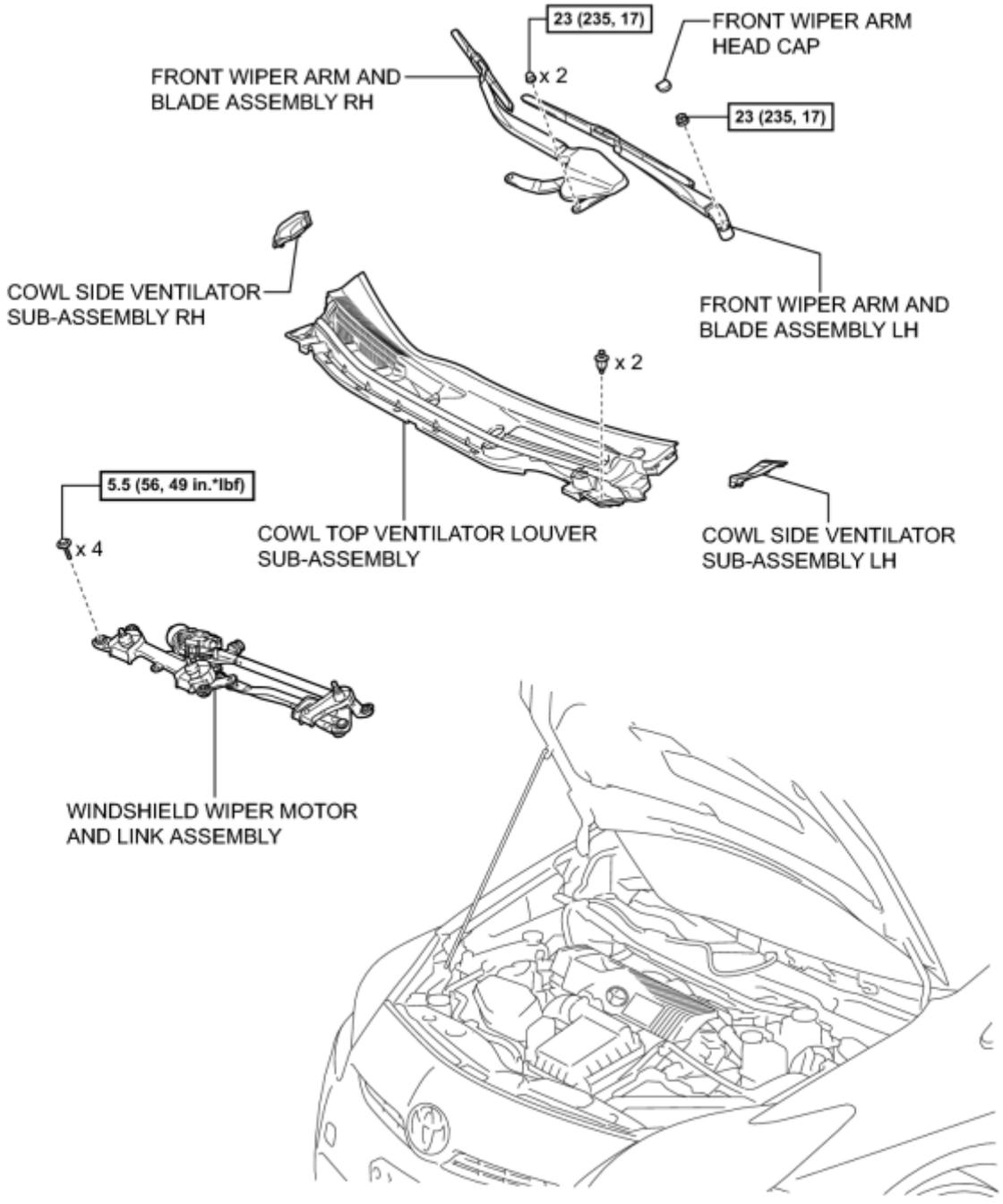


# COMPONENTS

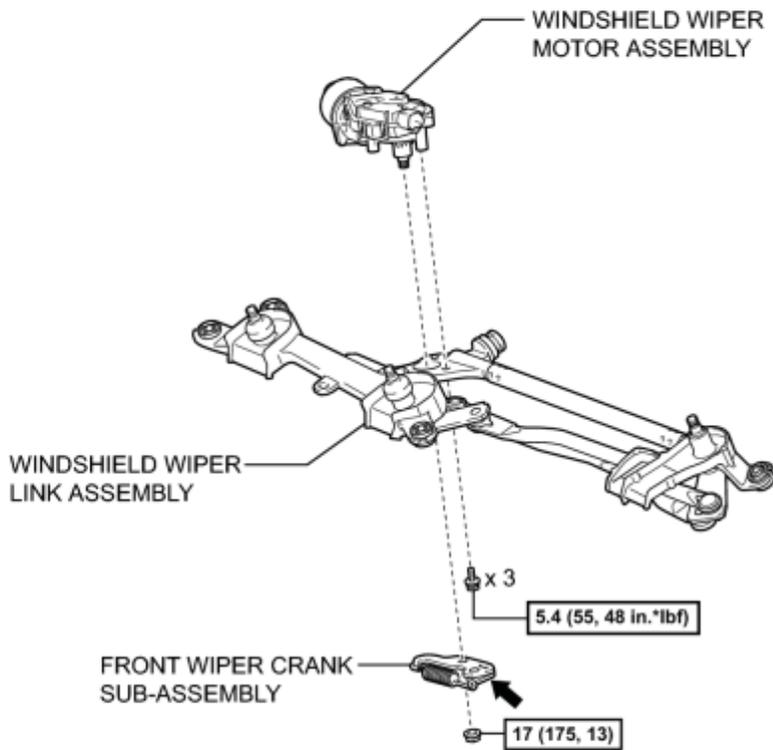
# ILLUSTRATION



**N·m (kgf·cm, ft.·lbf)**: Specified torque

P

# ILLUSTRATION



**N·m (kgf·cm, ft.\*lbf)**: Specified torque

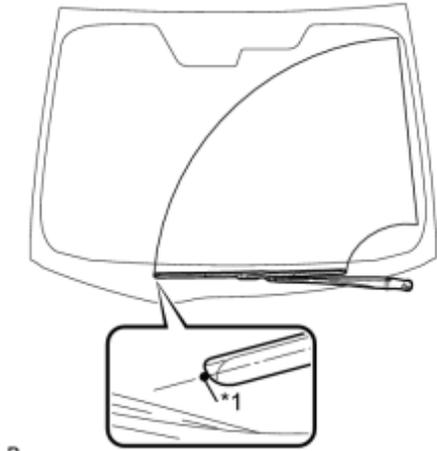
← MP grease

P

# ON-VEHICLE INSPECTION

## 1. INSPECT WINDSHIELD WIPER MOTOR ASSEMBLY

(a) for LH Side



(1) Operate the windshield wiper motor assembly.

P

(2) Stop the windshield wiper motor assembly operation.

(3) Check the automatic stop (park) position.

OK:

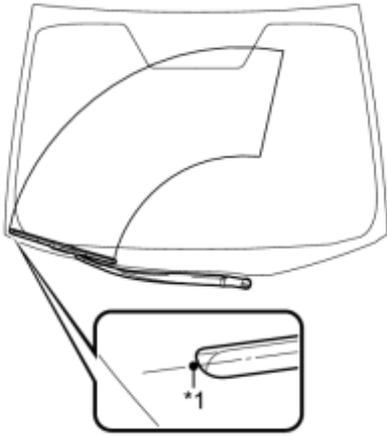
The front wiper stops at the position shown in the illustration.

### *Text in Illustration*

*1	Ceramic Dot
----	-------------

(b) for RH Side

(1) Operate the windshield wiper motor assembly.



P

(2) Stop the windshield wiper motor assembly operation.

(3) Check the automatic stop (park) position.

OK:

The front wiper stops at the position shown in the illustration.

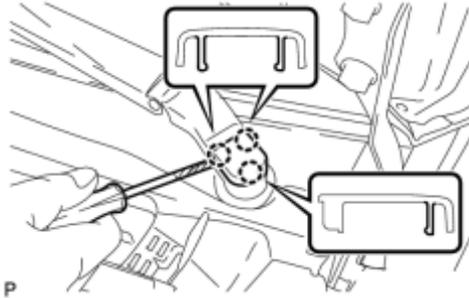
***Text in Illustration***

*1	Ceramic Dot
----	-------------

# REMOVAL

## 1. REMOVE FRONT WIPER ARM HEAD CAP

(a) Using a screwdriver, disengage the 3 claws and remove the front wiper arm head cap.

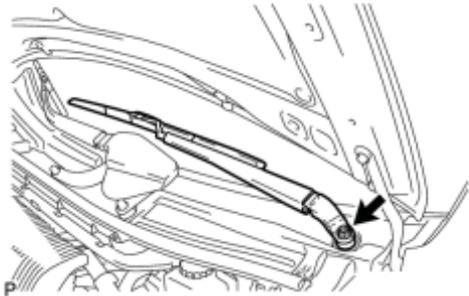


### Text in Illustration

*1	Protective Tape
----	-----------------

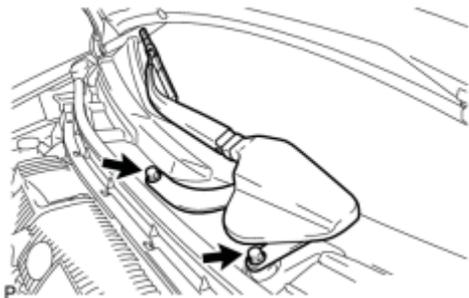
- Tape the screwdriver tip before use.
- Use the same procedure for the RH side and LH side.

## 2. REMOVE FRONT WIPER ARM AND BLADE ASSEMBLY LH



(a) Remove the nut and the front wiper arm and blade assembly LH.

## 3. REMOVE FRONT WIPER ARM AND BLADE ASSEMBLY RH

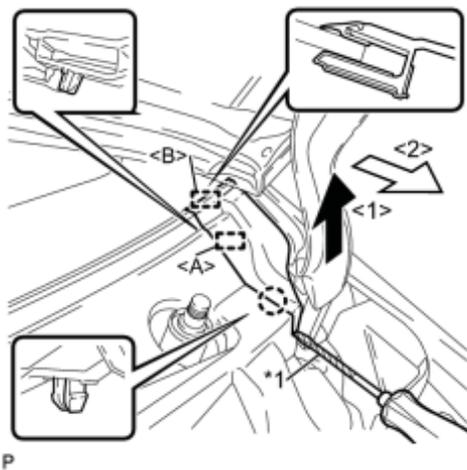


(a) Remove the 2 nuts and the front wiper arm and blade assembly RH.

## 4. REMOVE COWL SIDE VENTILATOR SUB-ASSEMBLY LH

(a) Using a screwdriver, disengage the claw and guide <A> as shown in the illustration.

### Text in Illustration



*1	Protective Tape
----	-----------------

HINT:  
Tape the screwdriver tip before use.

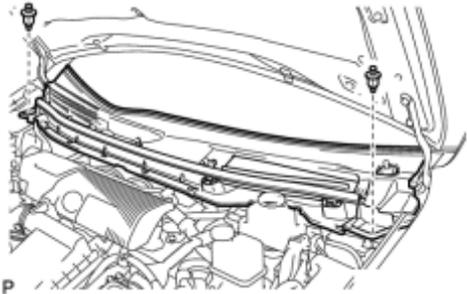
(b) Disengage the guide <B> and remove the cowl side ventilator sub-assembly LH as shown in the illustration.

5. REMOVE COWL SIDE VENTILATOR SUB-ASSEMBLY RH

HINT:

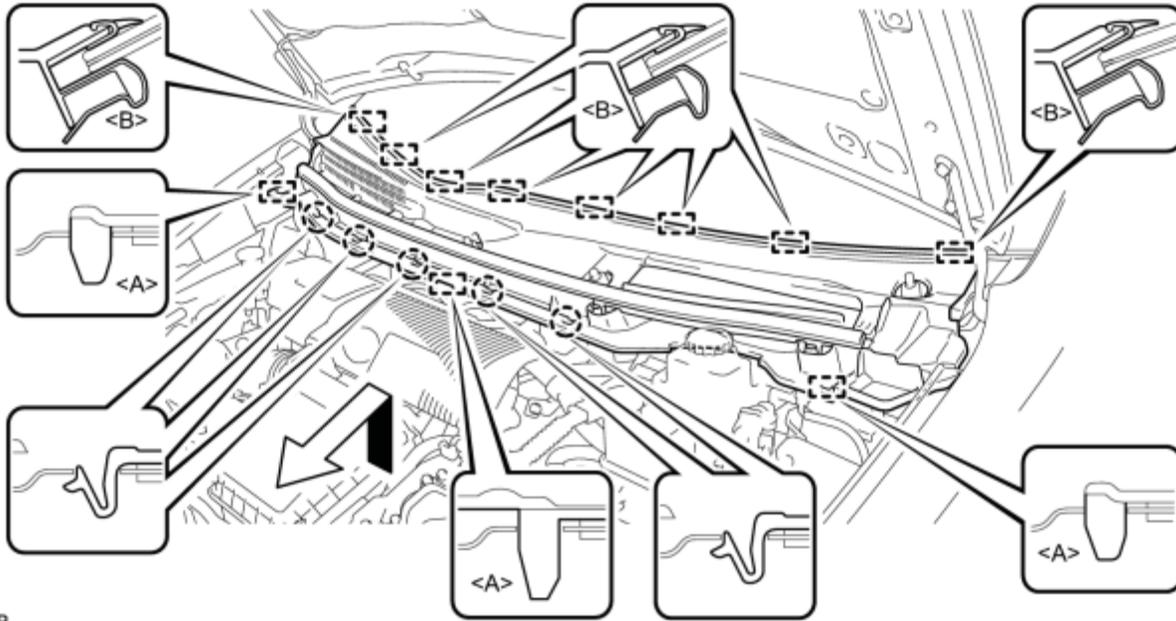
Use the same procedure for the RH side and LH side.

6. REMOVE COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY



(a) Remove the 2 clips.

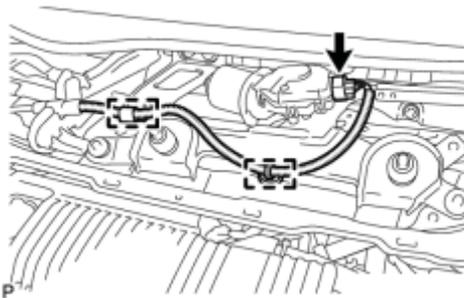
(b) Disengage the 5 claws and 3 guides <A>.



(c) Disengage the 8 guides <B> and pull out the cowl top ventilator louver sub-assembly as shown in the illustration.

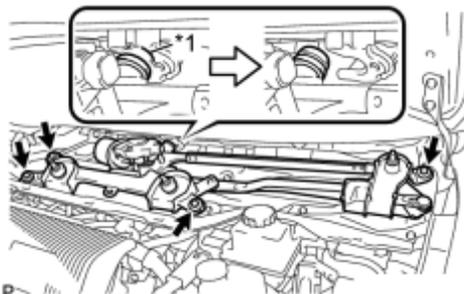
## 7. REMOVE WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY

(a) Operate the wiper and stop the windshield wiper motor at the automatic stop position.



(b) Disconnect the connector.

(c) Disengage the 2 clamps.



(d) Remove the 4 bolts.

### Text in Illustration

*1	Grommet
----	---------

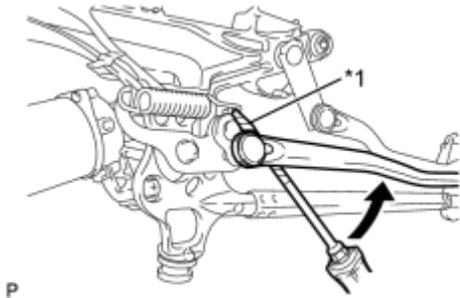
(e) Disengage the grommet and remove the windshield wiper motor and link assembly as shown in the illustration.

**NOTICE:**

Be careful not to damage the windshield when removing the windshield wiper motor and link assembly.

**8. REMOVE FRONT WIPER CRANK SUB-ASSEMBLY**

(a) Using a screwdriver, separate the windshield wiper link rod from the crank arm pivot of the front wiper crank sub-assembly as shown in the illustration.



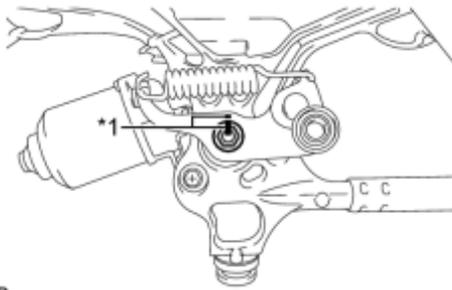
**Text in Illustration**

*1	Protective Tape
----	-----------------

**HINT:**

Tape the screwdriver tip before use.

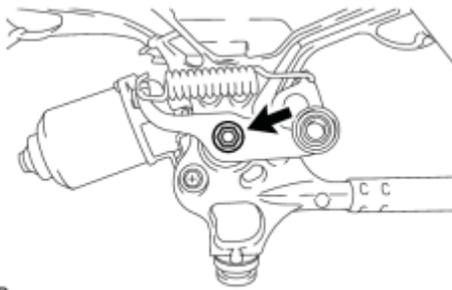
(b) When reusing the windshield wiper motor assembly and front wiper crank sub-assembly:



(1) Place matchmarks on the windshield wiper link assembly and front wiper crank sub-assembly as shown in the illustration.

**Text in Illustration**

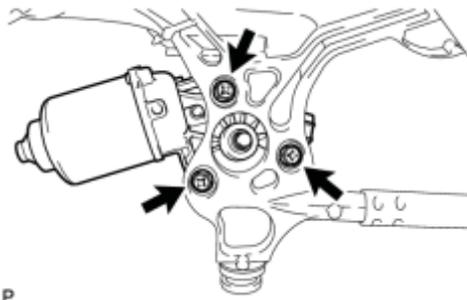
*1	Matchmark
----	-----------



(c) Remove the nut and the front wiper crank sub-assembly.

**9. REMOVE WINDSHIELD WIPER MOTOR ASSEMBLY**

(a) Remove the 3 bolts and remove the windshield wiper motor assembly.



P

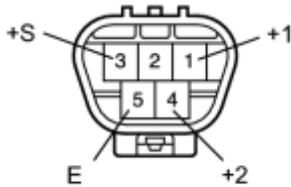
# INSPECTION

## NOTICE:

Ensure that fingers or articles of clothing do not get caught in moving parts when performing this test.

### 1. INSPECT WINDSHIELD WIPER MOTOR ASSEMBLY

\*1



(a) Check the low speed operation.

(1) Connect a battery positive (+) lead to terminal 1 (+1) and a negative (-) lead to terminal 5 (E), and check that the motor operates at low speed.

OK:

Motor operates at low speed.

P

(b) Check the high speed operation.

(1) Connect a battery positive (+) lead to terminal 4 (+2) and a negative (-) lead to terminal 5 (E), and check that the motor operates at high speed.

OK:

Motor operates at high speed.

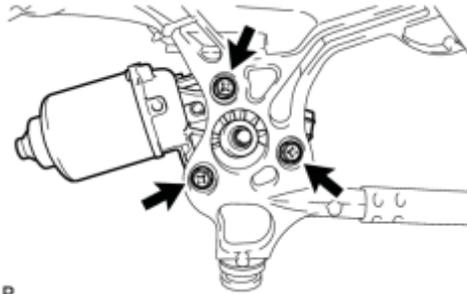
#### *Text in Illustration*

*1	Component without harness connected (Windshield Wiper Motor Assembly)
----	--

If the result is not as specified, replace the windshield wiper motor assembly.

# INSTALLATION

## 1. INSTALL WINDSHIELD WIPER MOTOR ASSEMBLY



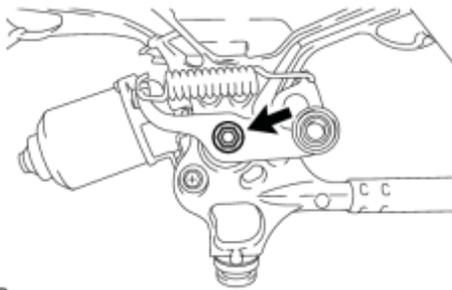
(a) Install the windshield wiper motor assembly with the 3 bolts.

Torque: **5.4 N·m (55 kgf·cm, 48in·lbf)**

P

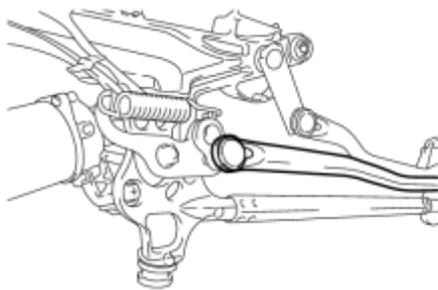
## 2. INSTALL FRONT WIPER CRANK SUB-ASSEMBLY

(a) When replacing the windshield wiper motor assembly and front wiper crank sub-assembly with a new one:



(1) Temporarily install a front wiper crank sub-assembly on the new windshield wiper motor assembly with the nut.

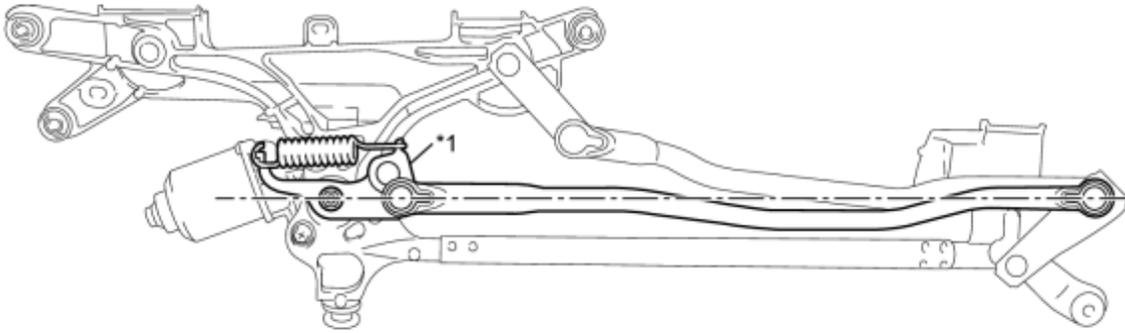
P



(2) Temporarily install the windshield wiper motor and link on the crank arm pivot of the front wiper crank sub-assembly.

