

# WIPER AND WASHER SYSTEM

## PRECAUTION

### 1. PRECAUTION FOR WASHER NOZZLE (for 4 Way Type) HANDLING

- (a) Do not adjust the washer nozzle with a safety pin, etc. as the washer nozzle tip is made of resin and could be damaged. Be sure to use SST for adjustment.

**SST 95060-10010**

- (b) When the washer nozzle is clogged with wax, etc., do not use metal objects such as a safety pin to clean the washer nozzle hole. Be sure to use a soft resin brush, etc.

#### **NOTICE:**

##### **For Initialization:**

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



System Name	See page
Power Window Control System	Initialization <a href="#">WS-7</a>

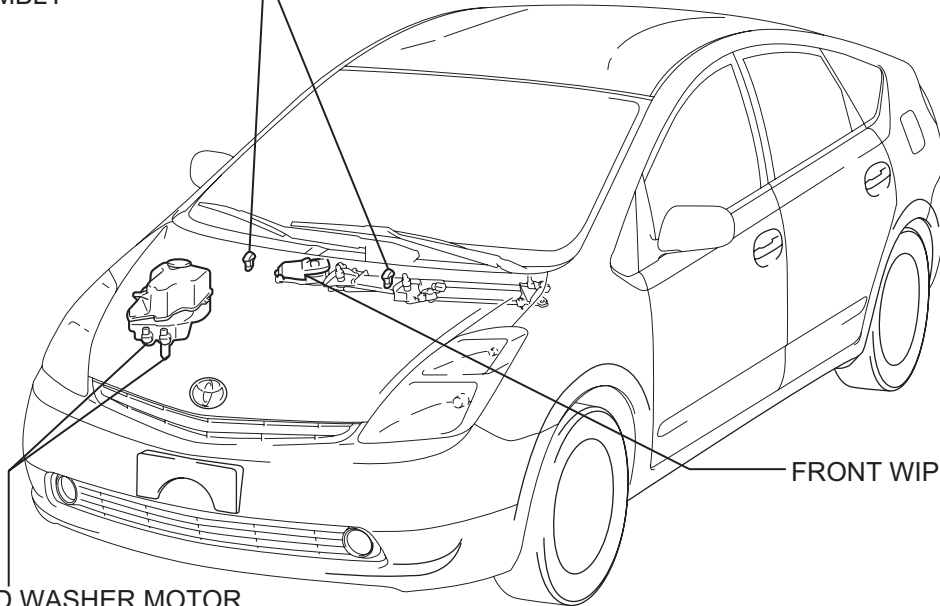
#### **NOTICE:**

- **When the warning light is illuminated or the battery has been disconnected and reconnected, pressing the power switch may not start the system on the first try. If so, press the power switch again.**
- **With the power switch's power mode changed to ON (IG), disconnect the battery. If the key is not in the key slot during reconnection, DTC B2799 may be output.**

# PARTS LOCATION

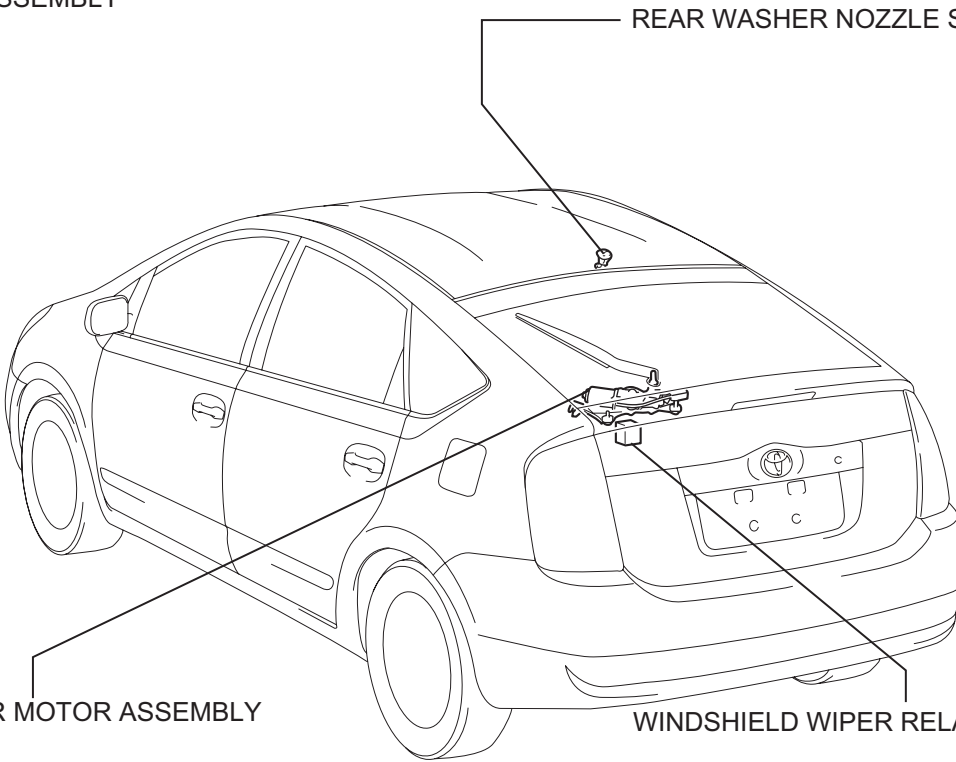
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FRONT WASHER NOZZLE  
SUB-ASSEMBLY



