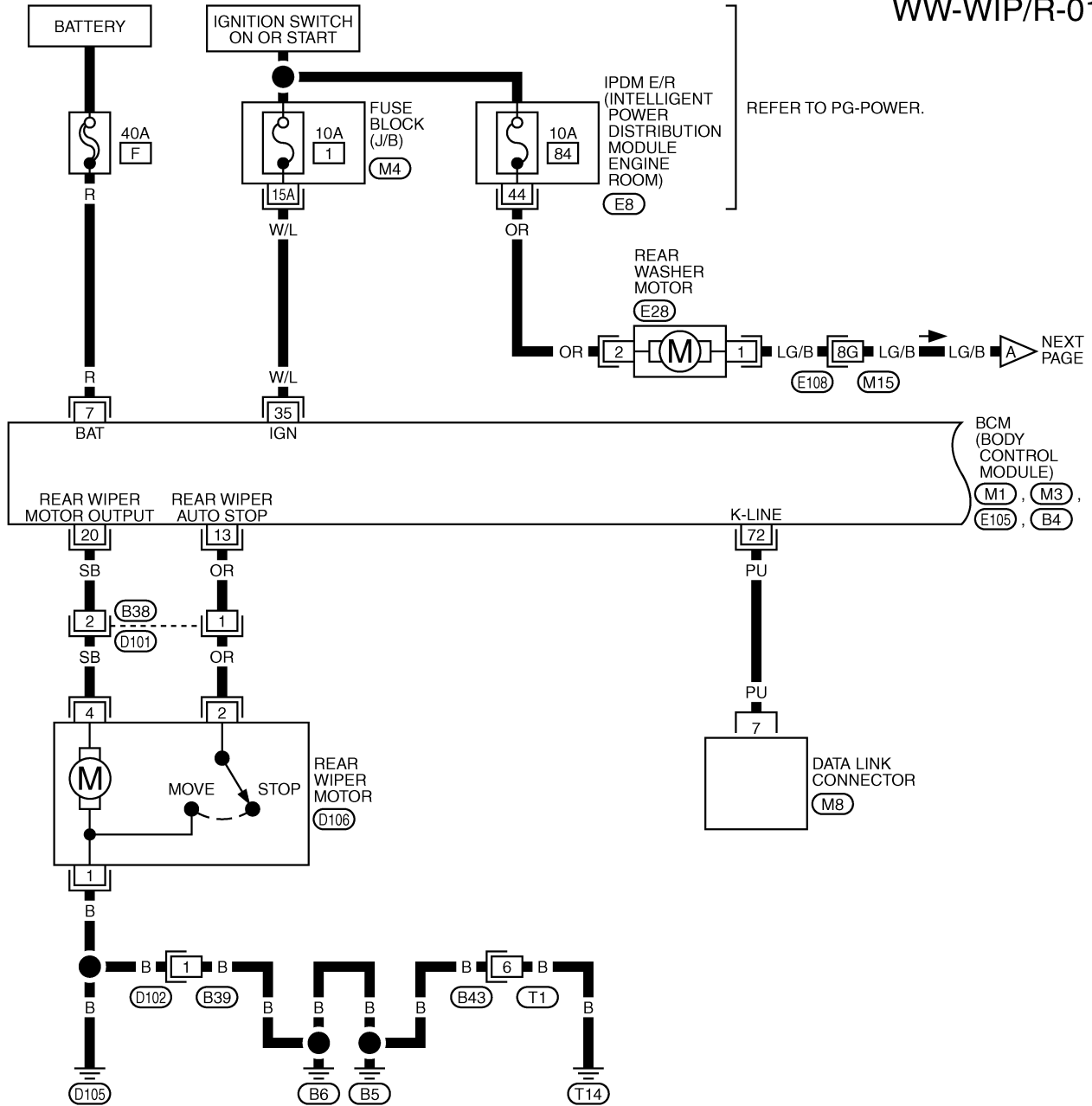
Refer to [WW-7, "BCM WIPER SWITCH READING FUNCTION"](#) in FRONT WIPER AND WASHER SYSTEM.