P

(3) Align the front wiper crank sub-assembly with the windshield wiper motor and link as shown in the illustration.



P

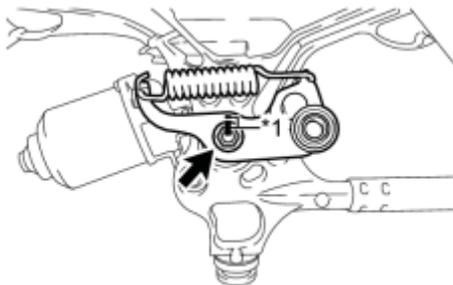
**Text in Illustration**

*1	Front Wiper Crank Sub-assembly
----	--------------------------------

(4) Tighten install the front wiper crank sub-assembly with the nut.

Torque: **17 N·m (175 kgf·cm, 13ft·lbf)**

(b) When reusing the windshield wiper motor assembly and front wiper crank sub-assembly:



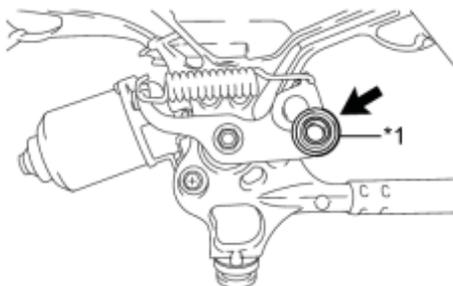
(1) Align the matchmarks to install the front wiper crank sub-assembly with the nut.

**Text in Illustration**

*1	Matchmark
----	-----------

P

Torque: **17 N·m (175 kgf·cm, 13ft·lbf)**



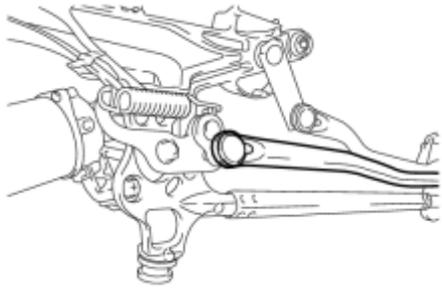
(c) Apply MP grease to the crank arm pivot of the front wiper crank sub-assembly.

**Text in Illustration**

*1	Crank arm Pivot
----	-----------------

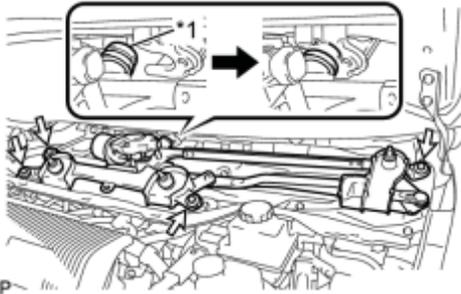
P

(d) Connect the rod of the windshield wiper link assembly to the crank arm pivot of the front wiper crank sub-assembly.



P

### 3. INSTALL WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY



P

(a) Engage the grommet as shown in the illustration.

#### Text in Illustration

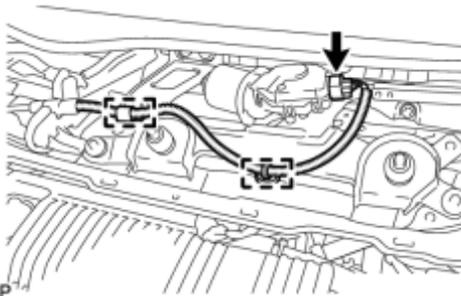
*1	Grommet
----	---------

(b) Install the windshield wiper motor and link assembly with the 4 bolts.

Torque: **5.5 N·m (56 kgf·cm, 49in·lbf)**

#### NOTICE:

Be careful not to damage the windshield when installing the windshield wiper motor and link assembly.



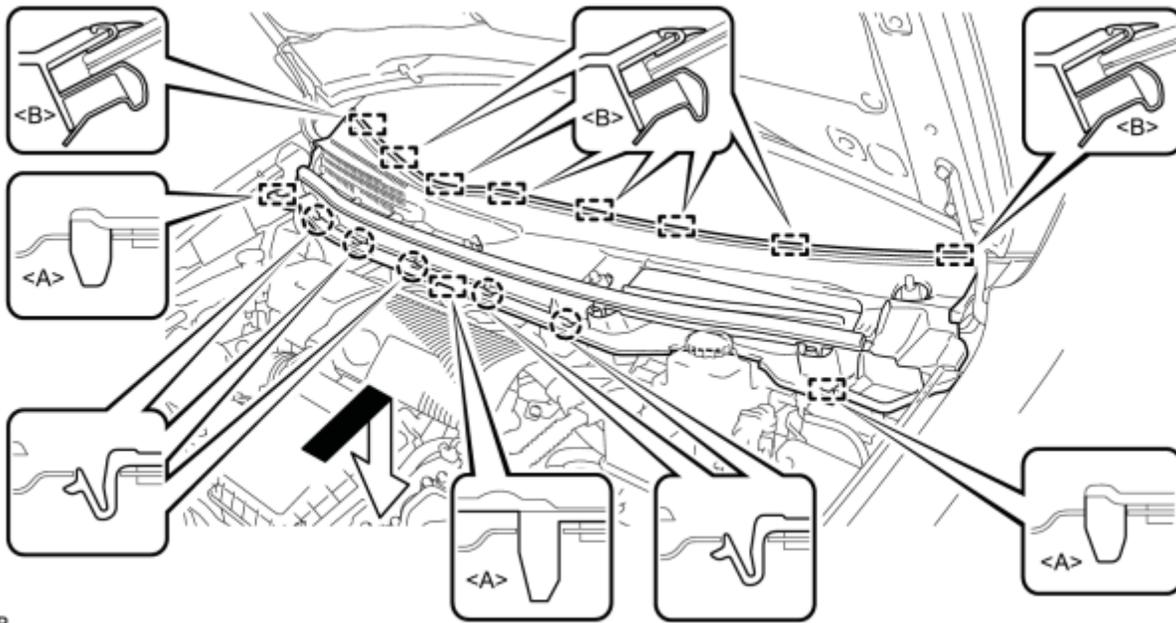
P

(c) Engage the 2 clamps.

(d) Connect the connector.

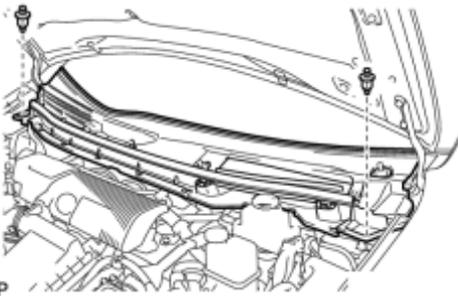
### 4. INSTALL COWL TOP VENTILATOR LOUVER SUB-ASSEMBLY

(a) Engage the 8 guides <B>.



P

(b) Engage the 5 claws and 3 guides <A> to install the cowl top ventilator louver sub-assembly as shown in the illustration.

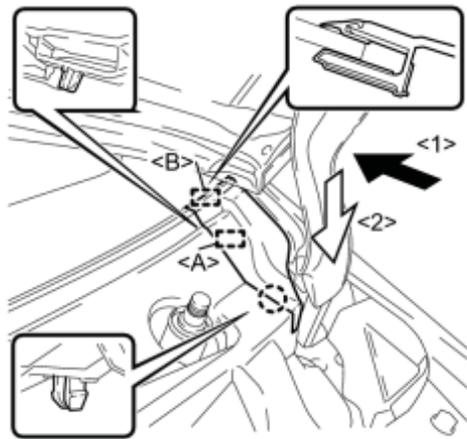


P

(c) Install the 2 clips.

## 5. INSTALL COWL SIDE VENTILATOR SUB-ASSEMBLY LH

(a) Engage the guide <B> as shown in the illustration.



P

(b) Engage the claw and guide <A> to install the cowl side ventilator sub-assembly LH as shown in the illustration.

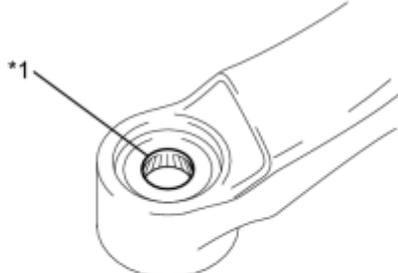
6. INSTALL COWL SIDE VENTILATOR SUB-ASSEMBLY RH

HINT:

Use the same procedure for the RH side and LH side.

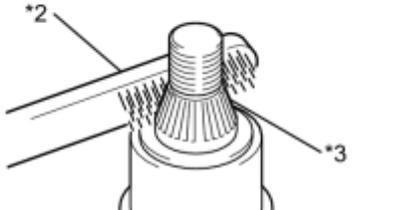
7. INSTALL FRONT WIPER ARM AND BLADE ASSEMBLY RH

(a) Operate the wiper and stop the windshield wiper motor at the automatic stop position.



(b) When reusing the front wiper arm and blade assembly RH:  
 (1) Clean the wiper arm serrations.

**Text in Illustration**

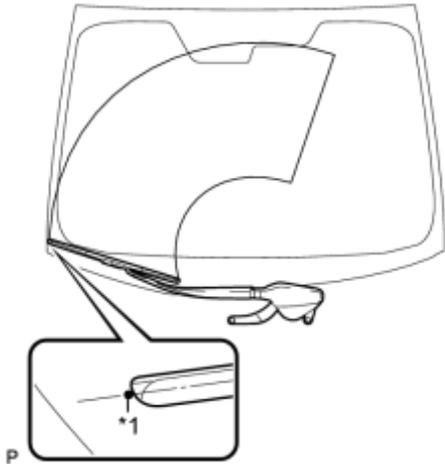


*1	Wiper Arm Serration
*2	Wire Brush
*3	Wiper Pivot Serration

P

(c) When reusing the windshield wiper link assembly:

(1) Clean the wiper pivot serrations with a wire brush.



(d) Install the front wiper arm and blade assembly RH with the 2 nuts to the position shown in the illustration.

Torque: **23 N·m (235 kgf·cm, 17ft·lbf)**

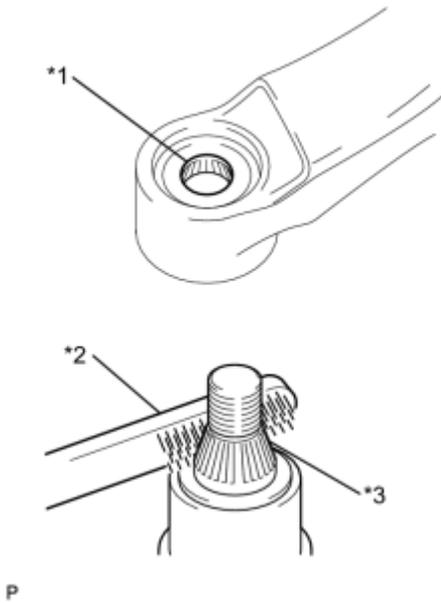
### Text in Illustration

*1	Ceramic Dot
----	-------------

HINT:

Hold the wiper arm by hand while tightening the nut.

## 8. INSTALL FRONT WIPER ARM AND BLADE ASSEMBLY LH



(a) When reusing the front wiper arm and blade assembly LH:

(1) Clean the wiper arm serrations.

### Text in Illustration

*1	Wiper Arm Serration
*2	Wire Brush
*3	Wiper Pivot Serration

(b) When reusing the windshield wiper link assembly:

(1) Clean the wiper pivot serrations with a wire brush.

(c) Install the front wiper arm and blade assembly LH with the nut to the position shown in the illustration.

Torque: **23 N·m (235 kgf·cm, 17ft·lbf)**



## Text in Illustration

*1	Ceramic Dot
----	-------------

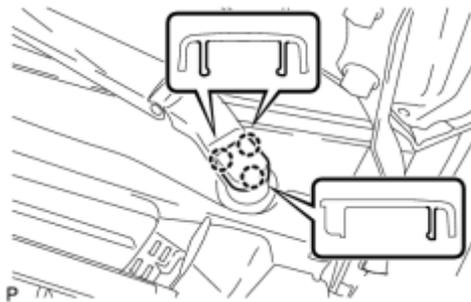
HINT:

Hold the wiper arm by hand while tightening the nut.

P

(d) Operate the front wipers while spraying washer fluid on the windshield glass. Make sure that the front wipers function properly and there is no interference with the vehicle body.

### 9. INSTALL FRONT WIPER ARM HEAD CAP



(a) Engage the 3 claws to install the front wiper arm head cap.

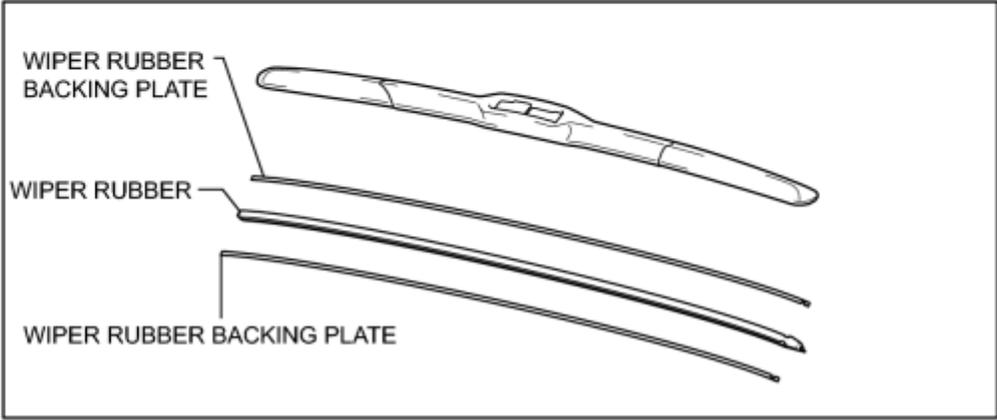
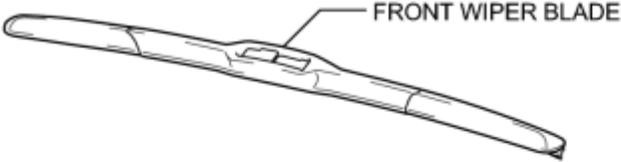
HINT:

Use the same procedure for the RH side and LH side.

P

# COMPONENTS

# ILLUSTRATION



P

# REPLACEMENT

## 1. REMOVE FRONT WIPER BLADE



(a) Remove the holder of the front wiper blade as shown in the illustration.

### Text in Illustration

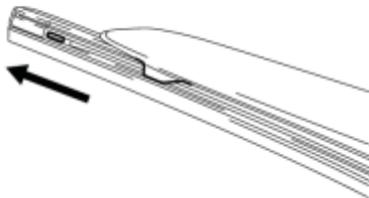
*1	Holder
----	--------

(b) Remove the front wiper blade from the front wiper arm as shown in the illustration.

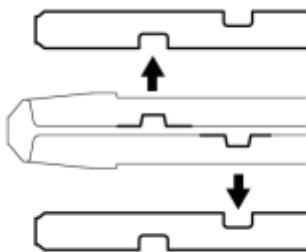
### NOTICE:

Do not lower the front wiper arm with the front wiper blade removed. The arm tip may damage the windshield surface.

## 2. REMOVE WIPER RUBBER



(a) Remove the wiper rubber with the wiper rubber backing plates from the front wiper blade.

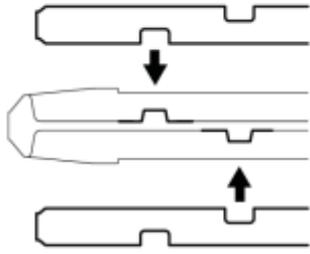


(b) Remove the 2 wiper rubber backing plates from the wiper rubber.

## 3. INSTALL WIPER RUBBER

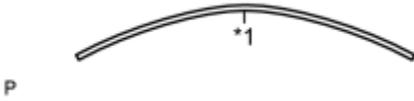
(a) Install the 2 wiper rubber backing plates to the wiper rubber.

### Text in Illustration

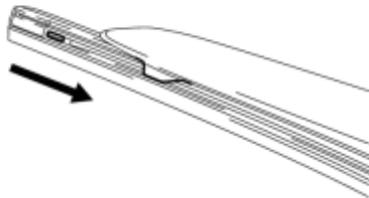


*1	Wiper rubber Backing plate
----	----------------------------

- Align the protrusions on the wiper rubber and the notches of the backing plates.
- Align the curved lines of the backing plates and the glass.



(b) Install the wiper rubber to the front wiper blade with the top of the rubber (curved end) facing the axis of the wiper arm.

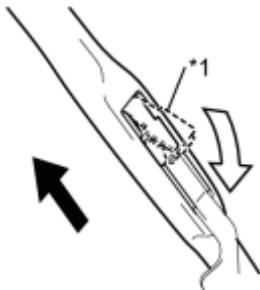


NOTICE:

Push the wiper rubber into the wiper blade strongly to engage them securely.

P

#### 4. INSTALL FRONT WIPER BLADE



(a) Install the front wiper blade as shown in the illustration.

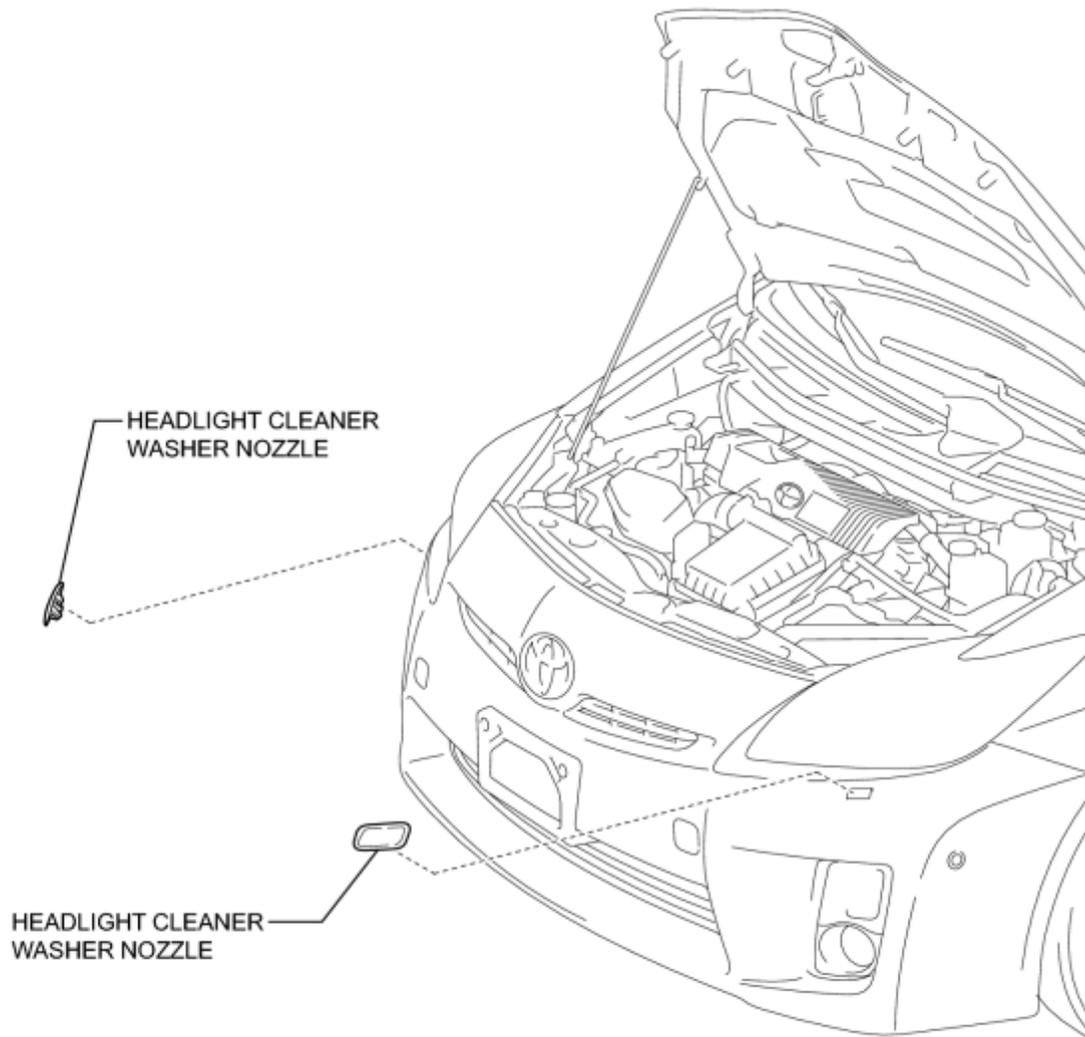
### Text in Illustration

*1	Holder
----	--------

(b) Install the holder of the front wiper blade as shown in the illustration.

# COMPONENTS

# ILLUSTRATION



P

# REMOVAL

## 1. REMOVE HEADLIGHT CLEANER WASHER NOZZLE



(a) Extend the headlight cleaner washer nozzle.

(b) Using a screwdriver, disengage the 2 claws and remove the headlight cleaner washer nozzle.

### *Text in Illustration*

*1	Protective Tape
----	-----------------

### HINT:

- Tape the screwdriver tip before use.
- Use the same procedure for the RH side and LH side.