FRONT WIPER MOTOR

WINDSHIELD WASHER MOTOR  
AND PUMP ASSEMBLY

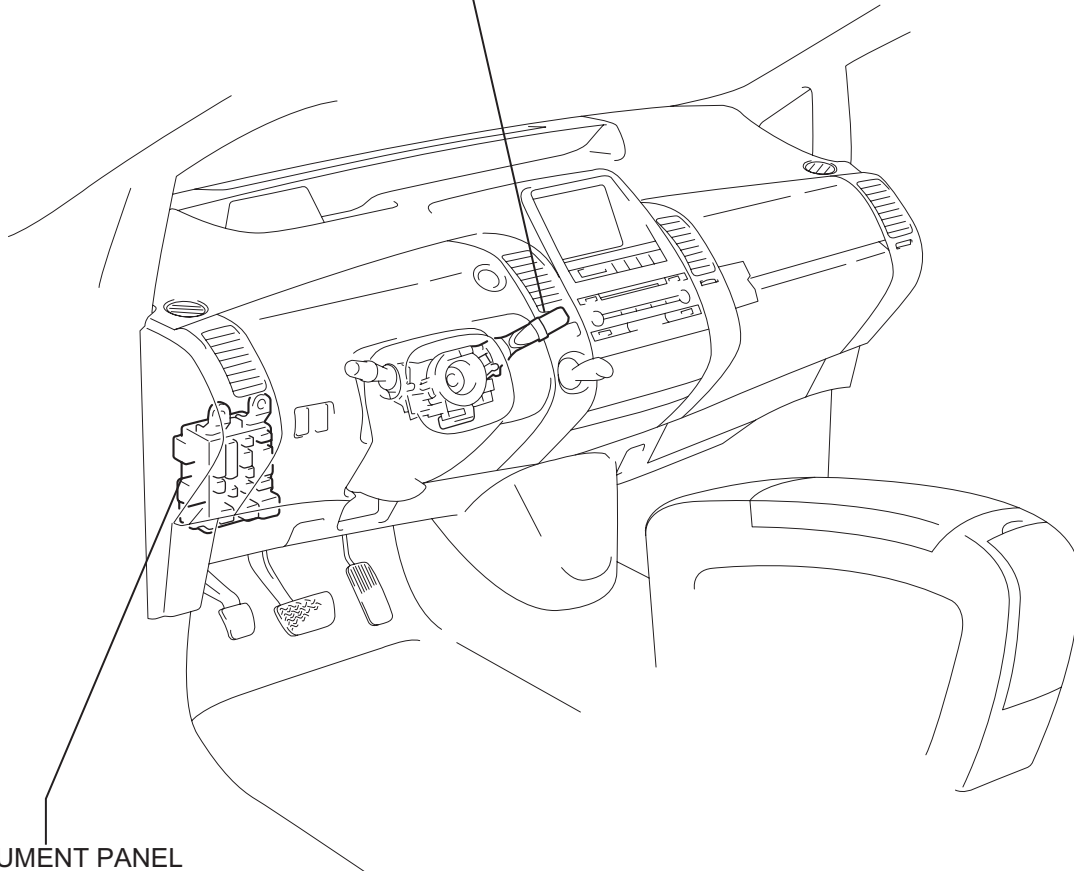


REAR WASHER NOZZLE SUB-ASSEMBLY

REAR WIPER MOTOR ASSEMBLY

WINDSHIELD WIPER RELAY ASSEMBLY

WIPER AND WASHER SWITCH ASSEMBLY



INSTRUMENT PANEL  
JUNCTION BLOCK ASSEMBLY  
- IG1 RELAY  
- WSH FUSE  
- WIP FUSE

WW

# SYSTEM DIAGRAM

Front Wiper

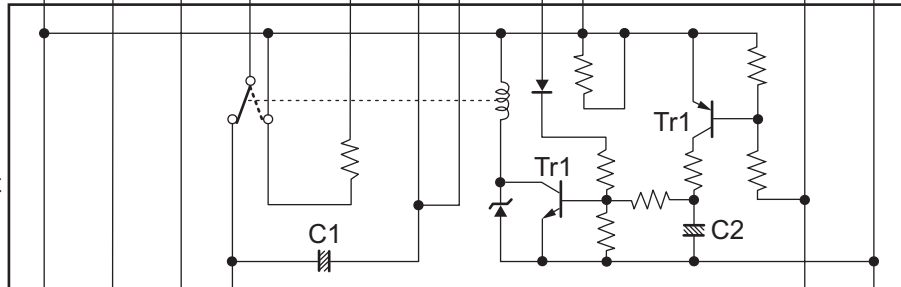
Front Wiper Switch

	+B	+2	+1	+S	INT1	INT2	B1
MIST	<input type="checkbox"/>	<input type="checkbox"/>					
OFF			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
INT			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
LO	<input type="checkbox"/>	<input type="checkbox"/>					
HI	<input type="checkbox"/>	<input type="checkbox"/>					

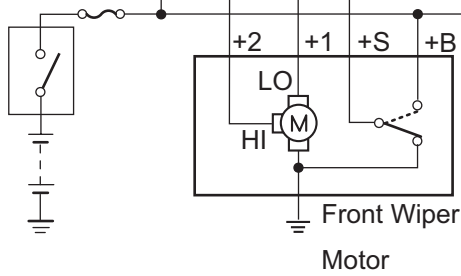
Rear Wiper Switch

	WF	EW
OFF	<input type="checkbox"/>	<input type="checkbox"/>
ON	<input type="checkbox"/>	<input type="checkbox"/>

