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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”

NKS00544

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.

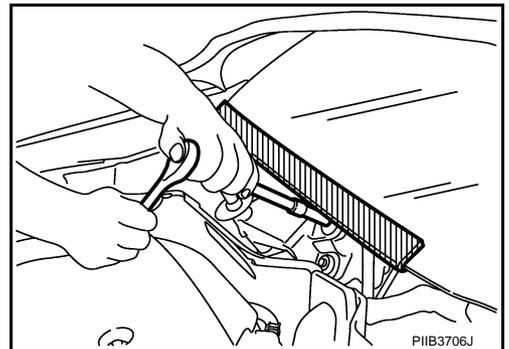
WARNING:

- 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 Procedures without Cowl Top Cover

NKS00545

When performing the procedure after removing cowl top cover, cover the lower end of windshield with urethane, etc.



Precautions for Battery Service

NKS00546

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.

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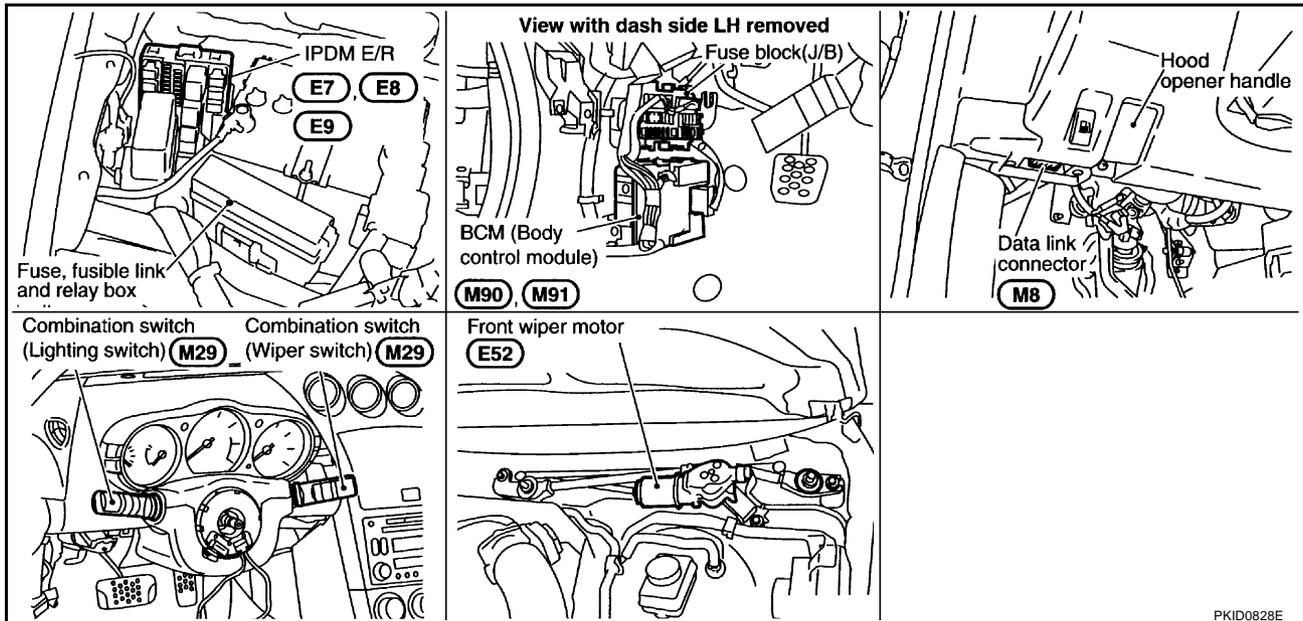
FRONT WIPER AND WASHER SYSTEM

FRONT WIPER AND WASHER SYSTEM

PFP:28810

Components Parts and Harness Connector Location

NKS0051Z



System Description

NKS00520

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

OUT LINE

Power is supplied at all times

- to ignition relay, located in IPDM E/R, from battery direct
- through 40 A fusible link [letter F, located in fuse, fusible link and relay box]
- to BCM terminal 55,
- through 10 A fuse [No.18 located in fuse block (J/B)]
- to BCM terminal 42,
- through 30 A fuse [No.73 located in IPDM E/R]
- to front wiper relay, located in IPDM E/R,
- through 15 A fuse [No.78 located in IPDM E/R]
- to CPU (central processing unit) located in IPDM E/R,
- through 10 A fuse [No.71 located in IPDM E/R]
- to CPU located in IPDM E/R.

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

- to ignition relay, located in IPDM E/R,
- through 10 A fuse [No.1 located in fuse block (J/B)]
- to BCM terminal 38,
- through ignition relay, located in IPDM E/R
- to front wiper relay, located in IPDM E/R
- to front wiper high relay, located in IPDM E/R
- to CPU located in IPDM E/R,
- through 10 A fuse [No.84 located in IPDM E/R]
- through IPDM E/R terminal 44

FRONT WIPER AND WASHER SYSTEM

- to front washer pump terminal 2.

Ground is supplied

- to BCM terminal 52
- through grounds M30 and M66,
- to IPDM E/R terminals 38 and 60
- through grounds E17, E43 and B102 (with VDC system, navigation system or telephone),
- through grounds E17, E43 and F152 (without VDC system, navigation system and telephone),
- to combination switch terminal 12
- through grounds M30 and M66.

LOW SPEED WIPER OPERATION

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

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

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

When the IPDM E/R receives front wiper request signal (LOW), it turns ON front wiper relay, located in the 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 B102 (with VDC system, navigation system or telephone),
- through grounds E17, E43 and F152 (without VDC system, navigation system and telephone).

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

HIGH SPEED WIPER OPERATION

When the front wiper switch is in high 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 the 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 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 B102 (with VDC system, navigation system or telephone),
- through grounds E17, E43 and F152 (without VDC system, navigation system and telephone).

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

INTERMITTENT OPERATION

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

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

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FRONT WIPER AND WASHER SYSTEM

Wiper Dial Position Setting

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

Example: For wiper dial position 1

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

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

- Intermittent operation dial position 1: ON (Continuity exists between combination switch output 3 and input 1.)
- Intermittent operation dial position 2: ON (Continuity exists between combination switch output 5 and input 1.)
- Intermittent operation dial position 3: ON (Continuity exists between combination switch output 4 and input 2.)

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 the 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 the 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 B102 (with VDC system, navigation system or telephone),
- through grounds E17, E43 and F152 (without VDC system, navigation system and telephone).

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

When the 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 the wiper switch is in front wiper washer position, BCM detect front wiper washer signal by BCM wiper switch reading function (Refer to [WW-7, "COMBINATION SWITCH READING FUNCTION"](#)).

Combination switch ground is supplied

- to front washer pump terminal 1
- through combination switch terminal 11
- to combination switch terminal 12
- through grounds M30 and M66.

With ground is supplied, front washer pump is operated.

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

When the BCM detects washer switch is OFF, low speed operation cycles approximately 2 times and stops.

FRONT WIPER AND WASHER SYSTEM

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

FAIL-SAFE FUNCTION

If an abnormality occurs in CAN communications, IPDM E/R holds the condition just before fail-safe status is initiated until ignition switch is turned off. (If wipers were operating in LO just before the initiation of fail-safe status, they continue to operate in LO until ignition switch is turned OFF)

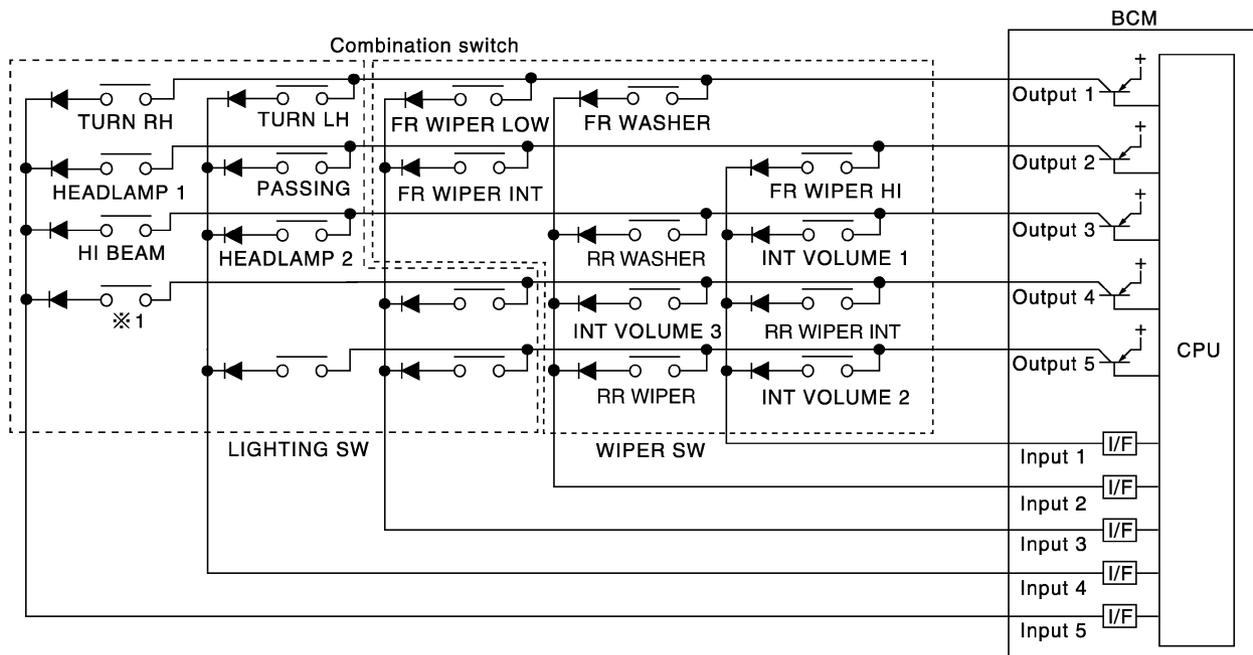
COMBINATION SWITCH READING FUNCTION

Description

- BCM reads combination switch (wiper) status, and controls related systems such as headlamps 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 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

PKIC4861E

FRONT WIPER AND WASHER SYSTEM

BCM - Operation Table of Combination Switches

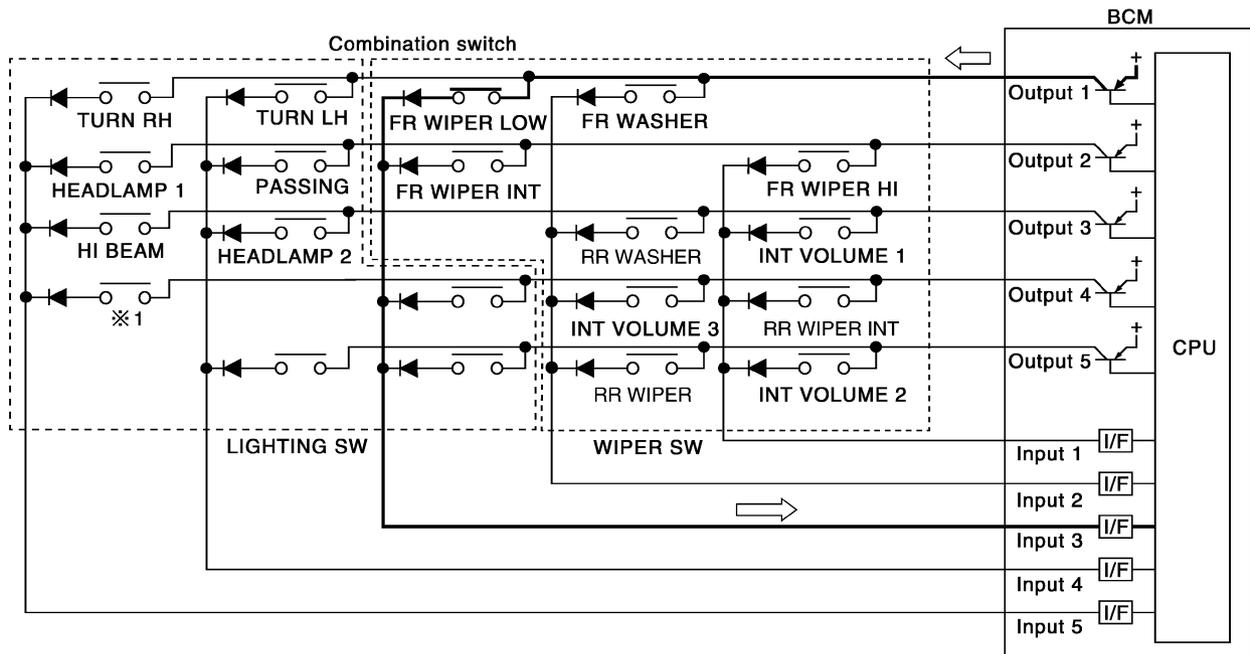
BCM reads operation status of combination switch using combinations shown in table below.

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

PKIC4963E

Sample Operation: (When Wiper Switch Turned to LOW Position)

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



※ 1 : LIGHTING SWITCH 1ST POSITION

PKIC4862E

FRONT WIPER AND WASHER SYSTEM

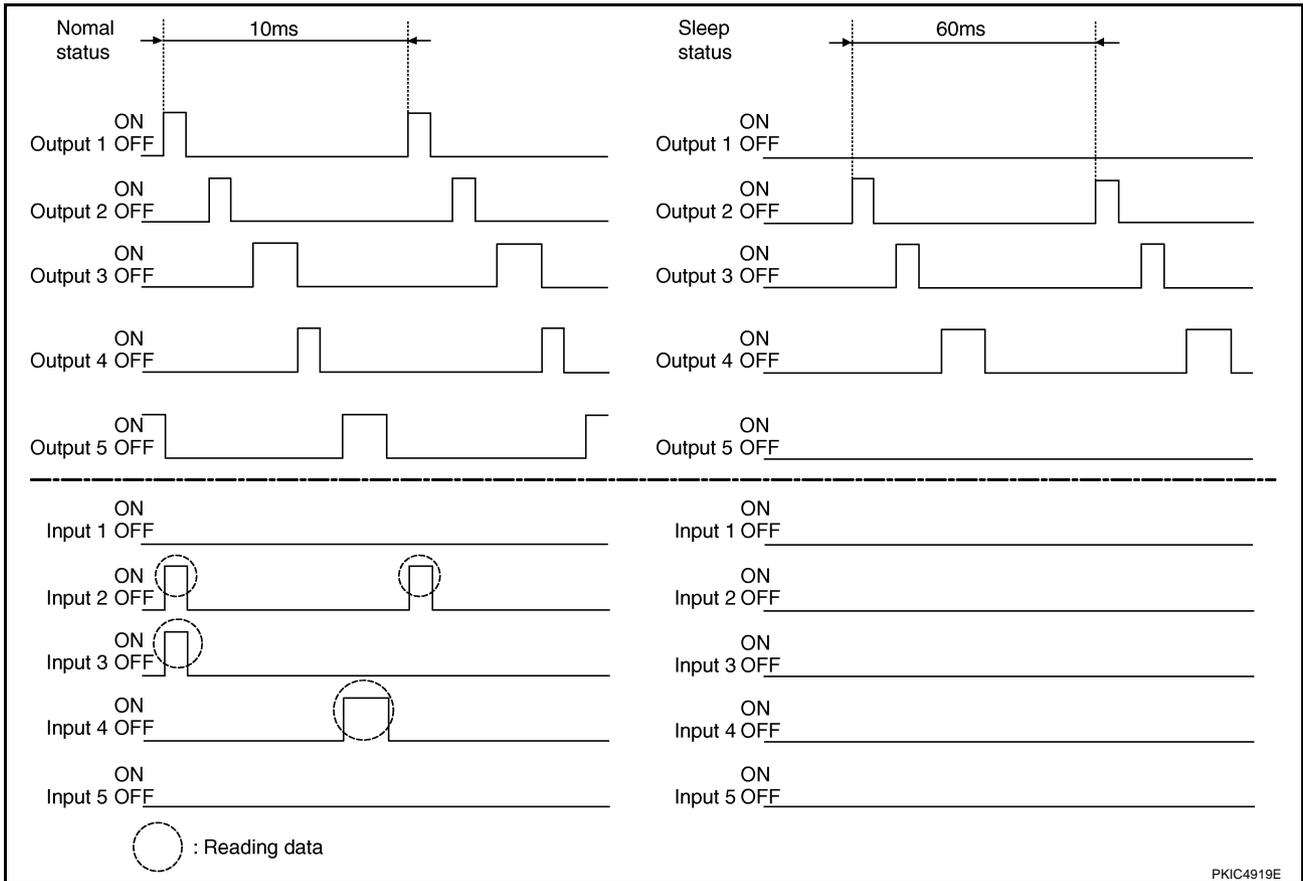
NOTE:

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

Operation Mode

The combination switch reading function has the 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 BCM enters low power mode. OUTPUT (1 - 5) turn ON-OFF every 60 ms, and only input from light switch system is accepted.