# INSTALLATION

## 1. INSTALL HEADLIGHT CLEANER WASHER NOZZLE



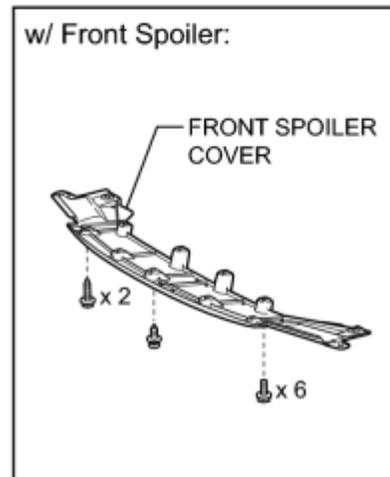
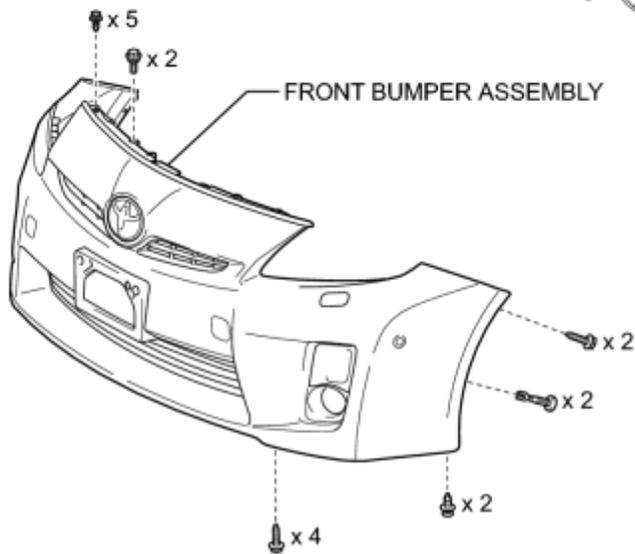
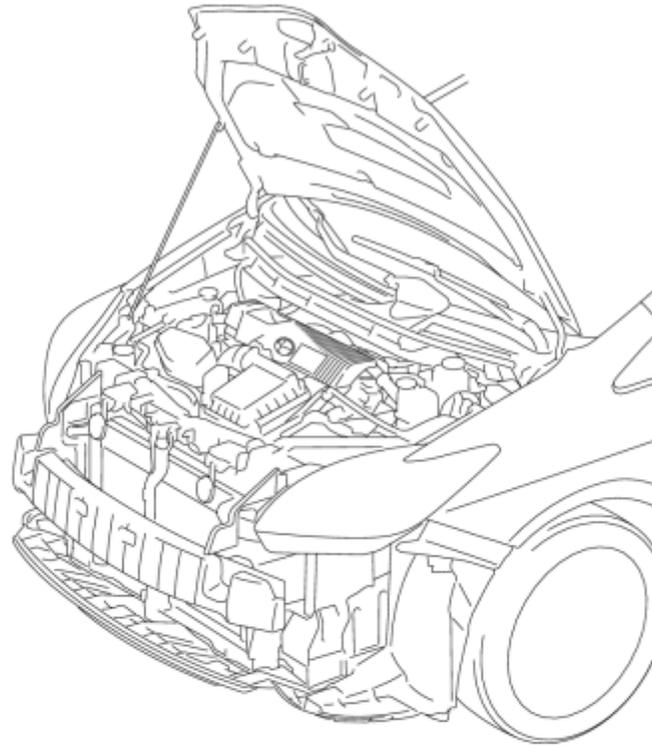
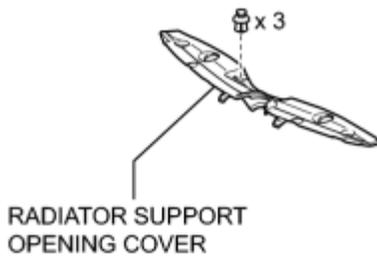
(a) Engage the 2 claws to install the headlight cleaner washer nozzle.

HINT:

Use the same procedure for the RH side and LH side.

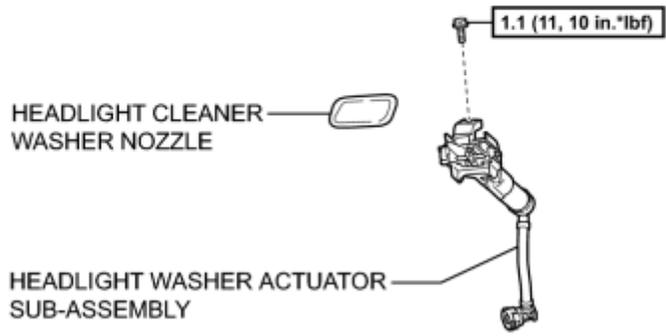
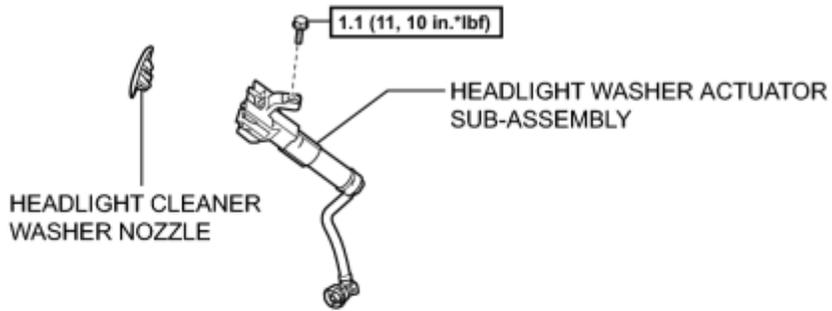
# COMPONENTS

# ILLUSTRATION



P

# ILLUSTRATION

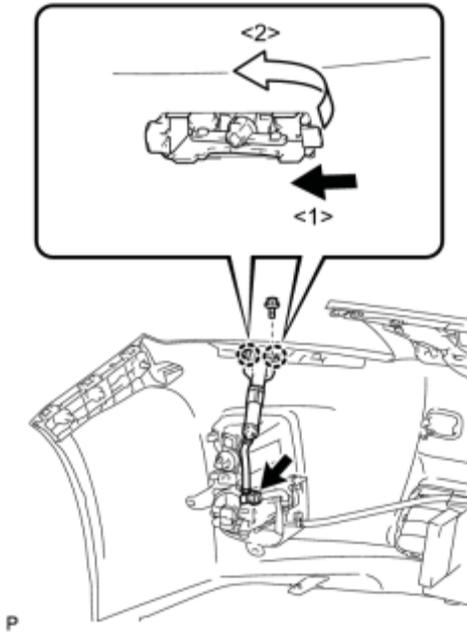


**N\*m (kgf\*cm, ft.\*lbf)** : Specified torque

P

# REMOVAL

1. REMOVE RADIATOR SUPPORT OPENING COVER\_ INFO
2. REMOVE FRONT BUMPER ASSEMBLY\_ INFO
3. REMOVE HEADLIGHT CLEANER WASHER NOZZLE\_ INFO
4. REMOVE HEADLIGHT WASHER ACTUATOR SUB-ASSEMBLY



(a) Disconnect the headlight washer hose.

(b) Remove the bolt.

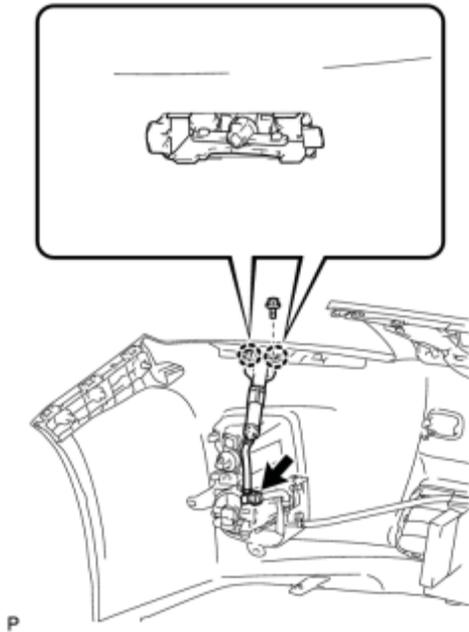
(c) Disengage the 2 claws and remove the headlight washer actuator sub-assembly as shown in the illustration.

HINT:

Use the same procedure for the RH side and LH side.

# INSTALLATION

## 1. INSTALL HEADLIGHT WASHER ACTUATOR SUB-ASSEMBLY



(a) Engage the 2 claws to install the headlight washer actuator sub-assembly.

(b) Install the bolt.

Torque: **1.1 N·m (11 kgf·cm, 10in·lbf)**

(c) Connect the headlight washer hose.

HINT:

Use the same procedure for the RH side and LH side.

2. INSTALL HEADLIGHT CLEANER WASHER NOZZLE\_ [INFO](#)

3. INSTALL FRONT BUMPER ASSEMBLY\_ [INFO](#)

4. INSTALL RADIATOR SUPPORT OPENING COVER\_ [INFO](#)

5. ADD WASHER FLUID\_ [INFO](#)

6. PREPARE VEHICLE FOR FOG LIGHT AIM ADJUSTMENT (w/ Fog Light)\_ [INFO](#)

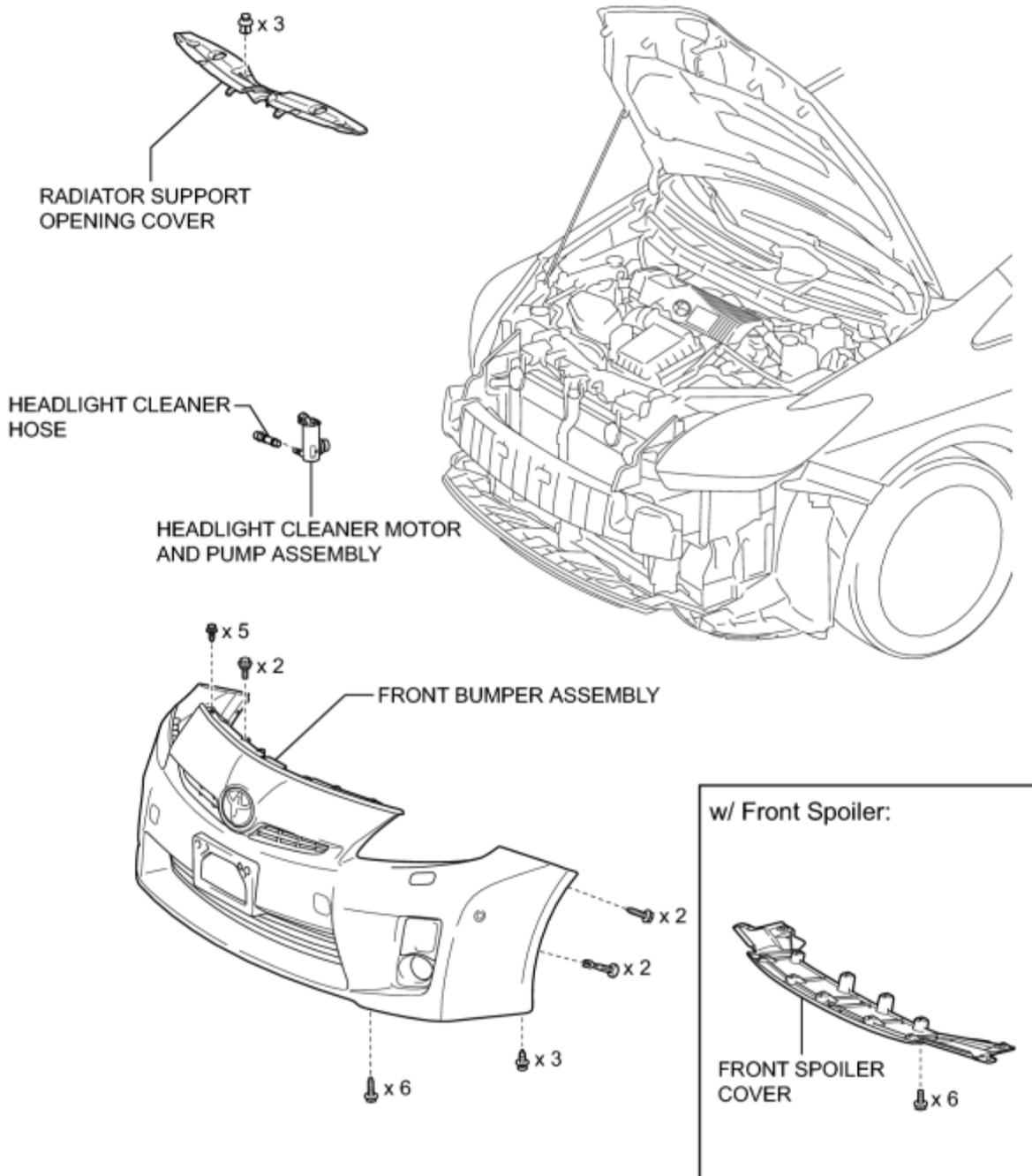
7. PREPARE FOR FOG LIGHT AIMING (w/ Fog Light)\_ [INFO](#)

8. INSPECT FOG LIGHT AIMING (w/ Fog Light)\_ [INFO](#)

9. ADJUST FOG LIGHT AIMING (w/ Fog Light)\_ [INFO](#)

# COMPONENTS

## ILLUSTRATION



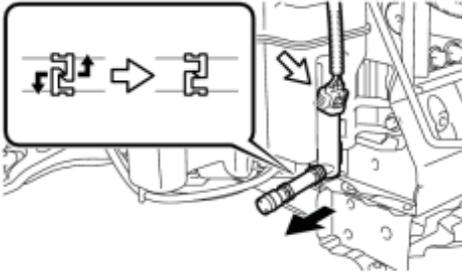
P

# REMOVAL

1. REMOVE RADIATOR SUPPORT OPENING COVER\_ INFO

2. REMOVE FRONT BUMPER ASSEMBLY\_ INFO

3. REMOVE HEADLIGHT CLEANER MOTOR AND PUMP ASSEMBLY



(a) Loosen the clip and disconnect the headlight cleaner hose from the headlight cleaner motor and pump assembly as shown in the illustration.

P

(b) Disconnect the connector and remove the headlight cleaner motor and pump assembly.

# INSPECTION

## 1. INSPECT HEADLIGHT CLEANER MOTOR AND PUMP ASSEMBLY

HINT:

The following check should be performed with the headlight cleaner motor and pump assembly installed to the washer jar.

(a) Fill the washer jar with washer fluid.

\*1



(b) Connect a battery positive (+) lead to terminal 2 of the headlight cleaner motor and pump, and a battery negative (-) lead to terminal 1.

(c) Check that washer fluid flows from the washer jar.

OK:

Washer fluid is pumped from the washer jar.

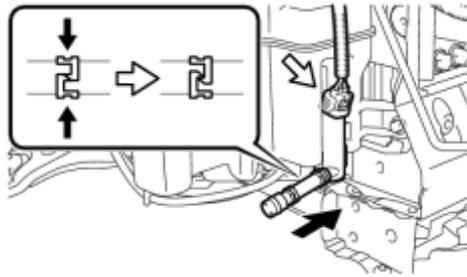
### *Text in Illustration*

*1	Component without harness connected (Headlight Cleaner Motor and Pump Assembly)
----	--

If the result is not as specified, replace the headlight cleaner motor and pump assembly.

# INSTALLATION

## 1. INSTALL HEADLIGHT CLEANER MOTOR AND PUMP ASSEMBLY



(a) Install the headlight cleaner motor and pump assembly.

P

(b) Connect the headlight cleaner hose to the headlight cleaner motor and pump assembly with the clip as shown in the illustration.

(c) Connect the connector.

2. INSTALL FRONT BUMPER ASSEMBLY\_ [INFO](#)

3. INSTALL RADIATOR SUPPORT OPENING COVER\_ [INFO](#)

4. ADD WINDSHIELD WASHER FLUID\_ [INFO](#)

5. PREPARE VEHICLE FOR FOG LIGHT AIM ADJUSTMENT (w/ Fog Light)\_ [INFO](#)

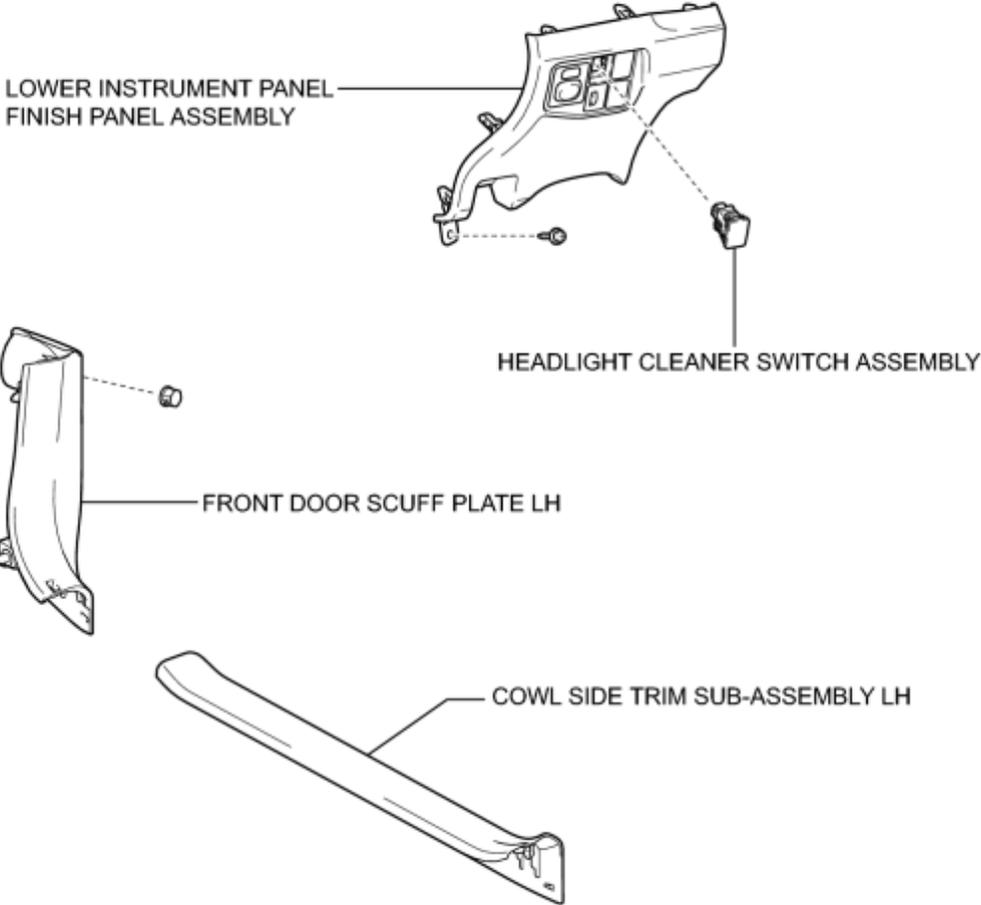
6. PREPARE FOR FOG LIGHT AIMING (w/ Fog Light)\_ [INFO](#)

7. INSPECT FOG LIGHT AIMING (w/ Fog Light)\_ [INFO](#)

8. ADJUST FOG LIGHT AIMING (w/ Fog Light)\_ [INFO](#)

# COMPONENTS

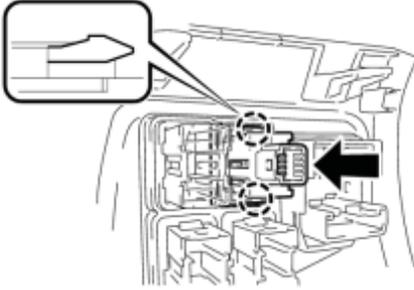
# ILLUSTRATION



P

# REMOVAL

1. REMOVE FRONT DOOR SCUFF PLATE LH\_ INFO
2. REMOVE COWL SIDE TRIM SUB-ASSEMBLY LH\_ INFO
3. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL ASSEMBLY\_ INFO
4. REMOVE HEADLIGHT CLEANER SWITCH ASSEMBLY



(a) Disengage the 2 claws and remove the headlight cleaner switch assembly as shown in the illustration.

P

# INSPECTION

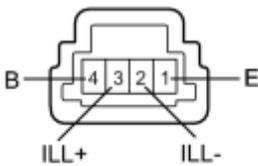
## 1. INSPECT HEADLIGHT CLEANER SWITCH ASSEMBLY

(a) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Switch Condition	Specified Condition
1 (E) - 4 (B)	Headlight cleaner switch on	Below 1 $\Omega$
	Headlight cleaner switch off	10 k $\Omega$ or higher

\*1



(b) Connect a positive (+) lead from the battery to terminal 3 (ILL+) and a negative (-) lead to terminal 2 (ILL-).

(c) Check that the headlight cleaner switch assembly illumination comes on.

OK:

The headlight cleaner switch assembly illumination comes on.

## Text in Illustration

*1	Component without harness connected (Headlight Cleaner Switch Assembly)
----	--

If the result is not as specified, replace the headlight cleaner switch assembly.

# INSTALLATION

## 1. INSTALL HEADLIGHT CLEANER SWITCH ASSEMBLY



(a) Engage the 2 claws to install the headlight cleaner switch assembly as shown in the illustration.