Front Wiper Relay Circuit

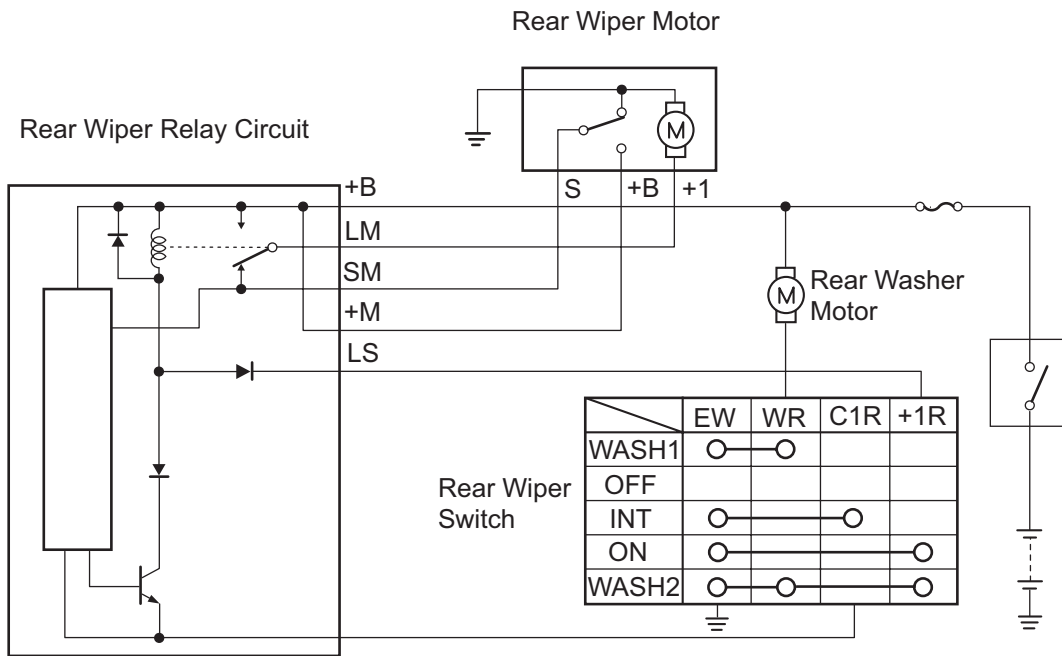


Front Washer Motor



WW

Rear Wiper



B139850E01



## SYSTEM DESCRIPTION

### 1. WASHER LINKED OPERATION

- (a) This system operates the front wipers at low speed immediately after a jet of washer fluid when the front washer switch is turned on for 0.3 seconds or more. The system operates the front wipers at low speed for approximately 2.2 seconds and then stops operation when the washer switch is turned on for 1.5 seconds or more.

### 2. INTERMITTENT OPERATION

- (a) The system operates the front wipers once in approximately 1.6 to 10.7 seconds when the front wiper switch is turned to the INT position. The intermittent time can be adjusted from 1.6 to 10.7 seconds by using the intermittent time adjust dial.

- (b) If the wiper control switch is turned to the INT position, current flows from the already charged capacitor C1 through terminals INT1 and INT2 of the wiper control switch, to Tr1 (transistor). When Tr1 turns on, current flows from terminal +S of the wiper control switch to terminal +1 of the wiper control switch, to terminal +1 of the wiper motor, to the wiper motor and finally to ground, causing the wiper motor to operate. At the same time, current flows from capacitor C1 to terminal INT1 of the wiper control switch and then INT2. When the current flow from capacitor C1 ends, Tr1 turns off to stop the relay contact point and halt the wiper motor. When the relay contact point turns off, capacitor C1 begins to charge again and Tr1 remains off until charging has been completed. This period corresponds to the intermittent time. When capacitor C1 is fully charged, Tr1 turns on and then the relay contact point turns on, causing the motor to operate again. This cycle is the intermittent operation.

The intermittent time can be adjusted by using the intermittent time adjust dial (variable resistor) to change the charge time of capacitor C1.

Front Wiper

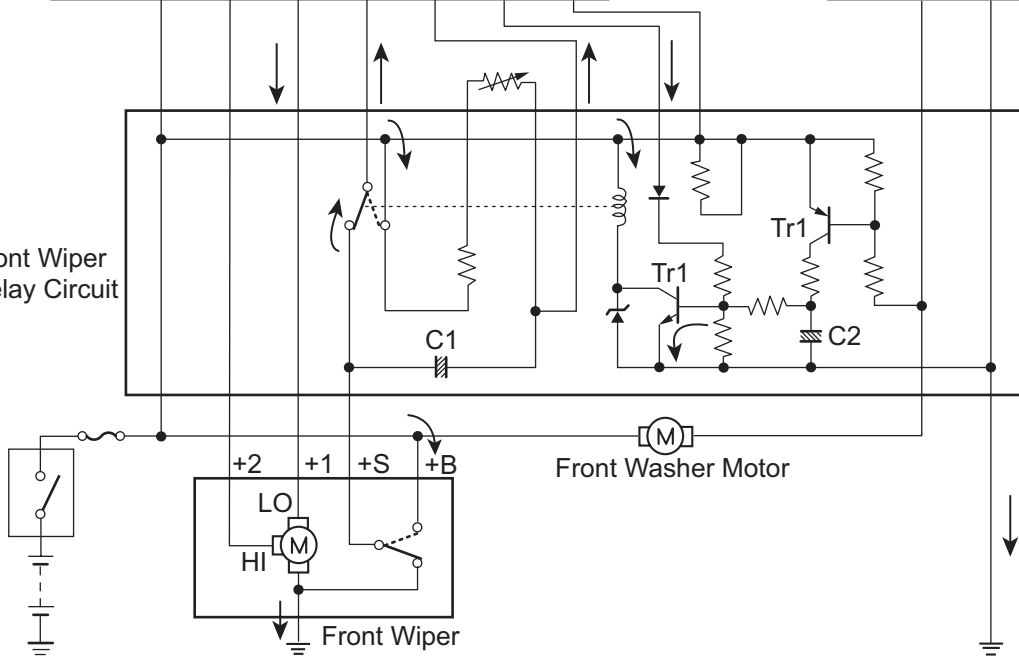
Front Wiper Switch

	+B	+2	+1	+S	INT1	INT2	B1
MIST	○	○					
OFF			○	○	○	○	○
INT			○	○	○	○	
LO	○	○					
HI	○	○					

Rear Wiper Switch

	WF	EW
OFF		
ON	○	○

Front Wiper Relay Circuit



WW



### 3. REAR WIPER INTERMITTENT OPERATION

- (a) When the rear wiper control switch is turned to the INT position, current flows from the capacitor of the intermittent operation control circuit to turn on Tr. Current flows from terminal +B of the rear wiper relay, to relay coil, to Tr, to terminal C1 of the rear wiper relay, to terminal C1R of the rear wiper control switch and finally to ground, causing the relay contact point to turn on.

