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SECTION **WW**

WIPER & WASHER

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PRECAUTIONS

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PRECAUTION

PRECAUTIONS

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

INFOID:000000010350737

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, all maintenance must be performed by an authorized NISSAN/INFINITI dealer.
- Improper maintenance, including incorrect removal and installation of the SRS, can lead to personal injury caused by unintentional activation of the system. For removal of Spiral Cable and Air Bag Module, see the 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

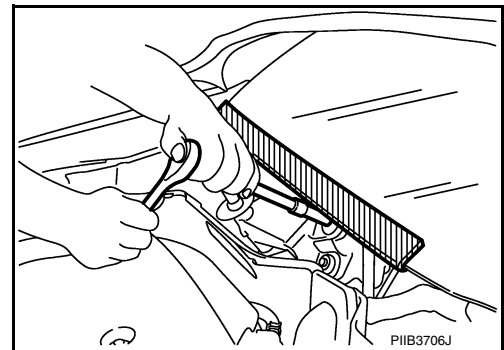
WARNING:

- When working near the Airbag Diagnosis Sensor Unit or other Airbag 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 and wait at least three minutes before performing any service.

Precaution for Procedure without Cowl Top Cover

INFOID:000000010350738

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



Precaution for Work

INFOID:000000010350739

- 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:

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- 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

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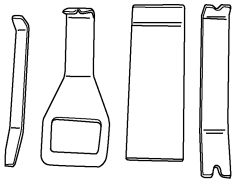
PREPARATION

PREPARATION

Special Service Tools

INFOID:0000000010350740

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

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

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COMPONENT PARTS

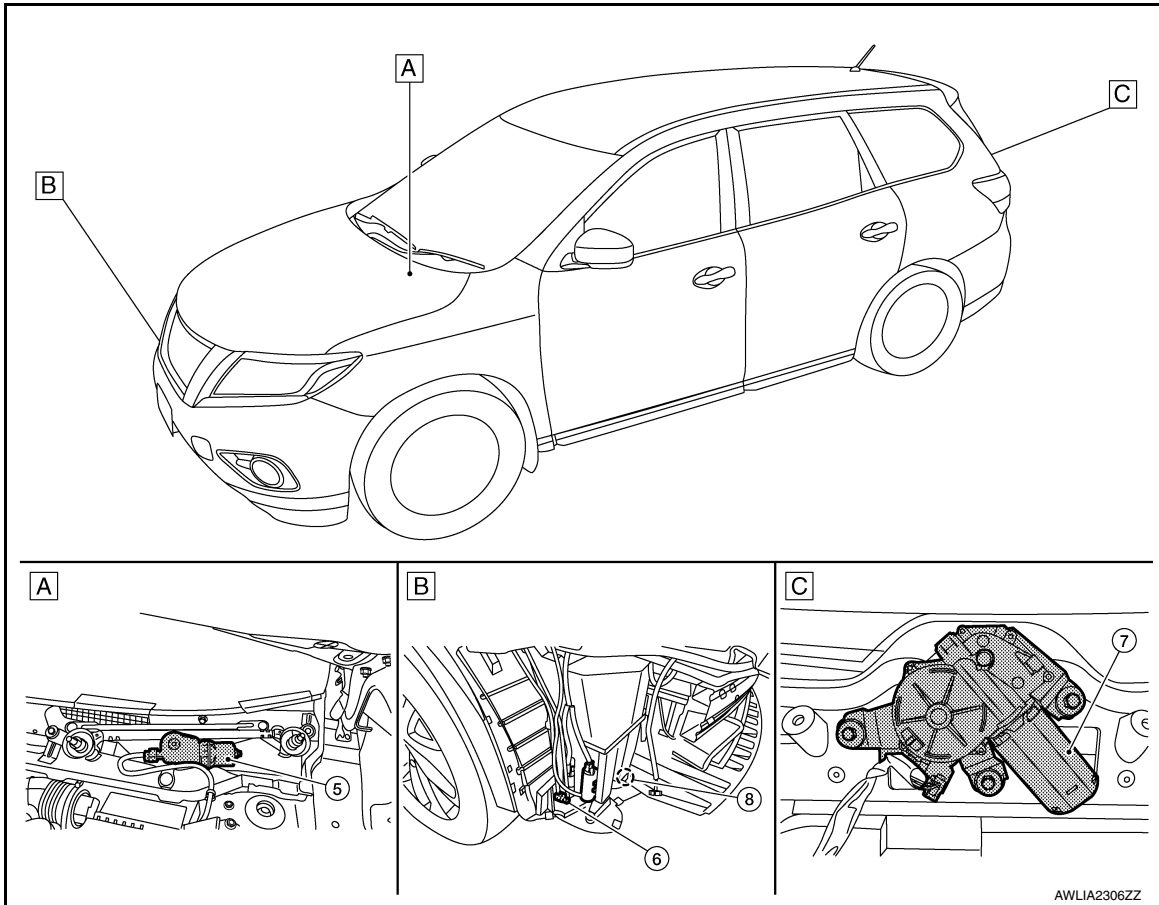
< SYSTEM DESCRIPTION >

SYSTEM DESCRIPTION

COMPONENT PARTS

Component Parts Location

INFOID:000000010244314



- A. View of cowl area (with cowl top cover removed) B. RH front of vehicle (with front bumper fascia removed) C. View with back door finisher removed

No.	Component	Function
1.	Combination switch (Wiper and washer switch)	Refer to WW-8. "FRONT WIPER AND WASHER SYSTEM : System Description" . Refer to BCS-76. "Removal and Installation" .
2.	Combination meter	Transmits the vehicle speed signal to BCM via CAN communication.
3.	IPDM E/R	<ul style="list-style-type: none"> 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.	BCM	<ul style="list-style-type: none"> 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" .
5.	Front wiper motor	Refer to WW-7. "Front wiper motor" .
6.	Front and rear washer motor	Refer to WW-7. "Washer pump" .
7.	Rear wiper motor	Refer to WW-7. "Rear wiper motor" .
8.	Washer Fluid Level Switch	Transmits the washer fluid level switch signal to the combination meter.

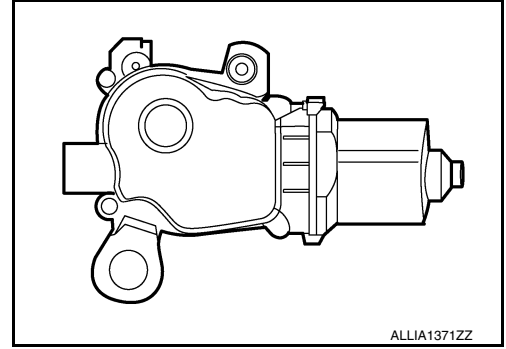
COMPONENT PARTS

< SYSTEM DESCRIPTION >

Front wiper motor

INFOID:000000010244316

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

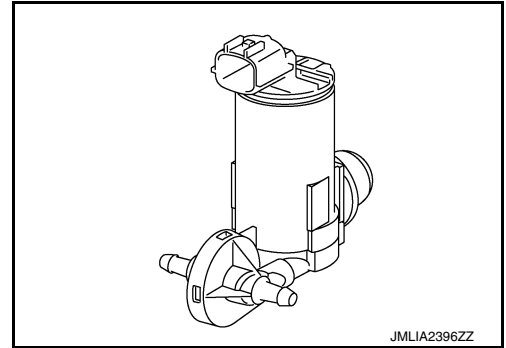


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Washer pump

INFOID:000000010244317

- 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.

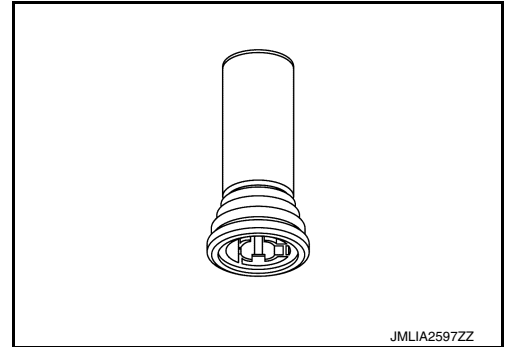


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Washer fluid level switch

INFOID:000000010330262

Detects that washer fluid level is low and transmits washer fluid level switch signal to combination meter.



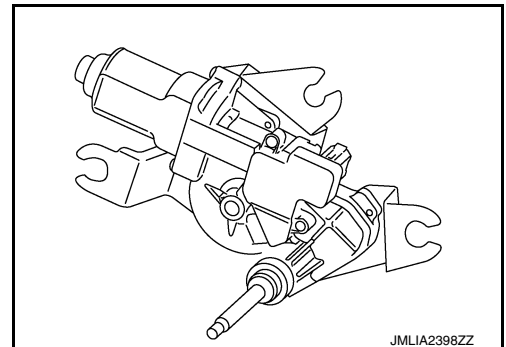
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Rear wiper motor

INFOID:000000010244319

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



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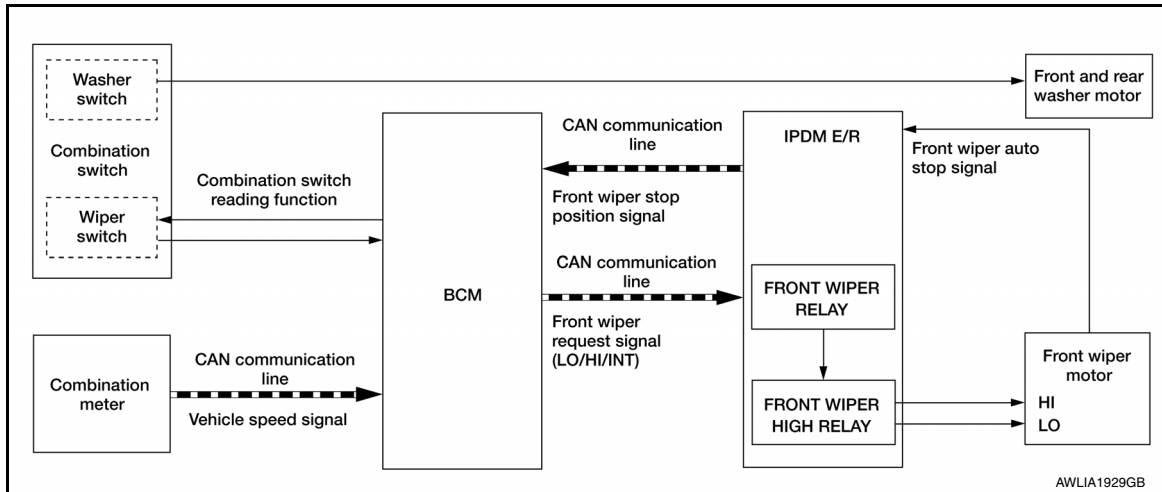
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SYSTEM

FRONT WIPER AND WASHER SYSTEM

FRONT WIPER AND WASHER SYSTEM : System Diagram

INFOID:000000010244388



FRONT WIPER AND WASHER SYSTEM : System Description

INFOID:000000010245858

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

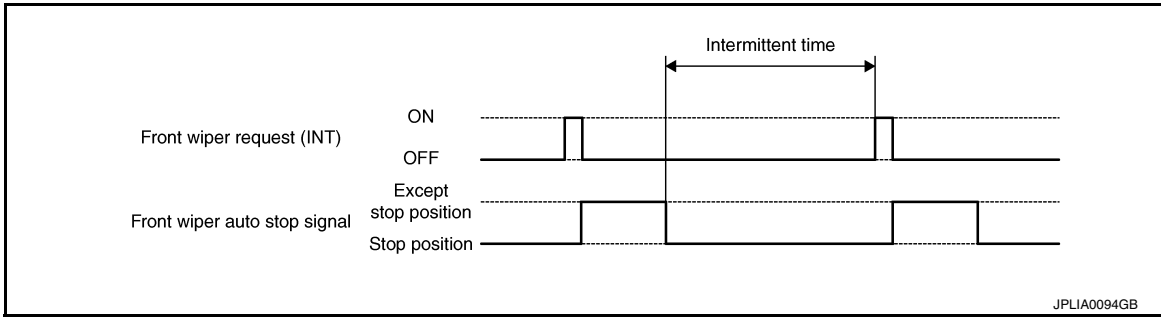
1. Ignition switch ON.
2. Front wiper switch in HI.
3. BCM reads the combination switch position and transmits the front wiper request signal (HI) to IPDM E/R using CAN communication.
4. IPDM E/R turns ON the front wiper relay and the front wiper high relay.

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.

SYSTEM

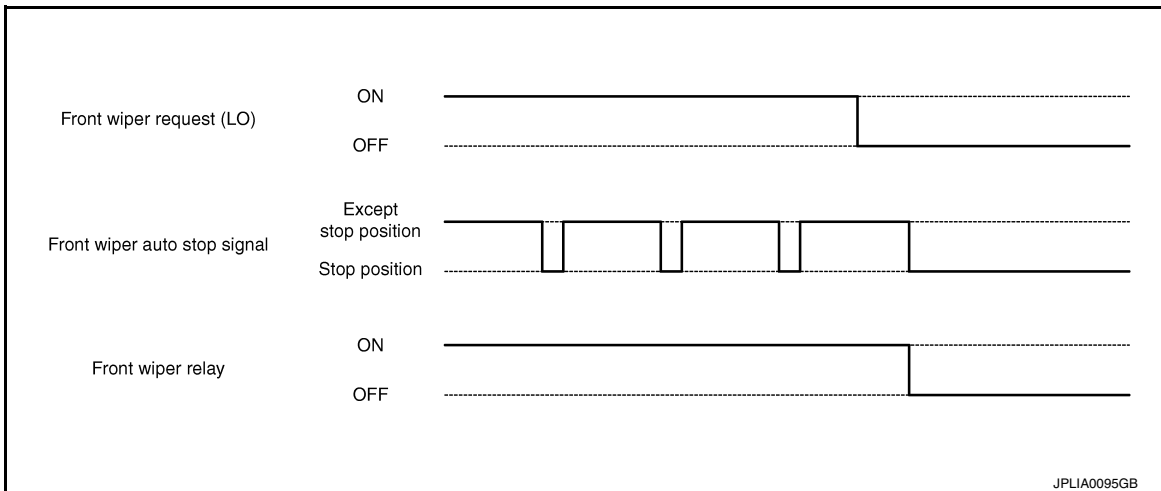
< SYSTEM DESCRIPTION >



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.

SYSTEM

< SYSTEM DESCRIPTION >

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:000000010244409

FAIL-SAFE OPERATION

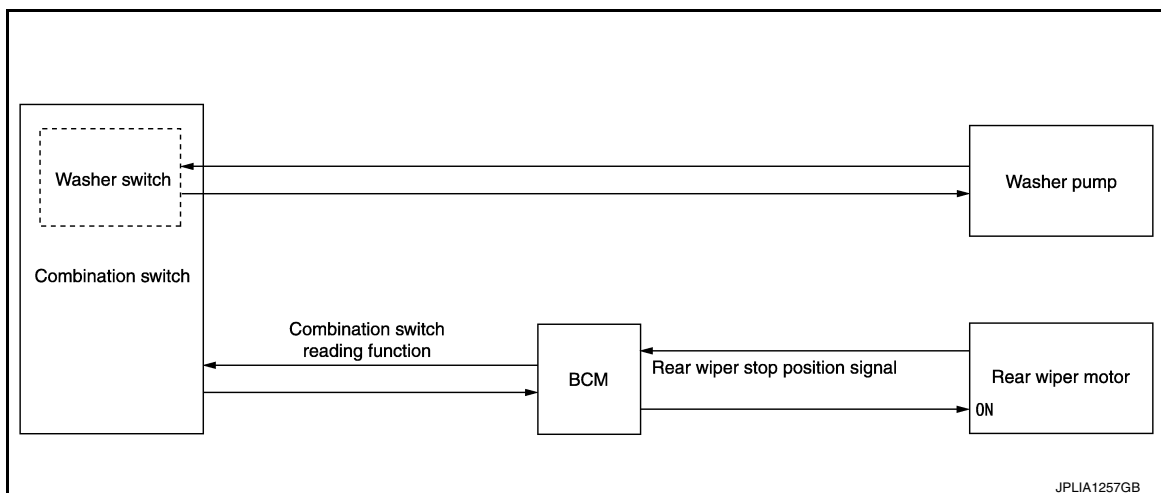
IPDM E/R performs the fail-safe function when the front wiper auto stop circuit is malfunctioning. Refer to [WW-10. "FRONT WIPER AND WASHER SYSTEM : Fail-Safe"](#).

REAR WIPER AND WASHER SYSTEM

REAR WIPER AND WASHER SYSTEM : System Description

INFOID:000000010244322

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.

