SECTION WW
WIPER, WASHER & HORN

CONTENTS

PRECAUTION

PFP:00011

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

AKS009J3

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

AKS009J4

When you read Wiring diagrams, refer to the following:

- Refer to GI-14, "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:

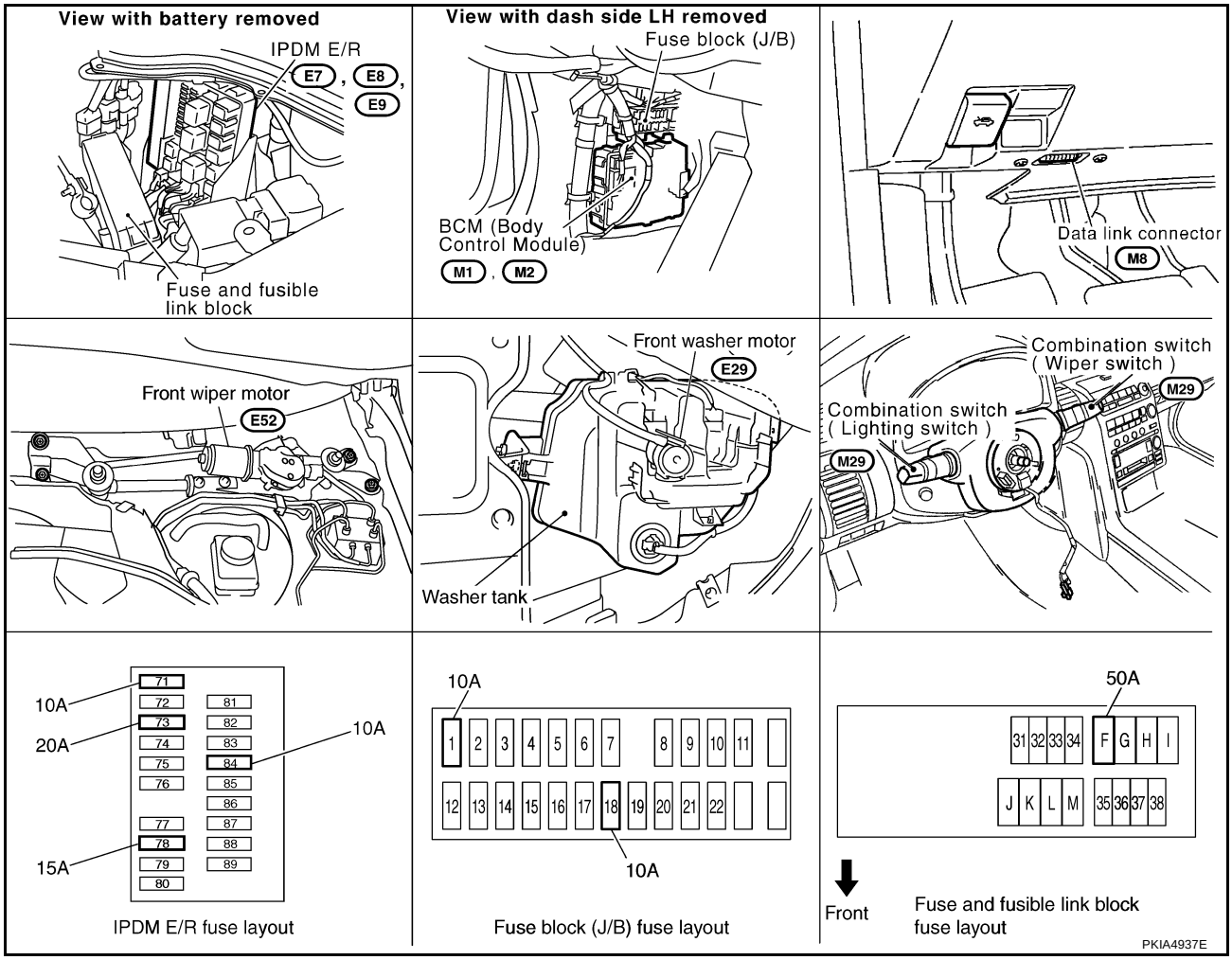
- Refer to GI-10, "How to Follow Trouble Diagnoses" .
- Refer to GI-26, "How to Perform Efficient Diagnosis for an Electrical Incident" .

FRONT WIPER AND WASHER SYSTEM

PFP:28810

Components Parts and Harness Connector Location

AKS009J5



System Description

AKS009J6

- All front wiper relays (HI, LO) are included in IPDM E/R (intelligent power distribution module engine room).
- 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 50 A fusible link (letter F, located in fusible link block)
- to BCM (body control module) terminal 55,
- through 10 A fuse [No. 18, located in fuse block (J/B)]
- to BCM (body control module) terminal 42,
- through 20 A fuse [No. 73, located in IPDM E/R (intelligent power distribution module engine room)]
- to front wiper relay [located in IPDM E/R (intelligent power distribution module engine room)] and IPDM E/R (intelligent power distribution module engine room) terminal 19
- through 15 A fuse [No. 78, located in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in the 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 the IPDM E/R (intelligent power distribution module engine room)].

When the 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 38.

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

- to front wiper relay [located in IPDM E/R (intelligent power distribution module engine room)]
- to front wiper high relay [located in IPDM E/R (intelligent power distribution module engine room)]
- to CPU (central processing unit) [located in the IPDM E/R (intelligent power distribution module engine room)]
- through 10 A fuse [No. 84, located in IPDM E/R (intelligent power distribution module engine room)]
- through IPDM E/R (intelligent power distribution module engine room) terminal 44
- to front washer motor terminal 2.

Ground is supplied

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

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 4
- through IPDM E/R terminal 19.

Ground is supplied

- to front wiper motor terminal 3
- through IPDM E/R terminal 21
- through front wiper high relay and front wiper relay
- to IPDM E/R terminal 38
- through grounds E17 and E43.

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 19 and front wiper relay and front wiper HI relay.

Ground is supplied

- to front wiper motor terminal 2

- through IPDM E/R terminal 31
- through front wiper high relay and front wiper relay
- to IPDM E/R terminal 38
- through grounds E17 and E43.

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.

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	OFF

Example: For wiper dial position 1...
Using combination switch reading function, BCM detects ON/OFF status of intermittent operation dial positions 1, 2, and 3.
When combination switch status is as listed below, BCM determines that it is wiper dial position 1.

- Intermittent operation dial position 1: ON (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 3, in order to continue wiper motor operation at low speed.

Ground is also supplied

- through IPDM E/R terminal 32
- to front wiper motor terminal 1
- through front wiper motor terminal 5
- through grounds E17 and E43.

When wiper arms reach base of windshield, front wiper terminals 1 and 4 are connected instead of terminals 1 and 5.
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 1
- through combination switch (wiper switch) terminal 11
- to combination switch (wiper switch) terminal 12
- through grounds M30 and M66.

With ground supplied, front washer motor is operated.
When BCM detects that front washer motor has operated for 0.4 seconds or linger, 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.

COMBINATION SWITCH READING FUNCTION

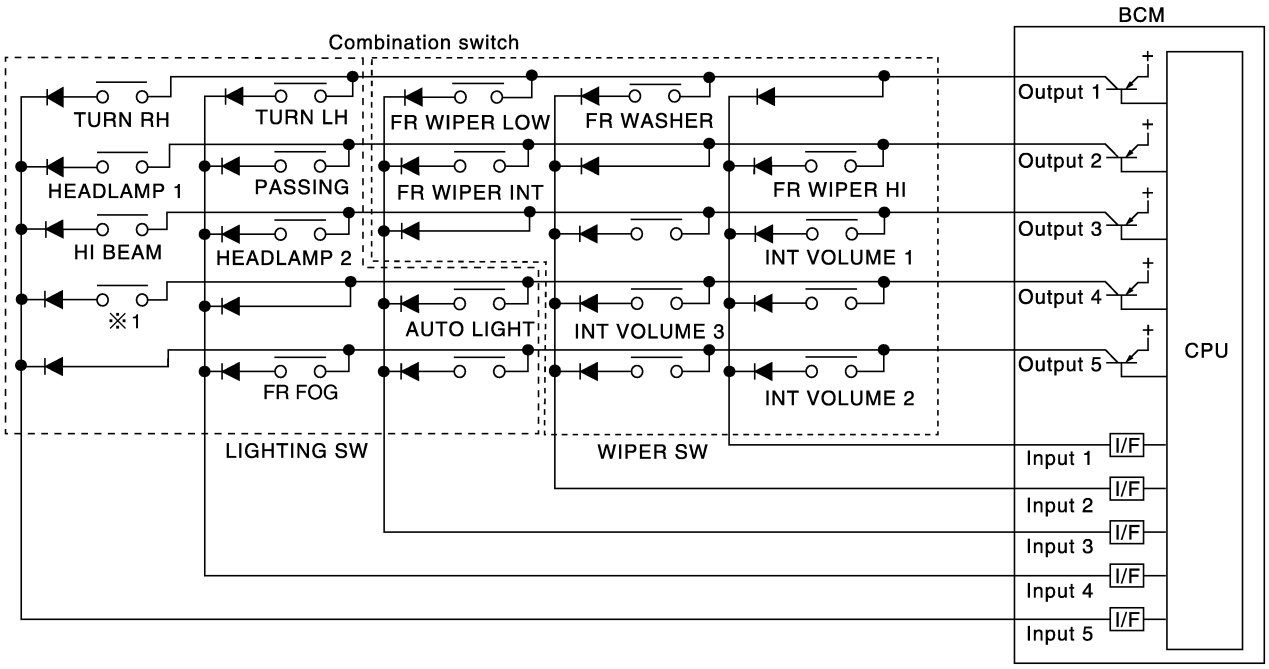
Description

- 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

SKIA8639E

BCM - Operation Table of Combination Switches

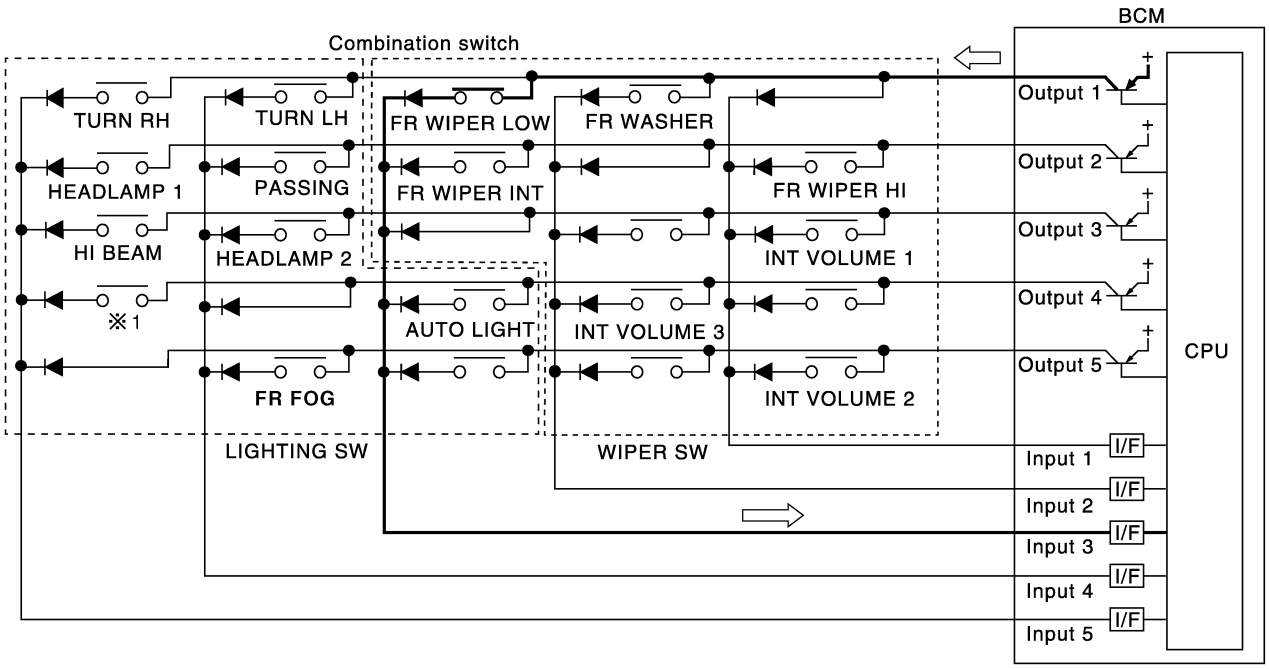
- BCM reads operation status of combination switch using combinations shown in table below.