When the relay contact point turns on, current flows from terminal +B of the rear wiper relay to the relay contact point, to terminal LM of the rear wiper relay, to terminal +1 of the rear wiper motor, to the rear wiper motor and finally to ground, causing the rear wiper motor to operate.

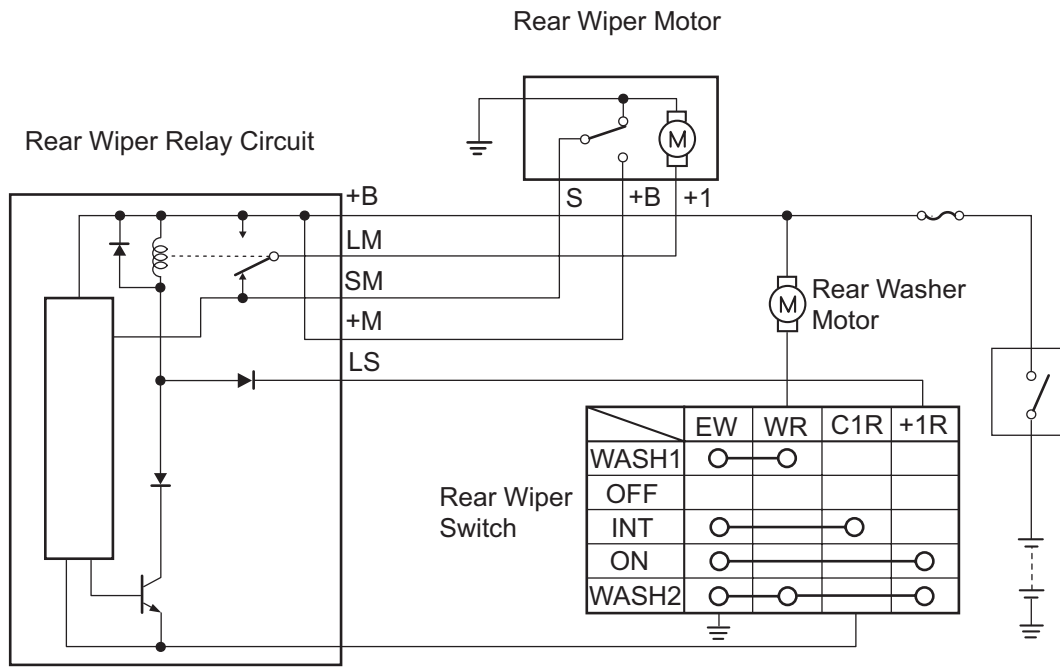
Tr turns off immediately after the rear wiper motor operation as the current flow from capacitor ends, causing the relay contact point to turn off.

Even when the relay contact point turns off, current flows from terminal +B of the rear wiper motor, to the relay contact point in the rear wiper motor, to terminal S of the rear wiper motor, to terminal SM of the rear wiper relay, to the contact point of the rear wiper relay, to terminal LM of the rear wiper motor, to terminal +1 of the rear wiper motor and finally to ground until the rear wiper motor stops at the automatic stop position, causing the rear wiper motor to operate. Then the rear wiper motor stops at the automatic stop position as the relay contact point in the rear wiper motor turns off.

The capacitor in the intermittent operation control circuit is charged in approximately 12 seconds after the current flow ends. After the charge is completed, current starts flowing again to turn on Tr, causing the relay contact point to turn on.

This cycle (of current flow and charging) as described above is the intermittent operation.

Rear Wiper



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## PROBLEM SYMPTOMS TABLE

### HINT:

- Use the table below to help determine the cause of the problem symptom. 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.
- Inspect the fuses and relays related to this system before inspecting the suspected areas below.

### Front wiper and washer system

Symptom	Suspected area	See page
Both front wipers and washer systems do not operate.	1. Windshield wiper switch	<a href="#">WW-29</a>
	2. Wire harness or connector	-
Front wipers do not operate when windshield washer is normal.	1. WIP fuse	-
	2. Windshield wiper switch	<a href="#">WW-29</a>
	3. Windshield wiper motor	<a href="#">WW-14</a>
	4. Wire harness or connector	-
Front wipers do not operate in LO or HI.	1. Windshield wiper switch	<a href="#">WW-29</a>
	2. Windshield wiper motor	<a href="#">WW-14</a>
	3. Wire harness or connector	-
Front wipers do not operate in INT.	1. Windshield wiper switch	<a href="#">WW-29</a>
	2. Windshield wiper motor	<a href="#">WW-14</a>
	3. Wire harness or connector	-
Windshield washer motor does not operate.	1. WSH fuse	-
	2. Windshield wiper switch	<a href="#">WW-29</a>
	3. Windshield washer motor and pump	<a href="#">WW-10</a>
	4. Wire harness or connector	-
Front wipers do not operate when jet of washer fluid is emitted with washer switch on.	1. Windshield wiper switch	<a href="#">WW-29</a>
	2. Windshield wiper motor	<a href="#">WW-14</a>
	3. Wire harness or connector	-
Jet of washer fluid is not emitted when windshield washer motor is normal.	1. Washer hose and nozzle	-
Wiper blade does not return or return position is wrong when windshield wiper switch is off.	1. Windshield wiper arm installation position	<a href="#">WW-15</a>
	2. Windshield wiper motor	<a href="#">WW-14</a>
	3. Wire harness or connector	-

### Rear wiper and washer system

Symptom	Suspected area	See page
Both rear wiper and washer systems do not operate.	1. Windshield wiper switch	<a href="#">WW-29</a>
	2. Wire harness or connector	-
Rear wiper does not operate in INT or ON.	1. Windshield wiper switch	<a href="#">WW-29</a>
	2. Rear wiper motor	<a href="#">WW-22</a>
	3. Wire harness or connector	-
Rear washer motor does not operate.	1. WSH fuse	-
	2. Windshield wiper switch	<a href="#">WW-29</a>
	3. Windshield washer motor and pump	<a href="#">WW-11</a>
	4. Wire harness or connector	-
Jet of washer fluid is not emitted when rear washer motor is normal.	1. Washer hose and nozzle	-

