SECTION WW
WIPER & WASHER

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PRECAUTION

PRECAUTIONS

Precaution for Supplemental Restraint System (SRS) "AIR BAG" and "SEAT BELT PRE-TENSIONER"

INFOID:0000000015272960

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. Information necessary to service the system safely is included in the SR 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, it is recommended that all maintenance and repair be performed by an authorized NISSAN/INFINITI dealer.**
- **Improper repair, 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 SR 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 WHEN USING POWER TOOLS (AIR OR ELECTRIC) AND HAMMERS

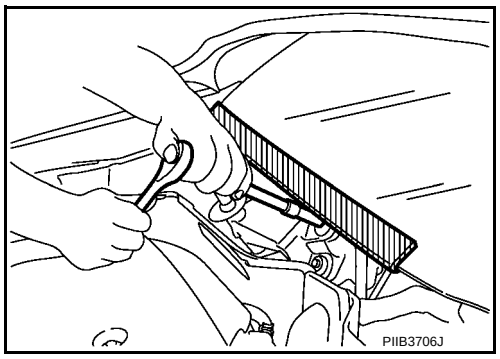
WARNING:

- **When working near the Air Bag Diagnosis Sensor Unit or other Air Bag System sensors with the Ignition ON or engine running, DO NOT use air or electric power tools or strike near the sensor(s) with a hammer. Heavy vibration could activate the sensor(s) and deploy the air bag(s), possibly causing serious injury.**
- **When using air or electric power tools or hammers, always switch the Ignition OFF, disconnect the battery or batteries, and wait at least three minutes before performing any service.**

Precaution for Procedure without Cowl Top Cover

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



Precaution for Work

INFOID:0000000014623348

- When removing or disassembling each component, be careful not to damage or deform it. If a component may be subject to interference, be sure to protect it with a shop cloth.
- When removing (disengaging) components with a screwdriver or similar tool, be sure to wrap the component with a shop cloth or vinyl tape to protect it.
- Protect the removed parts with a shop cloth and prevent them from being dropped.
- Replace a deformed or damaged clip.
- If a part is specified as a non-reusable part, always replace it with a new one.
- Be sure to tighten bolts and nuts securely to the specified torque.
- After installation is complete, be sure to check that each part works properly.
- Follow the steps below to clean components:

- Water soluble dirt:

- Dip a soft cloth into lukewarm water, wring the water out of the cloth and wipe the dirty area.
- Then rub with a soft, dry cloth.

- Oily dirt:

< PRECAUTION >

- Dip a soft cloth into lukewarm water with mild detergent (concentration: within 2 to 3%) and wipe the dirty area.
- Then dip a cloth into fresh water, wring the water out of the cloth and wipe the detergent off.
- Then rub with a soft, dry cloth.

- Do not use organic solvent such as thinner, benzene, alcohol or gasoline.
- For genuine leather seats, use a genuine leather seat cleaner.

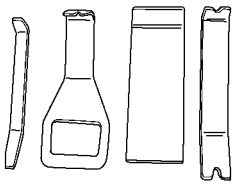
PREPARATION

PREPARATION

Special Service Tools

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The actual shape of the tools may differ from those illustrated here.

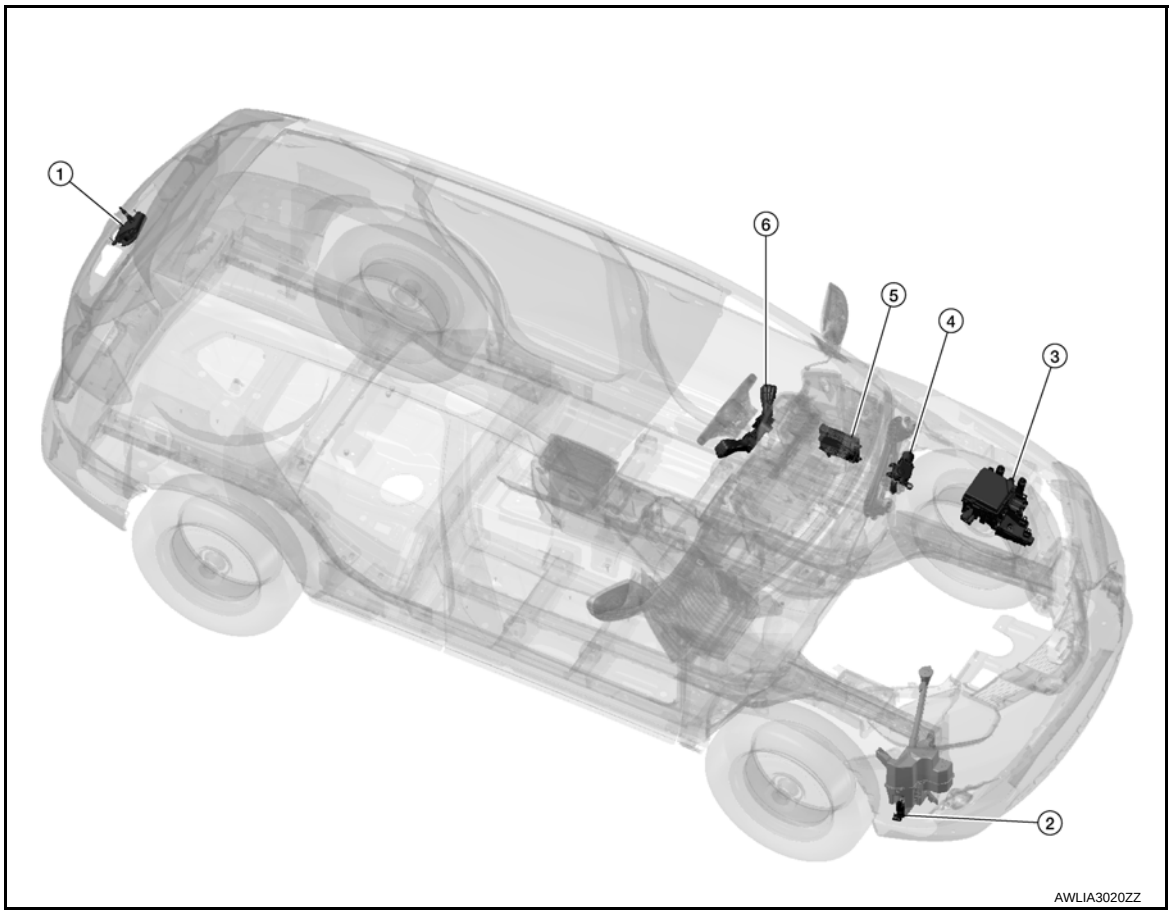
Tool number (TechMate No.) Tool name	Description
— (J-46534) Trim Tool Set  AWJIA0483ZZ	Removing trim components

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

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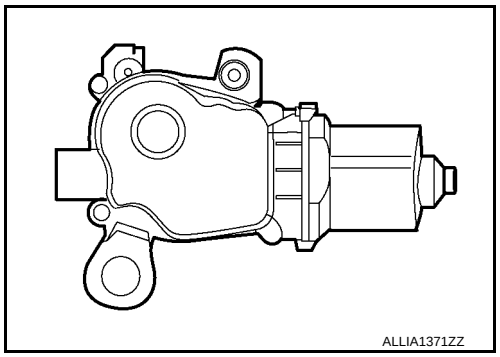


No.	Component	Function
1.	Rear wiper motor	Refer to WW-7, "Rear wiper motor".
2.	Front and rear washer motor	Refer to WW-7, "Washer pump".
3.	IPDM E/R	• Controls the integrated relay according to the request (via CAN communication) from BCM. • Performs the auto stop control of the front wiper. Refer to WW-6, "Component Parts Location".
4.	Front wiper motor	Refer to WW-7, "Front wiper motor".
5.	BCM	• Judges each switch status by the combination switch reading function. • Requests (via CAN communication) the front wiper relay and the front wiper HI/LO relay ON to IPDM E/R. • Supplies power to the rear wiper motor. • Performs the auto stop control of the rear wiper. Refer to WW-6, "Component Parts Location".
6.	Combination switch (Wiper and washer switch)	Refer to WW-8, "FRONT WIPER AND WASHER SYSTEM : System Description".

Front wiper motor

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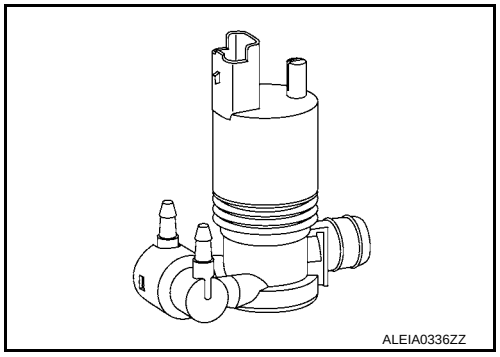
- Controls front wiper operation with IPDM E/R control.
- Transmits front wiper stop position signal to IPDM E/R.



Washer pump

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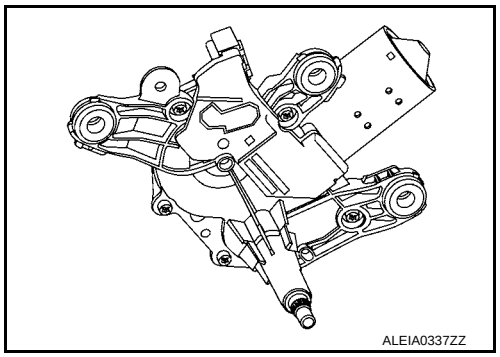
- Washer fluid is sprayed according to washer switch states.
- Switching between front washer and rear washer is performed according to the voltage polarity change to washer pump.



Rear wiper motor

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- Controls rear wiper operation with BCM control.
- Transmits rear wiper stop position signal to BCM.

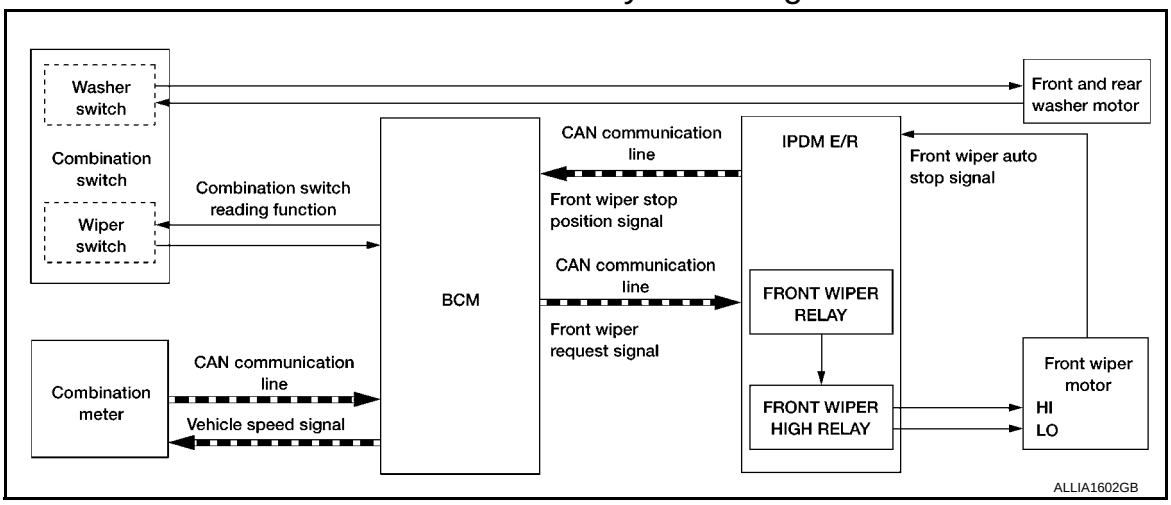


SYSTEM

FRONT WIPER AND WASHER SYSTEM

FRONT WIPER AND WASHER SYSTEM : System Diagram

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FRONT WIPER AND WASHER SYSTEM : System Description

INFOID:0000000014623356

OUTLINE

FRONT WIPER CONTROL (BASIC)

1. BCM detects the combination switch position by the combination switch reading function.
2. BCM transmits the front wiper request signal to the IPDM E/R using CAN communication.
3. IPDM E/R controls the integrated front wiper relay and front wiper high relay based on the status of the front wiper request signal.
4. IPDM E/R provides power to operate the front wiper motor.

LOW SPEED OPERATION

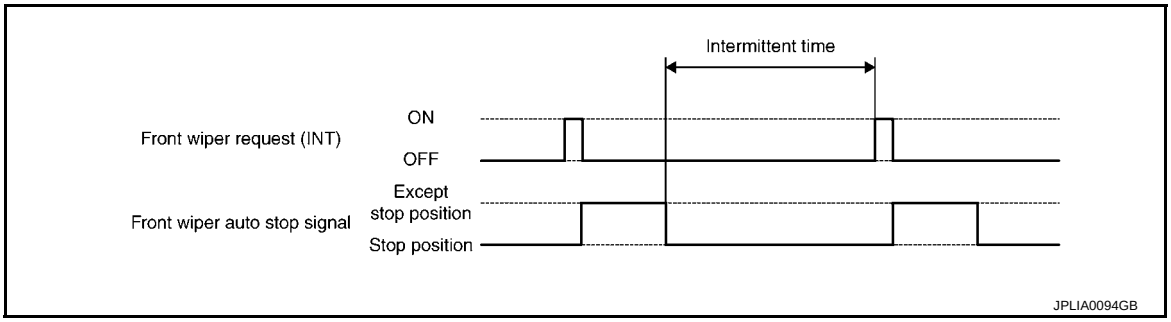
1. Ignition switch ON.
2. Front wiper switch in LO or MIST position.
3. BCM reads the combination switch position and transmits the front wiper request signal (LO) to IPDM E/R using CAN communication.
4. IPDM E/R turns ON the front wiper relay.

HIGH SPEED OPERATION

1. Ignition switch ON.
2. Front wiper switch in HI.
3. BCM reads the combination switch position and transmits the front wiper request signal (HI) to IPDM E/R using CAN communication.
4. IPDM E/R turns ON the front wiper relay and the front wiper high relay.

INTERMITTENT OPERATION

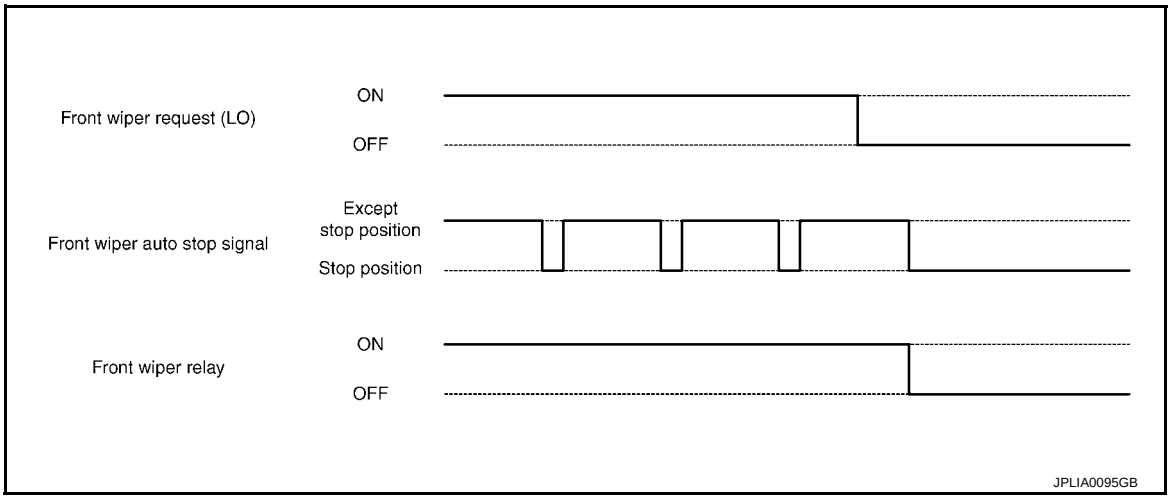
1. Ignition switch ON.
2. Front wiper switch INT.
3. BCM reads the combination switch position. BCM calculates the delay interval based on the table below and then transmits the front wiper request signal (INT) to IPDM E/R using CAN communication.
4. IPDM E/R turns ON the front wiper relay only once.
5. BCM detects stop position of the front wiper motor based on the front wiper stop position signal received from the IPDM E/R.
6. BCM transmits the front wiper request signal (INT) again after the delay interval.



Intermittent switch position	Length of delay	Delay interval (s)
7	Short ↑ ↓ Long	0.4
6		1
5		2
4		3
3		5
2		10
1		16

AUTO STOP OPERATION

1. Front wiper switch is turned OFF.
2. BCM monitors wiper switch position by combination switch reading position function.
3. BCM stops transmitting the front wiper request signal to the IPDM E/R.
4. IPDM E/R detects the front wiper auto stop signal from the position of the front wiper motor (stop position/ except stop position).
5. When the front wiper request signal is stopped, IPDM E/R turns ON the front wiper relay until the front wiper motor returns to the stop position.
6. IPDM E/R turns the front wiper relay OFF when the front wiper motor has reached the stop position.



MIST OPERATION

1. Ignition switch ON.
2. Front washer switch in OFF position.
3. Front wiper switch in MIST position.
4. BCM reads the combination switch position and transmits the front wiper request signal (LO) to IPDM E/R using CAN communication.
5. IPDM E/R turns ON the front wiper relay.
6. The front wiper operates once after the front washer operation.

WIPER/WASHER OPERATION

1. Ignition switch ON.

2. Front washer switch ON.
3. The front washer switch provides ground for the front and rear washer motor.
4. BCM reads the combination switch position and transmits the front wiper request signal (LO) to IPDM E/R using CAN communication.
5. BCM transmits the front wiper request signal (LO) to IPDM E/R using CAN communication.
6. IPDM E/R turns ON the front wiper relay.
7. The front wiper operates.

NOTE:
BCM transmits the front wiper request signal (LO) so that the front wiper operates approximately 3 times after front washer switch OFF is detected.

FRONT WIPER AND WASHER SYSTEM : Fail-Safe

INFOID:0000000014623357

FAIL−SAFE OPERATION

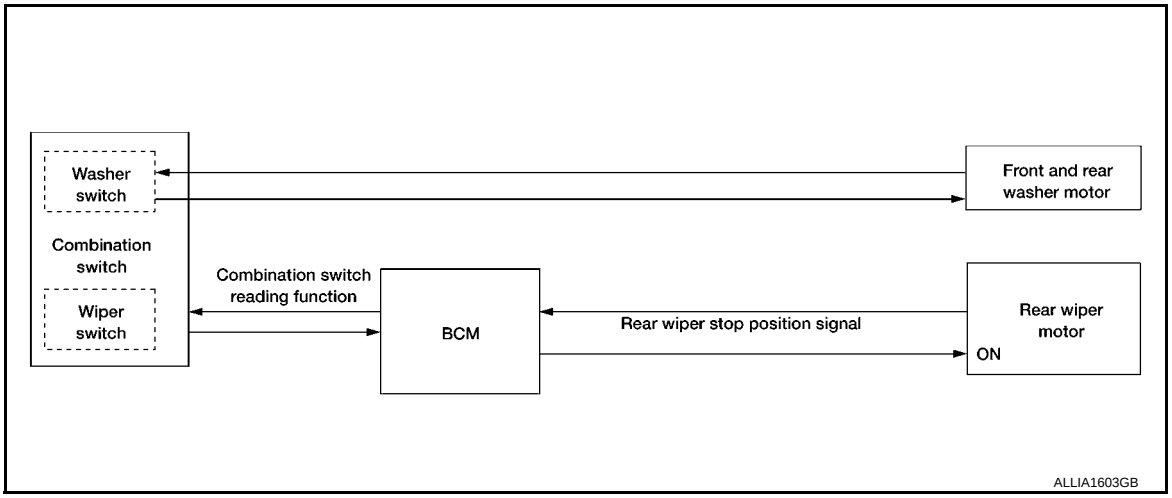
IPDM E/R performs the fail-safe function when the front wiper auto stop circuit is malfunctioning. Refer to WW-10, "FRONT WIPER AND WASHER SYSTEM : Fail-Safe".

REAR WIPER AND WASHER SYSTEM

REAR WIPER AND WASHER SYSTEM : System Description

INFOID:0000000014623358

SYSTEM DIAGRAM



OUTLINE

The rear wiper is controlled by each function of BCM.

Control by BCM
- Combination switch reading function
- Rear wiper control function

REAR WIPER BASIC OPERATION

- BCM detects the combination switch condition by the combination switch reading function.
- BCM controls the rear wiper to start or stop.

REAR WIPER ON OPERATION

- BCM supplies power to the rear wiper motor according to the rear wiper ON operating condition.

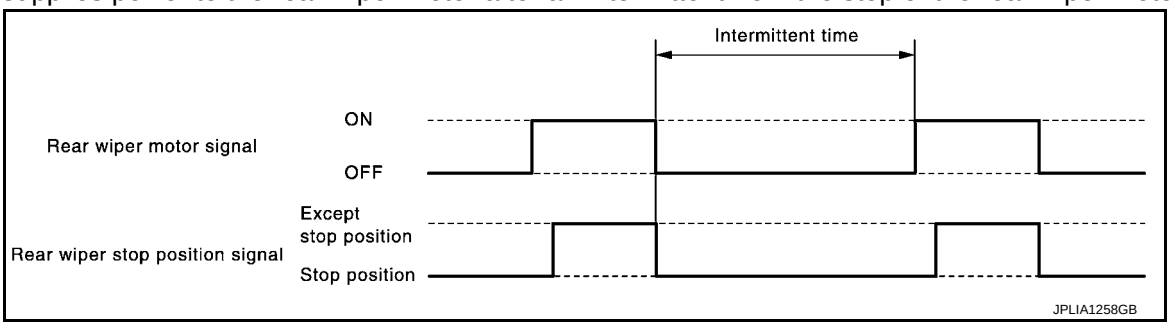
Rear wiper ON operating condition:
- Power switch ON
- Rear wiper switch ON

REAR WIPER INT OPERATION

- BCM supplies power to the rear wiper motor according to the INT operating condition.

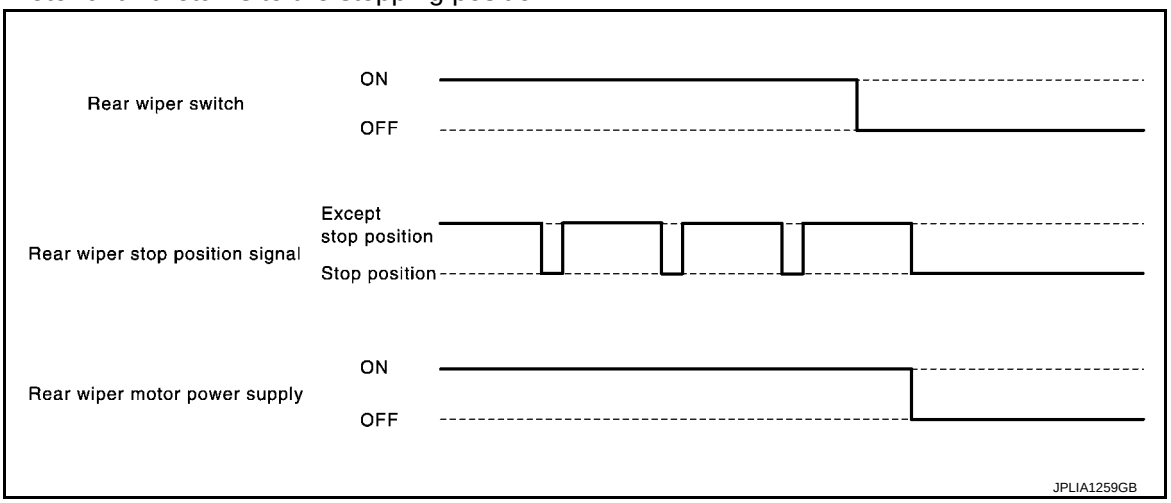
Rear wiper INT operating condition:
- Power switch ON

- Rear wiper switch INT
• BCM controls the rear wiper to operate once.
• BCM detects the rear wiper motor stopping position.
• BCM supplies power to the rear wiper motor after an intermittent from the stop of the rear wiper motor.



REAR WIPER AUTO STOP OPERATION

• BCM stops supplying power to the rear wiper motor when the rear wiper switch is turned OFF.
• BCM reads a rear wiper stop position signal from the rear wiper motor to detect a rear wiper motor position.
• When the rear wiper motor is at other than the stopping position, BCM continues to supply power to the rear wiper motor until it returns to the stopping position.