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

SKIA8640E

Sample Operation: (When Wiper Switch Turned ON)

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



※1 : LIGHTING SWITCH 1ST POSITION

PKIA4848E

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

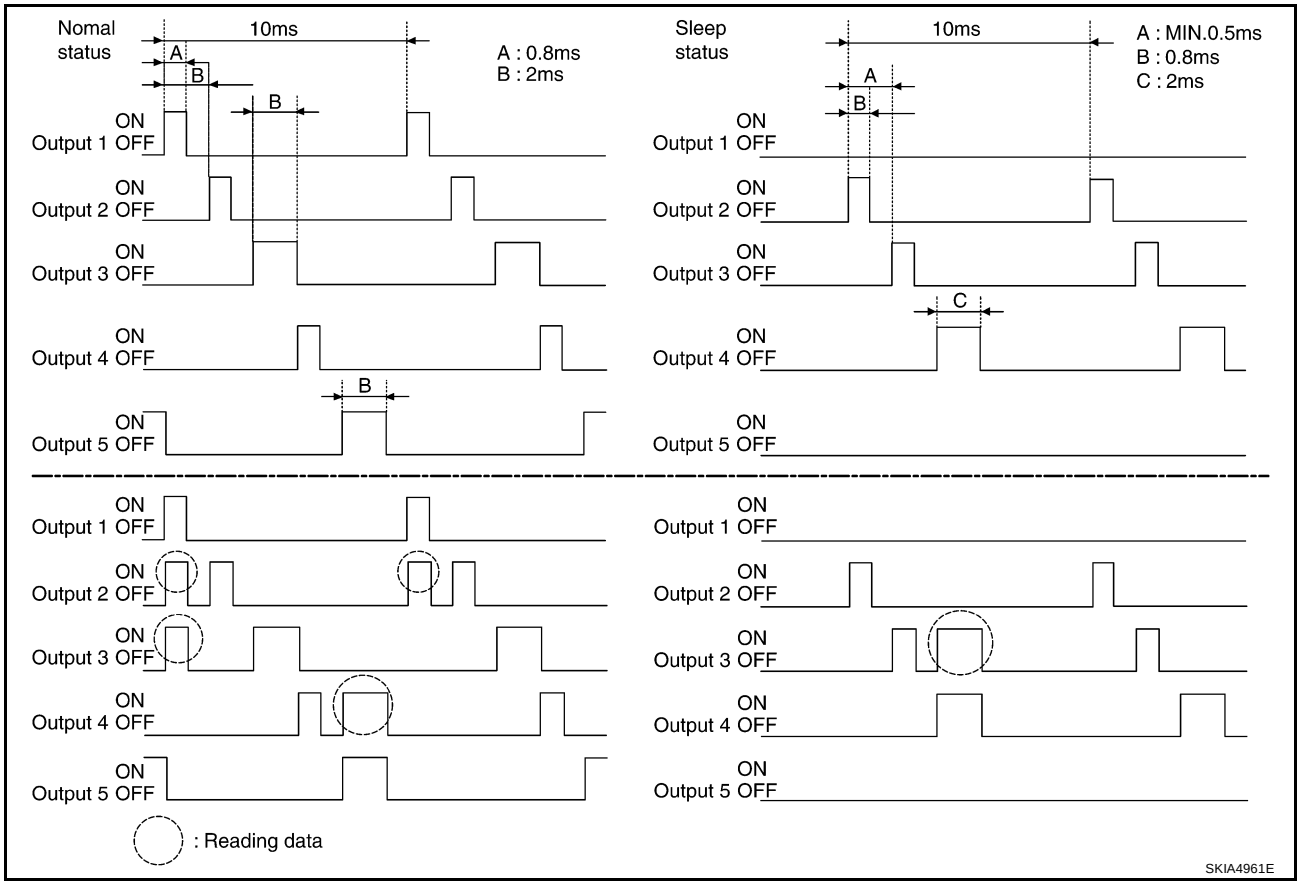
Combination switch reading function has operation modes shown below.

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

AKS009J7

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.

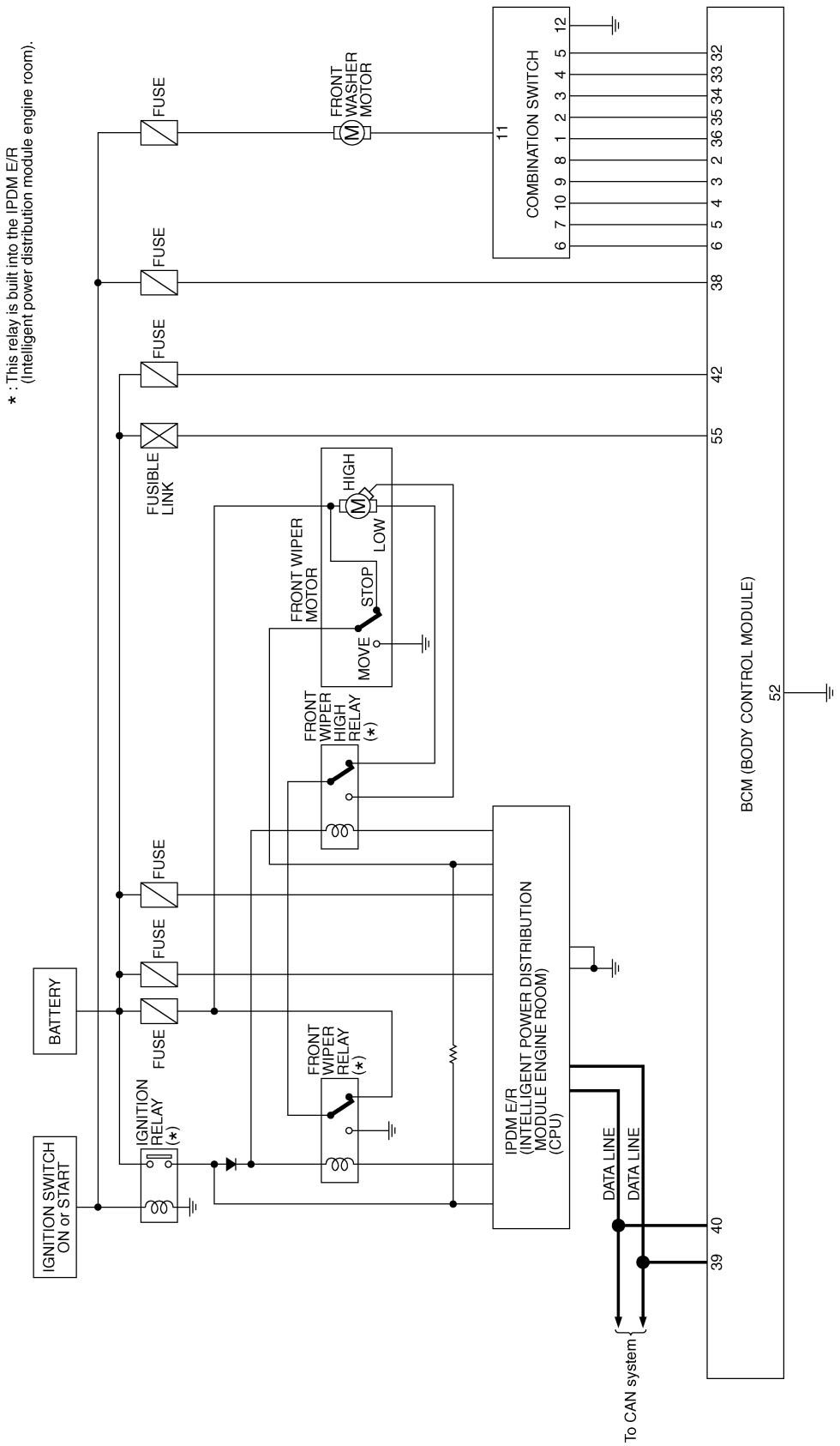
CAN Communication Unit

AKS009J8

Refer to LAN-4, "CAN Communication Unit" .

