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PRECAUTIONS

PRECAUTIONS PFP:00011

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

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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 SRS and SB section of this Service Manual.

WARNING:

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

Wiring Diagrams and Trouble Diagnosis

EKS0079L

When you read wiring diagrams, refer to the followings:

- Refer to GI-14, "How to Read Wiring Diagrams" in GI section
- Refer to <u>PG-2</u>, "<u>POWER SUPPLY ROUTING</u>" for power distribution circuit in PG section

When you perform trouble diagnosis, refer to the followings:

- Refer to GI-10, "HOW TO FOLLOW TEST GROUPS IN TROUBLE DIAGNOSES" in GI section.
- Refer to GI-23, "How to Perform Efficient Diagnosis for an Electrical Incident" in GI section

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FRONT WIPER AND WASHER SYSTEM

PFP:28810

System Description WIPER OPERATION

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The wiper switch is controlled by a lever built into the combination switch. There are three wiper switch positions:

- LO speed
- HI speed
- INT (Intermittent)

With the ignition switch in the ON or START position, power is supplied

- through 20A fuse [No. 6, located in the fuse block (J/B)]
- to front wiper motor terminal 2.

Low and High Speed Wiper Operation

Ground is supplied to front wiper and washer switch terminal 17 through body grounds E24 and E50. When the wiper switch is placed in the LO position, ground is supplied

- through front wiper and washer switch terminal 14
- to front wiper motor terminal 3.

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

When the wiper switch is placed in the HI position, ground is supplied

- through front wiper and washer switch terminal 16
- to front wiper motor terminal 5.

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

Auto Stop Operation

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

- from front wiper and washer switch terminal 14
- to front wiper motor terminal 3, in order to continue wiper motor operation at low speed.

Ground is also supplied

- through front wiper and washer switch terminal 13
- to front wiper motor terminal 4
- through terminal 1 of the front wiper motor terminal 1 and
- through grounds E24 and E50.

When wiper arms reach base of windshield, front wiper motor terminals 2 and 4 are connected instead of terminals 1 and 4. Wiper motor will then stop wiper arms at the STOP position.

Intermittent Operation

The front wiper motor operates the wiper arms one time at low speed at a set interval of approximately 1 to 13 seconds. This feature is controlled by the wiper amplifier (INT SW) combined with front wiper and washer switch.

When the wiper switch is placed in the INT position, ground is supplied to wiper amplifier.

The desired interval time is input to wiper amplifier (INT VR) from wiper volume switch combined with front wiper and washer switch.

Then intermittent ground is supplied

- through wiper amplifier (OUTPUT) and
- through front wiper and washer switch terminal 14
- to front wiper motor terminal 3

The wiper motor operates at low speed at the desired interval.

WASHER OPERATION

With the ignition switch in the ON or START position, power is supplied

- through 20A fuse [No. 6, located in the fuse block (J/B)]
- to front washer motor terminal 1.

When the lever is pulled to the WASH position, ground is supplied

- from grounds E24 and E50
- through front wiper and washer switch terminal 17, and
- through front wiper and washer switch terminal 18
- to front washer motor terminal 2.

With power and ground supplied, the washer motor operates.

When the lever is pulled to the WASH position for one second or more, the wiper motor operates at low speed for approximately 3 seconds to clean windshield. This feature is controlled by the wiper amplifier in the same manner as the intermittent operation.