Symptom	Suspected area	See page
Wiper blade does not return or return position is wrong when rear wiper switch is off.	1. Rear wiper arm installation position	<a href="#">WW-22</a>
	2. Rear wiper motor	<a href="#">WW-22</a>
	3. Wire harness or connector	-



## ON-VEHICLE INSPECTION

### 1. INSPECT WINDSHIELD WASHER MOTOR AND PUMP ASSEMBLY

#### (a) Operation Check

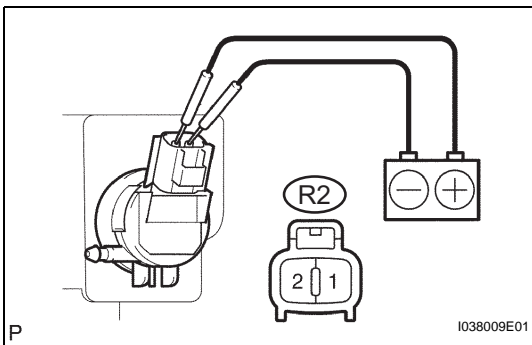
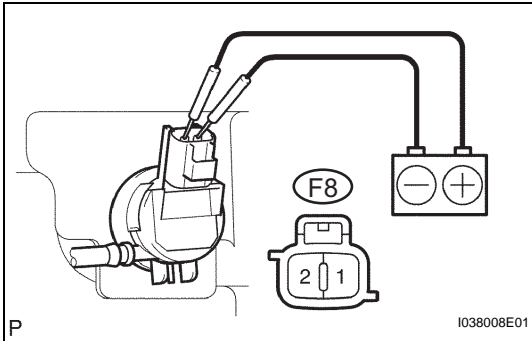
##### HINT:

Operation should be performed with the windshield washer motor and pump installed to the washer jar.

- (1) Fill the washer jar with washer fluid.
- (2) Connect the positive battery (+) lead to terminal 1 of the windshield washer motor and pump, and the negative battery (-) lead to terminal 2. Check that washer fluid flows from the washer jar.

##### OK:

**Washer fluid flows from the washer jar.**



### 2. INSPECT REAR WASHER MOTOR ASSEMBLY (w/ Rear Wiper)

#### (a) Operation Check

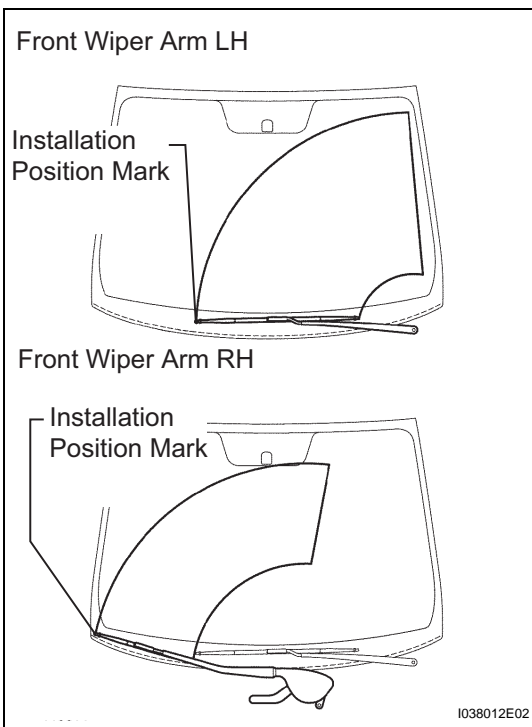
##### HINT:

Operation should be performed with the windshield washer motor and pump installed to the washer jar.

- (1) Fill the washer jar with washer fluid.
- (2) Connect the positive battery (+) lead to terminal 1 of the windshield washer motor and pump, and the negative battery (-) lead to terminal 2. Check that washer fluid flows from the washer jar.

##### Standard:

**Washer fluid flows from the washer jar.**



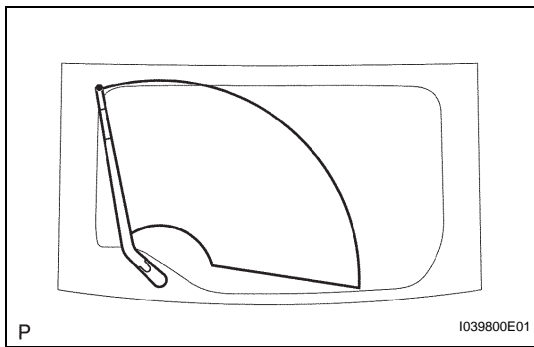
### 3. INSPECT WINDSHIELD WIPER MOTOR ASSEMBLY

#### (a) Automatic Stop Position Inspection

- (1) Operate the windshield wiper motor, and then stop the operation.
- (2) Check the automatic stop position when stopping the windshield wiper motor operation.

##### OK:

**Front wiper arm stops at the position shown in the illustration.**

**4. INSPECT REAR WIPER MOTOR ASSEMBLY****(a) Automatic Stop Position Inspection**

- (1) Operate the rear wiper motor, and then stop the operation.
- (2) Check the automatic stop position when stopping the rear wiper motor operation.