NOTE:
BCM stops supplying power to the rear wiper motor when the power switch is turned OFF.

REAR WIPER OPERATION LINKED WITH WASHER

• BCM supplies power to the rear wiper motor according to the washer linked operating condition of rear wiper. When the rear washer switch is turned OFF, BCM controls rear wiper to operate approximately 3 times.

Washer linked operating condition of rear wiper:
- Power switch ON
- Rear washer switch ON (0.4 second or more)
• The washer pump is grounded through the combination switch with the rear washer switch ON.

REAR WIPER AND WASHER SYSTEM : Fail-safe

INFOID:0000000014623359

FAIL−SAFE OPERATION

IPDM E/R performs the fail-safe function when the rear wiper auto stop circuit is malfunctioning. Refer to WW-11, "REAR WIPER AND WASHER SYSTEM : Fail-safe".

DIAGNOSIS SYSTEM (BCM)

COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:0000000014923240

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with BCM.

Direct Diagnostic Mode	Description
Ecu Identification	The BCM part number is displayed.
Self Diagnostic Result	The BCM self diagnostic results are displayed.
Data Monitor	The BCM input/output data is displayed in real time.
Active Test	The BCM activates outputs to test components.
Work support	The settings for BCM functions can be changed.
Configuration	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing BCM.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

SYSTEM APPLICATION

BCM can perform the following functions.

System	Sub System	Direct Diagnostic Mode						
		Ecu Identification	Self Diagnostic Result	Data Monitor	Active Test	Work support	Configuration	CAN Diag Support Mntr
Door lock	DOOR LOCK		×	×	×	×		
Rear window defogger	REAR DEFOGGER			×	×	×		
Warning chime	BUZZER			×	×			
Interior room lamp timer	INT LAMP			×	×	×		
Exterior lamp	HEADLAMP			×	×	×		
Wiper and washer	WIPER			×	×	×		
Turn signal and hazard warning lamps	FLASHER			×	×			
Intelligent Key system	INTELLIGENT KEY		×	×	×	×		
Combination switch	COMB SW			×				
BCM	BCM	×	×			×	×	×
Immobilizer	IMMU		×	×	×			
Interior room lamp battery saver	BATTERY SAVER			×	×			
Back door open	TRUNK			×				
Vehicle security system	THEFT ALM			×	×	×		
RAP system	RETAINED PWR			×				
Signal buffer system	SIGNAL BUFFER			×	×			

WIPER

WIPER : CONSULT Function (BCM - WIPER)

INFOID:0000000014923241

DATA MONITOR

Monitor Item [Unit]	Description
PUSH SW [On/Off]	Indicates condition of push-button ignition switch.
VEH SPEED 1 [km/h]	Indicates vehicle speed signal received from ABS on CAN communication line.
FR WIPER HI [On/Off]	Indicates condition of wiper operation of combination switch.
FR WIPER LOW [On/Off]	
FR WASHER SW [On/Off]	
FR WIPER INT [On/Off]	
FR WIPER STOP [On/Off]	Indicates front wiper auto stop signal received from IPDM E/R on CAN communication line.
INT VOLUME [1 – 7]	Indicates condition of intermittent wiper operation of combination switch.
RR WIPER ON [On/Off]	Indicates condition of rear wiper operation of combination switch.
RR WIPER INT [On/Off]	
RR WASHER SW [On/Off]	
RR WIPER STOP [On/Off]	Indicates rear wiper motor auto stop input from rear wiper motor.

ACTIVE TEST

Test Item	Description
FR WIPER	This test is able to check front wiper operation [Hi/Lo/INT/Off].
RR WIPER	This test is able to check rear wiper operation [On/Off].

WORK SUPPORT

Support Item	Setting	Description
WIPER SPEED SETTING	On	Front wiper intermittent time linked with vehicle speed and wiper intermittent dial position.
	Off*	Front wiper intermittent time is not linked with vehicle speed and wiper intermittent dial position.
FR RR DRIP	On*	Front wiper drop wipe and rear wiper drop wipe operation ON
	Off	Front wiper drop wipe and rear wiper drop wipe operation OFF
REAR WIPER LINK WITH REVERSE SETTING	On*	Rear wiper operation linked with reverse ON
	Off	Rear wiper operation linked with reverse OFF

*: Initial Setting

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

INFOID:0000000014923242

APPLICATION ITEM

CONSULT performs the following functions via CAN communication with IPDM E/R.

Direct Diagnostic Mode	Description
ECU Identification	The IPDM E/R part number is displayed.
Self Diagnostic Result	The IPDM E/R self diagnostic results are displayed.
Data Monitor	The IPDM E/R input/output data is displayed in real time.
Active Test	The IPDM E/R activates outputs to test components.
Configuration	• The vehicle specification can be read and saved. • The vehicle specification can be written when replacing IPDM E/R.
CAN Diag Support Mntr	The result of transmit/receive diagnosis of CAN communication is displayed.

ECU IDENTIFICATION

The IPDM E/R part number is displayed.

SELF DIAGNOSTIC RESULT

Refer to PCS-28, "DTC Index".

DATA MONITOR

Monitor Item [Unit]	Description
REVERSE SIGNAL [Open/Close]	Indicates condition of transmission range switch R (Reverse) position.
IGN RELAY [Open/Close]	Indicates condition of ignition relay-1.
PUSH SW [Open/Close]	Indicates condition of push-button ignition switch.
INTERLOCK/PNP SW [Open/Close]	Indicates condition of transmission range switch P (Park) and N (Neutral) positions.
OIL PRESSURE SW [Open/Close]	Indicates condition of oil pressure switch.
LED H/L RH STATUS [Open/Close]	Indicates condition of LED headlamp RH ON/OFF status judged by IPDM E/R.
LED H/L LH STATUS [Open/Close]	Indicates condition of LED headlamp LH ON/OFF status judged by IPDM E/R.
HOOD SW [Open/Close]	Indicates condition of hood switch.
HORN RELAY [OFF/ ON]	Indicates condition of horn relay.
FRONT WIPER HI/LO RELAY [OFF/ON]	Indicates condition of front wiper high relay.
FRONT WIPER RELAY [OFF/ON]	Indicates condition of front wiper relay.
IGN RELAY OFF STATUS [OFF/ON]	Indicates condition of ignition relay-1 OFF status.
IGN RELAY ON STATUS [OFF/ON]	Indicates condition of ignition relay-1 ON status.
STARTER RELAY [OFF/ON]	Indicates condition of starter relay.
FR FOG LAMP LH [%]	Indicates condition of front fog lamp LH.
FR FOG LAMP RH [%]	Indicates condition of front fog lamp RH.
PARKING LAMP [%]	Indicates condition of parking lamp.
TAIL LAMP LH [%]	Indicates condition of tail lamp LH.
TAIL LAMP RH [%]	Indicates condition of tail lamp RH.
DAYTIME RUNNING LIGHT LH [%]	Indicates condition of daytime running light LH.
DAYTIME RUNNING LIGHT RH [%]	Indicates condition of daytime running light RH.
HEADLAMP (HI) LH [%]	Indicates condition of headlamp high beam LH.

Monitor Item [Unit]	Description
HEADLAMP (HI) RH [%]	Indicates condition of headlamp high beam RH.
HEADLAMP (LO) LH [%]	Indicates condition of headlamp low beam LH.
HEADLAMP (LO) RH [%]	Indicates condition of headlamp low beam RH.
FRONT FOG LAMP [Off/On]	Indicates condition of front fog lamps.
BATTERY VOLTAGE [V]	Indicates condition of battery voltage.
COOLING FAN DUTY [%]	Indicates condition of cooling fans.
HOOD SW (CAN) [OPEN/CLOSE]	Indicates condition of hood switch.
FRONT WIPER [STOP/LOW/HIGH]	Indicates condition of front wiper motor.
FR WIPER STOP POSITION [STOP P/ACTIVE P]	Indicates condition of front wiper motor stop.
HEADLAMP (HI) [Off/On]	Indicates condition of headlamp high beams.
HEADLAMP (LO) [Off/On]	Indicates condition of headlamp low beams.
IGNITION RELAY STATUS [Off/On]	Indicates condition of ignition relay-1.
IGN RELAY MONITOR [Off/On]	Indicates condition of ignition relay-1 feedback.
IGNITION POWER SUPPLY [Off/On]	Indicates condition of ignition relay-1.
INTERLOCK/PNP SW (CAN) [Off/On]	Indicates condition of transmission range switch P (Park) and N (Neutral) positions.
PUSH-BUTTON IGN SW (CAN) [Off/On]	Indicates condition of push-button ignition switch.
TAIL LAMP [Off/On]	Indicates condition of tail lamps.
REVERSE SIGNAL (CAN) [Off/On]	Indicates condition of transmission range switch R (Reverse) position.
ST&ST CONT RELAY STATUS [Off/ST R On]	Indicates condition of starter cut and starter relays.
STARTER MOTOR STATUS [Off/On]	Indicates condition of starter motor.
STARTER RELAY (CAN) [LOW/HIGH]	Indicates condition of starter relay.
IPDM NOT SLEEP [NO RDY/RDY]	Indicates condition of IPDM E/R sleep status.
DTRL REQ [Off/On]	Indicates condition of daytime running light request.
CRANKING ENABLE-TCM [NG/OK]	Indicates condition of crank enable from TCM.
CRANKING ENABLE-ECM [NG/OK]	Indicates condition of crank enable from ECM.
CAN DIAGNOSIS [NG/OK]	Indicates condition of CAN diagnosis.
FRONT FOG LAMP REQ [Off/On]	Indicates condition of front fog lamp request.
HIGH BEAM REQ [Off/On]	Indicates condition of headlamp high beam request.
HORN CHIRP [Off/On]	Indicates condition of horn relay request.
COOLING FAN REQ [%]	Indicates condition of cooling fan request.
ENGINE STATUS [STOP/RUN/IDLING]	Indicates condition of engine status.
TURN SIGNAL REQ [Off/LH/RH]	Indicates condition of turn signal request.
FR WIPER REQ [RETURN/LOW/HIGH]	Indicates condition of front wiper motor request.
SHIFT POSITION [P/R/N/D/L]	Indicates condition of transmission range switch positions.
LOW BEAM REQ [Off/On]	Indicates condition of headlamp low beam request.
POSITION LIGHT REQ [Off/On]	Indicates condition of parking lamp request.
IGNITION SW [Off/On]	Indicates condition of ignition switch.
VEHICLE SPEED (METER) [mph/km/h]	Indicates vehicle speed.
STARTER OPERATION COUNT [Numerical]	Displays number of times starter motor is energized.
H/P F/PUMP OPERATN COUNT [Numerical]	Displays number of times high pressure fuel pump is energized.
P LAMP CIRC MALFUNCTN [0 – 1]	Monitors number of times smart FET reaches retry upper limit for the parking lamp circuit. **NOTE:** When number of retry counts is 20, count is 1.

Monitor Item [Unit]	Description
NMB P LAMP CIRC RETRY [0 – 20]	Monitors number of times smart FET permits retry of parking lamp circuit. **NOTE:** When number of short circuit counts is 5 and the ignition switch OFF to ON operation is detected, count is 1.
NMB P LAMP CIRC SHORT [0 – 5]	Monitors number of times smart FET detects over current of parking lamp circuit.
DTRL LH CIRC MALFUNCTN [0 – 1]	Monitors number of times smart FET reaches retry upper limit for daytime running light (left) circuit. **NOTE:** When number of retry counts is 20, count is 1.
NMB DTRL LH CIRC RETRY [0 – 20]	Monitors number of times smart FET permits retry of daytime running light (left) circuit. **NOTE:** When number of short circuit counts is 5 and the ignition switch OFF to ON operation is detected, count is 1.
NMB DTRL LH CIRC SHORT [0 – 5]	Monitors number of times smart FET detects over current of daytime running light (left) circuit.
DTRL RH CIRC MALFUNCTN [0 – 1]	Monitors number of times smart FET reaches retry upper limit for daytime running light (right) circuit. **NOTE:** When number of retry counts is 20, count is 1.
NMB DTRL RH CIRC RETRY [0 – 20]	Monitors number of times smart FET permits retry of daytime running light (right) circuit. **NOTE:** When number of short circuit counts is 5 and the ignition switch OFF to ON operation is detected, count is 1.
NMB DTRL RH CIRC SHORT [0 – 5]	Monitors number of times smart FET detects over current of daytime running light (right) circuit.
F FOG LH CIRC MALFUNCTN [0 – 1]	Monitors number of times smart FET reaches retry upper limit for front fog lamp (left) circuit. **NOTE:** When number of retry counts is 20, count is 1.
NMB F FOG LH CIRC RETRY [0 – 20]	Monitors number of times smart FET permits retry of front fog lamp (left) circuit. **NOTE:** When number of short circuit counts is 5 and the ignition switch OFF to ON operation is detected, count is 1.
NMB F FOG LH CIRC SHORT [0 – 5]	Monitors number of times smart FET detects over current of front fog lamp (left) circuit.
F FOG RH CIRC MALFUNCTN [0 – 1]	Monitors number of times smart FET reaches retry upper limit for front fog lamp (right) circuit. **NOTE:** When number of retry counts is 20, count is 1.
NMB F FOG RH CIRC RETRY [0 – 20]	Monitors number of times smart FET permits retry of front fog lamp (right) circuit. **NOTE:** When number of short circuit counts is 5 and the ignition switch OFF to ON operation is detected, count is 1.
NMB F FOG RH CIRC SHORT [0 – 5]	Monitors number of times smart FET detects over current of front fog lamp (right) circuit.
HL (HI) LH CIRC MALFUNCTN [0 – 1]	Monitors number of times smart FET reaches retry upper limit for headlamp (HI) (left) circuit. **NOTE:** When number of retry counts is 20, count is 1.

Monitor Item [Unit]	Description
NMB HL (HI) LH CIRC RETRY [0 – 20]	Monitors number of times smart FET permits retry of headlamp (HI) (left) circuit. **NOTE:** When number of short circuit counts is 5 and the ignition switch OFF to ON operation is detected, count is 1.
NMB HL (HI) LH CIRC SHORT [0 – 5]	Monitors number of times smart FET detects over current of headlamp (HI) (left) circuit.
HL (HI) RH CIRC MALFUNCTN [0 – 1]	Monitors number of times smart FET reaches retry upper limit for headlamp (HI) (right) circuit. **NOTE:** When number of retry counts is 20, count is 1.
NMB HL (HI) RH CIRC RETRY [0 – 20]	Monitors number of times smart FET permits retry of headlamp (HI) (right) circuit. **NOTE:** When number of short circuit counts is 5 and the ignition switch OFF to ON operation is detected, count is 1.
NMB HL (HI) RH CIRC SHORT [0 – 5]	Monitors number of times smart FET detects over current of headlamp (HI) (right) circuit.
HL (LO) LH CIRC MALFUNCTN [0 – 1]	Monitors number of times smart FET reaches retry upper limit for headlamp (LO) (left) circuit. **NOTE:** When number of retry counts is 20, count is 1.
NMB HL (LO) LH CIRC RETRY [0 – 20]	Monitors number of times smart FET permits retry of headlamp (LO) (left) circuit. **NOTE:** When number of short circuit counts is 5 and the ignition switch OFF to ON operation is detected, count is 1.
NMB HL (LO) LH CIRC SHORT [0 – 5]	Monitors number of times smart FET detects over current of headlamp (LO) (left) circuit.
HL (LO) RH CIRC MALFUNCTN [0 – 1]	Monitors number of times smart FET reaches retry upper limit for headlamp (LO) (right) circuit. **NOTE:** When number of retry counts is 20, count is 1.
NMB HL (LO) RH CIRC RETRY [0 – 20]	Monitors number of times smart FET permits retry of headlamp (LO) (right) circuit. **NOTE:** When number of short circuit counts is 5 and the ignition switch OFF to ON operation is detected, count is 1.
NMB HL (LO) RH CIRC SHORT [0 – 5]	Monitors number of times smart FET detects over current of headlamp (LO) (right) circuit.
T LAMP LH CIRC MALFUNCTN [0 – 1]	Monitors number of times smart FET reaches retry upper limit for tail lamp (left) circuit. **NOTE:** When number of retry counts is 20, count is 1.
NMB T LAMP LH CIRC RETRY [0 – 20]	Monitors number of times smart FET permits retry of tail lamp (left) circuit. **NOTE:** When number of short circuit counts is 5 and the ignition switch OFF to ON operation is detected, count is 1.
NMB T LAMP LH CIRC SHORT [0 – 5]	Monitors number of times smart FET detects over current of tail lamp (left) circuit.
T LAMP RH CIRC MALFUNCTN [0 – 1]	Monitors number of times smart FET reaches retry upper limit for tail lamp (right) circuit. **NOTE:** When number of retry counts is 20, count is 1.

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
NMB T LAMP RH CIRC RETRY [0 – 20]	Monitors number of times smart FET permits retry of tail lamp (right) circuit. **NOTE:** When number of short circuit counts is 5 and the ignition switch OFF to ON operation is detected, count is 1.
NMB T LAMP RH CIRC SHORT [0 – 5]	Monitors number of times smart FET detects over current of tail lamp (right) circuit.

ACTIVE TEST

Test item	Description
HORN	This test is able to check horn operation [Off/On].
FRONT WIPER	This test is able to check wiper motor operation [Off/Low/High].
COMPRESSOR	This test is able to check A/C compressor operation [Off/On].
COOLING FAN (DUAL)	This test is able to check cooling fan operation [Off/LO/HI].
HEADLAMP (HI)	This test is able to check headlamp high beam operation [Off/On].
HEADLAMP (LO)	This test is able to check headlamp low beam operation [Off/On].
FRONT FOG LAMP	This test is able to check front fog lamp operation [Off/On].
DAYTIME RUNNING LAMP	This test is able to check daytime running lamp operation [Off/On].
PARKING LAMP	This test is able to check parking lamp operation [Off/On].
TAIL LAMP	This test is able to check tail lamp operation [Off/On].

CONFIGURATION

Refer to PCS-36, "Description".

CAN DIAG SUPPORT MNTR

Refer to LAN-23, "CAN Diagnostic Support Monitor".

ECU DIAGNOSIS INFORMATION

BCM, IPDM E/R

List of ECU Reference

INFOID:0000000015221598

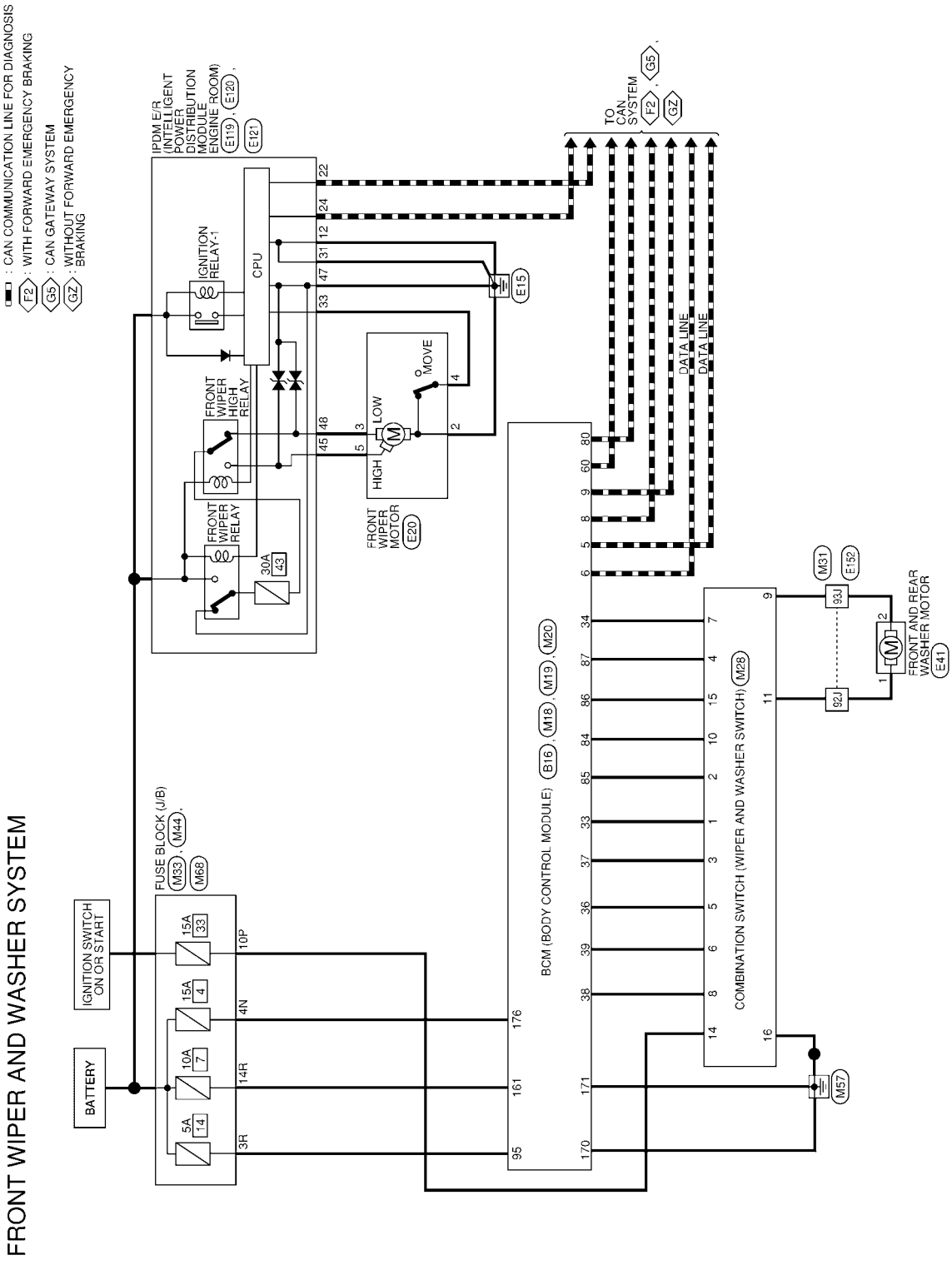
ECU	Reference
BCM	BCS-28, "Reference Value"
	BCS-46, "Fail-safe"
	BCS-47, "DTC Inspection Priority Chart"
	BCS-48, "DTC Index"
IPDM E/R	PCS-17, "Reference Value"
	PCS-26, "Fail-safe"
	PCS-28, "DTC Index"

WIRING DIAGRAM

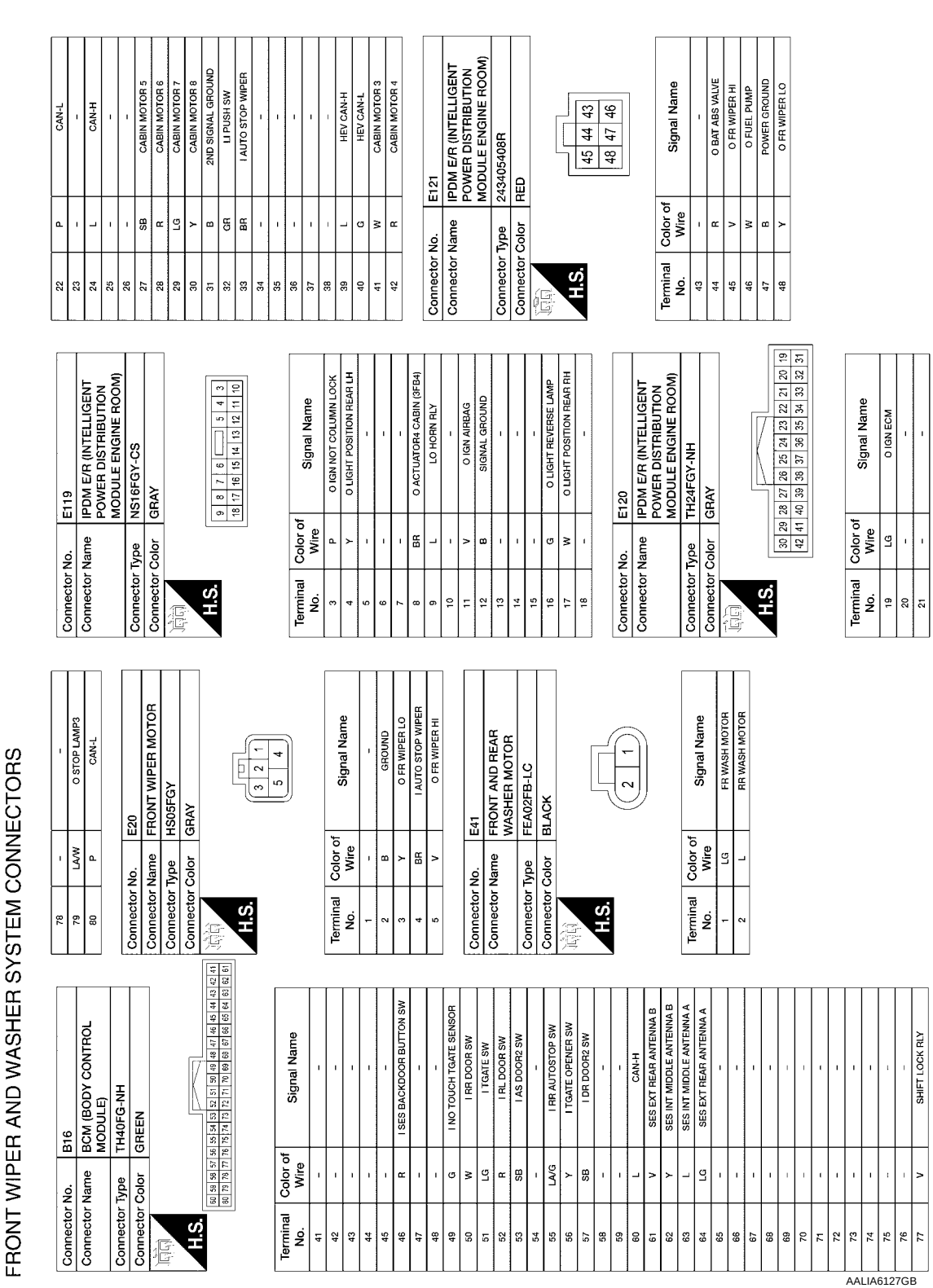
FRONT WIPER AND WASHER SYSTEM

Wiring Diagram

INFOID:0000000014623366



FRONT WIPER AND WASHER SYSTEM CONNECTORS

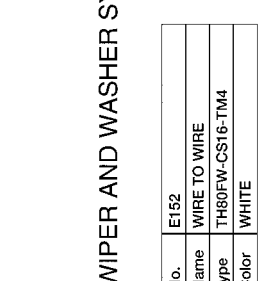


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FRONT WIPER AND WASHER SYSTEM CONNECTORS

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4
Connector Color	WHITE

H.S.