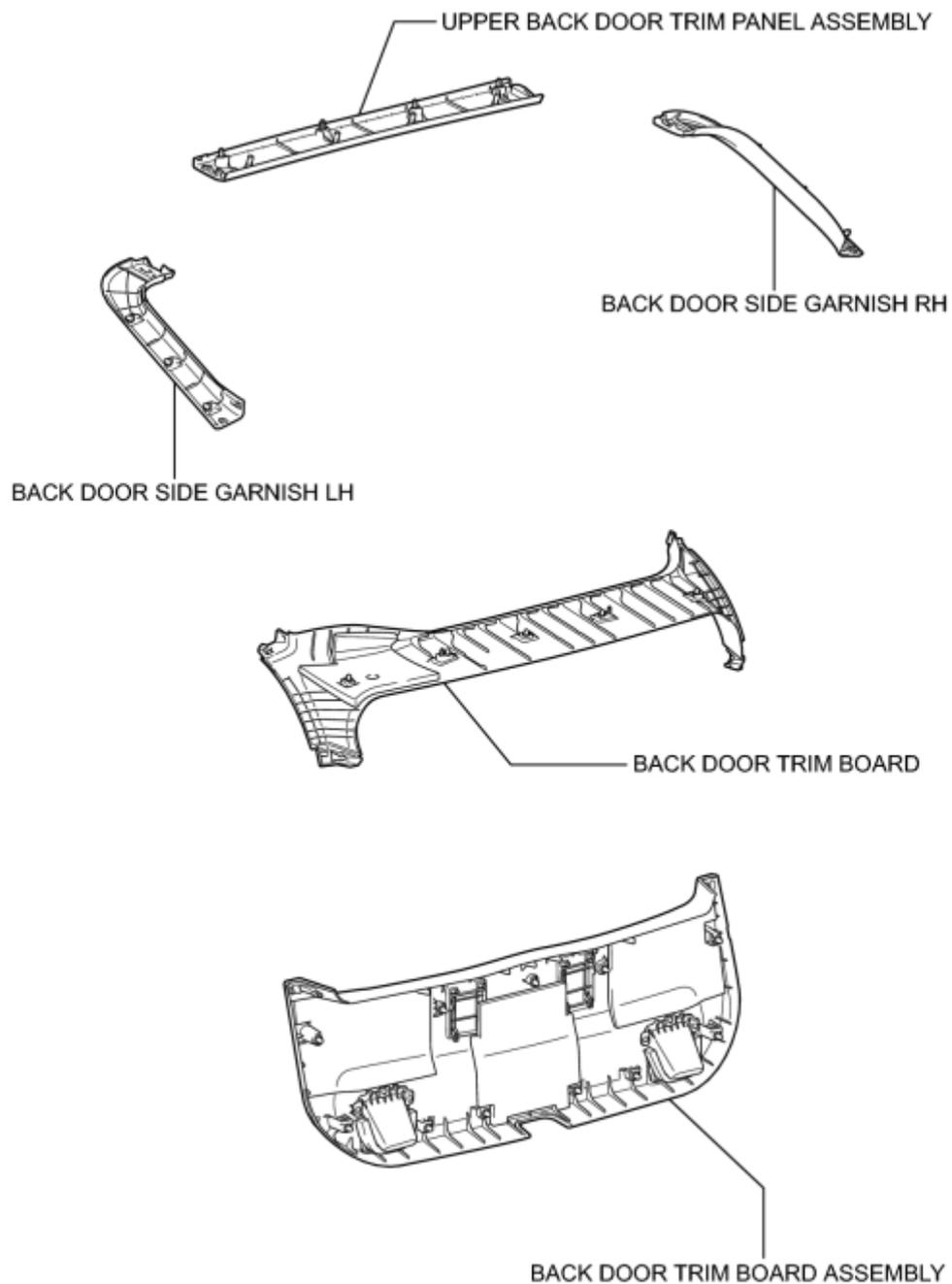
2. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL ASSEMBLY\_ INFO

3. INSTALL COWL SIDE TRIM SUB-ASSEMBLY LH\_ INFO

4. INSTALL FRONT DOOR SCUFF PLATE LH\_ INFO

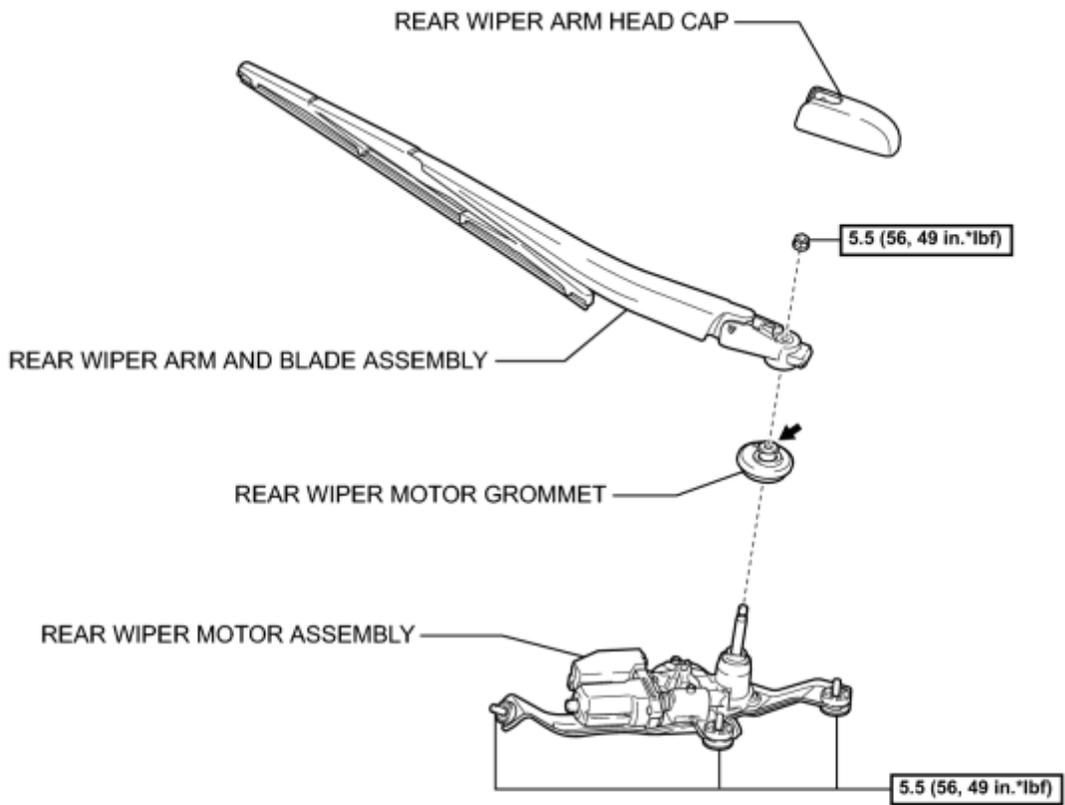
# COMPONENTS

## ILLUSTRATION



P

## ILLUSTRATION



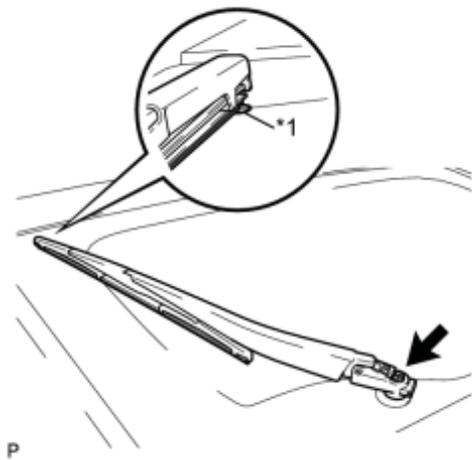
[N\*m (kgf\*cm, ft.\*lbf)]: Specified torque

← MP grease

P

# ON-VEHICLE INSPECTION

## 1. INSPECT REAR WIPER MOTOR ASSEMBLY



(a) Operate the rear wiper motor assembly.

(b) Stop the rear wiper motor assembly operation.

(c) Check the automatic stop position.

Standard Clearance:

Area	Measurement
A	30 mm (1.18 in.)

### *Text in Illustration*

*1	Ceramic Line
----	--------------

# REMOVAL

1. REMOVE UPPER BACK DOOR TRIM PANEL ASSEMBLY\_ INFO

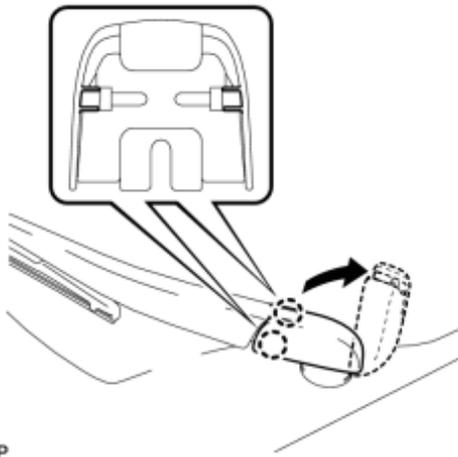
2. REMOVE BACK DOOR SIDE GARNISH RH\_ INFO

3. REMOVE BACK DOOR SIDE GARNISH LH\_ INFO

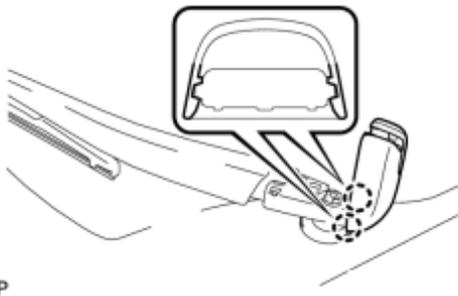
4. REMOVE BACK DOOR TRIM BOARD ASSEMBLY\_ INFO

5. REMOVE BACK DOOR TRIM BOARD\_ INFO

6. REMOVE REAR WIPER ARM HEAD CAP



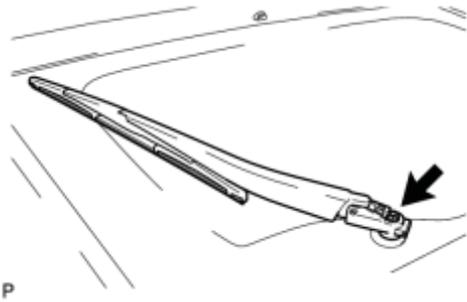
(a) Disengage the 2 claws and open the rear wiper arm head cap as shown in the illustration.



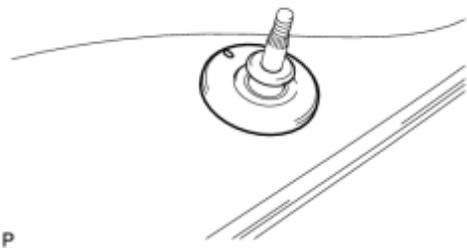
(b) Disengage the 2 claws and remove the rear wiper arm head cap.

7. REMOVE REAR WIPER ARM AND BLADE ASSEMBLY

(a) Remove the nut, and the rear wiper arm and blade assembly.

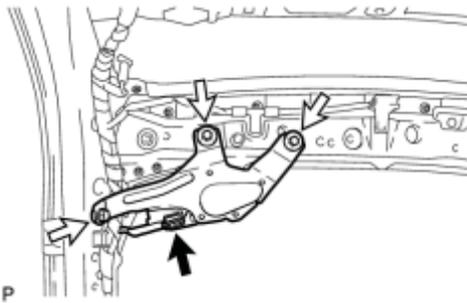


## 8. REMOVE REAR WIPER MOTOR GROMMET



(a) Remove the rear wiper motor grommet.

## 9. REMOVE REAR WIPER MOTOR ASSEMBLY



(a) Disconnect the connector.

(b) Remove the 3 bolts and the rear wiper motor assembly.

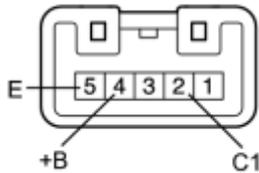
# INSPECTION

## 1. INSPECT REAR WIPER MOTOR ASSEMBLY

(a) Check the wiper intermittent operation.

(1) Connect a battery positive (+) lead to terminal 4 (+B), and a negative (-) lead to terminal 2 (C1) and terminal 5 (E), and check that the motor operates.

\*1



OK:

Motor operates.

### Text in Illustration

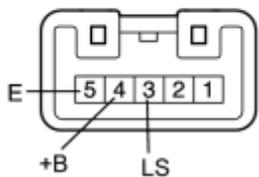
*1	Component without harness connected (Rear Wiper Motor and Bracket Assembly)
----	--

If the result is not as specified, replace the motor assembly.

(b) Check the wiper continuous operation.

(1) Connect a battery positive (+) lead to terminal 4 (+B), and a negative (-) lead to terminal 3 (LS) and terminal 5 (E), and check that the motor operates.

\*1



OK:

Motor operates.

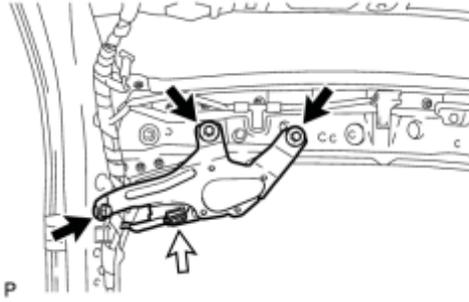
### Text in Illustration

*1	Component without harness connected (Rear Wiper Motor and Bracket Assembly)
----	--

If the result is not as specified, replace the motor assembly.

# INSTALLATION

## 1. INSTALL REAR WIPER MOTOR ASSEMBLY



(a) Install the rear wiper motor assembly with the 3 bolts.

Torque: **5.5 N·m (56 kgf·cm, 49in·lbf)**

(b) Connect the connector.

## 2. INSTALL BACK DOOR TRIM BOARD INFO

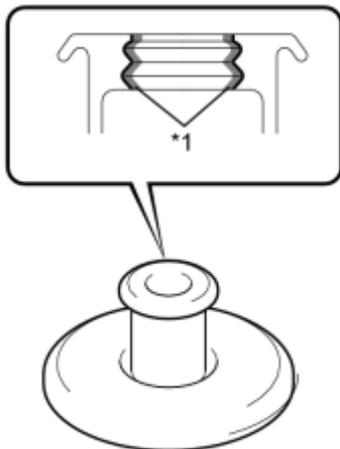
## 3. INSTALL BACK DOOR TRIM BOARD ASSEMBLY INFO

## 4. INSTALL BACK DOOR SIDE GARNISH LH INFO

## 5. INSTALL BACK DOOR SIDE GARNISH RH INFO

## 6. INSTALL UPPER BACK DOOR TRIM PANEL ASSEMBLY INFO

## 7. INSTALL REAR WIPER MOTOR GROMMET



(a) Apply MP grease to the entire surface of the rear wiper motor grommet lip.

### Text in Illustration

*1	MP grease
----	-----------

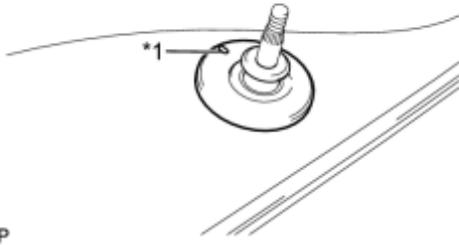
HINT:

Make sure that the hole does not get clogged with grease and the grooves on the lip are filled with grease.

(b) Install the rear wiper motor grommet.

HINT:

Install the grommet with its alignment mark facing up.

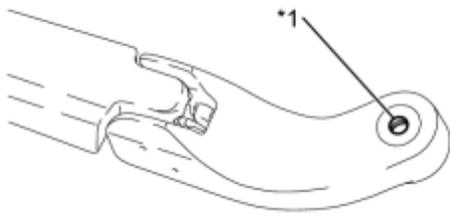


## Text in Illustration

*1	Alignment Mark
----	----------------

## 8. INSTALL REAR WIPER ARM AND BLADE ASSEMBLY

- (a) Operate the wiper and stop the windshield wiper motor at the automatic stop position.
- (b) When reusing the rear wiper arm and blade assembly:

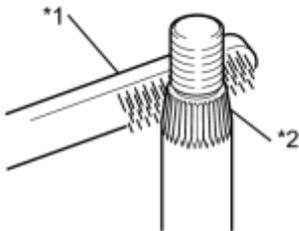


- (1) Clean the wiper arm serrations.

## Text in Illustration

*1	Wiper Arm Serration
----	---------------------

- (c) When reusing the rear wiper motor assembly:



- (1) Clean the wiper pivot serrations with a wire brush.

## Text in Illustration

*1	Wire Brush
*2	Wiper Pivot Serration

- (d) Install the rear wiper arm and blade assembly with the nut to the position shown in the illustration.

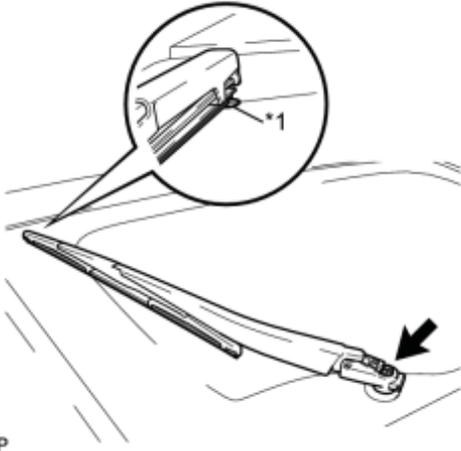
## Text in Illustration

*1	Ceramic Dot
----	-------------

Torque: **5.5 N·m (56 kgf·cm, 49in·lbf)**

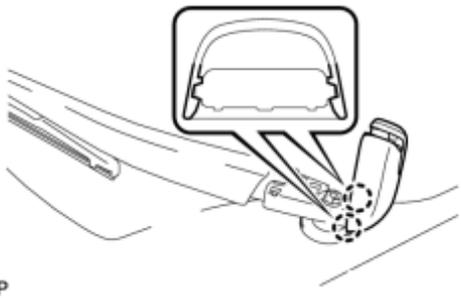
HINT:

Hold the wiper arm by hand while tightening the nut.

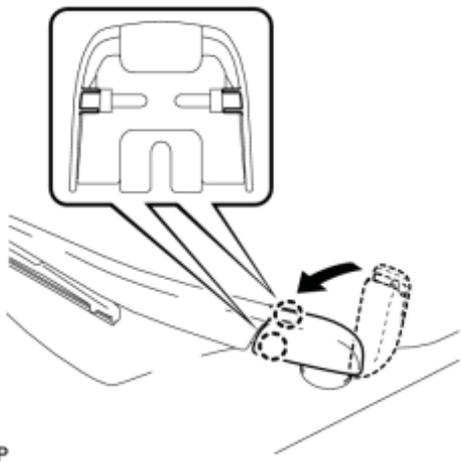


(e) Operate the rear wiper while spraying washer fluid onto the back door glass. Make sure that the rear wiper functions properly and the wiper does not come into contact with the vehicle body.

## 9. INSTALL REAR WIPER ARM HEAD CAP



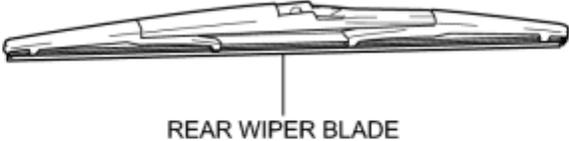
(a) Engage the 2 claws to install the rear wiper arm head cap.



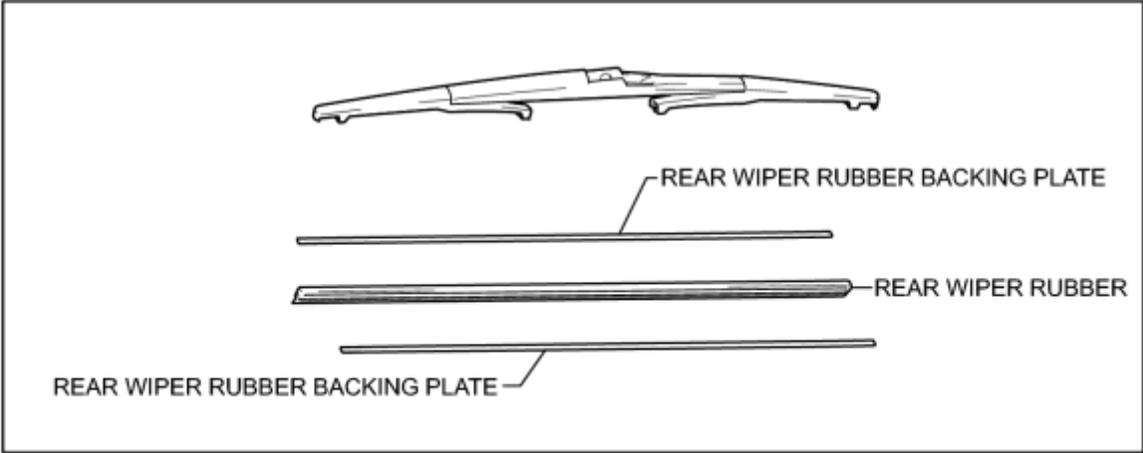
(b) Engage the 2 claws to close the rear wiper arm head cap as shown in the illustration.

# COMPONENTS

# ILLUSTRATION



REAR WIPER BLADE



REAR WIPER RUBBER BACKING PLATE

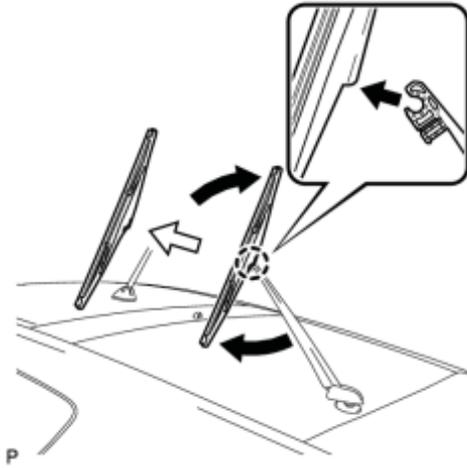
REAR WIPER RUBBER

REAR WIPER RUBBER BACKING PLATE

P

# REPLACEMENT

## 1. REMOVE REAR WIPER BLADE



(a) Raise the wiper blade to the position where the claw detaches with a click sound as shown in the illustration.

NOTICE:

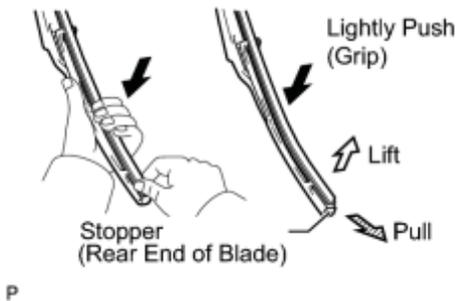
Be careful not to damage the claw.

(b) Pull the wiper blade straight toward to remove it from the wiper arm.

NOTICE:

Do not lower the wiper arm with the wiper blade removed. The arm tip may damage the back door glass surface.

## 2. REMOVE REAR WIPER RUBBER



(a) Lift and pull the end of the wiper rubber protrusion from the blade stopper as shown in the illustration.

NOTICE:

Do not forcibly pull out the wiper rubber. The backing plates will be deformed or the blade claws will be damaged.

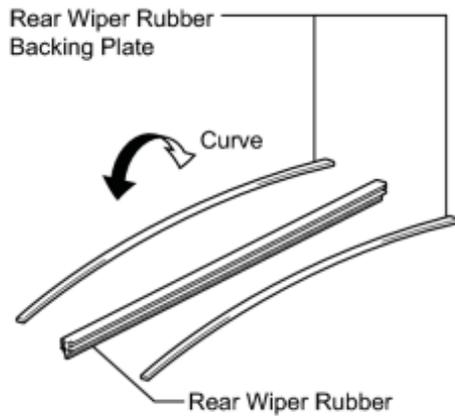
HINT:

Lightly pushing the rubber in the middle will allow it to be removed more easily.

(b) Remove the rear wiper rubber backing plates.

## 3. INSTALL REAR WIPER RUBBER

(a) Install the rear wiper rubber backing plates as shown in the illustration.

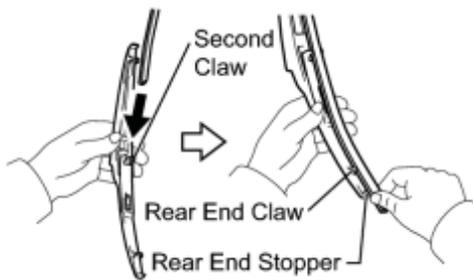


NOTICE:

Install the backing plates facing the correct direction.

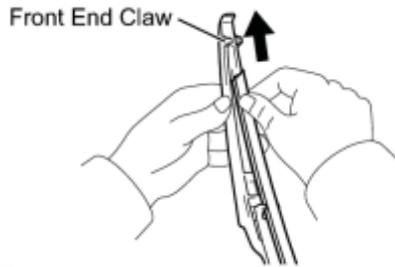
P

(b) Insert the wiper rubber from the front end of the wiper blade to the rear end through the second claw.