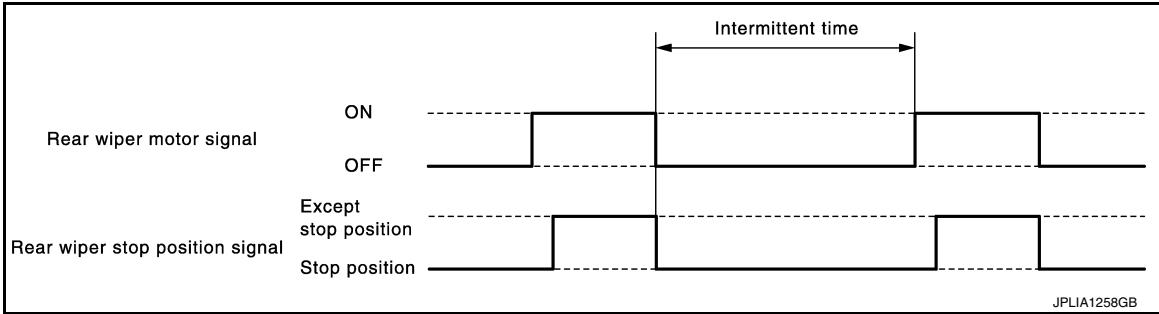
Rear wiper INT operating condition

- Power switch ON

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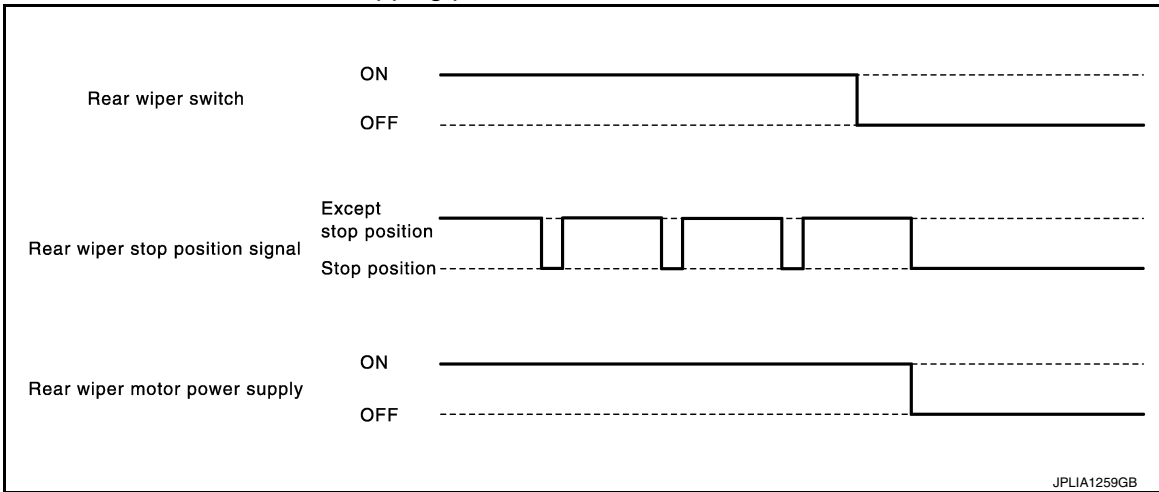
< SYSTEM DESCRIPTION >

- 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:000000010244323

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) (WITH INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000010350464

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	<ul style="list-style-type: none"> 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			×				
TPMS	AIR PRESSURE MONITOR		×	×	×	×		

WIPER

DIAGNOSIS SYSTEM (BCM) (WITH INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

WIPER : CONSULT Function (BCM - WIPER)

INFOID:000000010350465

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.

*: Initial Setting

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DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM) COMMON ITEM

COMMON ITEM : CONSULT Function (BCM - COMMON ITEM)

INFOID:000000010350466

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	<ul style="list-style-type: none"> • 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			x	x	x		
Rear window defogger	REAR DEFOGGER			x	x	x		
Warning chime	BUZZER			x	x			
Interior room lamp timer	INT LAMP			x	x	x		
Remote keyless entry system	MULTI REMOTE ENT					x		
Exterior lamp	HEADLAMP			x	x			
Wiper and washer	WIPER			x	x	x		
Turn signal and hazard warning lamps	FLASHER			x	x			
Combination switch	COMB SW			x				
BCM	BCM	x	x			x	x	x
Immobilizer	IMMU		x		x			
Interior room lamp battery saver	BATTERY SAVER			x	x			
Back door open	TRUNK			x				
Vehicle security system	THEFT ALM			x	x	x		
RAP system	RETAINED PWR			x				
TPMS	AIR PRESSURE MONITOR		x	x	x	x		

WIPER

WIPER : CONSULT Function (BCM - WIPER)

INFOID:000000010350467

DATA MONITOR

DIAGNOSIS SYSTEM (BCM) (WITHOUT INTELLIGENT KEY SYSTEM)

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description	
FR WIPER HI [On/Off]	Indicates condition of wiper operation of combination switch.	A
FR WIPER LOW [On/Off]		B
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.	C
INT VOLUME [1 – 4]	Indicates condition of intermittent wiper operation of combination switch.	
RR WIPER ON [On/Off]	Indicates condition of rear wiper operation of combination switch.	D
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.	E

ACTIVE TEST

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

WORK SUPPORT

Support Item	Setting	Description	
WIPER SPEED SETTING	On	Front wiper intermittent time linked with vehicle speed and wiper intermittent dial position.	H
	Off*	Front wiper intermittent time is not linked with vehicle speed and wiper intermittent dial position.	I

*: Initial Setting

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DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

DIAGNOSIS SYSTEM (IPDM E/R)

CONSULT Function (IPDM E/R)

INFOID:000000010346177

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.
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-20. "DTC Index"](#).

DATA MONITOR

Monitor Item [Unit]	Description
REVERSE SIGNAL [Open/Close]	Indicates Open-Close.
IGN RELAY [Open/Close]	Indicates Open-Close.
PUSH SW [Open/Close]	Indicates Open-Close.
NEUTRAL SW [Open/Close]	Indicates Open-Close.
INTERLOCK/PNP SW [Open/Close]	Indicates Open-Close.
OIL PRESSURE SW [Open/Close]	Indicates Open-Close.
LED H/L RH STATUS [Open/Close]	Indicates Open-Close.
LED H/L LH STATUS [Open/Close]	Indicates Open-Close.
HOOD SW [Open/Close]	Indicates Open-Close.
SS STARTER RLY DIAG [Low/High]	Indicates Low-High.
DI LI RLY EXT CONTROL 1 [Low/High]	Indicates Low-High.
DI LI RLY EXT CONTROL 2 [Low/High]	Indicates Low-High.
EXT MOTOR FAN1 DIAG [Low/High]	Indicates Low-High.
EXT MOTOR FAN2 DIAG [Low/High]	Indicates Low-High.
INTWkup [Awake/Sleep]	Indicates Awake-Sleep.
LO WASHER DIAG [Low/High]	Indicates Low-High.
COMPRESSOR [OFF/ON]	Indicates ON-OFF.
AWAKE SIGNAL [Awake/Sleep]	Indicates Awake-Sleep.
CONTROL LIGHTING [OFF/ON]	Indicates ON-OFF.
HORN RELAY [OFF/ ON]	Indicates ON-OFF.
COOLING FAN [OFF/ON]	Indicates ON-OFF.
FRONT WIPER HI/LO RELAY [OFF/ON]	Indicates ON-OFF.
FRONT WIPER RELAY [OFF/ON]	Indicates ON-OFF.
IGN RELAY OFF STATUS [OFF/ON]	Indicates ON-OFF.
IGN RELAY ON STATUS [OFF/ON]	Indicates ON-OFF.
HEIGHT SENSOR PWR SPLY [OFF/ON]	Indicates ON-OFF.
LEVELIZE GND ENABLE [OFF/ON]	Indicates ON-OFF.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description	
COOLING FAN RELAY 1 [OFF/ON]	Indicates ON-OFF.	A
OENO [output's mux disabled/output's mux enabled]	Indicates disabled-enabled.	B
VCC LIGHTING ENABLE [OFF/ON]	Indicates ON-OFF.	B
SS STARTER RLY [OFF/ON]	Indicates ON-OFF.	C
STARTER RELAY [OFF/ON]	Indicates ON-OFF.	C
SUPPLY HOOD SW PULL UP [OFF/ON]	Indicates ON-OFF.	D
COMP ECV DUTY [%]	Indicates percentage.	D
COOLING FAN RELAY 2 [%]	Indicates percentage.	D
FR FOG LAMP LH [%]	Indicates percentage.	E
FR FOG LAMP RH [%]	Indicates percentage.	E
LEVELIZER OUTPUT [%]	Indicates percentage.	F
PARKING LAMP [%]	Indicates percentage.	F
O FBL LH [%]	Indicates percentage.	F
O FBL RH [%]	Indicates percentage.	G
TAIL LAMP LH [%]	Indicates percentage.	G
TAIL LAMP RH [%]	Indicates percentage.	G
DAYTIME RUNNING LIGHT LH [%]	Indicates percentage.	H
DAYTIME RUNNING LIGHT RH [%]	Indicates percentage.	H
HEADLAMP (HI) LH [%]	Indicates percentage.	I
HEADLAMP (HI) RH [%]	Indicates percentage.	I
HEADLAMP (LO) LH [%]	Indicates percentage.	I
HEADLAMP (LO) RH [%]	Indicates percentage.	I
A/C RELAY STUCK [NG/OK]	Indicates CAN output.	J
A/C RELAY [Off/On]	Indicates CAN output.	J
COMP ECV STATUS [NG/OK]	Indicates CAN output.	K
VEHICLE SECURITY HORN [OFF/ON]	Indicates CAN output.	K
BATTERY CURRENT SENSOR [NG/OK]	Indicates CAN output.	K
BattWarnReq Level Hi USM [No Battery Warning Level-Hi requested/Battery Warning Level-Hi requested]	Indicates CAN output.	WW
BattWarnReq Level Lo USM [No Battery Warning Level-Lo requested/Battery Warning Level-Lo requested]	Indicates CAN output.	M
FRONT FOG LAMP [OFF/ON]	Indicates CAN output.	N
COMP ECV CURRENT [A]	Indicates CAN output.	N
BatterySetPointGeneratorStatus [nominal mode/default detected/default confirmed/battery disconnected]	Indicates CAN output.	O
BATTERY VOLTAGE [V]	Indicates CAN output.	O
COOLING FAN DUTY [%]	Indicates CAN output.	P
HOOD SW (CAN) [Open/Close]	Indicates CAN output.	P
FRONT WIPER [STOP/LO/HI]	Indicates CAN output.	P
FR WIPER STOP POSITION [STOP P]	Indicates CAN output.	P
HEADLAMP (HI) [OFF/ON]	Indicates CAN output.	P
HEADLAMP (LO) [OFF/ON]	Indicates CAN output.	P
IGNITION RELAY STATUS [OFF/ON]	Indicates CAN output.	P

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
IGN RELAY MONITOR [OFF/ON]	Indicates CAN output.
IGNITION POWER SUPPLY [OFF/ON]	Indicates CAN output.
INTERLOCK/PNP SW (CAN) [OFF/ON]	Indicates CAN output.
IdleSpeedInhibitionRequest [IdleSpeed Inhibition Requested/IdleSpeed Inhibition not Requested]	Indicates CAN output.
IdleSpeedInhibitionRequest copy [IdleSpeed Inhibition Requested/IdleSpeed Inhibition not Requested]	Indicates CAN output.
NEUTRAL SWITCH (CAN) [NG/OK]	Indicates CAN output.
PUSH-BUTTON IGN SW (CAN) [OFF/ON]	Indicates CAN output.
TAIL LAMP [OFF/ON]	Indicates CAN output.
REVERSE SIGNAL (CAN) [OFF/ON]	Indicates CAN output.
ST CUT/StarterRelayCondition [ST CUT relay off & Starter relay off/ST CUT relay off & Starter relay on/ST CUT relay on]	Indicates CAN output.
STARTER MOTOR STATUS [OFF/ON]	Indicates CAN output.
STARTER RELAY (CAN) [LOW/HIGH]	Indicates CAN output.
IPDM NOT SLEEP [NO RDY/RDY]	Indicates CAN output.
FrontWiperStatus [STOP/LO/HI]	Indicates CAN output.
AFTER COOLING TIME [No request]	Indicates CAN input.
AFTER COOLING SPEED [%]	Indicates CAN input.
COOLING FAN TYPE [NISSAN/RENAULT]	Indicates CAN input.
ACCompClutchActivation [no compressor activation requested/compressor activation requested]	Indicates CAN input.
COMPRESSOR REQ1 [OFF/ON]	Indicates CAN input.
VHCL SECURITY HORN REQ [OFF/ON]	Indicates CAN input.
DTRL REQ [OFF/ON]	Indicates CAN input.
SLEEP/WAKE UP [WAKEUP/SLEEP]	Indicates CAN input.
BrakeInfoStatus [Brake pedal not pressed/Brake pedal pressed/Brake pedal confirmed pressed]	Indicates CAN input.
CRANKING ENABLE-TCM [NG/OK]	Indicates CAN input.
CRANKING ENABLE-ECM [NG/OK]	Indicates CAN input.
DeliveryModelInfo [customer mode/delivery mode]	Indicates CAN input.
CAN DIAGNOSIS [NG/OK]	Indicates CAN input.
FRONT FOG LAMP REQ [OFF/ON]	Indicates CAN input.
PASSING REQ [OFF/ON]	Indicates CAN input.
HIGH BEAM REQ [OFF/ON]	Indicates CAN input.
HORN CHARP [OFF/ON]	Indicates CAN input.
ElectricalPowerCutFreeze [No request/PTC freeze/PTC cut request]	Indicates CAN input.
COOLING FAN REQ [%]	Indicates CAN input.
ENGINE STATUS [STOP/RUN]	Indicates CAN input.
TURN SIGNAL REQ [OFF/ON]	Indicates CAN input.
FR WIPER REQ [RETURN/LOW/HIGH]	Indicates CAN input.
SHIFT POSITION [P/R/N/D/S/L]	Indicates CAN input.

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description	
LOW BEAM REQ [OFF/ON]	Indicates CAN input.	A
POSITION LIGHT REQ [OFF/ON]	Indicates CAN input.	
RSTREQ [no engine start request/engine start request]	Indicates CAN input.	B
COMPRESSOR REQ2 [OFF/ON]	Indicates CAN input.	
PumpActivationRequest BCM [NG/OK]	Indicates CAN input.	
IGNITION SW [OFF/ON]	Indicates CAN input.	C
VEHICLE SPEED (METER) [mph/km/h]	Indicates CAN input.	
BAT DISCHARGE COUNT [Ah]	Indicates CAN input.	D
P LAMP CIRC MALFUNCTN [%]	Indicates CAN input.	
NMB P LAMP CIRC RETRY [%]	Indicates CAN input.	
NMB P LAMP CIRC SHORT [%]	Indicates CAN input.	E
DTRL LH CIRC MALFUNCTN [%]	Indicates CAN input.	
NMB DTRL LH CIRC RETRY [%]	Indicates CAN input.	
NMB DTRL LH CIRC SHORT [%]	Indicates CAN input.	F
DTRL RH CIRC MALFUNCTN [%]	Indicates CAN input.	
NMB DTRL RH CIRC RETRY [%]	Indicates CAN input.	
NMB DTRL RH CIRC SHORT [%]	Indicates CAN input.	G
S K FBL LH NbDealerRsts [%]	Indicates CAN input.	
S K FBL LH NbOfMissions [%]	Indicates CAN input.	H
S K FBL LH RetrPerMiss [%]	Indicates CAN input.	
S K FBL RH NbDealerRsts [%]	Indicates CAN input.	
S K FBL RH NbOfMissions [%]	Indicates CAN input.	I
S K FBL RH RetrPerMiss [%]	Indicates CAN input.	
F FOG LH CIRC MALFUNCTN [%]	Indicates CAN input.	J
NMB F FOG LH CIRC RETRY [%]	Indicates CAN input.	
NMB F FOG LH CIRC SHORT [%]	Indicates CAN input.	
F FOG RH CIRC MALFUNCTN [%]	Indicates CAN input.	K
NMB F FOG RH CIRC RETRY [%]	Indicates CAN input.	
NMB F FOG RH CIRC SHORT [%]	Indicates CAN input.	WW
HL (HI) LH CIRC MALFUNCTN [%]	Indicates CAN input.	
NMB HL (HI) LH CIRC RETRY [%]	Indicates CAN input.	
NMB HL (HI) LH CIRC SHORT [%]	Indicates CAN input.	M
HL (HI) RH CIRC MALFUNCTN [%]	Indicates CAN input.	
NMB HL (HI) RH CIRC RETRY [%]	Indicates CAN input.	
NMB HL (HI) RH CIRC SHORT [%]	Indicates CAN input.	N
HL (LO) LH CIRC MALFUNCTN [%]	Indicates CAN input.	
NMB HL (LO) LH CIRC RETRY [%]	Indicates CAN input.	
NMB HL (LO) LH CIRC SHORT [%]	Indicates CAN input.	O
HL (LO) RH CIRC MALFUNCTN [%]	Indicates CAN input.	
NMB HL (LO) RH CIRC RETRY [%]	Indicates CAN input.	
NMB HL (LO) RH CIRC SHORT [%]	Indicates CAN input.	P
T LAMP LH CIRC MALFUNCTN [%]	Indicates CAN input.	
NMB T LAMP LH CIRC RETRY [%]	Indicates CAN input.	
NMB T LAMP LH CIRC SHORT [%]	Indicates CAN input.	