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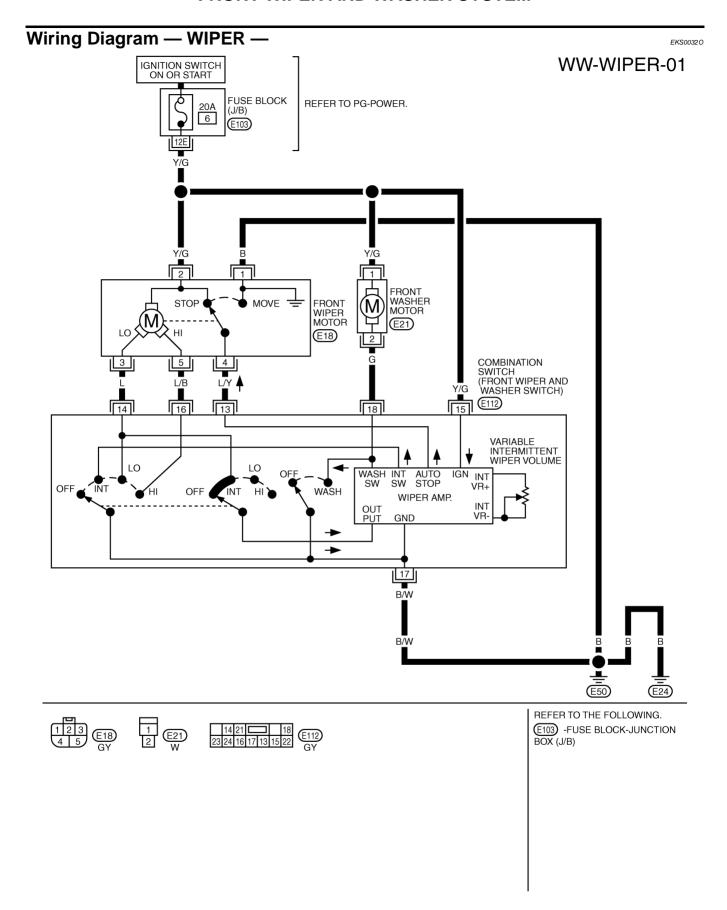
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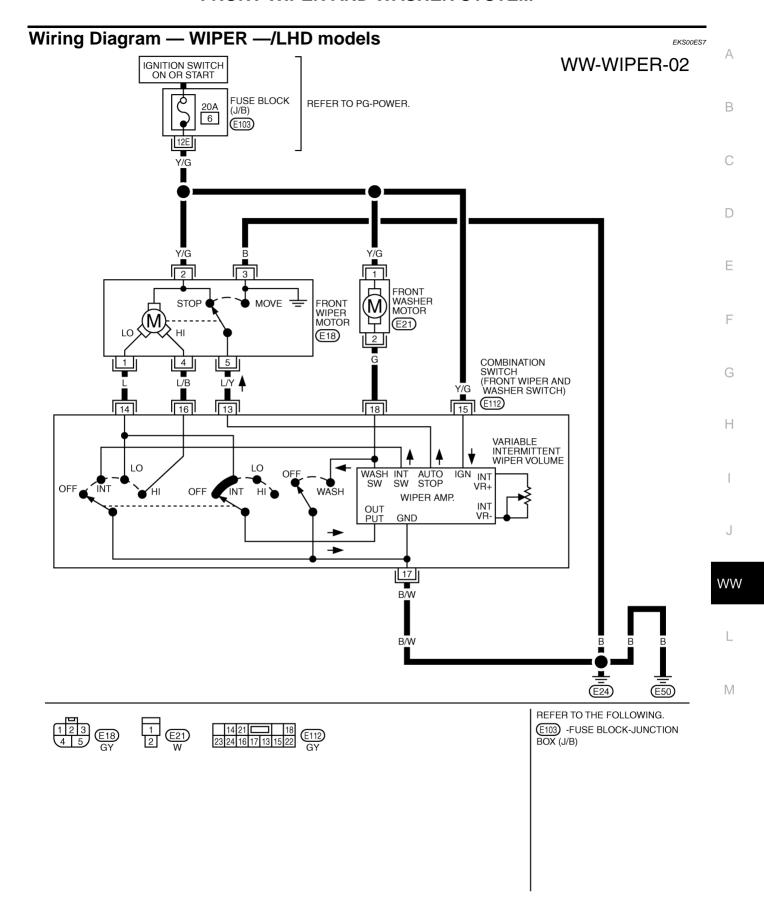
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TKWA1554E



TKWA1555E

Terminal and Reference Values for Combination Switch

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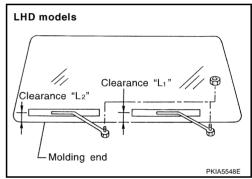
TERMINAL	WIRE			CONDITION	DATA (DC Voltage)		
NO.	COLOR	ITEM	IGNITION SWITCH	CONDITION OR			
13	L/Y	Wiper auto	ON	ON Wiper is moving Wiper while the vehicle is stopped		Approx. 0V	
13	L/ I	Stop signal	ON			Battery voltage	
14		Wiper motor	ON	Wiper switch	OFF	Battery voltage	
14	L	Operation signal (LO)	ON	wiper switch	LO	Approx. 0V	
15	Y/G	Ignition ON signal	ON	_		Battery voltage	
16	16 L/B Wiper motor	ON	ON Winer switch	OFF	Battery voltage		
10	L/B	Operation signal (HI)	ON	ON Wiper switch		HI	Approx. 0V
17	B/W	Ground	OFF			_	
18	G	G Washer switch signal	ON	Wiper switch	WASH	Approx. 0V	
					OFF	Battery voltage	

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

1. Prior to front wiper arm installation, turn on wiper switch to operate front wiper motor and then turn it "OFF" (Auto Stop).

2. Lift the blade up and then set it down onto glass surface to set the blade center to clearance "L1" & "L2" immediately before tightening nut.

3. Eject washer fluid. Turn on front wiper switch to operate front wiper motor and then turn it "OFF".

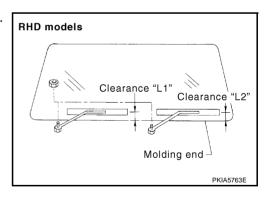


4. Ensure that front wiper blades stop within clearance "L1" & "L2".

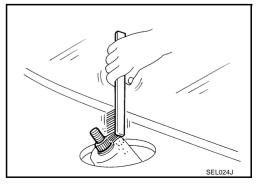
Clearance "L1": 49.2 - 64.2 mm (1.937 - 2.528 in) Clearance "L2": 39.3 - 54.3 mm (1.547 - 2.138 in)

• Tighten front wiper arm nuts to specified torque.

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

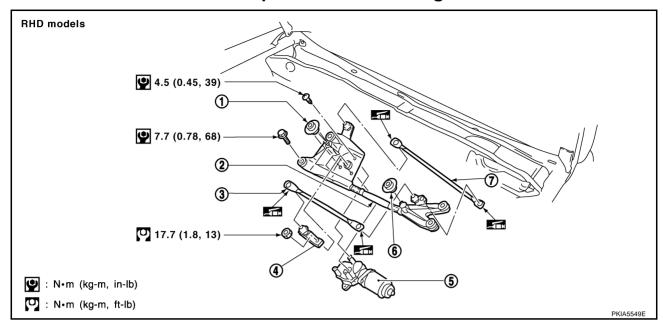


 Before reinstalling front wiper arm, clean up the pivot area as illustrated. This will reduce possibility of front wiper arm looseness.