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(c) After pushing the wiper rubber through the rear end claw, allow it to stick out from the rear end stopper.

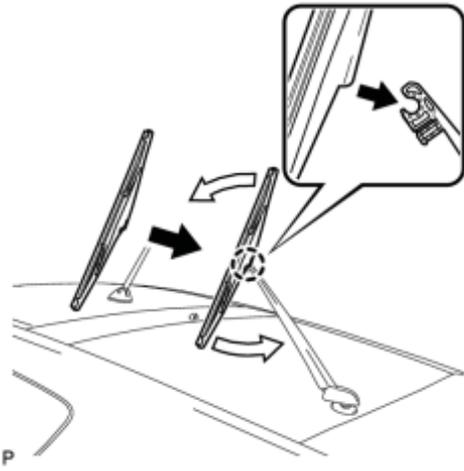


P

(d) Slide the wiper rubber through the front end claw.

#### 4. INSTALL REAR WIPER BLADE

(a) Push the wiper blade straight toward to install it to the wiper arm.



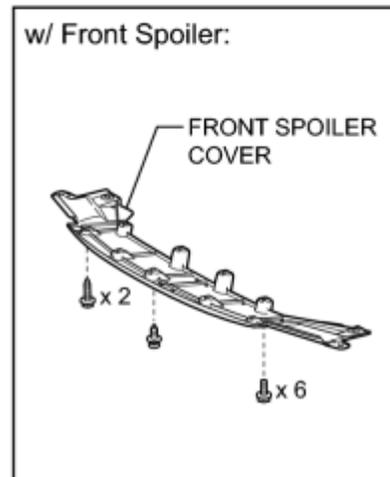
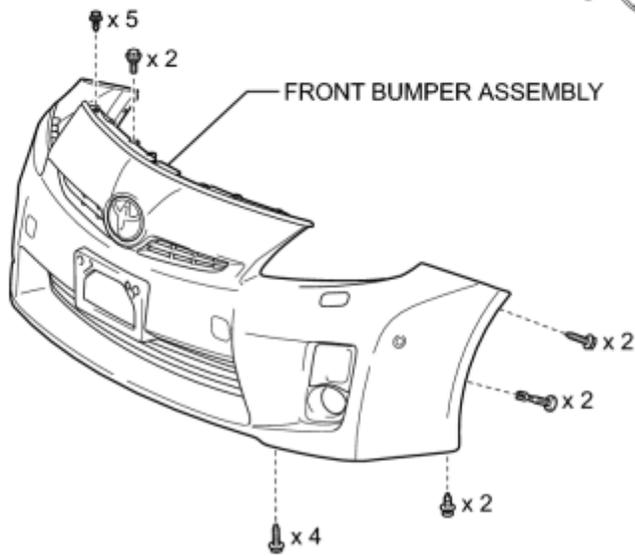
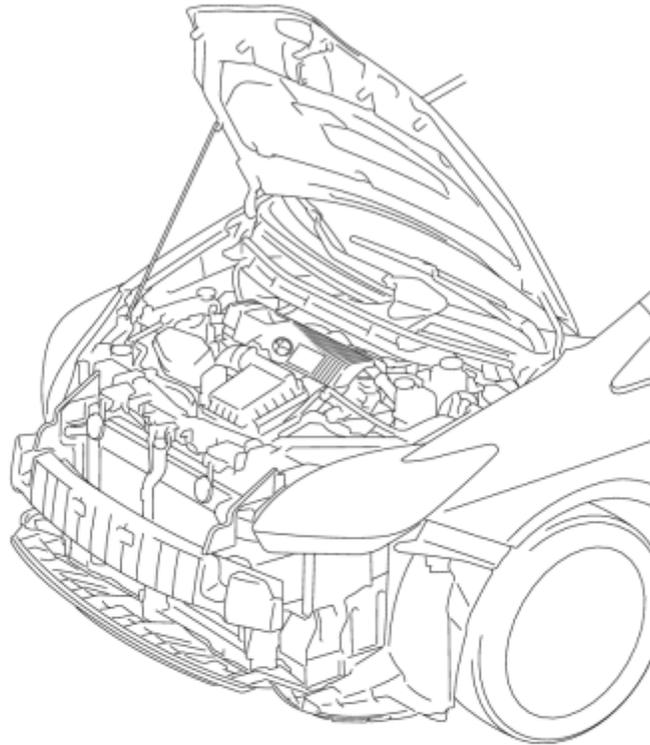
(b) Engage the claw to install the rear wiper blade as shown in the illustration.

**NOTICE:**

Be careful not to damage the claw.

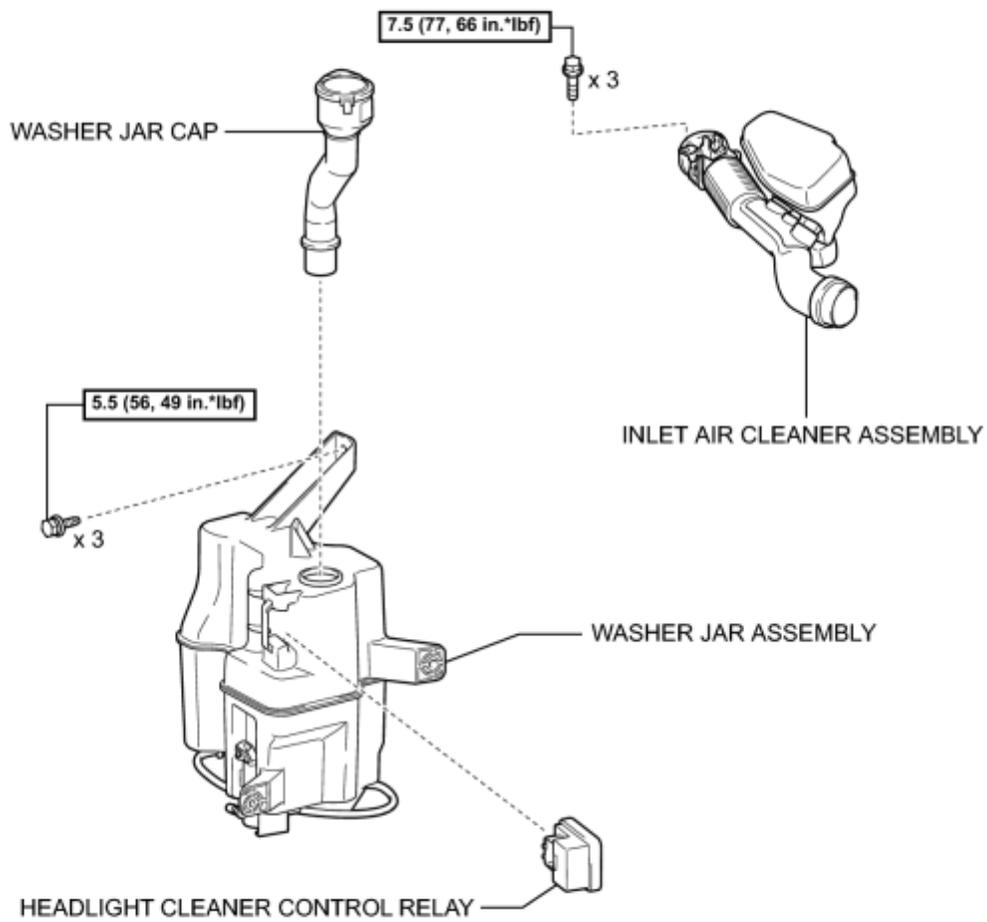
# COMPONENTS

# ILLUSTRATION



P

# ILLUSTRATION



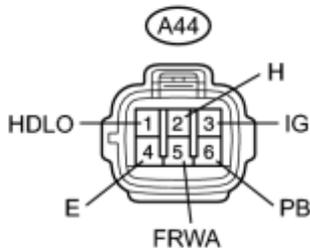
**N\*m (kgf\*cm, ft.\*lbf)** : Specified torque

P

# ON-VEHICLE INSPECTION

## 1. INSPECT HEADLIGHT CLEANER CONTROL RELAY

\*1



(a) Disconnect the A44 headlight cleaner control relay connector.

N

(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

Tester Connection	Condition	Specified Condition
A44-3 (IG) - Body ground	Power switch off	Below 1 V
	Power switch on (IG)	11 to 14 V
A44-6 (PB) - Body ground	Always	11 to 14 V
A44-1 (HDLO) - Body ground	Light control switch in head position	Below 1 V
	Light control switch off	11 to 14 V
A44-2 (H) - Body ground	Headlight cleaner switch off	11 to 14 V
	Headlight cleaner switch on	Below 1 V
A44-5 (FRWA) - Body ground	Front washer switch off	11 to 14 V
	Front washer switch on	Below 1 V

If the result is not as specified, there is a malfunction in the wire harness.

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Condition	Specified Condition
A44-4 (E) - Body ground	Always	Below 1 $\Omega$

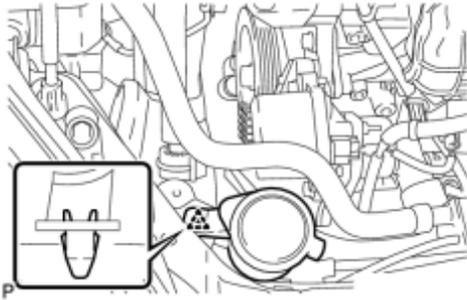
*Text in Illustration*

*1	Front view of wire harness connector (to Headlight Cleaner Control Relay)
----	--

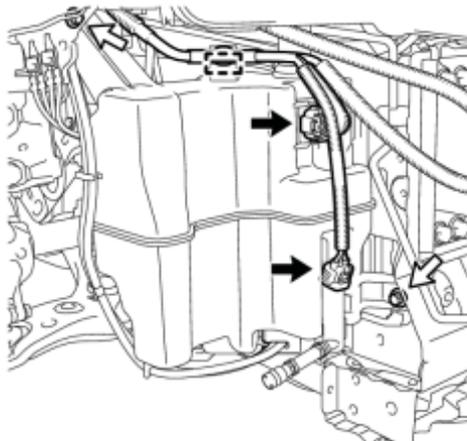
If the result is not as specified, there is a malfunction in the wire harness.

# REMOVAL

1. REMOVE RADIATOR SUPPORT OPENING COVER\_ INFO
2. REMOVE FRONT BUMPER ASSEMBLY\_ INFO
3. REMOVE INLET AIR CLEANER ASSEMBLY\_ INFO
4. REMOVE HEADLIGHT CLEANER CONTROL RELAY



(a) Disengage the clip and separate the washer jar cap of the washer jar assembly.

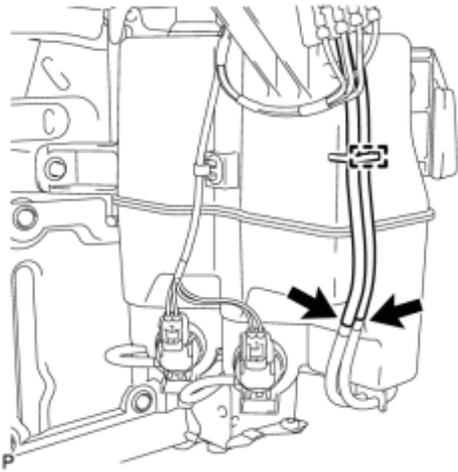


(b) Disconnect the 2 connectors.

(c) Disengage the clamp.

(d) Remove the 2 bolts.

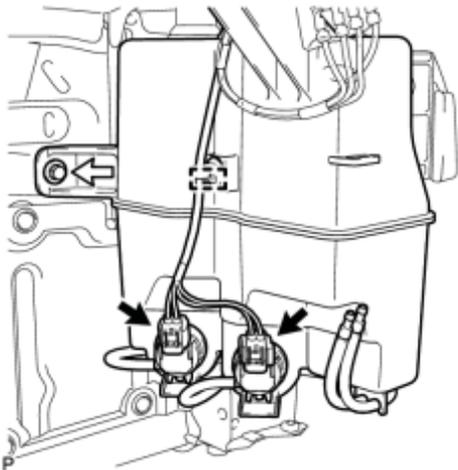
(e) Disengage the hose clamp.



(f) Disconnect the 2 washer hoses, and drain the washer fluid.

HINT:

Use a container to collect the washer fluid.

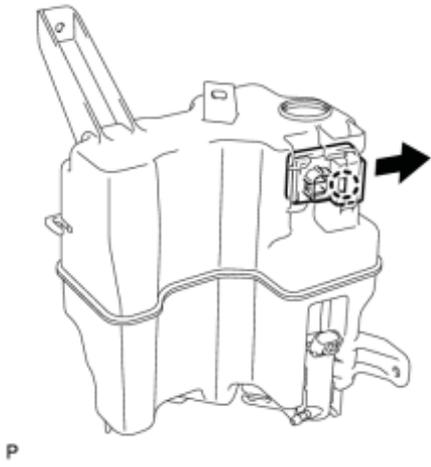


(g) Disconnect the 2 connectors.

(h) Disengage the clamp.

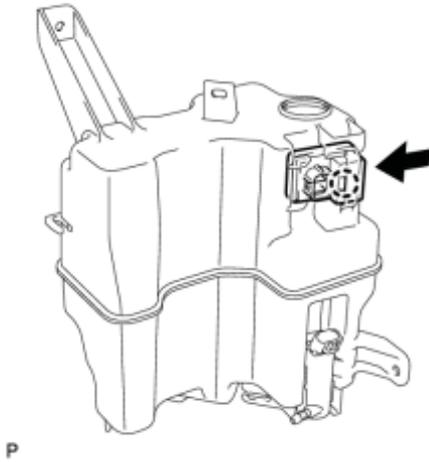
(i) Remove the bolt and the washer jar assembly.

(j) Disengage the claw and remove the headlight cleaner control relay as shown in the illustration.

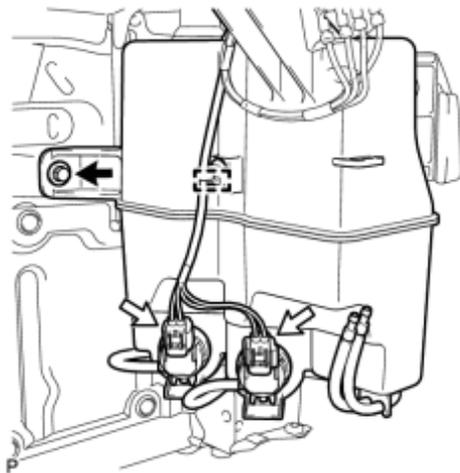


# INSTALLATION

## 1. INSTALL HEADLIGHT CLEANER CONTROL RELAY



(a) Engage the claw to install the headlight cleaner control relay as shown in the illustration.



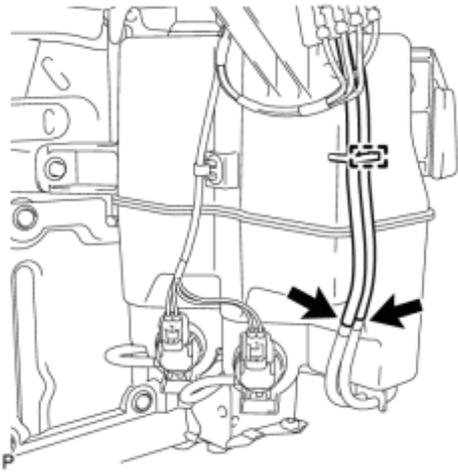
(b) Install the washer jar assembly with the bolt.

Torque: **5.5 N·m (56 kgf·cm, 49in·lbf)**

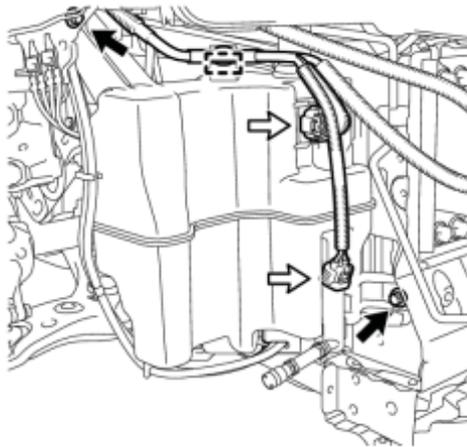
(c) Engage the clamp.

(d) Connect the 2 connectors.

(e) Connect the 2 washer hoses.



(f) Engage the hose clamp.

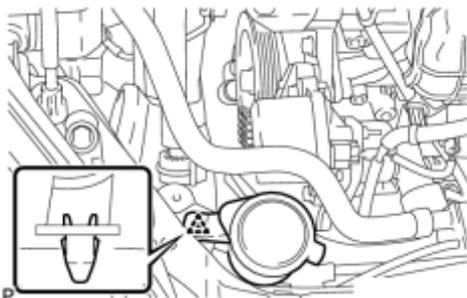


(g) Install the 2 bolts.

Torque: **5.5 N·m (56 kgf·cm, 49in·lbf)**

(h) Engage the clamp.

(i) Connect the 2 connectors.



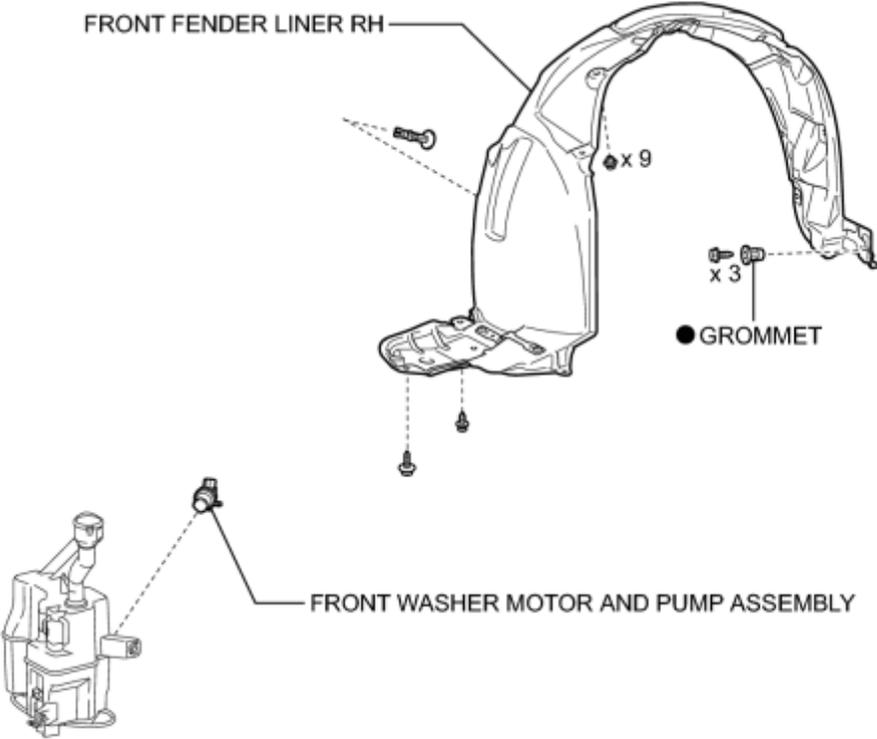
(j) Connect the washer jar cap to the washer jar assembly.

(k) Engage the clip.

2. INSTALL INLET AIR CLEANER ASSEMBLY\_ [INFO](#)
3. INSTALL FRONT BUMPER ASSEMBLY\_ [INFO](#)
4. INSTALL RADIATOR SUPPORT OPENING COVER\_ [INFO](#)
5. ADD WASHER FLUID\_ [INFO](#)
6. PREPARE VEHICLE FOR FOG LIGHT AIM ADJUSTMENT (w/ Fog Light)\_ [INFO](#)
7. PREPARE FOR FOG LIGHT AIMING (w/ Fog Light)\_ [INFO](#)
8. INSPECT FOG LIGHT AIMING (w/ Fog Light)\_ [INFO](#)
9. ADJUST FOG LIGHT AIMING (w/ Fog Light)\_ [INFO](#)

# COMPONENTS

# ILLUSTRATION



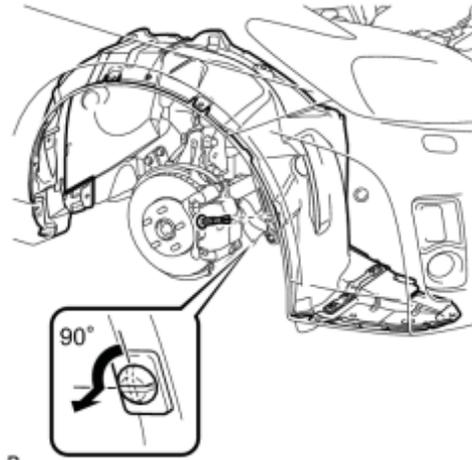
● Non-reusable part

P

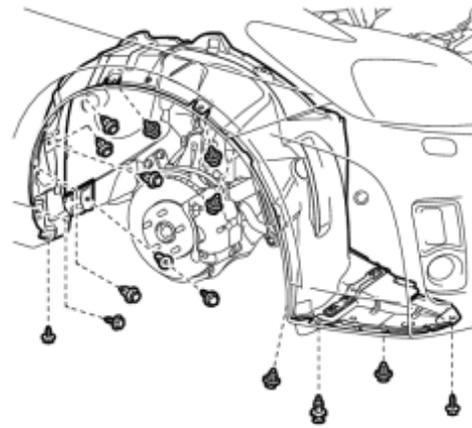
# REMOVAL

## 1. REMOVE FRONT WHEEL RH

## 2. REMOVE FRONT FENDER LINER RH



(a) Using a screwdriver, turn the pin 90 degrees and remove the pin hold clip.



(b) Remove the 10 clips and 4 screws.

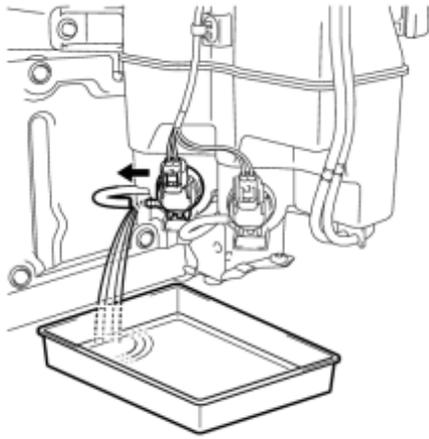
(c) Using a clip remover, remove the grommet and the front fender liner RH.