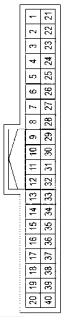
Terminal No.	Color of Wire	Signal Name
1J	–	TO MAIN HARNESS
2J	Y	TO MAIN HARNESS
3J	–	TO MAIN HARNESS
4J	–	TO MAIN HARNESS
5J	–	TO MAIN HARNESS
6J	–	TO MAIN HARNESS
7J	–	TO MAIN HARNESS
8J	–	TO MAIN HARNESS
9J	BR	TO MAIN HARNESS
10J	–	TO MAIN HARNESS
11J	–	TO MAIN HARNESS
12J	–	TO MAIN HARNESS
13J	–	TO MAIN HARNESS
14J	–	TO MAIN HARNESS
15J	–	TO MAIN HARNESS
16J	–	TO MAIN HARNESS
17J	–	TO MAIN HARNESS
18J	–	TO MAIN HARNESS
19J	–	TO MAIN HARNESS
20J	–	TO MAIN HARNESS
21J	GR	TO MAIN HARNESS
22J	SHIELD	TO MAIN HARNESS
23J	LG	TO MAIN HARNESS
24J	V	TO MAIN HARNESS
25J	L	TO MAIN HARNESS
26J	BR	TO MAIN HARNESS
27J	G	TO MAIN HARNESS

28J	R	TO MAIN HARNESS
29J	L	TO MAIN HARNESS
30J	V	TO MAIN HARNESS
31J	–	TO MAIN HARNESS
32J	–	TO MAIN HARNESS
33J	R	TO MAIN HARNESS
34J	L	TO MAIN HARNESS
35J	BG	TO MAIN HARNESS
36J	LG	TO MAIN HARNESS
37J	GR	TO MAIN HARNESS
38J	BR	TO MAIN HARNESS
39J	–	TO MAIN HARNESS
40J	–	TO MAIN HARNESS
41J	G	TO MAIN HARNESS
42J	W	TO MAIN HARNESS
43J	L	TO MAIN HARNESS
44J	B	TO MAIN HARNESS
45J	SB	TO MAIN HARNESS
46J	BR	TO MAIN HARNESS
47J	W	TO MAIN HARNESS
48J	W	TO MAIN HARNESS
49J	L	TO MAIN HARNESS
50J	P	TO MAIN HARNESS
51J	W	TO MAIN HARNESS
52J	R	TO MAIN HARNESS
53J	SB	TO MAIN HARNESS
54J	LG	TO MAIN HARNESS
55J	W	TO MAIN HARNESS
56J	BG	TO MAIN HARNESS
57J	R	TO MAIN HARNESS
58J	V	TO MAIN HARNESS
59J	BR	TO MAIN HARNESS
60J	P	TO MAIN HARNESS
61J	L	TO MAIN HARNESS
62J	P	TO MAIN HARNESS
63J	L	TO MAIN HARNESS
64J	R	TO MAIN HARNESS
65J	L	TO MAIN HARNESS
66J	BG	TO MAIN HARNESS
67J	–	TO MAIN HARNESS
68J	–	TO MAIN HARNESS
69J	G	TO MAIN HARNESS
70J	L	TO MAIN HARNESS
71J	–	TO MAIN HARNESS
72J	–	TO MAIN HARNESS
73J	–	TO MAIN HARNESS
74J	–	TO MAIN HARNESS
75J	–	TO MAIN HARNESS
76J	–	TO MAIN HARNESS
77J	–	TO MAIN HARNESS
78J	–	TO MAIN HARNESS
79J	SHIELD	TO MAIN HARNESS
80J	B	TO MAIN HARNESS

81J	W	TO MAIN HARNESS
82J	–	TO MAIN HARNESS
83J	–	TO MAIN HARNESS
84J	–	TO MAIN HARNESS
85J	–	TO MAIN HARNESS
86J	–	TO MAIN HARNESS
87J	–	TO MAIN HARNESS
88J	–	TO MAIN HARNESS
89J	–	TO MAIN HARNESS
90J	–	TO MAIN HARNESS
91J	–	TO MAIN HARNESS
92J	LG	TO MAIN HARNESS
93J	L	TO MAIN HARNESS
94J	L	TO MAIN HARNESS
95J	BR	TO MAIN HARNESS
96J	–	TO MAIN HARNESS
97J	GR	TO MAIN HARNESS
98J	P	TO MAIN HARNESS
99J	W	TO MAIN HARNESS
100J	Y	TO MAIN HARNESS

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FGY-NH
Connector Color	GRAY

H.S.



Terminal No.	Color of Wire	Signal Name
1	L	LIN 3 D
2	LA/G	O DI FR LEFT D
3	LA/Y	O DI FR RIGHT D
4	P	O SPARE4 RL N
5	R	CAN-L
6	L	CAN-H
7	–	–
8	L	CAN-H
9	R	CAN-L
10	BG	I DOORLOCK SW
11	Y	I HAZARD SW D
12	W	O PWR AUTOLIGHT SENSOR
13	–	–
14	–	–
15	–	–
16	–	–

17	L	O PWR ATDVC
18	–	–
19	LG	I AUTOLIGHT SENSOR
20	–	–
21	–	–
22	–	–
23	G	O WL AUTHORIZATION RL
24	LA/R	O DEFROSTER RL D
25	BR	O BAT TEMP1 RL
26	–	–
27	Y	O IGN1 RL
28	LA/W	O IGN2 RL
29	–	–
30	V	O GND AUTOLIGHT SENSOR
31	–	–
32	–	–
33	LG	O CSW 5
34	Y	I CSW 5
35	BG	O SECURITY LED
36	G	O CSW 3
37	GR	O CSW 4
38	V	O CSW 1
39	W	O CSW 2
40	SB	I DOORUNLOCK SW

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FRONT WIPER AND WASHER SYSTEM CONNECTORS

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH
Connector Color	BLACK

H.S.

102	99	98	97	96	95	94	93	92	91	90	89	88	87	86	85	84	83	82	81
120	119	118	117	116	115	114	113	112	111	110	109	108	107	106	105	104	103	102	101

Terminal No.	Color of Wire	Signal Name
81	–	–
82	W	I SES FR HANDLE BUTTON SW
83	–	–
84	BR	I CSW 2
85	SB	I CSW 1
86	P	I CSW 3
87	BG	I CSW 4
88	W	O START SW BACKLIGHT LED
89	Y	I START WO ESCL SW
90	–	–
91	–	–
92	BR	I KEY CYLINDER LOCK SW
93	P	I KEY CYLINDER UNLOCK SW
94	G	I AT LOCKED IN PARK SW
95	V	I SHORTING PIN
96	–	–
97	–	–
98	–	–
99	–	–
100	V	SES EXT DR ANTENNA A
101	–	–
102	–	–
103	–	–
104	R	I DR KNOB SW
105	Y	I SES DR HANDLE BUTTON SW
106	W	O AUTO ACC2
107	–	–
108	–	–
109	–	–
110	BG	O MR OUTPUT
111	–	–
112	–	–
113	–	–
114	Y	O IMMOBILIZER KAZASHI B
115	W	O IMMOBILIZER KAZASHI A
116	BG	SES INT FRONT ANTENNA B
117	GR	SES INT FRONT ANTENNA A
118	SB	SES EXT AS ANTENNA B
119	P	SES EXT AS ANTENNA A
120	BR	SES EXT DR ANTENNA B

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	NS16FBR-CS
Connector Color	BROWN

H.S.

167	166	165	164		163	162	161
176	175	174	173	172	171	170	169	168

Terminal No.	Color of Wire	Signal Name
161	W	I PWR ECU
162	SB	O PWM ROOMLAMP 1
163	L	O AS LOCK OR UNLOCK D
164	–	–
165	V	O DR OR FR LOCK D
166	–	–
167	LAV	I PWR DOORLOCK1
168	BG	I PWR FLASHERS
169	GR	I PWR STOP LAMP
170	B	I GND1
171	B	I GND2
172	G	O FR OR DR UNLOCK D
173	–	–
174	–	–
175	R	I PWR DOORLOCK2
176	LG	I PWR WIPER

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Type	TH16FW-NH
Connector Color	WHITE

H.S.

8	7	6	5	4	3	2	1
16	15	14	13	12	11	10	9

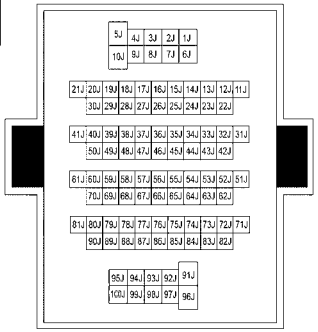
Terminal No.	Color of Wire	Signal Name
1	LG	O CSW 5
2	SB	I CSW 1
3	GR	O CSW 4
4	BG	I CSW 4
5	G	O CSW 3
6	W	O CSW 2
7	Y	I CSW 5
8	V	O CSW 1
9	G	RR WASH MOTOR
10	BR	I CSW 2
11	Y	FR WASH MOTOR
12	–	–
13	–	–
14	LG	IGNITION
15	P	I CSW 3
16	GR	GROUND

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FRONT WIPER AND WASHER SYSTEM CONNECTORS

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4
Connector Color	WHITE

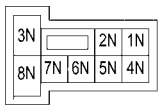
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Terminal No.	Color of Wire	Signal Name
1J	–	TO ENGINE ROOM HARNESS
2J	R	TO ENGINE ROOM HARNESS
3J	–	TO ENGINE ROOM HARNESS
4J	–	TO ENGINE ROOM HARNESS
5J	–	TO ENGINE ROOM HARNESS
6J	–	TO ENGINE ROOM HARNESS
7J	–	TO ENGINE ROOM HARNESS
8J	–	TO ENGINE ROOM HARNESS
9J	W	TO ENGINE ROOM HARNESS
10J	–	TO ENGINE ROOM HARNESS
11J	–	TO ENGINE ROOM HARNESS
12J	–	TO ENGINE ROOM HARNESS
13J	–	TO ENGINE ROOM HARNESS
14J	–	TO ENGINE ROOM HARNESS
15J	–	TO ENGINE ROOM HARNESS
16J	–	TO ENGINE ROOM HARNESS
17J	–	TO ENGINE ROOM HARNESS
18J	–	TO ENGINE ROOM HARNESS
19J	–	TO ENGINE ROOM HARNESS
20J	–	TO ENGINE ROOM HARNESS
21J	LA/L	TO ENGINE ROOM HARNESS
22J	SHIELD	TO ENGINE ROOM HARNESS
23J	LG	TO ENGINE ROOM HARNESS
24J	V	TO ENGINE ROOM HARNESS
25J	L	TO ENGINE ROOM HARNESS
26J	BR	TO ENGINE ROOM HARNESS
27J	G	TO ENGINE ROOM HARNESS
28J	Y	TO ENGINE ROOM HARNESS
29J	L	TO ENGINE ROOM HARNESS
30J	V	TO ENGINE ROOM HARNESS
31J	–	TO ENGINE ROOM HARNESS
32J	–	TO ENGINE ROOM HARNESS
33J	R	TO ENGINE ROOM HARNESS
33J	Y	TO ENGINE ROOM HARNESS - (WITH DRIVER ASSISTNACE SYSTEM)
34J	L	TO ENGINE ROOM HARNESS
35J	BG	TO ENGINE ROOM HARNESS
36J	GR	TO ENGINE ROOM HARNESS
37J	Y	TO ENGINE ROOM HARNESS
38J	LA/BR	TO ENGINE ROOM HARNESS
39J	–	TO ENGINE ROOM HARNESS
40J	–	TO ENGINE ROOM HARNESS
41J	LA/R	TO ENGINE ROOM HARNESS
42J	W	TO ENGINE ROOM HARNESS
43J	L	TO ENGINE ROOM HARNESS
44J	B	TO ENGINE ROOM HARNESS
45J	SB	TO ENGINE ROOM HARNESS
46J	BR	TO ENGINE ROOM HARNESS
47J	W	TO ENGINE ROOM HARNESS
48J	R	TO ENGINE ROOM HARNESS
49J	SB	TO ENGINE ROOM HARNESS
50J	GR	TO ENGINE ROOM HARNESS
51J	W	TO ENGINE ROOM HARNESS
52J	R	TO ENGINE ROOM HARNESS
53J	BR	TO ENGINE ROOM HARNESS
54J	LG	TO ENGINE ROOM HARNESS
55J	LA/Y	TO ENGINE ROOM HARNESS
56J	LA/V	TO ENGINE ROOM HARNESS
57J	LA/R	TO ENGINE ROOM HARNESS
58J	W	TO ENGINE ROOM HARNESS
59J	BR	TO ENGINE ROOM HARNESS
60J	P	TO ENGINE ROOM HARNESS
61J	L	TO ENGINE ROOM HARNESS
62J	R	TO ENGINE ROOM HARNESS
63J	L	TO ENGINE ROOM HARNESS
64J	R	TO ENGINE ROOM HARNESS
65J	L	TO ENGINE ROOM HARNESS
66J	BG	TO ENGINE ROOM HARNESS
67J	–	TO ENGINE ROOM HARNESS
68J	–	TO ENGINE ROOM HARNESS
69J	G	TO ENGINE ROOM HARNESS
70J	L	TO ENGINE ROOM HARNESS
71J	–	TO ENGINE ROOM HARNESS
72J	–	TO ENGINE ROOM HARNESS
73J	–	TO ENGINE ROOM HARNESS
74J	–	TO ENGINE ROOM HARNESS
75J	–	TO ENGINE ROOM HARNESS
76J	–	TO ENGINE ROOM HARNESS
77J	–	TO ENGINE ROOM HARNESS
78J	–	TO ENGINE ROOM HARNESS
79J	SHIELD	TO ENGINE ROOM HARNESS
80J	B	TO ENGINE ROOM HARNESS
81J	W	TO ENGINE ROOM HARNESS
82J	–	TO ENGINE ROOM HARNESS
83J	–	TO ENGINE ROOM HARNESS
84J	–	TO ENGINE ROOM HARNESS
85J	–	TO ENGINE ROOM HARNESS
86J	–	TO ENGINE ROOM HARNESS
87J	–	TO ENGINE ROOM HARNESS
88J	–	TO ENGINE ROOM HARNESS
89J	–	TO ENGINE ROOM HARNESS
90J	–	TO ENGINE ROOM HARNESS
91J	–	TO ENGINE ROOM HARNESS
92J	Y	TO ENGINE ROOM HARNESS
93J	G	TO ENGINE ROOM HARNESS
94J	L	TO ENGINE ROOM HARNESS
95J	P	TO ENGINE ROOM HARNESS
96J	–	TO ENGINE ROOM HARNESS
97J	SB	TO ENGINE ROOM HARNESS
98J	P	TO ENGINE ROOM HARNESS
99J	LA/R	TO ENGINE ROOM HARNESS
100J	R	TO ENGINE ROOM HARNESS

Connector No.	M33
Connector Name	FUSE BLOCK (J/B)
Connector Type	CS06FW-M2
Connector Color	WHITE

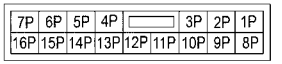
H.S.



Terminal No.	Color of Wire	Signal Name
1N	L	ACCESSORY RELAY 1 OUTPUT
2N	LG	BATTERY
3N	Y	FRONT BLOWER MOTOR RELAY OUTPUT
4N	LG	BATTERY
5N	R	BATTERY
6N	BG	BATTERY
7N	BR	ACCESSORY RELAY-1 CONTROL
8N	SB	FRONT BLOWER MOTOR RELAY OUTPUT

Connector No.	M44
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FW-CS
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1P	R	IGNITION
2P	G	IGNITION
3P	Y	IGNITION RELAY-2 CONTROL
4P	LG	REAR WINDOW DEFOGGER RELAY OUTPUT
5P	GR	REAR WINDOW DEFOGGER RELAY OUTPUT
6P	LA/R	REAR WINDOW DEFOGGER RELAY CONTROL
7P	Y	IGNITION
8P	V	IGNITION
9P	L	BATTERY
10P	LG	IGNITION
11P	–	–
12P	–	–
13P	G	BATTERY
14P	–	–
15P	L	BATTERY
16P	LA/W	FRONT BLOWER MOTOR RELAY CONTROL

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FRONT WIPER AND WASHER SYSTEM CONNECTORS

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FBR-CS
Connector Color	BROWN

H.S.

7R	6R	5R	4R		3R	2R	1R
16R	15R	14R	13R	12R	11R	10R	9R	8R

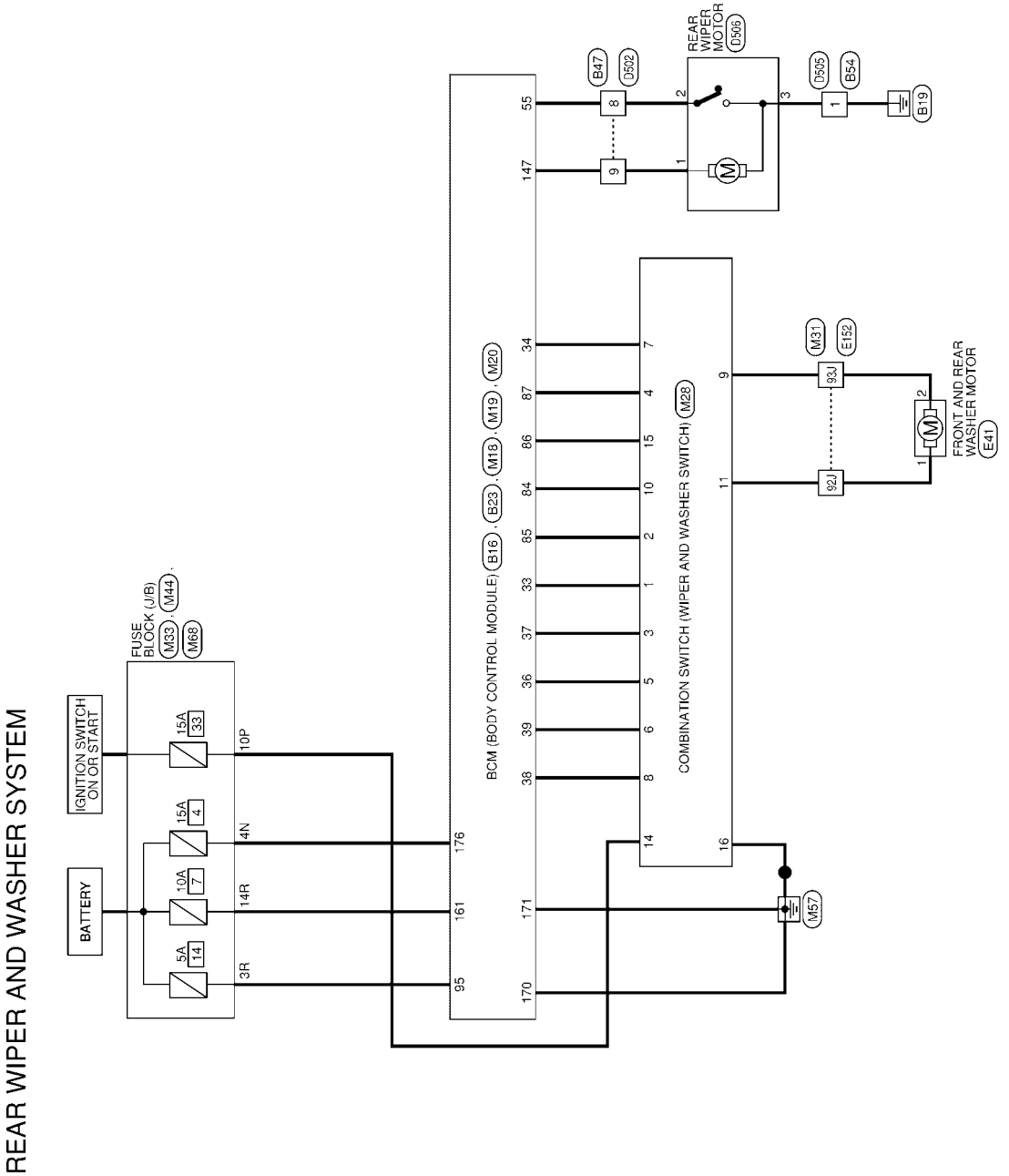
Terminal No.	Color of Wire	Signal Name
1R	V	ILLUMINATION +
2R	G	IGNITION
3R	V	BATTERY
4R	-	-
5R	-	-
6R	LA/L	ACCESSORY
7R	LA/V	BATTERY
8R	-	-
9R	-	-
10R	GR	BATTERY
11R	-	-
12R	-	-
13R	-	-
14R	W	BATTERY
15R	W	BATTERY
16R	GR	ACCESSORY

AALIA6131GB

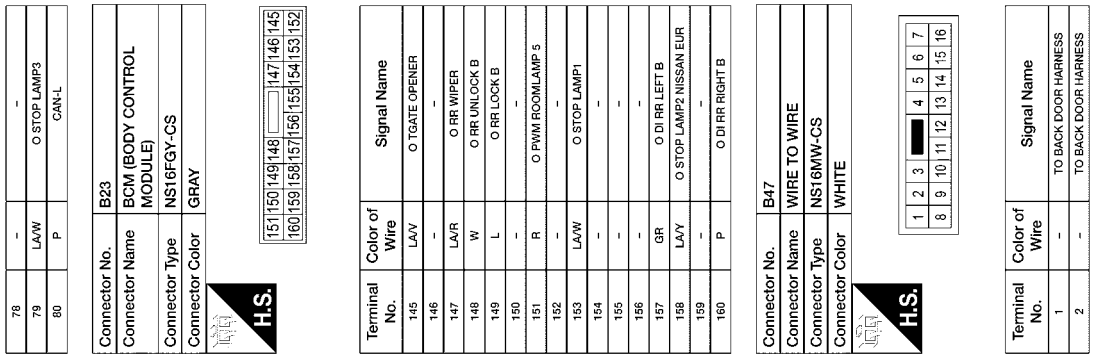
REAR WIPER AND WASHER SYSTEM

Wiring Diagram

INFOID:0000000014623367



REAR WIPER AND WASHER SYSTEM CONNECTORS



AALIA6112GB

REAR WIPER AND WASHER SYSTEM CONNECTORS

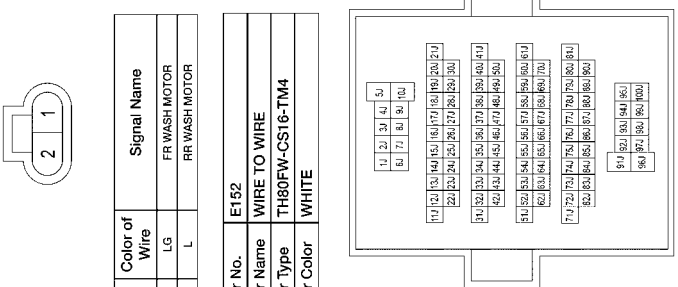
Connector No.	E41
Connector Name	FRONT AND REAR WASHER MOTOR
Connector Type	FEA02FB-LC
Connector Color	BLACK

H.S.