Schematic

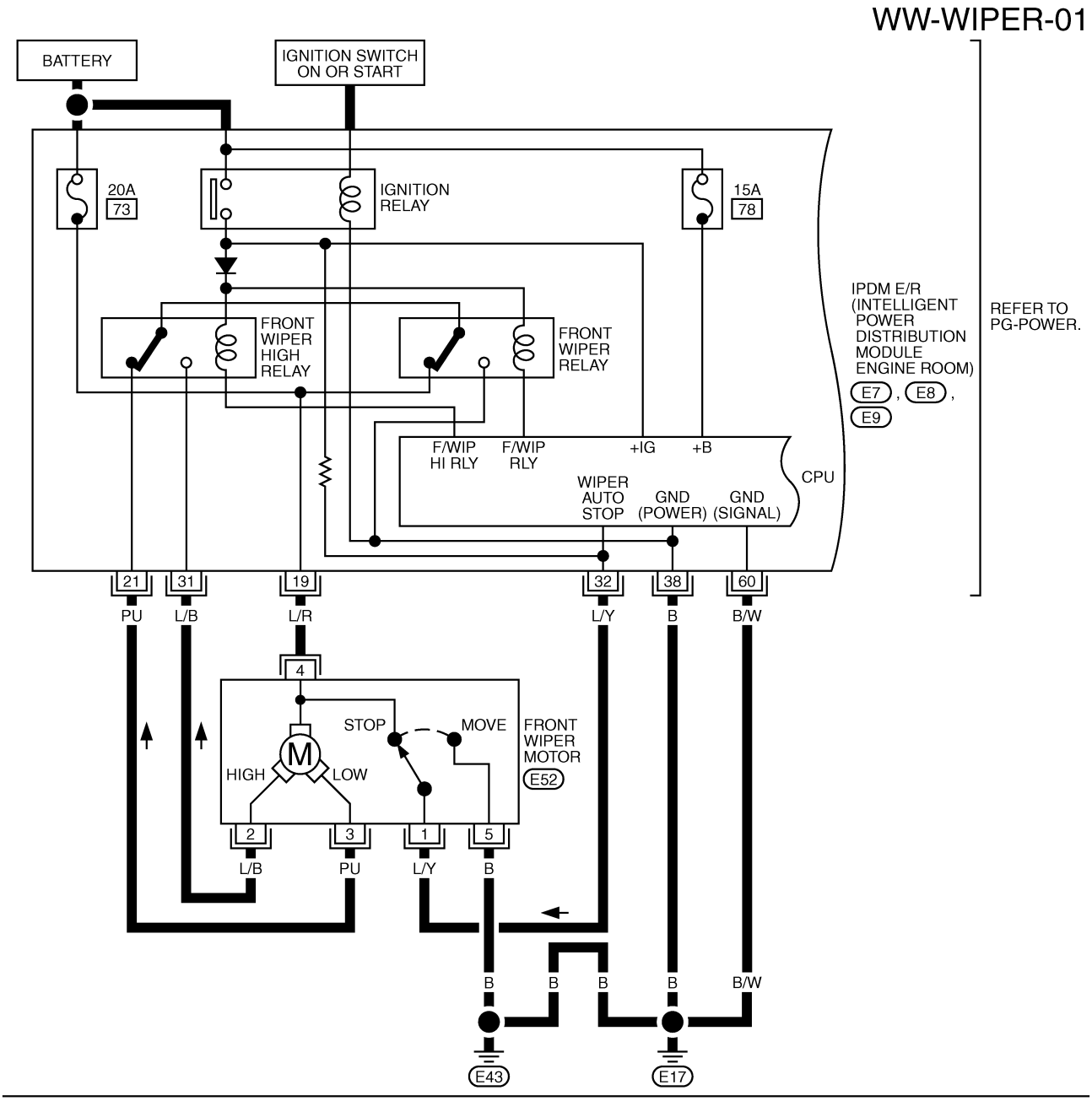
AKS009J9

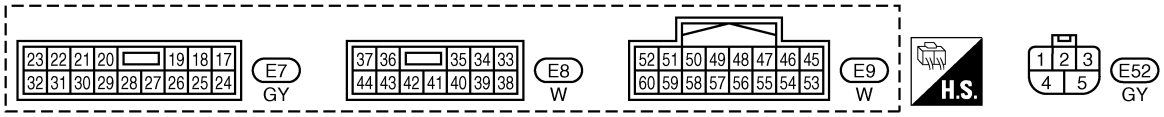


TKWT1435E

Wiring Diagram — WIPER —

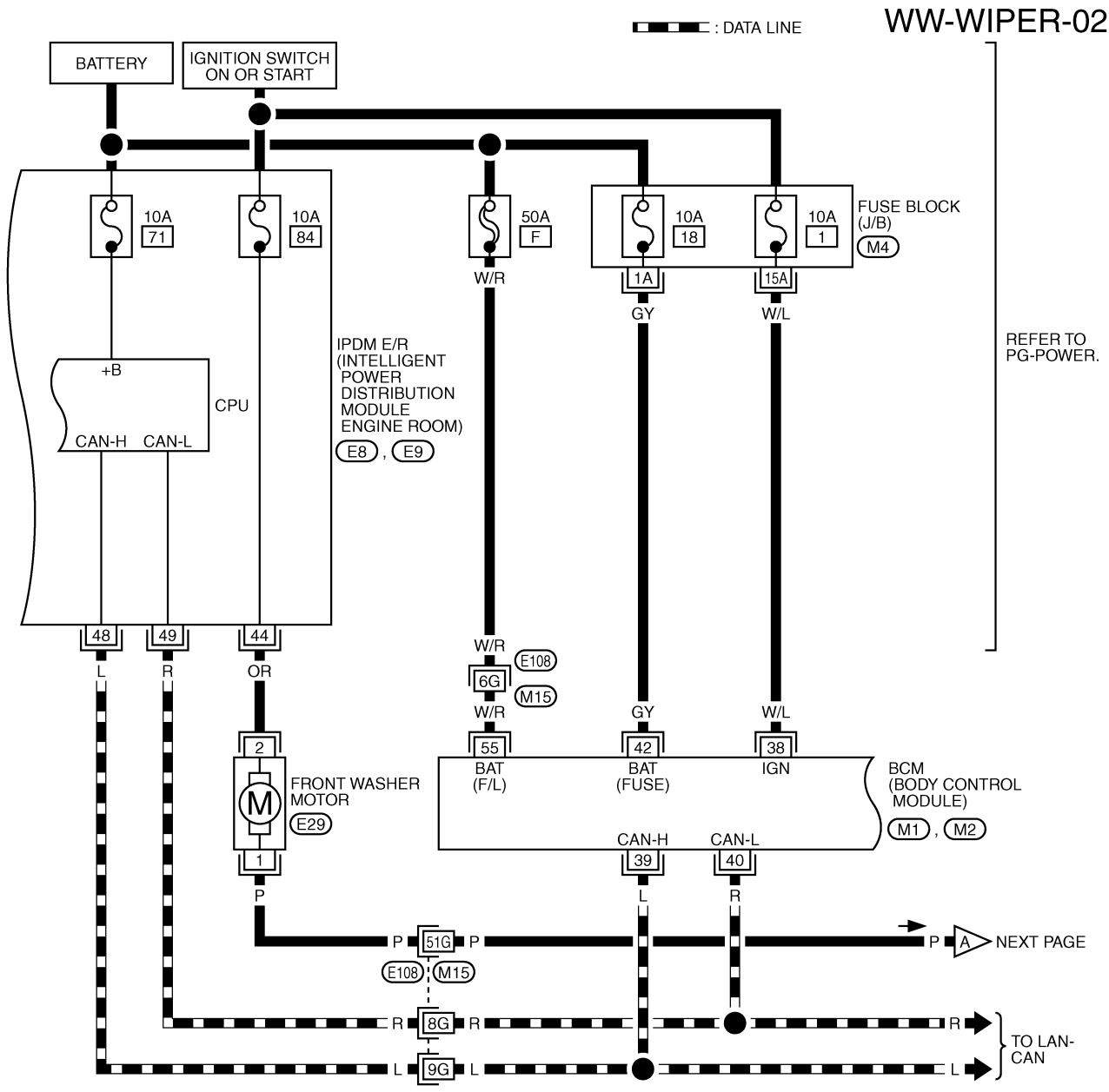
AKS009JA

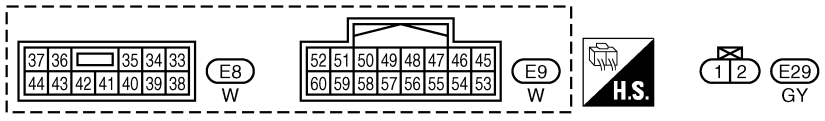




TKWT1436E

WW-WIPER-02





REFER TO THE FOLLOWING.

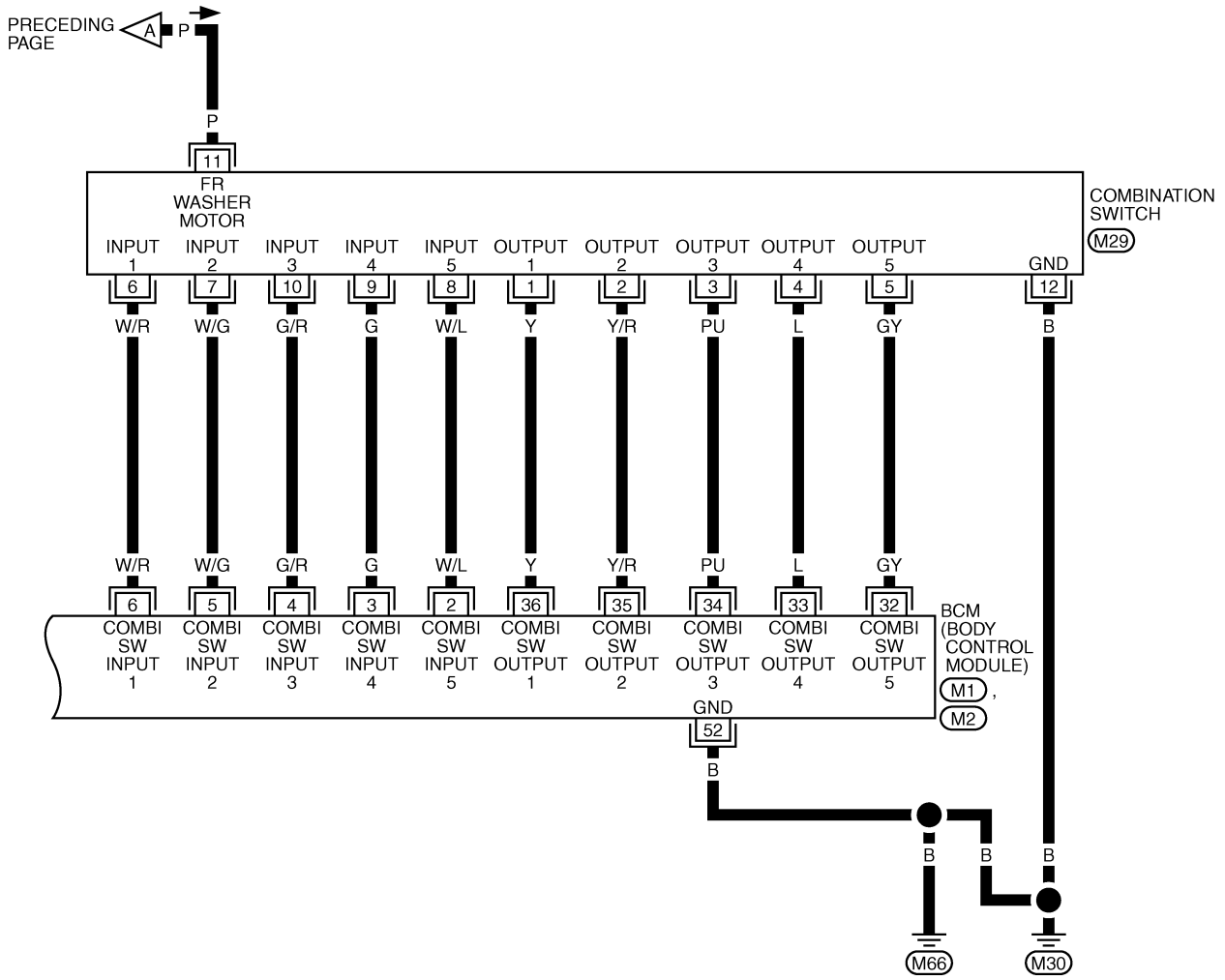
E108 -SUPER MULTIPLE JUNCTION (SMJ)

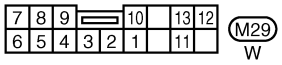
M4 -FUSE BLOCK-JUNCTION BOX (J/B)

M1 , M2 -ELECTRICAL UNITS

TKWT1437E

WW-WIPER-03



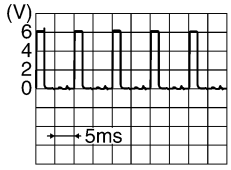
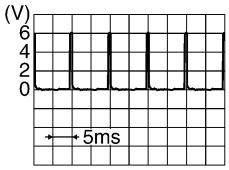
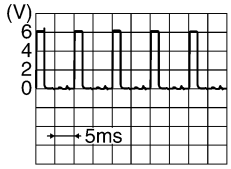
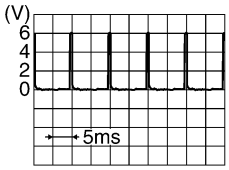
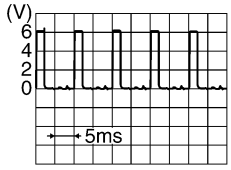
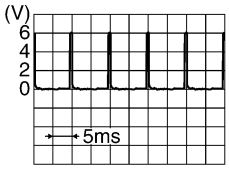
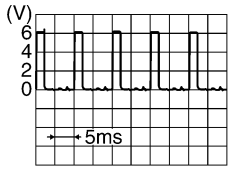


REFER TO THE FOLLOWING.
M1 , M2 -ELECTRICAL UNITS

TKWT1438E

Terminals and Reference Values for BCM

AKS009JB

Terminal No. (Wire color)	Signal name	Measuring condition		Reference value
		Ignition switch	Operation or condition	
2 (W/L)	Combination switch input 5	ON	● Lighting switch and wiper switch OFF ● Wiper dial position 4	 SKIA5291E
3 (G)	Combination switch input 4	ON	● Lighting switch and wiper switch OFF ● Wiper dial position 4	 SKIA5292E
4 (G/R)	Combination switch input 3	ON	● Lighting switch and wiper switch OFF ● Wiper dial position 4	 SKIA5291E
5 (W/G)	Combination switch input 2	ON	● Lighting switch and wiper switch OFF ● Wiper dial position 4	 SKIA5292E
6 (W/R)	Combination switch input 1	ON		
32 (GY)	Combination switch output 5	ON	● Lighting switch and wiper switch OFF ● Wiper dial position 4	 SKIA5291E
33 (L)	Combination switch output 4	ON	● Lighting switch and wiper switch OFF ● Wiper dial position 4	 SKIA5292E
34 (PU)	Combination switch output 3	ON	● Lighting switch and wiper switch OFF ● Wiper dial position 4	 SKIA5291E

Terminal No. (Wire color)	Signal name	Measuring condition		Reference value
		Ignition switch	Operation or condition	
35 (Y/R)	Combination switch output 2	ON	● Lighting switch and wiper switch OFF ● Wiper dial position 4	 SKIA5292E
36 (Y)	Combination switch output 1			
38 (W/L)	Ignition switch (ON)	ON	—	Battery voltage
39 (L)	CAN-H	—	—	—
40 (R)	CAN-L	—	—	—
42 (GY)	Battery power supply	OFF	—	Battery voltage
52 (B)	Ground	ON	—	Approx. 0 V
55 (W/R)	Battery power supply	OFF	—	Battery voltage

Terminals and Reference Values for IPDM E/R

AKS009JC

Terminal No. (Wire color)	Signal name	Measuring condition			Reference value
		Ignition switch	Operation or condition		
19 (L/R)	Front wiper motor power supply	ON	—		Battery voltage
21 (PU)	Low speed signal	ON	Wiper switch	OFF	Battery voltage
				LO	Approx. 0 V
31 (L/B)	High speed signal	ON	Wiper switch	OFF	Battery voltage
				HI	Approx. 0 V
32 (L/Y)	Wiper auto - stop signal	ON	Wiper operating		Approx. 0 V
			Wiper stopped		Battery voltage
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/W)	Ground	ON	—		Approx. 0 V

How to Proceed With Trouble Diagnosis

AKS009JD

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-17, "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

Preliminary Check

AKS009JE

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	F
		18
	Ignition switch ON or START	1

Refer to WW-12, "Wiring Diagram — WIPER —" .

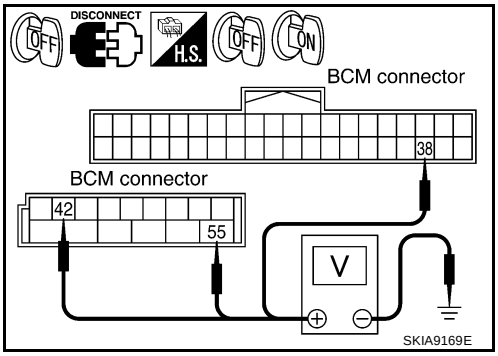
OK or NG

OK >> GO TO 2.

NG >> If fuse is blown, be sure to eliminate cause of 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	
(+)		(-)	OFF	ON
Connector	Terminal (Wire color)			
M2	42 (GY)	Ground	Battery voltage	Battery voltage
M2	55 (W/R)		Battery voltage	Battery voltage
M1	38 (W/L)		0V	Battery voltage

OK or NG

OK >> GO TO 3.