REAR WIPER AND WASHER SYSTEM

Wiring Diagram — WIP/ R —

AKS009PU

WW-WIP/R-01



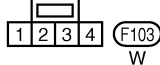
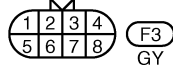
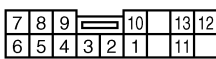
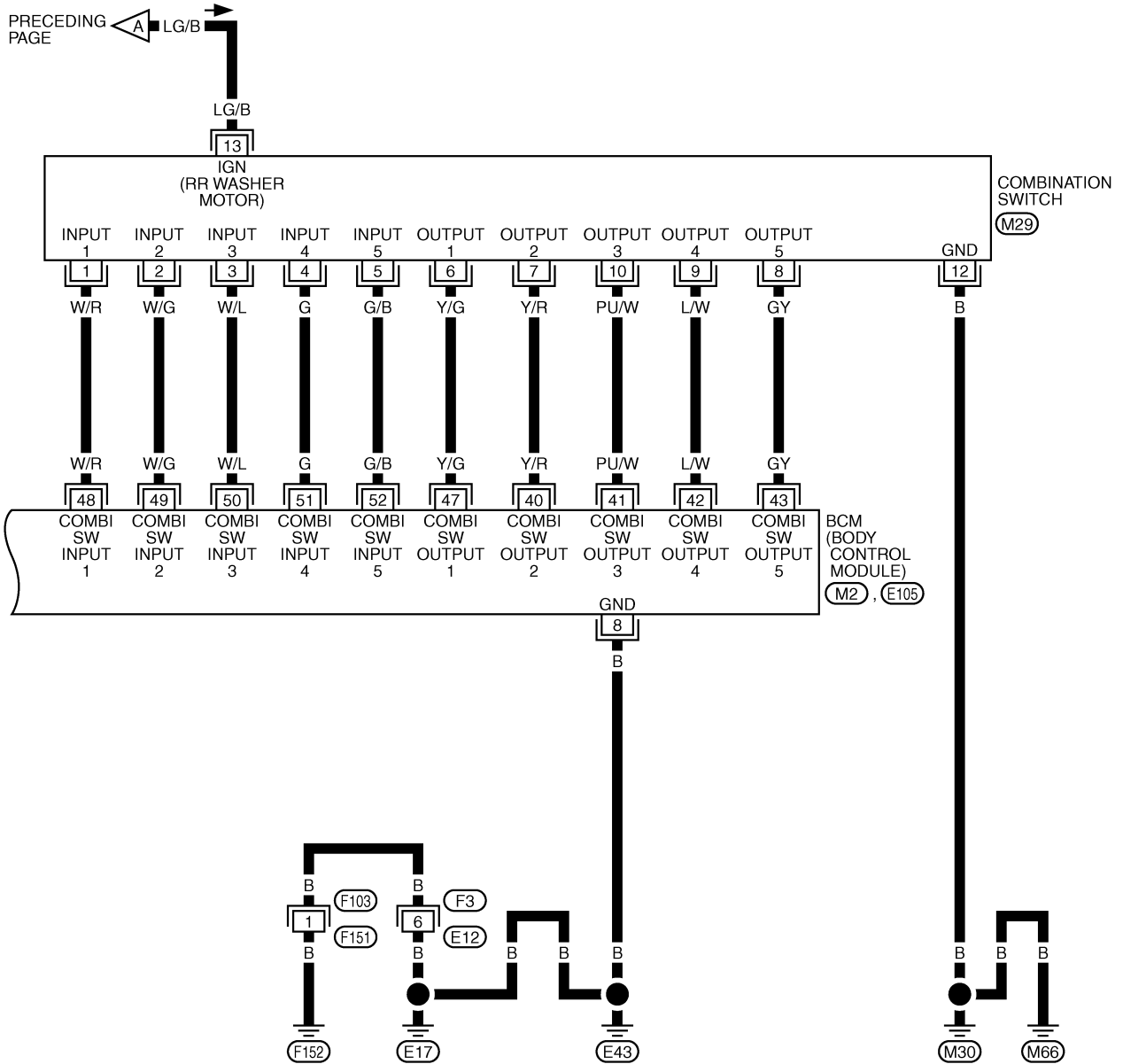
REFER TO THE FOLLOWING.

- E108 -SUPER MULTIPLE JUNCTION (SMJ)
- M4 -FUSE BLOCK-JUNCTION BOX (J/B)
- M1, M3, E105, B4 -ELECTRICAL UNITS

TKWT1523E

REAR WIPER AND WASHER SYSTEM

WW-WIP/R-02



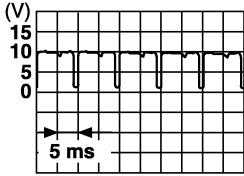
REFER TO THE FOLLOWING.
(M2), (E105) -ELECTRICAL UNITS

TKWT0773E

REAR WIPER AND WASHER SYSTEM

Terminals and Reference Values for BCM

AKS009PV

Terminal No. (Wire color)	Signal name	Measuring condition		Reference value (V)	
		Ignition switch	Operation or condition		
7 (R)	Battery power supply	OFF	—	Battery voltage	
8 (B)	Ground	ON	—	Approx. 0	
13 (OR)	Rear Wiper auto- stop signal	ON	Wiper operating	Approx. 0	
			Wiper stopped	Battery voltage	
20 (SB)	Rear wiper motor output signal	ON	Wiper switch	OFF	Approx. 0
				ON	Battery voltage
35 (W/L)	Ignition switch (ON)	ON	—	Battery voltage	
40 (Y/R)	Combination switch output 2	ON	Lighting switch and wiper switch OFF		
41 (PU/W)	Combination switch output 3				
42 (L/W)	Combination switch output 4				
43 (GY)	Combination switch output 5				
47 (Y/G)	Combination switch output 1				
48 (W/R)	Combination switch input 1	ON	Lighting switch and wiper switch OFF	4.5 or more	
49 (W/G)	Combination switch input 2	ON			
50 (W/L)	Combination switch input 3	ON			
51 (G)	Combination switch input 4	ON			
52 (G/B)	Combination switch input 5	ON			
72 (PU)	K-LINE	—	—	—	

SKIA1119J

How to Proceed With Trouble Diagnosis

AKS009PW

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-39, "Preliminary Inspection"](#) .
4. Check symptom and repair or replace the cause of malfunction.
5. Does the warning chime operate normally? If YES: GO TO 6. If NO: GO TO 4.
6. INSPECTION END

Preliminary Inspection

AKS009PX

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.
Rear washer motor	Ignition ON or START	84
BCM	Ignition ON or START	1
	Battery	F

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

OK or NG

OK >> GO TO 2.

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

REAR WIPER AND WASHER SYSTEM

2. CHECK POWER SUPPLY CIRCUIT

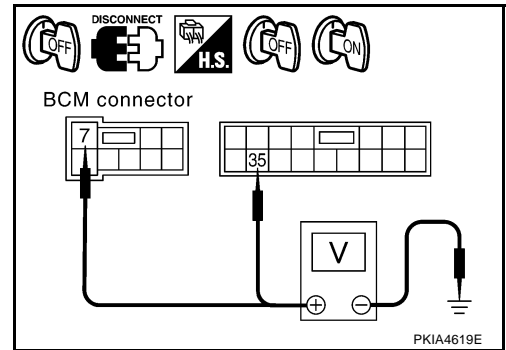
1. Turn ignition switch OFF.
2. Disconnect BCM connector.
3. Check voltage between BCM harness connector and ground.

Terminals		Ignition switch position	
(+)		(-)	
Connector	Terminal (Wire color)	OFF	ON
E105	7 (R)	Battery voltage	Battery voltage
M1	35 (W/L)	0V	Battery voltage

OK or NG

OK >> GO TO 3.