Removal and Installation for Wiper Motor and Linkage

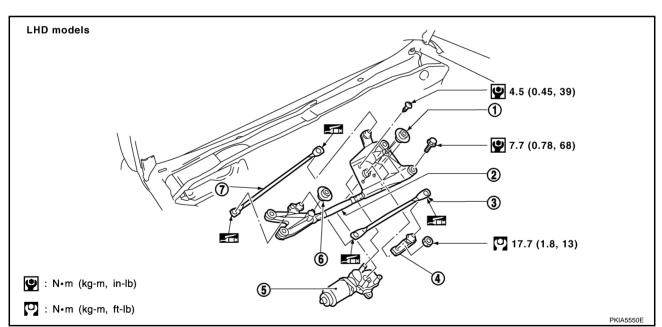
EKS0032R



- 1. Rubber
- 4. Motor arm
- 7. Wiper link

- 2. Wiper frame
- 5. Wiper Motor

- 3. Wiper link
- 6. Rubber
- .



- 1. Rubber
- 4. Motor arm
- 7. Wiper link

- 2. Wiper frame
- 5. Wiper Motor
- •

- 3. Wiper link
- 6. Rubber

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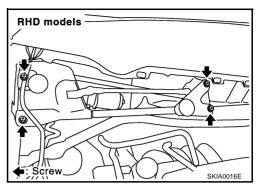
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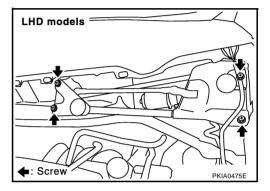
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REMOVAL

- Operate the front wiper motor, and stop it at the auto stop position.
- 2. Remove front wiper arm from the vehicle.
- 3. Remove the cowl top cover. Refer to EI-20, "COWL TOP".
- 4. Remove 4 screws and remove front wiper motor assembly from the vehicle.
- 5. Disconnect front wiper motor connector.
- 6. Remove wiper link from wiper frame.





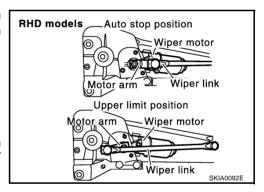


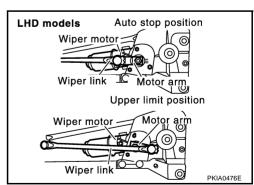
INSTALLATION

- 1. Connect front wiper motor to connector. Turn the wiper switch ON to operate front wiper motor, then turn the front wiper switch OFF (auto stop).
- 2. Disconnect wiper motor connector.
- 3. Install front wiper motor to the wiper frame.
- 4. Install front wiper motor assembly to the vehicle.
- 5. Install wiper link to the wiper motor arm.
- Connect front wiper motor connector. Turn the front wiper switch ON to operate the front wiper motor, then turn wiper switch OFF (auto stop)
- 7. Rotate motor arm to the upper limit position.
- 8. Install wiper motor assembly to the vehicle.
- 9. Turn the wiper switch ON to operate the Wiper motor, then turn wiper switch OFF (auto stop)
- 10. Install cowl top cover. Refer to EI-20, "COWL TOP".
- 11. Install wiper arm to the vehicle.

CAUTION:

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

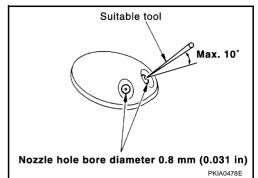




Washer Nozzle Adjustment

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

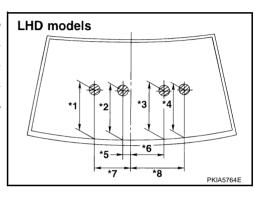
Adjustable range : $\pm 10^{\circ}$ (In any direction)

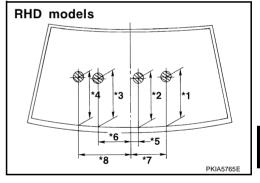


			Unit: mm (in)
*1	395 (15.55)	*5	100 (3.94)
*2	395 (15.55)	*6	100 (3.94)
*3	395 (15.55)	*7	400 (15.88)
*4	395 (15.55)	*8	400 (15.88)

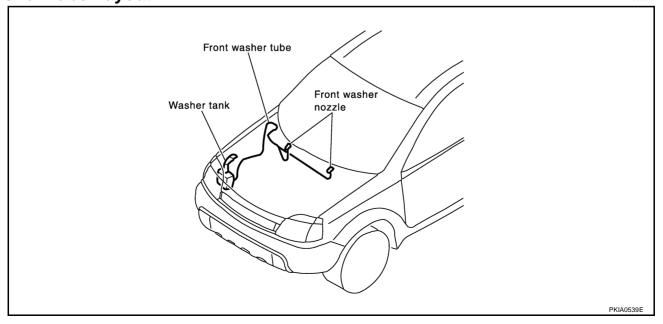
NOTE:

*: The diameters of these circles are less than 80 mm (3.15 in).