CAN Communication System Description

NKS00521

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

NKS00522

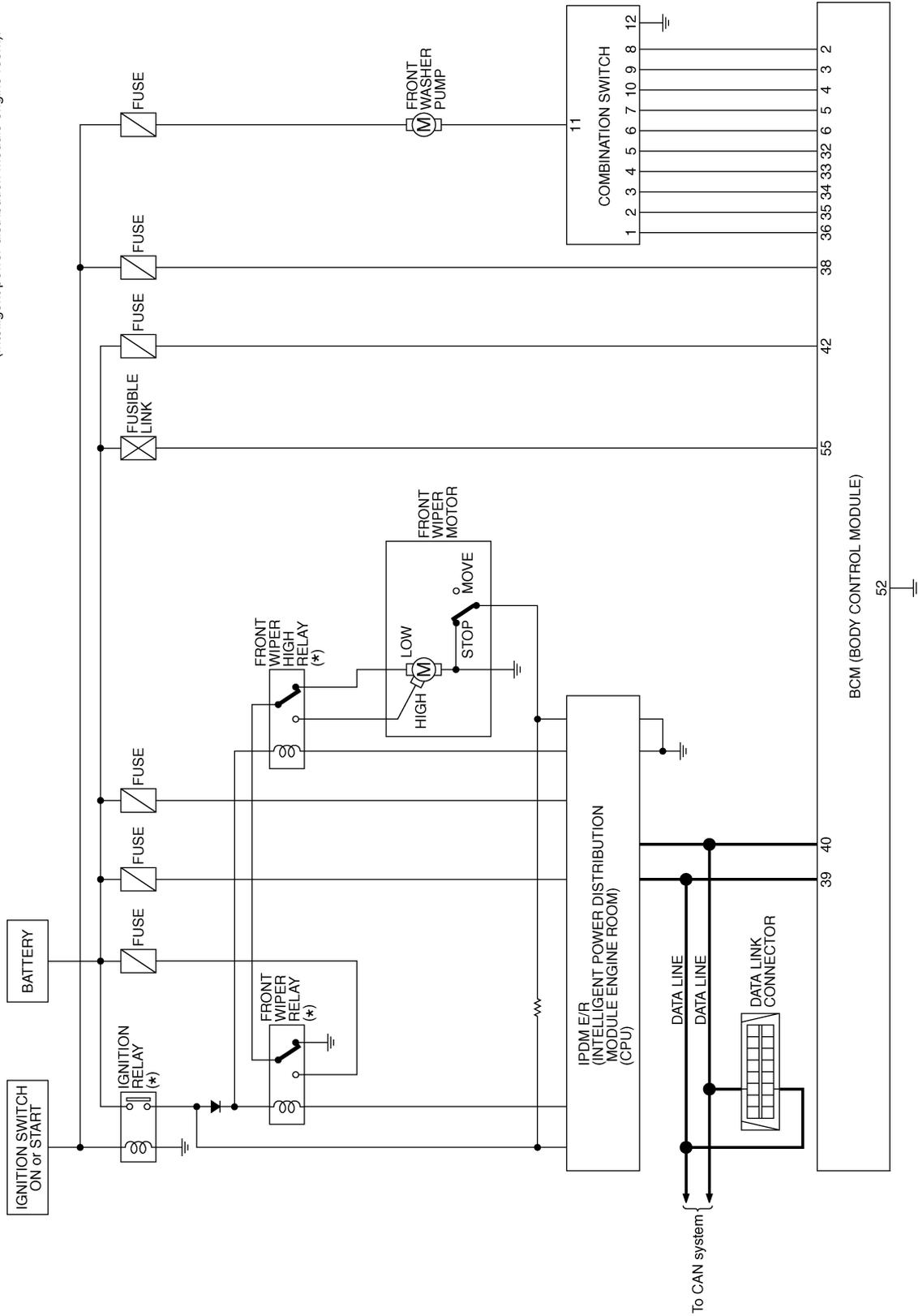
Refer to [LAN-48, "CAN System Specification Chart"](#) .

FRONT WIPER AND WASHER SYSTEM

Schematic

NKS00523

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



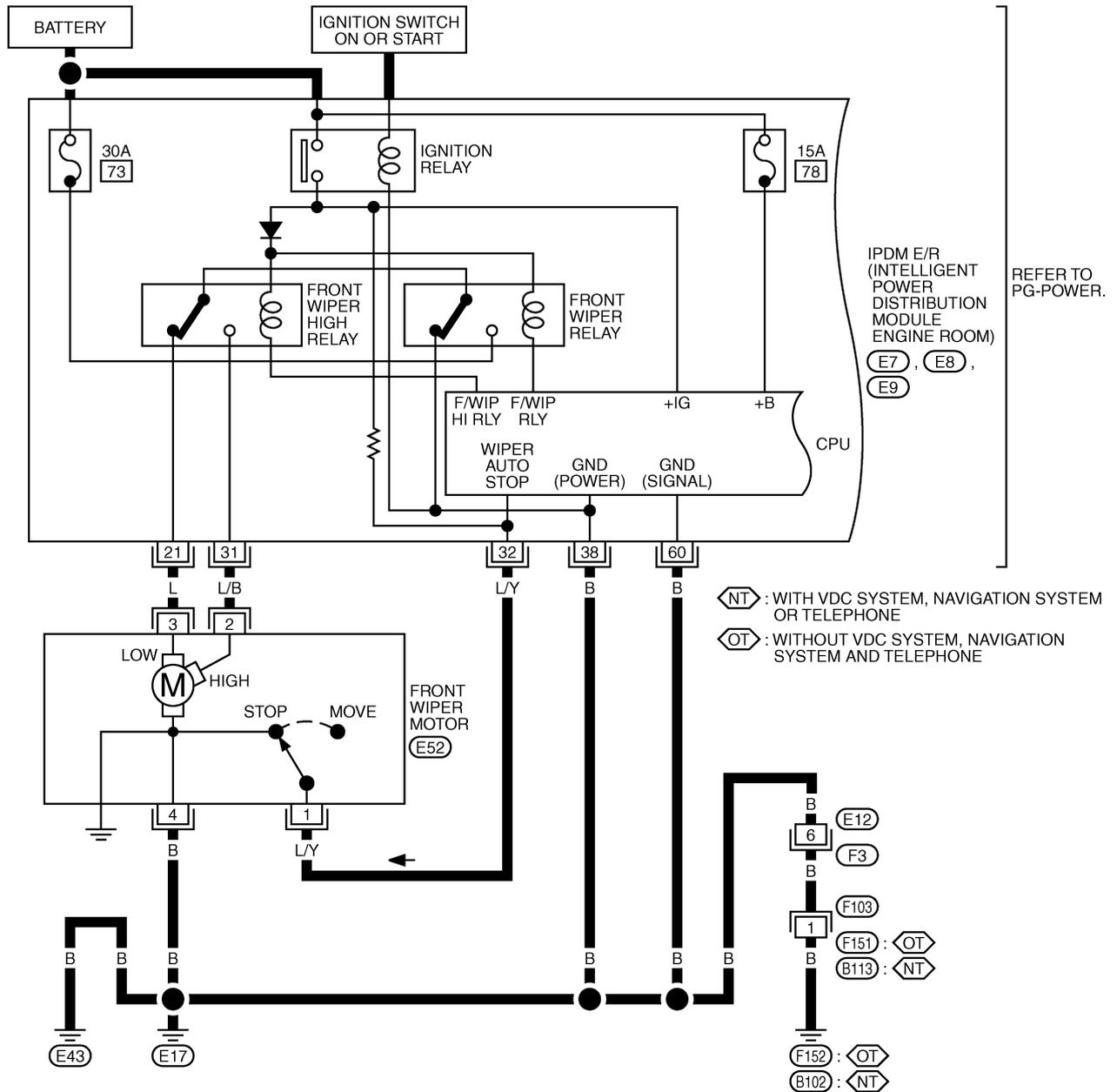
TKWT4003E

FRONT WIPER AND WASHER SYSTEM

Wiring Diagram — WIPER —

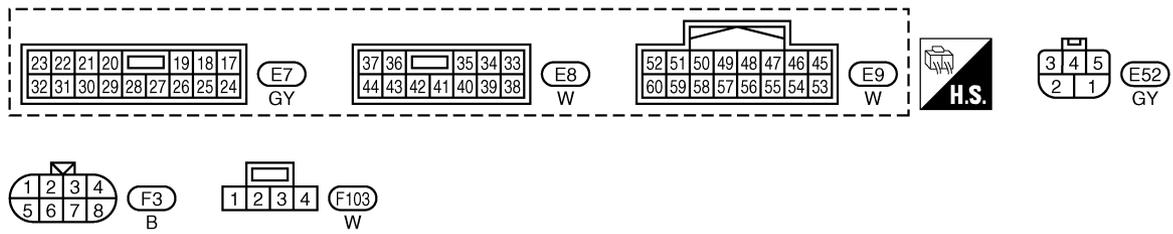
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WW-WIPER-01



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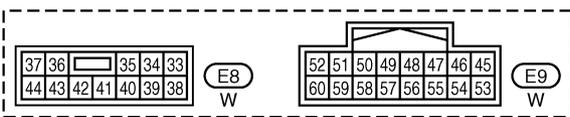
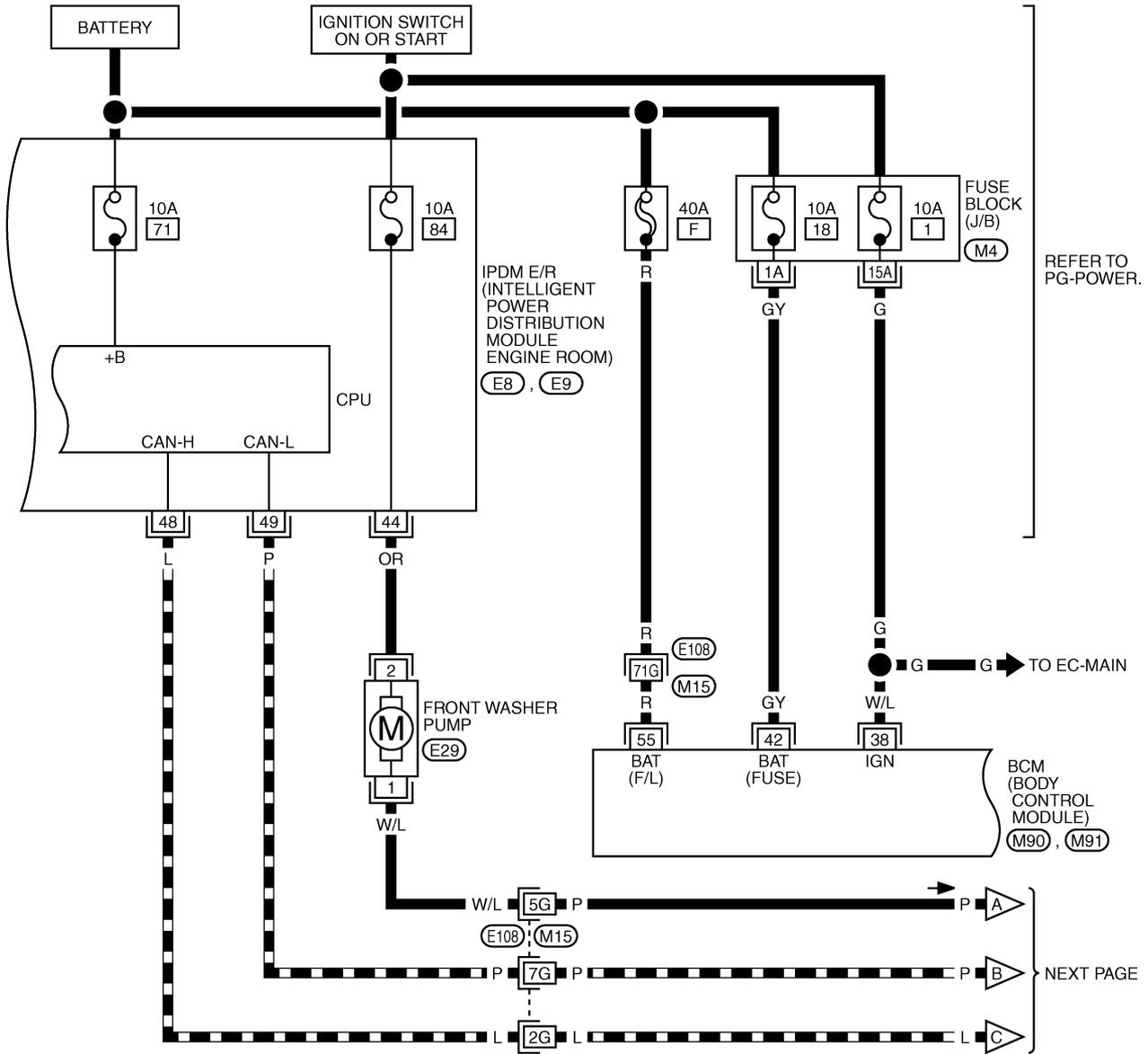
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FRONT WIPER AND WASHER SYSTEM

WW-WIPER-02

▬ : DATA LINE



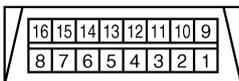
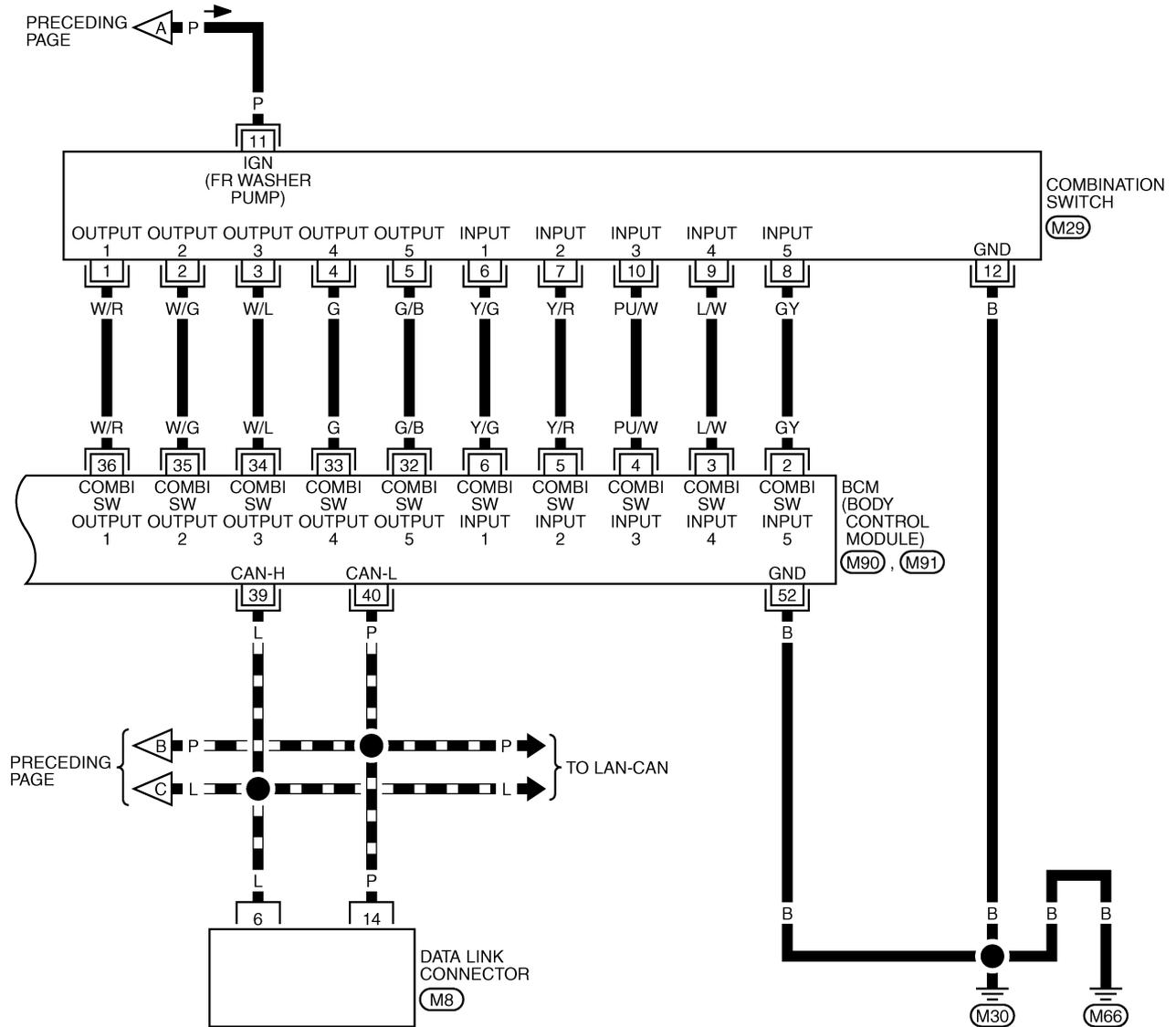
REFER TO THE FOLLOWING.
 (E108) -SUPER MULTIPLE JUNCTION (SMJ)
 (M4) -FUSE BLOCK-JUNCTION BOX (J/B)
 (M90), (M91) -ELECTRICAL UNITS

TKWT5738E

FRONT WIPER AND WASHER SYSTEM

WW-WIPER-03

▬▬▬▬ : DATA LINE



(M8)
W



(M29)
W

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

TKWT4006E

FRONT WIPER AND WASHER SYSTEM

Terminals and Reference Values for BCM

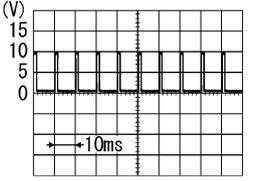
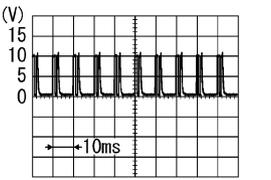
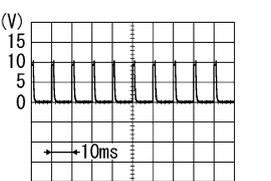
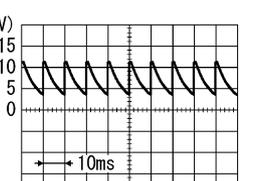
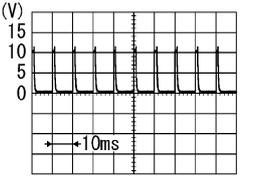
NKS00525

CAUTION:

- Check combination switch system terminal waveform under the loaded condition with lighting switch, turn signal switch and wiper switch OFF not to be fluctuated by overloaded.
- Turn wiper dial position to 4 except when checking waveform or voltage of wiper dial position. Wiper dial position can be confirmed on CONSULT-III. Refer to [WW-19. "DATA MONITOR"](#) .