DIAGNOSIS SYSTEM (IPDM E/R)

< SYSTEM DESCRIPTION >

Monitor Item [Unit]	Description
T LAMP RH CIRC MALFUNCTN [%]	Indicates CAN input.
NMB T LAMP RH CIRC RETRY [%]	Indicates CAN input.
NMB T LAMP RH CIRC SHORT [%]	Indicates CAN input.
BAT CHARGE STATUS [%]	Indicates CAN input.

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/3/5].
HEADLAMP (LO)	This test is able to check headlamp low beam operation [Off/3/5].
FRONT FOG LAMP	This test is able to check front fog lamp operation [Off/3/5].
DAYTIME RUNNING LAMP	This test is able to check daytime running lamp operation [Off/3/5].
PARKING LAMP	This test is able to check parking lamp operation [Off/3/5].
TAIL LAMP	This test is able to check tail lamp operation [Off/3/5].
ECV	This test is able to check ECV operation [Off/3/5].
OPTIC AXIS ACTIVE TEST	This test is able to check optic axis operation [Default/Lower].

WORK SUPPORT

Support Item	Description
SENSOR INITIALIZE	
CML B/DCHRG CRNT CLEAR	

*: Initial setting

CAN DIAG SUPPORT MNTR

Refer to [LAN-14, "CAN Diagnostic Support Monitor"](#).

BCM

< ECU DIAGNOSIS INFORMATION >

ECU DIAGNOSIS INFORMATION

BCM

List of ECU Reference

INFOID:0000000010346178

ECU	Reference
BCM (with Intelligent Key system)	BCS-28, "Reference Value"
	BCS-47, "Fail Safe"
	BCS-47, "DTC Inspection Priority Chart"
	BCS-48, "DTC Index"
BCM (without Intelligent Key system)	BCS-96, "Reference Value"
	BCS-107, "Fail Safe"
	BCS-107, "DTC Inspection Priority Chart"
	BCS-108, "DTC Index"

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FRONT WIPER AND WASHER SYSTEM

< WIRING DIAGRAM >

WIRING DIAGRAM

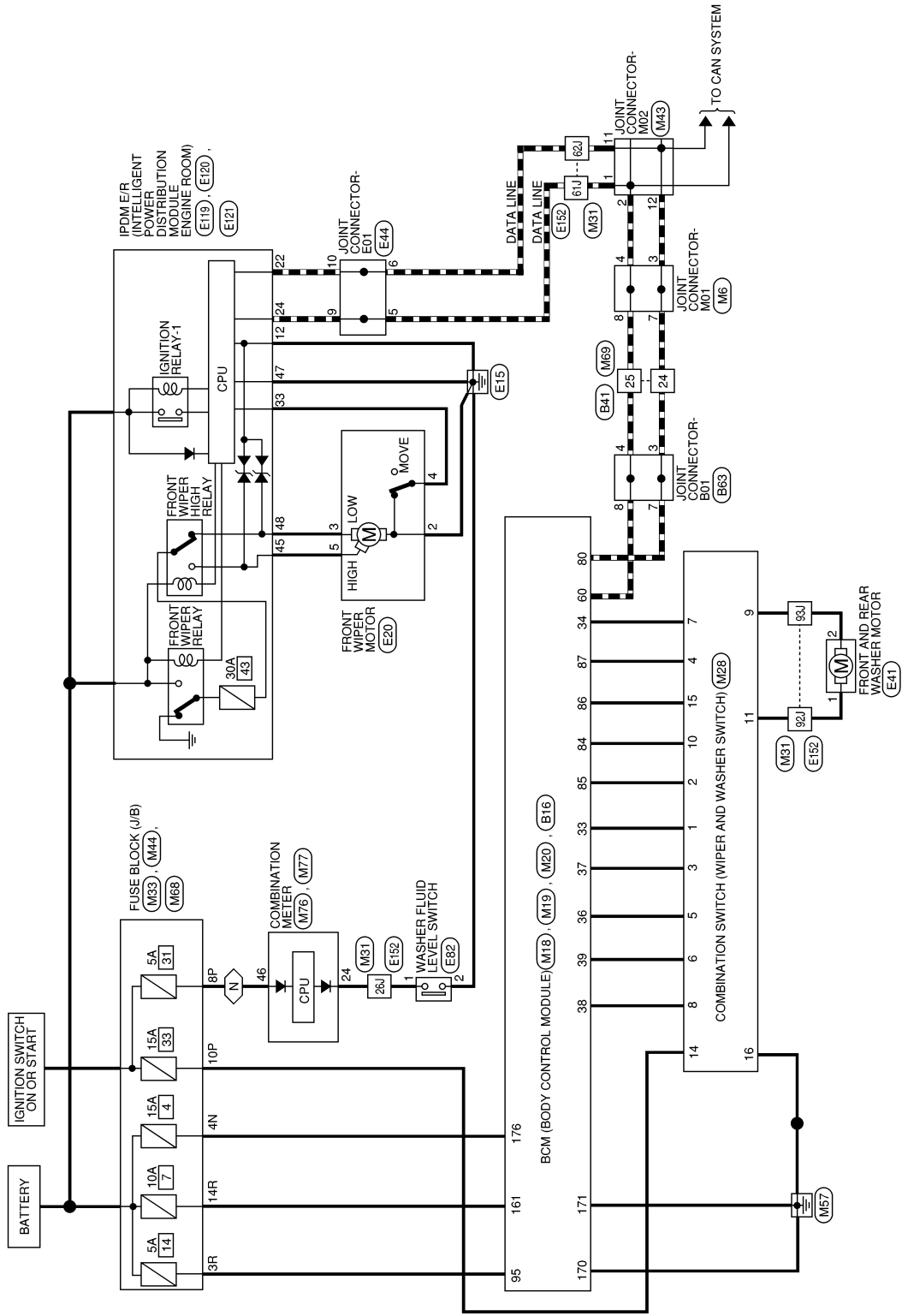
FRONT WIPER AND WASHER SYSTEM

Wiring Diagram

INFOID:000000010288644

N : FOR CANADA

FRONT WIPER AND WASHER SYSTEM



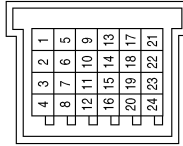
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FRONT WIPER AND WASHER SYSTEM

< WIRING DIAGRAM >

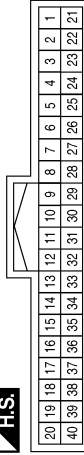
FRONT WIPER AND WASHER SYSTEM CONNECTORS

Connector No.	M6
Connector Name	JOINT CONNECTOR-M01
Connector Color	GRAY



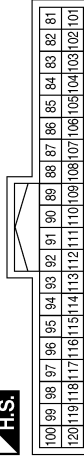
Terminal No.	Color of Wire	Signal Name
3	P	-
4	L	-
7	P	-
8	L	-

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
33	LG	I CSW 5
34	Y	0 CSW 5
36	G	I CSW 3
37	GR	I CSW 4
38	V	I CSW 1
39	W	I CSW 2

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



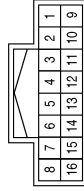
Terminal No.	Color of Wire	Signal Name
84	BR	0 CSW 2
85	SB	0 CSW 1
86	P	0 CSW 3
87	BG	0 CSW 4
95	V	I SHORTING PIN

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
161	W	I PWR ECU
170	B	I GND1
171	B	I GND2
176	LG	I PWR WIPER

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	LG	-
2	SB	-
3	GR	-
4	BG	-

Terminal No.	Color of Wire	Signal Name
5	G	-
6	W	-
7	Y	-
8	V	-
9	G	-
10	BR	-
11	Y	-
14	LG	-
15	P	-
16	GR	-

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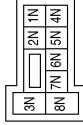
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FRONT WIPER AND WASHER SYSTEM

< WIRING DIAGRAM >

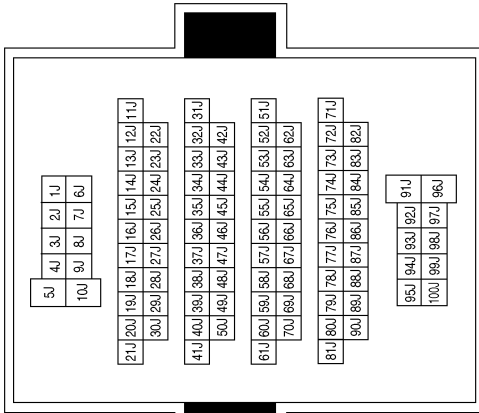
Connector No.	M33
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	4N	Color of Wire	LG	Signal Name	-
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Terminal No.	Color of Wire	Signal Name
26J	BR	-
61J	L	-
62J	P	-
92J	Y	-
93J	G	-

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN



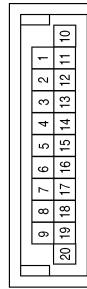
Terminal No.	3R	Color of Wire	V	Signal Name	-
	14R	Color of Wire	W	Signal Name	-

Connector No.	M44
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	8P	Color of Wire	L/VBR	Signal Name	-
	10P	Color of Wire	LG	Signal Name	-

Connector No.	M43
Connector Name	JOINT CONNECTOR-M02
Connector Color	BLUE



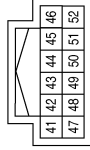
Terminal No.	1	Color of Wire	L	Signal Name	-
	2	Color of Wire	L	Signal Name	-
	11	Color of Wire	P	Signal Name	-
	12	Color of Wire	P	Signal Name	-

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FRONT WIPER AND WASHER SYSTEM

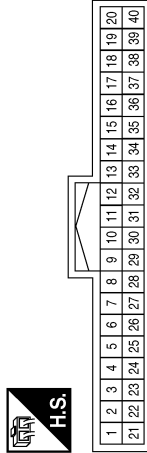
< WIRING DIAGRAM >

Connector No.	M77
Connector Name	COMBINATION METER
Connector Color	WHITE



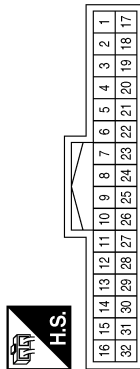
Terminal No.	Color of Wire	Signal Name
46	V	IGN

Connector No.	M76
Connector Name	COMBINATION METER
Connector Color	WHITE



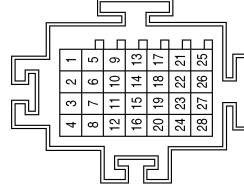
Terminal No.	Color of Wire	Signal Name
24	BR	WASHER SW

Connector No.	M69
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
24	P	-
25	L	-

Connector No.	E44
Connector Name	JOINT CONNECTOR-E01
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
5	L	-
6	P	-
9	L	-
10	P	-

Connector No.	E41
Connector Name	FRONT AND REAR WASHER MOTOR
Connector Color	BLACK



Terminal No.	Color of Wire	Signal Name
1	LG	-
2	L	-

Connector No.	E20
Connector Name	FRONT WIPER MOTOR
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
1	-	-
2	B	-
3	Y	-
4	BR	-
5	V	-

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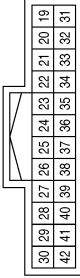
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FRONT WIPER AND WASHER SYSTEM


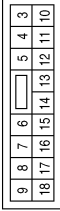
< WIRING DIAGRAM >

Connector No.	E120
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
22	P	CAN-L
24	L	CAN-H
33	BR	I AUTO STOP WIPER

Connector No.	E119
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	GRAY

Terminal No.	Color of Wire	Signal Name
12	B	SIGNAL GROUND


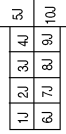
Connector No.	E82
Connector Name	WASHER FLUID LEVEL SWITCH
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	BR	-
2	B	-

Terminal No.	Color of Wire	Signal Name
26J	BR	-
61J	L	-
62J	P	-
92J	LG	-
93J	L	-

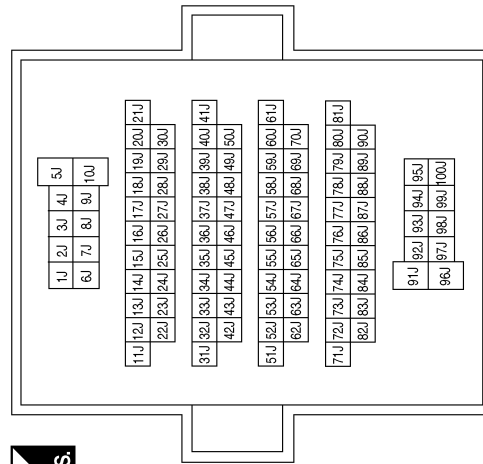
Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE

Connector No.	E121
Connector Name	IPDM E/R (INTELLIGENT POWER DISTRIBUTION MODULE ENGINE ROOM)
Connector Color	RED

Terminal No.	Color of Wire	Signal Name
45	V	O FR WIPER HI
47	B	POWER GROUND
48	Y	O FR WIPER LO



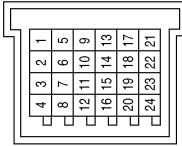
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FRONT WIPER AND WASHER SYSTEM

< WIRING DIAGRAM >

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Connector No.	B63
Connector Name	JOINT CONNECTOR-B01
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
3	P	-
4	L	-
7	P	-
8	L	-

AALIA2183GB

REAR WIPER AND WASHER SYSTEM

< WIRING DIAGRAM >

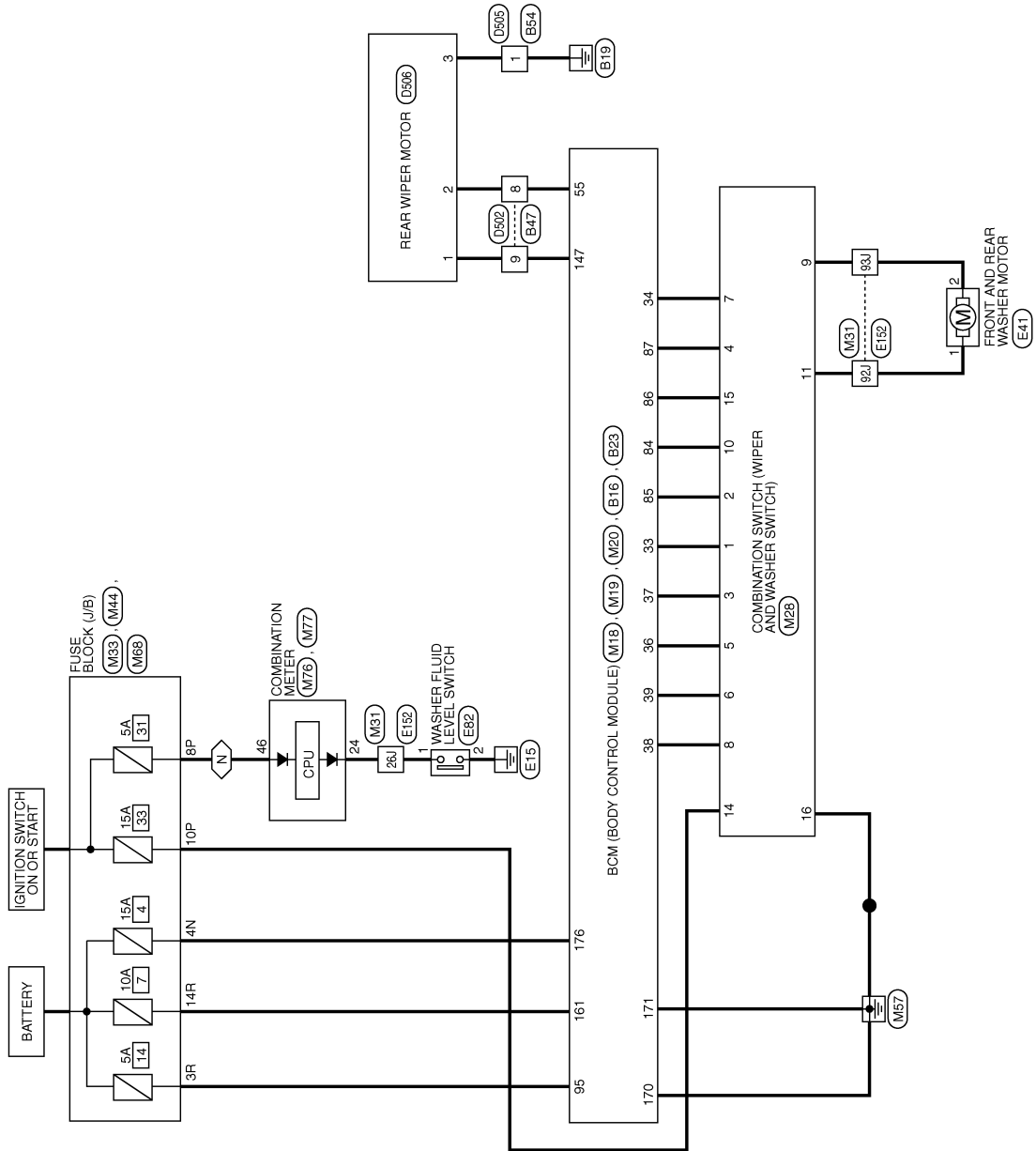
REAR WIPER AND WASHER SYSTEM

Wiring Diagram

INFOID:000000010245874

N : FOR CANADA

REAR WIPER AND WASHER SYSTEM



AALWA0781GB

REAR WIPER AND WASHER SYSTEM

< WIRING DIAGRAM >

REAR WIPER AND WASHER SYSTEM CONNECTORS

Connector No.	M18
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GRAY



20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21

Connector No.	M19
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BLACK



100	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

Connector No.	M20
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	BROWN



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

Terminal No.	Color of Wire	Signal Name
33	LG	I CSW 5
34	Y	0 CSW 5
36	G	I CSW 3
37	GR	I CSW 4
38	V	I CSW 1
39	W	I CSW 2