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



3. CHECK GROUND CIRCUIT

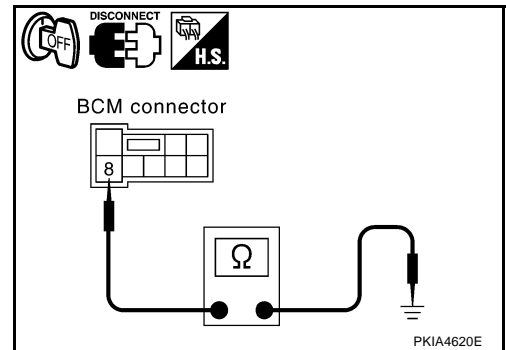
Check continuity between BCM harness connector and ground.

Terminals		Continuity	
Connector	Terminal (wire color)	Ground	Yes
E105	8 (B)		

OK or NG

OK >> INSPECTION END

NG >> Check harness ground circuit.



CONSULT-II Functions

CONSULT-II executes the following functions by combining data reception and command transmission via the communication line from BCM. Work support, self-diagnosis, data monitor, and active test display.

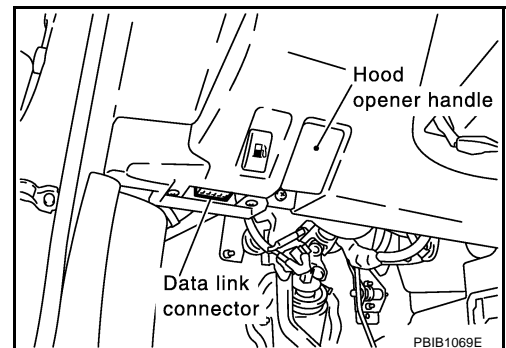
BCM diagnosis position	Check item, Diagnosis mode	Description
Wiper	Data monitor	Displays BCM input data in real time.
	Active test	Device operation can be checked by applying a drive signal to device.

CONSULT-II OPERATION

CAUTION:

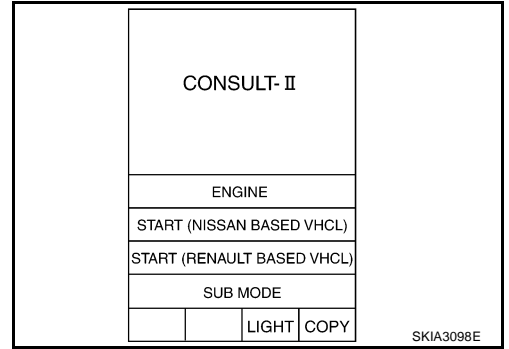
If CONSULT-II is used with no connection of CONSULT-II CONVERTER, malfunctions might be detected in self-diagnosis depending on control unit which carry out CAN communication.

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

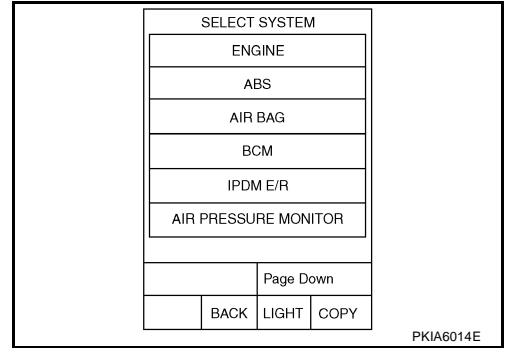


REAR WIPER AND WASHER SYSTEM

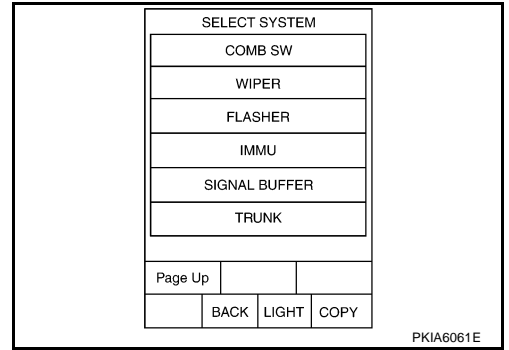
2. Touch "START(NISSAN BASED VHCL)".



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



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



DATA MONITOR

Operation Procedure

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

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

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

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REAR WIPER AND WASHER SYSTEM

Display Item List

Monitor item name "operation or unit"	Contents
IGN ON SW "ON/OFF"	Displays "IGN Position (ON)/OFF, ACC Position (OFF)" status as judged from ignition switch signal.
FR WIPER INT "ON/OFF"	Displays "Front Wiper INT (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 HI "ON/OFF"	Displays "Front Wiper HI (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.
VHCL SPEED SEN "ON/OFF"	Displays "Driving (ON)/Stopped (OFF)" status as judged from vehicle speed signal.
FR WIPER STOP "ON/OFF"	Displays "Stopped (ON)/Operating (OFF)" status as judged from the auto-stop signal.
RR WIPER INT "ON/OFF"	Displays "Rear Wiper INT (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER ON "ON/OFF"	Displays "Rear Wiper (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 "Stopped (OFF)/Operating (ON)" status as judged from the auto-stop signal.

ACTIVE TEST

Operation Procedure

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

Display Item List

Test item	Display on CONSULT-II screen	Description
Front wiper HI output	FR WIPER (HI)	Front wiper HI can be operated by any ON-OFF operation.
Front wiper LO output	FR WIPER (LO)	Front wiper LO can be operated by any ON-OFF operation.
Front wiper INT output	FR WIPER (INT)	Front wiper INT can be operated by any ON-OFF operation.
Rear wiper output	RR WIPER	Rear wiper can be operated by any ON-OFF operation.

Rear Wiper Does Not Operate

AKS009PZ

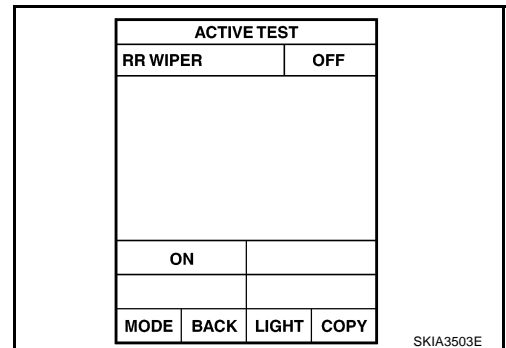
1. REAR WIPER ACTIVE TEST

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

Rear wiper should operate.