Terminal No.	Color of Wire	Signal Name
1	LG	FR WASH MOTOR
2	L	RR WASH MOTOR

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Type	TH80FW-CS16-TM4
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1J	–	TO MAIN HARNESS
2J	Y	TO MAIN HARNESS
3J	–	TO MAIN HARNESS
4J	–	TO MAIN HARNESS
5J	–	TO MAIN HARNESS
6J	–	TO MAIN HARNESS
7J	–	TO MAIN HARNESS
8J	–	TO MAIN HARNESS
9J	BR	TO MAIN HARNESS
10J	–	TO MAIN HARNESS
11J	–	TO MAIN HARNESS
12J	–	TO MAIN HARNESS
13J	–	TO MAIN HARNESS
14J	–	TO MAIN HARNESS
15J	–	TO MAIN HARNESS
16J	–	TO MAIN HARNESS
17J	–	TO MAIN HARNESS
18J	–	TO MAIN HARNESS
19J	–	TO MAIN HARNESS
20J	–	TO MAIN HARNESS
21J	GR	TO MAIN HARNESS
22J	SHIELD	TO MAIN HARNESS
23J	LG	TO MAIN HARNESS
24J	V	TO MAIN HARNESS
25J	L	TO MAIN HARNESS
26J	BR	TO MAIN HARNESS
27J	G	TO MAIN HARNESS
28J	R	TO MAIN HARNESS
29J	L	TO MAIN HARNESS
30J	V	TO MAIN HARNESS
31J	–	TO MAIN HARNESS
32J	–	TO MAIN HARNESS
33J	R	TO MAIN HARNESS
34J	L	TO MAIN HARNESS
35J	BG	TO MAIN HARNESS
36J	LG	TO MAIN HARNESS
37J	GR	TO MAIN HARNESS
38J	BR	TO MAIN HARNESS
39J	–	TO MAIN HARNESS
40J	–	TO MAIN HARNESS
41J	G	TO MAIN HARNESS
42J	W	TO MAIN HARNESS
43J	L	TO MAIN HARNESS
44J	B	TO MAIN HARNESS
45J	SB	TO MAIN HARNESS
46J	BR	TO MAIN HARNESS
47J	W	TO MAIN HARNESS
48J	W	TO MAIN HARNESS
49J	L	TO MAIN HARNESS
50J	P	TO MAIN HARNESS
51J	W	TO MAIN HARNESS
52J	R	TO MAIN HARNESS
53J	SB	TO MAIN HARNESS
54J	LG	TO MAIN HARNESS
55J	W	TO MAIN HARNESS
56J	BG	TO MAIN HARNESS
57J	R	TO MAIN HARNESS
58J	V	TO MAIN HARNESS
59J	BR	TO MAIN HARNESS
60J	P	TO MAIN HARNESS
61J	L	TO MAIN HARNESS
62J	P	TO MAIN HARNESS
63J	L	TO MAIN HARNESS
64J	R	TO MAIN HARNESS
65J	L	TO MAIN HARNESS
66J	BG	TO MAIN HARNESS
67J	–	TO MAIN HARNESS
68J	–	TO MAIN HARNESS
69J	G	TO MAIN HARNESS
70J	L	TO MAIN HARNESS
71J	–	TO MAIN HARNESS
72J	–	TO MAIN HARNESS
73J	–	TO MAIN HARNESS
74J	–	TO MAIN HARNESS
75J	–	TO MAIN HARNESS
76J	–	TO MAIN HARNESS
77J	–	TO MAIN HARNESS
78J	–	TO MAIN HARNESS
79J	SHIELD	TO MAIN HARNESS
80J	B	TO MAIN HARNESS
81J	W	TO MAIN HARNESS
82J	–	TO MAIN HARNESS
83J	–	TO MAIN HARNESS
84J	–	TO MAIN HARNESS
85J	–	TO MAIN HARNESS
86J	–	TO MAIN HARNESS
87J	–	TO MAIN HARNESS
88J	–	TO MAIN HARNESS
89J	–	TO MAIN HARNESS
90J	–	TO MAIN HARNESS
91J	–	TO MAIN HARNESS
92J	LG	TO MAIN HARNESS
93J	L	TO MAIN HARNESS
94J	L	TO MAIN HARNESS
95J	BR	TO MAIN HARNESS
96J	–	TO MAIN HARNESS
97J	GR	TO MAIN HARNESS
98J	P	TO MAIN HARNESS
99J	W	TO MAIN HARNESS
100J	Y	TO MAIN HARNESS

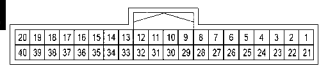
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REAR WIPER AND WASHER SYSTEM

REAR WIPER AND WASHER SYSTEM CONNECTORS

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FGY-NH
Connector Color	GRAY

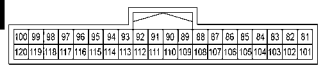
H.S.



Terminal No.	Color of Wire	Signal Name
1	L	LIN 3 D
2	LA/G	O DI FR LEFT D
3	LA/Y	O DI FR RIGHT D
4	P	O SPARE4 RL N
5	R	CAN-L
6	L	CAN-H
7	–	–
8	L	CAN-H
9	R	CAN-L
10	BG	I DOORLOCK SW
11	Y	I HAZARD SW D
12	W	O PWR AUTOLIGHT SENSOR
13	–	–
14	–	–
15	–	–
16	–	–
17	L	O PWR ATDVC
18	–	–
19	LG	I AUTOLIGHT SENSOR
20	–	–
21	–	–
22	–	–
23	G	O WL AUTHORIZATION RL
24	LA/R	O DEFROSTER RL D
25	BR	O BAT TEMP1 RL
26	–	–
27	Y	O IGN1 RL
28	LA/W	O IGN2 RL
29	–	–
30	V	O GND AUTOLIGHT SENSOR
31	–	–
32	–	–
33	LG	O CSW 5
34	Y	I CSW 5
35	BG	O SECURITY LED
36	G	O CSW 3
37	GR	O CSW 4
38	V	O CSW 1
39	W	O CSW 2
40	SB	I DOORUNLOCK SW

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	TH40FB-NH
Connector Color	BLACK

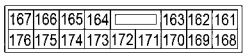
H.S.



Terminal No.	Color of Wire	Signal Name
81	–	–
82	W	I SES FR HANDLE BUTTON SW
83	–	–
84	BR	I CSW 2
85	SB	I CSW 1
86	P	I CSW 3
87	BG	I CSW 4
88	W	O START SW BACKLIGHT LED
89	Y	I START WO ESCL SW
90	–	–
91	–	–
92	BR	I KEY CYLINDER LOCK SW
93	P	I KEY CYLINDER UNLOCK SW
94	G	I AT LOCKED IN PARK SW
95	V	I SHORTING PIN
96	–	–
97	–	–
98	–	–
99	–	–
100	V	SES EXT DR ANTENNA A
101	–	–
102	–	–
103	–	–
104	R	I DR KNOB SW
105	Y	I SES DR HANDLE BUTTON SW
106	W	O AUTO ACC2
107	–	–
108	–	–
109	–	–
110	BG	O MR OUTPUT
111	–	–
112	–	–
113	–	–
114	Y	O IMMOBILIZER KAZASHI B
115	W	O IMMOBILIZER KAZASHI A
116	BG	SES INT FRONT ANTENNA B
117	GR	SES INT FRONT ANTENNA A
118	SB	SES EXT AS ANTENNA B
119	P	SES EXT AS ANTENNA A
120	BR	SES EXT DR ANTENNA B

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Type	NS16FBR-CS
Connector Color	BROWN

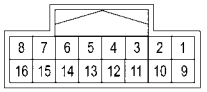
H.S.



Terminal No.	Color of Wire	Signal Name
161	W	I PWR ECU
162	SB	O PWM ROOMLAMP 1
163	L	O AS LOCK OR UNLOCK D
164	–	–
165	V	O DR OR FR LOCK D
166	–	–
167	LA/V	I PWR DOORLOCK1
168	BG	I PWR FLASHERS
169	GR	I PWR STOP LAMP
170	B	I GND1
171	B	I GND2
172	G	O FR OR DR UNLOCK D
173	–	–
174	–	–
175	R	I PWR DOORLOCK2
176	LG	I PWR WIPER

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Type	TH16FW-NH
Connector Color	WHITE

H.S.



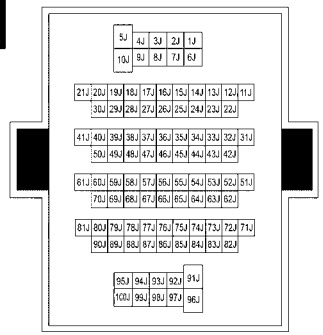
Terminal No.	Color of Wire	Signal Name
1	LG	O CSW 5
2	SB	I CSW 1
3	GR	O CSW 4
4	BG	I CSW 4
5	G	O CSW 3
6	W	O CSW 2
7	Y	I CSW 5
8	V	O CSW 1
9	G	RR WASH MOTOR
10	BR	I CSW 2
11	Y	FR WASH MOTOR
12	–	–
13	–	–
14	LG	IGNITION
15	P	I CSW 3
16	GR	GROUND

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REAR WIPER AND WASHER SYSTEM CONNECTORS

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Type	TH80MW-CS16-TM4
Connector Color	WHITE

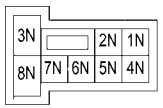
H.S.



Terminal No.	Color of Wire	Signal Name
1J	–	TO ENGINE ROOM HARNESS
2J	R	TO ENGINE ROOM HARNESS
3J	–	TO ENGINE ROOM HARNESS
4J	–	TO ENGINE ROOM HARNESS
5J	–	TO ENGINE ROOM HARNESS
6J	–	TO ENGINE ROOM HARNESS
7J	–	TO ENGINE ROOM HARNESS
8J	–	TO ENGINE ROOM HARNESS
9J	W	TO ENGINE ROOM HARNESS
10J	–	TO ENGINE ROOM HARNESS
11J	–	TO ENGINE ROOM HARNESS
12J	–	TO ENGINE ROOM HARNESS
13J	–	TO ENGINE ROOM HARNESS
14J	–	TO ENGINE ROOM HARNESS
15J	–	TO ENGINE ROOM HARNESS
16J	–	TO ENGINE ROOM HARNESS
17J	–	TO ENGINE ROOM HARNESS
18J	–	TO ENGINE ROOM HARNESS
19J	–	TO ENGINE ROOM HARNESS
20J	–	TO ENGINE ROOM HARNESS
21J	LA/L	TO ENGINE ROOM HARNESS
22J	SHIELD	TO ENGINE ROOM HARNESS
23J	LG	TO ENGINE ROOM HARNESS
24J	V	TO ENGINE ROOM HARNESS
25J	L	TO ENGINE ROOM HARNESS
26J	BR	TO ENGINE ROOM HARNESS
27J	G	TO ENGINE ROOM HARNESS
28J	Y	TO ENGINE ROOM HARNESS
29J	L	TO ENGINE ROOM HARNESS
30J	V	TO ENGINE ROOM HARNESS
31J	–	TO ENGINE ROOM HARNESS
32J	–	TO ENGINE ROOM HARNESS
33J	R	TO ENGINE ROOM HARNESS
33J	Y	TO ENGINE ROOM HARNESS - (WITH DRIVER ASSISTNACE SYSTEM)
34J	L	TO ENGINE ROOM HARNESS
35J	BG	TO ENGINE ROOM HARNESS
36J	GR	TO ENGINE ROOM HARNESS
37J	Y	TO ENGINE ROOM HARNESS
38J	LA/BR	TO ENGINE ROOM HARNESS
39J	–	TO ENGINE ROOM HARNESS
40J	–	TO ENGINE ROOM HARNESS
41J	LA/R	TO ENGINE ROOM HARNESS
42J	W	TO ENGINE ROOM HARNESS
43J	L	TO ENGINE ROOM HARNESS
44J	B	TO ENGINE ROOM HARNESS
45J	SB	TO ENGINE ROOM HARNESS
46J	BR	TO ENGINE ROOM HARNESS
47J	W	TO ENGINE ROOM HARNESS
48J	R	TO ENGINE ROOM HARNESS
49J	SB	TO ENGINE ROOM HARNESS
50J	GR	TO ENGINE ROOM HARNESS
51J	W	TO ENGINE ROOM HARNESS
52J	R	TO ENGINE ROOM HARNESS
53J	BR	TO ENGINE ROOM HARNESS
54J	LG	TO ENGINE ROOM HARNESS
55J	LA/Y	TO ENGINE ROOM HARNESS
56J	LA/V	TO ENGINE ROOM HARNESS
57J	LA/R	TO ENGINE ROOM HARNESS
58J	W	TO ENGINE ROOM HARNESS
59J	BR	TO ENGINE ROOM HARNESS
60J	P	TO ENGINE ROOM HARNESS
61J	L	TO ENGINE ROOM HARNESS
62J	R	TO ENGINE ROOM HARNESS
63J	L	TO ENGINE ROOM HARNESS
64J	R	TO ENGINE ROOM HARNESS
65J	L	TO ENGINE ROOM HARNESS
66J	BG	TO ENGINE ROOM HARNESS
67J	–	TO ENGINE ROOM HARNESS
68J	–	TO ENGINE ROOM HARNESS
69J	G	TO ENGINE ROOM HARNESS
70J	L	TO ENGINE ROOM HARNESS
71J	–	TO ENGINE ROOM HARNESS
72J	–	TO ENGINE ROOM HARNESS
73J	–	TO ENGINE ROOM HARNESS
74J	–	TO ENGINE ROOM HARNESS
75J	–	TO ENGINE ROOM HARNESS
76J	–	TO ENGINE ROOM HARNESS
77J	–	TO ENGINE ROOM HARNESS
78J	–	TO ENGINE ROOM HARNESS
79J	SHIELD	TO ENGINE ROOM HARNESS
80J	B	TO ENGINE ROOM HARNESS
81J	W	TO ENGINE ROOM HARNESS
82J	–	TO ENGINE ROOM HARNESS
83J	–	TO ENGINE ROOM HARNESS
84J	–	TO ENGINE ROOM HARNESS
85J	–	TO ENGINE ROOM HARNESS
86J	–	TO ENGINE ROOM HARNESS
87J	–	TO ENGINE ROOM HARNESS
88J	–	TO ENGINE ROOM HARNESS
89J	–	TO ENGINE ROOM HARNESS
90J	–	TO ENGINE ROOM HARNESS
91J	–	TO ENGINE ROOM HARNESS
92J	Y	TO ENGINE ROOM HARNESS
93J	G	TO ENGINE ROOM HARNESS
94J	L	TO ENGINE ROOM HARNESS
95J	P	TO ENGINE ROOM HARNESS
96J	–	TO ENGINE ROOM HARNESS
97J	SB	TO ENGINE ROOM HARNESS
98J	P	TO ENGINE ROOM HARNESS
99J	LA/R	TO ENGINE ROOM HARNESS
100J	R	TO ENGINE ROOM HARNESS

Connector No.	M33
Connector Name	FUSE BLOCK (J/B)
Connector Type	CS06FW-M2
Connector Color	WHITE

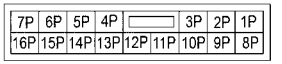
H.S.



Terminal No.	Color of Wire	Signal Name
1N	L	ACCESSORY RELAY 1 OUTPUT
2N	LG	BATTERY
3N	Y	FRONT BLOWER MOTOR RELAY OUTPUT
4N	LG	BATTERY
5N	R	BATTERY
6N	BG	BATTERY
7N	BR	ACCESSORY RELAY-1 CONTROL
8N	SB	FRONT BLOWER MOTOR RELAY OUTPUT

Connector No.	M44
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FW-CS
Connector Color	WHITE

H.S.



Terminal No.	Color of Wire	Signal Name
1P	R	IGNITION
2P	G	IGNITION
3P	Y	IGNITION RELAY-2 CONTROL
4P	LG	REAR WINDOW DEFOGGER RELAY OUTPUT
5P	GR	REAR WINDOW DEFOGGER RELAY OUTPUT
6P	LA/R	REAR WINDOW DEFOGGER RELAY CONTROL
7P	Y	IGNITION
8P	V	IGNITION
9P	L	BATTERY
10P	LG	IGNITION
11P	–	–
12P	–	–
13P	G	BATTERY
14P	–	–
15P	L	BATTERY
16P	LA/W	FRONT BLOWER MOTOR RELAY CONTROL

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REAR WIPER AND WASHER SYSTEM CONNECTORS

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Type	NS16FBR-CS
Connector Color	BROWN

H.S.

7R	6R	5R	4R		3R	2R	1R
16R	15R	14R	13R	12R	11R	10R	9R	8R

Terminal No.	Color of Wire	Signal Name
1R	V	ILLUMINATION +
2R	G	IGNITION
3R	V	BATTERY
4R	-	-
5R	-	-
6R	LA/L	ACCESSORY
7R	LA/V	BATTERY
8R	-	-
9R	-	-
10R	GR	BATTERY
11R	-	-
12R	-	-
13R	-	-
14R	W	BATTERY
15R	W	BATTERY
16R	GR	ACCESSORY

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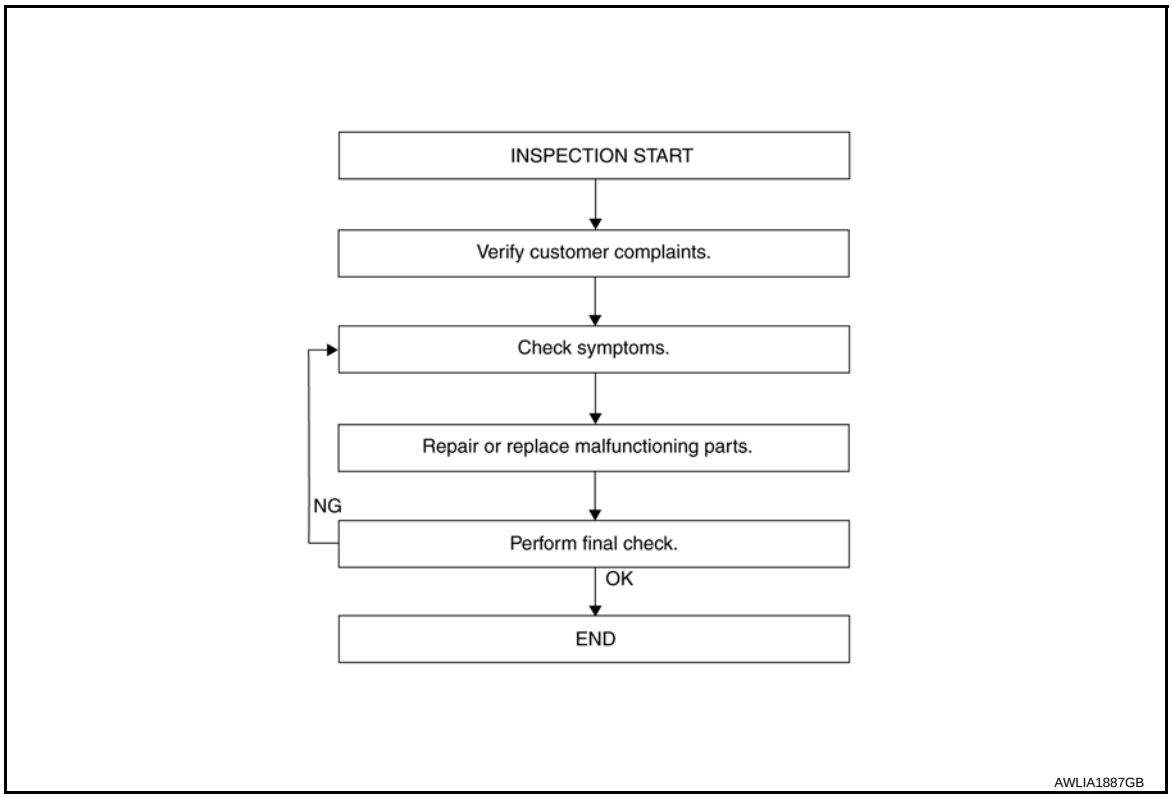
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:0000000014623368

WORK FLOW



DETAILED FLOW

1. REVIEW CUSTOMER COMPLAINT

Review customer complaint. Try to obtain detailed information about the conditions when the symptom occurs.

>> GO TO 2.

2. VERIFY THE SYMPTOM

Verify the symptom by performing an operational check. Refer to WW-8, "FRONT WIPER AND WASHER SYSTEM : System Description".

>> GO TO 3.

3. PERFORM TROUBLE DIAGNOSIS BY SYMPTOM

Diagnose the vehicle by performing the appropriate trouble diagnosis. Refer to WW-48, "Symptom Table".

>> GO TO 4.

4. REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace the specific parts.

>> GO TO 5.

5. FINAL CHECK

Perform a final inspection of the system.

Is the inspection result normal?

YES >> Inspection End.
NO >> GO TO 2.

DTC/CIRCUIT DIAGNOSIS

WIPER AND WASHER FUSE

Description

INFOID:0000000014623369

Component	Capacity	Fuse No.	Location
Front wiper motor	30A	43	IPDM E/R
Front and rear washer motor	15A	33	Fuse block (J/B)

Diagnosis Procedure

INFOID:0000000014623370

1. CHECK FUSES

Check that the following fuses are not blown:

Component	Capacity	Fuse No.	Location
Front wiper motor	30A	43	IPDM E/R
Front and rear washer motor	15A	33	Fuse block (J/B)

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.
NO >> Inspection End.

FRONT WIPER MOTOR LO CIRCUIT

Component Function Check

INFOID:0000000014623371

1.CHECK FRONT WIPER LO OPERATION

CONSULT
1. Select “FRONT WIPER” in “Active Test” mode of “IPDM E/R”.
2. Check front wiper operation.

LO : Front wiper (LO) operation
OFF : Front wiper OFF

Is the inspection result normal?

YES >> Front wiper motor LO circuit is normal.
NO >> Refer to WW-35, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000015240175

Regarding Wiring Diagram information, refer to WW-20, "Wiring Diagram".

1.CHECK FRONT WIPER MOTOR (LO) OUTPUT VOLTAGE

CONSULT
1. Turn ignition switch OFF.
2. Disconnect front wiper motor connector.
3. Turn ignition switch ON.
4. Select ”FRONT WIPER” in “Active Test” mode of “IPDM E/R”.
5. While operating the test item, check voltage between front wiper motor harness connector and ground.

(+)		(–)	Condition		Voltage (Approx.)
Front wiper motor					
Connector	Terminal				
E20	3	Ground	FRONT WIPER	Lo	Battery voltage
				Off	0 V

Is the inspection result normal?

YES >> Replace front wiper motor. Refer to WW-68, "Removal and Installation".
NO >> GO TO 2.

2.CHECK FRONT WIPER MOTOR (LO) CIRCUIT

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

IPDM E/R		Front wiper motor		Continuity
Connector	Terminal	Connector	Terminal	
E121	48	E20	3	Yes

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

IPDM E/R		—	Continuity
Connector	Terminal		
E121	48	Ground	No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-46, "Removal and Installation".

NO >> Repair or replace harness.

FRONT WIPER MOTOR HI CIRCUIT

Component Function Check

INFOID:0000000014623373

1.CHECK FRONT WIPER HI OPERATION

CONSULT
1. Select “FRONT WIPER” in “Active Test” mode of “IPDM E/R”.
2. Check front wiper operation.

HI : Front wiper (HI) operation
OFF : Front wiper OFF

Is the inspection result normal?