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
4	PU/W	Combination switch input 3	ON	OFF	Approx. 0 V
				Lighting, turn, wiper switch (Wiper intermittent dial position 4)	Any of the conditions below <ul style="list-style-type: none"> ● Front wiper switch MIST ● Front wiper switch INT ● Front wiper switch LO
5	Y/R	Combination switch input 2	ON	OFF (Wiper intermittent dial position 4)	Approx. 0 V
				Lighting, turn, wiper switch	Any of the conditions below <ul style="list-style-type: none"> ● Front washer switch ● Wiper intermittent dial position 1 ● Wiper intermittent dial position 5 ● Wiper intermittent dial position 6

FRONT WIPER AND WASHER SYSTEM

Terminal No.	Wire color	Signal name	Measuring condition		Reference value	
			Ignition switch	Operation or condition		
6	Y/G	Combination switch input 1	ON	Lighting, turn, wiper switch	OFF (Wiper intermittent dial position 4)	Approx. 0 V
					Any of the conditions below <ul style="list-style-type: none"> ● Front wiper switch HI ● Wiper intermittent dial position 3 	 <small>PKIB4959J</small> Approx. 1.0 V
					Any of the conditions below <ul style="list-style-type: none"> ● Wiper intermittent dial position 1 ● Wiper intermittent dial position 2 	 <small>PKIB4952J</small> Approx. 1.7 V
32	G/B	Combination switch output 5	ON	Lighting, turn, wiper switch	Any of the conditions below <ul style="list-style-type: none"> ● Wiper intermittent dial position 6 ● Wiper intermittent dial position 7 	 <small>PKIB4955J</small> Approx. 0.8 V
					OFF (Wiper intermittent dial position 4)	 <small>PKIB4960J</small> Approx. 7.2 V
					Any of the conditions below <ul style="list-style-type: none"> ● Wiper intermittent dial position 1 ● Wiper intermittent dial position 2 ● Wiper intermittent dial position 6 ● Wiper intermittent dial position 7 	 <small>PKIB4956J</small> Approx. 1.0 V

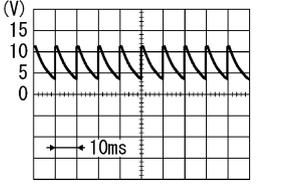
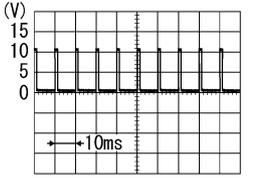
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FRONT WIPER AND WASHER SYSTEM

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
33	G	Combination switch output 4	ON	Lighting, turn, wiper switch	OFF (Wiper intermittent dial position 4) <small>PKIB4960J</small> Approx. 7.2 V
					Any of the conditions below <ul style="list-style-type: none"> ● Wiper intermittent dial position 1 ● Wiper intermittent dial position 5 ● Wiper intermittent dial position 6 <small>PKIB4958J</small> Approx. 1.2 V
34	W/L	Combination switch output 3	ON	Lighting, turn, wiper switch	OFF (Wiper intermittent dial position 4) <small>PKIB4960J</small> Approx. 7.2 V
					Any of the conditions below <ul style="list-style-type: none"> ● Wiper intermittent dial position 1 ● Wiper intermittent dial position 2 ● Wiper intermittent dial position 3 <small>PKIB4958J</small> Approx. 1.2 V
35	W/G	Combination switch output 2	ON	Lighting, turn, wiper switch (Wiper intermittent dial position 4)	OFF <small>PKIB4960J</small> Approx. 7.2 V
					Any of the conditions below <ul style="list-style-type: none"> ● Front wiper switch INT ● Front wiper switch HI <small>PKIB4958J</small> Approx. 1.2 V

FRONT WIPER AND WASHER SYSTEM

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
36	W/R	Combination switch output 1	ON	Lighting, turn, wiper switch (Wiper intermittent dial position 4)	 <p style="text-align: center;">Approx. 7.2 V</p>
				Any of the conditions below	 <p style="text-align: center;">Approx. 1.2 V</p>
38	W/L	Ignition switch (ON)	ON	—	Battery voltage
39	L	CAN - H	—	—	—
40	P	CAN - L	—	—	—
42	GY	Battery power supply	OFF	—	Battery voltage
52	B	Ground	ON	—	Approx. 0 V
55	R	Battery power supply	OFF	—	Battery voltage

Terminals and Reference Values for IPDM E/R

NKS00526

Terminal No.	Wire color	Signal name	Measuring condition		Reference value	
			Ignition switch	Operation or condition		
21	L	Low speed signal	ON	Wiper switch	OFF	Approx. 0 V
					LOW	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 pump 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

NKS00527

1. Confirm the symptoms and customer complaint.
2. Understand operation description and function description. Refer to [WW-4, "System Description"](#) .
3. Perform preliminary check. Refer to [WW-18, "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.

FRONT WIPER AND WASHER SYSTEM

6. INSPECTION END

Preliminary Check CHECK POWER SUPPLY AND GROUND CIRCUIT

NKS00528

1. CHECK FUSES AND FUSIBLE LINK

Check for blown fuses and fusible link.

Unit	Power source	Fuse and fusible link No.
Front washer pump	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-11, "Wiring Diagram — WIPER —"](#).

OK or NG

OK >> GO TO 2

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

2. CHECK POWER SUPPLY CIRCUIT

- Turn ignition switch OFF.
- Disconnect BCM connector.
- Check voltage between BCM harness connector terminal and ground.

Terminals		(-)	Ignition switch position	
(+)			OFF	ON
BCM connector	Terminal	Ground	OFF	ON
M90	38		Approx. 0 V	Battery voltage
M91	42		Battery voltage	Battery voltage
	55	Battery voltage	Battery voltage	

OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

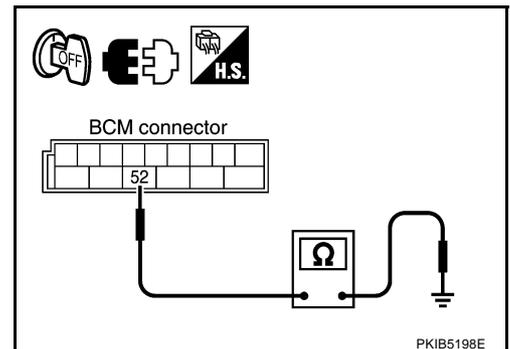
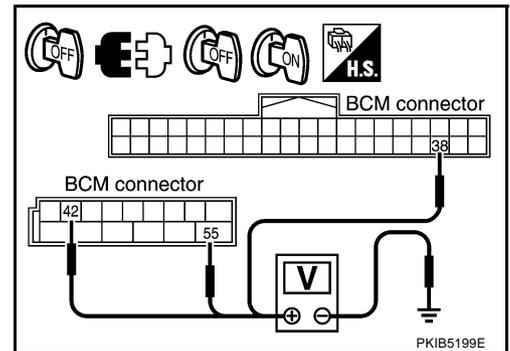
Check continuity between BCM harness connector and ground.

BCM connector	Terminal	Ground	Continuity
M91	52		Yes

OK or NG

OK >> INSPECTION END

NG >> Repair harness or connector.



FRONT WIPER AND WASHER SYSTEM

CONSULT-III Function (BCM)

NKS00529

CONSULT-III can display each diagnostic item using the diagnostic test mode shown following.

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

WORK SUPPORT

Display Item List

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

NOTE:

Regarding wiper speed setting, if the BCM set value is initialized by the use of CONSULT-III work support, then set it individually to OFF after the initialization because it is automatically set to ON by initializing CONSULT-III.

DATA MONITOR

Display Item List

Monitor item	Contents
IGN ON SW "ON/OFF"	Displays "ignition switch ON (ON)/Other OFF or ACC (OFF)" status as judged from ignition switch signal.
IGN SW CAN "ON/OFF"	Displays "ignition switch ON (ON)/Other OFF or ACC (OFF)" status as judged from CAN communication signal.
FR WIPER HI "ON/OFF"	Displays "FRONT WIPER HI (ON)/Other (OFF)" status as judged from wiper switch signal.
FR WIPER LOW "ON/OFF"	Displays "FRONT WIPER LOW (ON)/Other (OFF)" status as judged from wiper switch signal.
FR WIPER INT "ON/OFF"	Displays "FRONT WIPER INT (ON)/Other (OFF)" status as judged from wiper switch signal.
FR WASHER SW "ON/OFF"	Displays "FRONT WASHER Switch (ON)/Other (OFF)" status as judged from wiper switch signal.
INT VOLUME "1 - 7"	Displays intermittent operation dial position setting (1 - 7) as judged from wiper switch signal.
FR WIPER STOP "ON/OFF"	Displays "Stopped (ON)/Operating (OFF)" status as judged from auto-stop signal.
VEHICLE SPEED "km/h"	Displays vehicle speed status as judged from vehicle speed signal.
RR WIPER ON ^{NOTE 1} "ON/OFF"	Displays "Rear Wiper ON (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER INT ^{NOTE 1} "ON/OFF"	Displays "Rear Wiper INT (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WASHER SW ^{NOTE 1} "ON/OFF"	Displays "Rear Washer Switch (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER STOP ^{NOTE 1} "ON/OFF"	Displays "Rear Wiper Stop (ON)/Other (OFF)" status, as judged from wiper switch signal.
RR WIPER STP2 ^{NOTE 2} "OFF"	—

NOTE:

1. Coupe models
2. This item is displayed, but cannot be monitored.

ACTIVE TEST

Display Item List

Test item	Display on CONSULT-III screen	Description
Front wiper output	FR WIPER	With a certain operation (OFF, HI, LO, INT), front wiper can be operated.
Rear wiper output ^{NOTE}	RR WIPER	Rear wiper can be operated by ON-OFF operation.

FRONT WIPER AND WASHER SYSTEM

NOTE:

Coupe models

CONSULT-III Function (IPDM E/R)

NKS0052A

CONSULT-III can display each diagnostic item using the diagnostic test mode shown following.

Diagnosis Mode	Description
SELF-DIAG RESULTS	Refer to PG-18, "SELF-DIAG RESULTS" .
DATA MONITOR	The input/output data of IPDM E/R is displayed in real time.
CAN DIAG SUPPORT MNTR	The result of transmit/receive diagnosis of CAN communication can be read.
ACTIVE TEST	IPDM E/R sends a drive signal to electronic components to check their operation.

DATA MONITOR

All Signals, Main Signals, Selection From Menu

Item name	CONSULT-III screen display	Display or unit	Monitor item selection			Description
			ALL SIGNALS	MAIN SIGNALS	SELECTION FROM MENU	
FR wiper request	FR WIP REQ	STOP/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 ignition switch ON. When ignition switch is at ACC, the display may not be correct.

ACTIVE TEST

Display Item List

Test item	CONSULT-III screen display	Description
Front wiper (HI, LO) output	FR WIPER	With a certain operation (OFF, HI ON, LO ON), front wiper relay (and/or front wiper high relay) can be operated.

FRONT WIPER AND WASHER SYSTEM

NKS0052B

Front Wiper Does Not Operate

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. ACTIVE TEST

CONSULT-III ACTIVE TEST

1. Select "FRONT WIPER" of IPDM E/R active test item.
2. With operating the test item, check that front wiper LO and HI operation.

IPDM E/R AUTO ACTIVE TEST

1. Start up auto active test. Refer to [PG-20, "Auto Active Test"](#).
2. With operating the test item, check that front wiper LO and HI operation.

Does front wiper operate normally?

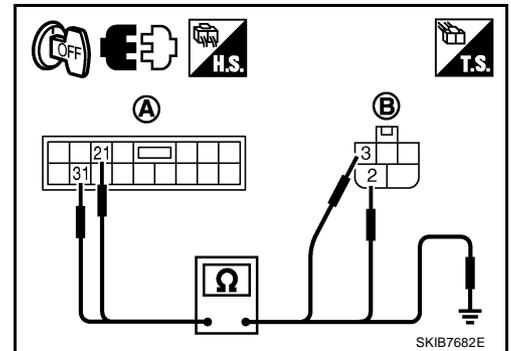
YES >> GO TO 5.

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 (A) and front wiper motor harness connector (B).

A		B		Continuity
Connector	Terminal	Connector	Terminal	
E7	21	E52	3	Yes
	31		2	



4. Check continuity between IPDM E/R harness connector (A) and Ground.

A		Ground	Continuity
Connector	Terminal		
E7	21		No
	31		

OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

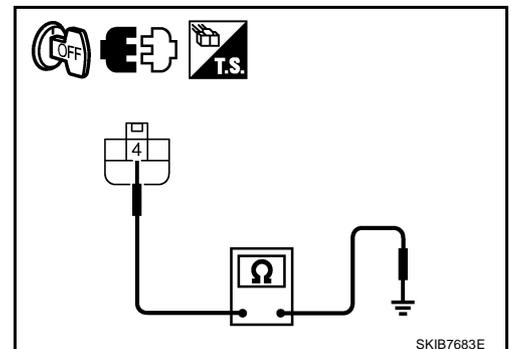
Check continuity between front wiper motor harness connector and ground.

Front wiper motor connector	Terminal	Ground	Continuity
E52	4		

OK or NG

OK >> GO TO 4.

NG >> Repair harness or connector.

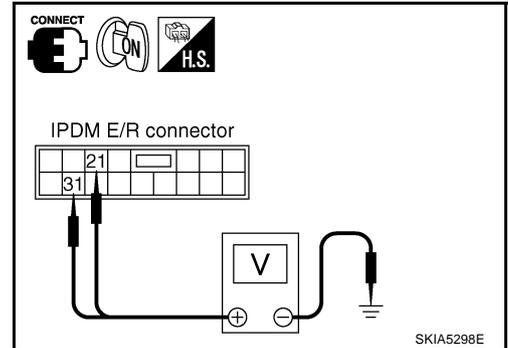


FRONT WIPER AND WASHER SYSTEM

4. CHECK IPDM E/R

CONSULT-III ACTIVE TEST

1. Connect IPDM E/R connector and front wiper motor connector.
2. Select "FRONT WIPER" of IPDM E/R active test item.
3. With operating the test item, check voltage between IPDM E/R harness connector and ground.



Terminals		(-)	Condition	Voltage (Approx.)
(+)				
IPDM E/R connector	Terminal			
E7	21	Ground	Stopped	0 V
			LO operation	Battery voltage
	31		Stopped	0 V
			HI operation	Battery voltage

IPDM E/R AUTO ACTIVE TEST

1. Connect IPDM E/R connector and front wiper motor connector.
2. Start up auto active test. Refer to [PG-20, "Auto Active Test"](#).
3. With operating the test item, check voltage between IPDM E/R harness connector and ground.

Terminals		(-)	Condition	Voltage (Approx.)
(+)				
IPDM E/R connector	Terminal			
E7	21	Ground	Stopped	0 V
			LO operation	Battery voltage
	31		Stopped	0 V
			HI operation	Battery voltage

OK or NG

- OK >> Replace front wiper motor. Refer to [WW-31, "Disassembly and Assembly Front Wiper Motor and Linkage"](#).
- NG >> Replace IPDM E/R. Refer to [PG-26, "Removal and Installation of IPDM E/R"](#).

5. CHECK CIRCUIT BETWEEN COMBINATION SWITCH AND BCM

CONSULT-III DATA MONITOR

1. Select "FR WIPER INT", "FR WIPER LOW", and "FR WIPER HI" of BCM data monitor item.
2. With operating the wiper switch, check the monitor status.

CHECK COMBINATION SWITCH

Refer to [LT-92, "Combination Switch Inspection"](#).