OK or NG

- OK >> GO TO 5.
NG >> GO TO 2.



REAR WIPER AND WASHER SYSTEM

2. CHECK REAR WIPER CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and rear wiper motor connector.
3. Check continuity between BCM harness connector B4 terminals 13 (OR), 20 (SB) and rear wiper motor harness connector D106 terminals 2 (OR), 4 (SB).

13 (OR) - 2 (OR) : Continuity should exist.

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

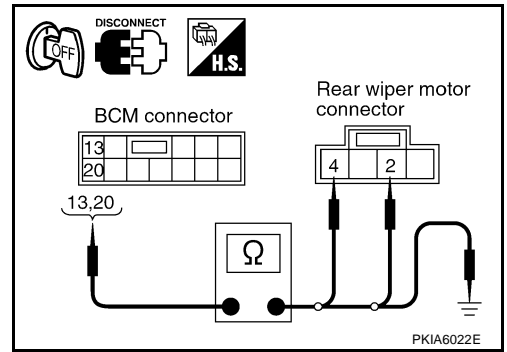
4. Check continuity between BCM harness connector B14 terminals 13 (BR), 20 (SB) and ground.

13 (BR), 20 (SB) - Ground : Continuity should not exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.



3. CHECK REAR WIPER GROUND CIRCUIT

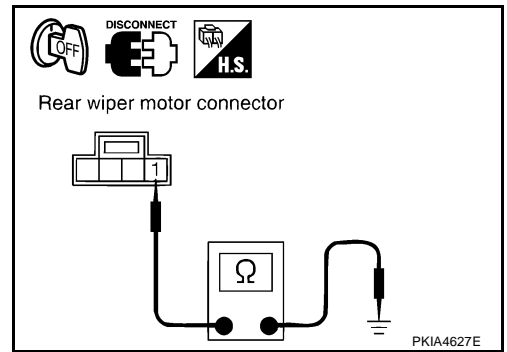
Check continuity between rear wiper motor harness connector D106 terminal 1 (B) and ground.

1 (B) - Ground : Continuity should exist.

OK or NG

OK >> GO TO 4.

NG >> Repair harness or connector.



4. CHECK BCM

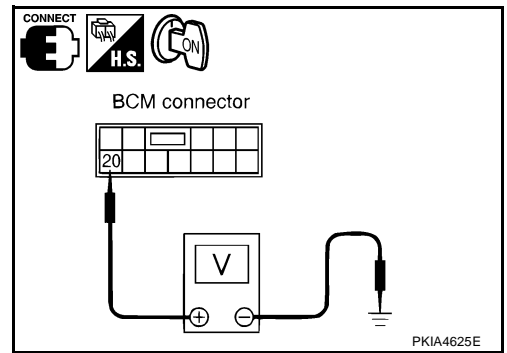
1. Connect BCM connector and rear wiper motor connector.
2. Turn ignition switch ON.
3. With rear wiper switch ON, check voltage between BCM harness connector B4 terminal 20 (SB) and ground.

Terminals		(-)	Condition	Voltage
BCM(+)				
Connector	Terminal (Wire color)			
B4	20 (SB)	Ground	Wiper stopped	Approx. 0V
			Wiper operating	Approx. 12V

OK or NG

OK >> Replace rear wiper motor.

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



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REAR WIPER AND WASHER SYSTEM

5. CHECK REAR WIPER STOP SIGNAL

Select "BCM" on CONSULT-II, and select "WIPER" on "SELECT TEST ITEM" screen. Check that "RR WIPER INT", "RR WIPER ON" turns ON-OFF according to wiper operation.

When wiper switch is INT position : RR WIPER INT ON

When wiper switch is ON position : RR WIPER ON ON

OK or NG

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

NG >> Replace wiper switch.

DATA MONITOR	
MONITOR	
FR WIPER HI	OFF
FR WASHER SW	OFF
INT VOLUME	7
VHCL SPEED SEN	OFF
FR WIPER STOP	ON
RR WIPER INT	OFF
RR WIPER ON	OFF
RR WASHER SW	OFF
RR WIPER STOP	OFF
Page Up	
RECORD	
MODE	BACK
LIGHT	COPY

PKIA6039E

Rear Wiper Does Not Return to Stop Position

AKS009Q0

1. CHECK REAR WIPER STOP SIGNAL

ⓑ With CONSULT-II

Select "BCM" on CONSULT-II, and select "WIPER" on "SELECT TEST ITEM" screen. Check that "RR WIPER STOP" turns ON-OFF according to wiper operation.

When wiper switch is OFF : RR WIPER STOP OFF

ⓧ Without CONSULT-II

GO TO 2.

OK or NG

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

NG >> GO TO 2.

DATA MONITOR	
MONITOR	
FR WIPER HI	OFF
FR WASHER SW	OFF
INT VOLUME	7
VHCL SPEED SEN	OFF
FR WIPER STOP	ON
RR WIPER INT	OFF
RR WIPER ON	OFF
RR WASHER SW	OFF
RR WIPER STOP	OFF
Page Up	
RECORD	
MODE	BACK
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PKIA6039E

2. CHECK REAR WIPER AUTO STOP CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect BCM connector and rear wiper motor connector.
3. Check continuity between BCM harness connector B4 terminal 13 (OR) and rear wiper motor harness connector D106 terminal 2 (OR).

13 (OR) – 2 (OR) : Continuity should exist.

4. Check continuity between BCM harness connector B4 terminal 13 (OR) and ground.

13 (OR) – Ground : Continuity should not exist.