YES >> Front wiper motor HI circuit is normal.
NO >> Refer to WW-37, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000015240176

Regarding Wiring Diagram information, refer to WW-20, "Wiring Diagram".

1.CHECK FRONT WIPER MOTOR (HI) OUTPUT VOLTAGE

CONSULT
1. Turn ignition switch OFF.
2. Disconnect front wiper motor connector.
3. Turn ignition switch ON.
4. Select “FRONT WIPER” in “Active Test” mode of “IPDM E/R”.
5. While operating the test item, check voltage between front wiper motor harness connector and ground.

(+)		(–)	Condition		Voltage (Approx.)
Front wiper motor					
Connector	Terminal				
E20	5	Ground	FRONT WIPER	Hi	Battery voltage
				Off	0 V

Is the inspection result normal?

YES >> Replace front wiper motor.
NO >> GO TO 2.

2.CHECK FRONT WIPER MOTOR (HI) CIRCUIT

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

IPDM E/R		Front wiper motor		Continuity
Connector	Terminal	Connector	Terminal	
E121	45	E20	5	Yes

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

IPDM E/R		—	Continuity
Connector	Terminal		
E121	45	Ground	No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-46, "Removal and Installation".

NO >> Repair or replace harness.

FRONT WIPER AUTO STOP SIGNAL CIRCUIT

Component Function Check

INFOID:0000000014623375

1. CHECK FRONT WIPER (AUTO STOP) SIGNAL

CONSULT
1. Select “FR WIPER STOP” in “Data Monitor” mode of “BCM (WIPER)”.
2. Operate the front wiper.
3. Check that FR WIPER STOP changes from ON to OFF according to the wiper position.

Data monitor	Condition		Status
FR WIPER STOP	Front wiper motor	Stop position	ON
		Except stop position	OFF

Is the inspection result normal?

YES >> Front wiper auto stop signal circuit is normal.
NO >> Refer to WW-39, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000015240184

Regarding Wiring Diagram information, refer to WW-20, "Wiring Diagram".

1. CHECK IPDM E/R OUTPUT VOLTAGE

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.

(+)		(–)	Voltage (Approx.)
Front wiper motor			
Connector	Terminal		
E20	4	Ground	Battery voltage

Is the inspection result normal?

YES >> Replace front wiper motor.
NO >> GO TO 2.

2. CHECK FRONT WIPER MOTOR CIRCUIT

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

IPDM E/R		Front wiper motor		Continuity
Connector	Terminal	Connector	Terminal	
E120	33	E20	4	Yes

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

IPDM E/R		—	Continuity
Connector	Terminal		
E120	33	Ground	No

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-46, "Removal and Installation".
NO >> Repair or replace harness.

FRONT WIPER MOTOR GROUND CIRCUIT

Diagnosis Procedure

INFOID:0000000014623377

Regarding Wiring Diagram information, refer to WW-20, "Wiring Diagram".

1. CHECK FRONT WIPER MOTOR GROUND CIRCUIT

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

Front wiper motor		Ground	Continuity
Connector	Terminal		
E20	2		Yes

Is the inspection result normal?

YES >> Inspection End.
NO >> Repair or replace harness.

WASHER MOTOR CIRCUIT

Diagnosis Procedure

INFOID:0000000014623378

Regarding Wiring Diagram information, refer to WW-20, "Wiring Diagram".

1. CHECK FRONT AND REAR WASHER MOTOR FUSE

1. Turn the ignition switch OFF.
2. Check that the following fuse is not blown:

Unit	Location	Fuse No.	Capacity
Front and rear washer motor	Fuse block (J/B)	33	15A

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.
NO >> GO TO 2.

2. CHECK FRONT AND REAR WASHER MOTOR POWER SUPPLY

1. Disconnect front and rear washer motor.
2. Turn ignition switch ON.
3. Check voltage between front and rear washer motor harness connector and ground.

Front and rear washer motor		Ground	Voltage (Approx.)
Connector	Terminal		
E41	1		Battery voltage

Is the inspection result normal?

YES >> GO TO 3.
NO >> Repair or replace the harness or connectors.

3. CHECK FRONT AND REAR WASHER MOTOR CIRCUIT CONTINUITY

1. Turn the ignition switch OFF.
2. Disconnect combination switch (wiper and washer switch).
3. Check continuity between combination switch (wiper and washer switch) harness connector and front and rear washer motor.

Combination switch (wiper and washer switch)		Front and rear washer motor		Continuity
Connector	Terminal	Connector	Terminal	
M28	11	E41	1	Yes

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace the harness or connectors.

4. CHECK WIPER AND WASHER SWITCH GROUND CIRCUIT

Check continuity between combination switch (wiper and washer switch) harness connector and ground.

Combination switch (wiper and washer switch)		Ground	Continuity
Connector	Terminal		
M28	16		Yes

Is the inspection result normal?

YES >> GO TO 5.
NO >> Repair or replace the harness or connectors.

5. CHECK WIPER AND WASHER SWITCH

Check wiper and washer switch. Refer to WW-43, "Component Inspection".

Is the inspection result normal?

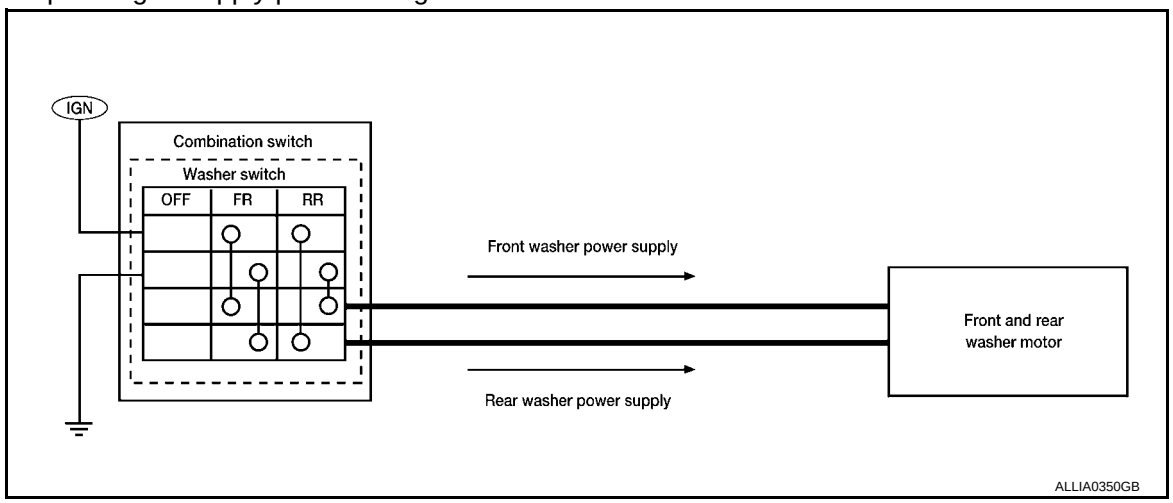
YES >> Replace front and rear washer motor. Refer to WW-56, "Removal and Installation".
NO >> Replace wiper and washer switch. Refer to BCS-74, "Removal and Installation".

WASHER SWITCH

Description

INFOID:0000000014623379

- Washer switch is integrated with the combination switch.
- Combination switch (wiper and washer switch) switches polarity between front washer operating and rear washer operating to supply power and ground to the front and rear washer motor.



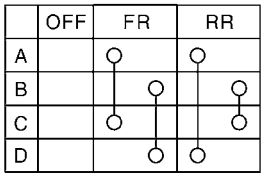
Component Inspection

INFOID:0000000014623380

1. CHECK FRONT WASHER SWITCH

1. Turn the ignition switch OFF.
2. Disconnect combination switch (wiper and washer switch).
3. Check continuity between the combination switch (wiper and washer switch) terminals.

A: Terminal 4
B: Terminal 6
C: Terminal 3
D: Terminal 1



Combination switch (wiper and washer switch)		Condition	Continuity
Terminal			
1	6	Front washer switch ON	Yes
3	4		

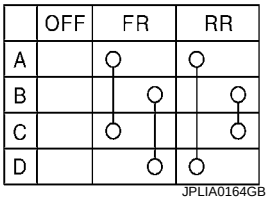
Is the inspection result normal?

YES >> GO TO 2.
NO >> Replace combination switch (wiper and washer switch). Refer to BCS-74, "Removal and Installation".

2. CHECK REAR WASHER SWITCH

1. Check continuity between the combination switch (wiper and washer switch) terminals.

A: Terminal 4
B: Terminal 6
C: Terminal 3
D: Terminal 1



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Combination switch (wiper and washer switch)		Condition	Continuity
Terminal			
1	4	Rear washer switch ON	Yes
6	3		

Is the inspection result normal?

YES >> Wiper and washer switch is normal.
NO >> Replace combination switch (wiper and washer switch). Refer to BCS-74, "Removal and Installation".

REAR WIPER MOTOR CIRCUIT

Component Function Check

INFOID:0000000014623381

1. CHECK REAR WIPER ON OPERATION

CONSULT
1. Select “RR WIPER” in “Active Test” mode of “BCM”.
2. While operating the test item, check rear wiper operation.

ON : Rear wiper ON operation
OFF : Stop the rear wiper.

Is rear wiper operation normal?

YES >> Rear wiper motor circuit is normal.
NO >> Refer to WW-45, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000014623382

Regarding Wiring Diagram information, refer to WW-26, "Wiring Diagram".

1. CHECK REAR WIPER MOTOR OUTPUT VOLTAGE

CONSULT
1. Turn the ignition switch OFF.
2. Disconnect rear wiper motor connector.
3. Turn the ignition switch ON.
4. Select “RR WIPER” in “Active Test” mode of “BCM”.
5. While operating the test item, check voltage between BCM harness connector and ground.

BCM		Ground	Test item	Voltage (Approx.)
Connector	Terminal		REAR WIPER	
B16	55		ON	Battery voltage
			OFF	0V

Is the inspection result normal?

YES >> GO TO 2.
NO >> GO TO 3.

2. CHECK REAR WIPER MOTOR GROUND CIRCUIT

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

Rear wiper motor		Ground	Continuity
Connector	Terminal		
D506	3		Yes

Is the inspection result normal?

YES >> Replace rear wiper motor. Refer to WW-72, "Removal and Installation".
NO >> Repair or replace harness.

3. CHECK REAR WIPER MOTOR OPEN CIRCUIT

Check continuity between BCM harness connector and rear wiper motor harness connector.

BCM		Rear wiper motor		Continuity
Connector	Terminal	Connector	Terminal	
B23	147	D506	1	Yes

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4. CHECK REAR WIPER MOTOR SHORT CIRCUIT

Check continuity between BCM harness connector and ground.

BCM		Ground	Continuity
Connector	Terminal		
B16	55		No

Is the inspection result normal?

YES >> Repair or replace harness.
NO >> Replace BCM. Refer to BCS-73, "Removal and Installation".

REAR WIPER AUTO STOP SIGNAL CIRCUIT

Component Function Check

INFOID:0000000014623383

1. CHECK REAR WIPER (AUTO STOP) OPERATION

CONSULT
1. Select “WIPER” in “Data Monitor” mode of “BCM”.
2. Operate the rear wiper.
3. Check that RR WIPER STOP changes to ON and OFF linked with the wiper operation.

Monitor item	Condition		Monitor status
RR WIPER STOP	Rear wiper motor	Stop position	ON
		Except stop position	OFF

Is the inspection result normal?

YES >> Rear wiper auto stop signal circuit is normal.
NO >> Refer to WW-47, "Diagnosis Procedure".

Diagnosis Procedure

INFOID:0000000014623384

Regarding Wiring Diagram information, refer to WW-26, "Wiring Diagram".

1. CHECK REAR WIPER MOTOR AUTO STOP CIRCUITS FOR OPEN

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

BCM		Rear wiper motor		Continuity
Connector	Terminal	Connector	Terminal	
B16	55	D506	2	Yes

Is inspection result normal?

YES >> GO TO 2.
NO >> Repair or replace harness.

2. CHECK AUTO STOP CIRCUITS FOR SHORT TO GROUND

Check continuity between BCM harness connector terminal and ground.

BCM		Ground	Continuity
Connector	Terminal		
B16	55		No

Is inspection result normal?

YES >> Replace BCM. Refer to BCS-73, "Removal and Installation".
NO >> Repair or replace harness.

SYMPTOM DIAGNOSIS

WIPER AND WASHER SYSTEM SYMPTOMS

Symptom Table

INFOID:0000000014623385

CAUTION:
Perform the “Self Diagnostic Result” with CONSULT before performing the diagnosis by symptom. Perform the diagnosis by DTC if DTC is detected.

Symptom		Possible malfunction	Reference
Front wiper does not operate in...	HI only	• Combination switch (wiper and washer switch) • Harness between combination switch (wiper and washer switch) and BCM • BCM	Combination switch (wiper and washer switch) Refer to BCS-71, "Symptom Table".
		• IPDM E/R • Harness between IPDM E/R and front wiper motor • Front wiper motor	Front wiper motor (HI) circuit Refer to WW-37, "Component Function Check".
		Front wiper request signal (IPDM E/R)	Check “FR WIP REQ” in “Data Monitor” of “IPDM E/R”. Refer to PCS-12, "CONSULT Function (IPDM E/R)".
	LO and INT	• Combination switch (wiper and washer switch) • Harness between combination switch (wiper and washer switch) and BCM • BCM	Combination switch (wiper and washer switch) Refer to BCS-71, "Symptom Table".
		• IPDM E/R • Harness between IPDM E/R and front wiper motor • Front wiper motor	Front wiper motor (LO) circuit Refer to WW-35, "Component Function Check".
		Front wiper request signal (IPDM E/R)	Check “FR WIP REQ” in “Data Monitor” of “IPDM E/R”. Refer to PCS-12, "CONSULT Function (IPDM E/R)".
	INT only	• Combination switch (wiper and washer switch) • Harness between combination switch (wiper and washer switch) and BCM • BCM	Combination switch (wiper and washer switch) Refer to BCS-71, "Symptom Table".
		Front wiper request signal (IPDM E/R)	Check “FR WIP REQ” in “Data Monitor” of “IPDM E/R”. Refer to PCS-12, "CONSULT Function (IPDM E/R)".
	Any mode	—	Refer to WW-51, "Diagnosis Procedure".
Front wiper does not stop in...	Any mode	Front wiper auto stop signal (IPDM E/R)	Refer to WW-39, "Component Function Check".
		• Combination switch (wiper and washer switch) • BCM	Combination switch (wiper and washer switch) Refer to BCS-71, "Symptom Table".

Symptom		Possible malfunction	Reference
Front wiper operates abnormally because...	Intermittent adjustments cannot be made.	• Combination switch (wiper and washer switch) • Harness between combination switch (wiper and washer switch) and BCM • BCM	Combination switch (wiper and washer switch) Refer to BCS-71, "Symptom Table".
	Wiper/washer will not operate together.	• Combination switch (wiper and washer switch) • Harness between combination switch (wiper and washer switch) and BCM • BCM	Combination switch (wiper and washer switch) Refer to BCS-71, "Symptom Table".
	Wipers will not return to stop position (repeatedly operates for 10 seconds and then stops for 20 seconds. Wipers then stop operating).	• IPDM E/R • Harness between IPDM E/R and front wiper motor • Front wiper motor	Front wiper auto stop signal circuit Refer to WW-39, "Component Function Check".
Rear wiper does not operate.	ON only	• Combination switch (wiper and washer switch) • Harness between combination switch (wiper and washer switch) and BCM • BCM	Combination switch (wiper and washer switch) Refer to BCS-71, "Symptom Table".
	INT only	• Combination switch (wiper and washer switch) • Harness between combination switch (wiper and washer switch) and BCM • BCM	Combination switch (wiper and washer switch) Refer to BCS-71, "Symptom Table".
	ON and INT	• Combination switch (wiper and washer switch) • Harness between combination switch (wiper and washer switch) and BCM • BCM	Combination switch (wiper and washer switch) Refer to BCS-71, "Symptom Table".
		• BCM • Harness between rear wiper motor and BCM • Harness between rear wiper motor and ground • Rear wiper motor	Rear wiper motor circuit Refer to WW-45, "Diagnosis Procedure".
Rear wiper does not stop.	ON only	• Combination switch (wiper and washer switch) • BCM	Rear wiper motor circuit Refer to WW-45, "Diagnosis Procedure".
	INT only	• Combination switch (wiper and washer switch) • BCM	Combination switch (wiper and washer switch) Refer to BCS-71, "Symptom Table".
Rear wiper does not operate normally.	Wiper is not linked to the washer operation.	• Combination switch (wiper and washer switch) • Harness between rear wiper motor and BCM • BCM	Combination switch (wiper and washer switch) Refer to BCS-71, "Symptom Table".
		BCM	—
	Rear wiper does not return to the Stop position (Stops after a five-second operation).	• BCM • Harness between rear wiper motor and BCM • Rear wiper motor	Rear wiper auto stop signal circuit Refer to WW-47, "Diagnosis Procedure".
	Rear wiper stops after operating for five seconds when ignition switch is turned ON.		

Symptom		Possible malfunction	Reference
Front and rear washer motor does not operate.	Front and rear washer motor does not operate when the washing windshield.	• Combination switch (wiper and washer switch) • Harness between combination switch (wiper and washer switch) and BCM • BCM	Combination switch (wiper and washer switch) Refer to BCS-71, "Symptom Table".
		• Harness between rear combination switch (wiper and washer switch) and front and rear washer motor. • Front and rear washer motor	Front and rear washer motor circuit Refer to WW-41, "Diagnosis Procedure".

FRONT WIPER DOES NOT OPERATE

Description

INFOID:0000000014623386

The front wiper does not operate under any operation conditions.

Diagnosis Procedure

INFOID:0000000014623387

Regarding Wiring Diagram information, refer to WW-20, "Wiring Diagram".

1. CHECK WIPER RELAY OPERATION

CONSULT
1. Select “FR WIPER” in “Active Test” mode of “BCM (WIPER)”.
2. Check front wiper operation.

LO : Front wiper LO operation
HI : Front wiper HI operation
OFF : Front wiper stop

Is the inspection result normal?

YES >> GO TO 5.
NO >> GO TO 2.

2. CHECK FRONT WIPER MOTOR FUSE

Refer to WW-34, "Diagnosis Procedure".

Is the fuse blown?

YES >> Replace the blown fuse after repairing the affected circuit.
NO >> GO TO 3.

3. CHECK FRONT WIPER MOTOR GROUND CIRCUIT

Refer to WW-40, "Diagnosis Procedure".

Is the inspection result normal?

YES >> GO TO 4.
NO >> Repair or replace harness.

4. CHECK FRONT WIPER MOTOR OUTPUT VOLTAGE

1. Turn the ignition switch ON.
2. Select “FRONT WIPER” in “Active Test” mode of “IPDM E/R” with CONSULT.
3. Check voltage between IPDM E/R harness connector and ground while wipers are operating.

IPDM E/R			FRONT WIPER	Voltage (Approx.)
Connector	Terminal			
E121	48	Ground	LO	Battery voltage
			OFF	0 V
	45		HI	Battery voltage
			OFF	0 V

Is the inspection result normal?

YES >> Replace front wiper motor. Refer to WW-68, "Removal and Installation".
NO >> Replace IPDM E/R. Refer to PCS-46, "Removal and Installation".

5. CHECK FRONT WIPER REQUEST SIGNAL INPUT

1. Select “FR WIP REQ” in “Data Monitor” mode of “IPDM E/R” with CONSULT.
2. Switch the front wiper switch to HI and LO.
3. Check the status of “FR WIP REQ” while operating the switch.

Data monitor	Condition	Status
FR WIP REQ	Front wiper switch OFF	STOP
	Front wiper switch LO	LOW
	Front wiper switch HI	HI

Is the inspection result normal?

YES >> Replace IPDM E/R. Refer to PCS-46, "Removal and Installation".
NO >> GO TO 6.

6. CHECK COMBINATION SWITCH (WIPER AND WASHER SWITCH)

Check combination switch (wiper and washer switch). Refer to WW-43, "Component Inspection".

Is the inspection result normal?

YES >> Replace BCM. Refer to BCS-73, "Removal and Installation".
NO >> Repair or replace the applicable parts.

NORMAL OPERATING CONDITION

Description

INFOID:0000000014623388

FRONT WIPER PROTECTION FUNCTION

IPDM E/R detects front wiper stop position by a front wiper stop position signal.
When a front wiper stop position signal is in the conditions listed below, IPDM E/R stops power supply to wiper after repeating a front wiper 10 seconds activation and 20 seconds stop.

Ignition switch	Front wiper switch	Front wiper stop position signal
ON	OFF	The front wiper stop position signal (stop position) cannot be input for 10 seconds.
	ON	The front wiper stop position signal does not change for 10 seconds.

NOTE:
This operation status can be confirmed on the IPDM E/R “Data Monitor” that displays “BLOCK” for the item “WIP PROT” while the wiper is stopped.

REAR WIPER MOTOR PROTECTION FUNCTION

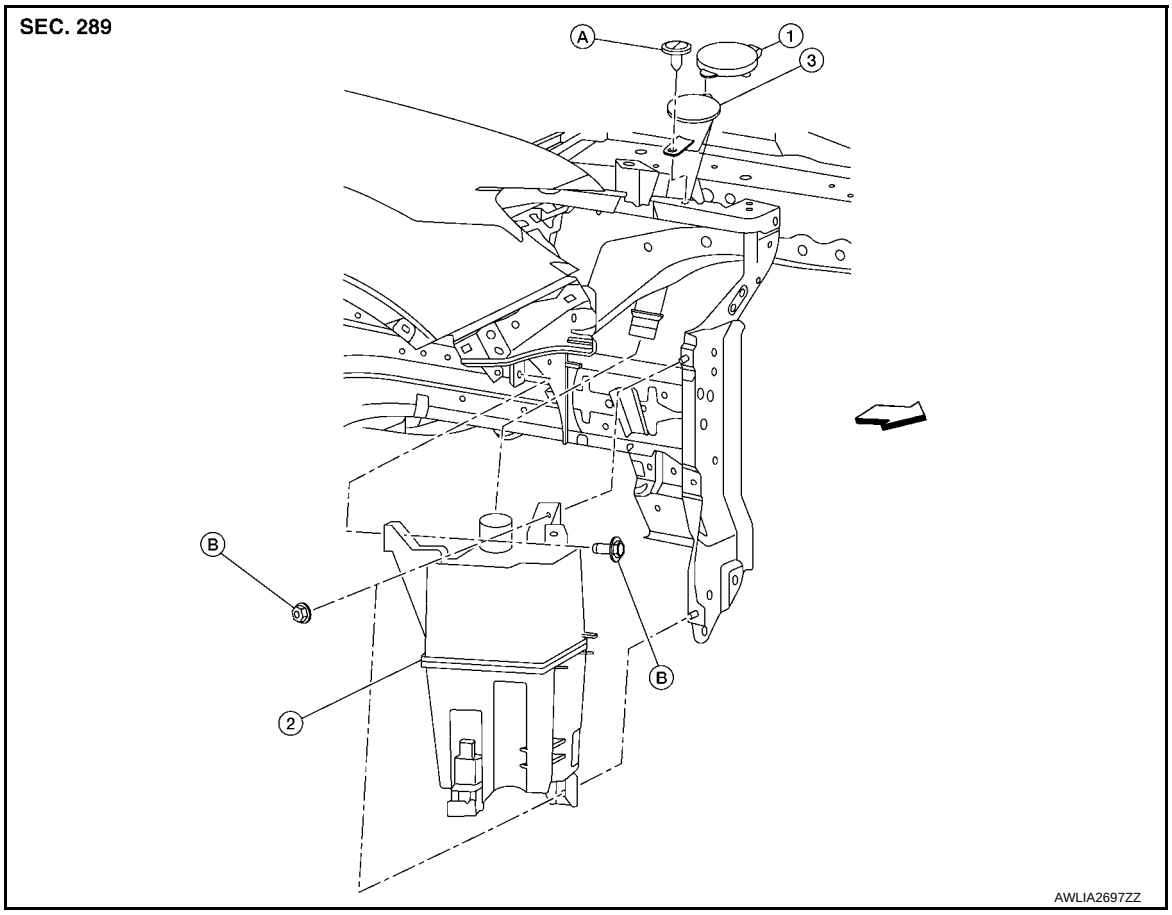
- BCM may stop rear wiper to protect the rear wiper motor when the rear wiper is stopped for 5 seconds or more due to a snowfall.
- Rear wiper operates normally one minute after the obstacles are removed with rear wiper OFF.