Washer Tube Layout



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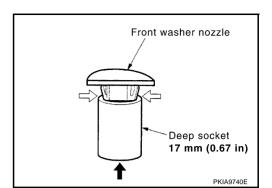
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Removal and Installation for Washer Nozzle REMOVAL

1. Push washer nozzle pawl toward engine hood to pull out.



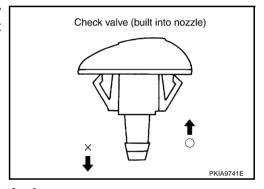
INSTALLATION

- 1. After connecting washer hose, press nozzle from cowl top cover surface.
- 2. Assemble nozzle and socket.
- 3. Adjust nozzle injection position.

Inspection for Washer Nozzle CHECK VALVE

 Blow air in the injection direction, and check that air flows only one way. Make sure that the reverse direction (inhale) is not possible. EKS0032V

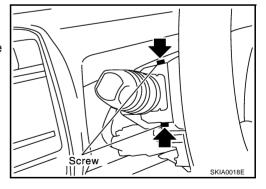
EKS0032U



Removal and Installation for Wiper and Washer Switch REMOVAL

EKS0032W

- 1. Remove steering column cover.
- 2. Remove wiper washer switch connector.
- 3. Remove two screws then remove wiper washer switch from the spiral cable.



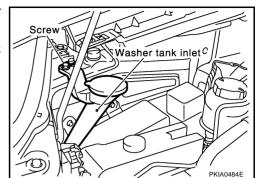
INSTALLATION

Installation is in the reverse order of removal.

WW-12

Removal and Installation for Washer Tank

- 1. Remove washer tank inlet installation screw and pull out washer tank inlet.
- 2. Remove fender protector, refer to <u>EI-21, "FENDER PROTECTOR"</u>
- 3. Remove washer pump connector.
- 4. Remove washer tank installation screw and pawl.



5. Remove washer hose, and remove the washer tank from the vehicle.

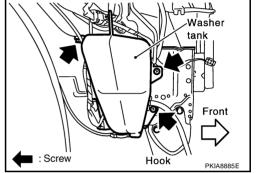
CAUTION:

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

Washer tank installation screw

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: 4.5 N-m (0.45 kg-m, 39 in-lb)



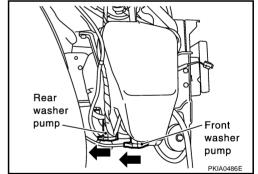
EKS0032Y

Removal and Installation for Washer Pump

- 1. Remove fender protector, refer to EI-21, "FENDER PROTECTOR"
- 2. Remove washer pump connector and hose.
- 3. Pull out washer pump in the direction of the arrow in the figure, and remove the washer pump from the washer tank.

CAUTION:

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



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REAR WIPER AND WASHER SYSTEM PFP:28710 Wiring Diagram — WIP/R — EKS0032Z WW-WIP/R-01 IGNITION SWITCH ON OR START FUSE BLOCK (J/B) 10<u>A</u> REFER TO PG-POWER. 16 (E103), (B5) 4G L/Y NEXT PAGE (B27) **D**52 (D56) 2 (L): LHD MODELS (D42) R : RHD MODELS *1 2: \(\) 8: (R) $\overline{4}$ 2 *2 10:\L REAR 18: (R) WIPER MOTOR (D43) (D41) (D51) 5 BR/Y (D53) BR/Y ■B ■ BR/Y ■ 5 ■ BR/Y ■ ■ BR/Y ■ *1 ■ BR/Y ■ (B2) (M18) M14 E106 NEXT PAGE W ■ 15 ■ W/L ■ ■ W/L ■ *2 ■ W REFER TO THE FOLLOWING. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 BR (E103), (B5) -FUSE BLOCK-JUNCTION BOX (J/B) (E106): (R), (B2) BR 1 D52 W 1 2 D51 , D57 W 12 D56

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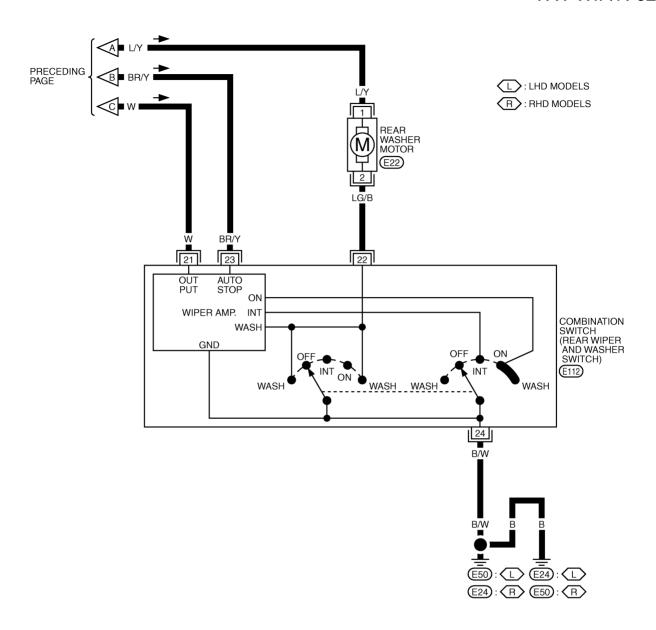
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TKWA1557E