### HINT:

The grommet needs to be replaced with new one because it will break when it is removed.

## 3. DRAIN WASHER FLUID

(a) Disconnect the washer hose from the windshield washer motor and pump assembly, and drain the washer fluid.

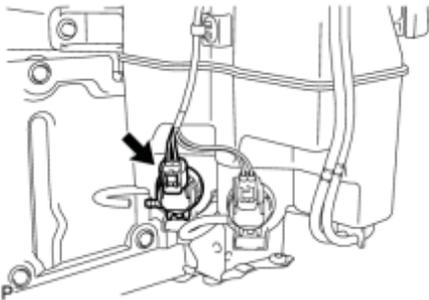


HINT:

Use a container to collect the washer fluid.

P

#### 4. REMOVE FRONT WASHER MOTOR AND PUMP ASSEMBLY



(a) Disconnect the connector.

(b) Remove the windshield washer motor and pump assembly.

# INSPECTION

## 1. INSPECT WINDSHIELD WASHER MOTOR AND PUMP ASSEMBLY

- (a) Remove the washer jar.
- (b) Disconnect the windshield washer motor and pump connector.

### HINT:

The check should be performed with the windshield washer motor and pump installed on the washer jar.

- (c) Fill the washer jar with washer fluid.

\*1



- (d) Connect a battery positive (+) lead to terminal 1 of the windshield washer motor and pump, and a negative (-) lead to terminal 2.

- (e) Check that washer fluid flows from the washer jar.

OK:

Washer fluid flows from the washer jar.

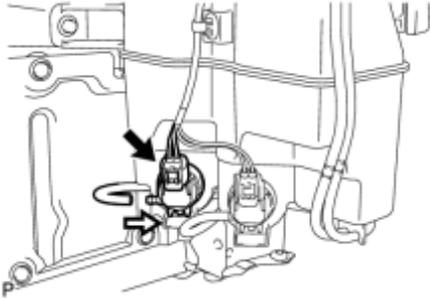
### *Text in Illustration*

*1	Component without harness connected (Windshield Washer Motor and Pump Assembly)
----	--

If the result is not as specified, replace the windshield washer motor and pump assembly.

# INSTALLATION

## 1. INSTALL FRONT WASHER MOTOR AND PUMP ASSEMBLY



(a) Install the windshield washer motor and pump assembly.

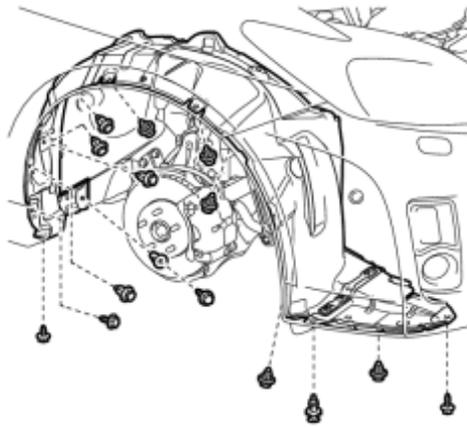
(b) Connect the connector.

(c) Connect the washer hose.

## 2. ADD WASHER FLUID

(a) Add washer fluid to the washer jar.

## 3. INSTALL FRONT FENDER LINER RH



(a) Install a new grommet and the 4 screws.

P

(b) Install the 10 clips.

(c) Install the pin hold clip as shown in the illustration.

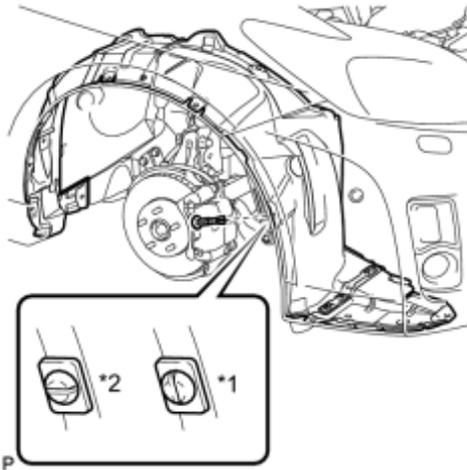
## Text in Illustration

\*1

Correct

\*2

Incorrect



**NOTICE:**

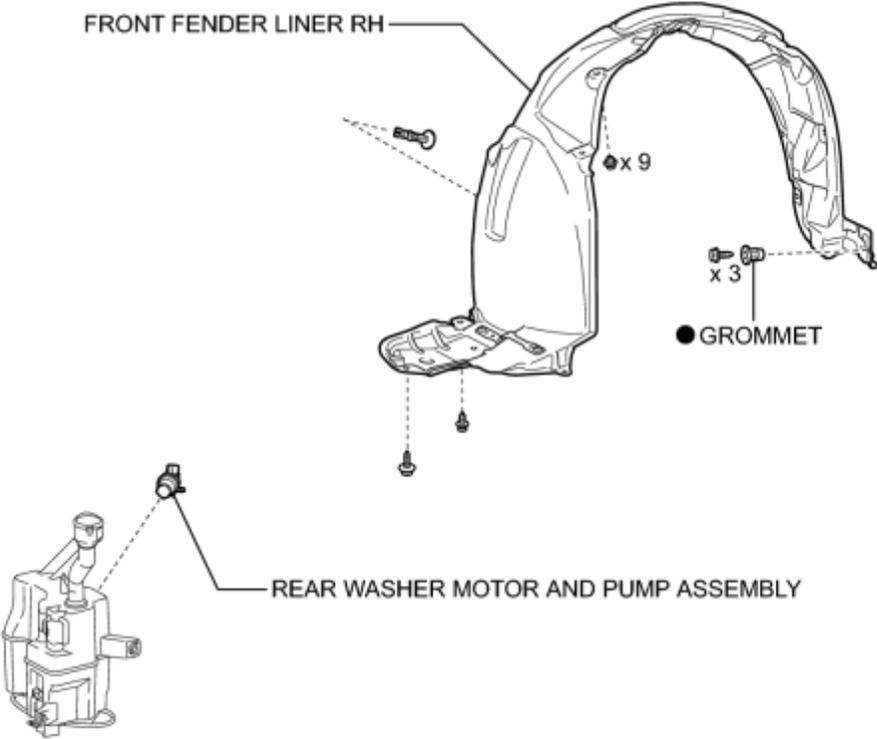
Insert the pin hold clip with the slot aligned vertically. Do not rotate the clip after inserting it. After installation, confirm that the slot is vertical.

**4. INSTALL FRONT WHEEL RH**

**Torque: 103 N·m (1050 kgf·cm, 76ft·lbf)**

# COMPONENTS

# ILLUSTRATION



● Non-reusable part

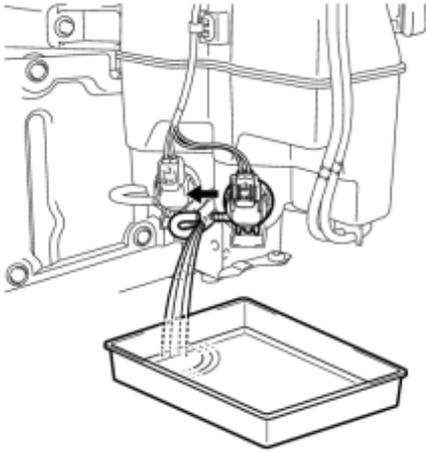
P

# REMOVAL

1. REMOVE FRONT WHEEL RH

2. REMOVE FRONT FENDER LINER RH\_ INFO

3. DRAIN WASHER FLUID



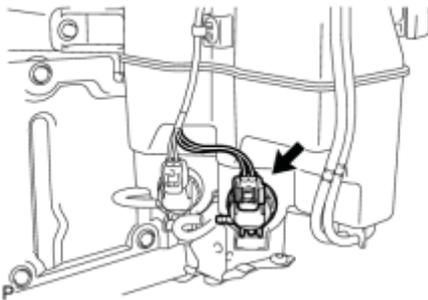
(a) Disconnect the washer hose from the rear washer motor and pump assembly, and drain the washer fluid.

HINT:

Use a container to collect the washer fluid.

P

4. REMOVE REAR WASHER MOTOR AND PUMP ASSEMBLY



(a) Disconnect the connector.

(b) Remove the rear washer motor and pump assembly.

# INSPECTION

## 1. INSPECT REAR WASHER MOTOR AND PUMP ASSEMBLY

- (a) Remove the washer jar.
- (b) Disconnect the rear washer motor and pump connector.

### HINT:

The check should be performed with the rear washer motor and pump installed on the washer jar.

- (c) Fill the washer jar with washer fluid.

\*1



- (d) Connect a battery positive (+) lead to terminal 1 of the rear washer motor and pump, and a negative (-) lead to terminal 2.

- (e) Check that washer fluid flows from the washer jar.

OK:

Washer fluid flows from the washer jar.

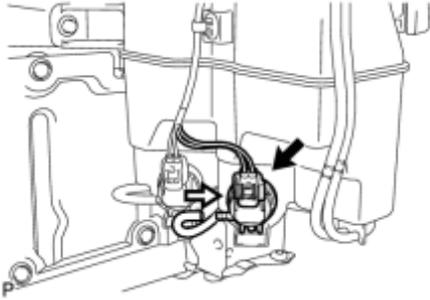
### *Text in Illustration*

*1	Component without harness connected (Rear Washer Motor and Pump Assembly)
----	--

If the result is not as specified, replace the rear washer motor and pump assembly.

# INSTALLATION

## 1. INSTALL REAR WASHER MOTOR AND PUMP ASSEMBLY



(a) Install the rear washer motor and pump assembly.

(b) Connect the connector.

(c) Connect the washer hose.

## 2. ADD WASHER FLUID\_ INFO

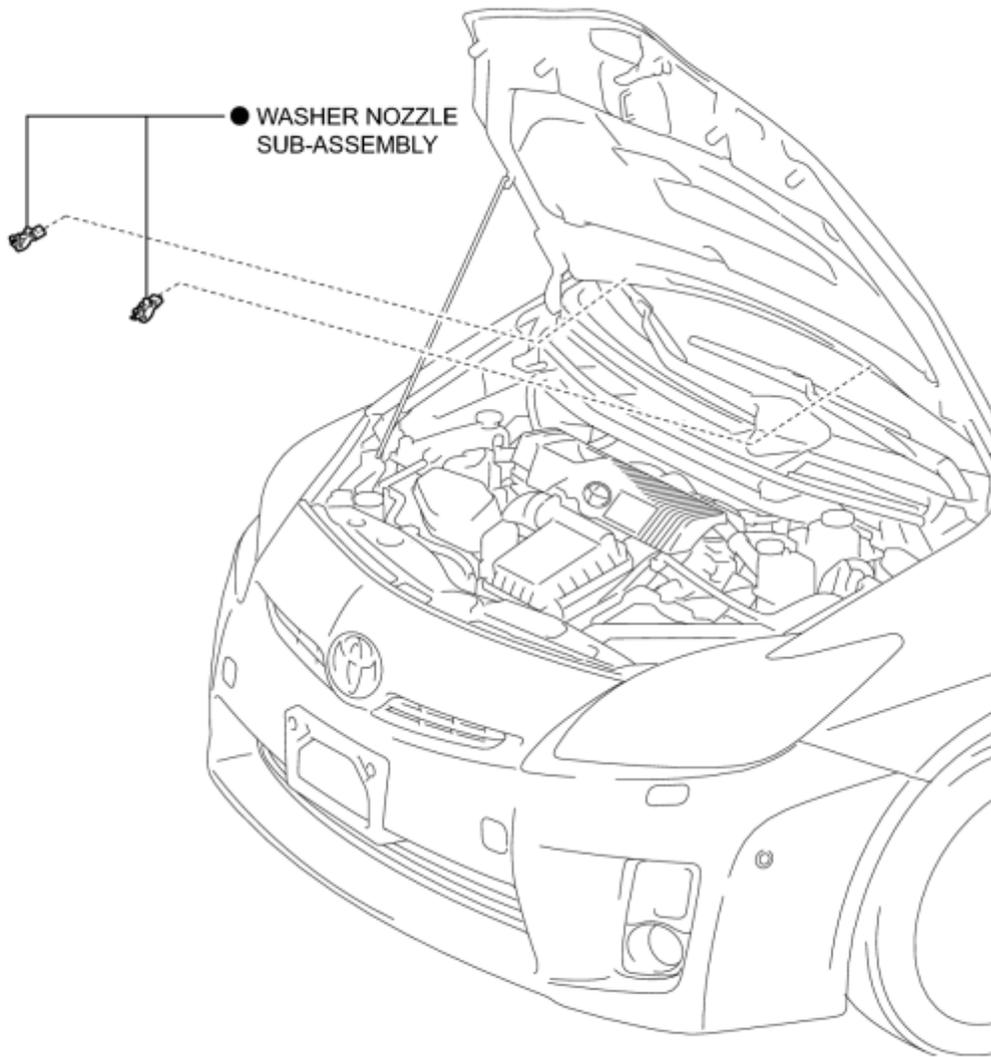
## 3. INSTALL FRONT FENDER LINER RH\_ INFO

## 4. INSTALL FRONT WHEEL RH

Torque: **103 N·m (1050 kgf·cm, 76ft·lbf)**

# COMPONENTS

# ILLUSTRATION



● Non-reusable part  
P

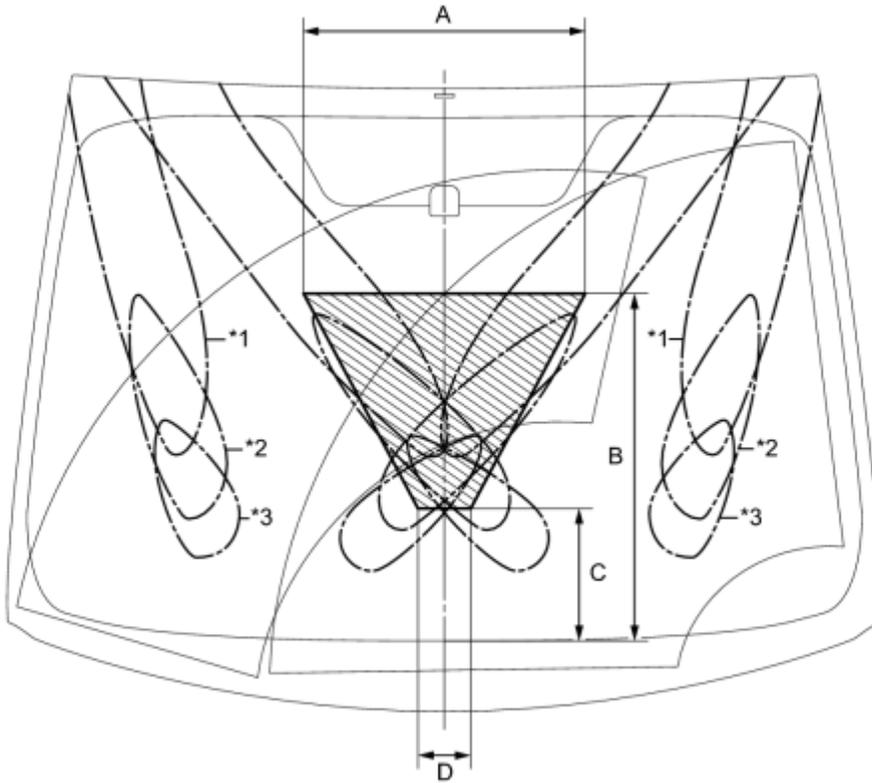
# ON-VEHICLE INSPECTION

## 1. INSPECT WASHER NOZZLE SUB-ASSEMBLY

(a) With the engine running, check the position that the washer fluid hits the windshield.

Standard:

Washer fluid hits the windshield in the areas shown in the illustration.



P

### Standard Clearance

Area	Measurement
A	443.7 mm (17.5 in.)
B	546.6 mm (21.5 in.)
C	208.2 mm (8.20 in.)
D	82.1 mm (3.23 in.)

*Text in Illustration*

*1	Upper Limit	*2	Standard
*3	Lower Limit	-	-

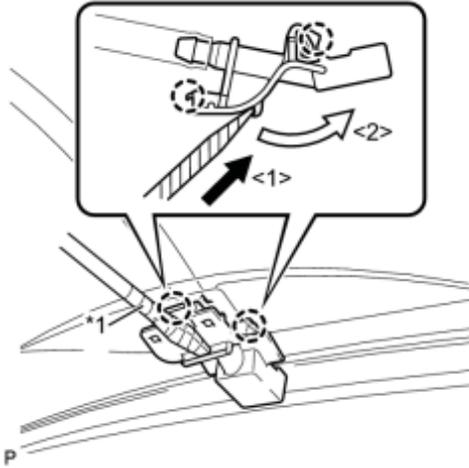
HINT:

If the result is not as specified, replace the malfunctioning washer nozzle sub-assembly.

# REMOVAL

## 1. REMOVE WASHER NOZZLE SUB-ASSEMBLY

(a) Using a screwdriver, disengage the 2 claws and separate the washer nozzle sub-assembly as shown in the illustration.



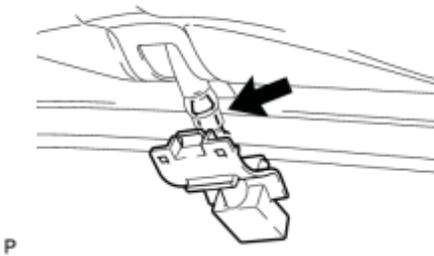
### Text in Illustration

*1	Protective Tape
----	-----------------

- Be careful not to damage the windshield.
- Washer nozzles cannot be reused.

HINT:

Tape the screwdriver tip before use.



(b) Remove the washer nozzle sub-assembly from the washer hose.

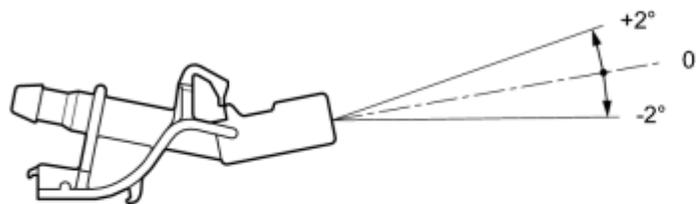
# ADJUSTMENT

## 1. REMOVE WASHER NOZZLE SUB-ASSEMBLY [INFO](#)

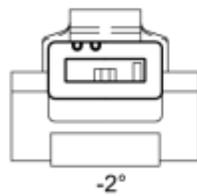
## 2. ADJUST WASHER NOZZLE SUB-ASSEMBLY

(a) Select a washer nozzle so that the contact area is within the standard. Replace the washer nozzle with the selected one.

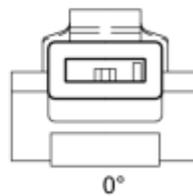
Available Washer Nozzles:



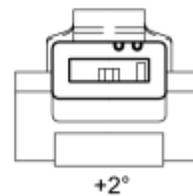
Washer Fluid  
Spray Angle



-2°



0°



+2°

Part Number

85381-12340

85381-12330

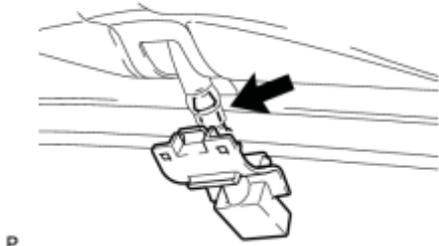
85381-12350

P

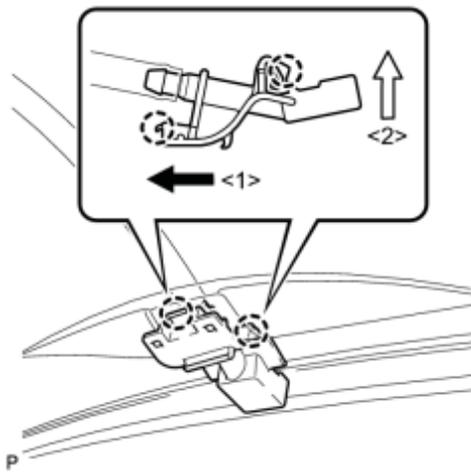
## 3. INSTALL WASHER NOZZLE SUB-ASSEMBLY [INFO](#)

# INSTALLATION

## 1. INSTALL WASHER NOZZLE SUB-ASSEMBLY



(a) Connect a new washer nozzle sub-assembly to the washer hose.



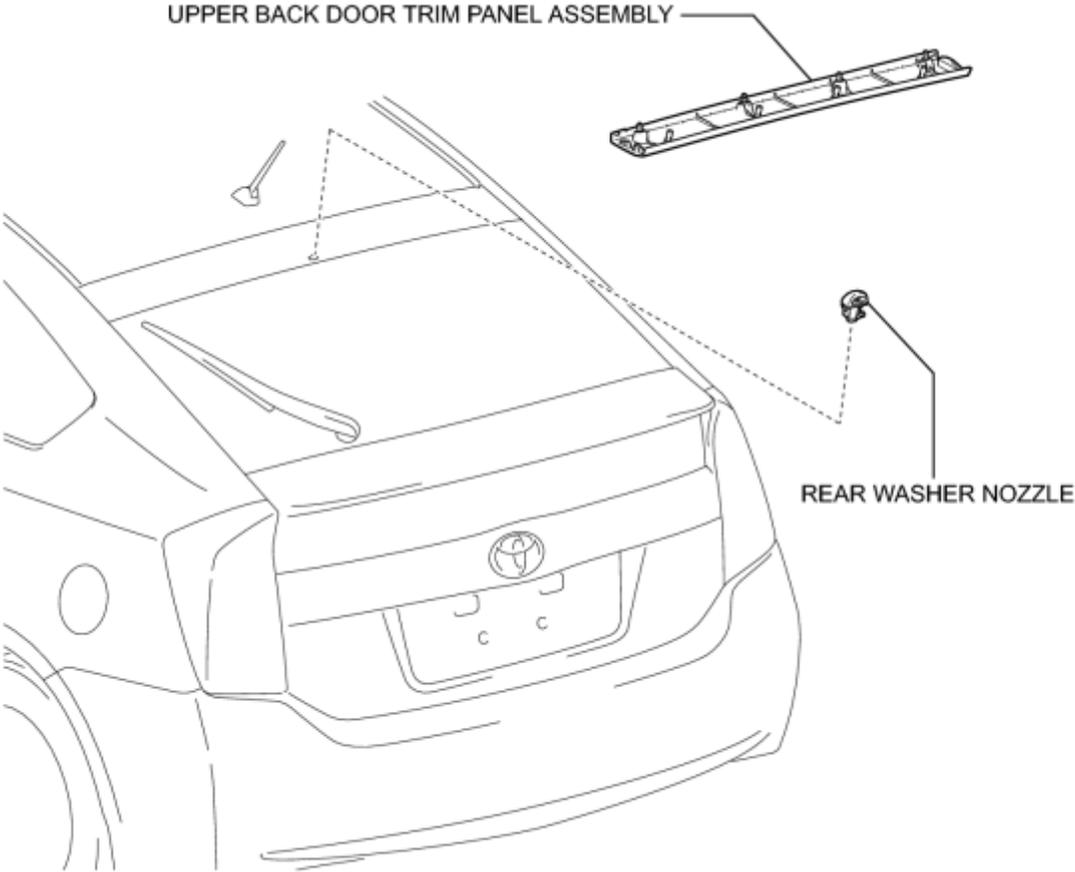
(b) Engage the 2 claws and install the washer nozzle sub-assembly as shown in the illustration.