REMOVAL AND INSTALLATION

WASHER TANK

Exploded View

INFOID:0000000014623389



1. Cap
2. Washer tank
3. Washer tank inlet
A. Clip
B. Refer to INSTALLATION
⇦ Front

Removal and Installation

INFOID:0000000014623390

REMOVAL

1. Drain washer fluid.
2. Using a suitable tool release washer tank inlet clip and remove washer tank inlet.
3. Remove front over fender (RH). Refer to EXT-42, "FRONT OVER FENDER : Removal and Installation".
4. Remove wind deflector (RH). Refer to EXT-25, "Exploded View".
5. Remove floor under cover (RH). Refer to EXT-49, "Exploded View".
6. Partially remove front fender protector (RH). Refer to EXT-40, "FENDER PROTECTOR : Exploded View".
7. Disconnect front and rear washer motor tubes.
8. Remove washer tank nuts and bolt and remove the washer tank.

INSTALLATION

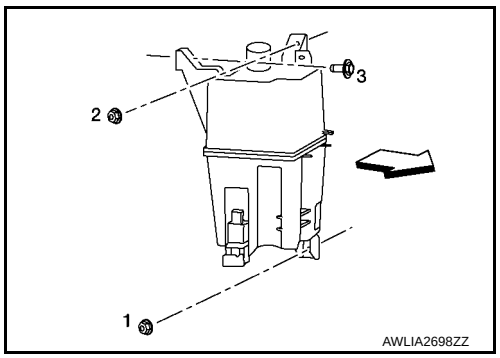
Installation is in the reverse order of removal.

CAUTION:

- **Add water up to the top of washer tank inlet after installing. Check that no leaks exist.**
- **Fill washer tank with specified amount of fluid. Refer to WW-77, "Specifications".**

- **Tighten the washer tank nuts and bolt to specification in the sequence shown.**
  ⇦: Front

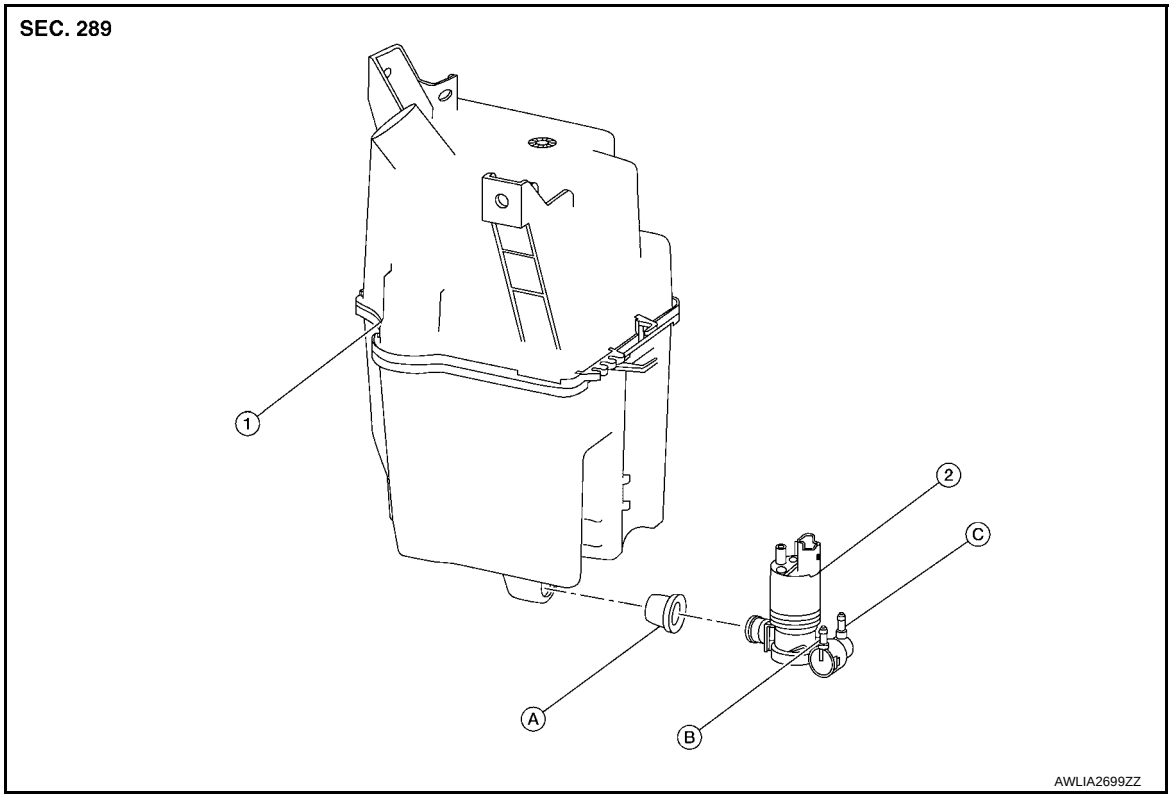
Nuts and bolt : 4.5 N·m (0.46 kg-m, 40 in-lb)



FRONT AND REAR WASHER MOTOR

Exploded View

INFOID:0000000014623391



1. Washer tank
2. Front and rear washer motor
A. Seal
B. Rear washer outlet
C. Front washer outlet

Removal and Installation

INFOID:0000000014623392

REMOVAL

1. Drain washer fluid.
2. Remove front over fender (RH). Refer to EXT-42, "FRONT OVER FENDER : Removal and Installation".
3. Remove wind deflector (RH). Refer to EXT-25, "Exploded View".
4. Remove floor under cover (RH). Refer to EXT-49, "Exploded View".
5. Partially remove front fender protector (RH). Refer to EXT-40, "FENDER PROTECTOR : Exploded View".
6. Disconnect harness connector from front and rear washer motor.
7. Disconnect front and rear washer outlet tubes.
8. Remove front and rear washer motor from washer tank.

INSTALLATION

Installation is in the reverse order of removal.

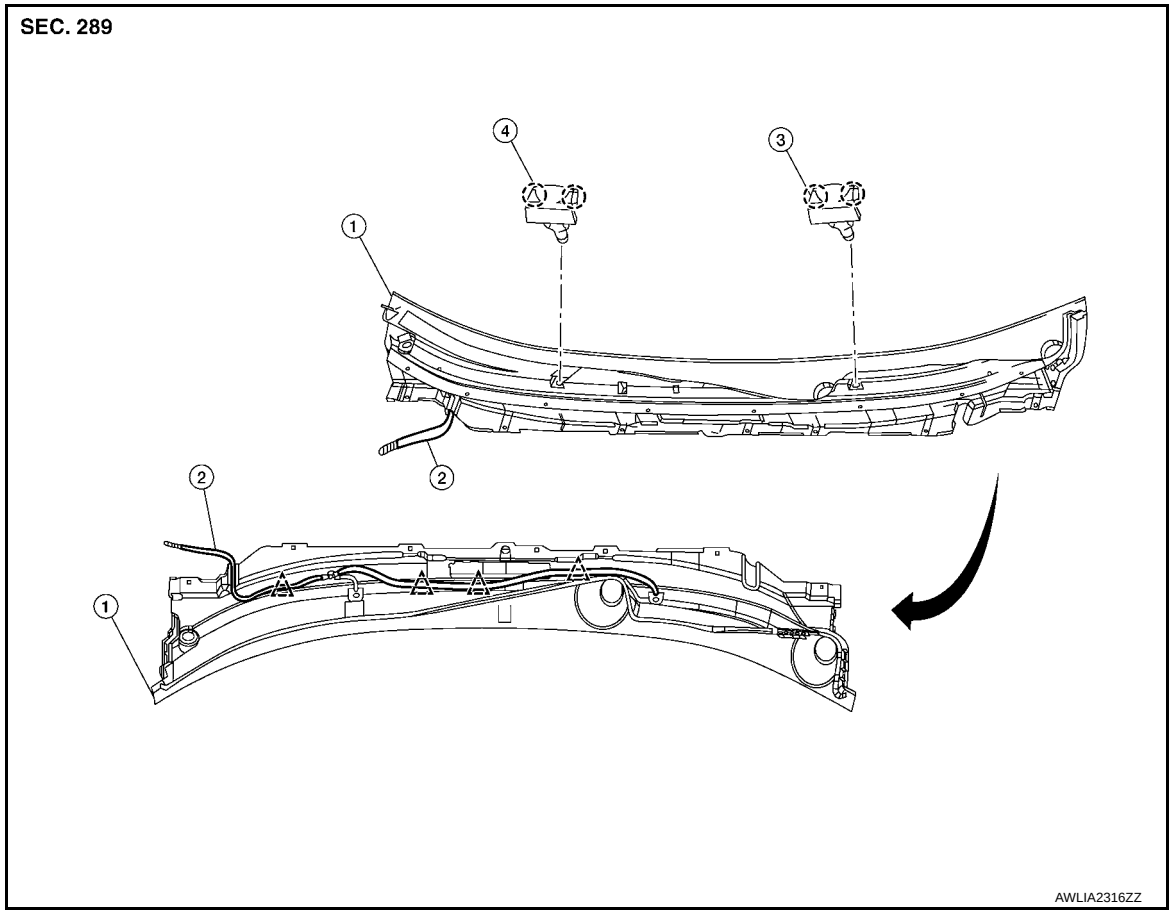
CAUTION:

- **Add water up to the top of washer tank inlet after installing. Check that no leaks exist.**
- **Fill washer tank with specified amount of fluid. Refer to WW-77, "Specifications".**

FRONT WASHER NOZZLE AND TUBE

Exploded View

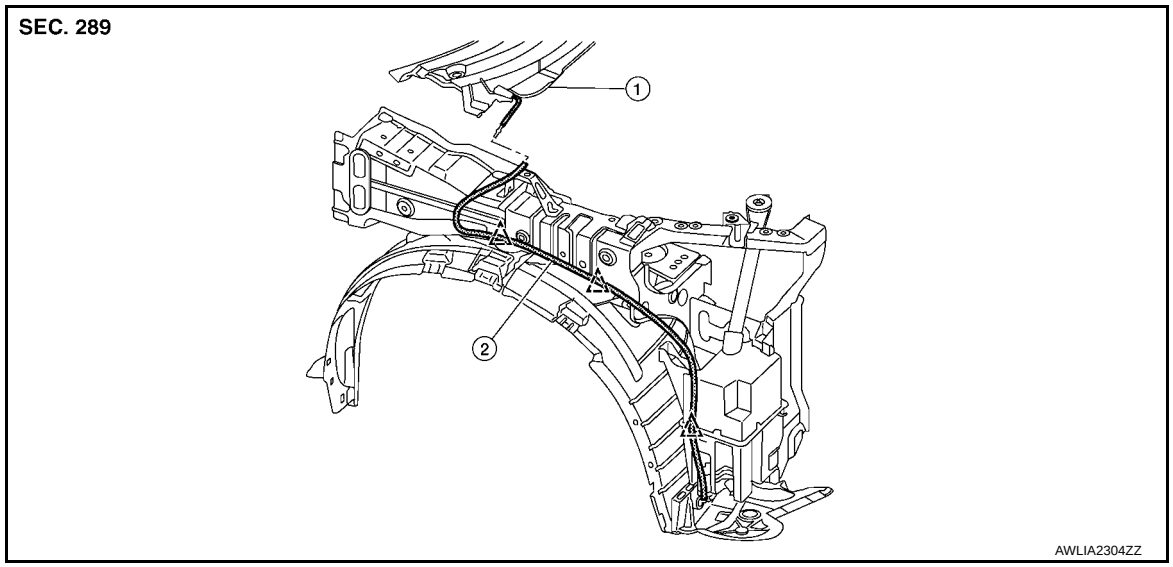
INFOID:0000000014623394



1. Cowl top cover
2. Front washer tube
3. Front washer nozzle (LH)
4. Front washer nozzle (RH)
- Pawl
- Clip

Exploded View

INFOID:0000000014623395



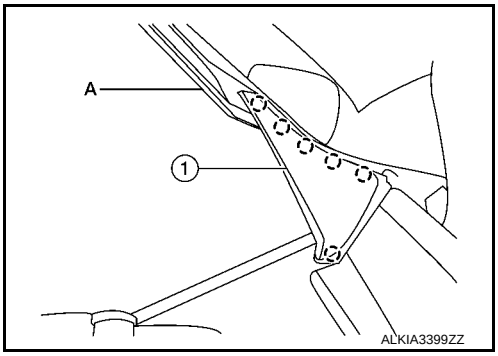
1. Cowl top cover
2. Front washer tube
Clip

Removal and Installation - Front Washer Nozzle

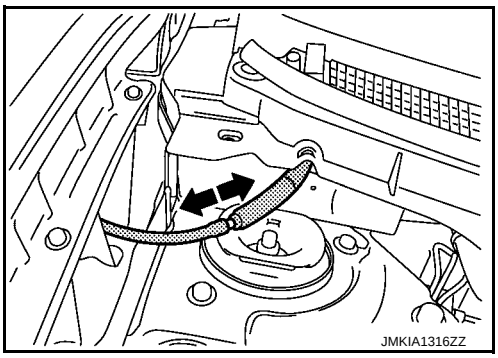
INFOID:0000000014623396

REMOVAL

1. Remove front wiper arms (LH/RH). Refer to WW-61, "Removal and Installation".
2. Release pawls using suitable tool (A) and remove cowl top side trim cover (1) (LH/RH).
: Pawl



3. Disconnect front washer tube connector.



4. Release pawls and remove front washer nozzle (LH/RH).

INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

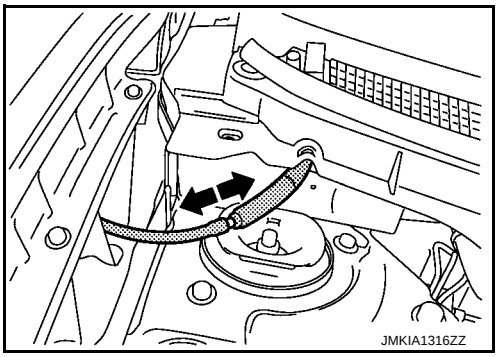
Adjust the nozzle spray pattern. Refer to WW-59, "Inspection and Adjustment".

Removal and Installation - Front Washer Tube

INFOID:0000000014623397

REMOVAL

1. Disconnect front washer tube connector.



2. Remove front over fender (RH). Refer to EXT-42, "FRONT OVER FENDER : Removal and Installation".
3. Remove wind deflector (RH). Refer to EXT-25, "Exploded View".
4. Remove floor under cover (RH). Refer to EXT-49, "Exploded View".
5. Partially remove front fender protector (RH). Refer to EXT-40, "FENDER PROTECTOR : Exploded View".
6. Unclip front washer hose and remove.

INSTALLATION

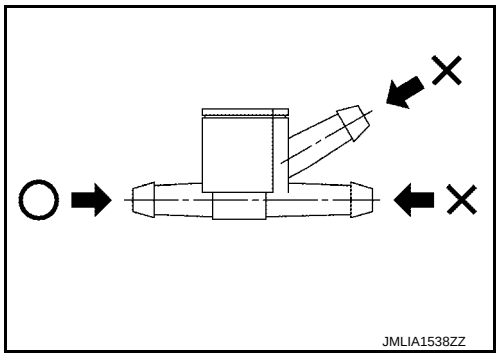
Installation is in the reverse order of removal.

Inspection and Adjustment

INFOID:0000000014623398

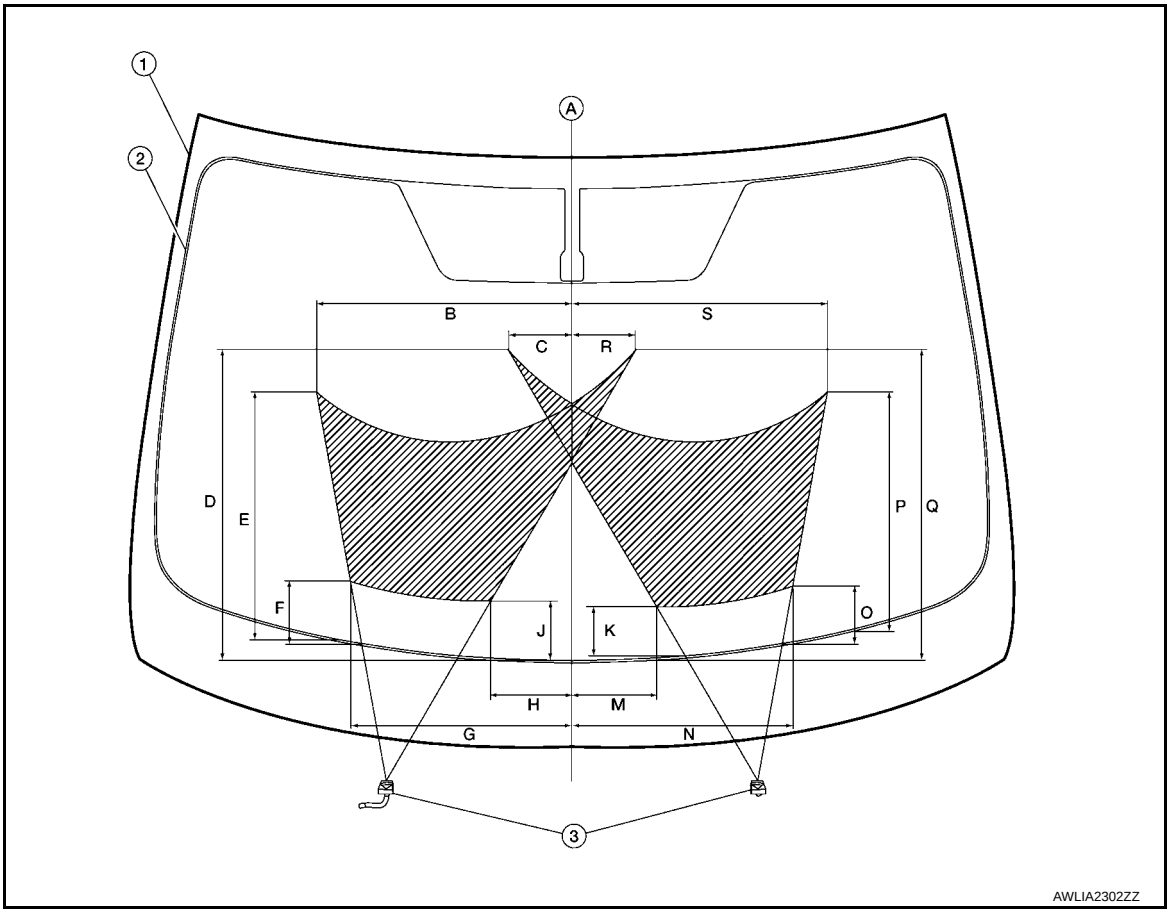
WASHER TUBE INSPECTION

Check that air can pass through the check valve splitter by blowing into the check valve splitter and that air cannot flow in the opposite direction.
O: Air can flow
X: Air cannot flow



ADJUSTMENT

If operating properly, spray positions should match the positions shown. If spray positions do not match, confirm the rear washer nozzle is properly seated and working properly. If the spray positions still do not match as shown, then replace the front washer nozzle. Refer to WW-58, "Removal and Installation - Front Washer Nozzle"



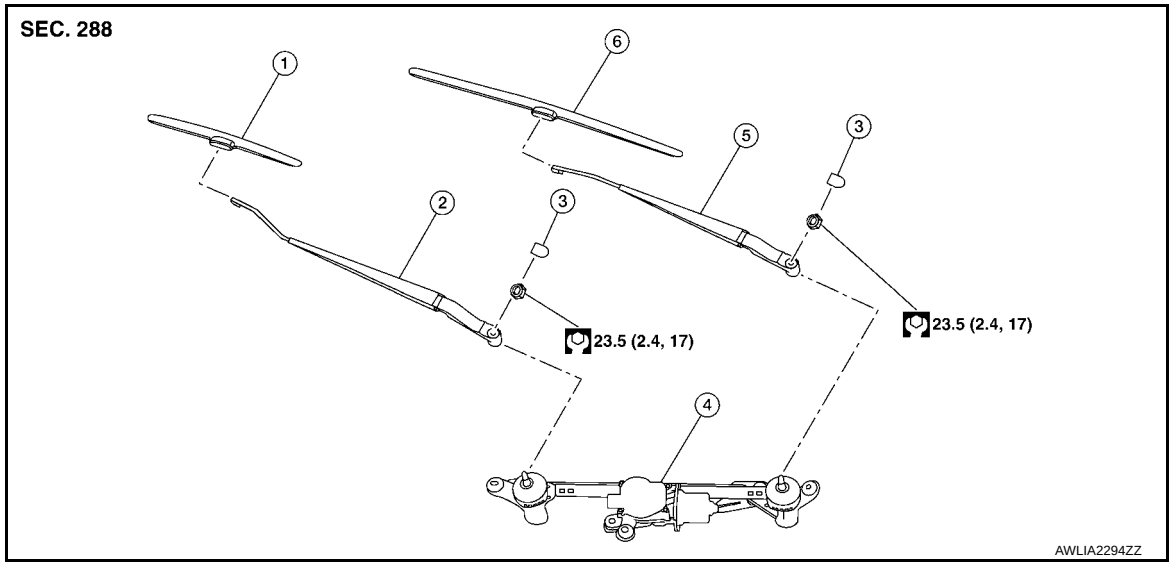
1. Windshield glass
2. Black printed area line
3. Front washer nozzle (LH/RH)
A. Center line
B. 409 mm (16.10 in)
C. 103 mm (4.06 in)
D. 497 mm (19.57 in)
E. 398 mm (15.67 in)
F. 100 mm (3.94 in)

G. 356 mm (14.02 in)
H. 127 mm (5.00 in)
J. 93 mm (3.66 in)
K. 80 mm (3.15 in)
M. 133 mm (5.24 in)
N. 354 mm (13.94 in)
O. 90 mm (3.54 in)
P. 380 mm (14.96 in)
Q. 496 mm (19.53 in)
R. 103 mm (4.06 in)
S. 409 mm (16.10 in)

FRONT WIPER ARM

Exploded View

INFOID:0000000014623399



1. Front wiper blade (RH)
2. Front wiper arm (RH)
3. Front wiper arm cover
4. Front wiper drive assembly
5. Front wiper arm (LH)
6. Front wiper blade (LH)

Removal and Installation

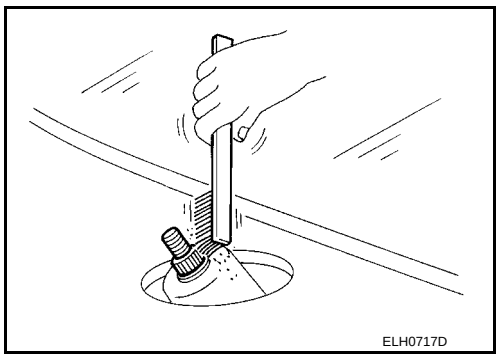
INFOID:0000000014623400

REMOVAL

1. Move front wiper into the service position by turning the ignition switch ON, then quickly push the wiper washer switch to the mist position two times within 0.5 seconds.
2. Turn the ignition switch OFF.
3. Remove front wiper arm covers.
4. Remove nuts and remove front wiper arms.