Terminal No.	Color of Wire	Signal Name
84	BR	0 CSW 2
85	SB	0 CSW 1
86	P	0 CSW 3
87	BG	0 CSW 4
95	V	SHORTING PIN

Terminal No.	Color of Wire	Signal Name
161	W	I PWR ECU
170	B	I GND1
171	B	I GND2
176	LG	I PWR WIPER

Connector No.	M28
Connector Name	COMBINATION SWITCH
Connector Color	WHITE



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	-
2	SB	-
3	GR	-
4	BG	-

Terminal No.	Color of Wire	Signal Name
5	G	-
6	W	-
7	Y	-
8	V	-
9	G	-
10	BR	-
11	Y	-
14	LG	-
15	P	-
16	GR	-

AALIA2205GB

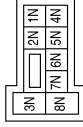
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WW

REAR WIPER AND WASHER SYSTEM

< WIRING DIAGRAM >

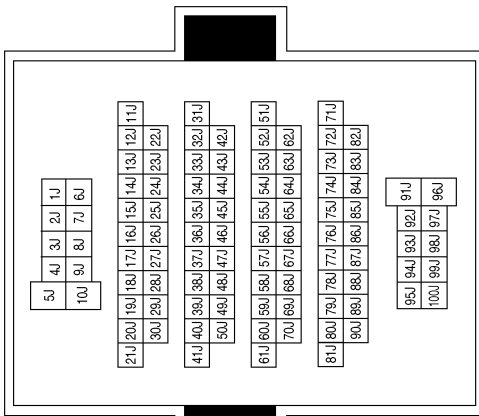
Connector No.	M33
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



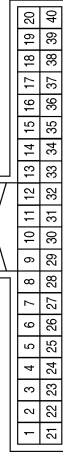
Terminal No.	4N	Color of Wire	LG	Signal Name	-
--------------	----	---------------	----	-------------	---

Terminal No.	Color of Wire	Signal Name
26J	BR	-
92J	Y	-
93J	G	-

Connector No.	M31
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Connector No.	M76
Connector Name	COMBINATION METER
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
24	BR	WASHER SW

Connector No.	M68
Connector Name	FUSE BLOCK (J/B)
Connector Color	BROWN



Terminal No.	Color of Wire	Signal Name
3R	V	-
14R	W	-

Connector No.	M44
Connector Name	FUSE BLOCK (J/B)
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
8P	LA/BR	-
10P	LG	-

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REAR WIPER AND WASHER SYSTEM

< WIRING DIAGRAM >

Connector No.	E82
Connector Name	WASHER FLUID LEVEL SWITCH
Connector Color	WHITE



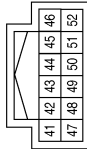
Terminal No.	Color of Wire	Signal Name
1	BR	-
2	B	-

Connector No.	E41
Connector Name	FRONT AND REAR WASHER MOTOR
Connector Color	BLACK



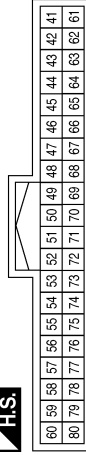
Terminal No.	Color of Wire	Signal Name
1	LG	-
2	L	-

Connector No.	M77
Connector Name	COMBINATION METER
Connector Color	WHITE



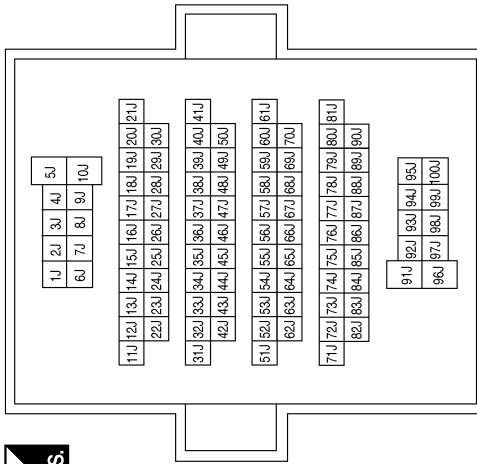
Terminal No.	Color of Wire	Signal Name
46	V	IGN

Connector No.	B16
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GREEN



Terminal No.	Color of Wire	Signal Name
26J	BR	-
92J	LG	-
93J	L	-

Connector No.	E152
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
55	LA/G	IRR AUTOSTOP SW

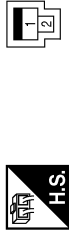
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A B C D E F G H I J K WW M N O P

REAR WIPER AND WASHER SYSTEM

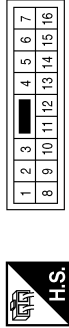
< WIRING DIAGRAM >

Connector No.	B54
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	B47
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
8	LA/G	-
9	LA/R	-

Connector No.	B23
Connector Name	BCM (BODY CONTROL MODULE)
Connector Color	GRAY



Terminal No.	Color of Wire	Signal Name
147	LA/R	0 RR WIPER

Connector No.	D506
Connector Name	REAR WIPER MOTOR
Connector Color	WHITE



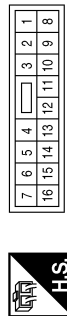
Terminal No.	Color of Wire	Signal Name
1	GR	-
2	G	-
3	B	-

Connector No.	D505
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
1	B	-

Connector No.	D502
Connector Name	WIRE TO WIRE
Connector Color	WHITE



Terminal No.	Color of Wire	Signal Name
8	G	-
9	GR	-

AALIA2208GB

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

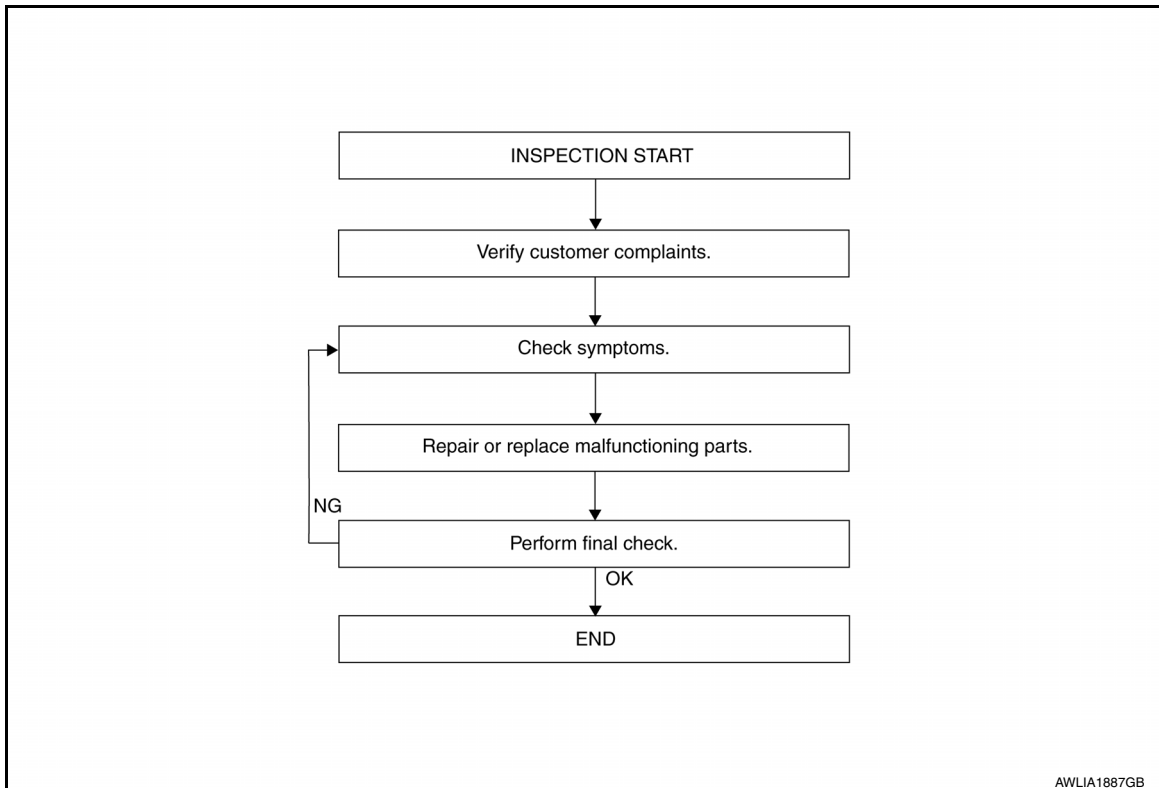
BASIC INSPECTION

DIAGNOSIS AND REPAIR WORKFLOW

Work Flow

INFOID:000000010245881

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-50. "Symptom Table"](#).

>> GO TO 4.

4. REPAIR OR REPLACE MALFUNCTIONING PARTS

Repair or replace the specific parts.

>> GO TO 5.

5. FINAL CHECK

DIAGNOSIS AND REPAIR WORKFLOW

< BASIC INSPECTION >

Perform a final inspection of the system.

Is the inspection result normal?

YES >> Inspection End.

NO >> GO TO 2.

WIPER AND WASHER FUSE

< DTC/CIRCUIT DIAGNOSIS >

DTC/CIRCUIT DIAGNOSIS

WIPER AND WASHER FUSE

Description

INFOID:0000000010245886

Component	Capacity	Fuse No.	Location
Front wiper motor	30 A	43	IPDM E/R
Front and rear washer motor	10 A	7	Fuse block (J/B)

Diagnosis Procedure

INFOID:0000000010245887

1. CHECK FUSES

Check that the following fuses are not blown.

Component	Capacity	Fuse No.	Location
Front wiper motor	30 A	43	IPDM E/R
Front and rear washer motor	10 A	7	Fuse block (J/B)

Is the fuse blown?

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

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FRONT WIPER MOTOR LO CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

FRONT WIPER MOTOR LO CIRCUIT

Component Function Check

INFOID:000000010245888

1. CHECK FRONT WIPER LO OPERATION

Ⓟ CONSULT ACTIVE TEST

1. Select FR WIPER of BCM (WIPER) active test item.
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-36, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010245889

Regarding Wiring Diagram information, refer to [WW-22, "Wiring Diagram"](#).

1. CHECK FRONT WIPER MOTOR FUSE

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

Component	Capacity	Fuse No.	Location
Front wiper motor	30 A	43	IPDM E/R

Is the fuse blown?

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

2. CHECK FRONT WIPER MOTOR (LO) OUTPUT VOLTAGE

1. Turn the ignition switch ON.
2. Select FR WIPER of BCM (WIPER) active test item.
3. While performing the active test, check voltage between IPDM E/R harness connector and ground.

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

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace IPDM E/R. Refer to [PCS-35, "Removal and Installation"](#).

3. CHECK FRONT WIPER MOTOR (LO) OPEN CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect IPDM E/R and front wiper motor.
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

Is the inspection result normal?

- YES >> Replace front wiper motor. Refer to [WW-67, "Removal and Installation"](#).

FRONT WIPER MOTOR LO CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair or replace harness.

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FRONT WIPER MOTOR HI CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

FRONT WIPER MOTOR HI CIRCUIT

Component Function Check

INFOID:000000010245890

1. CHECK FRONT WIPER HI OPERATION

ⓐ CONSULT ACTIVE TEST

1. Select FR WIPER of BCM (WIPER) active test item.
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-38, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010245891

Regarding Wiring Diagram information, refer to [WW-22, "Wiring Diagram"](#).

1. CHECK FRONT WIPER MOTOR FUSE

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

Component	Capacity	Fuse No.	Location
Front wiper motor	30 A	43	IPDM E/R

Is the fuse blown?

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

2. CHECK FRONT WIPER MOTOR (HI) OUTPUT VOLTAGE

1. Turn the ignition switch ON.
2. Select FR WIPER of BCM (WIPER) active test item.
3. While performing the active test, check voltage between IPDM E/R harness connector and ground.

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

Is the inspection result normal?

- YES >> GO TO 3.
NO >> Replace IPDM E/R. Refer to [PCS-35, "Removal and Installation"](#).

3. CHECK FRONT WIPER MOTOR (HI) OPEN CIRCUIT

1. Turn the ignition switch OFF.
2. Disconnect IPDM E/R and front wiper motor.
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

Is the inspection result normal?

- YES >> Replace front wiper motor. Refer to [WW-67, "Removal and Installation"](#).

FRONT WIPER MOTOR HI CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

NO >> Repair or replace harness.

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FRONT WIPER AUTO STOP SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

FRONT WIPER AUTO STOP SIGNAL CIRCUIT

Component Function Check

INFOID:000000010245892

1. CHECK FRONT WIPER (AUTO STOP) SIGNAL

1. Select FR WIPER STOP of BCM (WIPER) data monitor item.
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-40. "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010245893

Regarding Wiring Diagram information, refer to [WW-22. "Wiring Diagram"](#).

1. CHECK FRONT WIPER MOTOR (AUTO STOP) OUTPUT VOLTAGE

1. Turn the ignition switch ON.
2. Check voltage between IPDM E/R harness connector and ground.

IPDM E/R		Ground	FRONT WIPER	Voltage (Approx.)
Connector	Terminal		Except stop position	Battery voltage
E120	33	Stop position	0 V	

Is the inspection result normal?

- YES >> Check for intermittent failure.
NO >> GO TO 2.

2. CHECK FRONT WIPER MOTOR (AUTO STOP) SHORT CIRCUIT

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

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

Is the inspection result normal?

- YES >> Repair or replace harness.
NO >> GO TO 3.

3. CHECK FRONT WIPER MOTOR (AUTO STOP) CIRCUIT CONTINUITY

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

Is the inspection result normal?

FRONT WIPER AUTO STOP SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

YES >> Replace front wiper motor. Refer to [WW-67, "Removal and Installation"](#).
NO >> Repair or replace harness.

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FRONT WIPER MOTOR GROUND CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

FRONT WIPER MOTOR GROUND CIRCUIT

Diagnosis Procedure

INFOID:000000010245894

Regarding Wiring Diagram information, refer to [WW-22. "Wiring Diagram"](#).

1. CHECK FRONT WIPER MOTOR GROUND CIRCUIT

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

Front wiper motor		Ground	Continuity
Connector	Terminal		Yes
E20	2		

Is the inspection result normal?

- YES >> Front wiper motor ground circuit is normal.
NO >> Repair or replace harness.

WASHER MOTOR CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

WASHER MOTOR CIRCUIT

Diagnosis Procedure

INFOID:000000010244387

Regarding Wiring Diagram information, refer to [WW-22, "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		Battery voltage
E41	1		

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		Yes
M28	16		

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-45, "Component Inspection"](#).

WASHER MOTOR CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

Is the inspection result normal?

- YES >> Replace front and rear washer motor. Refer to [WW-57, "Removal and Installation"](#).
- NO >> Replace wiper and washer switch. Refer to [BCS-76, "Removal and Installation"](#).

WASHER SWITCH

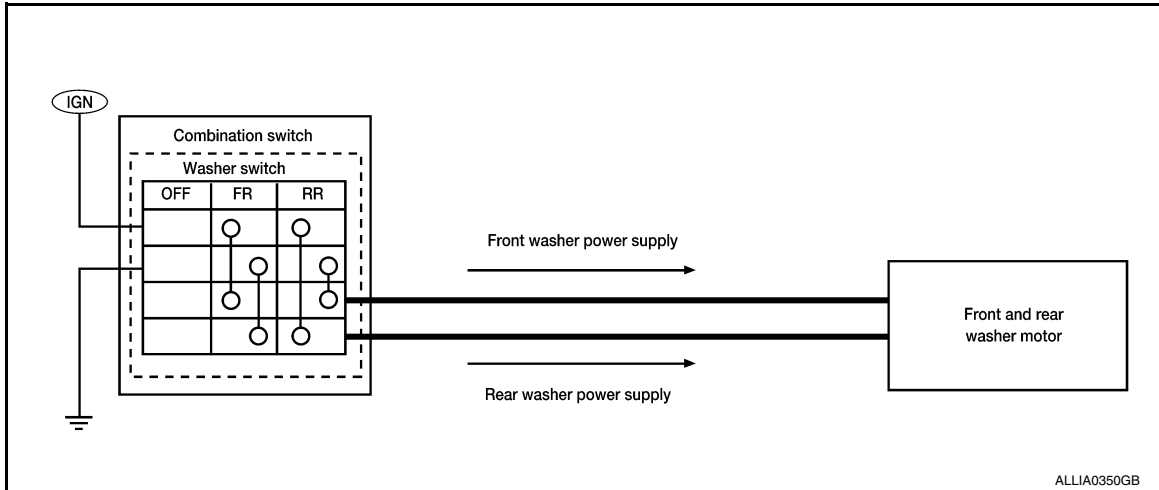
< DTC/CIRCUIT DIAGNOSIS >

WASHER SWITCH

Description

INFOID:000000010245895

- 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:000000010245896

1. CHECK FRONT WASHER SWITCH

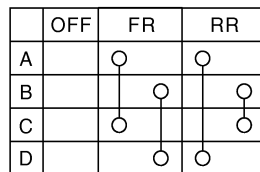
1. Turn the ignition switch OFF.
2. Disconnect combination switch (wiper and washer switch).
3. Check continuity between the combination switch (wiper and washer switch) terminals.