2. INSPECT WASHER NOZZLE SUB-ASSEMBLY\_ [INFO](#)

3. ADJUST WASHER NOZZLE SUB-ASSEMBLY\_ [INFO](#)

# COMPONENTS

# ILLUSTRATION



P

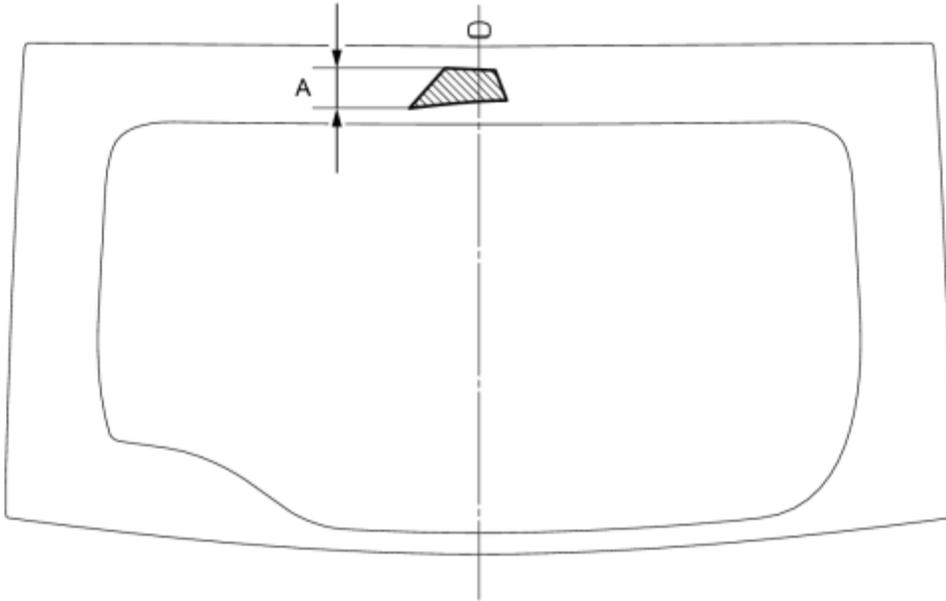
# ON-VEHICLE INSPECTION

## 1. INSPECT REAR WASHER NOZZLE

(a) With the engine running, check that the center stream of washer fluid sprays on the windshield within the hatched area shown in the illustration.

Standard:

Washer fluid hits the windshield in the area shown in the illustration.



P

### *Standard Clearance*

Area	Measurement
A	48.7 mm (1.92 in.)

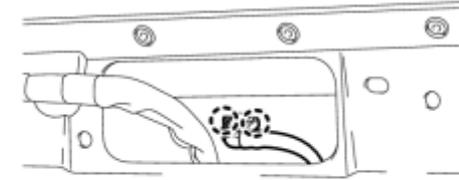
HINT:

If the result is not as specified, replace the malfunctioning rear washer nozzle.

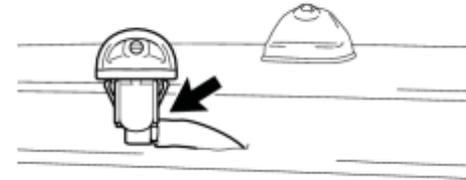
# REMOVAL

1. REMOVE UPPER BACK DOOR TRIM PANEL ASSEMBLY INFO

2. REMOVE REAR WASHER NOZZLE



(a) Disengage the 2 claws.



(b) Disconnect the washer hose and remove the rear washer nozzle.

# ADJUSTMENT

## 1. ADJUST REAR WASHER NOZZLE

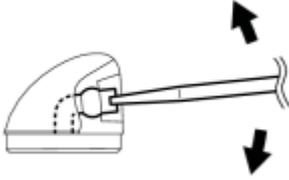
(a) Using a screwdriver, adjust the direction of the rear washer nozzle.

NOTICE:

Do not use a safety pin or other pointed tools. Doing so may damage the inside of the washer nozzle.

HINT:

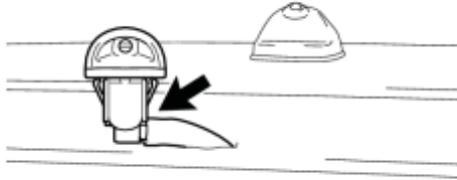
Use a thin-bladed screwdriver with an approximately 1 mm (0.0394 in.) thick tip.



P

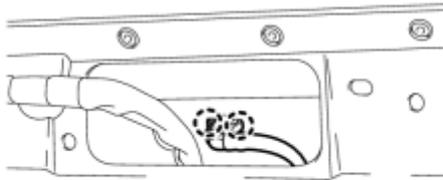
# INSTALLATION

## 1. INSTALL REAR WASHER NOZZLE



(a) Connect the washer hose.

P



(b) Engage the 2 claws to install the rear washer nozzle.

P

2. INSTALL UPPER BACK DOOR TRIM PANEL ASSEMBLY\_ [INFO](#)

3. INSPECT REAR WASHER NOZZLE\_ [INFO](#)

4. ADJUST REAR WASHER NOZZLE\_ [INFO](#)

# PRECAUTION

## NOTICE:

When disconnecting the cable from the negative (-) battery terminal, initialize the following system after the cable is reconnected.

System Name	See Procedure
Advanced Parking Guidance System	<a href="#">INFO</a>

## 1. PRECAUTION OF WASHER NOZZLE ADJUSTMENT

(a) Do not clean or adjust the washer nozzle with a safety pin, etc. because:

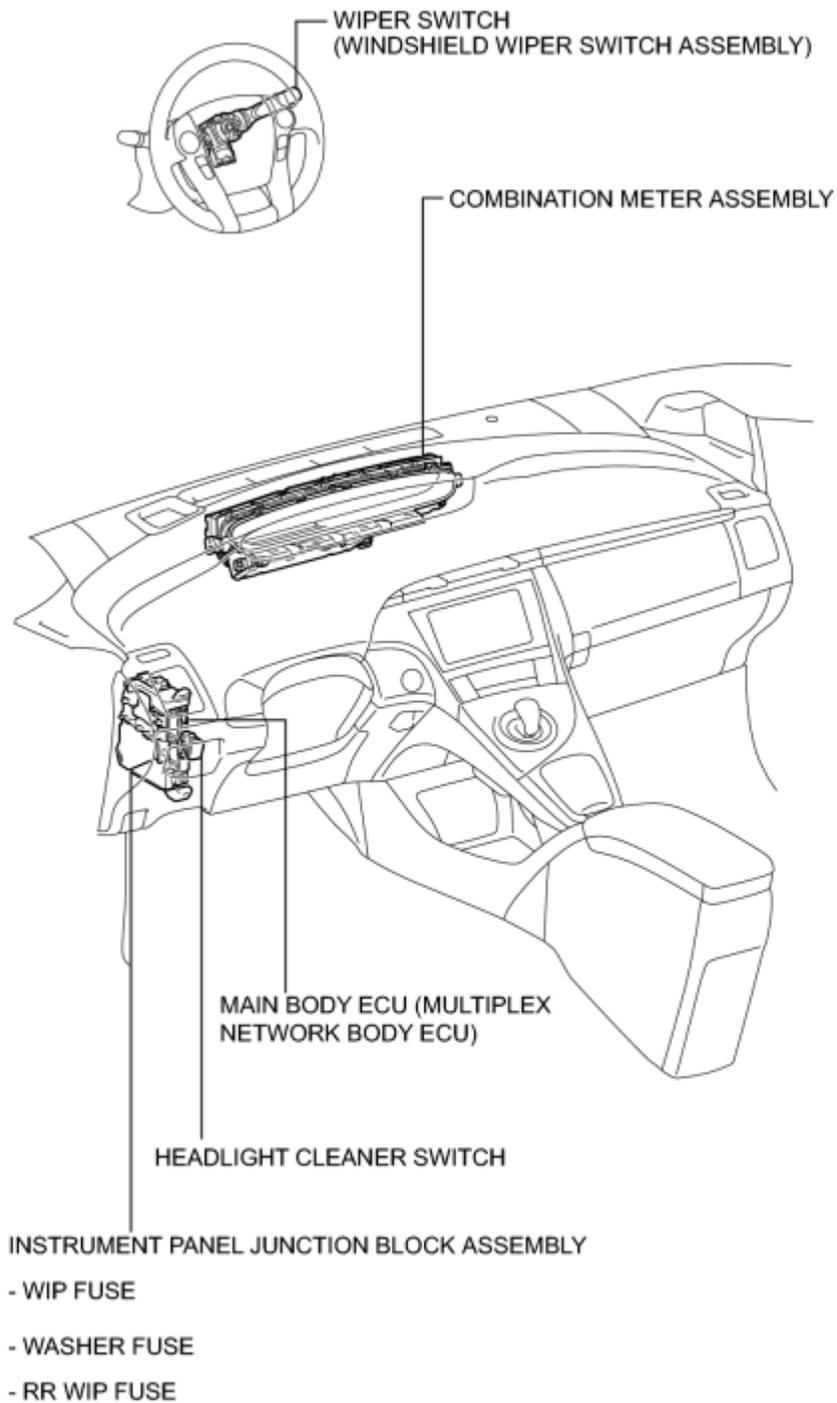
(1) the washer nozzle tip is made of resin and could be damaged.

(2) adjustment is not necessary for this spray type washer nozzle. If it is necessary to change the nozzle angle, replace the washer nozzle with one that has a different nozzle angle.

(b) If the washer nozzle is clogged with wax, etc., remove it and clean the nozzle hole with a soft resin brush or other cleaning tool.

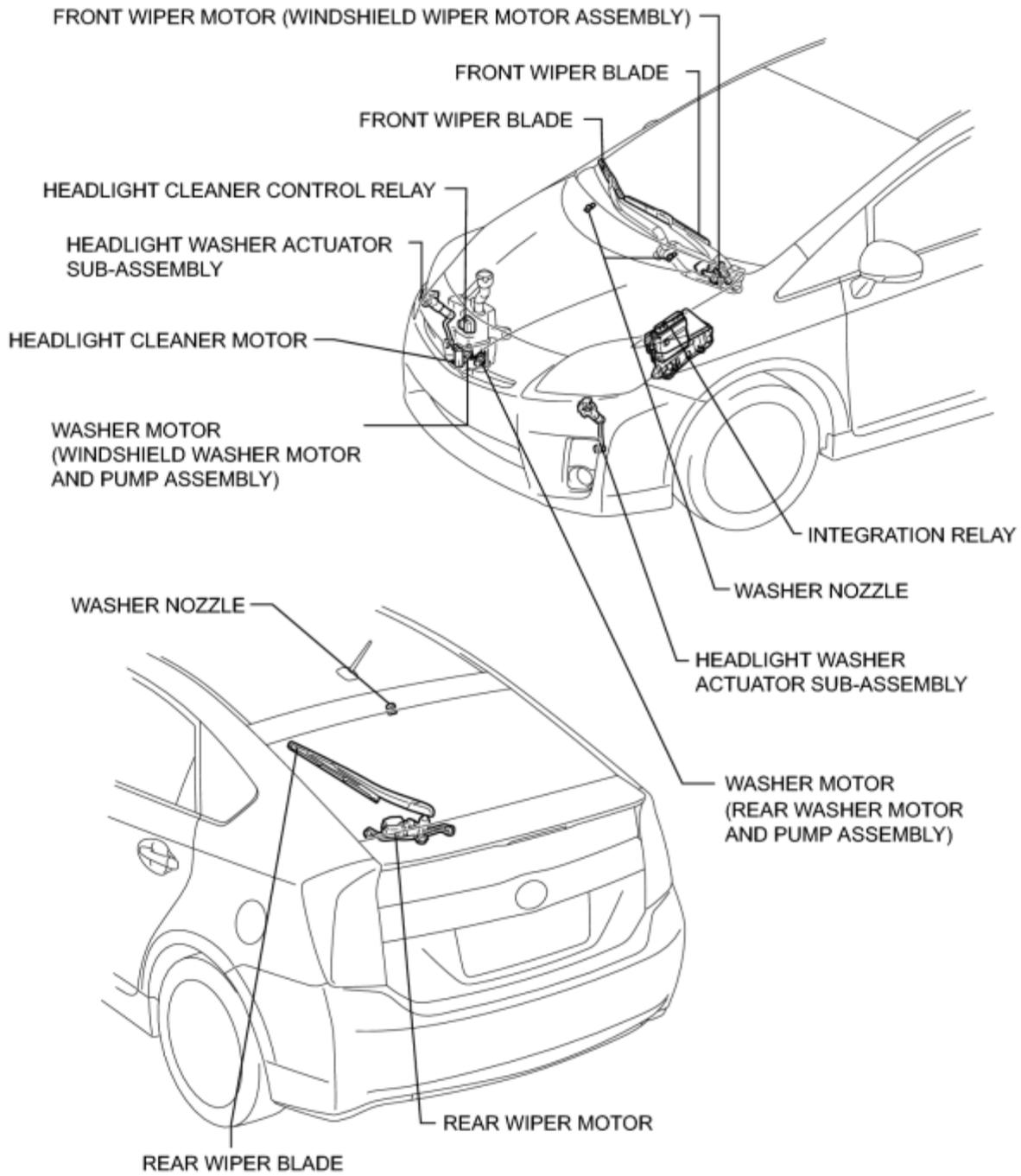
# PARTS LOCATION

## ILLUSTRATION



H

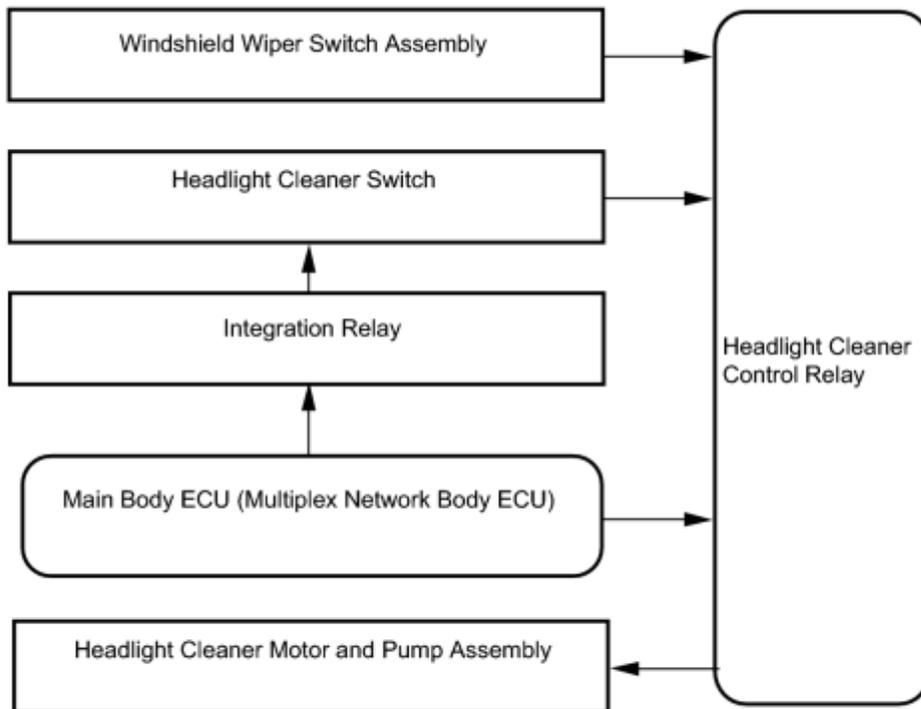
## ILLUSTRATION



H

# SYSTEM DIAGRAM

## 1. HEADLIGHT CLEANER SYSTEM



# SYSTEM DESCRIPTION

## 1. HEADLIGHT CLEANER SYSTEM

### General

- The headlight cleaner system operates when the headlight cleaner switch is pushed ON.
- The headlight cleaner system also operates when the front washer switch is first operated with the headlights on.

# HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

Use the following procedure to troubleshoot the wiper and washer system.

1. VEHICLE BROUGHT TO WORKSHOP

NEXT



2. CUSTOMER PROBLEM ANALYSIS AND SYMPTOM CHECK

NEXT



3. INSPECT BATTERY VOLTAGE

Standard Voltage:

11 to 14 V

If the voltage is below 11 V, recharge or replace the battery before proceeding to the next step.

NEXT



4. PROBLEM SYMPTOMS TABLE

Result:

Result	Proceed to
Fault is not listed in problem symptoms table	A
Fault is listed in problem symptoms table	B

B ▶ Go to step 6

A



5. OVERALL ANALYSIS AND TROUBLESHOOTING

(a) Terminals of ECU 

(b) Inspection

(c) On-vehicle inspection

NEXT



6.	ADJUST, REPAIR OR REPLACE
----	---------------------------

NEXT



7.	CONFIRMATION TEST
----	-------------------

NEXT  **END**

# PROBLEM SYMPTOMS TABLE

HINT:

Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.

## Front Wiper and Washer

Symptom	Suspected Area	See page
Front wipers do not operate at all	WIP fuse	-
	Windshield wiper motor assembly	<a href="#">INFO</a>
	Windshield wiper switch assembly	<a href="#">INFO</a>
	Harness or connector	-
Front wipers do not operate in INT	Windshield wiper motor assembly	<a href="#">INFO</a>
	Windshield wiper switch assembly	<a href="#">INFO</a>
	Harness or connector	-
Front wipers do not operate in LO	Windshield wiper switch assembly	<a href="#">INFO</a>
	Windshield wiper motor assembly	<a href="#">INFO</a>
	Harness or connector	-
Front wipers do not operate in HI	Windshield wiper switch assembly	<a href="#">INFO</a>
	Windshield wiper motor assembly	<a href="#">INFO</a>
	Harness or connector	-
Front washer motor does not operate	Windshield washer motor and pump assembly	<a href="#">INFO</a>
	Windshield wiper switch assembly	<a href="#">INFO</a>
	Harness or connector	-
Washer fluid does not flow	Washer hose and nozzle	-
Front wipers do not operate when front washer switch is on	Windshield wiper switch assembly	<a href="#">INFO</a>
	Windshield wiper motor assembly	<a href="#">INFO</a>
	Harness or connector	-
When the front wiper switch is off, the wiper blades do not park or park in the wrong position	Front wiper arm installation position	<a href="#">INFO</a>
	Windshield wiper motor assembly	<a href="#">INFO</a>

## Rear Wiper and Washer

Symptom	Suspected Area	See page
Rear wiper does not operate at all	RR WIP fuse	-
	Rear wiper motor assembly	<a href="#">INFO</a>

Symptom	Suspected Area	See page
	Windshield wiper switch assembly	<a href="#">INFO</a>
	Harness or connector	-
Rear wiper does not operate in LO or HI	Rear wiper motor assembly	<a href="#">INFO</a>
	Windshield wiper switch assembly	<a href="#">INFO</a>
	Harness or connector	-
Rear washer motor does not operate	RR WIP fuse	-
	Rear washer motor assembly	<a href="#">INFO</a>
	Windshield wiper switch assembly	<a href="#">INFO</a>
	Harness or connector	-
Washer fluid does not flow	Washer hose and nozzle	-
When the rear wiper switch is off, the wiper blade does not park or park in the wrong position	Rear wiper arm installation position	<a href="#">INFO</a>
	Rear wiper motor assembly	<a href="#">INFO</a>

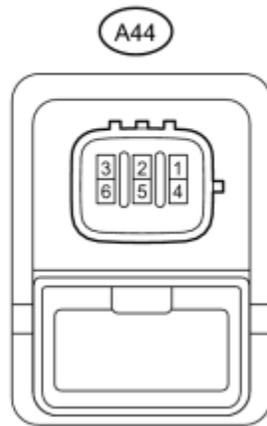
### *Headlight Cleaner System*

Symptom	Suspected Area	See page
Headlight cleaner system does not operate when the headlight cleaner switch is operated	IG power source circuit	<a href="#">INFO</a>
	Headlight cleaner switch circuit	<a href="#">INFO</a>
	Headlight cleaner motor and relay circuit	<a href="#">INFO</a>
	Headlight cleaner control relay	<a href="#">INFO</a>
Headlight cleaner system does not operate when the front washer switch is operated	IG power source circuit	<a href="#">INFO</a>
	Headlight signal circuit	<a href="#">INFO</a>
	Washer signal circuit	<a href="#">INFO</a>
	Headlight cleaner motor and relay circuit	<a href="#">INFO</a>
	Headlight cleaner control relay	<a href="#">INFO</a>

# TERMINALS OF ECU

## 1. CHECK HEADLIGHT CLEANER CONTROL RELAY

- (a) Disconnect the A44 headlight cleaner control relay connector.
- (b) Measure the voltage and resistance according to the value(s) in the table below.



H

Terminal No. (Symbol)	Wiring Color	Terminal Description	Condition	Specified Condition
A44-1 (HDLO) - A44-4 (E)	L - W-B	Low beam headlight signal	Light control switch in head position	Below 1 V
			Light control switch off	11 to 14 V
A44-2 (H) - A44-4 (E)	LG - W-B	Headlight cleaner switch operation signal	Headlight cleaner switch off	11 to 14 V
			Headlight cleaner switch on	Below 1 V
A44-3 (IG) - A44-4 (E)	B - W-B	Power switch on (IG) signal (Power source circuit)	Power switch off	Below 1 V
			Power switch on (IG)	11 to 14 V
A44-4 (E) - Body ground	W-B - Body ground	Body ground	Always	Below 1 Ω
A44-5 (FRWA) - A44-4 (E)	R - W-B	Front washer switch signal	Front washer switch off	11 to 14 V
			Front washer switch on	Below 1 V

If the result is not as specified, there may be a malfunction in the wire harness.