INSTALLATION

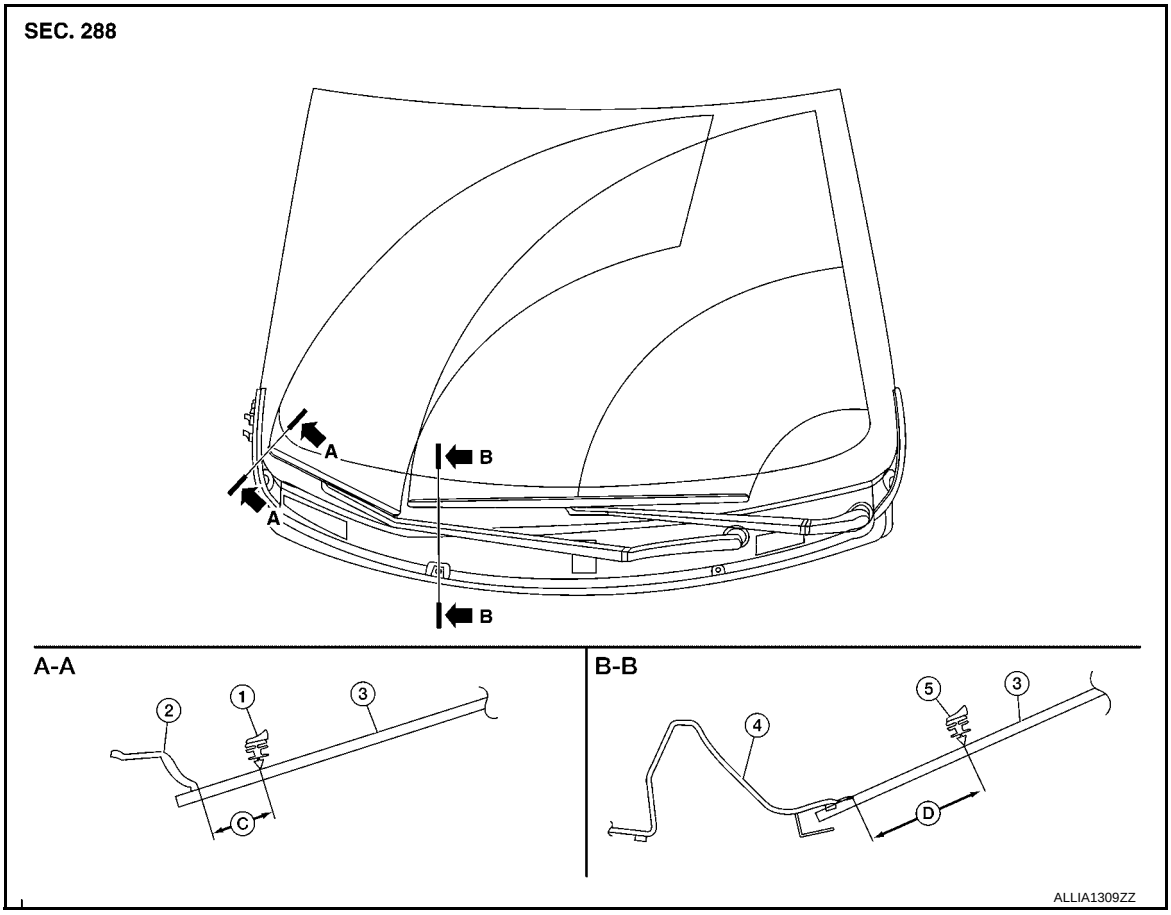
1. Clean wiper arm mount as shown in the figure to prevent nuts from being loosened.



2. Move front wiper into the service position by turning the ignition switch ON, then quickly push the wiper washer switch to the mist position two times within 0.5 seconds.
3. Turn the ignition switch OFF.
4. Adjust front wiper blade position. Refer to WW-62, "Adjustment".
5. Install front wiper arm by tightening the nuts.
6. Install front wiper arm covers.
7. Check that the front wiper blades stop at the specified position.

Adjustment

INFOID:0000000014623401



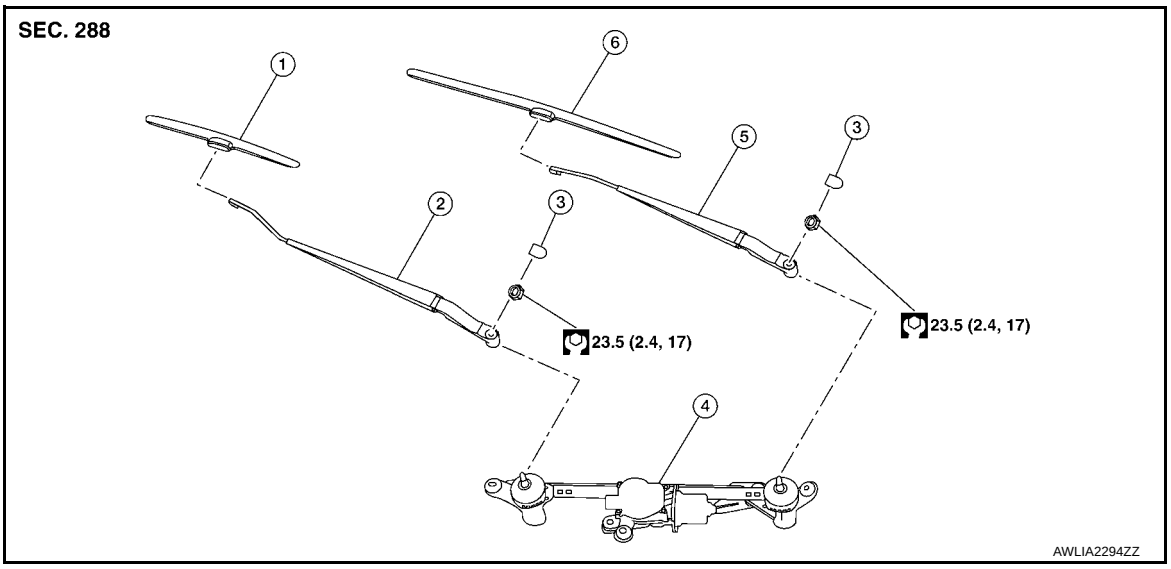
1. Wiper blade (RH)
2. Front fender (RH)
3. Windshield glass
4. Cowl top cover
5. Wiper blade (LH)
C. 38.4 ± 7.5 mm (1.5 ± 0.3 in)
D. 43 ± 7.5 mm (1.7 ± 0.3 in)

FRONT WIPER BLADE

WIPER BLADE

WIPER BLADE : Exploded View

INFOID:0000000014623402



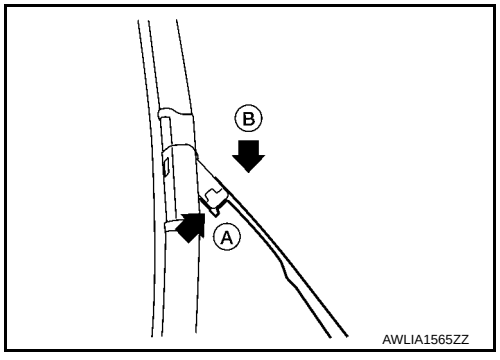
1. Wiper blade (RH)
2. Wiper arm (RH)
3. Wiper arm cover
4. Front wiper drive assembly
5. Wiper arm (LH)
6. Wiper blade (LH)

WIPER BLADE : Removal and Installation

INFOID:0000000014623403

REMOVAL

1. Move front wiper into the service position by turning the ignition switch ON, then quickly push the wiper washer switch to the mist position two times within 0.5 seconds.
2. Turn the ignition switch OFF.
3. Lift the wiper arm and wiper blade away from the windshield glass.
4. Rotate the wiper blade and push the release tab (A), then move the wiper blade down (B) the wiper arm.
   CAUTION:
   Be careful not to drop the wiper arm onto the windshield glass.



5. Remove the wiper blade.

INSTALLATION

Installation is in the reverse order of removal.

NOTE:

Insert the front wiper blade onto the front wiper arm until it clicks into place.

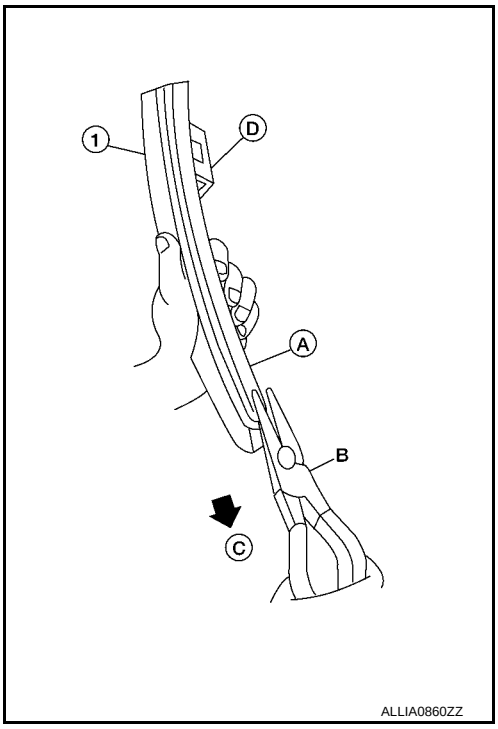
WIPER BLADE REFILL

WIPER BLADE REFILL : Removal and Installation

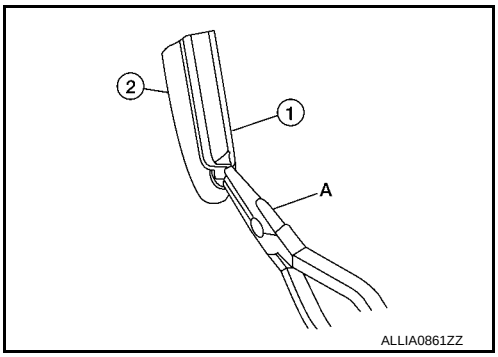
INFOID:0000000014623404

REMOVAL

1. Remove the wiper blade. Refer to WW-63, "WIPER BLADE : Removal and Installation".
2. Hold the wiper blade refill lip at the end (A) of the wiper blade (1) with a suitable tool (B) as shown, and pull it firmly in the direction (C).
   (D): U clip (part of wiper blade)

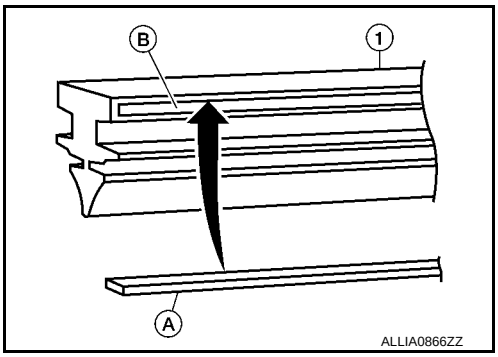


- If the wiper blade refill lip is torn due to wear, insert a suitable tool (A) into the space between the end of the wiper blade refill (1) and the wiper blade (2) and pull the wiper blade refill (1) out as shown.

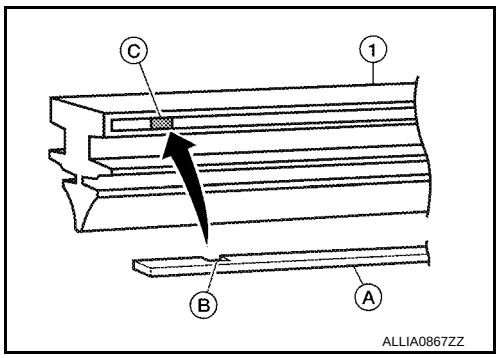


INSTALLATION

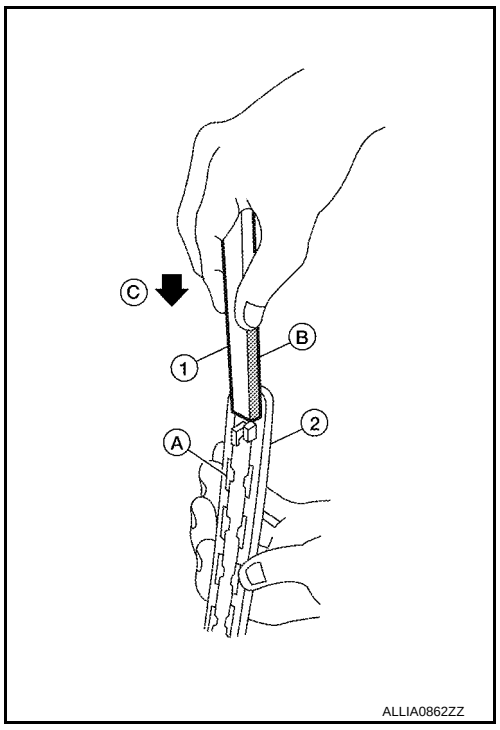
1. If the rib (A) has become detached from the wiper blade refill (1), check that the curve of the rib (A) is in the same direction as the curve of the wiper blade refill (1) and insert the rib (A) into the slit (B) in the wiper blade refill (1) as shown.



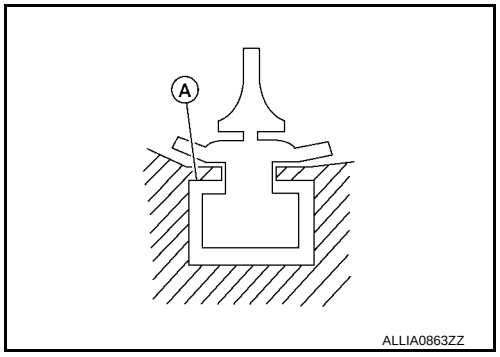
- If the rib (A) has a notch (B), insert the rib (A) into the wiper blade refill (1) so the notch (B) fits over the protrusion (C) in the wiper blade refill (1) as shown.



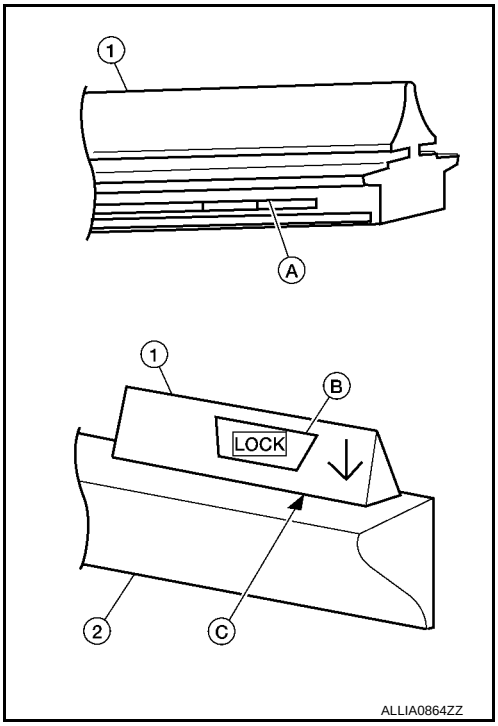
2. Insert the wiper blade refill (1) tip into the end of the wiper blade (2) in the direction (C). Push the wiper blade refill (1) in while pressing it into the end of the wiper blade (2) as shown. After the wiper blade refill is fully inserted, remove the holder (B).
(A): Tab (part of wiper blade) (2)



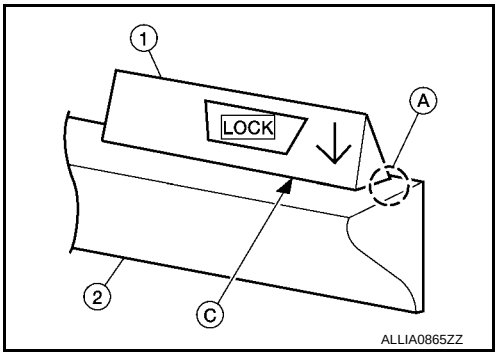
- Make sure to slide the refill into the wiper blade so that the wiper blade refill is held by the tabs (A) on the wiper blade as shown.



3. Push the wiper blade refill (1) until the tabs on the wiper blade (2) fit into the stoppers (A) in the end of the wiper blade refill (1). Make sure the LOCK mark (B) on the wiper blade refill (1) is aligned with the lock point symbol (C) on the wiper blade (2) as shown.



4. Before installing the wiper blade, make sure that the wiper blade refill (1) end is fully covered by the wiper blade (2) in area (A) and locked at point (C).



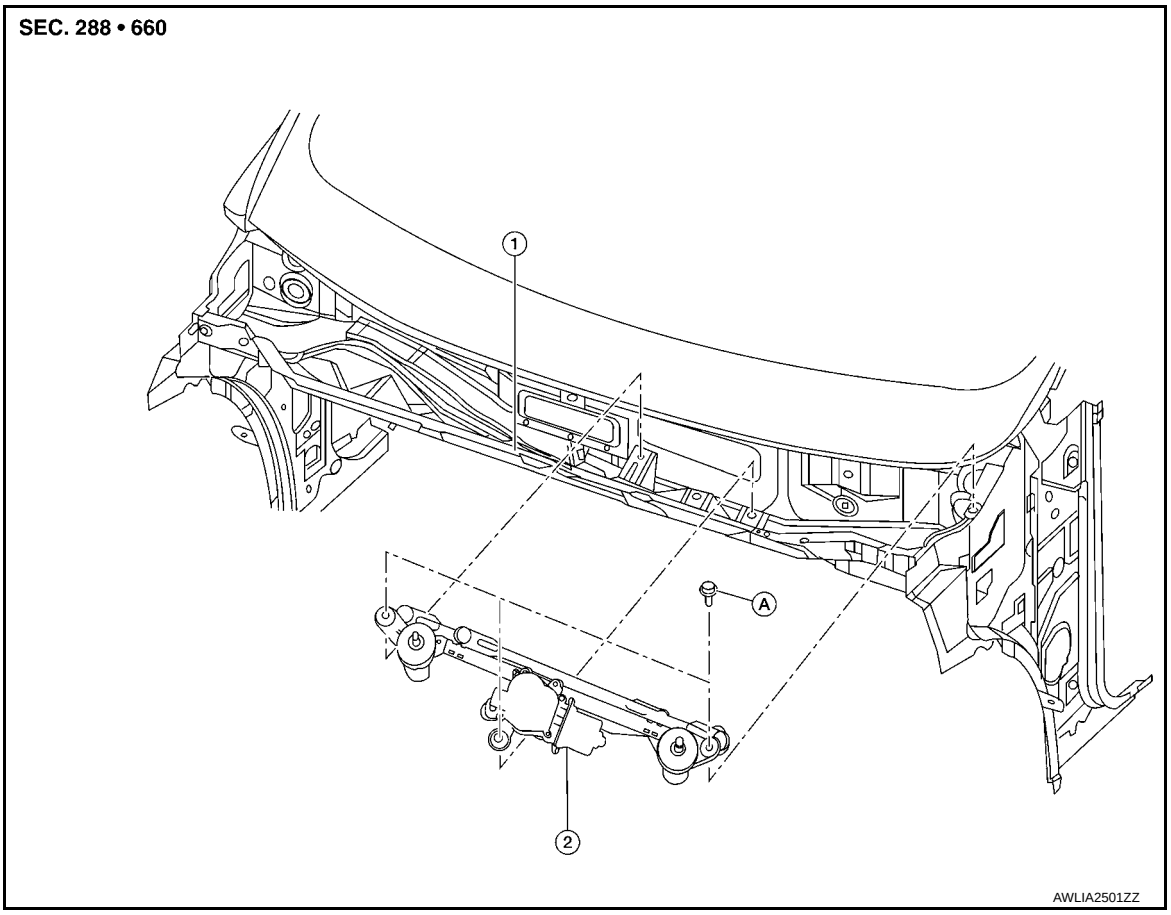
5. Install the wiper blade. Refer to WW-63, "WIPER BLADE : Removal and Installation".

FRONT WIPER DRIVE ASSEMBLY

Exploded View

INFOID:0000000014623405

REMOVAL



1. Cowl top
2. Front wiper drive assembly
A. Refer to INSTALLATION

Removal and Installation

INFOID:0000000014623406

REMOVAL

1. Remove cowl top cover. Refer to EXT-37, "Removal and Installation".
2. Disconnect harness connector from front wiper motor.
3. Remove bolts and front wiper drive assembly.

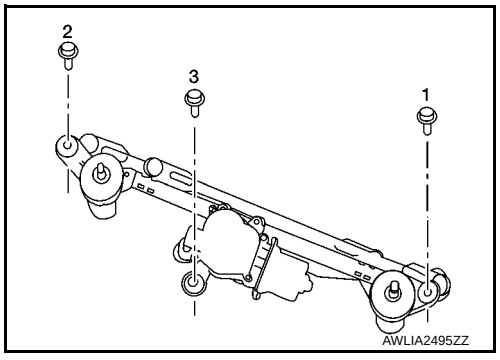
INSTALLATION

Installation is in the reverse order of removal.

CAUTION:

Tighten the bolts to specification in the sequence shown.

Bolts : 4.5 N·m (0.46 kg-m, 40 in-lb)



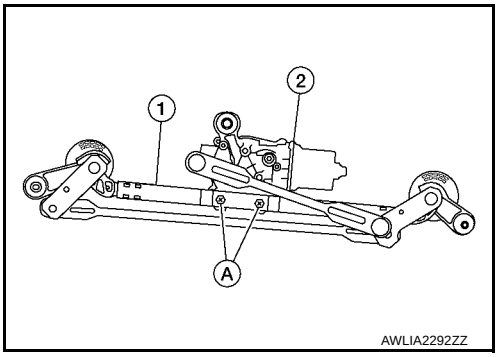
FRONT WIPER MOTOR

Removal and Installation

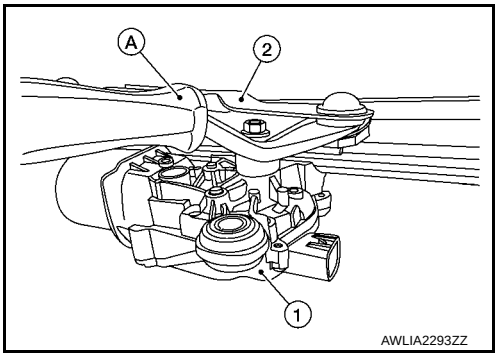
INFOID:0000000014623407

REMOVAL

1. Remove the front drive assembly. Refer to WW-67, "Removal and Installation".
2. Remove the bolts (A) from the front wiper drive assembly (1) and the front wiper motor (2).



3. Separate the wiper motor (1) from the front wiper drive (2) using suitable tool (A).



4. Remove the front wiper motor.

INSTALLATION

Installation is in the reverse order of removal.

WIPER AND WASHER SWITCH

Removal and Installation

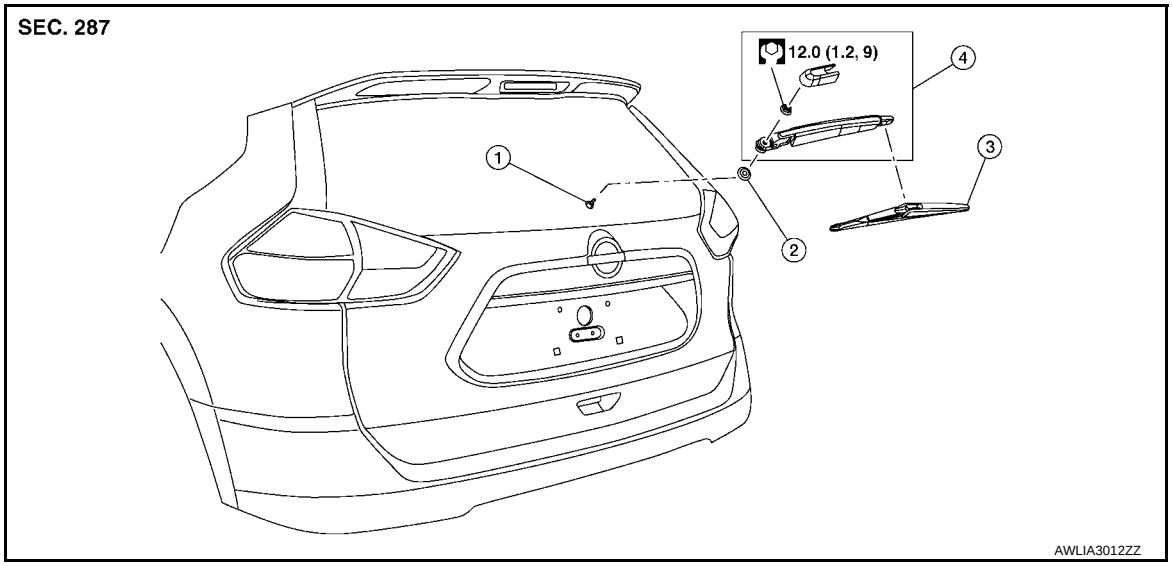
INFOID:0000000014623408

The wiper and washer switch is serviced as a part of the combination switch. Refer to BCS-74, "Removal and Installation".