OK or NG

- OK >> GO TO 6.
- NG >> Check combination switch (wiper switch). Refer to [LT-92, "Combination Switch Inspection"](#).

6. CHECKING CAN COMMUNICATIONS BETWEEN BCM AND IPDM E/R

Perform self-diagnosis for "BCM" with CONSULT-III.

Display of self-diagnosis results

NO DTC>> Replace IPDM E/R. Refer to [PG-26, "Removal and Installation of IPDM E/R"](#).

CAN COMM CIRCUIT>> Refer to [BCS-16, "CAN Communication Inspection Using CONSULT-III \(Self-Diagnosis\)"](#).

FRONT WIPER AND WASHER SYSTEM

NKS0052C

Front Wiper Does Not Return to Stop Position

1. CHECK FRONT WIPER STOP SIGNAL

With CONSULT-III

1. Select "WIP AUTO STOP" of IPDM E/R data monitor item.
2. Make sure that "WIP AUTO STOP" turns "ACT P" - "STOP P" linked with wiper operation.

GO TO 2

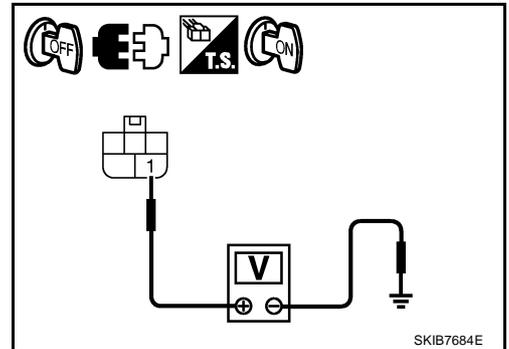
OK or NG

- OK >> Replace IPDM E/R. Refer to [PG-26, "Removal and Installation of IPDM E/R"](#) .
 NG >> GO TO 2.

2. CHECK IPDM E/R

1. Turn ignition switch OFF.
2. Disconnect front wiper motor connector.
3. Turn ignition switch ON.
4. Check voltage between front wiper motor harness connector and ground.

Terminals		Voltage (Approx.)
(+)	(-)	
Front wiper motor connector	Terminal	Ground
E52	1	Battery voltage



OK or NG

- OK >> GO TO 4.
 NG >> GO TO 3.

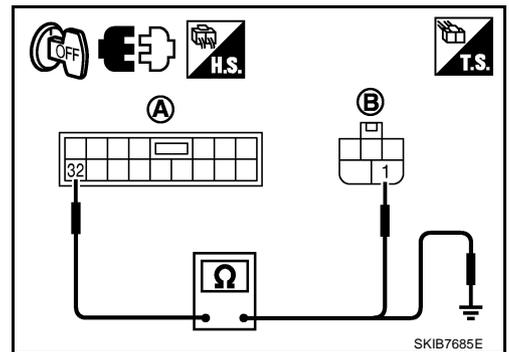
3. CHECK FRONT WIPER AUTO STOP CIRCUIT

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

A		B		Continuity
Connector	Terminal	Connector	Terminal	
E7	32	E52	1	Yes

4. Check continuity between IPDM E/R harness connector (A) and ground.

A		Ground	Continuity
Connector	Terminal		
E7	32		Yes



OK or NG

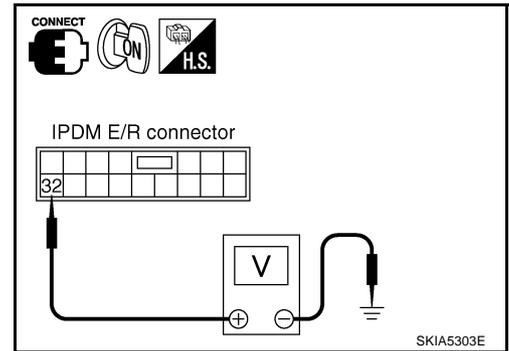
- OK >> Replace IPDM E/R. Refer to [PG-26, "Removal and Installation of IPDM E/R"](#) .
 NG >> Repair harness or connector.

FRONT WIPER AND WASHER SYSTEM

4. CHECK IPDM E/R

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

Terminal (+)		Terminal (-)	Condition	Voltage (Approx.)
IPDM E/R connector	Terminal			
E7	32	Ground	Wiper stopped	0 V
			Wiper operating	Battery voltage



OK or NG

- OK >> Replace IPDM E/R. Refer to [PG-26, "Removal and Installation of IPDM E/R"](#) .
 NG >> Replace front wiper motor. Refer to [WW-31, "Disassembly and Assembly Front Wiper Motor and Linkage"](#) .

Only Front Wiper Low Does Not Operate

NKS0052D

1. ACTIVE TEST

CONSULT-III ACTIVE TEST

1. Select "FRONT WIPER" of IPDM E/R active test item.
2. With operating the test item, check that front wiper LO operation.

IPDM E/R AUTO ACTIVE TEST

1. Start up auto active test. Refer to [PG-20, "Auto Active Test"](#) .
2. With operating the test item, check that front wiper LO operation.

Does front wiper operate normally?

- YES >> Refer to [LT-92, "Combination Switch Inspection"](#) .
 NO >> GO TO 2.

2. CHECK FRONT WIPER MOTOR CIRCUIT

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

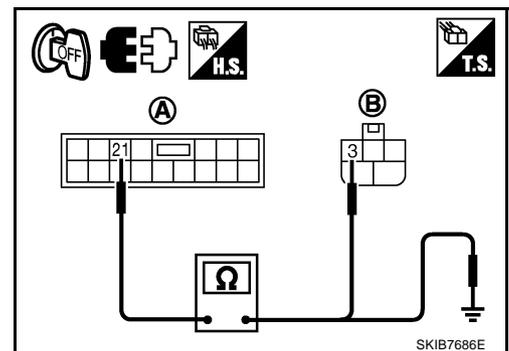
A		B		Continuity
Connector	Terminal	Connector	Terminal	
E7	21	E52	3	Yes

4. Check continuity between IPDM E/R harness connector (A) and ground.

A		Ground	Continuity
Connector	Terminal		
E7	21		No

OK or NG

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



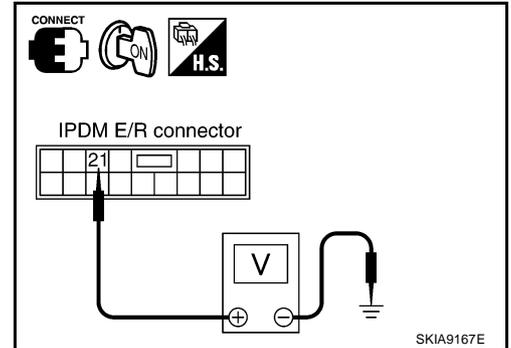
FRONT WIPER AND WASHER SYSTEM

3. CHECK IPDM E/R

CONSULT-III ACTIVE TEST

1. Connect IPDM E/R connector and front wiper motor connector.
2. Select "FRONT WIPER" of IPDM E/R active test item.
3. With operating the test item, check that front wiper LO operation.

Terminals		Voltage (Approx.)
(+)	(-)	
IPDM E/R connector	Terminal	Ground
E7	21	
		Battery voltage



IPDM E/R AUTO ACTIVE TEST

1. Connect IPDM E/R connector and front wiper motor connector.
2. Start up auto active test. Refer to [PG-20, "Auto Active Test"](#).
3. With operating the test item, check that front wiper LO operation.

Terminals		Voltage (Approx.)
(+)	(-)	
IPDM E/R connector	Terminal	Ground
E7	21	
		Battery voltage

OK or NG

- OK >> Replace front wiper motor. Refer to [WW-31, "Disassembly and Assembly Front Wiper Motor and Linkage"](#).
- NG >> Replace IPDM E/R. Refer to [PG-26, "Removal and Installation of IPDM E/R"](#).

Only Front Wiper Hi Does Not Operate

NKS0052E

1. ACTIVE TEST

CONSULT-III ACTIVE TEST

1. Select "FRONT WIPER" of IPDM E/R active test item.
2. With operating the test item, check that front wiper HI operation.

IPDM E/R AUTO ACTIVE TEST

1. Start up auto active test. Refer to [PG-20, "Auto Active Test"](#)
2. With operating the test item, check that front wiper HI operation.

Does front wiper operate normally?

- YES >> Refer to [LT-92, "Combination Switch Inspection"](#).
- NO >> GO TO 2.

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FRONT WIPER AND WASHER SYSTEM

2. CHECK FRONT WIPER MOTOR CIRCUIT

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

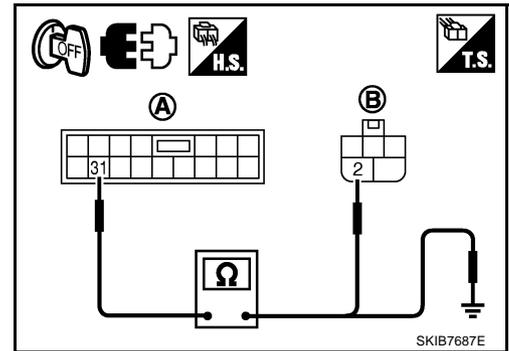
A		B		Continuity
Connector	Terminal	Connector	Terminal	
E7	31	E52	2	Yes

4. Check continuity between IPDM E/R harness connector (A) and ground.

A		Ground	Continuity
Connector	Terminal		
E7	31		No

OK or NG

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

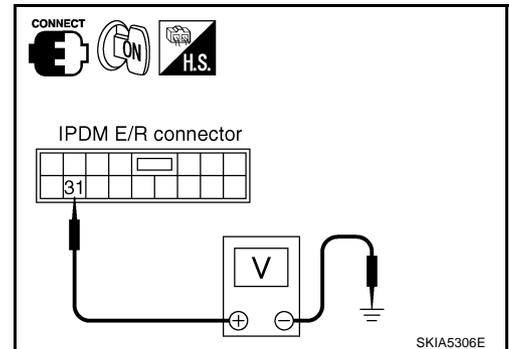


3. CHECK IPDM E/R

CONSULT-III ACTIVE TEST

1. Connect IPDM E/R connector and front wiper motor connector.
2. Select "FRONT WIPER" of IPDM E/R active test item.
3. With operating the test item, check voltage between IPDM E/R harness connector and ground.

Terminals			Voltage (Approx.)
(+)		(-)	
IPDM E/R connector	Terminal	Ground	Battery voltage
E7	31		



IPDM E/R AUTO ACTIVE TEST

1. Connect IPDM E/R connector and front wiper motor connector.
2. Start up auto active test. Refer to [PG-20, "Auto Active Test"](#).
3. With operating the test item, check voltage between IPDM E/R harness connector and ground.

Terminals			Voltage (Approx.)
(+)		(-)	
IPDM E/R connector	Terminal	Ground	Battery voltage
E7	31		

OK or NG

- OK >> Replace front wiper motor. Refer to [WW-31, "Disassembly and Assembly Front Wiper Motor and Linkage"](#).
- NG >> Replace IPDM E/R. Refer to [PG-26, "Removal and Installation of IPDM E/R"](#).

FRONT WIPER AND WASHER SYSTEM

Only Front Wiper Intermittent Does Not Operate

NKS0052F

1. CHECK COMBINATION SWITCH

ⓅCONSULT-III DATA MONITOR

1. Select "FR WIPER INT" of BCM data monitor item.
2. With operating the wiper switch, check the monitor status.

ⓧCHECK COMBINATION SWITCH

Refer to [LT-92, "Combination Switch Inspection"](#) .

OK or NG

- OK >> Replace BCM. Refer to [BCS-17, "Removal and Installation of BCM"](#) .
- NG >> Check combination switch (wiper switch) Refer to [LT-92, "Combination Switch Inspection"](#) .

Front Wiper Interval Time Is Not Controlled by Vehicle Speed

NKS0052G

1. CHECK FUNCTION OF COMBINATION METER

Confirm that speedometer operates normally.

Does front wiper operate normally?

- YES >> GO TO 2.
- NO >> Combination meter vehicle speed system malfunction. Refer to [DI-18, "Vehicle Speed Signal Inspection"](#) .

2. CHECK CAN COMMUNICATION BETWEEN BCM AND COMBINATION METER

Perform self-diagnosis for "BCM" with CONSULT-III.

Displayed self-diagnosis results

- NO DTC>>Replace BCM. Refer to [BCS-17, "Removal and Installation of BCM"](#) .
- CAN COMM CIRCUIT>>Check CAN communication line of BCM. Refer to [BCS-16, "CAN Communication Inspection Using CONSULT-III \(Self-Diagnosis\)"](#) .

Front Wiper Intermittent Operation Switch Position Cannot Be Adjusted

NKS0052H

1. CHECK CIRCUIT BETWEEN COMBINATION SWITCH AND BCM

ⓅCONSULT-III DATA MONITOR

1. Select "INT VOLUME" of BCM data monitor item.
2. Make sure that "INT VOLUME", changes in order form 1 to 7 according to wiper switch operation.

ⓧCHECK COMBINATION SWITCH

Refer to [LT-92, "Combination Switch Inspection"](#) .

OK or NG

- OK >> Replace BCM. Refer to [BCS-17, "Removal and Installation of BCM"](#) .
- NG >> Check combination switch (wiper switch). Refer to [LT-92, "Combination Switch Inspection"](#) .

Wiper Does Not Wipe When Front Washer Operates

NKS0052I

1. CHECK CIRCUIT BETWEEN COMBINATION SWITCH AND BCM

ⓅCONSULT-III DATA MONITOR

1. Select "FR WASHER SW" of BCM data monitor item.
2. Make sure that "FR WASHER SW" turn ON-OFF according to front wiper switch operation.

ⓧCHECK COMBINATION SWITCH

Refer to [LT-92, "Combination Switch Inspection"](#) .

OK or NG

- OK >> Replace BCM. Refer to [BCS-17, "Removal and Installation of BCM"](#) .
- NG >> Check front wiper switch. Refer to [LT-92, "Combination Switch Inspection"](#) .

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FRONT WIPER AND WASHER SYSTEM

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

NKS0052J

CAUTION:

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

1. CHECK WIPER MOTOR SIGNAL

CONSULT-III DATA MONITOR

1. Select "WIP AUTO STOP" of BCM data monitor item.
2. make sure that "WIP AUTO STOP" turns "ACT P" - "STOP P" linked with wiper operation.

GO TO 2

OK or NG

- OK >> Replace IPDM E/R. Refer to [PG-26, "Removal and Installation of IPDM E/R"](#) .
 NG >> GO TO 2.

2. CHECK WIPER AUTO STOP CIRCUIT

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

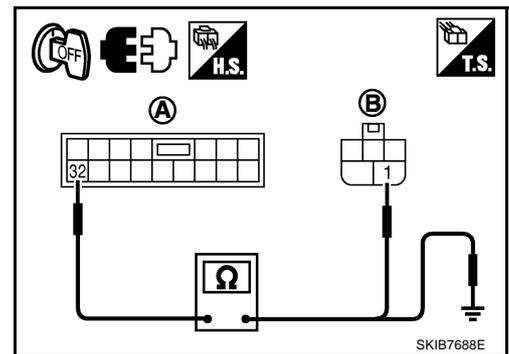
A		B		Continuity
Connector	Terminal	Connector	Terminal	
E7	32	E52	1	Yes

4. Check continuity between IPDM E/R harness connector (A) and ground.

A		Ground	Continuity
Connector	Terminal		
E7	32		No

OK or NG

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

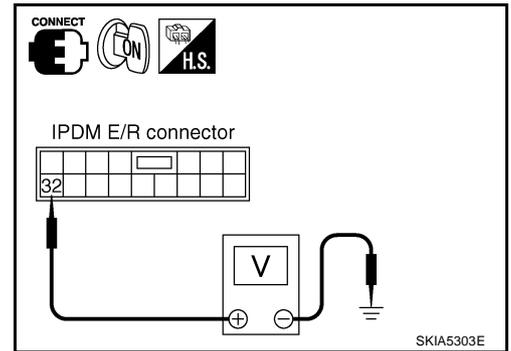


FRONT WIPER AND WASHER SYSTEM

3. CHECK FRONT WIPER MOTOR

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

Terminal (+)		Terminal (-)	Condition	Voltage (Approx.)
IPDM E/R connector	Terminal			
E7	32	Ground	Wiper stopped	0 V
			Wiper operating	Battery voltage



OK or NG

- OK >> Replace IPDM E/R. Refer to [PG-26, "Removal and Installation of IPDM E/R"](#) .
- NG >> Replace front wiper motor. Refer to [WW-31, "Disassembly and Assembly Front Wiper Motor and Linkage"](#) .

Front Wiper Does Not Stop

NKS0052K

1. CHECK CIRCUIT BETWEEN COMBINATION SWITCH AND BCM

CONSULT-III DATA MONITOR

1. Select "FR WIPER INT", "FR WIPER LOW", "FR WIPER HI", and "FR WASHER SW" of BCM data monitor item.
2. With operating the wiper switch, check the monitor status.

CHECK COMBINATION SWITCH

Refer to [LT-92, "Combination Switch Inspection"](#) .