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

3. CHECK GROUND CIRCUIT

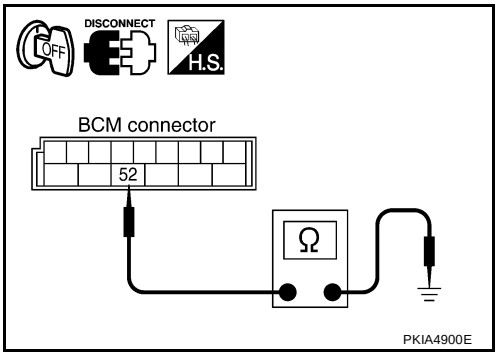
Check continuity between BCM harness connector and ground.

Terminals			Continuity
Connector	Terminal (Wire color)		
M2	52 (B)	Ground	Yes

OK or NG

OK >> INSPECTION END

NG >> Check ground circuit harness.



CONSULT-II Functions (BCM)

AKS009JF

CONSULT-II performs the following functions communicating with BCM.

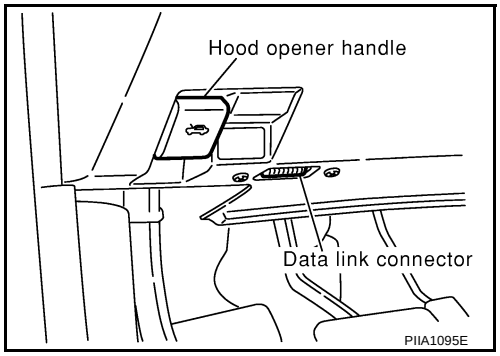
BCM diagnosis position	Check item, Diagnosis mode	Description
WIPER	DATA MONITOR	Displays BCM input data in real time.
	ACTIVE TEST	Device operation can be checked by applying a drive signal to device.
BCM	CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.

CONSULT-II OPERATION

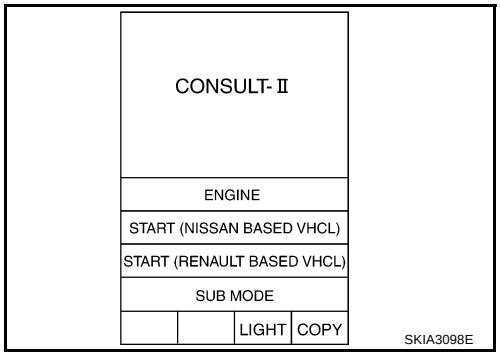
CAUTION:

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.

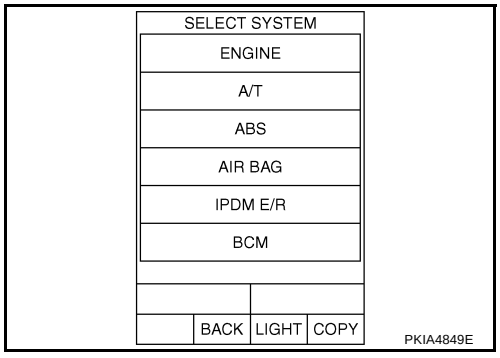
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.



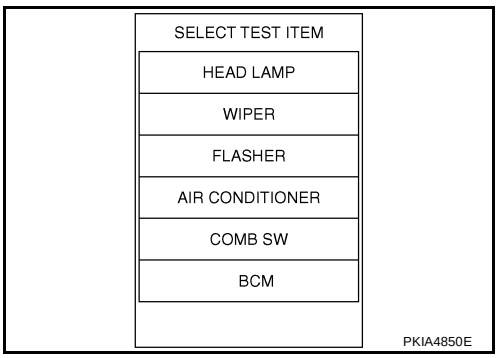
2. Touch “START (NISSAN BASED VHCL)”.



3. Touch “BCM” on “SELECT SYSTEM” screen.
If “BCM” is not indicated, refer to GI-38, "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 “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 ITEMS” is selected, all items will be monitored.
6. Touch “RECORDING START” while monitoring to record the status of the item being monitored. To stop recording, touch “RECORDING STOP”.

Display Item List

Monitor item [operation or unit]		Display content
IGN ON SW	[ON/OFF]	Displays “ignition switch ON (ON)/Other OFF or ACC (OFF)” status as judged from ignition switch signal.
IGN SW CAN	[ON/OFF]	Displays “ignition switch ON (ON)/Other OFF or ACC (OFF)” status as judged from CAN communication signal.
FR WIPER HI	[ON/OFF]	Displays “FRONT WIPER HI (ON)/Other (OFF)” status as judged from wiper switch signal.
FR WIPER LOW	[ON/OFF]	Displays “FRONT WIPER LOW (ON)/Other (OFF)” status as judged from wiper switch signal.
FR WIPER INT	[ON/OFF]	Displays “FRONT WIPER INT (ON)/Other (OFF)” status as judged from wiper switch signal.
FR WASHER SW	[ON/OFF]	Displays “FRONT WASHER Switch (ON)/Other (OFF)” status as judged from wiper switch signal.
INT VOLUME	[1 - 7]	Displays intermittent operation dial position setting (1 - 7) as judged from wiper switch signal.
FR WIPER STOP	[ON/OFF]	Displays “Stopped (ON)/Operating (OFF)” status as judged from the auto-stop signal.
VEHICLE SPEED	[km/h]	Displays vehicle speed status as judged from vehicle speed signal.
RR WIPER ON[NOTE]	[ON/OFF]	—
RR WIPER INT[NOTE]	[ON/OFF]	—
RR WASHER SW[NOTE]	[ON/OFF]	—
RR WIPER STOP[NOTE]	[ON/OFF]	—

NOTE:
This item is displayed, but cannot monitor it.

ACTIVE TEST

Operation Procedure

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

Display Item List

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

NOTE:
This item is displayed, but cannot test it.

CONSULT-II Functions (IPDM E/R)

AKS009JG

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

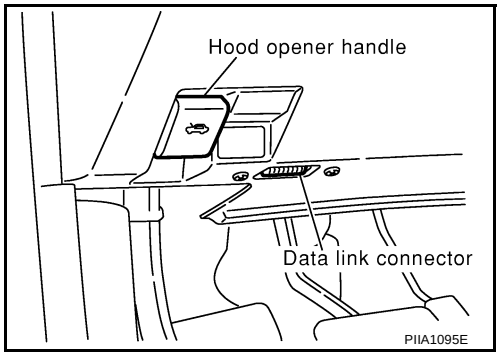
Check Item, Diagnosis Mode	Description
SELF–DIAG RESULTS	The IPDM E/R performs diagnosis of the CAN communication and self–diagnosis.
DATA MONITOR	The input/output data of the IPDM E/R is displayed in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be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

CONSULT-II OPERATION

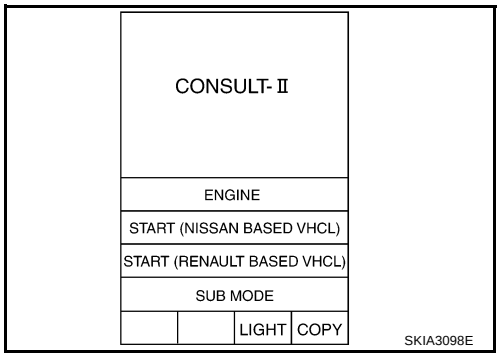
CAUTION:

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.

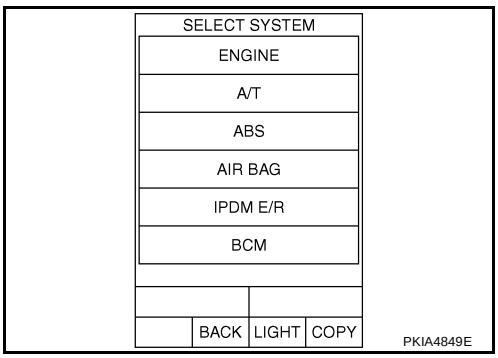
1. With the ignition switch OFF, connect CONSULT-II and CONSULT-II CONVERTER to the data link connector, then turn the ignition switch ON.



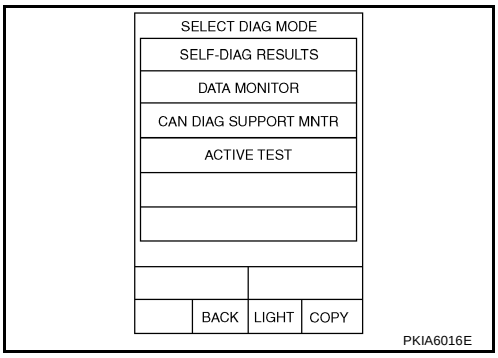
2. Touch “START (NISSAN BASED VHCL)”.



3. Touch “IPDM E/R” on “SELECT SYSTEM” screen.
If “IPDM E/R” is not displayed, print “SELECT SYSTEM” screen, then refer to GI-38, "CONSULT-II Data Link Connector (DLC) Circuit" .



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



SELF–DIAGRESULTS

Refer to PG-19, "SELF-DIAG RESULTS" .

DATA MONITOR

Operation Procedure

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

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

All Signals, Main Signals, Selection From Menu

Item name	CONSULT-II screen display	Display or unit	Monitor item selection			Description
			ALL SIGNALS	MAIN SIGNALS	SELECTION FROM MENU	
FR wiper request	FR WIP REQ	STOP/1LOW/LOW/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

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

AKS009JH

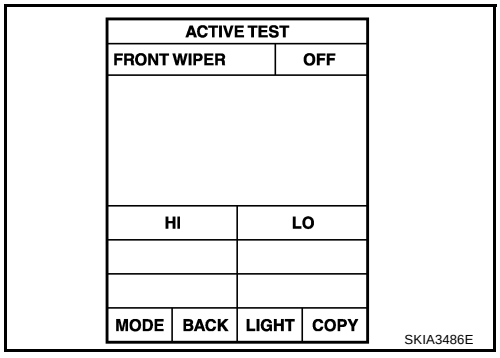
CAUTION:

- **During IPDM E/R fail-safe control, front wipers may not operate. Refer to PG-16, "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 WIPER

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-22, "Auto Active Test" .

Does the front wiper operate normally?

YES >> GO TO 8.
NO >> GO TO 2.

2. CHECK FUSE

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

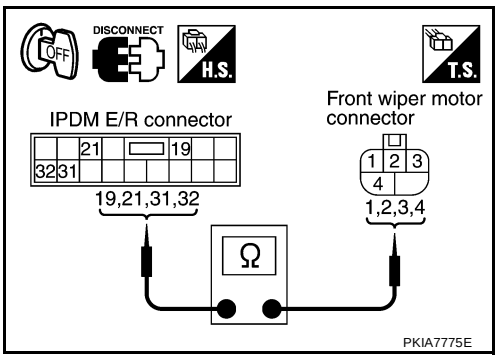
OK or NG

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" .

3. CHECK FRONT WIPER CIRCUIT

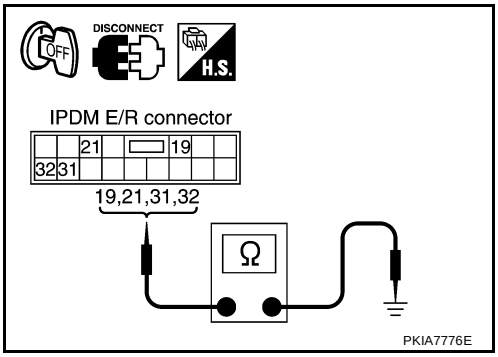
1. Disconnect IPDM E/R connector and front wiper motor connector.
2. Check continuity between IPDM E/R harness connector and front wiper motor harness connector terminal.

Terminals				Continuity
IPDM E/R		Front wiper motor		
Connector	Terminal (Wire color)	Connector	Terminal (Wire color)	
E7	19 (L/R)	E52	4 (L/R)	Yes
	21 (PU)		3 (PU)	
	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			
Connector	Terminal (Wire color)		
E7	19 (L/R)	Ground	No
	21 (PU)		
	31 (L/B)		
	32 (L/Y)		



OK or NG

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

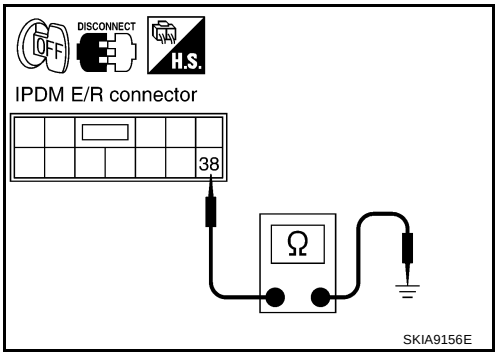
4. CHECK GROUND CIRCUIT

Check continuity between IPDM E/R harness connector E8 terminal 38 (B) and ground.

38 (B) – Ground : Continuity should exist.