A: Terminal 4

B: Terminal 6

C: Terminal 3

D: Terminal 1



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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-76, "Removal and Installation"](#) (with Intelligent Key system) or [BCS-136, "Removal and Installation"](#) (without Intelligent Key system).

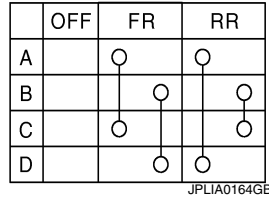
2. CHECK REAR WASHER SWITCH

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

WASHER SWITCH

< DTC/CIRCUIT DIAGNOSIS >

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



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-76, "Removal and Installation"](#) (with Intelligent Key system) or [BCS-136, "Removal and Installation"](#) (without Intelligent Key system).

REAR WIPER MOTOR CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

REAR WIPER MOTOR CIRCUIT

Component Function Check

INFOID:000000010245897

1. CHECK REAR WIPER ON OPERATION

CONSULT ACTIVE TEST

1. Select "RR WIPER" of BCM active test item.
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-47, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010245898

Regarding Wiring Diagram information, refer to [WW-28, "Wiring Diagram"](#).

1. CHECK REAR WIPER MOTOR OUTPUT VOLTAGE

CONSULT ACTIVE TEST

1. Turn the ignition switch OFF.
2. Disconnect rear wiper motor.
3. Turn the ignition switch ON.
4. Select RR WIPER of BCM active test item.
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	Ground	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		Yes
D506	3	Ground	Yes

Is the inspection result normal?

- YES >> Replace rear wiper motor. Refer to [WW-71, "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.

REAR WIPER MOTOR CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

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-75, "Removal and Installation"](#) (with Intelligent Key system) or [BCS-135, "Removal and Installation"](#) (without Intelligent Key system).

REAR WIPER AUTO STOP SIGNAL CIRCUIT

< DTC/CIRCUIT DIAGNOSIS >

REAR WIPER AUTO STOP SIGNAL CIRCUIT

Component Function Check

INFOID:000000010245899

1. CHECK REAR WIPER (AUTO STOP) OPERATION

CONSULT DATA MONITOR

1. Select WIPER of BCM data monitor item.
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-49, "Diagnosis Procedure"](#).

Diagnosis Procedure

INFOID:000000010245900

Regarding Wiring Diagram information, refer to [WW-28, "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-75, "Removal and Installation"](#) (with Intelligent Key system) or [BCS-135, "Removal and Installation"](#) (with Intelligent Key system).
NO >> Repair or replace harness.

WIPER AND WASHER SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

SYMPTOM DIAGNOSIS

WIPER AND WASHER SYSTEM SYMPTOMS

Symptom Table

INFOID:000000010245901

CAUTION:

Perform the self-diagnosis 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	<ul style="list-style-type: none"> 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-73, "Symptom Table" (with Intelligent Key system) or BCS-133, "Symptom Table" (without Intelligent Key system).
		<ul style="list-style-type: none"> IPDM E/R Harness between IPDM E/R and front wiper motor Front wiper motor 	Front wiper motor (HI) circuit Refer to WW-38, "Component Function Check" .
		Front wiper request signal (IPDM E/R)	Check FR WIP REQ in DATA MONITOR of IPDM E/R. Refer to PCS-9, "CONSULT Function (IPDM E/R)" .
	LO and INT	<ul style="list-style-type: none"> 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-73, "Symptom Table" (with Intelligent Key system) or BCS-133, "Symptom Table" (without Intelligent Key system).
		<ul style="list-style-type: none"> IPDM E/R Harness between IPDM E/R and front wiper motor Front wiper motor 	Front wiper motor (LO) circuit Refer to WW-36, "Component Function Check" .
		Front wiper request signal (IPDM E/R)	Check FR WIP REQ in DATA MONITOR of IPDM E/R. Refer to PCS-9, "CONSULT Function (IPDM E/R)" .
	INT only	<ul style="list-style-type: none"> 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-73, "Symptom Table" (with Intelligent Key system) or BCS-133, "Symptom Table" (without Intelligent Key system).
		Front wiper request signal (IPDM E/R)	Check FR WIP REQ in DATA MONITOR of IPDM E/R. Refer to PCS-9, "CONSULT Function (IPDM E/R)" .
	Any mode	—	Refer to WW-53, "Diagnosis Procedure" .

WIPER AND WASHER SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

Symptom		Possible malfunction	Reference
Front wiper does not stop in...	Any mode	Front wiper auto stop signal (IPDM E/R)	Refer to WW-40, "Component Function Check" .
		<ul style="list-style-type: none"> • Combination switch (wiper and washer switch) • BCM 	Combination switch (wiper and washer switch) Refer to BCS-73, "Symptom Table" (with Intelligent Key system) or BCS-133, "Symptom Table" (without Intelligent Key system).
Front wiper operates abnormally because...	Intermittent adjustments cannot be made.	<ul style="list-style-type: none"> • 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-73, "Symptom Table" (with Intelligent Key system) or BCS-133, "Symptom Table" (without Intelligent Key system).
	Wiper/washer will not operate together.	<ul style="list-style-type: none"> • 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-73, "Symptom Table" (with Intelligent Key system) or BCS-133, "Symptom Table" (without Intelligent Key system).
	Wipers will not return to stop position (repeatedly operates for 10 seconds and then stops for 20 seconds. Wipers then stop operating).	<ul style="list-style-type: none"> • IPDM E/R • Harness between IPDM E/R and front wiper motor • Front wiper motor 	Front wiper auto stop signal circuit Refer to WW-40, "Component Function Check" .
Rear wiper does not operate.	ON only	<ul style="list-style-type: none"> • 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-73, "Symptom Table" (with Intelligent Key system) or BCS-133, "Symptom Table" (without Intelligent Key system).
	INT only	<ul style="list-style-type: none"> • 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-73, "Symptom Table" (with Intelligent Key system) or BCS-133, "Symptom Table" (without Intelligent Key system).
	ON and INT	<ul style="list-style-type: none"> • 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-73, "Symptom Table" (with Intelligent Key system) or BCS-133, "Symptom Table" (without Intelligent Key system).
		<ul style="list-style-type: none"> • 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-47, "Diagnosis Procedure" .

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WIPER AND WASHER SYSTEM SYMPTOMS

< SYMPTOM DIAGNOSIS >

Symptom		Possible malfunction	Reference
Rear wiper does not stop.	ON only	<ul style="list-style-type: none"> • Combination switch (wiper and washer switch) • BCM 	Rear wiper motor circuit Refer to WW-47, "Diagnosis Procedure" .
	INT only	<ul style="list-style-type: none"> • Combination switch (wiper and washer switch) • BCM 	Combination switch (wiper and washer switch) Refer to BCS-73, "Symptom Table" (with Intelligent Key system) or BCS-133, "Symptom Table" (without Intelligent Key system).
Rear wiper does not operate normally.	Wiper is not linked to the washer operation.	<ul style="list-style-type: none"> • Combination switch (wiper and washer switch) • Harness between rear wiper motor and BCM • BCM 	Combination switch (wiper and washer switch) Refer to BCS-73, "Symptom Table" (with Intelligent Key system) or BCS-133, "Symptom Table" (without Intelligent Key system).
		BCM	—
	Rear wiper does not return to the Stop position (Stops after a five-second operation).	<ul style="list-style-type: none"> • BCM • Harness between rear wiper motor and BCM • Rear wiper motor 	Rear wiper auto stop signal circuit Refer to WW-49, "Diagnosis Procedure" .
Front and rear washer motor does not operate.	Front and rear washer motor does not operate when the washing windshield.	<ul style="list-style-type: none"> • 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-73, "Symptom Table" (with Intelligent Key system) or BCS-133, "Symptom Table" (without Intelligent Key system).
		<ul style="list-style-type: none"> • 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-43, "Diagnosis Procedure" .

FRONT WIPER DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

FRONT WIPER DOES NOT OPERATE

Description

INFOID:000000010245902

The front wiper does not operate under any operation conditions.

Diagnosis Procedure

INFOID:000000010245903

Regarding Wiring Diagram information, refer to [WW-22, "Wiring Diagram"](#).

1. CHECK WIPER RELAY OPERATION

CONSULT ACTIVE TEST

1. Select FR WIPER of BCM (WIPER) active test item.
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-35, "Diagnosis Procedure"](#).

Is the fuse blown?

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

3. CHECK FRONT WIPER MOTOR GROUND CIRCUIT

Refer to [WW-42, "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. With CONSULT, select FRONT WIPER of IPDM E/R ACTIVE TEST item.
3. Check voltage between IPDM E/R harness connector and ground while wipers are operating.

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

Is the inspection result normal?

- YES >> Replace front wiper motor. Refer to [WW-67, "Removal and Installation"](#).
NO >> Replace IPDM E/R. Refer to [PCS-35, "Removal and Installation"](#).

5. CHECK FRONT WIPER REQUEST SIGNAL INPUT

1. With CONSULT, select FR WIP REQ in DATA MONITOR of IPDM E/R.
2. Switch the front wiper switch to HI and LO.
3. Check the status of FR WIP REQ while operating the switch.

FRONT WIPER DOES NOT OPERATE

< SYMPTOM DIAGNOSIS >

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-35. "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-45. "Component Inspection"](#).

Is the inspection result normal?

YES >> Replace BCM. Refer to [BCS-75. "Removal and Installation"](#) (with Intelligent Key system) or [BCS-135. "Removal and Installation"](#) (without Intelligent Key system).

NO >> Repair or replace the applicable parts.

NORMAL OPERATING CONDITION

< SYMPTOM DIAGNOSIS >

NORMAL OPERATING CONDITION

Description

INFOID:000000010245904

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.

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WASHER TANK

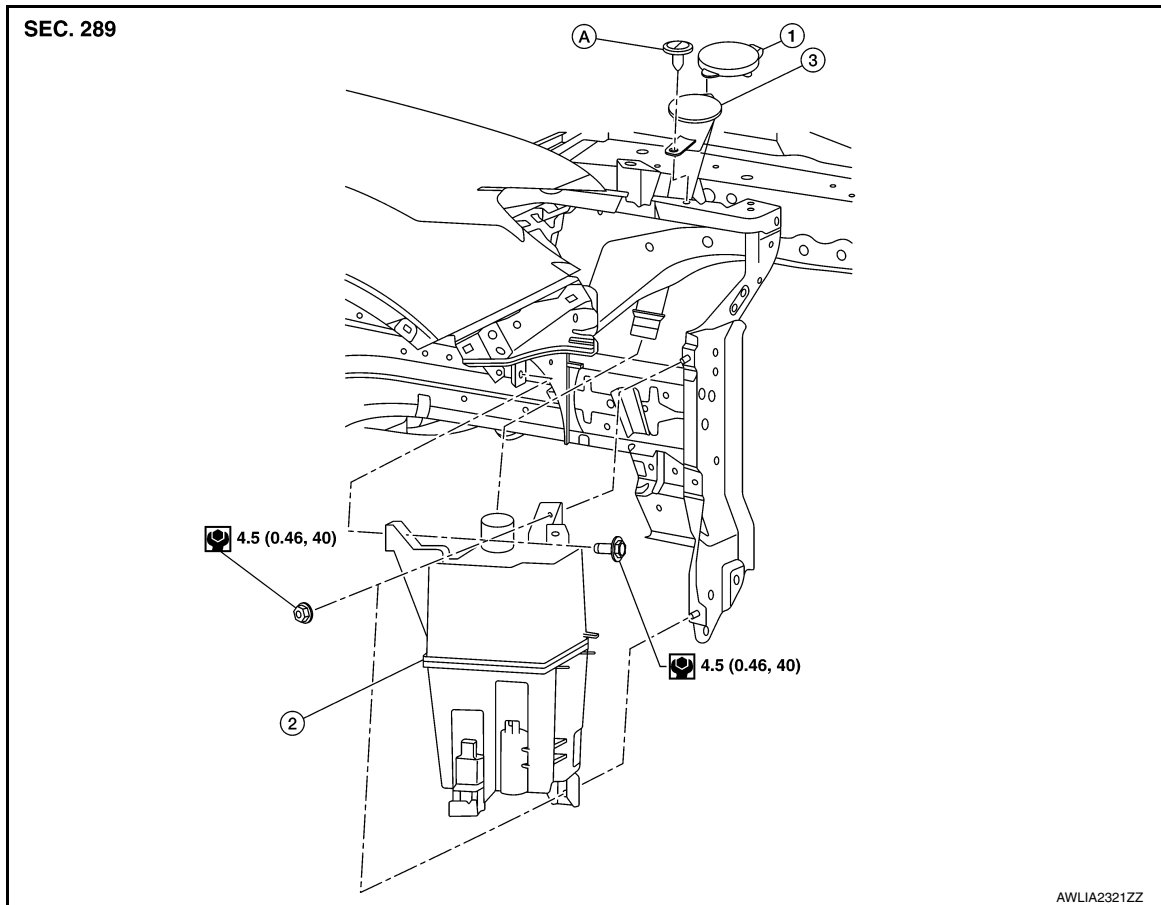
< REMOVAL AND INSTALLATION >

REMOVAL AND INSTALLATION

WASHER TANK

Exploded View

INFOID:000000010244348



1. Cap
A. Clip
2. Washer tank
3. Washer tank inlet

Removal and Installation

INFOID:000000010244349

REMOVAL

1. Drain washer fluid.
2. Using a suitable tool release washer tank inlet clip and remove washer tank inlet.
3. Remove engine side cover. Refer [EXT-28, "FENDER PROTECTOR : Exploded View"](#).
4. Remove engine under cover. Refer to [EXT-37, "ENGINE UNDER COVER : Removal and Installation"](#).
5. Remove front fender protector (RH). Refer to [EXT-28, "FENDER PROTECTOR : Exploded View"](#).
6. Disconnect harness connector from rear view camera washer motor then front and rear washer motor.
7. Disconnect washer level switch harness connector (if equipped).
8. Disconnect front and rear washer motor tubes and the rear view camera washer motor tube (if equipped).
9. 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-75, "Specifications"](#).

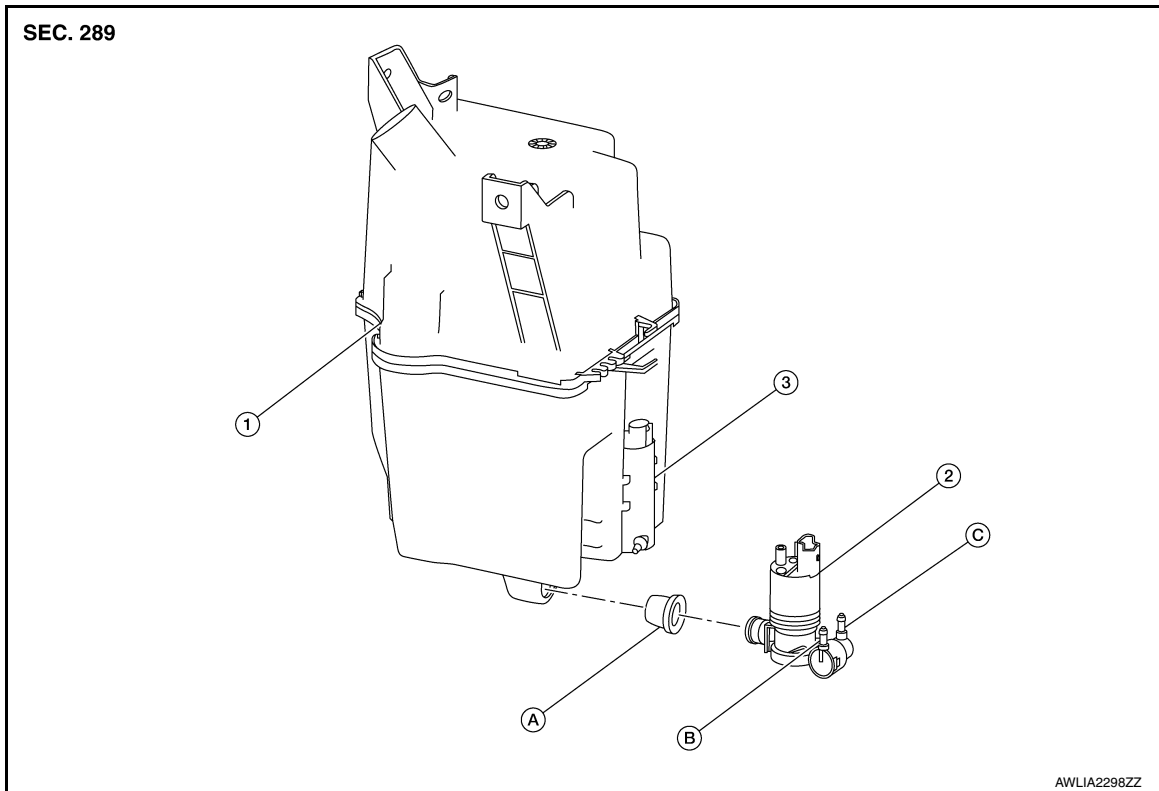
FRONT AND REAR WASHER MOTOR

< REMOVAL AND INSTALLATION >

FRONT AND REAR WASHER MOTOR

Exploded View

INFOID:000000010244350



- | | | |
|----------------|--------------------------------|----------------------------------|
| 1. Washer tank | 2. Front and rear washer motor | 3. Rear view camera washer motor |
| A. Seal | B. Rear washer outlet | C. Front washer outlet |

Removal and Installation

INFOID:000000010244351

REMOVAL

1. Drain washer fluid.
2. Remove front fender protector (RH). Refer to [EXT-28, "FENDER PROTECTOR : Exploded View"](#).
3. Disconnect harness connector from front and rear washer motor.
4. Disconnect front and rear washer outlet tubes.
5. 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-75, "Specifications"](#).