OK or NG

- OK >> Replace IPDM E/R. Refer to [PG-26, "Removal and Installation of IPDM E/R"](#) .
- NG >> Check combination switch (wiper switch). Refer to [LT-92, "Combination Switch Inspection"](#) .

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FRONT WIPER AND WASHER SYSTEM

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

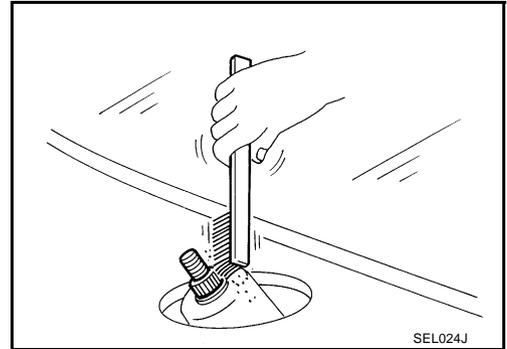
NKS0052L

REMOVAL

1. Turn front wiper switch ON to operate wiper motor, and then turn front wiper switch OFF (auto stop).
2. Remove washer tube from washer tube joint.
3. Open hood, remove front wiper arm caps, and remove front wiper arm nuts.
4. Raise front wiper arms, and remove front wiper arms from vehicle.

INSTALLATION

1. Clean up the pivot area as shown in the figure. This will reduce possibility of front wiper arm looseness.
2. Prior to front wiper arms installation, turn front wiper switch ON to operate wiper motor, and then turn front wiper switch OFF (auto stop).



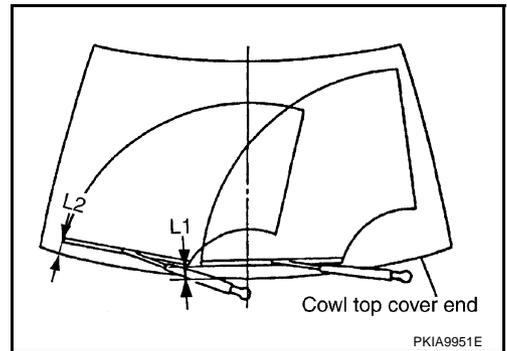
3. Lift the blade up and then set it down onto windshield glass surface to set the blade center to clearance "L1" & "L2" immediately.
4. Tighten front wiper arm nuts to specified torque.

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

5. Install washer tube from washer tube joint.
6. Spray washer fluid. Turn front wiper switch ON to operate wiper motor, and then turn front wiper switch OFF (auto stop).
7. Make sure that wiper blades stop within clearance "L1" & "L2".

Clearance "L1" : 63.9 ± 7.5 mm (2.516 ± 0.295 in)

Clearance "L2" : 32.0 ± 6.5 mm (1.260 ± 0.256 in)



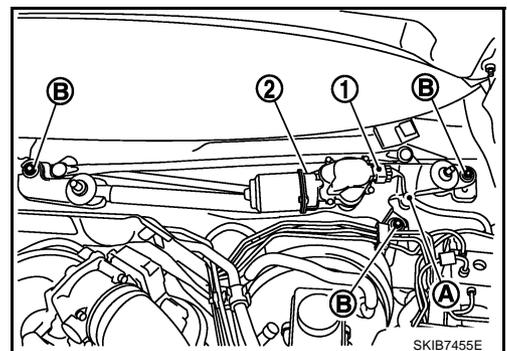
8. Install front wiper arm caps.

Removal and Installation of Front Wiper Drive Assembly

NKS0052M

REMOVAL

1. Remove front wiper arms. Refer to [WW-30, "REMOVAL"](#).
2. Remove cowl top cover. Refer to [EI-20, "COWL TOP"](#).
3. Disconnect wiper motor connector (1) and remove connector clip (A).
4. Remove front wiper drive assembly mounting bolts (B), and remove front wiper drive assembly (2) from the vehicle.



INSTALLATION

1. Install front wiper drive assembly to the vehicle.

Front wiper drive assembly mounting bolts  : 4.5 N-m (0.46 kg-m, 40 in-lb)

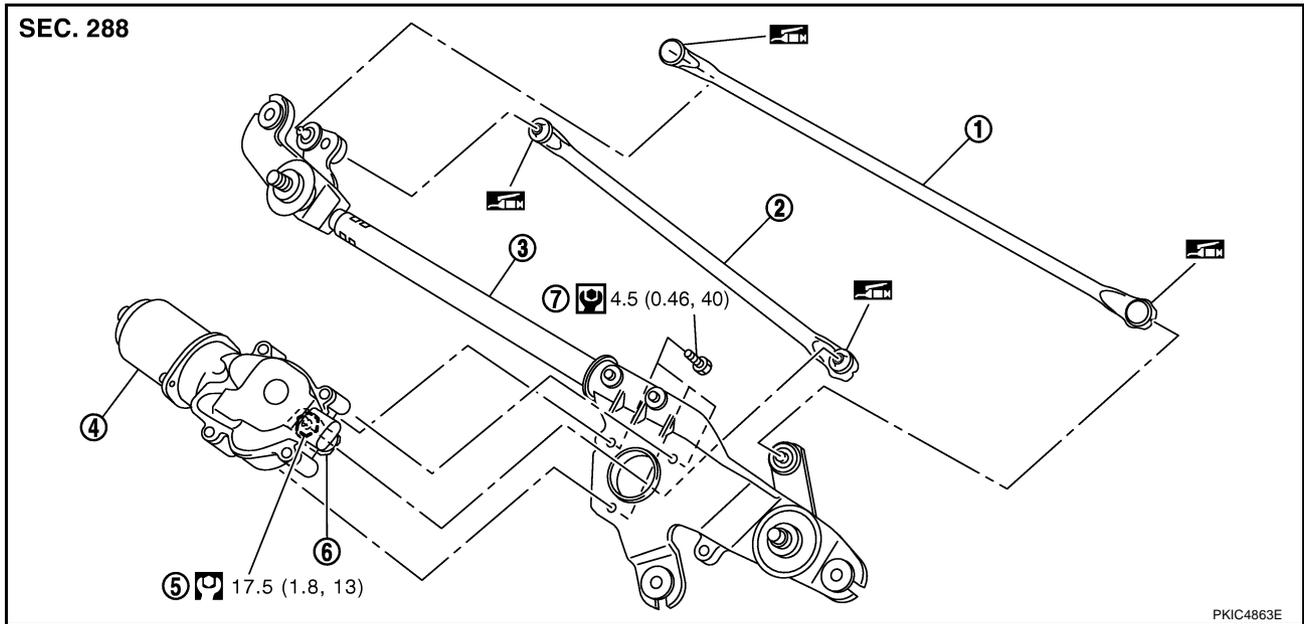
2. Connect wiper motor connector. Turn front wiper switch ON to operate wiper motor, and then turn front wiper switch OFF (auto stop).
3. Install connector clips to the wiper frame, and install cowl top cover. Refer to [EI-20, "COWL TOP"](#).

FRONT WIPER AND WASHER SYSTEM

4. Install front wiper arms and arm caps. Refer to [WW-30, "INSTALLATION"](#).

Disassembly and Assembly Front Wiper Motor and Linkage

NKS0052N



- | | | |
|--------------------|--------------------|----------------|
| 1. Wiper linkage 1 | 2. Wiper linkage 2 | 3. Motor frame |
| 4. Wiper motor | 5. Motor arm nut | 6. Motor arm |

7. Wiper motor mounting bolt

:N·m (kg·m, in·lb)

:N·m (kg·m, ft·lb)

:Should be lubricated with grease

DISASSEMBLY

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

CAUTION:

Be careful not to bend wiper linkages nor to damage the resin part of ball joint when removing wiper linkages.

ASSEMBLY

1. Connect wiper motor connector. Turn front wiper switch ON to operate wiper motor, and then turn front wiper switch OFF (auto stop).
2. Disconnect wiper motor connector.
3. Install wiper motor to wiper frame.

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

4. Install wiper linkages to wiper frame and wiper motor.

CAUTION:

- Never drop the wiper motor nor cause it to interfere with other parts.
- Check joint of motor arm and wiper linkages (at retainer) for grease conditions. Apply grease if necessary.

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FRONT WIPER AND WASHER SYSTEM

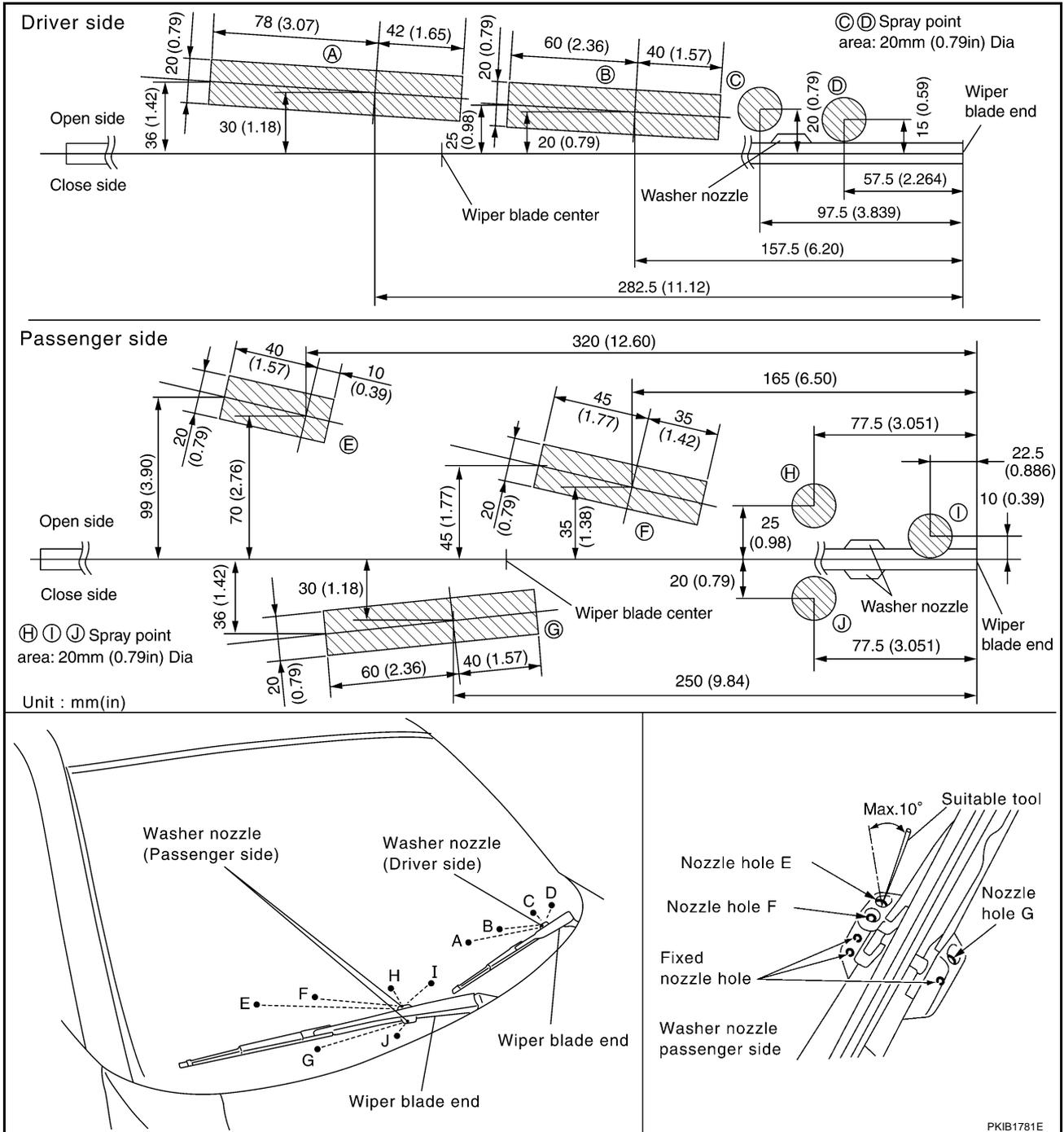
NKS00520

Washer Nozzle Adjustment

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.

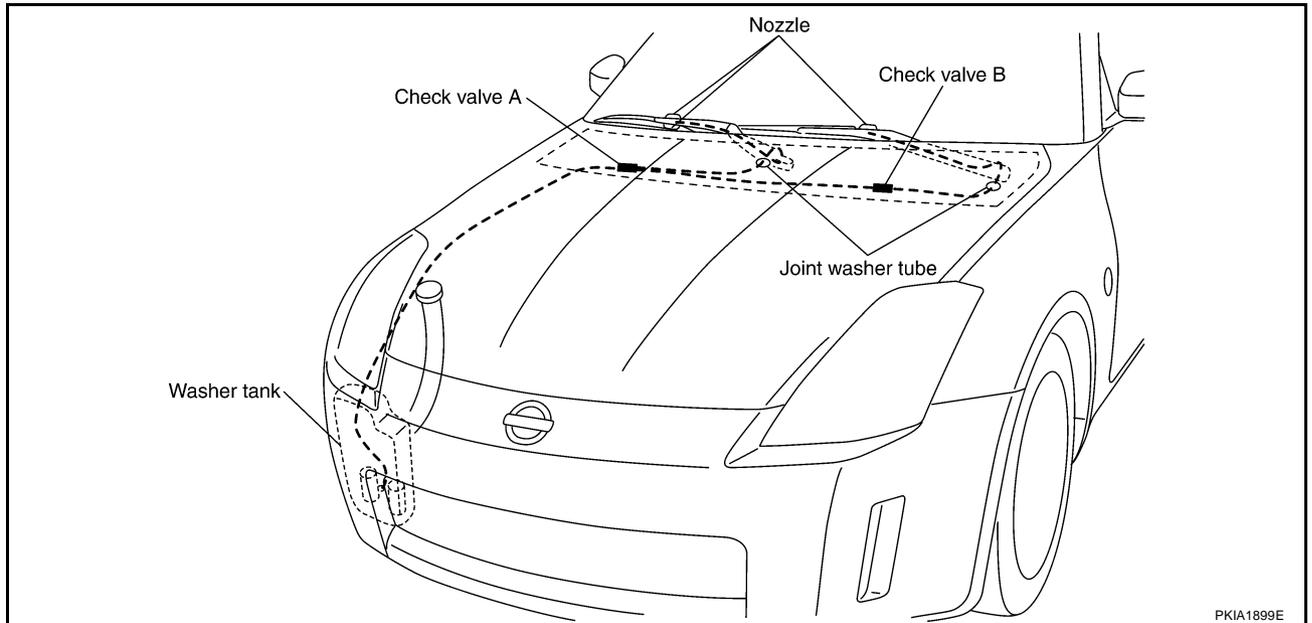
CAUTION:

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

Washer Tube Layout



Removal and Installation of Front Washer Nozzle

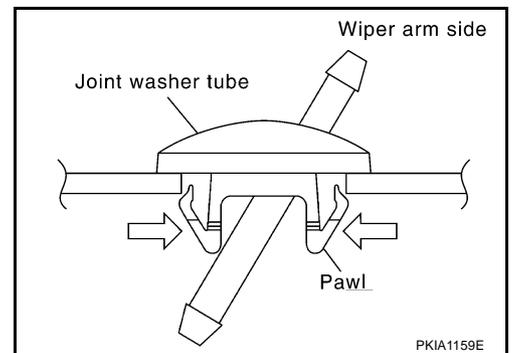
Replace wiper arm assembly. Refer to [WW-30, "Removal and Installation of Front Wiper Arms, Adjustment of Wiper Arms Stop Location"](#).

CAUTION:

Never remove/install washer nozzle from wiper arm assembly.

Removal and Installation of Front Washer Tube Joint

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



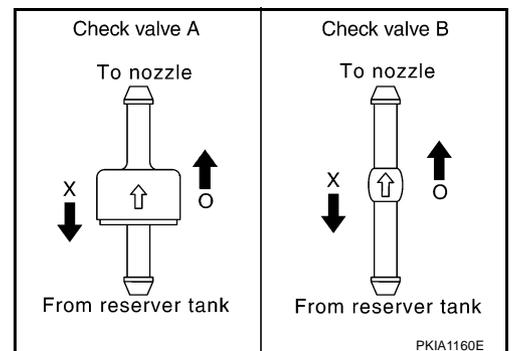
INSTALLATION

Installation is the reverse order of removal.

Inspection for Washer Nozzle

CHECK VALVE INSPECTION

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

Inspection of Front Wiper and Washer Switch Circuit

NKS0052T

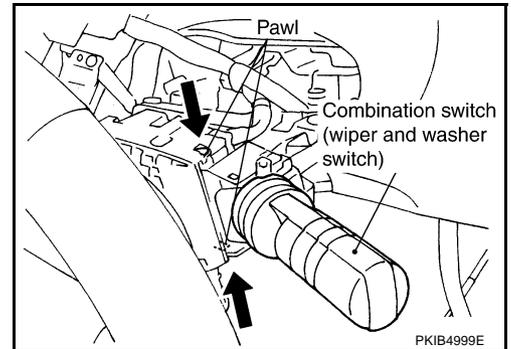
Refer to [LT-92, "Combination Switch Inspection"](#).