OK or NG

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



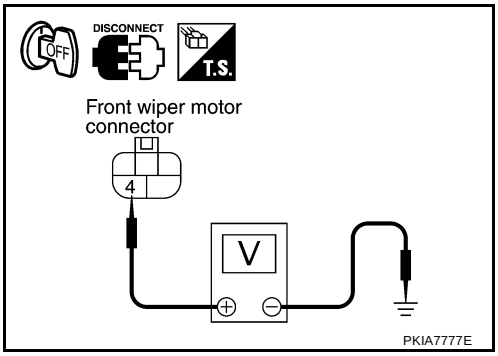
5. CHECK POWER SUPPLY CIRCUIT

1. Connect IPDM E/R connector.
2. Check voltage between front wiper motor harness connector E52 terminal 4 (L/R) and ground.

4 (R/L) – Ground : Battery voltage should exist.

OK or NG

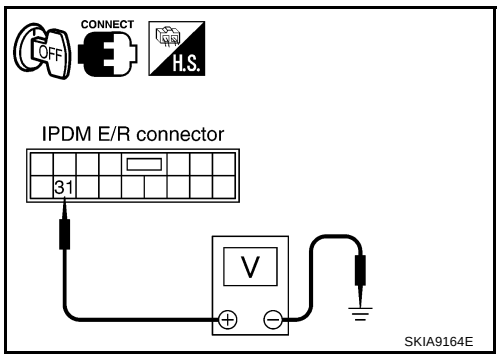
OK >> GO TO 6.
NG >> Replace IPDM E/R.



6. CHECK FRONT WIPER MOTOR

1. Connect front wiper moter connector.
2. Check voltage between IPDM E/R harness connector E7 terminal 31 (L/B) and ground.

31 (L/B) – Ground : Battery voltage should exist.



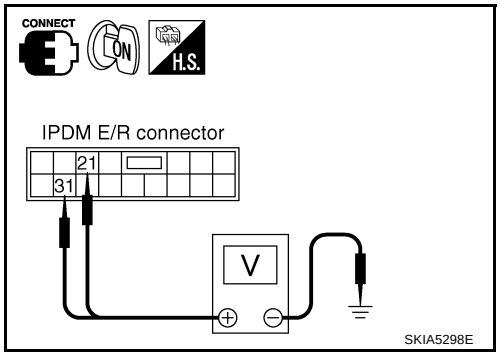
OK or NG

OK >> GO TO 7.
NG >> Replace front wiper moter.

7. CHECK IPDM E/R

With CONSULT-II

1. Connect 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. 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	Battery voltage
			LO operation	Approx. 0V
	31 (L/B)		Stopped	Battery voltage
			HI operation	Approx. 0V

Without CONSULT-II

1. Connect front wiper motor connector.
2. Start up auto active test. Refer to PG-22, "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 (PU)	Ground	Stopped	Battery voltage
			LO operation	Approx. 0V
	31 (L/B)		Stopped	Battery voltage
			HI operation	Approx. 0V

OK or NG

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

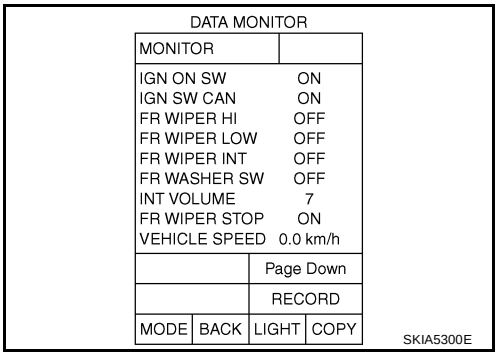
8. CHECK COMBINATION SWITCH

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-129, "Combination Switch Inspection" .

OK or NG

OK >> GO TO 7.
NG >> Check wiper Switch. Refer to LT-129, "Combination Switch Inspection" .

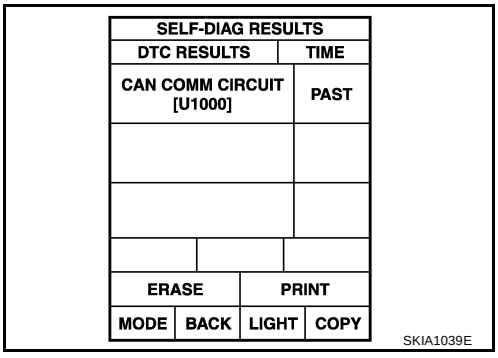


9. CHECK CIRCUIT BETWEEN IPDM E/R AND BCM

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)" .



Front Wiper Does Not Return to Stop Position

AKS009JI

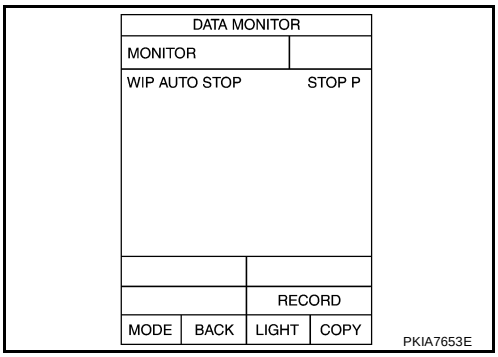
1. CHECK CIRCUIT BETWEEN IPDM E/R AND WIPER MOTOR

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

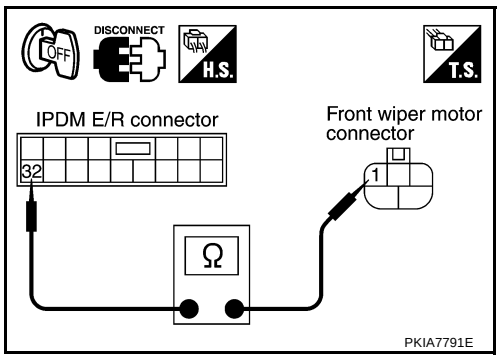
OK >> Replace IPDM E/R.
NG >> GO TO 2.



2. CHECK WIPER MOTOR CIRCUIT

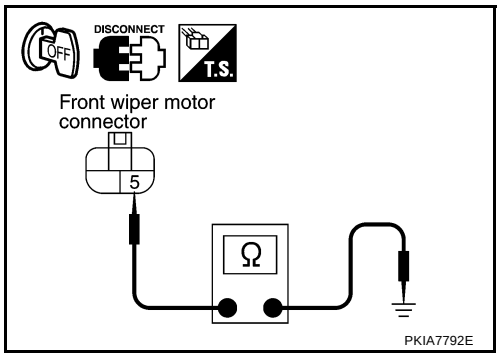
1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and front wiper motor connector.
3. Check continuity between IPDM E/R harness connector E7 terminal 32 (L/Y) and front wiper motor harness connector E52 terminal 1 (L/Y).

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



4. Check continuity between front wiper motor harness connector E52 terminal 5 (B) and ground.

5 (B) - Ground : Continuity should exist.



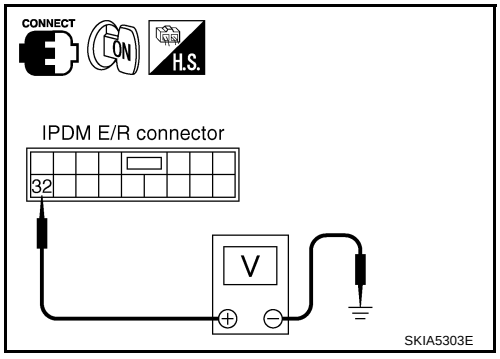
OK or NG

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



OK or NG

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

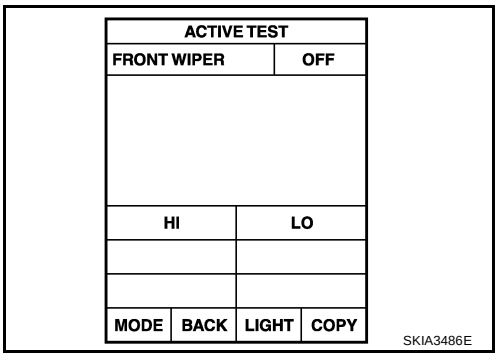
Only Front Wiper LO Does Not Operate

AKS009JJ

1. 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.



Without CONSULT-II

Start up auto active test. Refer to PG-22, "Auto Active Test"

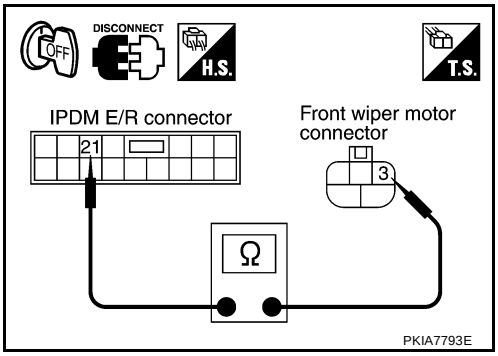
Does the front wiper operate normally?

YES >> GO TO LT-129, "Combination Switch Inspection" .
NO >> GO TO 2.

2. CHECK FRONT WIPER CIRCUIT

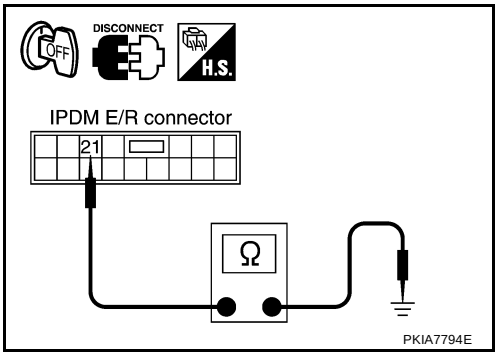
1. Turn ignition switch OFF.
2. Disconnect IPDM E/R connector and front wiper motor connector.
3. Check continuity between IPDM E/R harness connector E7 terminal 21 (PU) and front wiper motor harness E52 connector terminal 3 (PU).

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.



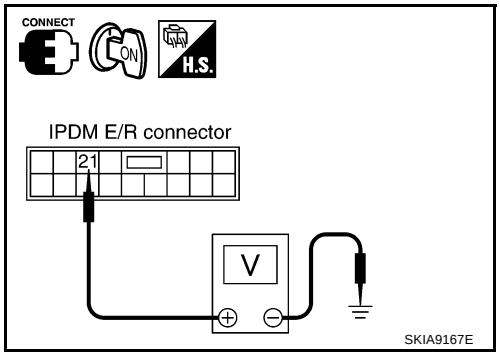
OK or NG

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

3. CHECK IPDM E/R

With CONSULT-ll

1. Connect IPDM E/R 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 LO is operating.



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

Without CONSULT-ll

1. Connect IPDM E/R connector and front wiper motor connector.
2. Start up auto active test. Refer to PG-22, "Auto Active Test" , and check voltage between IPDM E/R harness connector E7 terminal 21(PU) and ground while front wiper LO is operating.

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

OK or NG

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

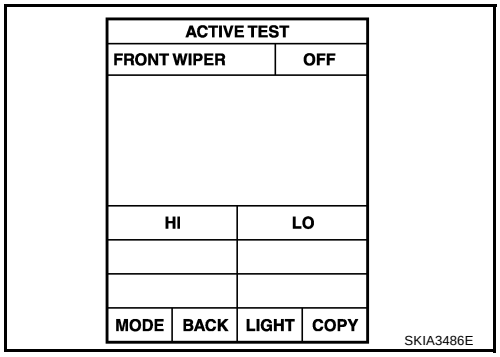
Only Front Wiper HI Does Not Operate

AKS009JK

1. ACTIVE TEST

With CONSULT-ll

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-ll

Start up auto active test. Refer to PG-22, "Auto Active Test" .

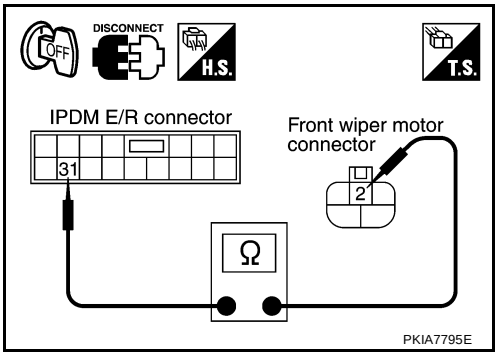
Does the front wiper operate normally?

YES >> GO TO LT-129, "Combination Switch Inspection" .
NO >> 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.