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WASHER FLUID LEVEL SWITCH

< REMOVAL AND INSTALLATION >

WASHER FLUID LEVEL SWITCH

Removal and Installation

INFOID:000000010244352

The washer fluid level switch is serviced as a part of the washer tank. Refer to [WW-56, "Removal and Installation"](#).

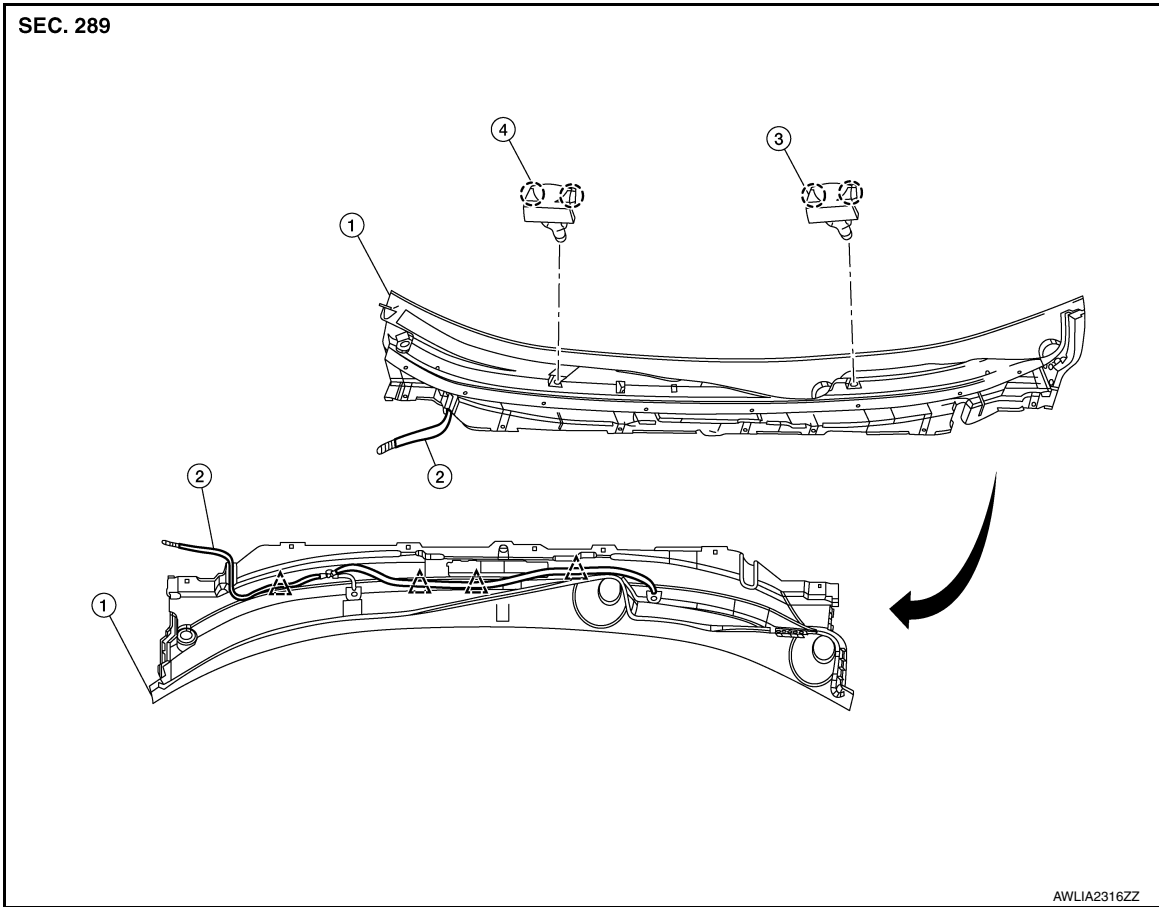
FRONT WASHER NOZZLE AND TUBE

< REMOVAL AND INSTALLATION >

FRONT WASHER NOZZLE AND TUBE

Exploded View

INFOID:000000010244353

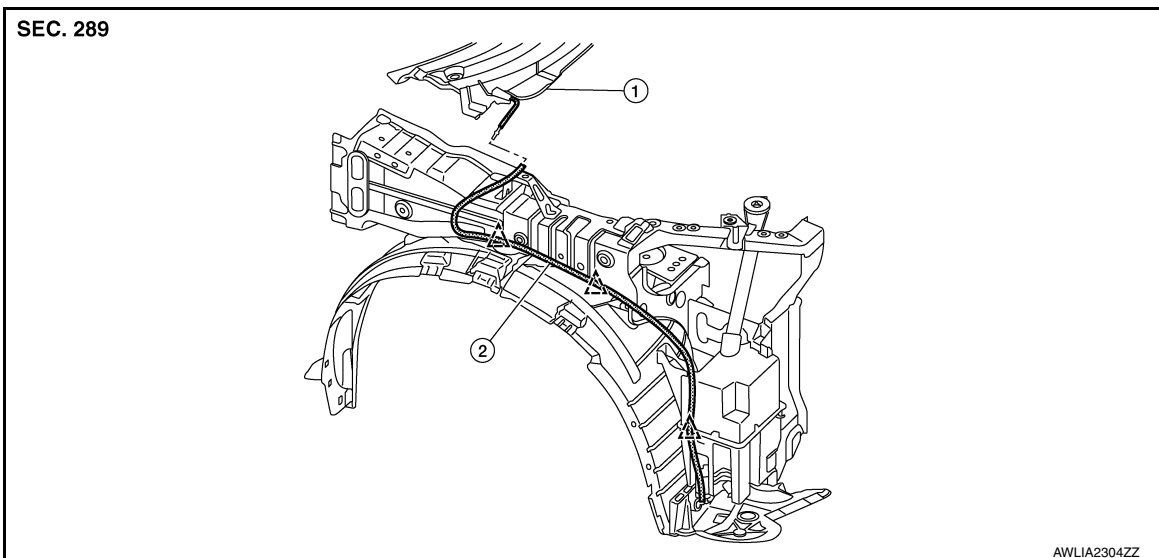


- 1. Cowl top cover
 - 2. Front washer tube
 - 3. Front washer nozzle (LH)
 - 4. Front washer nozzle (RH)
- Pawl
 Clip

Exploded View

INFOID:000000010244354

WW



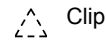
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FRONT WASHER NOZZLE AND TUBE

< REMOVAL AND INSTALLATION >

1. Cowl top cover

2. Front washer tube



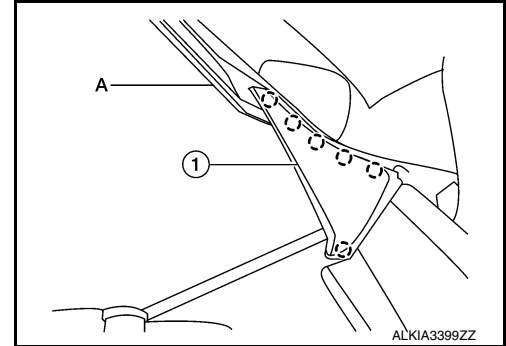
Removal and Installation - Front Washer Nozzle

INFOID:000000010244355

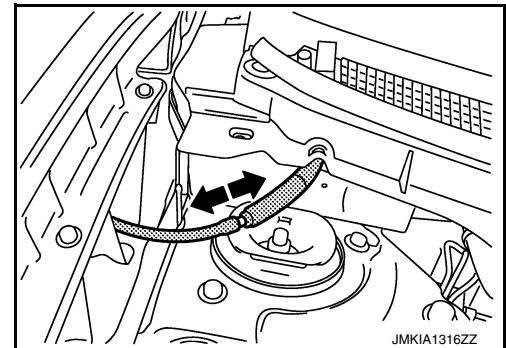
REMOVAL

1. Remove front wiper arms (LH/RH). Refer to [WW-63, "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:

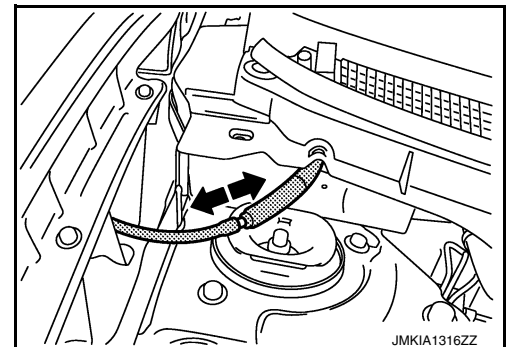
Adjust the nozzle spray pattern. Refer to [WW-61, "Inspection and Adjustment"](#).

Removal and Installation - Front Washer Tube

INFOID:000000010356790

REMOVAL

1. Disconnect front washer tube connector.



2. Remove engine side cover. Refer to [EXT-28, "FENDER PROTECTOR : Exploded View"](#).
3. Remove engine undercover. Refer to [EXT-37, "ENGINE UNDER COVER : Removal and Installation"](#).
4. Partially remove fender protector. Refer to [EXT-28, "FENDER PROTECTOR : Exploded View"](#).
5. Unclip front washer hose and remove.

INSTALLATION

FRONT WASHER NOZZLE AND TUBE

< REMOVAL AND INSTALLATION >

Installation is in the reverse order of removal.

Inspection and Adjustment

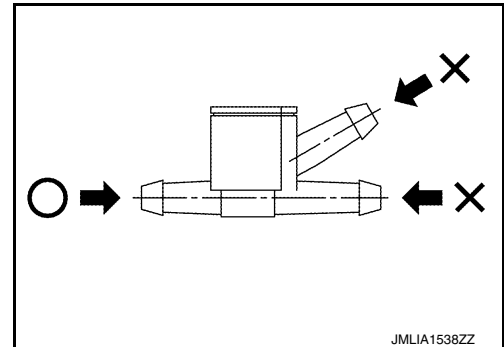
INFOID:000000010244356

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.

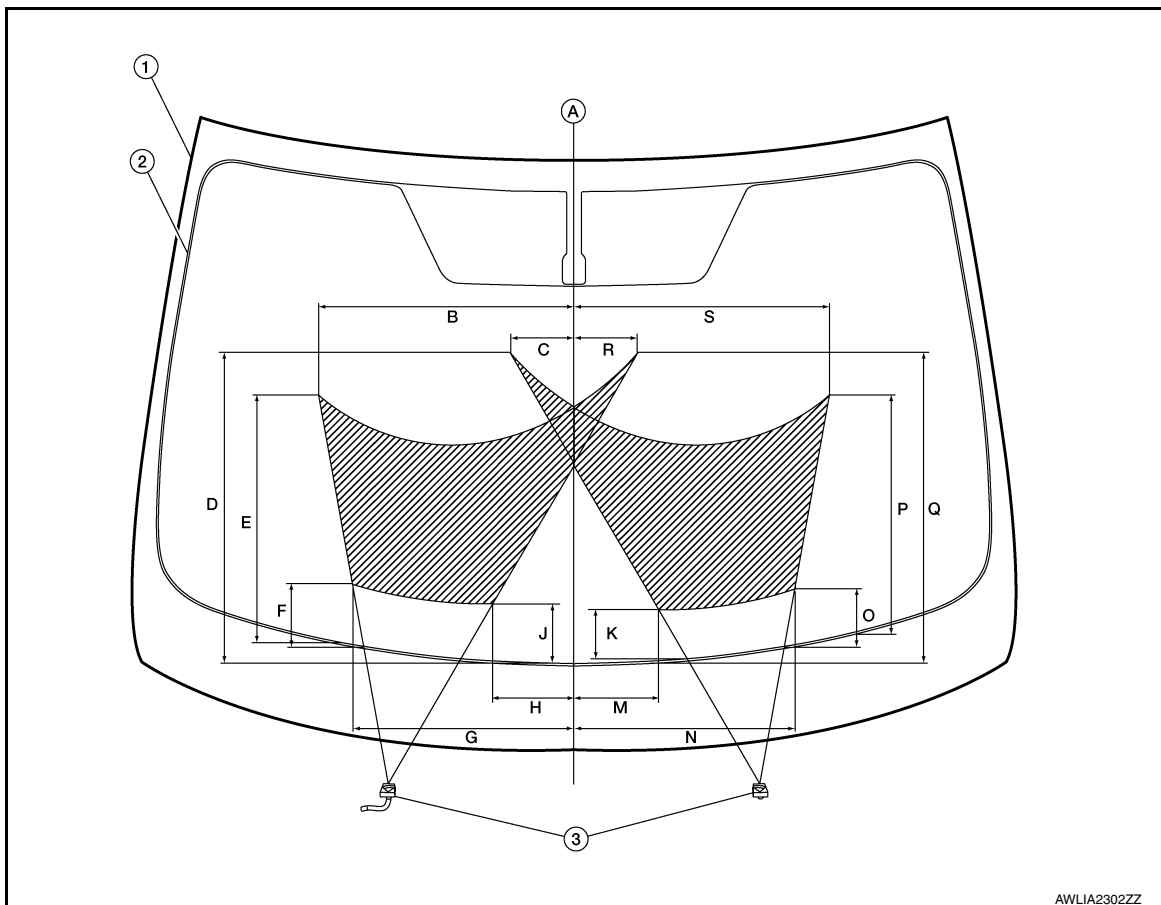
O: Air can flow

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-60, "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) |

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FRONT WASHER NOZZLE AND TUBE

< REMOVAL AND INSTALLATION >

K. 80 mm (3.15 in)

O. 90 mm (3.54 in)

R. 103 mm (4.06 in)

M. 133 mm (5.24 in)

P. 380 mm (14.96 in)

S. 409 mm (16.10 in)

N. 354 mm (13.94 in)

Q. 496 mm (19.53 in)

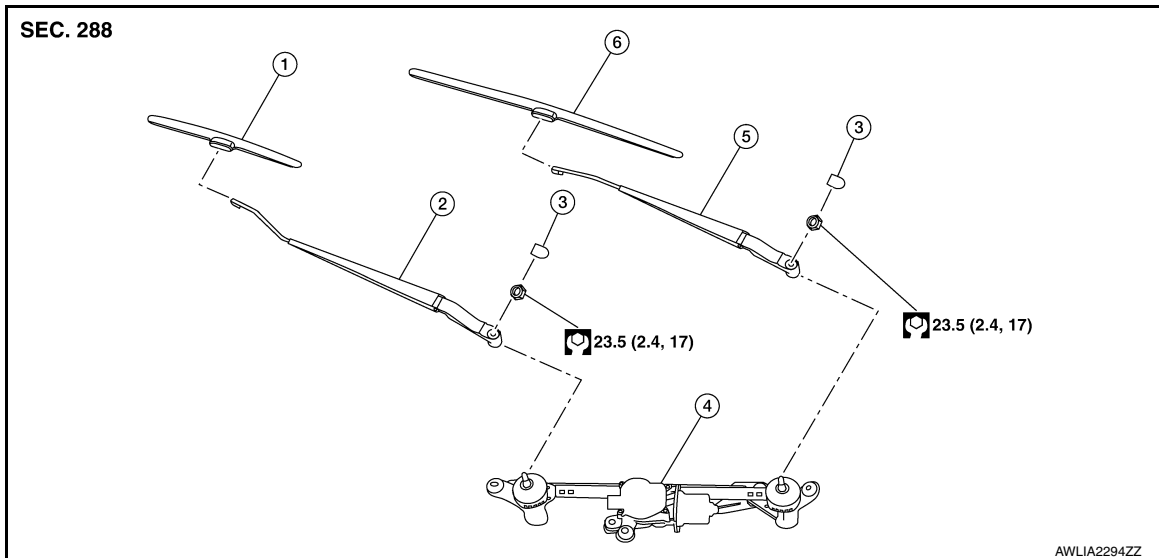
FRONT WIPER ARM

< REMOVAL AND INSTALLATION >

FRONT WIPER ARM

Exploded View

INFOID:000000010244357



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

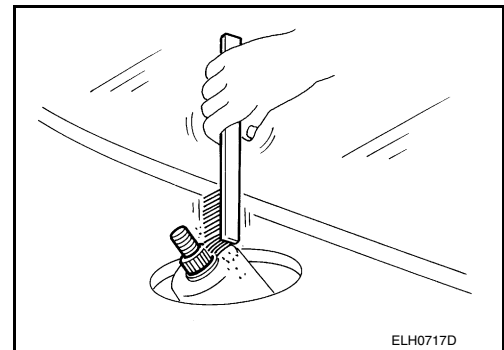
INFOID:000000010244358

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.