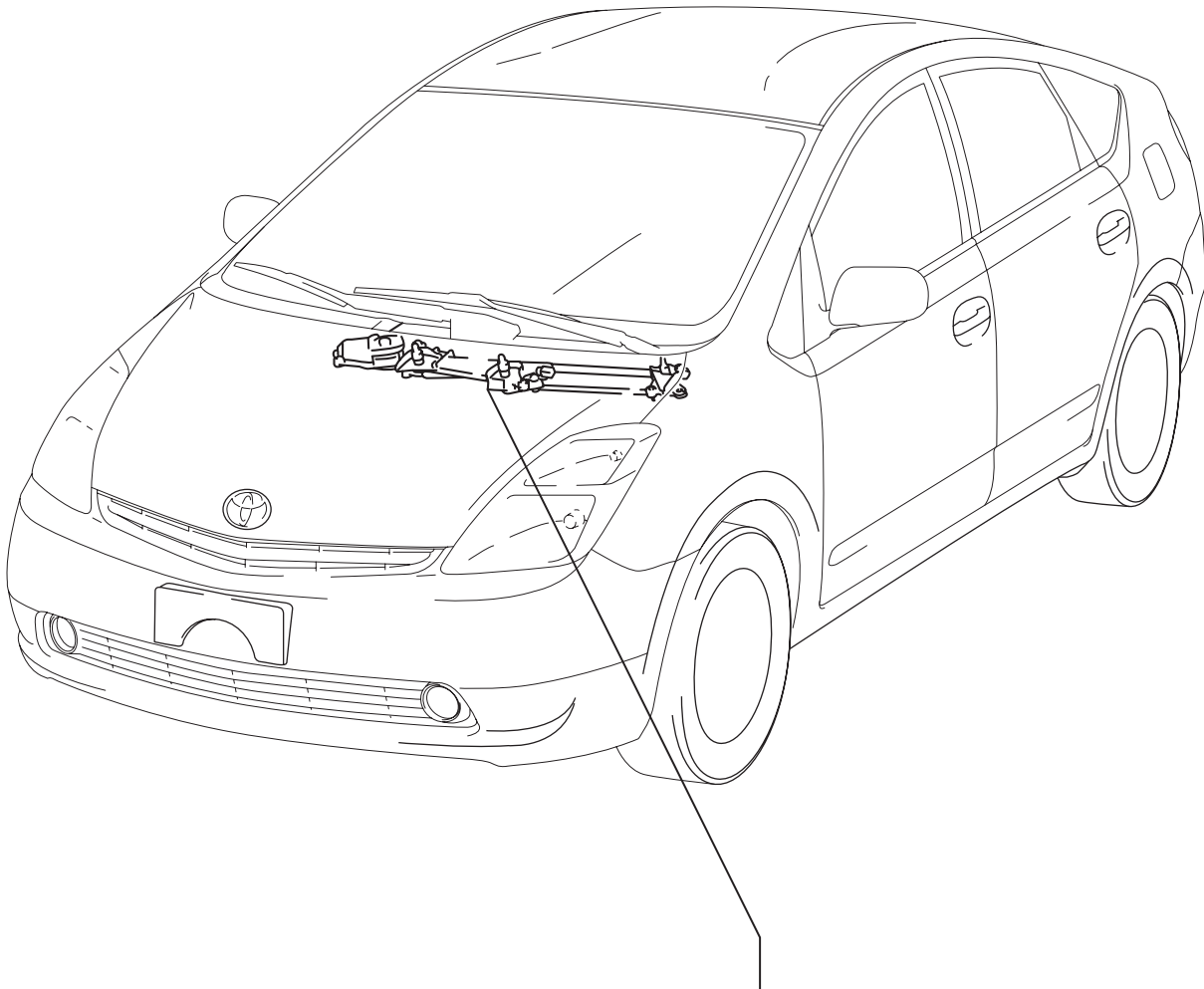
**OK:**

**Rear wiper arm stops at the position shown in the illustration.**

# FRONT WIPER MOTOR AND LINK

## COMPONENTS

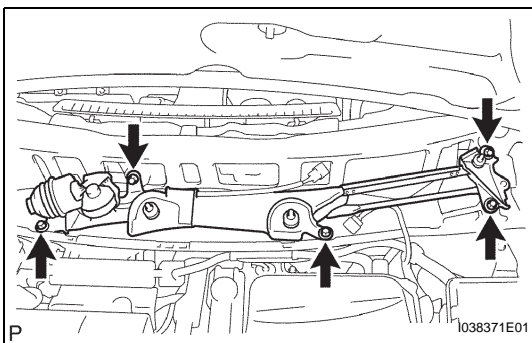
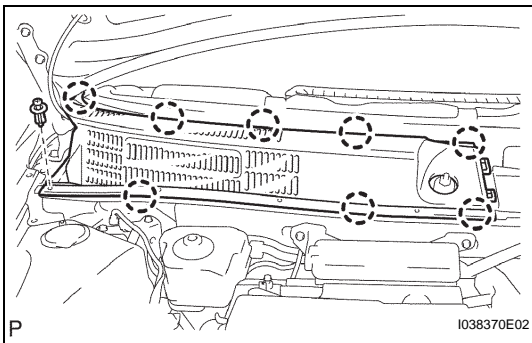
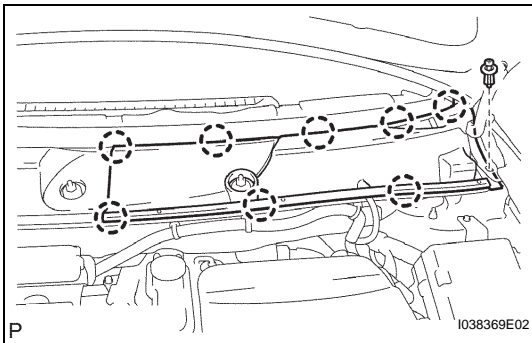
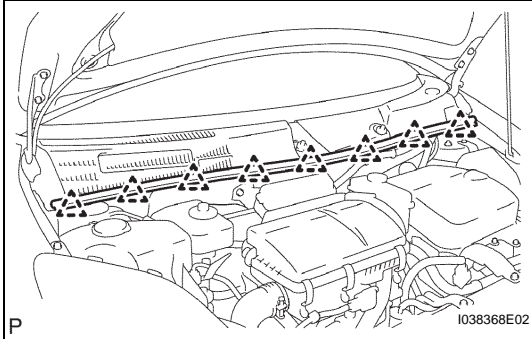
WW