Removal and Installation of Front Wiper and Washer Switch

NKS0052U

REMOVAL

1. Remove steering column lower cover and combination meter. Refer to [IP-10, "INSTRUMENT PANEL ASSEMBLY"](#).
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

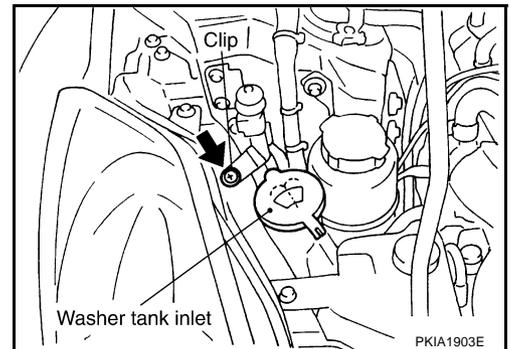
Installation is the reverse order of removal.

Removal and Installation of Washer Tank

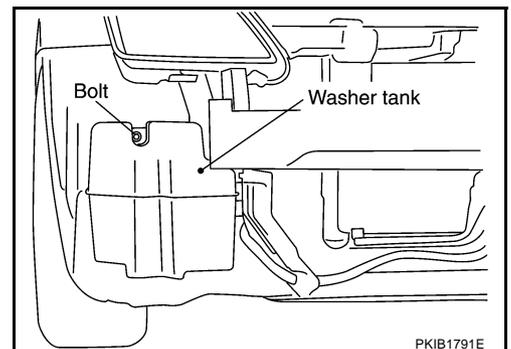
NKS0052V

REMOVAL

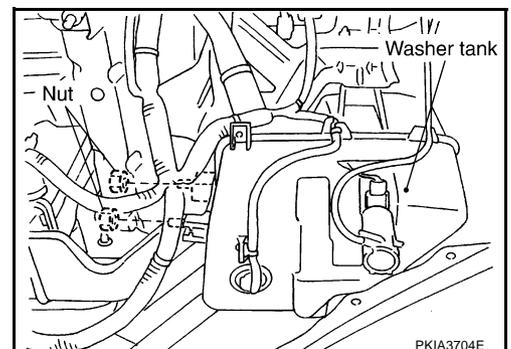
1. Remove clip and pull out washer tank inlet.



2. Remove under cover.
3. Remove fender protector. Refer to [EI-21, "FENDER PROTECTOR"](#).
4. Remove front bumper fascia. Refer to [EI-14, "FRONT BUMPER"](#).
5. Disconnect washer pump connector.
6. Remove washer tank mounting bolt and nuts.



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



FRONT WIPER AND WASHER SYSTEM

INSTALLATION

Installation is the reverse order of removal.

CAUTION:

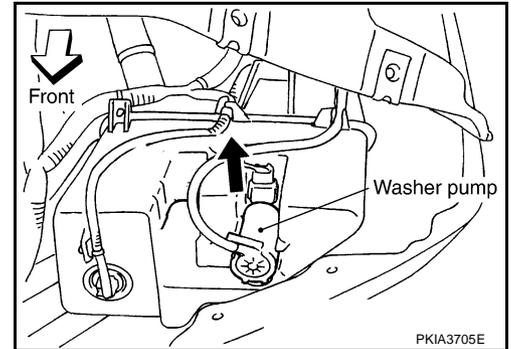
After installation, add water up to the upper level of washer tank inlet, and check for water leaks.

Washer tank mounting bolt 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"](#).
2. Disconnect washer pump connector and remove washer tube.
3. Pull out washer pump in direction shown by the arrow (←) in the figure. Remove washer pump from washer tank.



INSTALLATION

Installation is the reverse order of removal.

CAUTION:

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

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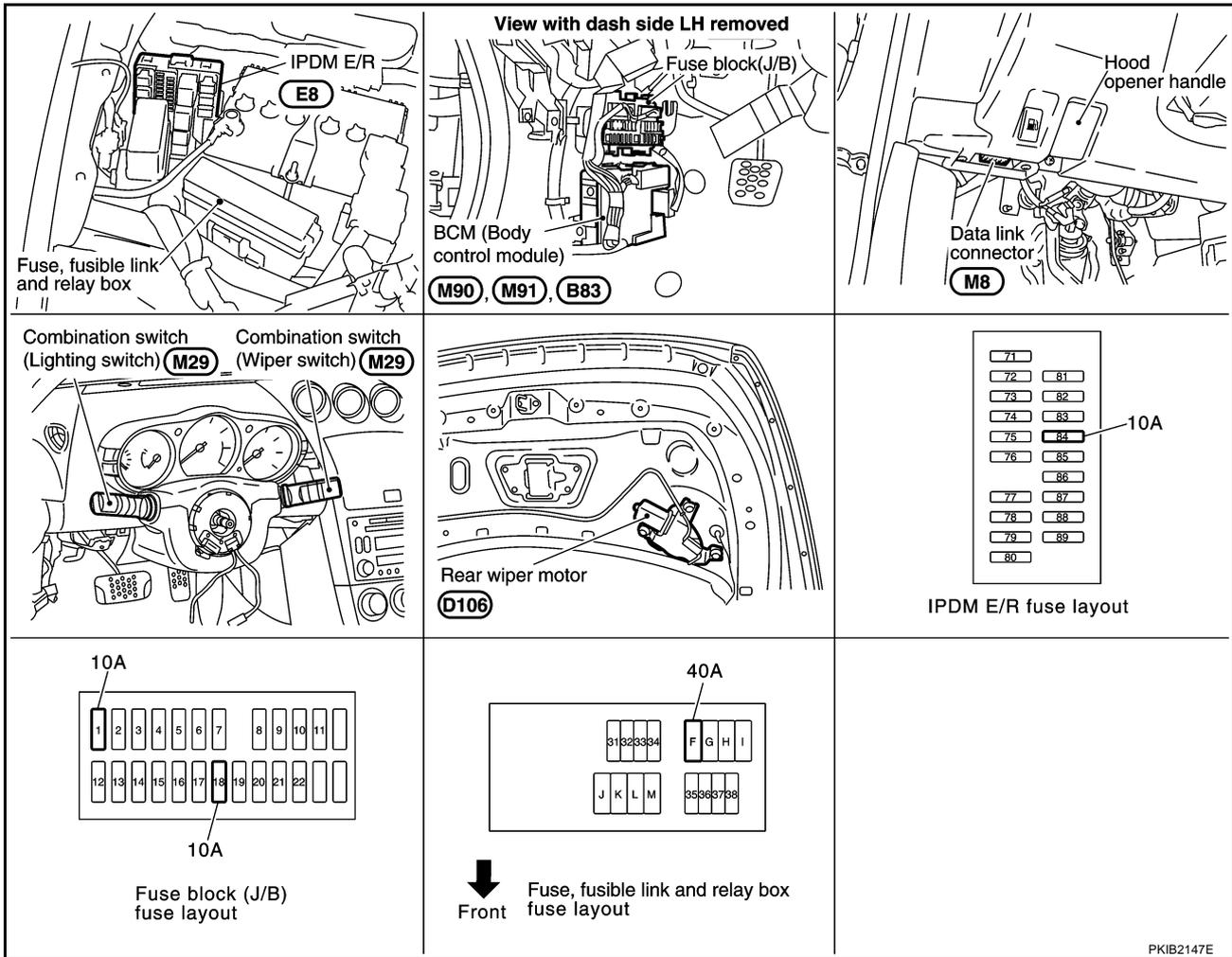
REAR WIPER AND WASHER SYSTEM

REAR WIPER AND WASHER SYSTEM

PF2:28710

Components Parts and Harness Connector Location

NKS0052X



PKIB2147E

System Description

NKS0052Y

- 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.

OUT LINE

Power is supplied at all times

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

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

- through 10 A fuse [No. 1, located in fuse block (J/B)]
- to BCM terminal 38,
- through 10 A fuse (No. 84, located in IPDM E/R)
- through IPDM E/R terminal 44
- to rear washer pump terminal 2.

Ground is supplied

- to BCM terminal 52
- through grounds M30 and M66,

REAR WIPER AND WASHER SYSTEM

- to combination switch terminal 12
- through grounds M30 and M66.

A

Rear Wiper Operation

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

B

BCM operate rear wiper motor, power is supplied

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

C

Ground is supplied

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

D

With power and ground is supplied, rear wiper operates.

E

Intermittent Operation

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

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

F

BCM operate rear wiper motor, power is supplied

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

G

Ground is supplied

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

H

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

I

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.

J

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, "COMBINATION SWITCH READING FUNCTION"](#)), and combination switch (wiper switch) ground is supplied

WW

- to rear washer pump terminal 1
- through combination switch terminal 13
- to combination switch terminal 12
- through grounds M30 and M66.

L

With ground is supplied, rear washer pump is operated.

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

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

M

BCM WIPER SWITCH READING FUNCTION

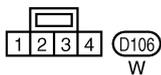
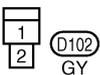
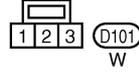
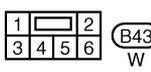
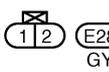
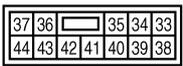
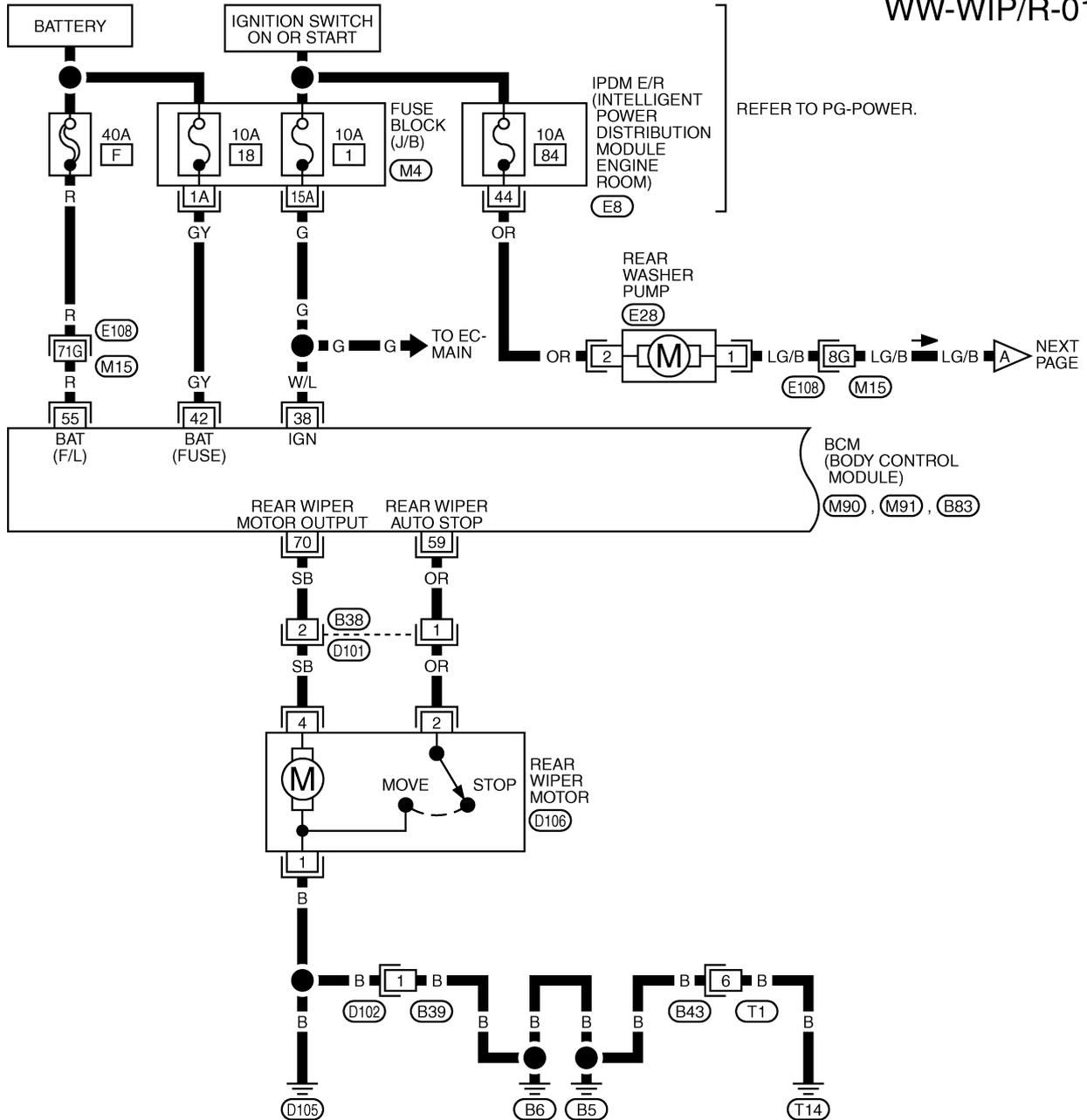
Refer to [WW-7, "COMBINATION SWITCH READING FUNCTION"](#) .

REAR WIPER AND WASHER SYSTEM

Wiring Diagram — WIP/ R —

NKS0052Z

WW-WIP/R-01



REFER TO THE FOLLOWING.

(E108) -SUPER MULTIPLE JUNCTION (SMJ)

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

(M90), (M91), (B83)

-ELECTRICAL UNITS

TKWT5739E

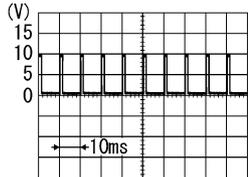
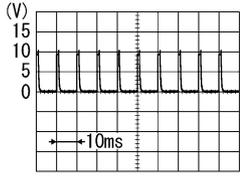
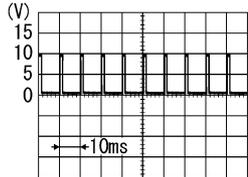
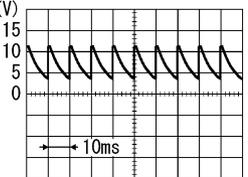
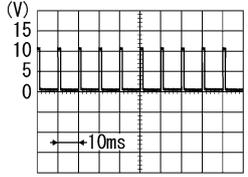
REAR WIPER AND WASHER SYSTEM

Terminals and Reference Values for BCM

NKS00530

CAUTION:

- Check combination switch system terminal waveform under the loaded condition with lighting switch, turn signal switch and wiper switch OFF not to be fluctuated by overloaded.
- Turn wiper dial position to 4 except when checking waveform or voltage of wiper dial position. Wiper dial position can be confirmed on CONSULT-III. Refer to [WW-43. "DATA MONITOR"](#) .

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
5	Y/R	Combination switch input 2	ON	OFF	Approx. 0 V
				Lighting, turn, wiper switch (Wiper intermittent dial position 4)	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Rear washer switch</div>  </div> <p style="text-align: right; font-size: small;">PKIB4959J</p>
				Lighting, turn, wiper switch (Wiper intermittent dial position 4)	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Rear wiper switch ON</div>  </div> <p style="text-align: right; font-size: small;">PKIB4955J</p>
6	Y/G	Combination switch input 1	ON	OFF	Approx. 0 V
				Lighting, turn, wiper switch (Wiper intermittent dial position 4)	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Rear wiper switch INT</div>  </div> <p style="text-align: right; font-size: small;">PKIB4959J</p>
33	G	Combination switch output 4	ON	OFF	<div style="display: flex; align-items: center;">  </div> <p style="text-align: right; font-size: small;">PKIB4960J</p>
				Lighting, turn, wiper switch (Wiper intermittent dial position 4)	<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Rear wiper switch INT</div>  </div> <p style="text-align: right; font-size: small;">PKIB4958J</p>

REAR WIPER AND WASHER SYSTEM

Terminal No.	Wire color	Signal name	Measuring condition		Reference value
			Ignition switch	Operation or condition	
34	W/L	Combination switch output 3	ON	Lighting, turn, wiper switch (Wiper intermittent dial position 4)	<p style="text-align: right; font-size: small;">PKIB4960J</p>
				Rear washer switch	<p style="text-align: right; font-size: small;">PKIB4958J</p>
38	W/L	Ignition switch (ON)	ON	—	Battery voltage
39	L	CAN – H	—	—	—
40	P	CAN – L	—	—	—
42	GY	Battery power supply	OFF	—	Battery voltage
52	B	Ground	ON	—	Approx. 0 V
55	R	Battery power supply	OFF	—	Battery voltage
59	OR	Rear wiper auto stop signal	ON	Rear wiper operates	Approx. 0 V
				Rear wiper does not operate	Battery voltage
70	SB	Rear wiper motor output signal	ON	Rear wiper operates	Battery voltage
				Rear wiper does not operate	Approx. 0 V

How to Proceed With Trouble Diagnosis

NKS00531

1. Confirm the symptoms and customer complaint.
2. Understand operation description and function description. Refer to [WW-36. "System Description"](#) .
3. Perform preliminary check. Refer to [WW-42. "Preliminary Check"](#) .
4. Check symptom and repair or replace the cause of malfunction.
5. Does rear wiper and washer operate normally? If YES, GO TO 6. If NO, GO TO 4.
6. INSPECTION END

REAR WIPER AND WASHER SYSTEM

NKS00532

Preliminary Check CHECK POWER SUPPLY AND GROUND CIRCUIT

1. CHECK FUSES AND FUSIBLE LINK

Check for blown fuses and fusible link.