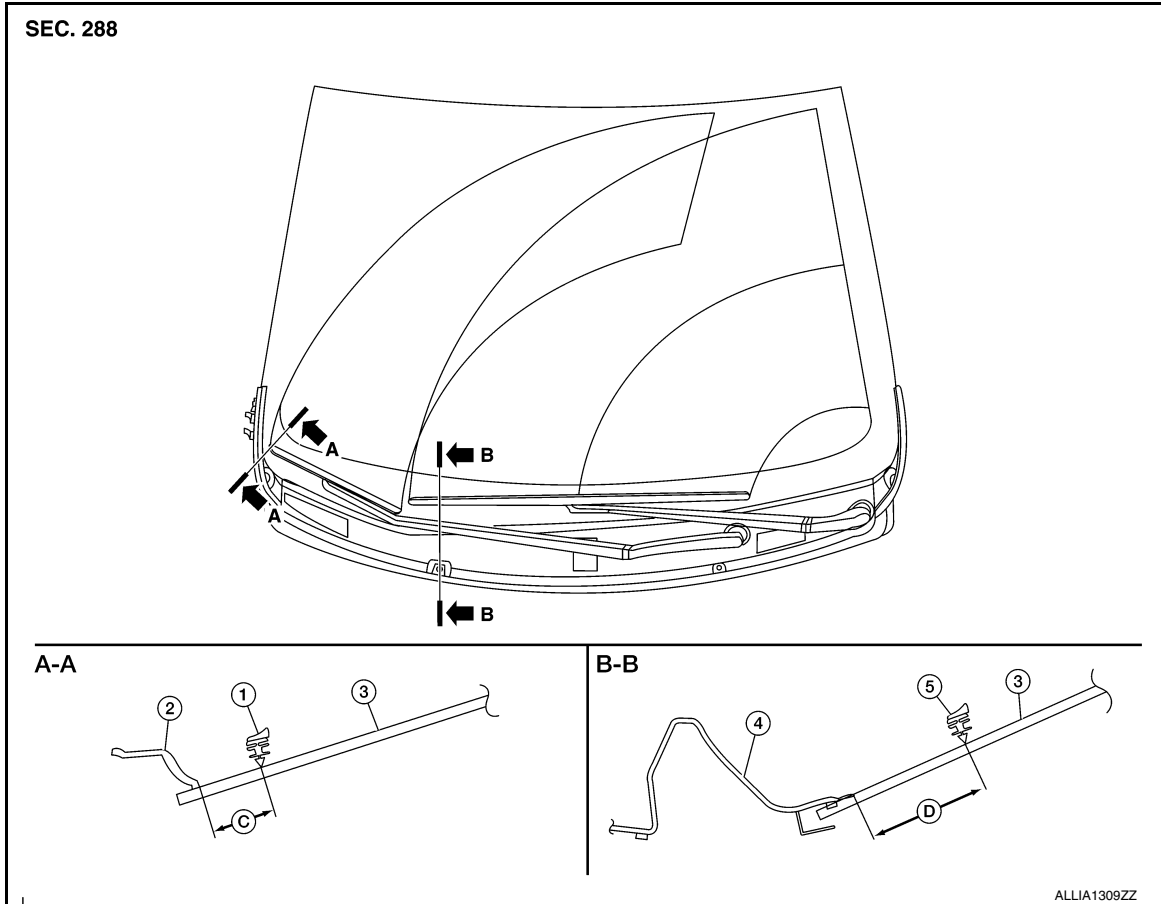
2. Move front wiper into the service position by turning the ignition switch ON, then quickly push the wiper washer switch to the mist position two times within 0.5 seconds.
3. Turn the ignition switch OFF.
4. Adjust front wiper blade position. Refer to [WW-64, "Adjustment"](#).
5. Install front wiper arm by tightening the nuts.
6. Install front wiper arm covers.
7. Check that the front wiper blades stop at the specified position.

FRONT WIPER ARM

< REMOVAL AND INSTALLATION >

Adjustment

INFOID:000000010244359



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| 1. Wiper blade (RH) | 2. Front fender (RH) | 3. Windshield glass |
| 4. Cowl top cover | 5. Wiper blade (LH) | C. 34.9 ± 7.5 mm (1.4 ± 0.3 in) |
| D. 38.2 ± 7.5 mm (1.5 ± 0.3 in) | | |

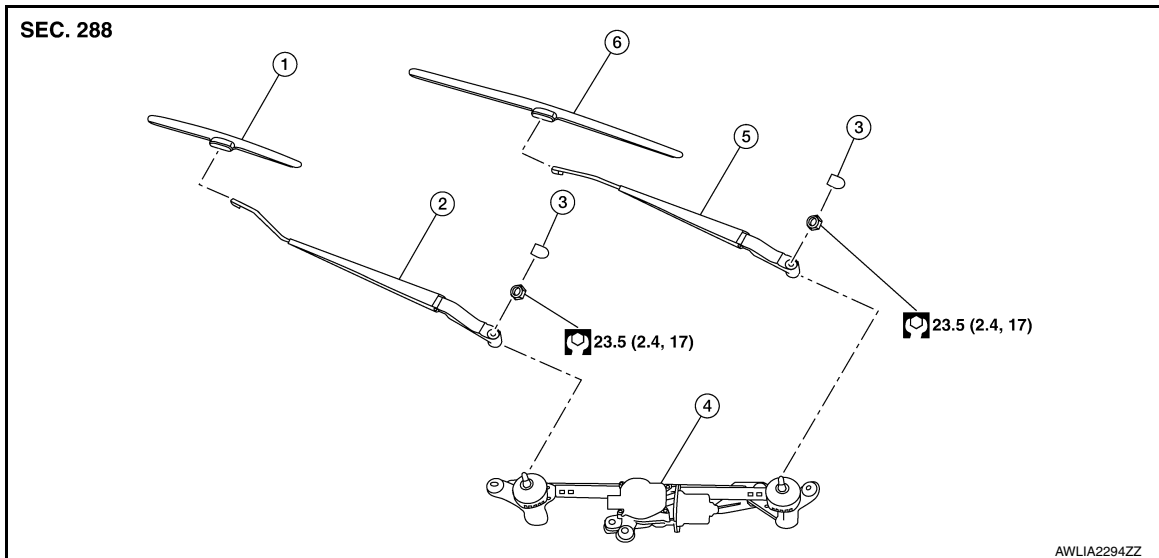
FRONT WIPER BLADE

< REMOVAL AND INSTALLATION >

FRONT WIPER BLADE

Exploded View

INFOID:000000010244360



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|-------------------------------|-------------------|---------------------|
| 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) |

Removal and Installation

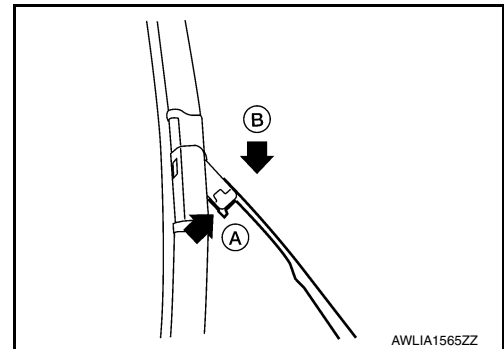
INFOID:000000010244361

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.

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FRONT WIPER DRIVE ASSEMBLY

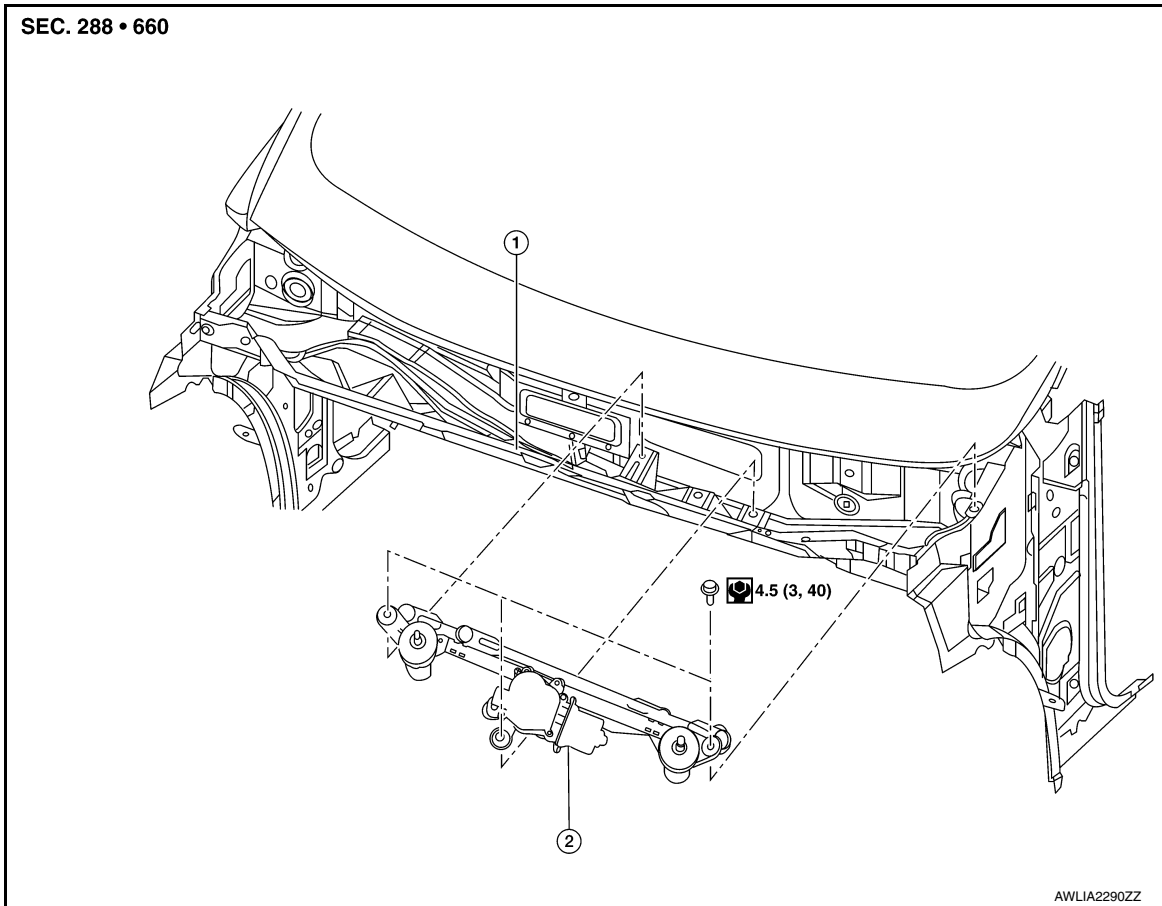
< REMOVAL AND INSTALLATION >

FRONT WIPER DRIVE ASSEMBLY

Exploded View

INFOID:000000010244363

REMOVAL



1. Cowl top

2. Front wiper drive assembly

Removal and Installation

INFOID:000000010244364

REMOVAL

1. Remove cowl top cover. Refer to [EXT-25, "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.

FRONT WIPER MOTOR

< REMOVAL AND INSTALLATION >

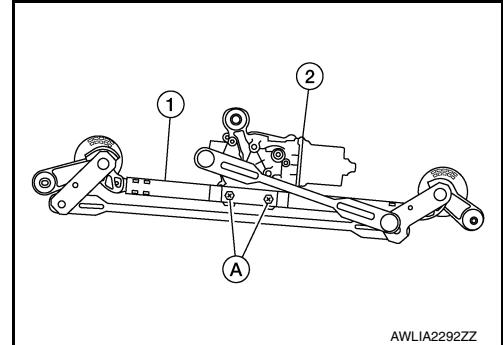
FRONT WIPER MOTOR

Removal and Installation

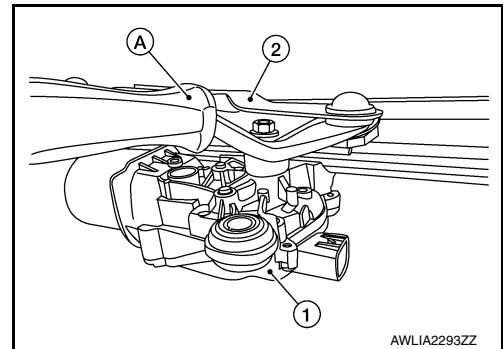
INFOID:000000010325986

REMOVAL

1. Remove the front drive assembly. Refer to [WW-66. "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 assembly (2) using suitable tool (A).



4. Remove the front wiper drive assembly.

INSTALLATION

Installation is in the reverse order of removal.

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WW

WIPER AND WASHER SWITCH

< REMOVAL AND INSTALLATION >

WIPER AND WASHER SWITCH

Removal and Installation

INFOID:000000010244366

The wiper and washer switch is serviced as a part of the combination switch. Refer to [BCS-76. "Removal and Installation"](#).

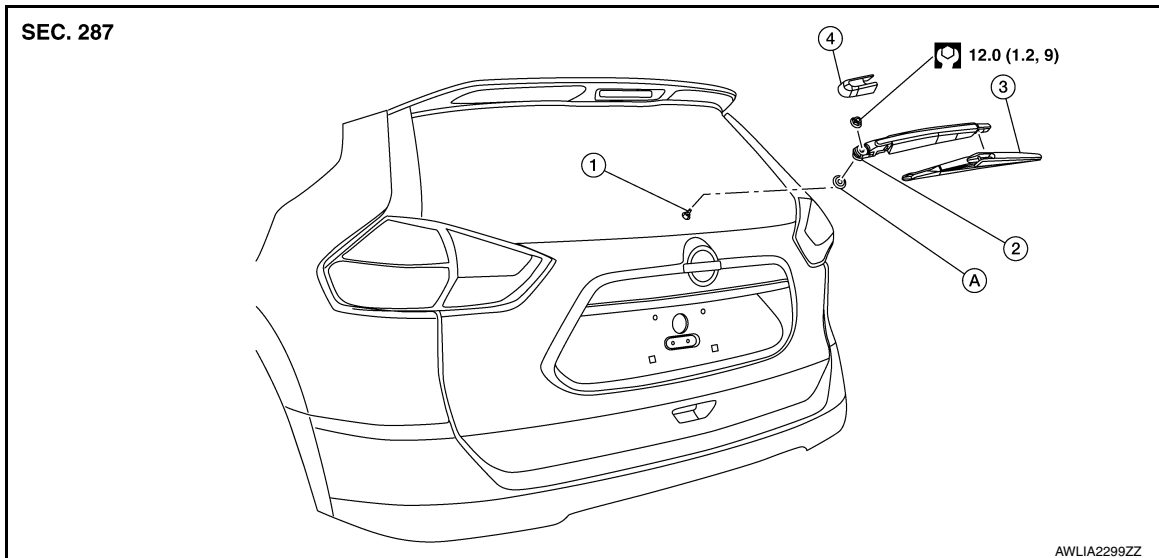
REAR WIPER ARM

< REMOVAL AND INSTALLATION >

REAR WIPER ARM

Exploded View

INFOID:000000010244367



- | | | |
|-------------------------|-------------------|---------------------|
| 1. Rear wiper motor | 2. Rear wiper arm | 3. Rear wiper blade |
| 4. Rear wiper arm cover | A. Seal | |

Removal and Installation

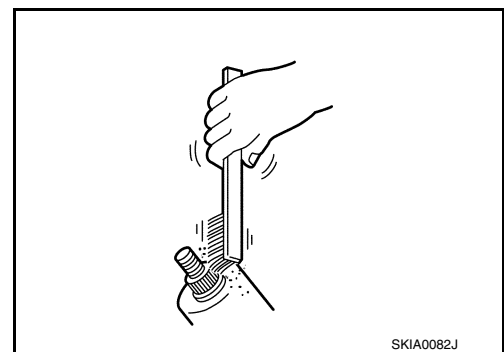
INFOID:000000010244368

REMOVAL

1. Check that the rear wiper 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.



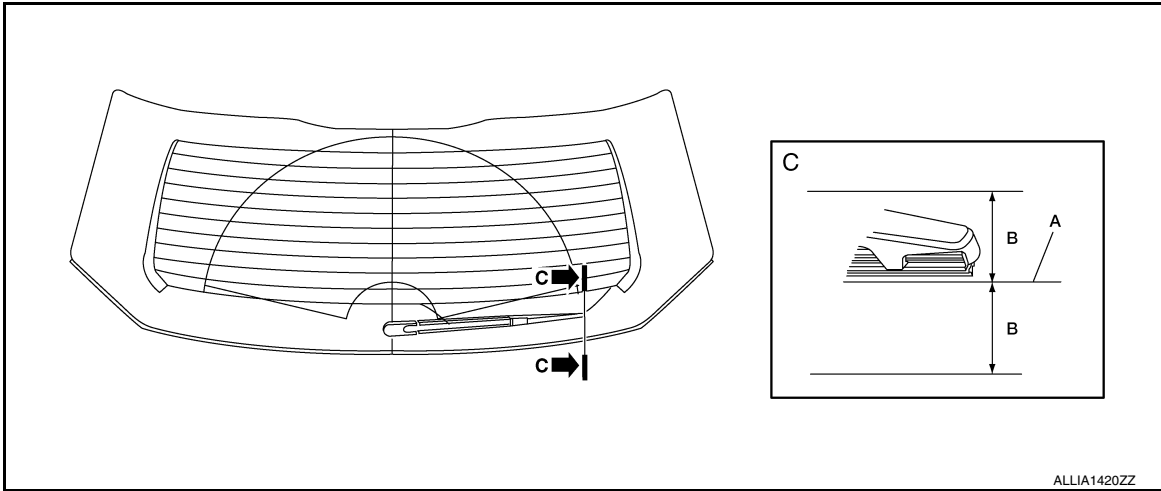
2. Check that the rear wiper is in the auto stop position.
3. Adjust the rear wiper blade position. Refer to [WW-70. "Adjustment"](#).
4. Install the rear wiper arm.
5. Install the rear wiper arm cover.
6. Check that the rear wiper blades stop at the specified position. Refer to [WW-70. "Adjustment"](#).