Terminal and Reference Values for Combination Switch

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TERMINAL	WIRE		CONDITION				
NO.	COLOR	ITEM	IGNITION SWITCH	CONDITION OR OPERATION		DATA(DC Voltage)	
		Wiper motor		ON Wiper switch	OFF	Battery voltage	
21	W	Operation signal (ON)	ON		ON	Approx. 0V	
22	LG/B	Washer switch sig- nal	ON	ON Wiper switch	WASH	Approx. 0V	
22 LG/E	LG/B		ON		OFF	Battery voltage	
23	BR/Y	Wiper motor Operation signal	ON	Wiper switch: INT		(V) 15 10 5 0	
24	B/W	Ground	OFF	_		_	

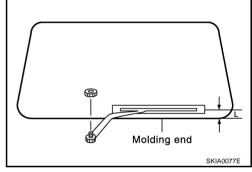
Removal and Installation for Rear Wiper Arms WIPER ARMS

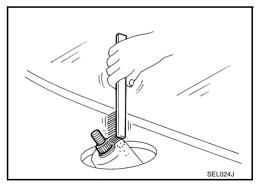
FKS00331

- 1. Turn on wiper switch to operate wiper motor and then turn it "OFF" (Auto Stop).
- 2. Lift the blade up and then set it down onto glass surface. Set the black center to clearance "L" immediately before tightening the nut.
- 3. Eject washer fluid. Turn on wiper switch to operate wiper motor and then turn it "OFF".
- 4. Ensure that wiper blades stop on the lowest heat wire.
 - Center to clearance "L".

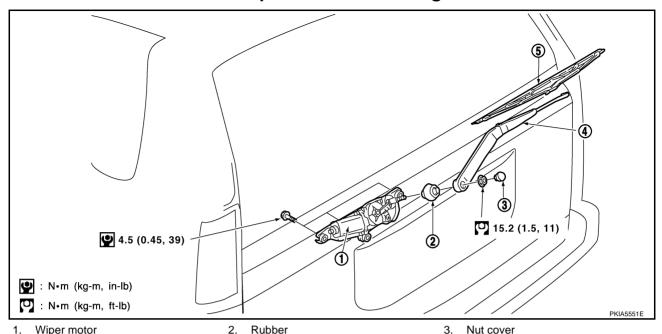
"L" : 63.1±7.5 mm (2.484±0.295 in)

- Tighten rear wiper arm nuts to specified torque.
 - : 15.2 N-m (1.5 kg-m, 11 ft-lb)
- Before reinstalling wiper arm, clean up the pivot area as illustrated. This will reduce possibility of wiper arm looseness.





Removal and Installation for Wiper Motor and Linkage



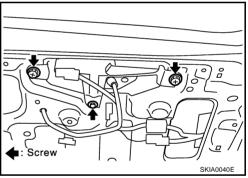
4. Wiper arm

5. Wiper blade

REMOVAL

1. Remove the back door finisher. Refer to EI-34, "BACK DOOR TRIM".

- 2. Operate the wiper motor, and stop it at the auto stop position.
- 3. Disconnect wiper motor connector.
- 4. Remove wiper arm from the vehicle.
- 5. Remove wiper motor form the vehicle.
- 6. Remove rubber from the vehicle.



INSTALLATION

- 1. Install rubber to the vehicle.
- Install wiper motor to the vehicle.
- Connect wiper motor to connector. Turn the wiper switch ON to operate wiper motor, then turn the wiper switch OFF (auto stop).
- Install wiper arm to the vehicle.
- Install back door finisher. Refer to EI-34, "BACK DOOR TRIM".
- Tighten rear wiper arm nuts to specified torque.

: 15.2 N-m (1.5 kg-m, 11 ft-lb)

- Tighten rear wiper motor nuts to specified torque.
 - : 4.5 N-m (0.45 kg-m, 39 in-lb)

CAUTION:

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

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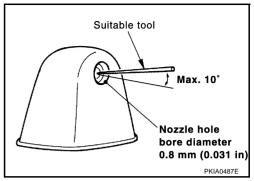
Washer Nozzle Adjustment

EKS00333

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

Adjustable range

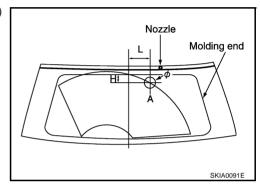
: ±10° (In any direction)



Unit: mm (in)

*H	90 (3.54)
* L	150 (5.91)

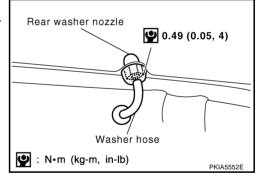
^{*:} The diameter of this circle is less than 40 mm (1.57in).



Removal and Installation for Rear Washer Nozzle REMOVAL

EKS00334

- Remove washer hose from washer nozzle.
- 2. Remove washer nozzle installation screw and remove washer nozzle.



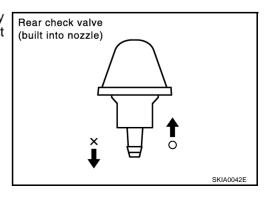
INSTALLATION

- 1. After connecting washer hose, press nozzle from cowl top cover surface.
- 2. Assemble nozzle and socket.
- 3. Adjust nozzle injection position.

Inspection for Washer Nozzle CHECK VALVE

EKS00335

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



Removal and Installation for Wiper and Washer Switch

EKS00336

Refer to WW-12, "Removal and Installation for Wiper and Washer Switch" .

Removal and Installation for Washer Tank

EKS00337

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Refer to $\underline{\text{WW-}13,\,\text{"Removal and Installation for Washer Tank"}}$.