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

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

OK or NG

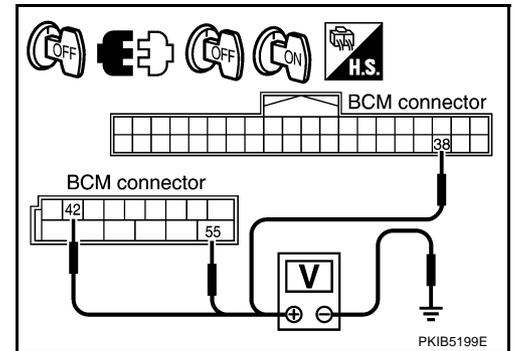
OK >> GO TO 2.

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

2. CHECK POWER SUPPLY CIRCUIT

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

Terminals		(-)	Ignition switch position	
(+)			OFF	ON
BCM connector	Terminal	Ground	OFF	ON
M90	38		Approx. 0 V	Battery voltage
M91	42		Battery voltage	Battery voltage
	55	Battery voltage	Battery voltage	



OK or NG

OK >> GO TO 3.

NG >> Repair harness or connector.

3. CHECK GROUND CIRCUIT

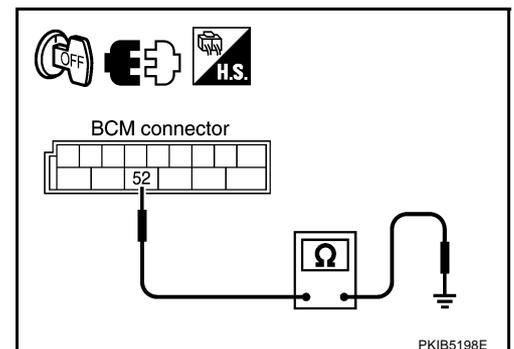
Check continuity between BCM and ground.

BCM connector	Terminal	Ground	Continuity
M91	52		Yes

OK or NG

OK >> INSPECTION END

NG >> Repair harness or connector.



REAR WIPER AND WASHER SYSTEM

CONSULT-III Function (BCM)

NKS00533

CONSULT-III can display each diagnostic item using the diagnostic test mode shown following.

BCM diagnosis position	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.

DATA MONITOR Display Item List

Monitor item		Contents
IGN ON SW	"ON/OFF"	Displays "ignition switch ON (ON)/Other OFF or ACC (OFF)" status as judged from ignition switch signal.
IGN SW CAN	"ON/OFF"	Displays "ignition switch ON (ON)/Other OFF or ACC (OFF)" status as judged from CAN communication signal.
FR WIPER HI	"ON/OFF"	Displays "FRONT WIPER HI (ON)/Other (OFF)" status as judged from wiper switch signal.
FR WIPER LOW	"ON/OFF"	Displays "FRONT WIPER LOW (ON)/Other (OFF)" status as judged from wiper switch signal.
FR WIPER INT	"ON/OFF"	Displays "FRONT WIPER INT (ON)/Other (OFF)" status as judged from wiper switch signal.
FR WASHER SW	"ON/OFF"	Displays "FRONT WASHER Switch (ON)/Other (OFF)" status as judged from wiper switch signal.
INT VOLUME	"1 - 7"	Displays intermittent operation dial position setting (1 - 7) as judged from wiper switch signal.
FR WIPER STOP	"ON/OFF"	Displays "Stopped (ON)/Operating (OFF)" status as judged from auto-stop signal.
VEHICLE SPEED	"km/h"	Displays vehicle speed status as judged from vehicle speed signal.
RR WIPER ON ^{NOTE 1}	"ON/OFF"	Displays "Rear Wiper ON (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER INT ^{NOTE 1}	"ON/OFF"	Displays "Rear Wiper INT (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WASHER SW ^{NOTE 1}	"ON/OFF"	Displays "Rear Washer Switch (ON)/Other (OFF)" status as judged from wiper switch signal.
RR WIPER STOP ^{NOTE 1}	"ON/OFF"	Displays "Rear Wiper Stop (ON)/Other (OFF)" status, as judged from wiper switch signal.
RR WIPER STP2 ^{NOTE 2}	"OFF"	—

NOTE:

1. Coupe models
2. This item is displayed, but cannot be monitored.

ACTIVE TEST Display Item List

Test item	Display on CONSULTIII screen	Description
Front wiper output	FR WIPER	With a certain operation (OFF, HI, LO, INT), front wiper can be operated.
Rear wiper output ^{NOTE}	RR WIPER	Rear wiper can be operated by any ON-OFF operation

NOTE:

Coupe models

Rear Wiper Does Not Operate

NKS00534

1. CHECK CIRCUIT BETWEEN COMBINATION SWITCH AND BCM

CONSULT-III DATA MONITOR

1. Select "RR WIPER ON" of BCM data monitor item.
2. With operating the wiper switch, check the monitor status.

CHECK COMBINATION SWITCH

Refer to [LT-92, "Combination Switch Inspection"](#).

OK or NG

OK >> GO TO 2.

NG >> Check combination switch (wiper switch). Refer to [LT-92, "Combination Switch Inspection"](#).

REAR WIPER AND WASHER SYSTEM

2. ACTIVE TEST

CONSULT-III ACTIVE TEST

1. Select "REAR WIPER" of BCM active test item.
2. With operating the test item, check that rear wiper operation.

GO TO 3

Does rear wiper operate normally?

- YES >> Replace BCM. Refer to [BCS-17, "Removal and Installation of BCM"](#) .
 NO >> GO TO 3.

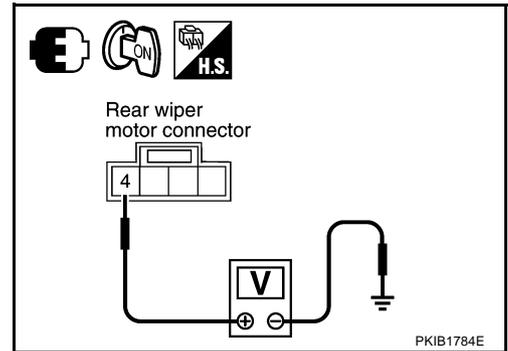
3. CHECK BCM

With rear wiper switch ON, check voltage between rear wiper motor harness connector and ground.

Terminals		Voltage (Approx.)
(+)	(-)	
Rear wiper motor connector	Terminal	Ground
D106	4	
		Battery voltage

OK or NG

- OK >> GO TO 4.
 NG >> GO TO 5.



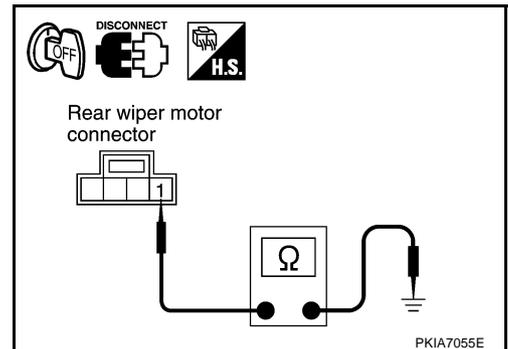
4. CHECK GROUND CIRCUIT

1. Turn ignition switch OFF.
2. Disconnect rear wiper motor connector.
3. Check continuity between rear wiper motor harness connector and ground.

Rear wiper motor connector	Terminal	Ground	Continuity
D106	1		Yes

OK or NG

- OK >> Replace rear wiper motor. Refer to [WW-47, "Removal and Installation of Rear Wiper Motor"](#) .
 NG >> Repair harness or connector.



REAR WIPER AND WASHER SYSTEM

5. 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 and rear wiper motor harness connector.

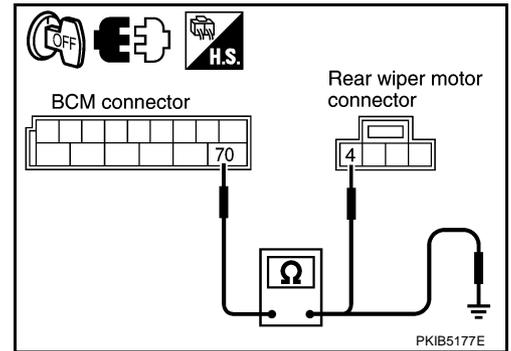
BCM		Rear wiper motor		Continuity
Connector	Terminal	Connector	Terminal	
B83	70	D106	4	Yes

4. Check continuity between BCM harness connector and ground.

BCM connector	Terminal	Ground	Continuity
B83	70		No

OK or NG

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



Rear Wiper Does Not Return to Stop Position

NKS00535

1. CHECK REAR WIPER MOTOR CIRCUIT

Ⓟ With CONSULT-III

1. Select "RR WIPER STOP" of BCM data monitor item.
2. Make sure that "RR WIPER STOP", turn ON-OFF linked with rear wiper switch operation.

ⓧ GO TO 2

OK or NG

- OK >> Replace BCM. Refer to [BCS-17, "Removal and Installation of BCM"](#) .
 NG >> GO TO 2.

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 and rear wiper motor harness connector.

BCM		Rear wiper motor		Continuity
Connector	Terminal	Connector	Terminal	
B83	59	D106	2	Yes

4. Check continuity between BCM harness connector and ground.

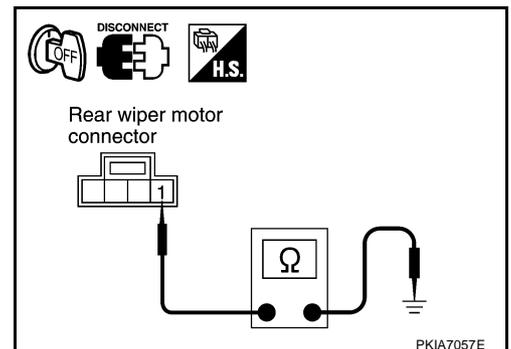
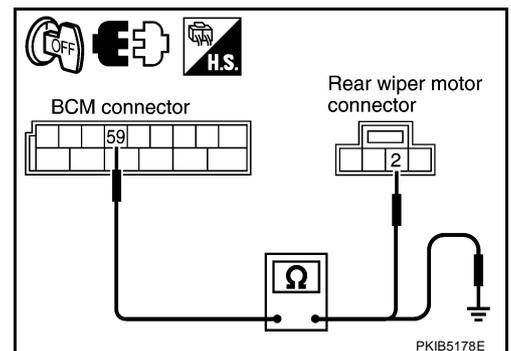
BCM connector	Terminal	Ground	Continuity
B83	59		No

5. Check continuity between rear wiper motor harness connector and ground.

Rear wiper motor connector	Terminal	Ground	Continuity
D106	1		Yes

OK or NG

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

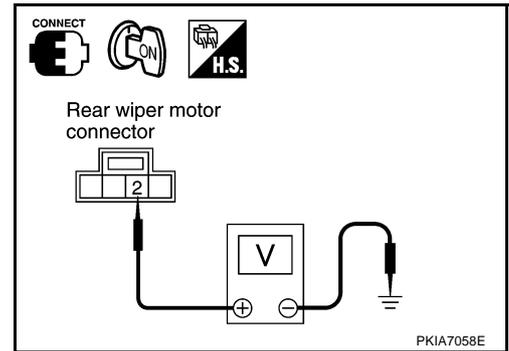


REAR WIPER AND WASHER SYSTEM

3. CHECK REAR WIPER MOTOR SIGNAL

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

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



OK or NG

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

Only Rear Wiper ON Does Not Operate

NKS00536

Refer to [LT-92, "Combination Switch Inspection"](#) .

Only Rear Wiper INT Does Not Operate

NKS00537

Refer to [LT-92, "Combination Switch Inspection"](#) .

Wiper Does Not Wipe When Rear Washer Operates

NKS00538

Refer to [LT-92, "Combination Switch Inspection"](#) .

Rear Wiper Does Not Stop

NKS00539

1. CHECK CIRCUIT BETWEEN COMBINATION SWITCH AND BCM

☐ With CONSULT-III

1. Select "BCM" on CONSULT-III, and select "WIPER" on "SELECT TEST ITEM" screen.
2. Select "DATA MONITOR" on "SELECT DIAG MODE" screen. Make sure that "RR WIPER INT", "RR WIPER ON", and "RR WASHER SW" turn ON-OFF according to wiper switch operation.

☒ Without CONSULT-III

Refer to [LT-92, "Combination Switch Inspection"](#) .

OK or NG

- OK >> Replace BCM. Refer to [BCS-17, "Removal and Installation of BCM"](#) .
 NG >> Check combination switch (wiper switch). Refer to [LT-92, "Combination Switch Inspection"](#) .

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

NKS00534

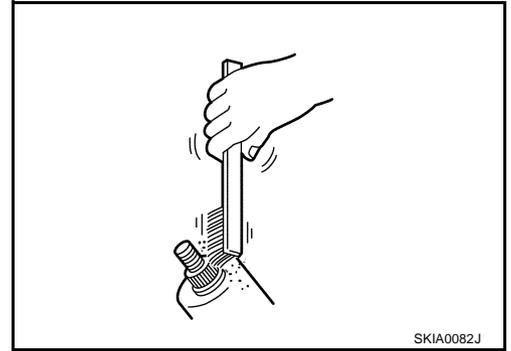
REMOVAL

1. Turn rear wiper switch ON to operate wiper motor, and then turn rear wiper switch OFF (auto stop).
2. Remove rear wiper arm cap, and remove rear wiper arm nut.
3. Raise rear wiper arm, and remove rear wiper arm from the vehicle.

REAR WIPER AND WASHER SYSTEM

INSTALLATION

1. Clean up the pivot area as shown in the figure. This will reduce possibility of rear wiper arm nut looseness.
2. Prior to rear wiper arm installation, turn rear wiper switch ON to operate wiper motor, and then turn rear wiper switch OFF (auto stop).

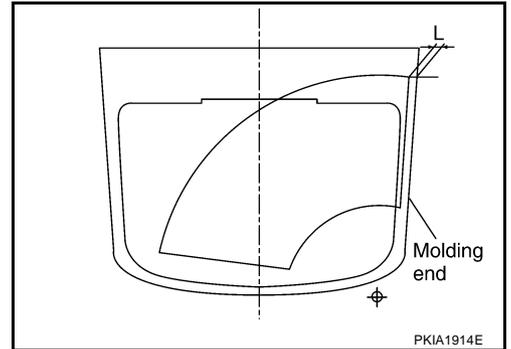


3. Lift the blade up and then set it down onto windshield glass surface to set the blade center to clearance "L" immediately.
4. Tighten wiper arm nuts to specified torque.

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

5. Spray washer fluid. Turn rear wiper switch ON to operate wiper motor, and then turn rear wiper switch OFF (auto stop).
6. Make sure that wiper blade stop within clearance "L".