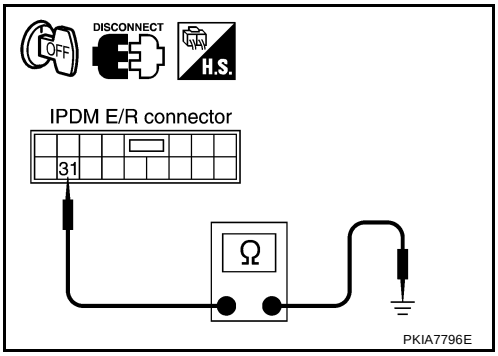


4. Check continuity between IPDM E/R harness connector E7 terminal 31(L/B) and ground.

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

OK or NG

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



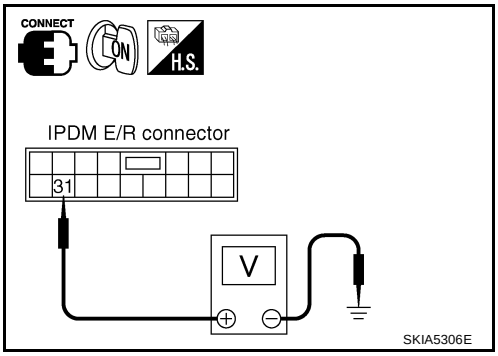
3. CHECK FRONT WIPER CIRCUIT

1. Connect front wiper motor connector.
2. Check voltage between IPDM E/R harness connector E7 terminal 31 (L/B) and ground.

31 (L/B) - Ground : Battery voltage should exist.

OK or NG

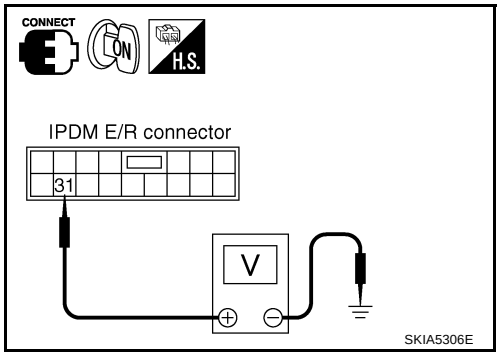
OK >> GO TO 4.
NG >> Repiace front wiper moter.



4. 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 E7 terminal 31 (L/B) and ground while front wiper (HI) is operating.



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

Without CONSULT-II

1. Connect IPDM E/R connector and front wiper motor connector.
2. Start up auto active test. Refer to PG-22, "Auto Active Test" , and check voltage between IPDM E/R harness connector E7 terminal 31(L/B) and ground while front wiper HI is operating.

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

OK or NG

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

Only Front Wiper INT Does Not Operate

AKS009JL

Refer to LT-129, "Combination Switch Inspection" .

Front Wiper Interval Time Is Not Controlled by Vehicle Speed

AKS009JM

1. CHECK FUNCTION OF COMBINATION METER

Confirm that speedometer operates normally.

Does the front wiper operate normally?

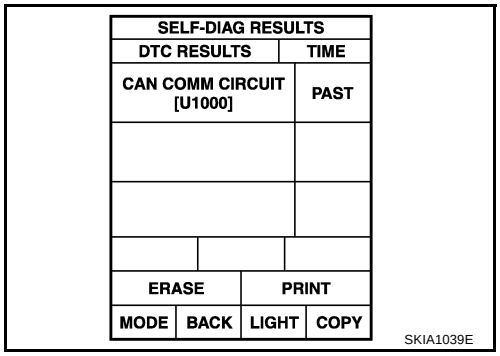
YES >> GO TO 2.
NO >> Combination meter vehicle speed system malfunction. GO TO DI-14, "Inspection/Vehicle Speed Signal" .

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)" .

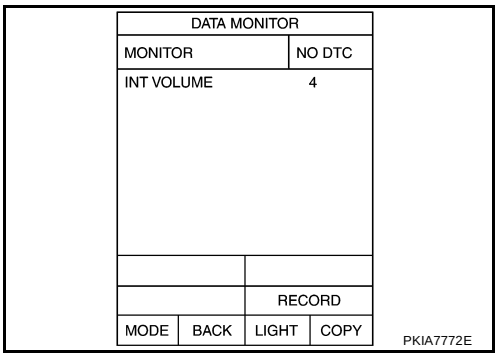


Front Wiper Intermittent Operation Switch Position Cannot Be Adjusted

AKS009JN

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 BCS-15, "Removal and Installation of BCM" .

NG >> Replace wiper switch.

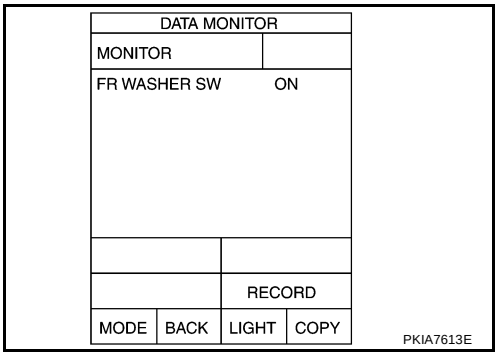
Wipers Do Not Wipe When Front Washer Operates

AKS009JO

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.

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

AKS009JP

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

With CONSULT-II

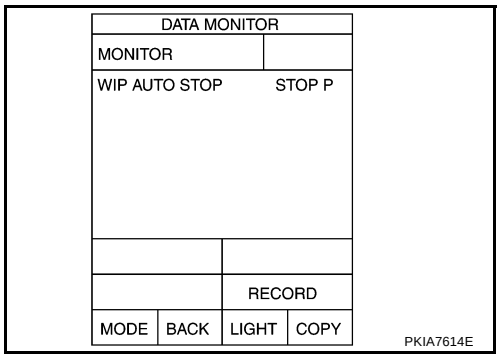
Select "IPDM E/R" on CONSULT-II. With "DATA MONITOR", confirm that "WIP AUTO STOP" turns "ACT P" - "STOP P" linked with wiper operation.

Without CONSULT-II

GO TO 2.

OK or NG

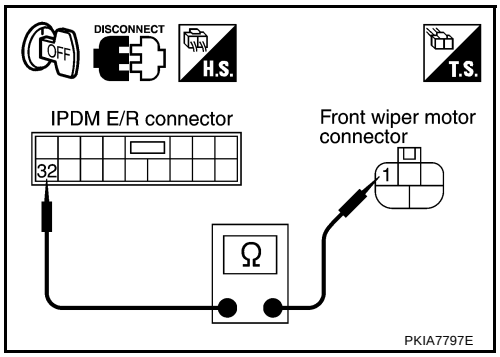
OK >> Replace IPDM E/R.
NG >> GO TO 2.



2. CHECK WIPER MOTOR CIRCUIT

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

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

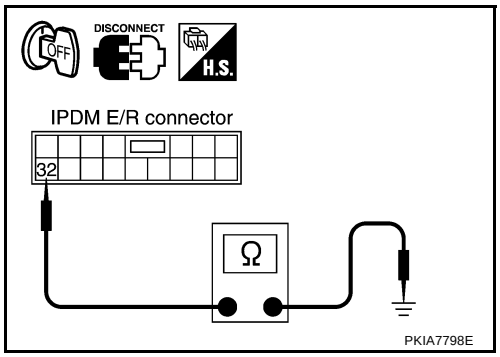


4. Check continuity between IPDM E/R harness connector E7 terminal 32 (L/Y) and ground.

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

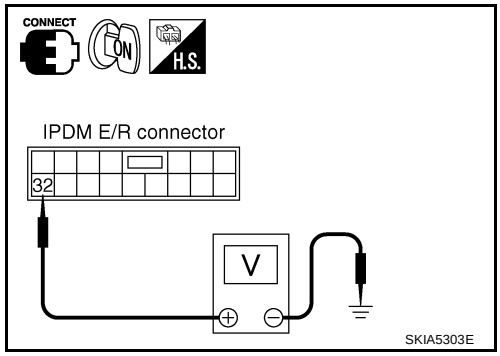
OK or NG

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



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

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



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

OK or NG

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

Front Wipers Do Not Stop

AKS009JQ

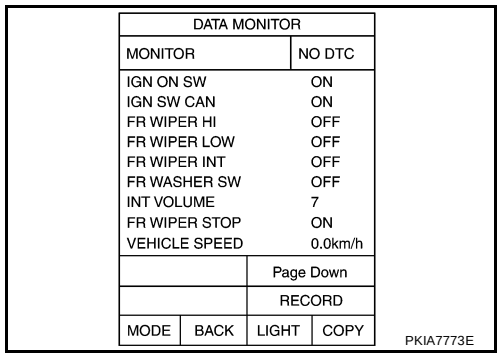
1. CHECK BETWEEN COMBINATION SWITCH AND BCM CIRCUIT

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-129, "Combination Switch Inspection" .

OK or NG

OK >> Replace IPDM E/R.
NG >> Check wiper Switch. Refer to LT-129, "Combination Switch Inspection" .



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

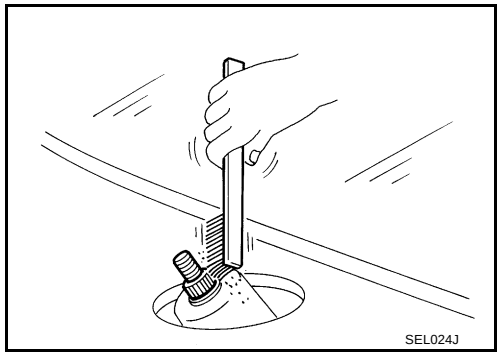
AKS009LR

REMOVAL

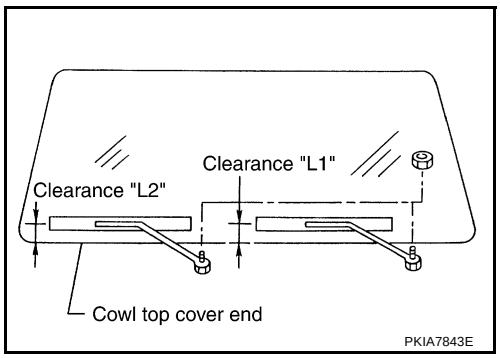
1. Operate wiper motor, and stop it at the auto stop position.
2. Remove washer tube from washer tube joint.
3. Remove wiper arm mounting nuts and wiper arm from vehicle.

INSTALLATION

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



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” : 47.1 - 62.1 mm (1.854 - 2.445 in)

Clearance “L2” : 32.1 - 47.1 mm (1.264 - 1.854 in)

- Tighten wiper arm nuts to specified torque.

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

CAUTION:

Don't operate the front wiper when engine hood is being open.

ADJUSTMENT

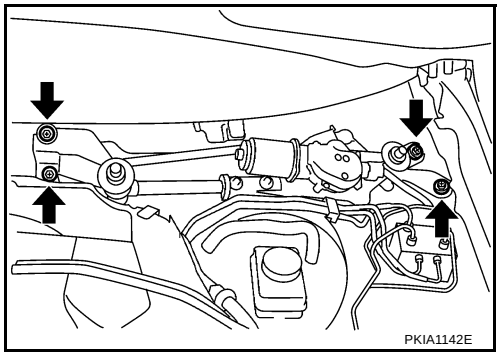
Refer to WW-33, "INSTALLATION" .

Removal and Installation of Front Wiper Motor Assembly

AKS009LS

REMOVAL

1. Remove wiper arm. Refer to WW-33, "REMOVAL" .
2. Remove cowl top cover. Refer to EI-21, "COWL TOP" in “EI” section.
3. Remove washer tube.
4. Disconnect wiper motor connector.
5. Remove wiper motor assembly screws, and remove wiper motor assembly.



INSTALLATION

1. Install wiper motor assembly 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 connector joint.
4. Install cowl top cover. Refer to EI-21, "COWL TOP" in “EI” section.
5. Install wiper arms. Refer to WW-33, "Removal and Installation of Front Wiper Arms, Adjustment of Wiper Arms Stop Location" .
6. Attach wiper arm washer tube.