WINDSHIELD WASHER MOTOR AND PUMP ASSEMBLY

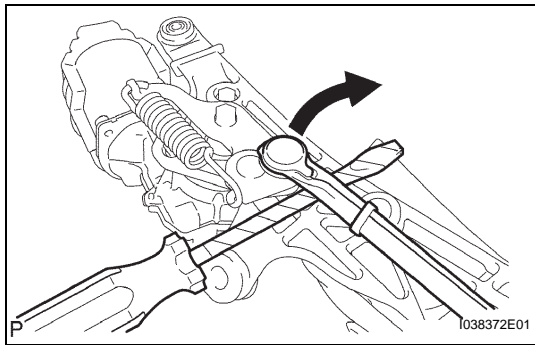
## REMOVAL

1. **REMOVE FRONT WIPER ARM HEAD CAP**
2. **REMOVE FRONT WIPER ARM LH**
  - (a) Remove the 2 nuts and FR wiper arm LH.
3. **REMOVE FRONT WIPER ARM RH**
  - (a) Remove the nut and FR wiper arm RH.
4. **REMOVE HOOD TO COWL TOP SEAL**
  - (a) Detach the 8 clips and remove the hood to cowl top seal.



5. **REMOVE COWL TOP VENTILATOR LOUVER LH**
  - (a) Detach the 8 claws and clip, and remove the cowl top ventilator louver LH.
6. **REMOVE COWL TOP VENTILATOR LOUVER RH**
  - (a) Detach the 8 claws and clip, and remove the cowl top ventilator louver RH.
7. **REMOVE WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY**
  - (a) Disconnect the connector.
  - (b) Remove the 5 bolts and wiper motor & link.



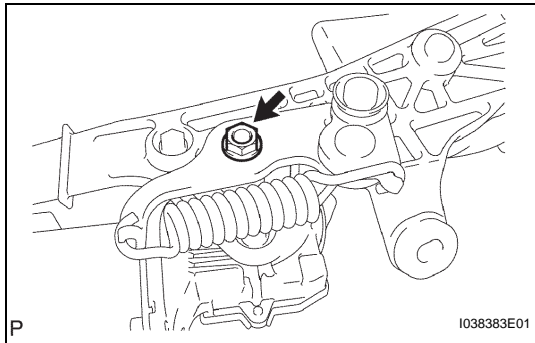


**8. REMOVE WINDSHIELD WIPER MOTOR ASSEMBLY**

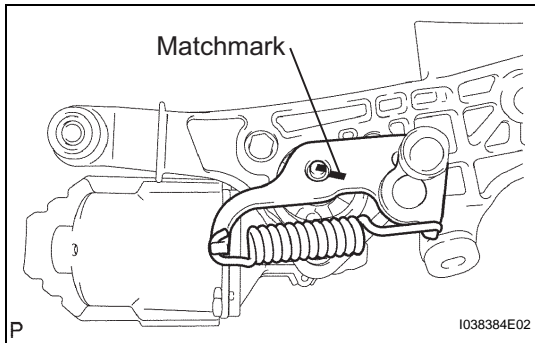
- (a) Using a flat-head screwdriver, disengage the windshield wiper link arm from the crank arm pivot of the windshield wiper motor.

HINT:

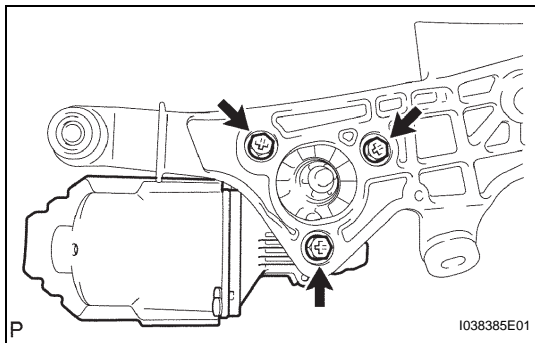
Tape the screwdriver tip before use.



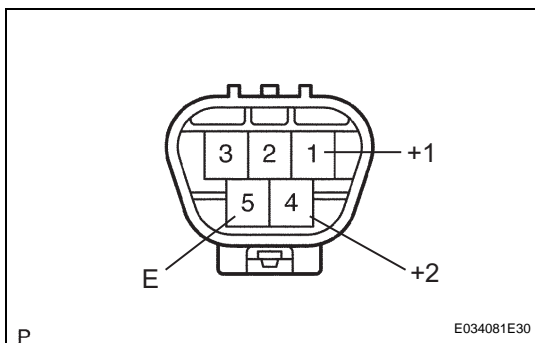
- (b) Remove the nut and washer.



- (c) Remove the crank arm.
- (d) Put matchmarks on the crank arm and windshield wiper motor, and remove the crank arm (when reinstalling).



- (e) Remove the 3 bolts and the windshield wiper motor.



**INSPECTION**

**1. INSPECT WINDSHIELD WIPER MOTOR ASSEMBLY**

- (a) LO Operation Check
  - (1) Connect the positive battery (+) lead to terminal 1 (+1) of the connector, and the negative battery (-) lead to terminal 5 (E), and check that the windshield wiper motor operates at low speed (LO).