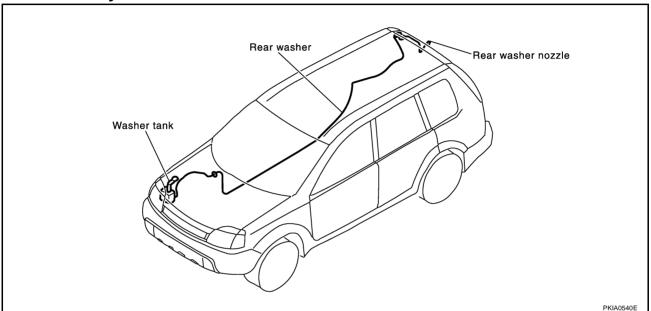
Removal and Installation for Washer Pump

EKS00338

Refer to WW-13, "Removal and Installation for Washer Pump" .

Washer Tube Layout

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HEADLAMP WASHER

PFP:28620

System Description

EKS0036H

The headlamp washer is controlled by the headlamp washer timer. With power and ground supplied, the headlamp washer motor operates.

Power is supplied at all times

- through 30A fusible link (letter E, located in fuse and fusible link box)
- to headlamp washer motor terminal 1, and
- through 10A fuse (No. 31, located in fuse and fusible link box)
- to lighting switch terminal 11.

With ignition switch in the ON or START position, power is supplied

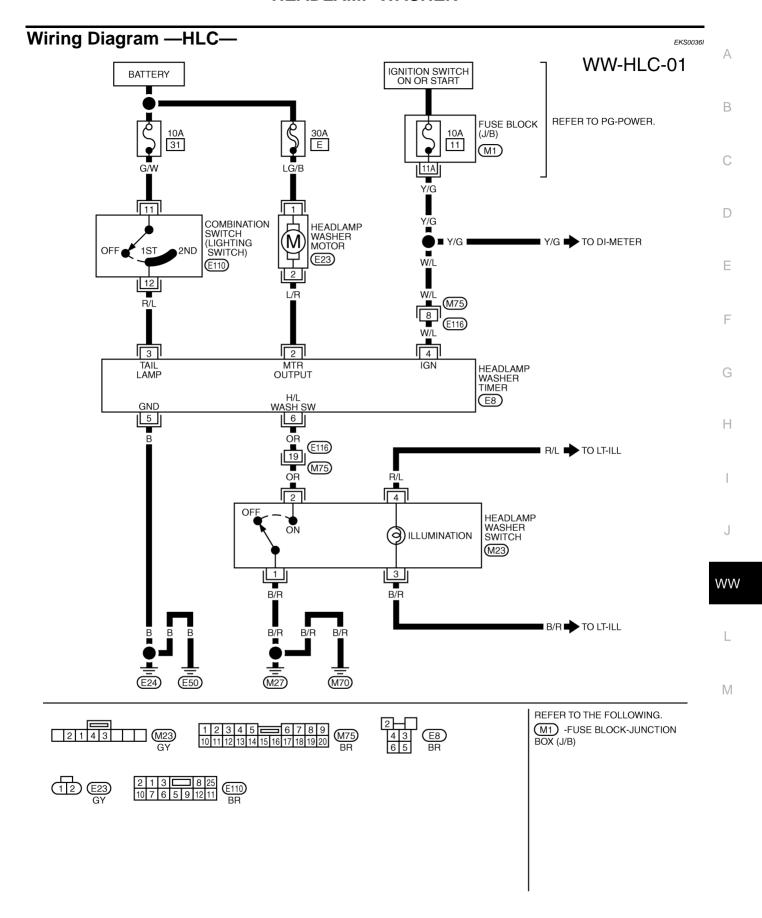
- through 10A fuse [No. 11, located in fuse block (J/B)]
- to headlamp washer timer terminal 4.

Ground is supplied

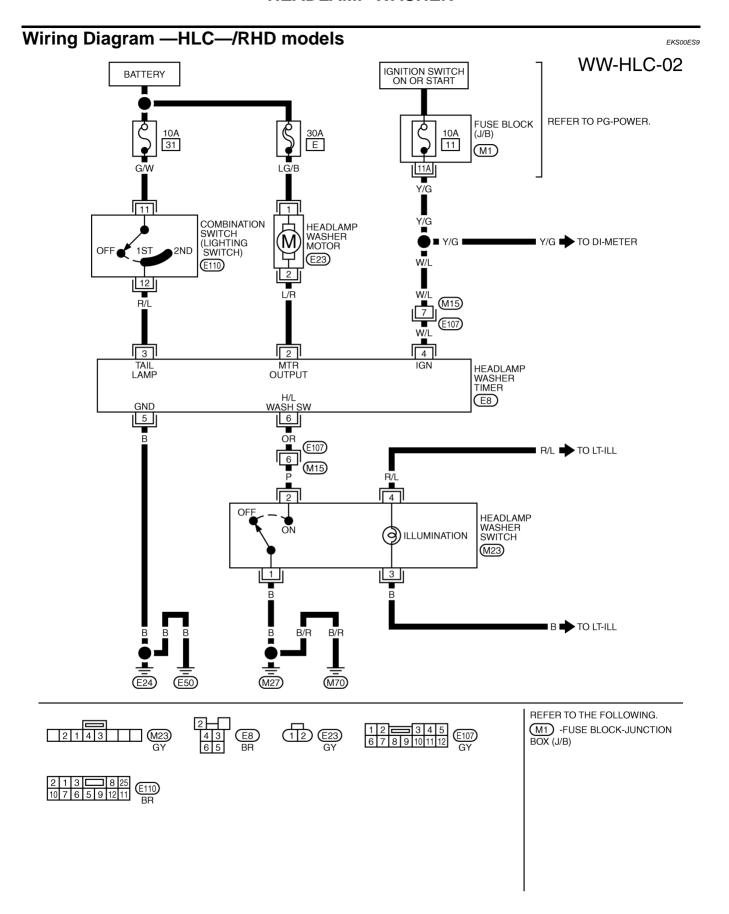
• to headlamp washer timer terminal 5 through grounds E24 and E50.