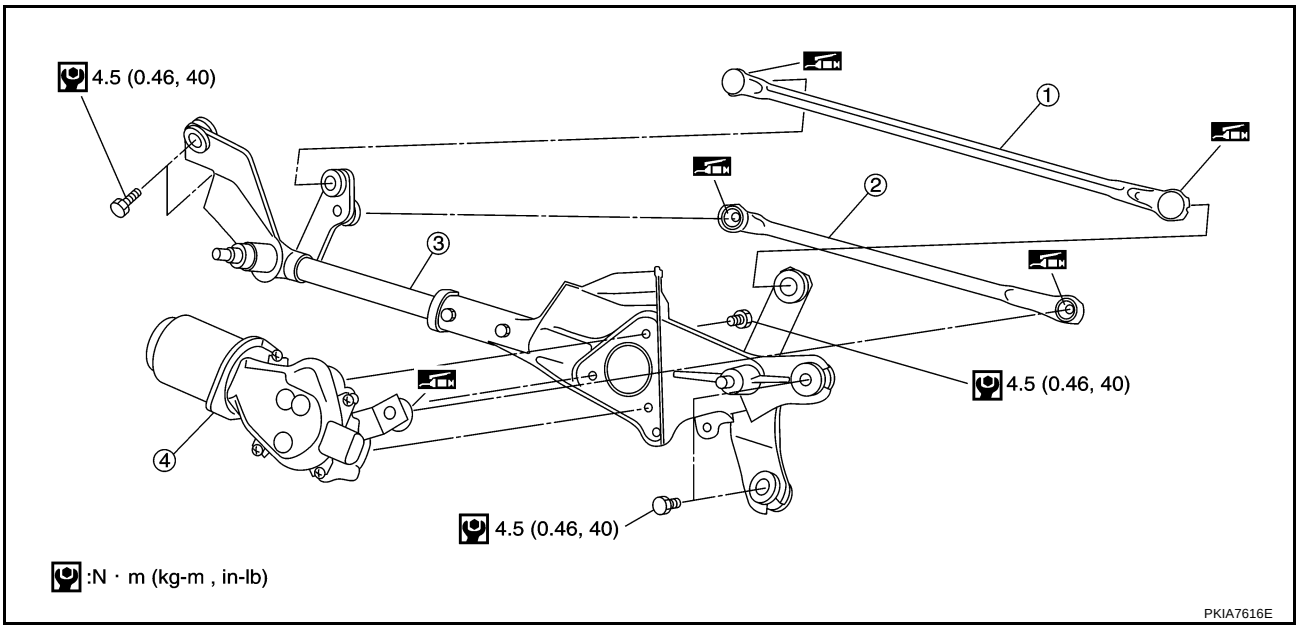
Wiper motor assembly bolts : 4.5 N·m (0.46 kg-m, 40 in-lb)

CAUTION:

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

Disassembly and Assembly of Front Wiper Motor Assembly

AKS009LT



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

DISASSEMBLY

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

ASSEMBLY

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

Wiper motor bolts : 4.5 N·m (0.46 kg-m, 40 in-lb)

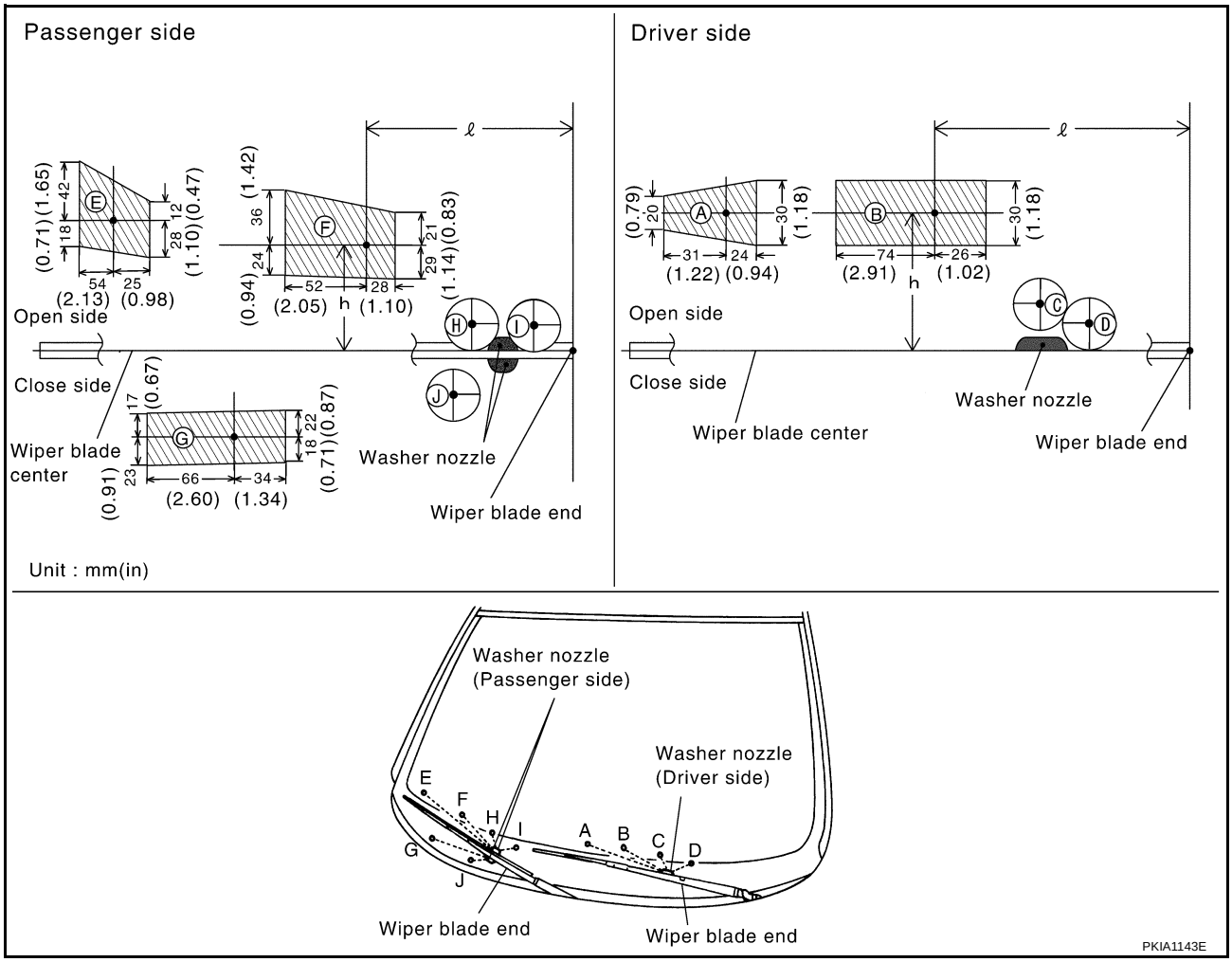
Washer Nozzle Adjustment

AKS009LU

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, F, and G) so that spray positions are in the range of shaded parts.

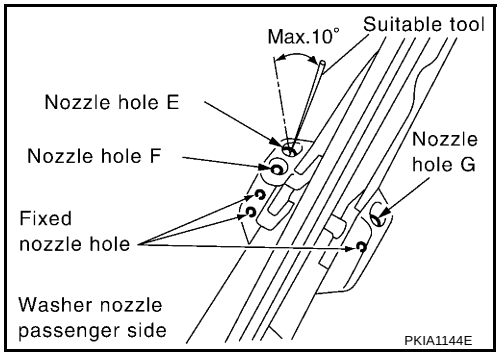
CAUTION:

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.



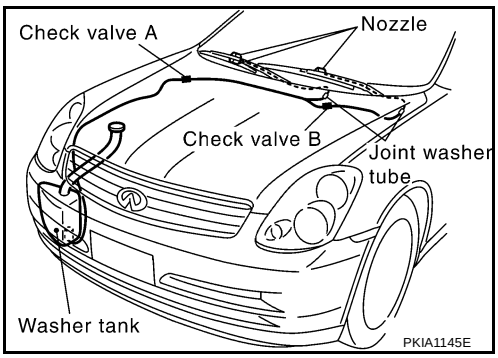
Unit: mm (in)

Spray position	h (height)	ℓ (width)
A	25 (0.98)	339 (13.35)
B	25 (0.98)	176 (6.93)
(C)	—	—
(D)	—	—
E	53 (2.09)	306 (12.05)
F	39 (1.54)	158 (6.22)
G	–32 (–1.26)	244 (9.61)
(H)	—	—
(I)	—	—
(J)	—	—



Washer Tube Layout

AKS009LV



Removal and Installation of Front Washer Nozzle

AKS009LW

Replace wiper arm assembly. Refer to WW-33, "Removal and Installation of Front Wiper Arms, Adjustment of Wiper Arms Stop Location" .

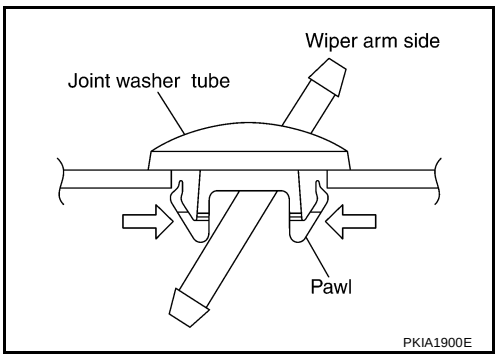
CAUTION:

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

Removal and Installation of Front Washer Joint

AKS009LX

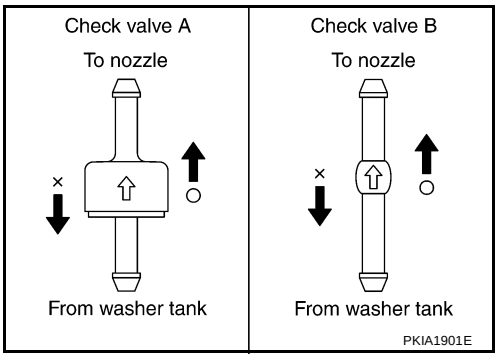
1. Remove upwards while pressing the tab on reverse side.
2. Remove washer tube.



Inspection of Check Valve

AKS009LY

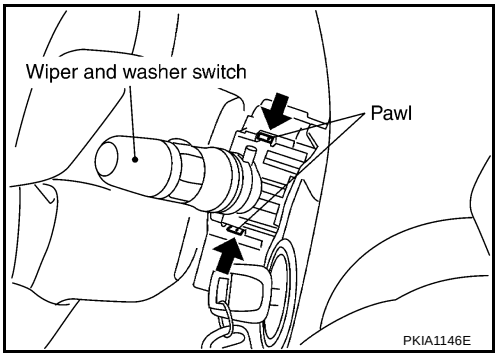
Blow air in the injection direction, and check that air flows only one way. Make sure that the reverse direction (inhale) is not possible.



Removal and Installation of Front Wiper and Washer Switch

AKS009LZ

1. Remove steering column cover. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" in “IP” section.
2. Remove mounting bolts of clusterlid A and combination meter. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" in “IP” section.
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.
4. Remove wiper and washer switch connector.

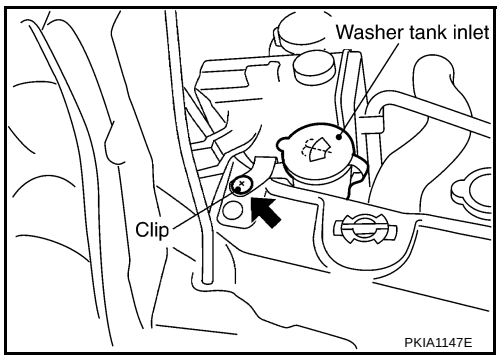


Removal and Installation of Washer Tank

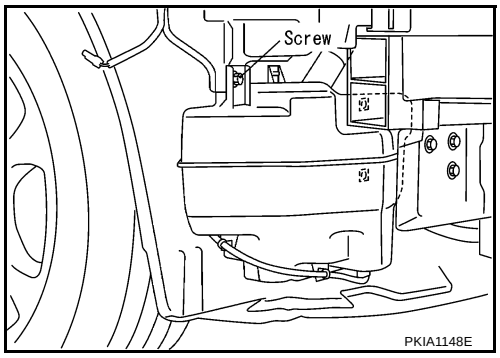
AKS009M0

REMOVAL

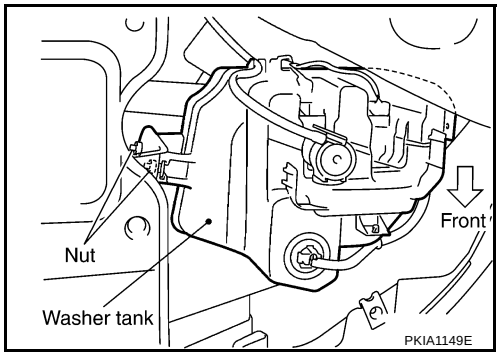
1. Pull out washer tank inlet.



2. Remove fender protector in the right side. Refer to EI-22, "FENDER PROTECTOR" in “EI” section.
3. Remove right half of front bumper fascia. Refer to EI-14, "FRONT BUMPER" in “EI” section.
4. Remove washer pump connector.
5. Remove washer tank installation screw and nuts.



6. Remove washer tube, and remove washer tank from the vehicle.



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 installation screw

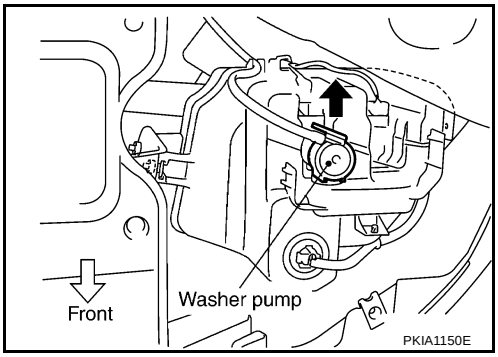
Tightening torque : 5.7 N·m (0.58 kg-m, 50 in-lb)

Removal and Installation of Washer Pump

AKS009M1

REMOVAL

1. Remove fender protector in the right side. Refer to EI-22, "FENDER PROTECTOR" in “EI” section.
2. Remove 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.