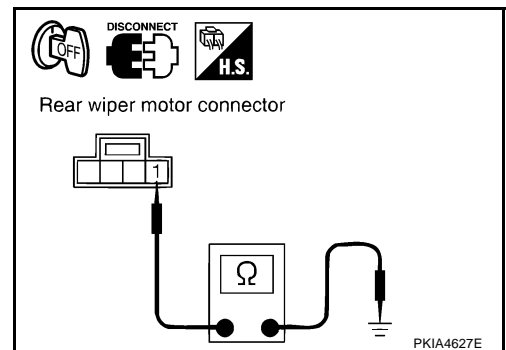
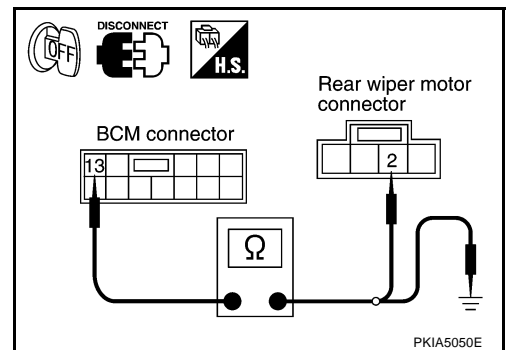
5. Check continuity between rear wiper motor harness connector D106 terminal 1 (B) and ground.

1 (B) – Ground : Continuity should exist.

OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.

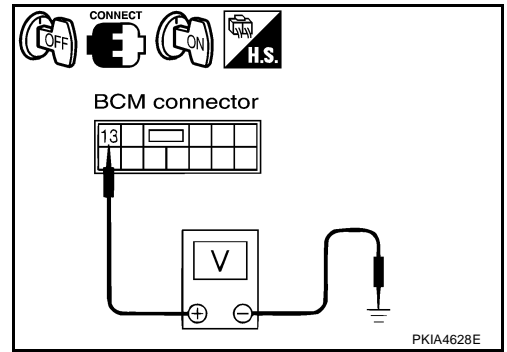


REAR WIPER AND WASHER SYSTEM

3. CHECK REAR WIPER MOTOR

1. Connect BCM connector and rear wiper motor connector.
2. Turn ignition switch ON.
3. While rear motor is stopped and while operating, measure voltage between BCM harness connector B4 terminal 13 (OR) and ground.

Terminals		Rear wiper condition	Voltage
Rear wiper motor (+)			
Connector	Terminal (Wire color)	(-)	
B4	13 (OR)	Ground	ON operating
			stopped
			Approx. 0V
			Battery voltage



OK or NG

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

Only Rear Wiper Does Not Operate

AKS009Q1

1. CHECK COMBINATION SWITCH

Select "BCM" on CONSULT-II, and select "WIPER" on "SELECT TEST ITEM" screen. Check that "RR WIPER ON" turns ON-OFF according to operation of wiper switch.

When wiper switch is ON position : RR WIPER ON ON

OK or NG

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

DATA MONITOR	
MONITOR	
FR WIPER HI	OFF
FR WASHER SW	OFF
INT VOLUME	7
VHCL SPEED SEN	OFF
FR WIPER STOP	ON
RR WIPER INT	OFF
RR WIPER ON	OFF
RR WASHER SW	OFF
RR WIPER STOP	OFF
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RECORD	
MODE	BACK LIGHT COPY

PKIA6039E

Only Rear Wiper Intermittent Does Not Operate

AKS009Q2

1. CHECK COMBINATION SWITCH

Select "BCM" on CONSULT-II, and select "WIPER" on "SELECT TEST ITEM" screen. Check that "RR WIPER INT" turns ON-OFF according to operation of wiper switch.

When wiper switch is INT position : RR WIPER INT ON

OK or NG

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

DATA MONITOR	
MONITOR	
FR WIPER HI	OFF
FR WASHER SW	OFF
INT VOLUME	7
VHCL SPEED SEN	OFF
FR WIPER STOP	ON
RR WIPER INT	OFF
RR WIPER ON	OFF
RR WASHER SW	OFF
RR WIPER STOP	OFF
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PKIA6039E

REAR WIPER AND WASHER SYSTEM

Wiper Does Not Wipe When Rear Washer Operates

AKS009Q3

1. CHECK COMBINATION SWITCH

Select "BCM" on CONSULT-II, and select "WIPER" on "SELECT TEST ITEM" screen. Check that "RR WASHER SW" turns ON-OFF according to operation of rear washer switch.

When wiper switch is WASHER : RR WASHER ON position

OK or NG

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

NG >> Replace wiper switch.

DATA MONITOR			
MONITOR			
FR WIPER HI	OFF		
FR WASHER SW	OFF		
INT VOLUME	7		
VHCL SPEED SEN	OFF		
FR WIPER STOP	ON		
RR WIPER INT	OFF		
RR WIPER ON	OFF		
RR WASHER SW	OFF		
RR WIPER STOP	OFF		
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MODE	BACK	LIGHT	COPY

PKIA6039E

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

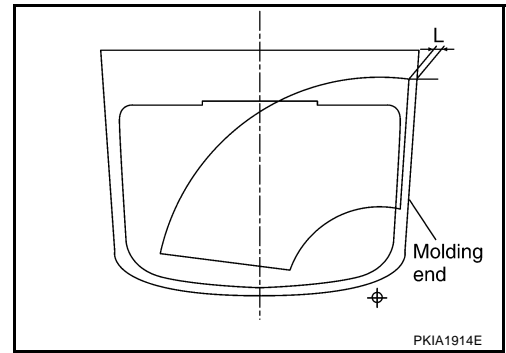
AKS009Q4

1. Prior to wiper arm installation, turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
2. Lift 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" : 22.5 - 37.5 mm (0.886 - 1.476 in)

- Tighten wiper arm nuts to specified torque.