When headlamp washer switch is pushed during lighting switch is in 1st or 2ND position. Ground is supplied

- to headlamp washer timer terminal 6
- through headlamp washer switch and grounds M27 and M70, and
- to headlamp washer motor terminal 2
- through headlamp washer timer terminal 2.



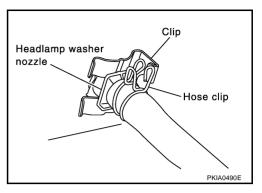
TKWA1558E



TKWA1559E

Removal and Installation for Washer Nozzle REMOVAL

- 1. Remove front bumper, refer to EI-14, "FRONT BUMPER"
- 2. Remove hose clip and washer nozzle metal clip.
- Remove washer nozzle from front bumper.

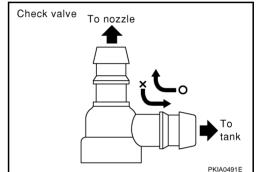


INSTALLATION

Installation is in the reverse order of removal.

Inspection for Washer Nozzle CHECK VALVE

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



Removal and Installation for Washer Tank

Refer to, WW-13, "Removal and Installation for Washer Tank"

Removal and Installation for Washer Pump

- 1. Remove front bumper, refer to EI-14, "FRONT BUMPER"
- 2. Remove washer pump connector and hose.
- 3. Pull out washer pump in the direction of the arrow in the figure, and remove the washer pump from the washer tank.

CAUTION:

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

Front Headlamp washer pump PKIA0494E

EKS0036J

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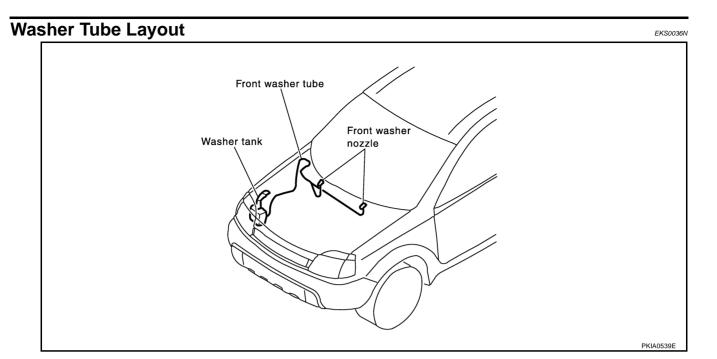
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EKS0036L

EKS0036M

WW

L



HORN

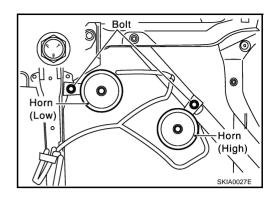
HORN PFP:25610 Α Wiring Diagram — HORN — EKS0033A WW-HORN-01 В L: LHD MODELS BATTERY С (R): RHD MODELS REFER TO PG-POWER. 34 D 2 Е HORN RELAY (E4) F G W/G 16 W/G (E106) Н M14 COMBINATION SWITCH (SPIRAL CABLE) J (M202) WW 12 HORN SWITCH **PUSHED** HORN LOW HORN HIGH RELEASED M E4 W M11 (M202)

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

Removal and Installation REMOVAL

1. Remove the front grille.refer to EI-19, "FRONT GRILLE"

- 2. Disconnect horn connector.
- 3. Remove horn.