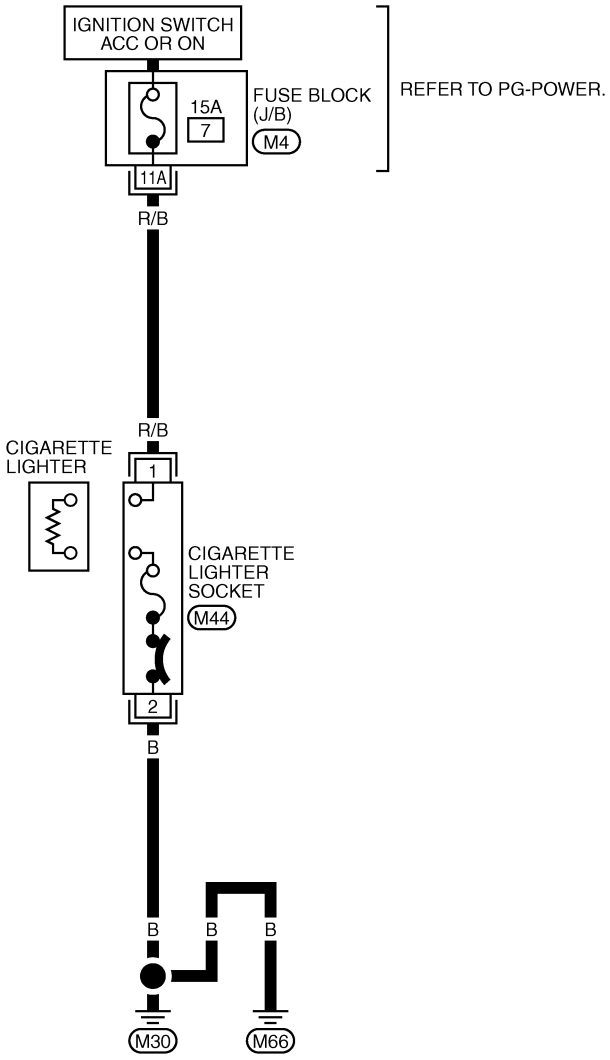
CIGARETTE LIGHTER

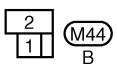
PFP:35330

Wiring Diagram — CIGAR —

AKS00A07

WW-CIGAR-01





REFER TO THE FOLLOWING.
M4 -FUSE BLOCK-
JUNCTION BOX (J/B)

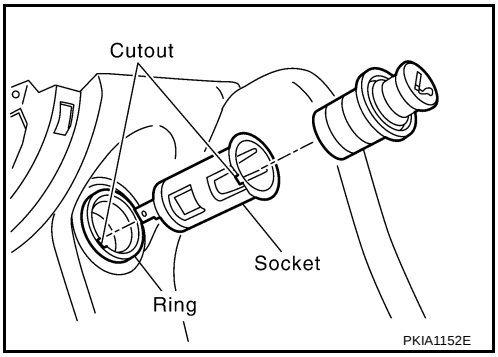
TKWT0726E

Removal and Installation of Cigarette Lighter

AKS00A08

REMOVAL

1. Remove the instrument side panel. Refer to IP-10, "INSTRUMENT PANEL ASSEMBLY" "IP" section.
2. Pull out the cigarette lighter.
3. Remove socket.
4. Press out ring from the back of instrument side panel.



INSTALLATION

Install in the reverse order of removal.

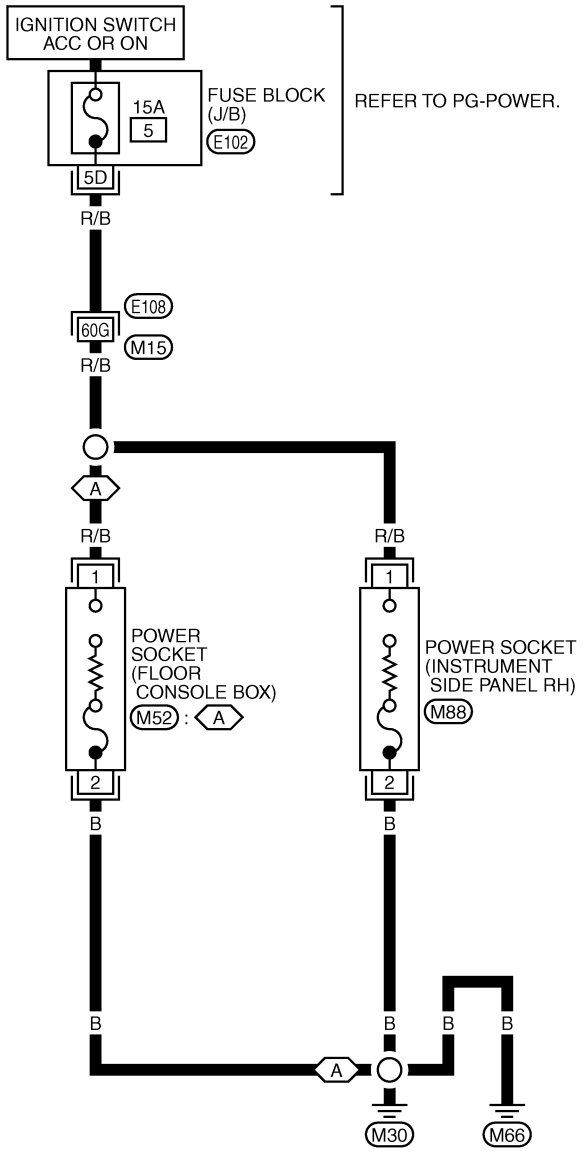
POWER SOCKET

PFP:253A2

Wiring Diagram — P/SCKT —

AKS00A09

WW-P/SCKT-01



A : WITH A/T

2
1
M52 , M88
B B

REFER TO THE FOLLOWING.
E108 -SUPER MULTIPLE JUNCTION (SMJ)
E102 -FUSE BLOCK-JUNCTION BOX (J/B)

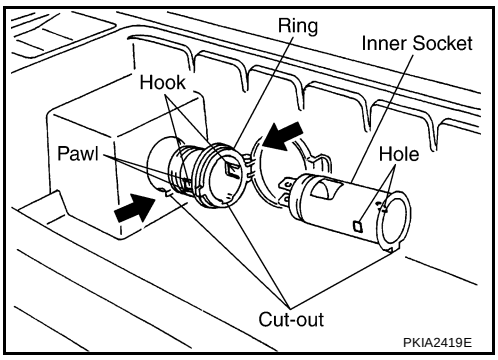
TKWT1439E

Removal and Installation for Console Power Socket

AKS00ADP

REMOVAL

1. Remove console box assembly. Refer to IP-20, "CENTER CONSOLE (A/T Models)" in “IP” section.
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 console box while pressing pawls.



INSTALLTION

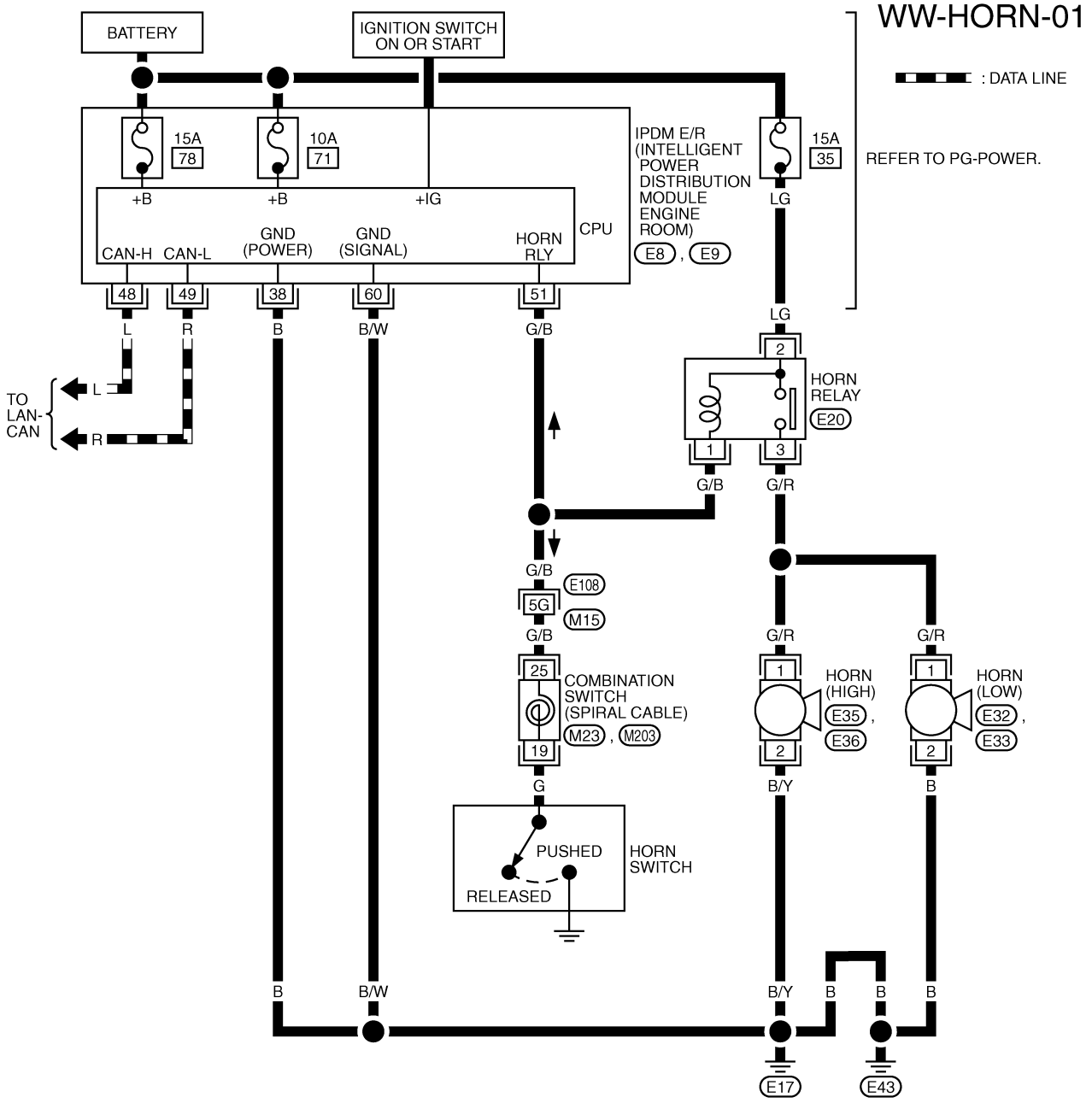
Install in the reverse order of removal.

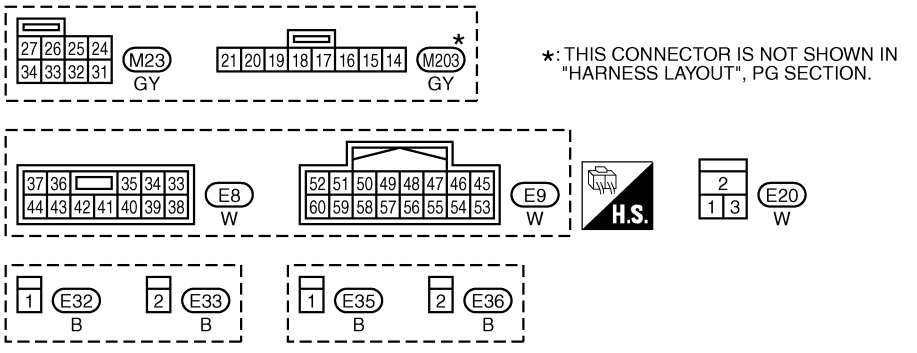
HORN

PFP:25610

Wiring Diagram — HORN —

AKS00A0D





REFER TO THE FOLLOWING.
E108 -SUPER MULTIPLE JUNCTION (SMJ)

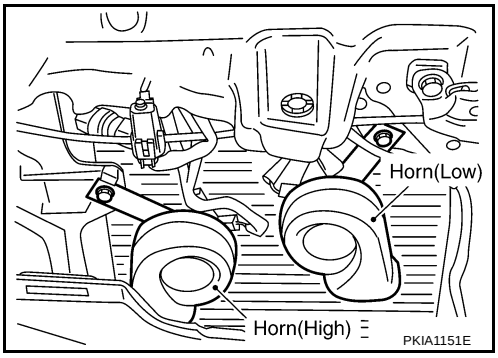
TKWT1440E

Removal and Installation

AKS00A0E

REMOVAL

1. Remove front grille. Refer to EI-20, "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 : 5.7 N·m (0.58 kg-m, 50 in-lb)