REAR WIPER ARM

Exploded View

INFOID:0000000014623409



1. Rear wiper motor
2. Seal
3. Rear wiper blade
4. Rear wiper arm

Removal and Installation

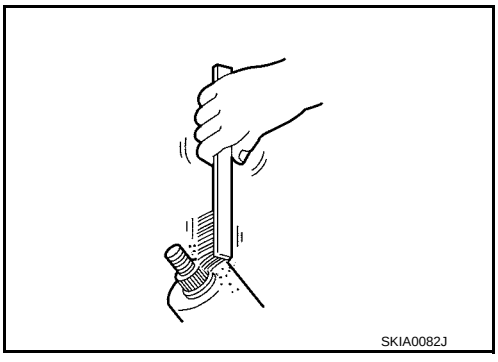
INFOID:0000000014623410

REMOVAL

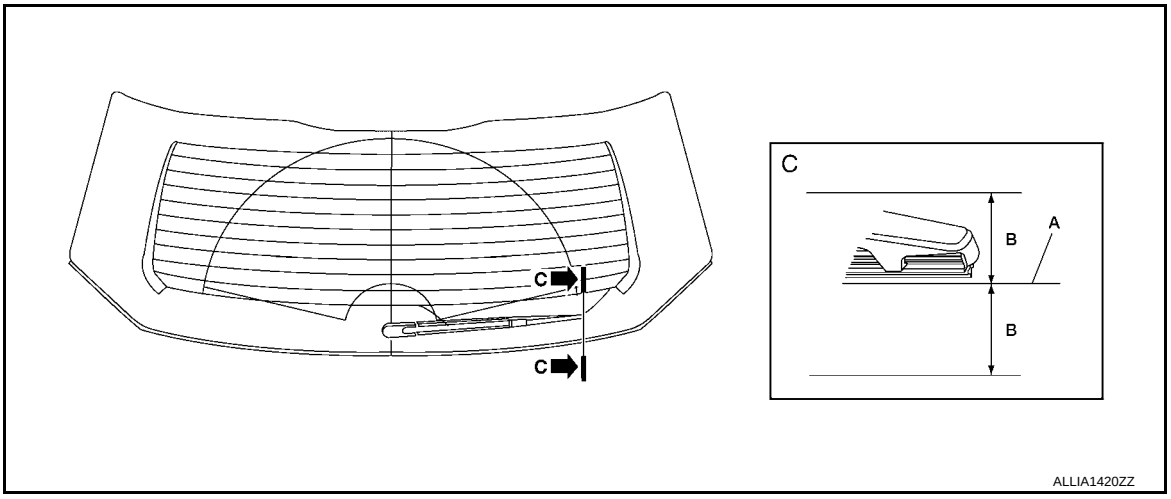
1. Check that the rear wiper arm is in the auto stop position.
2. Remove the rear wiper arm cover.
3. Remove the rear wiper arm nut from the rear wiper arm.
4. Remove the rear wiper arm.

INSTALLATION

1. Clean the rear wiper arm mount as shown, to prevent the possibility of rear wiper arm looseness.



2. Check that the rear wiper motor is in the auto stop position.
3. Install the rear wiper arm by positioning the rear wiper blade on the rear window defogger wire (A) then tighten the rear wiper arm nut to specification.



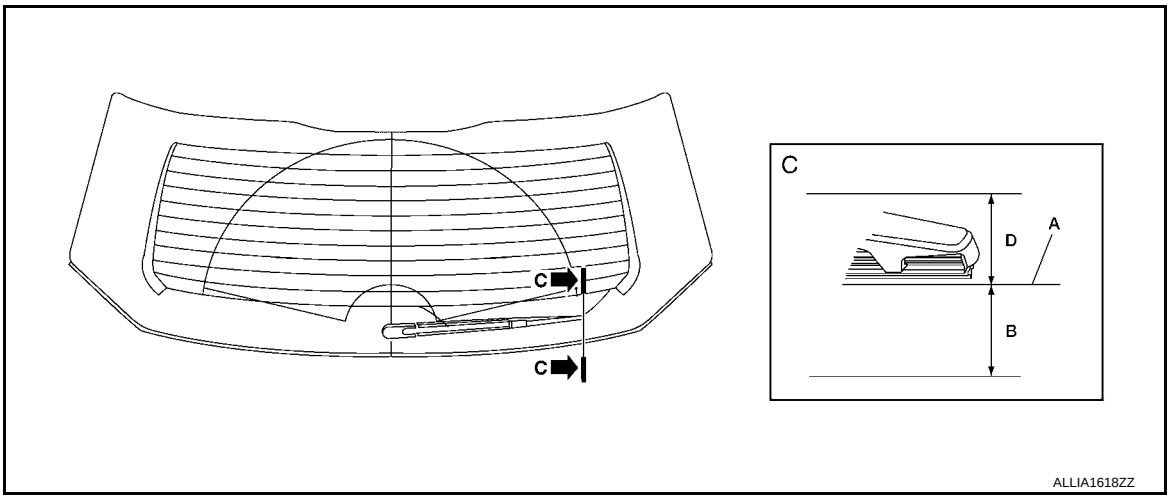
A. Rear window defogger wire

B : ± 7.5 mm (± .30 in)

4. Instal the rear wiper arm cover.
5. Check that the rear wiper blade stops at the specified position. Refer to WW-71, "Inspection".

Inspection

INFOID:0000000014623411



A. Rear window defogger wire

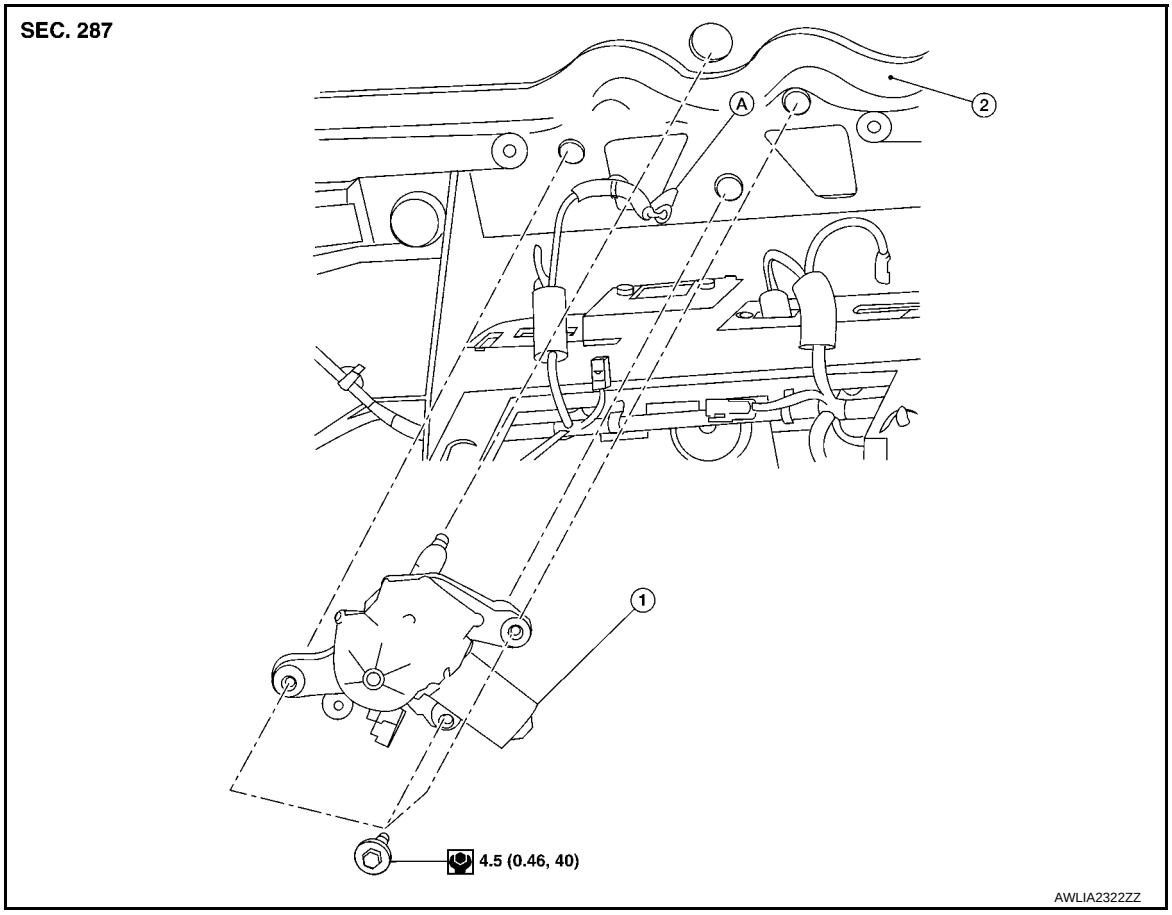
Auto stop position is on top of the rear window defogger wire (A).

D : 20.0 mm (0.79 in)
B : 7.5 mm (0.30 in)

REAR WIPER MOTOR

Exploded View

INFOID:0000000014623412



1. Rear wiper motor
2. Back door
A. Rear wiper motor harness

Removal and Installation

INFOID:0000000014623413

REMOVAL

1. Remove rear wiper arm. Refer to WW-70, "Removal and Installation".
2. Remove back door finisher. Refer to EXT-63, "Removal and Installation".
3. Disconnect the harness connector from the rear wiper motor.
4. Remove bolts and the rear wiper motor.

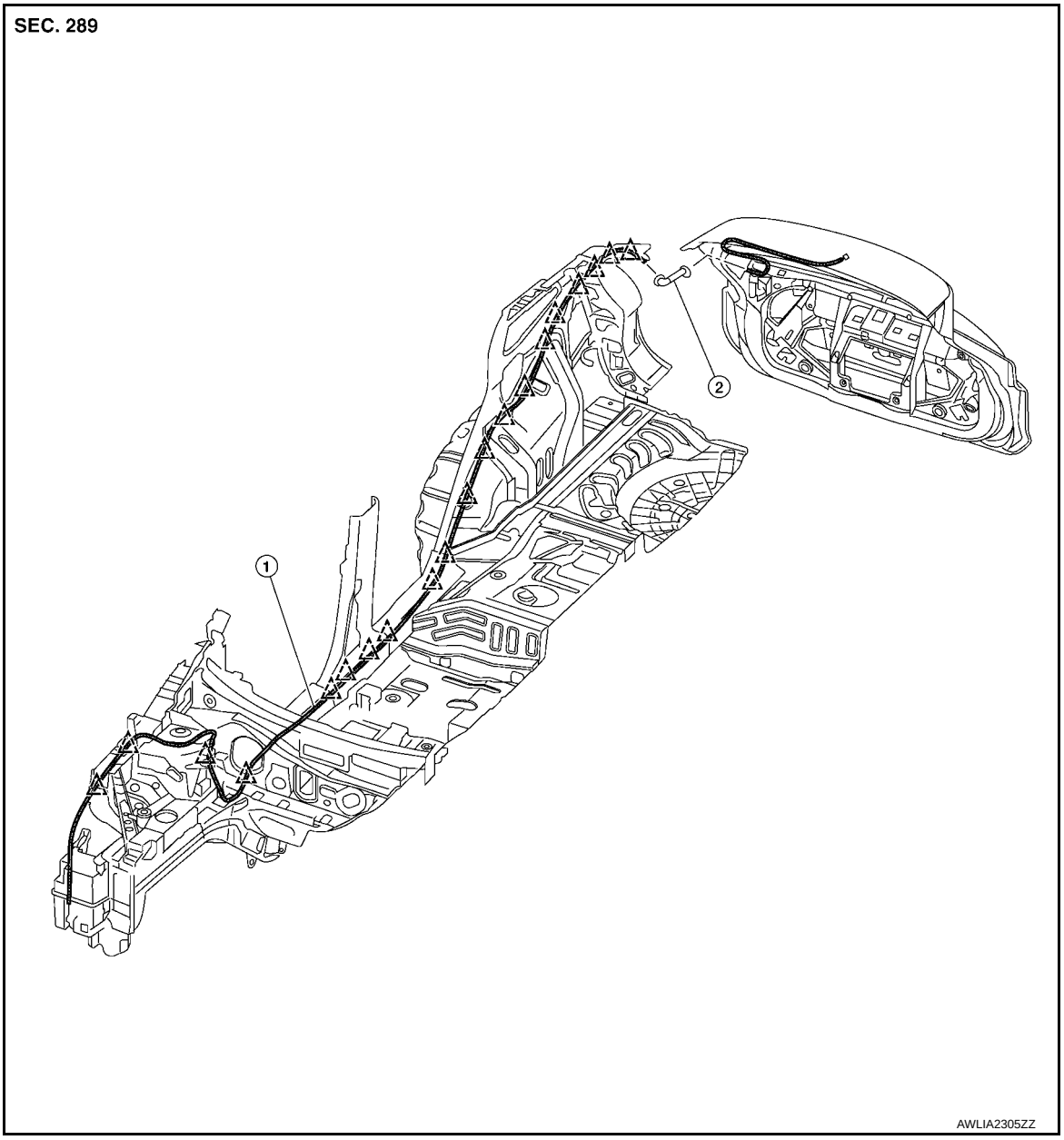
INSTALLATION

Install in the reverse order of removal.

REAR WASHER NOZZLE AND TUBE

Exploded View

INFOID:0000000014623414



1. Rear washer tube
2. Rear grommet
△ Clip

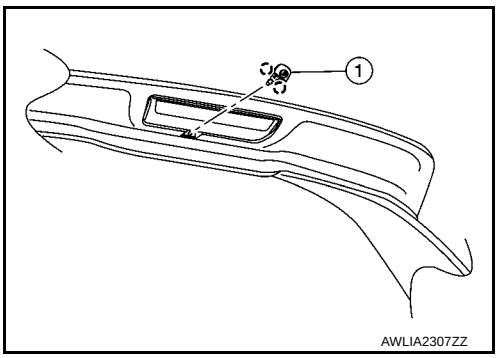
Removal and Installation - Rear Washer Nozzle

INFOID:0000000014623415

REMOVAL

1. Remove rear access panel. Refer to EXT-63, "Exploded View".

2. Release pawls and remove rear washer nozzle (1).
   ( ): Pawl



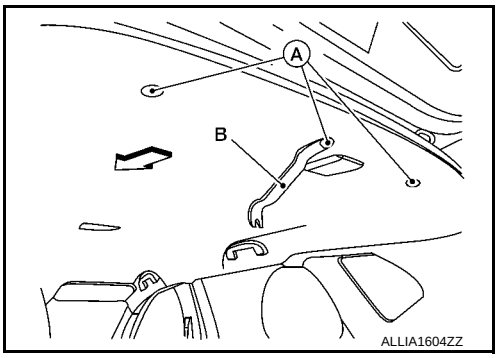
INSTALLATION
Installation in the reverse order of removal.

Removal and Installation - Rear Washer Tube

INFOID:0000000014623416

REMOVAL

1. Remove front over fender (RH). Refer to EXT-42, "FRONT OVER FENDER : Removal and Installation".
2. Remove wind deflector (RH). Refer to EXT-25, "Exploded View".
3. Remove floor under cover (RH). Refer to EXT-49, "Exploded View".
4. Partially remove front fender protector (RH). Refer to EXT-40, "FENDER PROTECTOR : Exploded View".
5. Remove rear seatbacks (LH/RH). Refer to SE-39, "SEATBACK : Removal and Installation".
6. Remove dash side finisher (RH). Refer to INT-24, "DASH SIDE FINISHER : Removal and Installation".
7. Remove center pillar lower finisher (RH). Refer to INT-22, "CENTER PILLAR LOWER FINISHER : Removal and Installation".
8. Remove luggage side upper finisher (LH/RH). Refer to INT-33, "LUGGAGE SIDE UPPER FINISHER : Removal and Installation".
9. Remove headlining clips (A) using suitable tool (B) and partially lower headlining (rear).



10. Disconnect rear washer tube from washer tank and rear washer nozzle.
11. Release clips and remove rear washer tube.

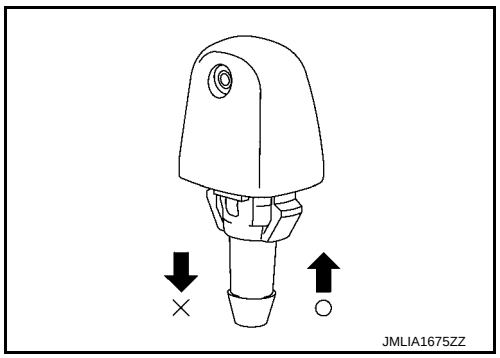
INSTALLATION
Installation is in the reverse order of removal.

Inspection and Adjustment

INFOID:0000000014623417

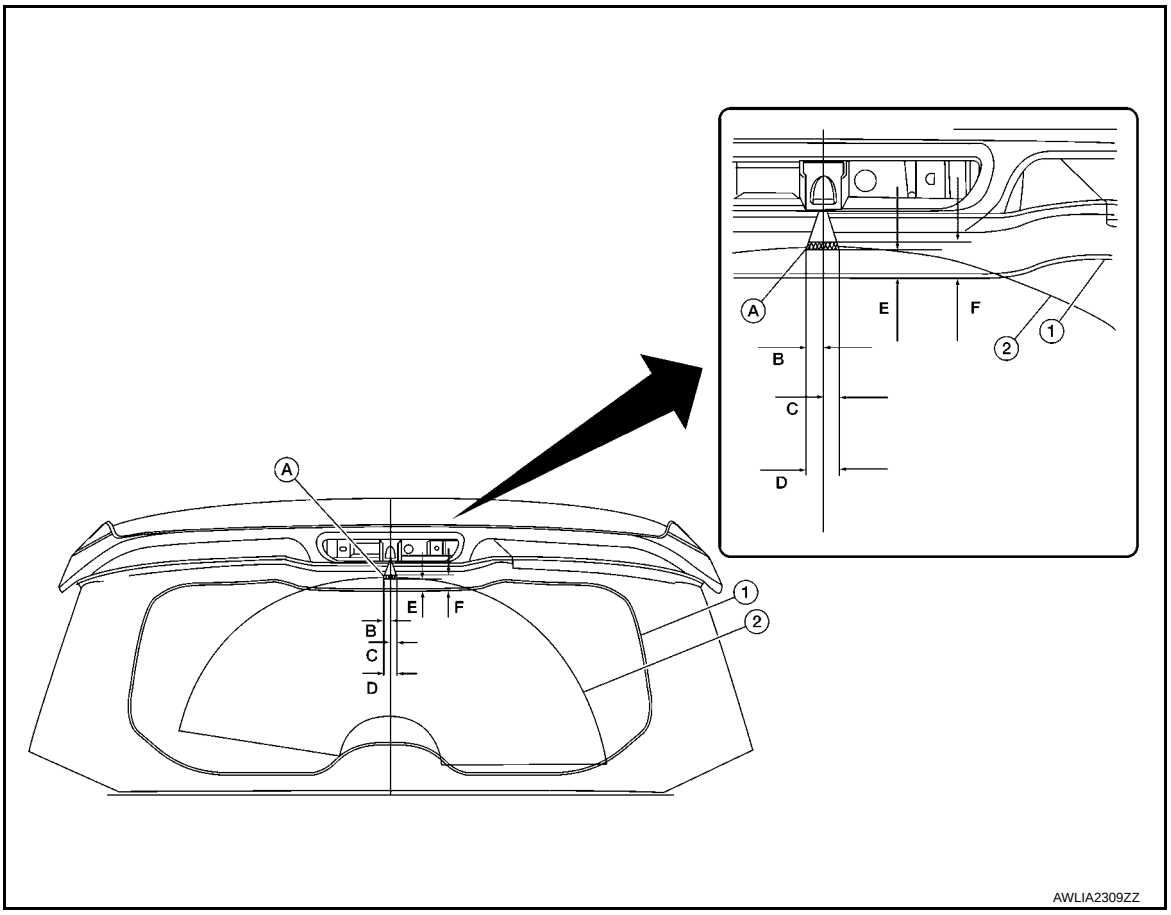
INSPECTION

Check that air can pass through the nozzle by blowing into the nozzle and that air cannot flow in the opposite direction.
O: Air can go
X: Air cannot go



ADJUSTMENT

If operating properly, spray positions should match the positions shown. If spray positions do not match, confirm the rear washer nozzle is properly seated and working properly. If the spray positions still do not match as shown, then replace the rear washer nozzle. Refer to WW-73, "Removal and Installation - Rear Washer Nozzle"



1. Black print
2. Wiping area
A. Spray target area
B. 12.8 mm (0.5 in)
C. 12.8 mm (0.5 in)
D. 25.7 mm (1.0 in)
E. 15.5 mm (0.6 in)
F. 20.6 mm (0.8 in)

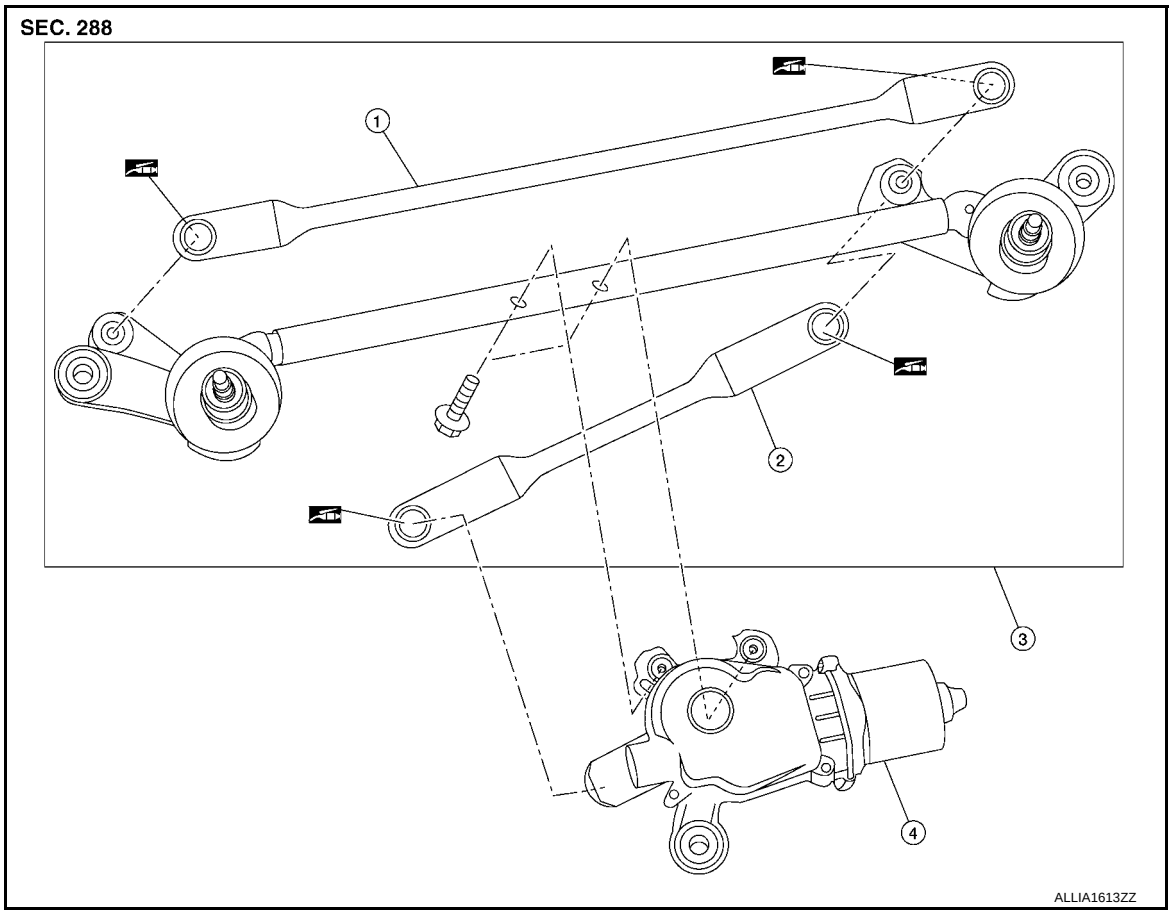
UNIT DISASSEMBLY AND ASSEMBLY

FRONT WIPER DRIVE ASSEMBLY

Exploded View

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DISASSEMBLY VIEW



1. Front wiper linkage 1
2. Front wiper linkage 2
3. Front wiper drive
4. Front wiper motor

Disassembly and Assembly

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DISASSEMBLY

1. Remove front wiper motor. Refer to WW-68, "Removal and Installation".
2. Remove front wiper linkage 1 and 2 from the front wiper drive.
   CAUTION:
   Do not bend the linkage or damage the plastic part of the ball joint when removing the front wiper linkage.

ASSEMBLY

1. Install front wiper motor to front wiper drive.
2. Install front wiper linkage 1 to the front wiper motor and the front wiper drive.
3. Install front wiper linkage 2 to the front wiper drive.
   CAUTION:
   - **Do not drop front wiper motor or cause it to come into contact with other parts.**
   - **Apply multi–purpose grease or an equivalent grease if necessary.**

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Specifications

INFOID:0000000014623420

WINDSHIELD WASHER FLUID

Windshield washer fluid capacity (with washer tank inlet)	5 ℓ (5 1/4 US qt, 4 3/8 Imp qt)
Windshield washer fluid specification	Refer to MA-11, "Fluids and Lubricants".