Rear wiper  : 15.2 N·m (1.6 kg·m, 11 ft·lb)

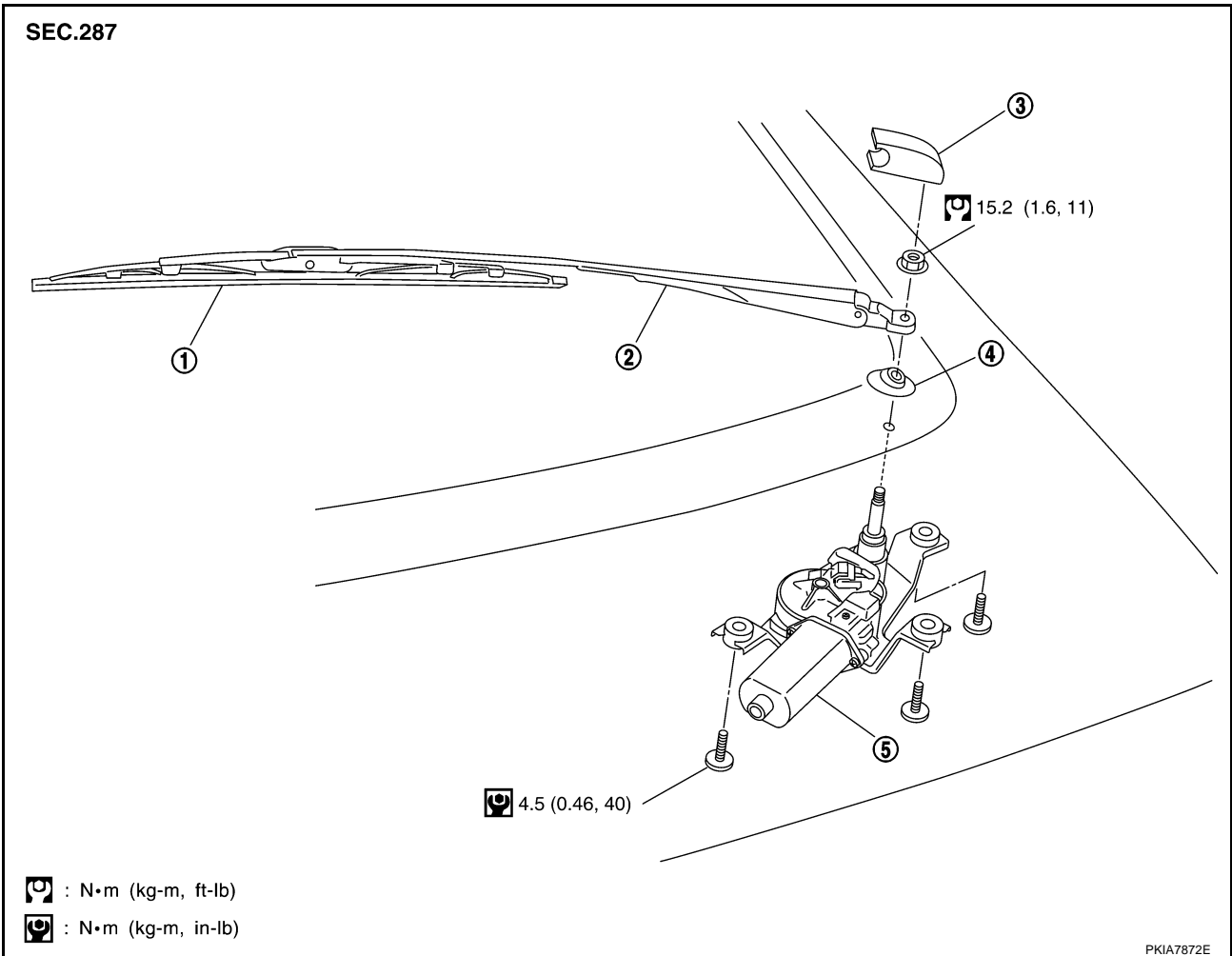


REAR WIPER AND WASHER SYSTEM

Removal and Installation of Rear Wiper Motor

AKS009Q5

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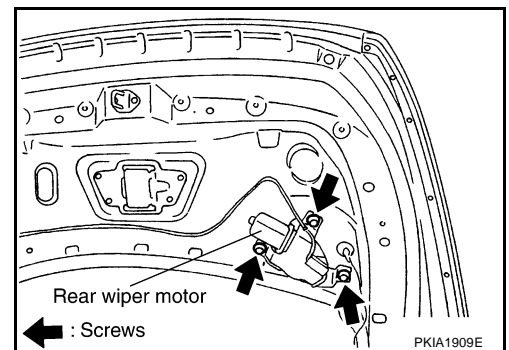


- | | | |
|----------------|---------------------|--------------------|
| 1. Wiper blade | 2. Wiper arm | 3. Cover wiper arm |
| 4. Pivot cap | 5. Rear wiper motor | |

WW

REMOVAL

- Operate wiper motor, and stop it at the auto stop position.
- Remove cover wiper arm.
- Remove wiper arm nut, and remove wiper arm from vehicle.
- Remove pivot cap.
- Remove back door finisher lower. Refer to [EI-46. "BACK DOOR FINISHER"](#) in "EI" section.
- Remove wiper motor connector.
- Disconnect rear wiper motor mounting screws and remove rear wiper motor.

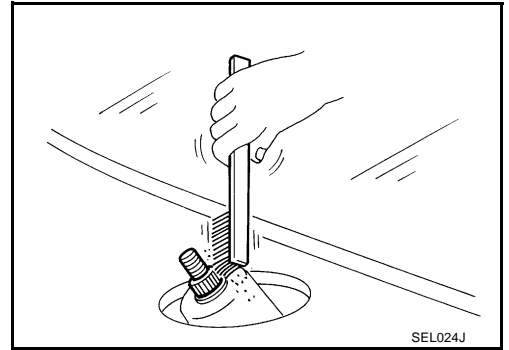


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REAR WIPER AND WASHER SYSTEM

INSTALLATION

1. Clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.
2. Attach pivot cap.
3. Install rear wiper motor to the vehicle.
4. Connect rear wiper motor to the connector. Turn rear wiper switch ON to operate rear wiper motor, then turn wiper switch OFF (auto stop).
5. Install back door finisher lower. Refer to [EI-46, "BACK DOOR FINISHER"](#) in "EI" section.
6. Attach wiper arm.