REAR WIPER ARM

< REMOVAL AND INSTALLATION >

Adjustment

INFOID:000000010244369



A. Defrosting wire

Position the wiper blade on top of the defrosting wire (A).

B: $\pm 7.5 \text{ mm } (0.787 \pm 0.295 \text{ in})$

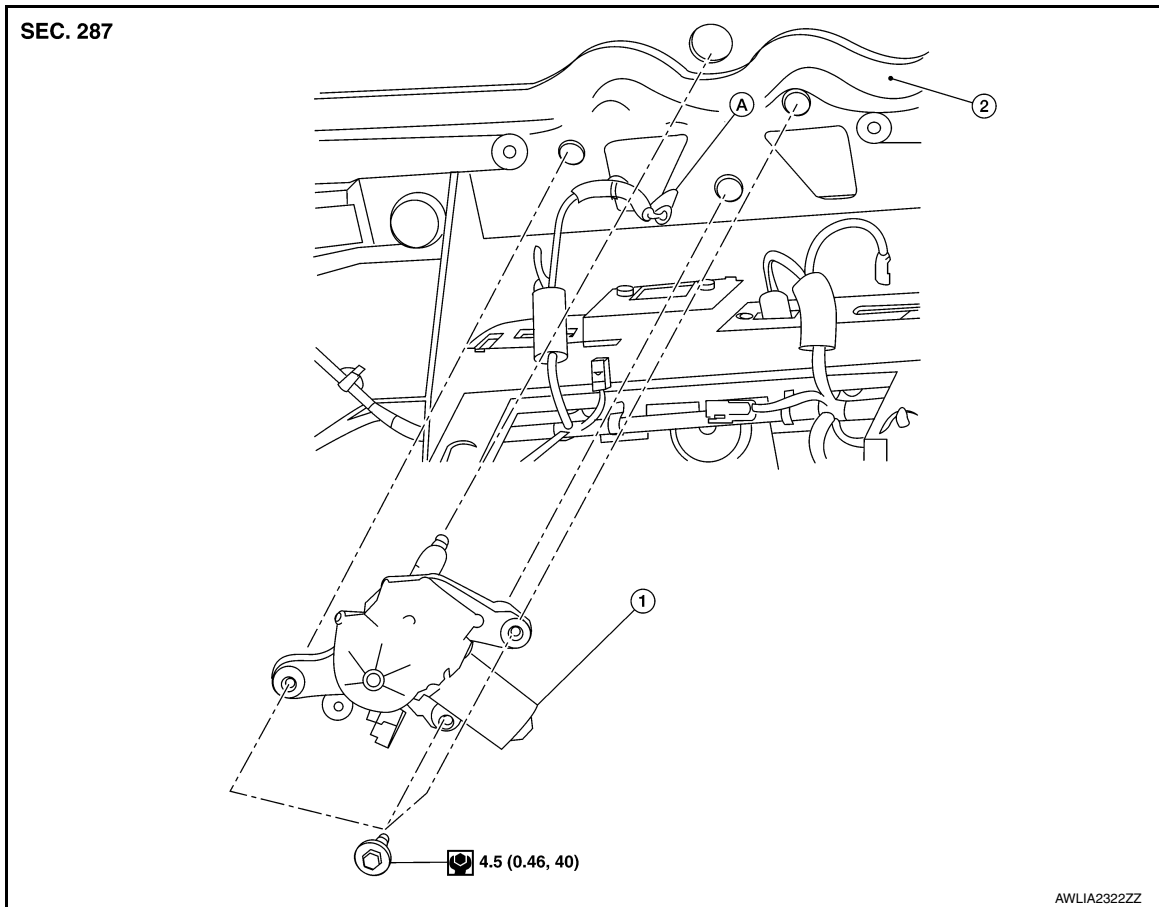
REAR WIPER MOTOR

< REMOVAL AND INSTALLATION >

REAR WIPER MOTOR

Exploded View

INFOID:000000010244370



1. Rear wiper motor

2. Back door

A. Rear wiper motor harness

Removal and Installation

INFOID:000000010244371

REMOVAL

1. Remove rear wiper arm. Refer to [WW-69, "Removal and Installation"](#).
2. Remove back door finisher. Refer to [INT-38, "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.

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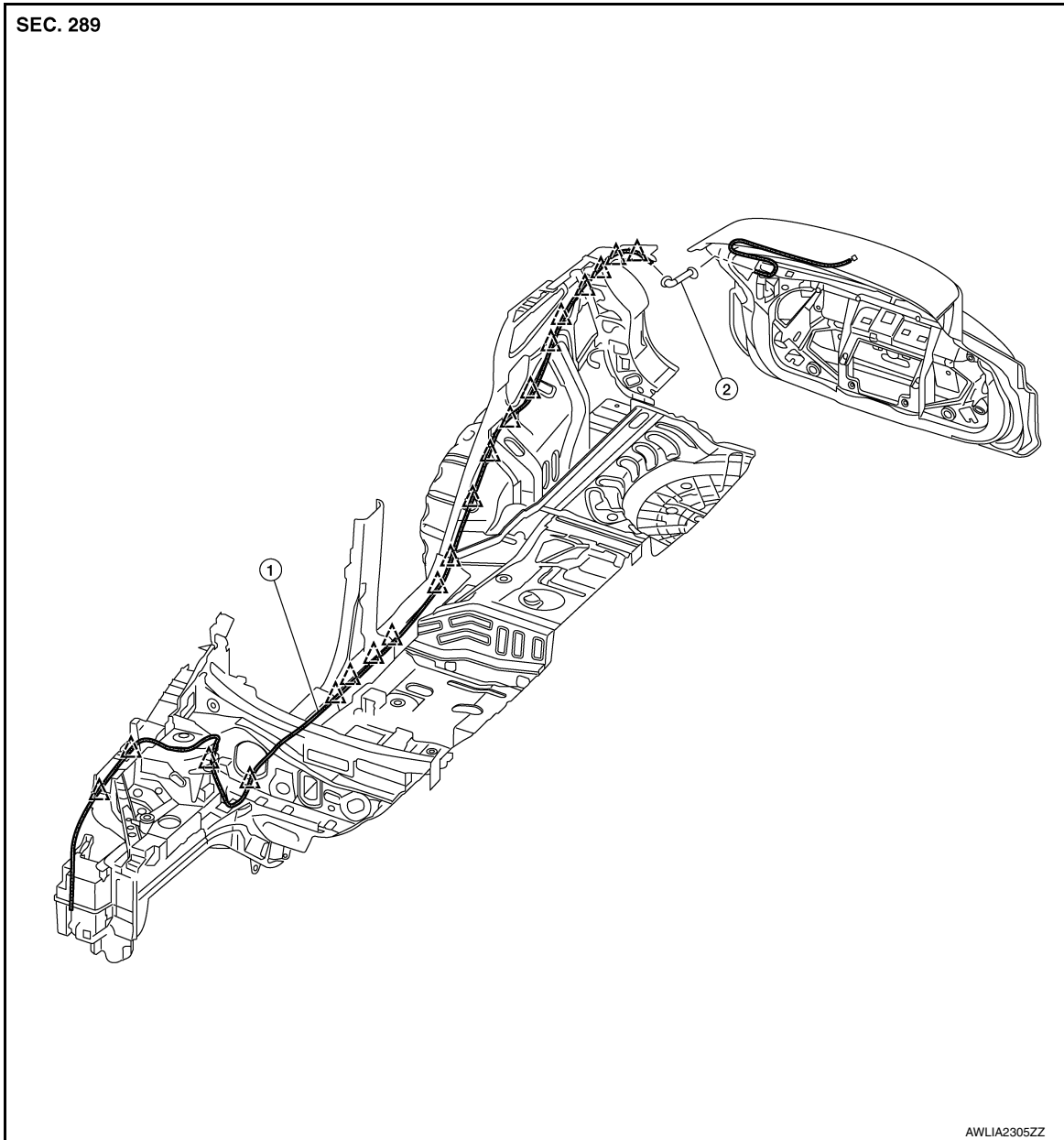
REAR WASHER NOZZLE AND TUBE

< REMOVAL AND INSTALLATION >

REAR WASHER NOZZLE AND TUBE


Exploded View

INFOID:000000010244372



1. Rear washer tube

2. Rear grommet

 Clip

Removal and Installation - Rear Washer Nozzle

INFOID:000000010244373

REMOVAL

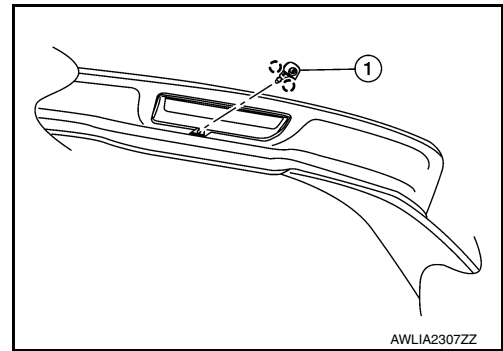
1. Remove rear access panel. Refer to [INT-38, "Exploded View"](#).

REAR WASHER NOZZLE AND TUBE

< REMOVAL AND INSTALLATION >

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

○: Pawl



INSTALLATION

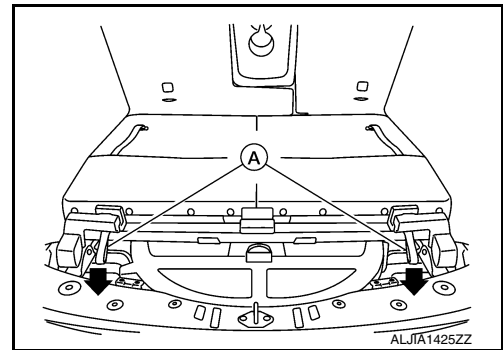
Installation in the reverse order of removal.

Removal and Installation - Rear Washer Tube

INFOID:000000010357384

REMOVAL

1. Remove engine side cover (RH). Refer to [EXT-28, "FENDER PROTECTOR : Exploded View"](#).
2. Release clips and remove front air spoiler.
3. Remove engine under cover. Refer to [EXT-37, "ENGINE UNDER COVER : Removal and Installation"](#).
4. Partially remove fender protector (RH). Refer to [EXT-37, "ENGINE UNDER COVER : Removal and Installation"](#).
5. Release seat latches by pulling straps (A) rearward, then lift seat from seat strikers (LH/RH).



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 rear plate. Refer to [INT-37, "LUGGAGE REAR PLATE : Removal and Installation"](#).
9. Remove luggage side upper finisher (LH/RH). Refer to [INT-36, "LUGGAGE SIDE UPPER FINISHER : Removal and Installation"](#).
10. Release rear clips and partially remove headliner. Refer to [INT-29, "Exploded View"](#).
11. Disconnect rear washer tube from washer tank and rear washer nozzle.
12. Release clips and remove rear washer tube.

INSTALLATION

Installation is in the reverse order of removal.

Inspection and Adjustment

INFOID:000000010244374

INSPECTION

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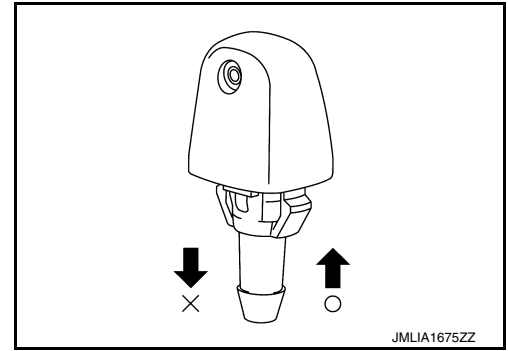
REAR WASHER NOZZLE AND TUBE

< REMOVAL AND INSTALLATION >

Check that air can pass through the nozzle by blowing into the nozzle and that air cannot flow in the opposite direction.

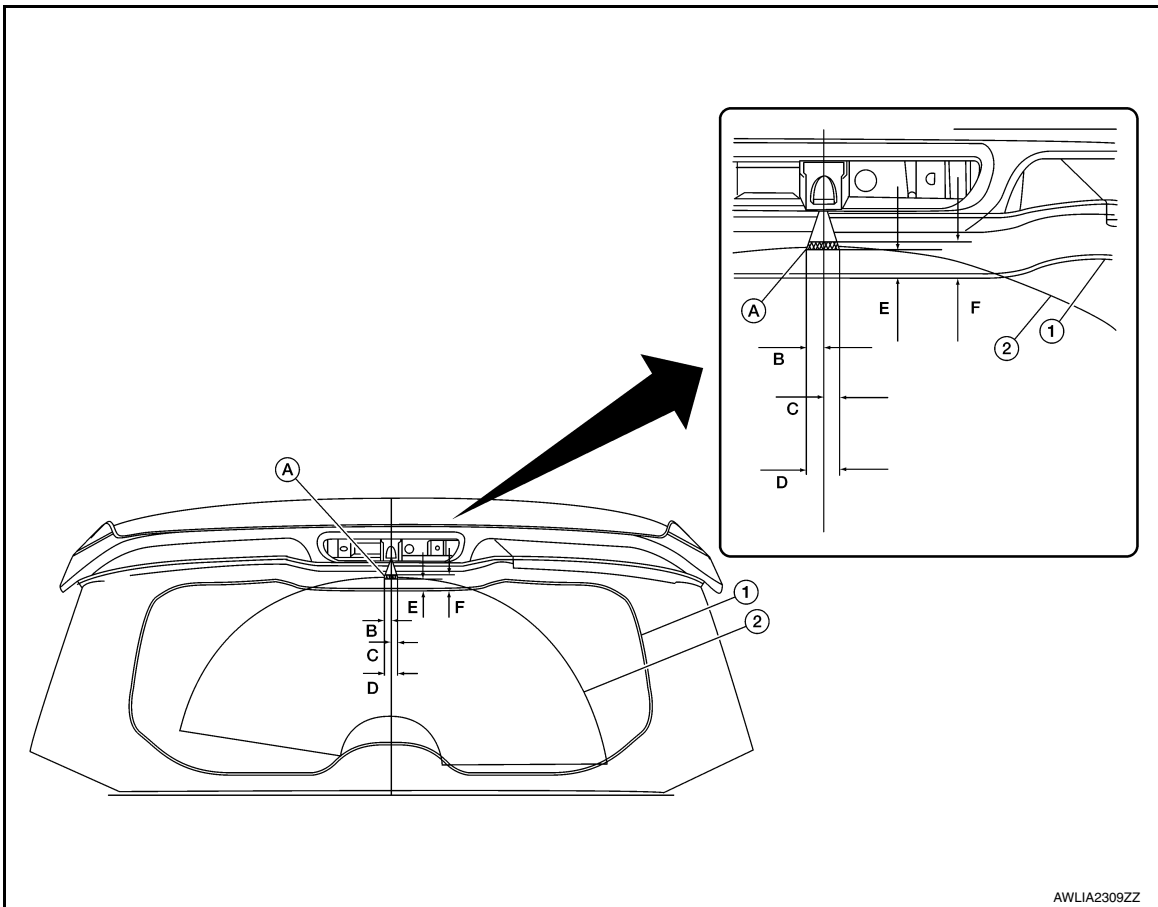
O: Air can go

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-72. "Removal and Installation - Rear Washer Nozzle"](#)



- 1. Black print
- B. 12.8
- E. 15.6

- 2. Wiping area
- C. 12.8
- F. 20.6

- A. Spray target area
- D. 25.7

SERVICE DATA AND SPECIFICATIONS (SDS)

< SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

SERVICE DATA AND SPECIFICATIONS (SDS)

Specifications

INFOID:0000000010244375

WINDSHIELD WASHER FLUID

Windshield washer fluid capacity (with washer tank inlet)	5.45 ℓ (5 3/4 US qt, 4 3/4 Imp qt)
Windshield washer fluid specification	Refer to MA-11. "Fluids and Lubricants" .

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