## DESCRIPTION

The headlight cleaner control relay receives the windshield washer operation signal.

## WIRING DIAGRAM



## INSPECTION PROCEDURE

### PROCEDURE

#### 1. CHECK OPERATION

(a) Check the operation of the front wiper and washer system.

OK:

Front wiper and washer system operates normally.

NG ► GO TO PROBLEM SYMPTOMS TABLE

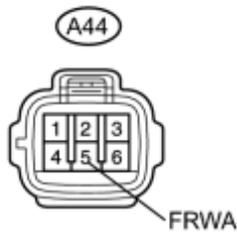
OK



#### 2. CHECK HARNESS AND CONNECTOR (WINDSHIELD WIPER SWITCH ASSEMBLY - RELAY)

(a) Disconnect the A44 headlight cleaner control relay connector.

\*1



N

(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

Tester Connection	Condition	Specified Condition
A44-5 (FRWA) - Body ground	Front washer switch off	11 to 14 V
	Front washer switch on	Below 1 V

**Text in Illustration**

*1	Front view of wire harness connector (to Headlight Cleaner Control Relay)
----	--

NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

## DESCRIPTION

The headlight cleaner control relay detects the low beam headlights status.

## WIRING DIAGRAM



## INSPECTION PROCEDURE

NOTICE:

First check that the low beam headlights operate normally.

## PROCEDURE

- |    |   |
|----|---|
| 1. | CHECK HARNESS AND CONNECTOR (INTEGRATION RELAY - HEADLIGHT CLEANER CONTROL RELAY) |
|----|---|

(a) Disconnect the A44 headlight cleaner control relay connector.

\*1



N

(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
A44-1 (HDLO) - Body ground	Light control switch in head position	Below 1 V
	Light control switch off	11 to 14 V

**Text in Illustration**

*1	Front view of wire harness connector (to Headlight Cleaner Control Relay)
----	--

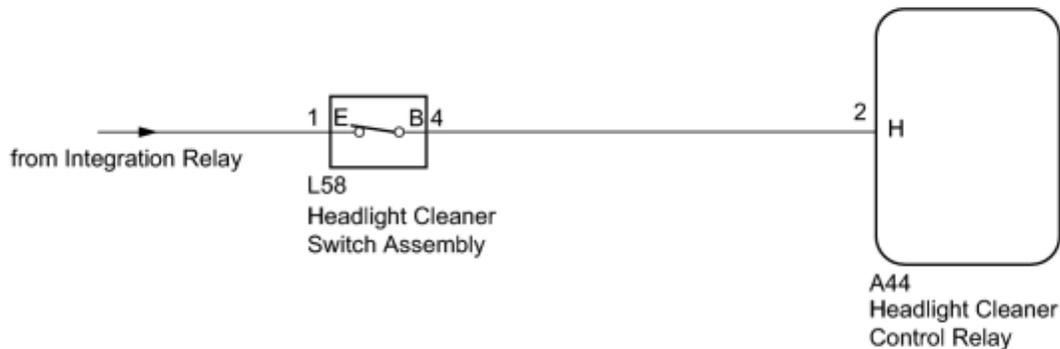
NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

## DESCRIPTION

This circuit detects the conditions (on or off) of the headlight cleaner switch assembly.

## WIRING DIAGRAM

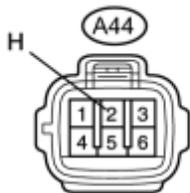


## INSPECTION PROCEDURE

### PROCEDURE

1. INSPECT HEADLIGHT CLEANER CONTROL RELAY (H SIGNAL)

\*1



- (a) Disconnect the A44 headlight cleaner control relay connector.

N

- (b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

Tester Connection	Switch Condition	Specified Condition
A44-2 (H) - Body ground	Light control switch in head and headlight cleaner switch on	11 to 14 V
A44-2 (H) - Body ground	Headlight cleaner switch off	Below 1 V

**Text in Illustration**

*1	Front view of wire harness connector (to Headlight Cleaner Control Relay)
----	--

NG **INSPECT HEADLIGHT CLEANER SWITCH ASSEMBLY**

OK **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

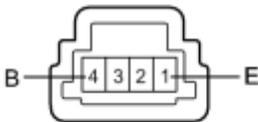
2.	INSPECT HEADLIGHT CLEANER SWITCH ASSEMBLY
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(a) Remove the headlight cleaner switch assembly **INFO**.

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

\*1



H

Tester Connection	Switch Condition	Specified Condition
1 (E) - 4 (B)	Headlight cleaner switch off	10 kΩ or higher
1 (E) - 4 (B)	Headlight cleaner switch on	Below 1 Ω

**Text in Illustration**

*1	Component without harness connected (Headlight Cleaner Switch Assembly)
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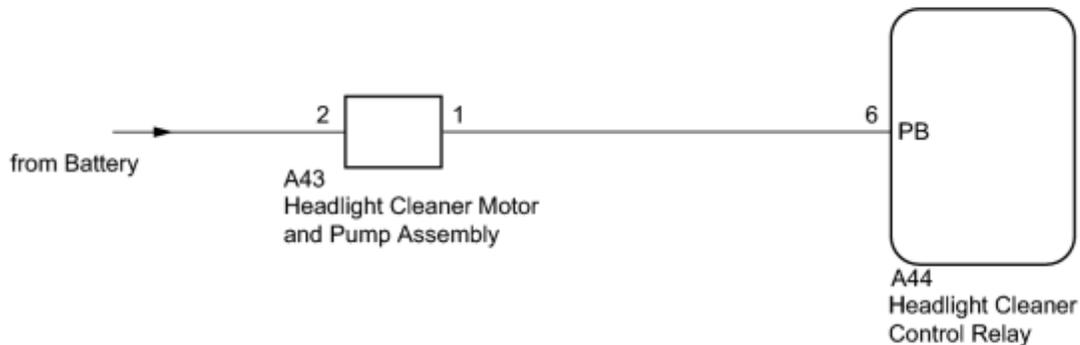
NG **REPLACE HEADLIGHT CLEANER SWITCH ASSEMBLY**

OK **REPAIR OR REPLACE HARNESS OR CONNECTOR (MAIN BODY ECU - HEADLIGHT CLEANER CONTROL RELAY)**

## DESCRIPTION

The headlight cleaner control relay controls the headlight cleaner motor and pump assembly.

## WIRING DIAGRAM



## INSPECTION PROCEDURE

### PROCEDURE

1. INSPECT HEADLIGHT CLEANER MOTOR AND PUMP ASSEMBLY

HINT:

The following check should be performed with the headlight cleaner motor and pump assembly installed to the washer jar.

- (a) Fill the washer jar with washer fluid.

\*1



- (b) Connect a battery positive (+) lead to terminal 2 of the headlight cleaner motor and pump assembly, and a battery negative (-) lead to terminal 1.

(c) Check that washer fluid flows from the washer jar.

OK:

Washer fluid is pumped from the washer jar.

**Text in Illustration**

*1	Component without harness connected (Headlight Cleaner Motor and Pump Assembly)
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NG ► REPLACE HEADLIGHT CLEANER MOTOR AND PUMP ASSEMBLY

OK



2.	CHECK HARNESS AND CONNECTOR (HEADLIGHT CLEANER MOTOR CIRCUIT)
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(a) Connect the headlight cleaner motor and pump assembly connector.

\*1



(b) Disconnect the A44 headlight cleaner control relay connector.

N

(c) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

Tester Connection	Condition	Specified Condition
A44-6 (PB) - Body ground	Always	11 to 14 V

**Text in Illustration**

*1	Front view of wire harness connector (to Headlight Cleaner Control Relay)
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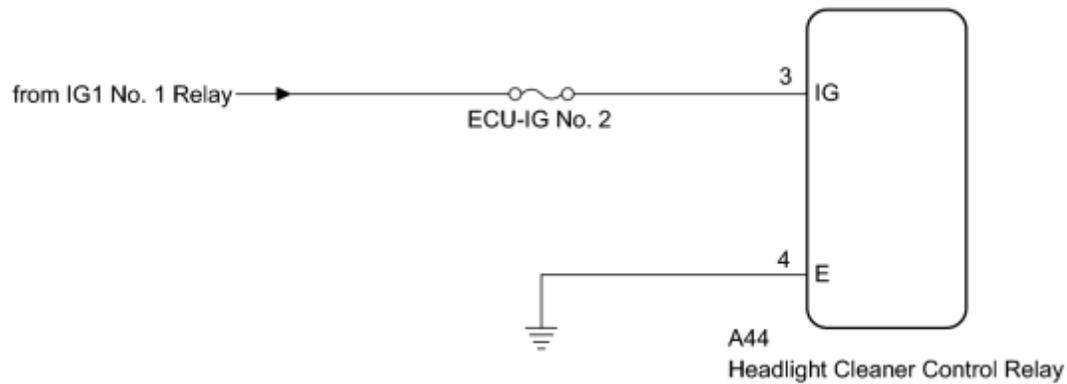
NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR (HEADLIGHT CLEANER CONTROL RELAY - BATTERY)

OK  **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE**

## DESCRIPTION

This circuit provides power to the headlight cleaner control relay.

## WIRING DIAGRAM



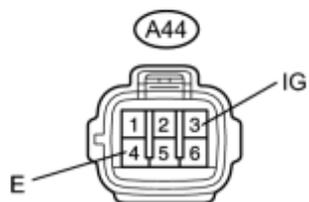
## INSPECTION PROCEDURE

### PROCEDURE

1. CHECK HARNESS AND CONNECTOR (HEADLIGHT CLEANER CONTROL RELAY - BATTERY AND BODY GROUND)

(a) Disconnect the A44 headlight cleaner control relay connector.

\*1



N

(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

Tester Connection	Condition	Specified Condition
A44-3 (IG) - Body ground	Power switch off	Below 1 V
	Power switch on (IG)	11 to 14 V

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

Tester Connection	Condition	Specified Condition
A44-4 (E) - Body ground	Always	Below 1 Ω

**Text in Illustration**

*1	Front view of wire harness connector (to Headlight Cleaner Control Relay)
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NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ► PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE

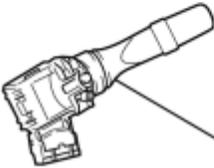
# COMPONENTS

# ILLUSTRATION

UPPER STEERING  
COLUMN COVER



LOWER STEERING  
COLUMN COVER



WINDSHIELD WIPER  
SWITCH ASSEMBLY

P

# REMOVAL

## 1. REMOVE LOWER STEERING COLUMN COVER

### NOTICE:

Removing the lower steering column cover in the incorrect order will cause the lower steering column cover to break.

- (a) Release the tilt and telescopic lever, and fully extend and lower the steering column assembly.
- (b) Lock the tilt and telescopic lever.



- (c) Push the right and left sides of the lower steering column cover to disengage the 4 claws.

P



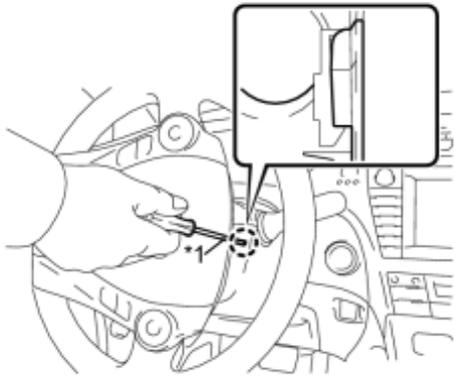
- (d) Insert fingers into the opening of the tilt lever of the lower steering column cover to disengage the claw.

### HINT:

Spread the claw to disengage it.

P

- (e) Turn the steering wheel assembly to the right.



P

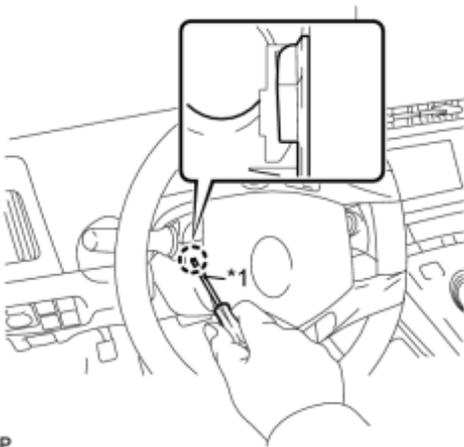
(f) Using a screwdriver, disengage the claw as shown in the illustration.

**Text in Illustration**

*1	Protective Tape
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HINT:

Tape the screwdriver tip before use.



P

(g) Turn the steering wheel assembly to the left.

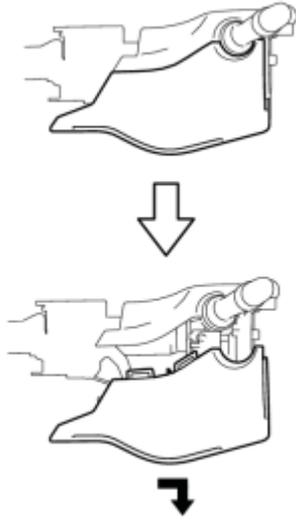
(h) Using a screwdriver, disengage the claw as shown in the illustration.

**Text in Illustration**

*1	Protective Tape
----	-----------------

HINT:

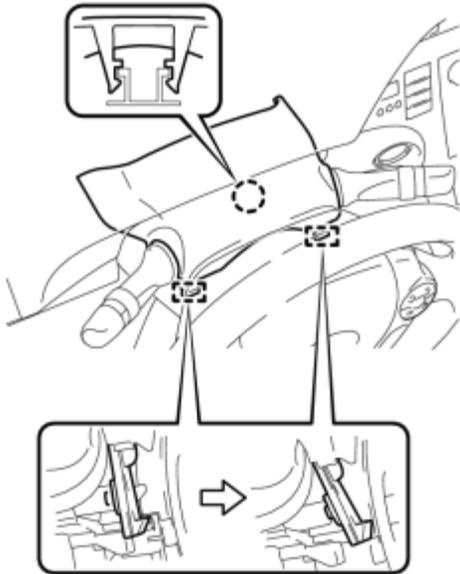
Tape the screwdriver tip before use.



(i) Remove the lower steering column cover as shown in the illustration.

c

## 2. REMOVE UPPER STEERING COLUMN COVER

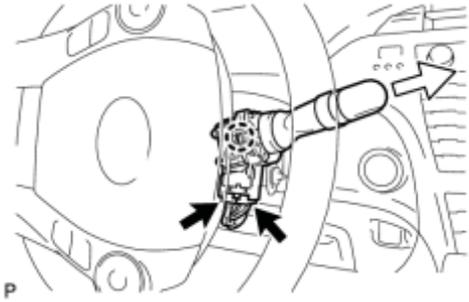


(a) Disengage the claw and 2 pins, and remove the upper steering column cover.

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## 3. REMOVE WINDSHIELD WIPER SWITCH ASSEMBLY

(a) Turn the steering wheel assembly to the right.



(b) Disconnect the 2 connectors.

(c) Disengage the claw and remove the windshield wiper switch assembly as shown in the illustration.

NOTICE:

If the claw is pushed with excessive force, it may break.

# INSPECTION

## 1. INSPECT WINDSHIELD WIPER SWITCH ASSEMBLY

(a) Measure the resistance according to the value(s) in the table below.

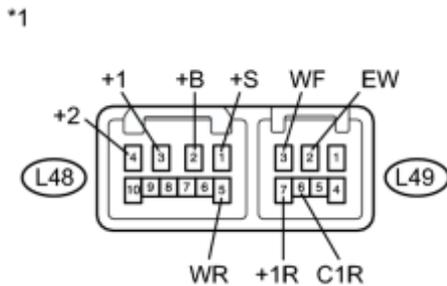
Standard Resistance:

Front Washer Switch

Rear Wiper Switch

Rear Washer Switch

### Front Wiper Switch



Tester Connection	Switch Condition	Specified Condition
L48-1 (+S) - L48-3 (+1)	OFF	Below 1 $\Omega$
	INT	
L48-2 (+B) - L48-3 (+1)	MIST	
	LO	
L48-2 (+B) - L48-4 (+2)	HI	

Tester Connection	Switch Condition	Specified Condition
L49-2 (EW) - L49-3 (WF)	ON	Below 1 $\Omega$
	OFF	10 k $\Omega$ or higher

Tester Connection	Switch Condition	Specified Condition
L49-6 (C1R) - L49-2 (EW)	OFF	10 k $\Omega$ or higher
L49-7 (+1R) - L49-2 (EW)		
L49-6 (C1R) - L49-2 (EW)	INT	Below 1 $\Omega$
L49-7 (+1R) - L49-2 (EW)	HI	Below 1 $\Omega$

Tester Connection	Switch Condition	Specified Condition
L48-5 (WR) - L49-2 (EW)	OFF	10 k $\Omega$ or higher
L49-7 (+1R) - L49-2 (EW)		
L48-5 (WR) - L49-2 (EW)	WASH	Below 1 $\Omega$
L48-5 (WR) - L49-2 (EW)	ON + WASH	Below 1 $\Omega$
L49-7 (+1R) - L49-2 (EW)		

If the result is not as specified, replace the windshield wiper switch assembly.

### Text in Illustration

*1	Component without harness connected (Windshield Wiper Switch Assembly)
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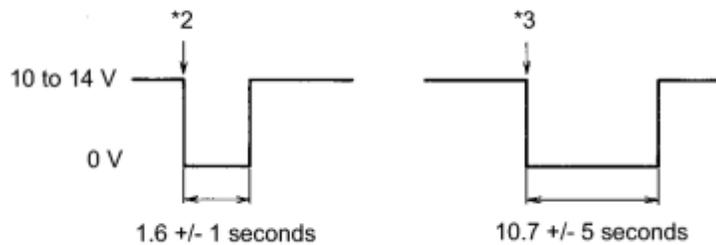
(b) Check the intermittent operation.

1. Connect a voltmeter positive (+) lead to terminal L48-3 (+1) and a negative (-) lead to terminal L49-2 (EW).
2. Connect a battery positive (+) lead to terminal L48-2 (+B) and a negative (-) lead to terminal L49-2 (EW) and L48-1 (+S).
3. Turn the wiper switch to the INT position.
4. Connect a battery positive (+) lead to terminal L48-1 (+S) for 5 seconds.
5. Connect a battery negative (-) lead to terminal L48-1 (+S). Operate the intermittent wiper relay and check the voltage between terminals L48-3 (+1) and L49-2 (EW).

OK:

Voltage changes as shown in the illustration.

\*1



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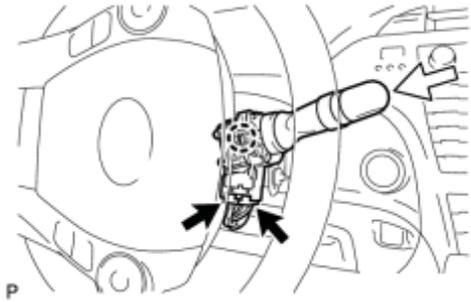
If the result is not as specified, replace the windshield wiper switch assembly.

**Text in Illustration**

*1	Voltage between terminals L48-3 (+1) and L49-2 (EW)	*2	FAST: Connect battery negative lead to terminal L48-1 (+S)
*3	SLOW: Connect battery negative lead to terminal L48-1 (+S)	-	-

# INSTALLATION

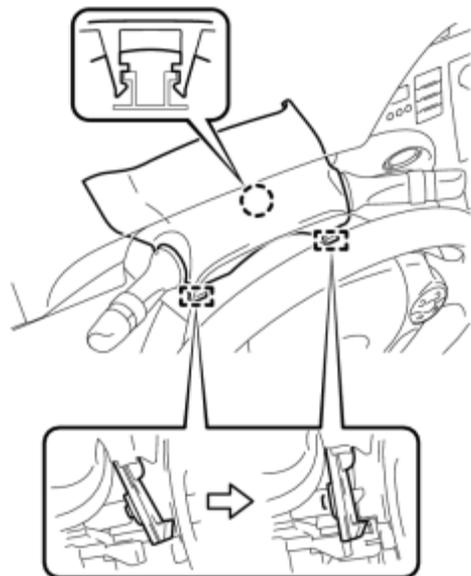
## 1. INSTALL WINDSHIELD WIPER SWITCH ASSEMBLY



(a) Engage the claw and install the windshield wiper switch assembly as shown in the illustration.

(b) Connect the 2 connectors.

## 2. INSTALL UPPER STEERING COLUMN COVER



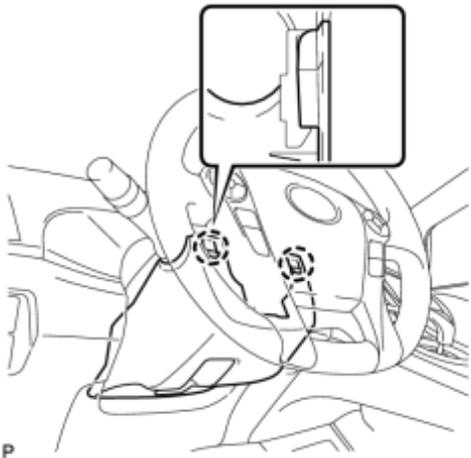
(a) Engage the claw and 2 pins to install the upper steering column cover.

## 3. INSTALL LOWER STEERING COLUMN COVER

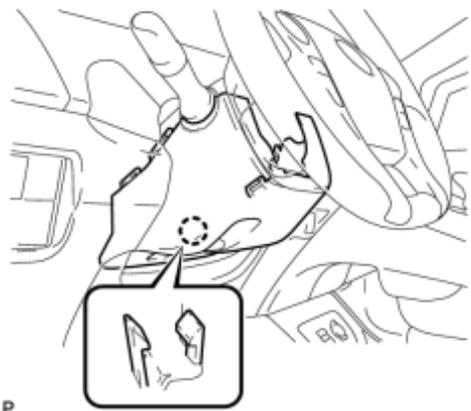
### NOTICE:

If the lower steering column cover is installed in the incorrect order, it will not be possible to assemble the lower steering column cover.

(a) Engage the 2 claws to install the lower steering column cover.



(b) Engage the 4 claws.



(c) Engage the claw.

HINT:

Press the area around the claw to engage it.