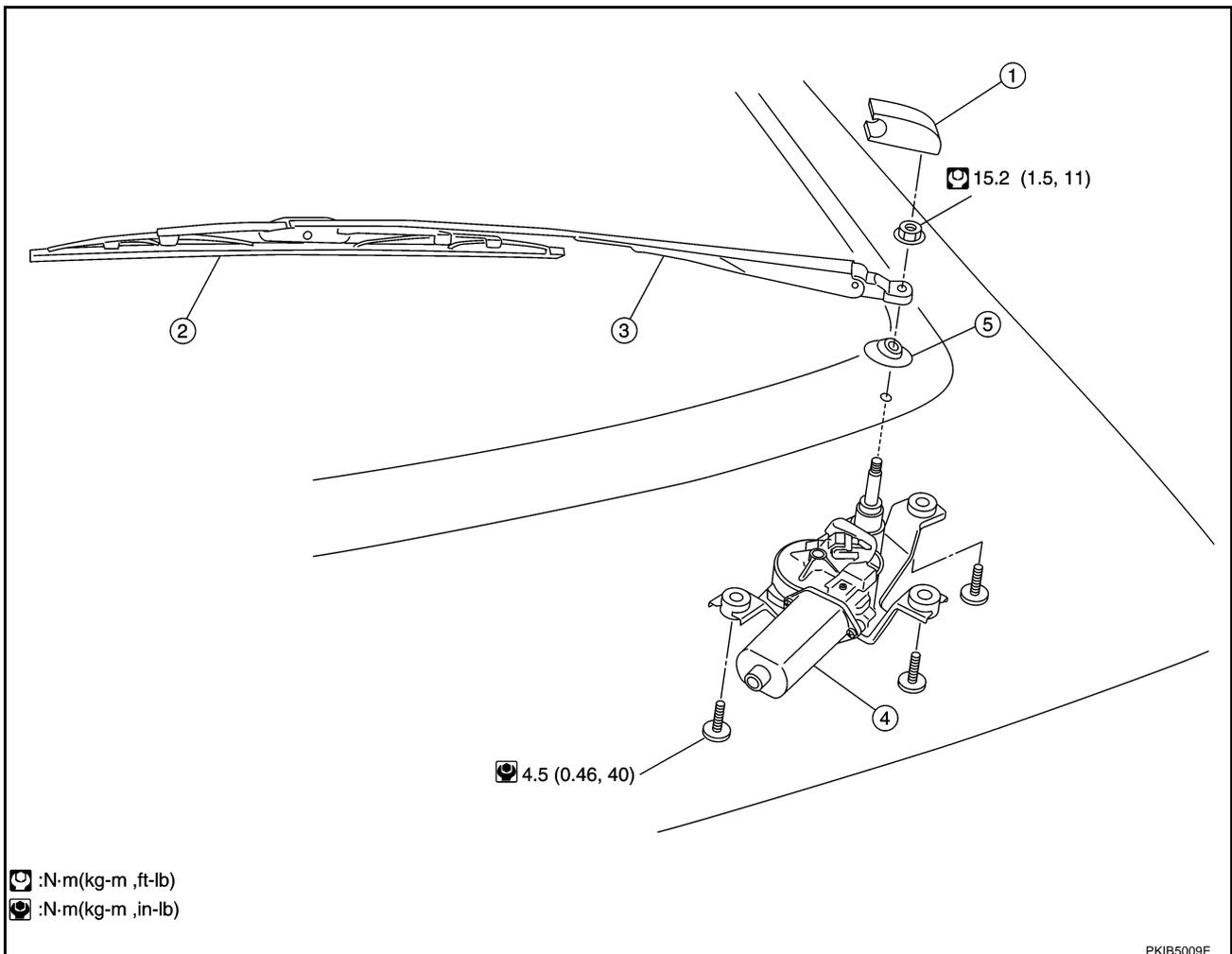
Clearance "L" : 30 ± 7.5 mm (1.181 ± 0.295 in)



7. Install rear wiper arm caps.

Removal and Installation of Rear Wiper Motor

NKS0053B



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

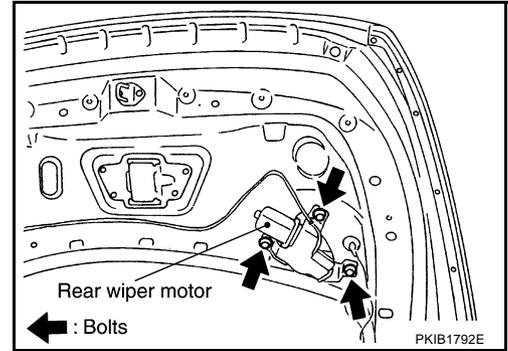
WW

REAR WIPER AND WASHER SYSTEM

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

REMOVAL

1. Remove rear wiper arm. Refer to [WW-46, "REMOVAL"](#) .
2. Remove pivot cap.
3. Remove back door finisher lower. Refer to [EI-48, "BACK DOOR FINISHER"](#) .
4. Disconnect rear wiper motor connector.
5. Remove rear wiper motor mounting bolts and remove rear wiper motor from the vehicle.



INSTALLATION

1. Install rear wiper motor to the vehicle.

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

2. Install pivot cap.
3. Connect rear wiper motor connector. Turn rear wiper switch ON to operate wiper motor, and then turn rear wiper switch OFF (auto stop).
4. Install back door finisher lower. Refer to [EI-48, "BACK DOOR FINISHER"](#) .
5. Install rear wiper arm and arm cap. Refer to [WW-47, "INSTALLATION"](#) .

CAUTION:

Never drop the rear wiper motor nor cause it to interfere with other parts.

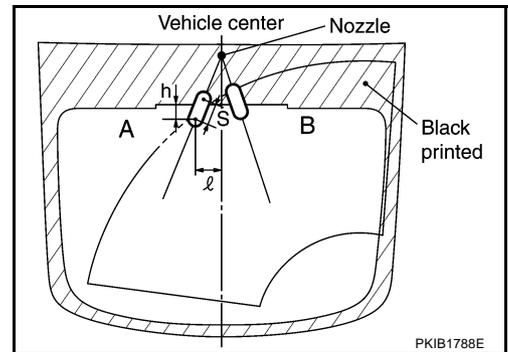
Washer Nozzle Adjustment

NKS0053C

Adjust spray position as shown in the figure.

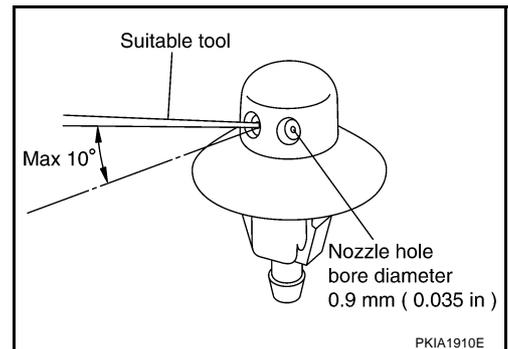
Unit: mm (in)

Spray position	h (height)	ℓ (width)	S	Diameter (spray position range)
A	30 (1.18)	73 (2.87)	50 (1.97)	30
B	12 (0.47)	50 (1.97)	50 (1.97)	30



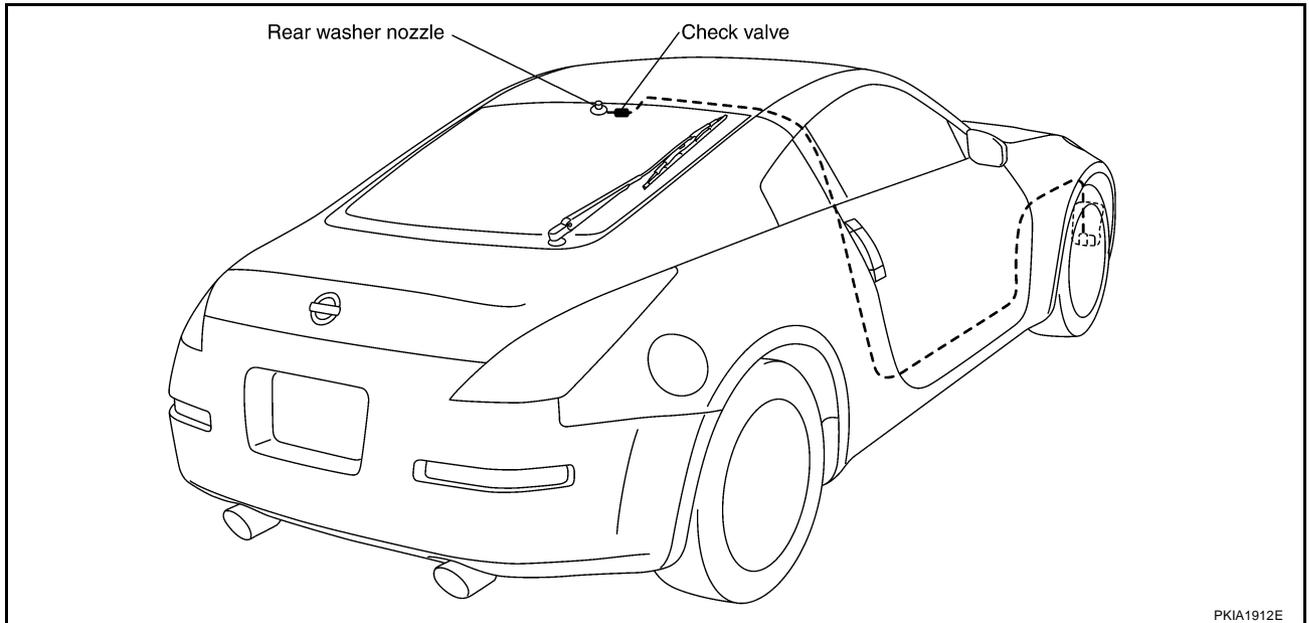
Adjust washer nozzle with suitable tool as shown in the figure.

Adjustable range : ±10° (In any direction)



REAR WIPER AND WASHER SYSTEM

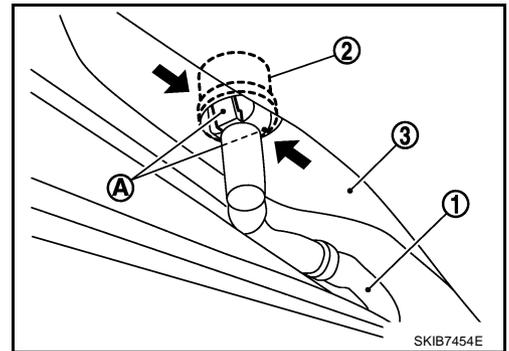
Washer Tube Layout



Removal and Installation of Rear Washer Nozzle

REMOVAL

1. Remove washer tube(1).
2. While pressing pawl (A) on the reverse side of rear washer nozzle (2), remove rear washer nozzle (2) from back door (3).



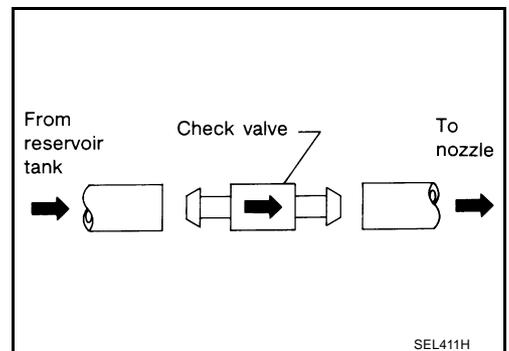
INSTALLATION

Installation is the reverse order of removal. Adjust nozzle spray location. Refer to [WW-48, "Washer Nozzle Adjustment"](#).

Inspection for Washer Nozzle

CHECK VALVE INSPECTION

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



Inspection of Rear Wiper and Washer Switch Circuit

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

Removal and Installation of Rear Wiper and Washer Switch

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

REAR WIPER AND WASHER SYSTEM

Removal and Installation of Washer Tank

NKS0053I

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

Removal and Installation of Washer Pump

NKS0053J

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

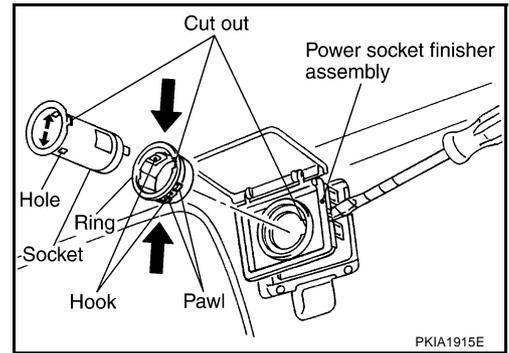
POWER SOCKET

Removal and Installation (Luggage Floor Finisher Lower)

NKS0053L

REMOVAL

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



PKIA1915E

INSTALLATION

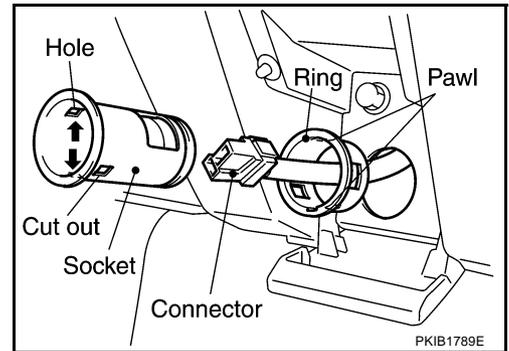
Installation is the reverse order of removal.

Removal and Installation (Instrument Passenger Panel Lower)

NKS0053M

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.



PKIB1789E

INSTALLATION

Installation is the reverse order of removal.

HORN

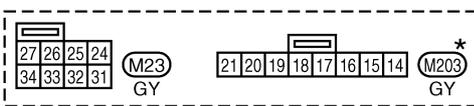
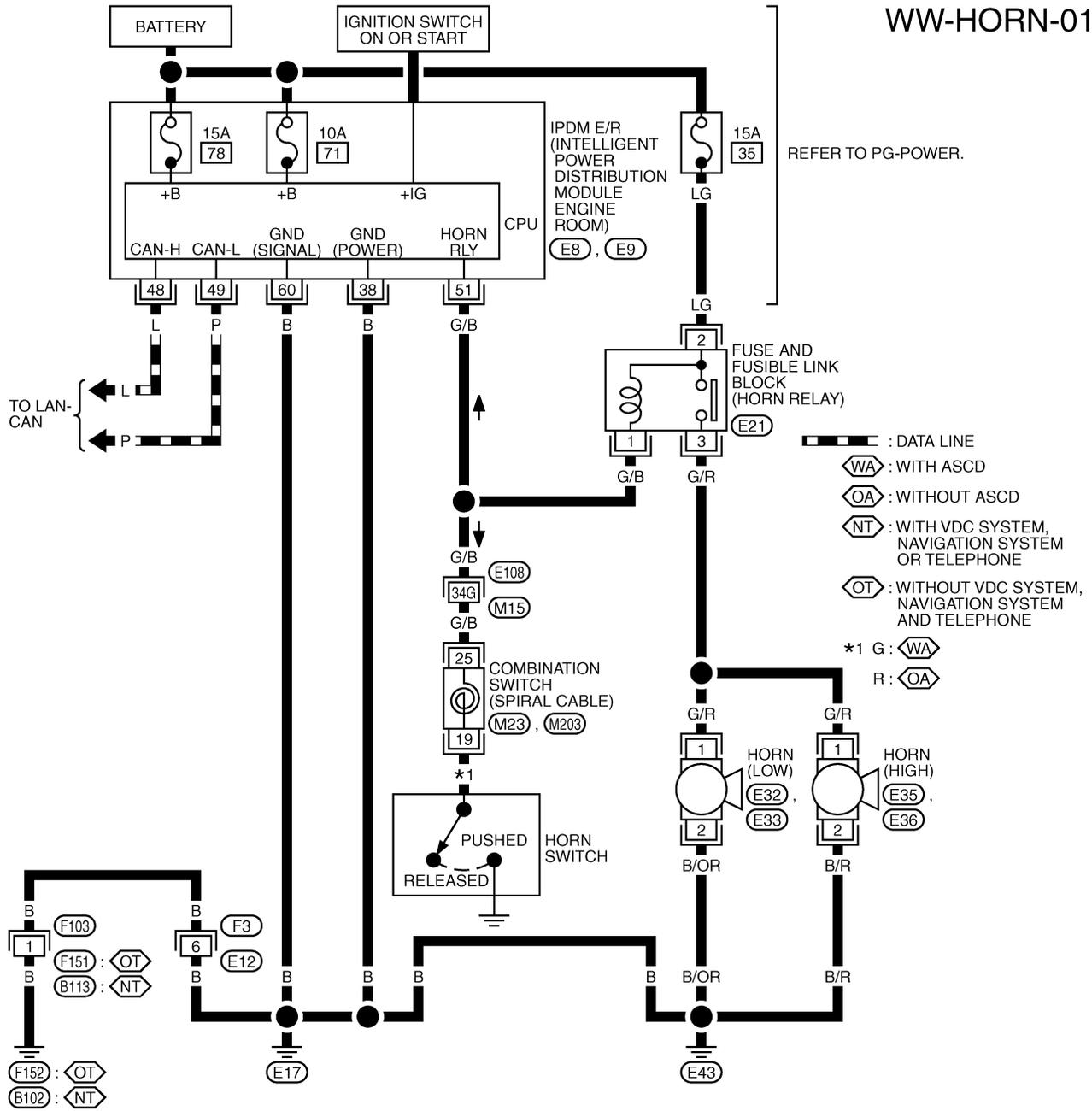
HORN

Wiring Diagram — HORN —

PFP:25610

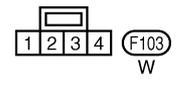
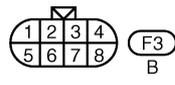
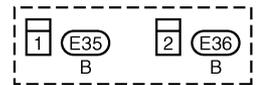
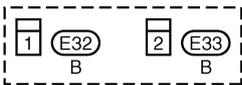
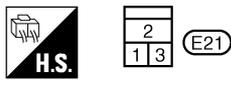
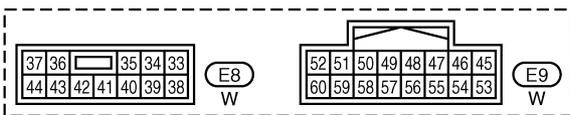
NKS0053N

WW-HORN-01



REFER TO THE FOLLOWING.

(E108) -SUPER MULTIPLE JUNCTION (SMJ)



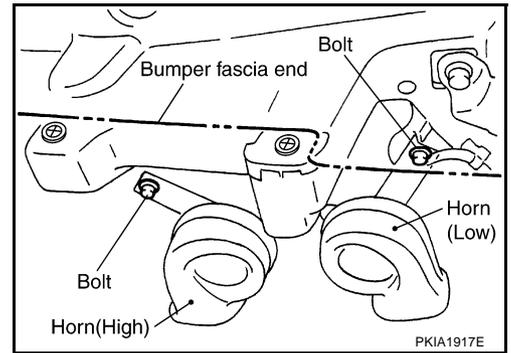
HORN

Removal and Installation

REMOVAL

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

NKS00530



INSTALLATION

Tighten horn bolt to specified torque.

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