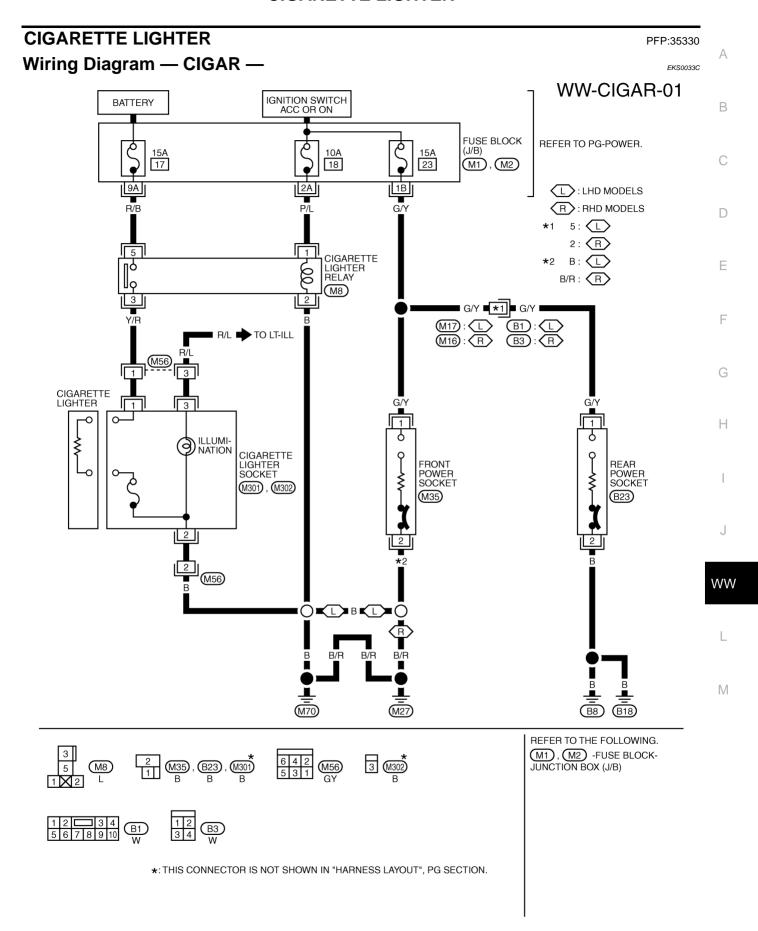
EKS0033B

INSTALLATION

Tighten horn bolt to specified torque.

Horn bolt : 17 N-m(1.7 kg-m, 12 ft-lb)

CIGARETTE LIGHTER

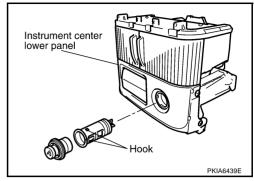


CIGARETTE LIGHTER

Removal and Installation REMOVAL

EKS0033D

- 1. Remove instrument center lower panel, refer to <u>IP-10, "INSTRU-MENT PANEL ASSEMBLY"</u>.
- 2. Disconnect cigarette lighter and illumination lamp connector.

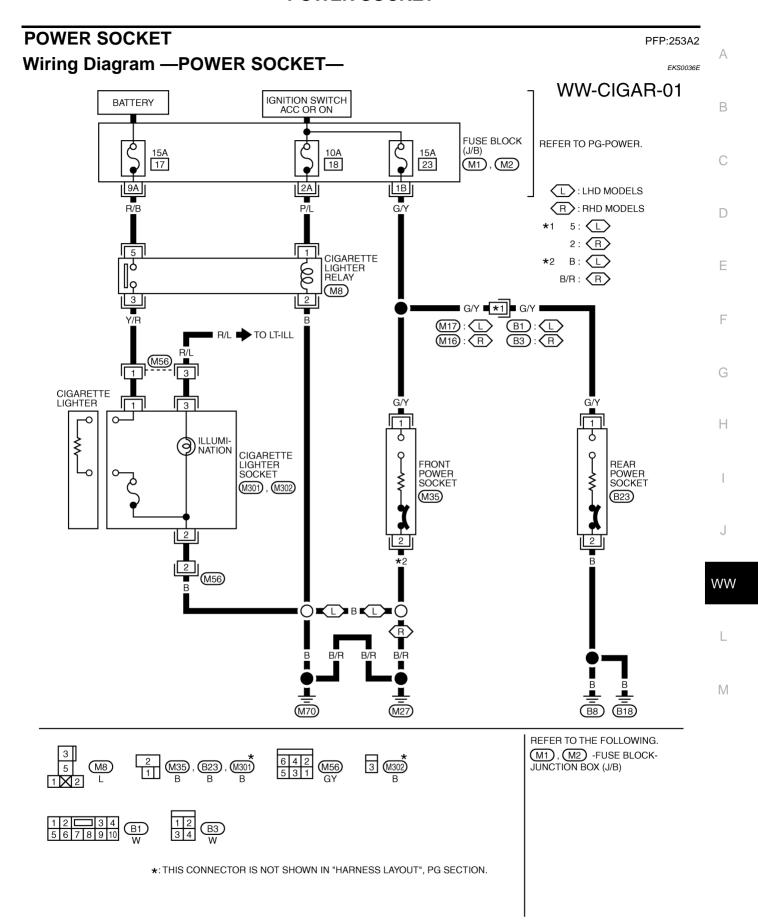


3. Pull out socket from instrument lower center panel.

INSTALLATION

Install in the reverse order of removal aligning notches of cigarette lighter ring and instrument lower center panel.

POWER SOCKET

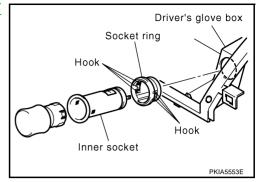


POWER SOCKET

Removal and Installation for Front Power Socket REMOVAL

EKS0036F

- 1. Remove the driver's glove box, refer to IP-10, "INSTRUMENT PANEL ASSEMBLY"
- 2. Disconnect power socket connector.
- 3. Pull out inner socket from socket ring.
- 4. Pull out socket ring from driver's glove box.



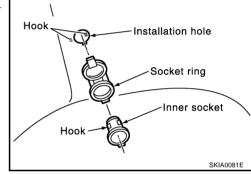
INSTALLATION

Install in the reverse order of removal aligning notches of power socket and inner case.

Removal and Installation for Rear Power Socket REMOVAL

EK\$0036G

- Remove luggage side lower finisher, refer to EI-36, "LUGGAGE SIDE LOWER FINISHER"
- 2. Disconnect power socket connector.
- 3. Pull out inner socket from luggage side lower finisher.



INSTALLATION

Install in the reverse order of removal aligning notches of power socket and installation hole.