Rear wiper motor mounting screw  : 4.5 N-m (0.46 kg-m, 40 in-lb)

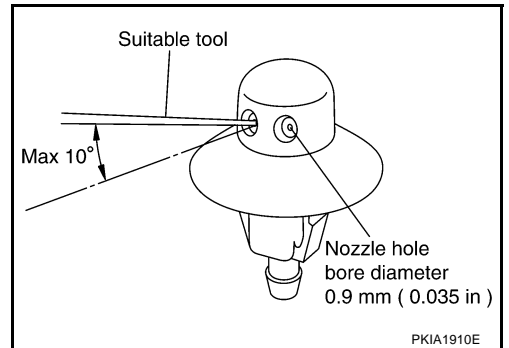
CAUTION:

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

Washer Nozzle Adjustment

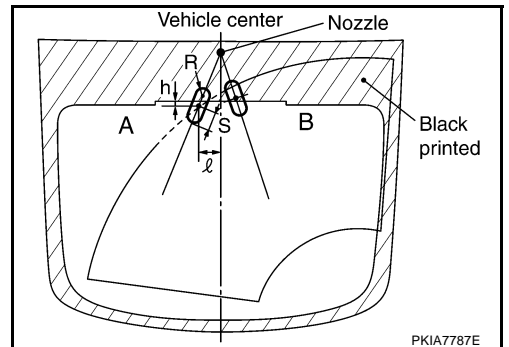
- Adjust washer nozzle with suitable tool as shown in the figure.

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



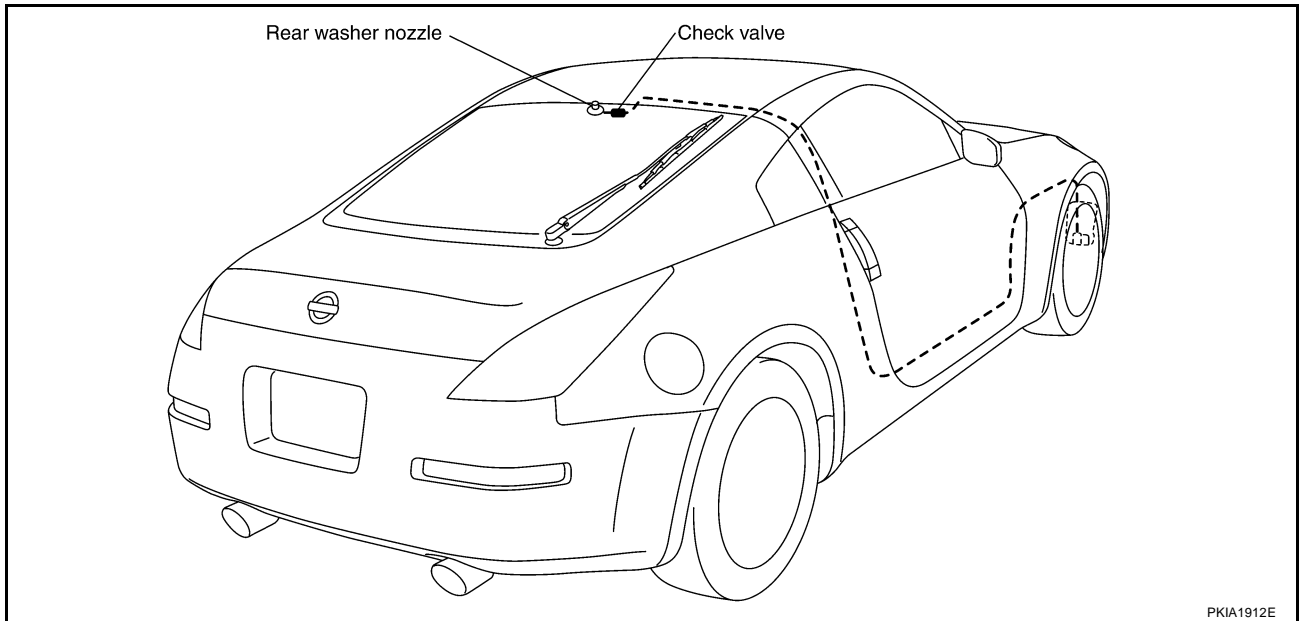
Unit: mm (in)

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



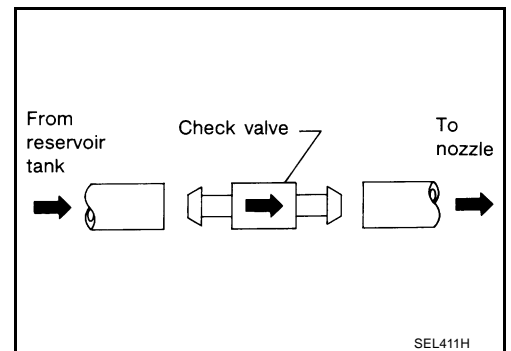
REAR WIPER AND WASHER SYSTEM

Washer Tube Layout



Check Valve

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

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

Removal and Installation of Washer Tank

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

Removal and Installation of Washer Pump

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

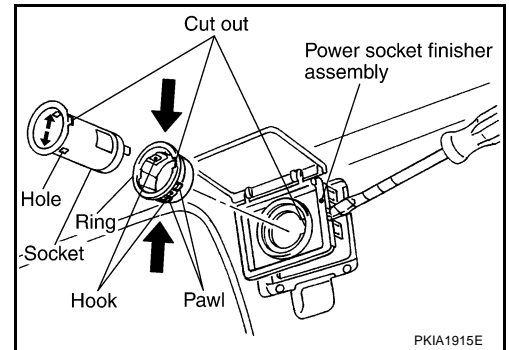
POWER SOCKET

Removal and Installation (Luggage Floor Finisher Lower)

AKS0033N

REMOVAL

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



INSTALLATION

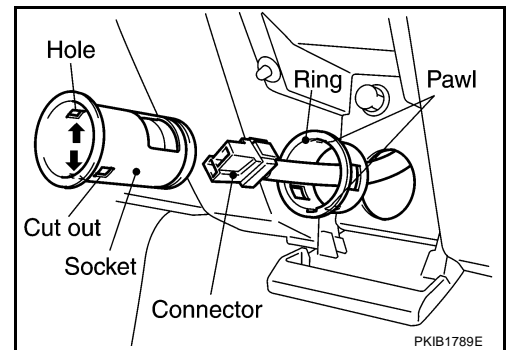
Instal in reverse order of removal.

Removal and Installation (Instrument Passenger Panel Lower)

AKS00EMS

REMOVAL

1. Remove socket using a clip driver or a suitable tool that pressing pawls in socket hole.
2. Disconnect power socket connector.
3. Remove ring from instrument passenger panel lower.



INSTALLATION

Installation is the reverse order of removal.

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HORN

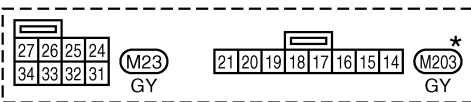
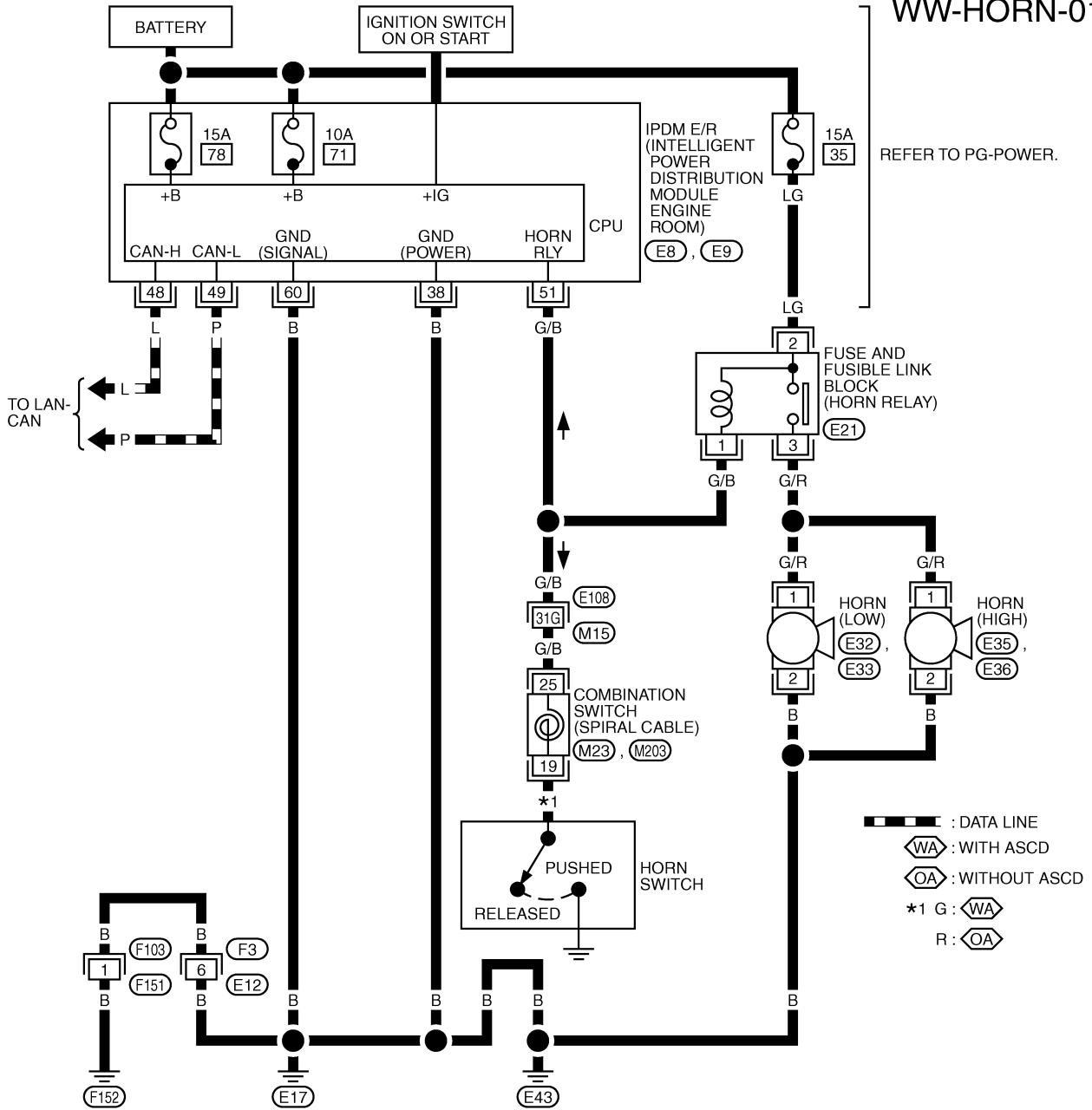
PF:25610

AKS00020

HORN

Wiring Diagram — HORN —

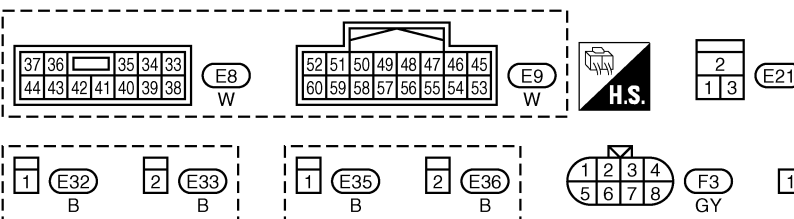
WW-HORN-01



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

REFER TO THE FOLLOWING.

(E108) -SUPER MULTIPLE JUNCTION (SMJ)



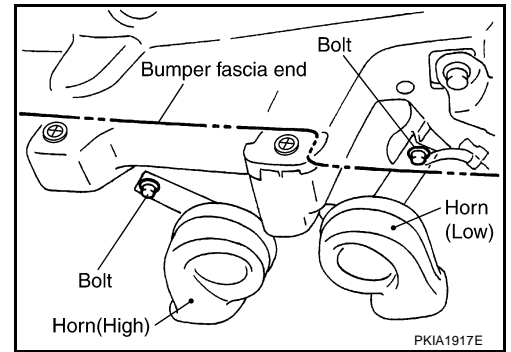
TKWT1858E

HORN

Removal and Installation

REMOVAL

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



INSTALLATION

Tighten horn bolt to specified torque.

Horn mounting bolt  : 5.7 N-m (0.58 kg-m, 50 in-lb)

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HORN