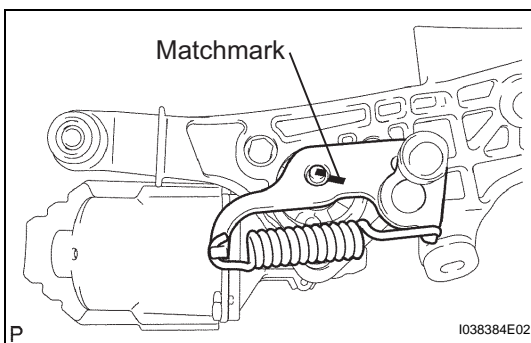
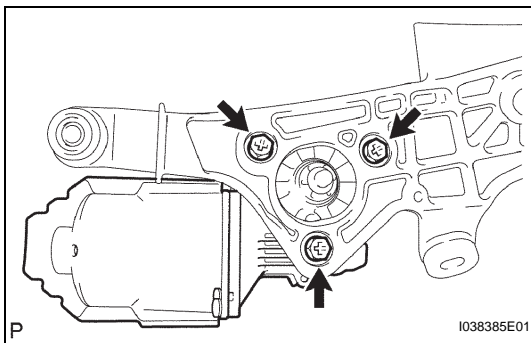
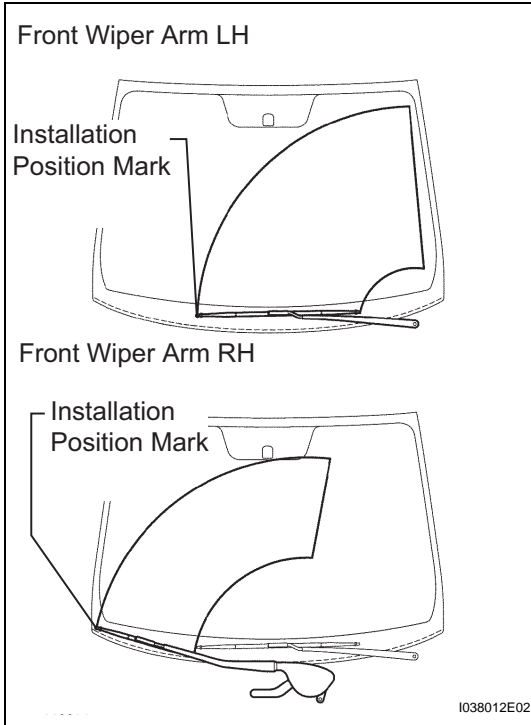
**OK:**

**The motor operates at low speed (LO).**

- (b) HI Operation Check
- (1) Connect the positive battery (+) lead to terminal 4 (+2) of the connector, and the negative battery (-) lead to terminal 5 (E), and check that the windshield wiper motor operates at high speed (HI).
- (c) Automatic Stop Position Inspection
- (1) Operate the windshield wiper motor, and then stop the operation.
  - (2) Check the automatic stop position when stopping the windshield wiper motor operation.

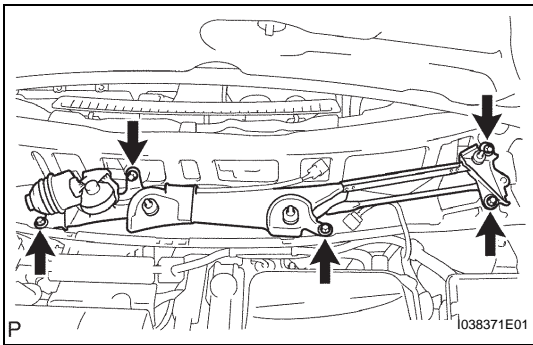
**OK:**

**Front wiper arm stops at the position shown in the illustration.**



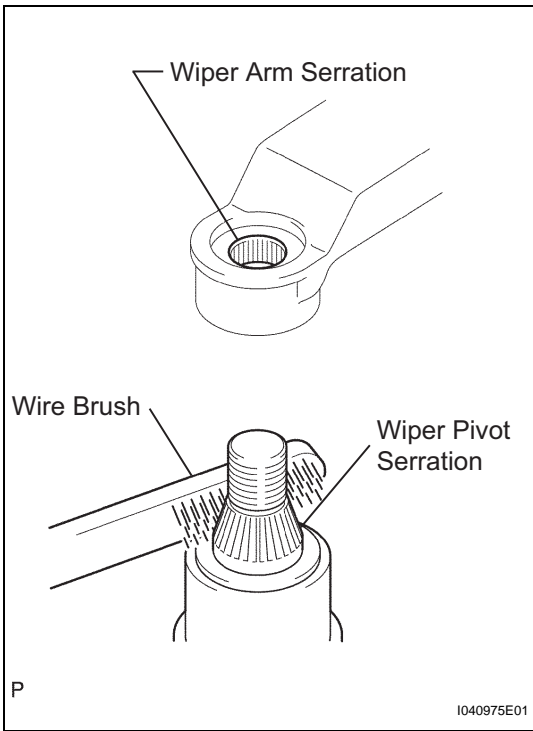
## INSTALLATION

1. **INSTALL WINDSHIELD WIPER MOTOR ASSEMBLY**
  - (a) Install the windshield wiper motor to the windshield wiper link with the 3 bolts.  
**Torque: 5.4 N\*m (55 kgf\*cm, 48 in.\*lbf)**
  - (b) Install the crank arm with the washer and nut.
  - (c) Align the matchmarks on the crank arm and windshield wiper motor, then install the crank arm with the washer and nut (when reinstalling).  
**Torque: 17 N\*m (175 kgf\*cm, 13 ft.\*lbf)**
  - (d) Apply MP grease to the crank arm pivot of the windshield wiper motor and install the windshield wiper link arm.



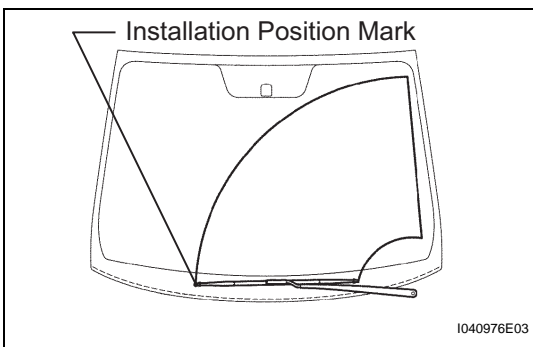
**2. INSTALL WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY**

- (a) Install the windshield wiper motor & link with the 5 bolts.  
**Torque: 5.5 N\*m (56 kgf\*cm, 49 in.\*lbf)**
- (b) Connect the connector.



**3. INSTALL FRONT WIPER ARM AND BLADE ASSEMBLY LH**

- (a) Clean the wiper arm serration with a round file or equivalent (when reinstalling).
- (b) Clean the wiper pivot serration with a wire brush.

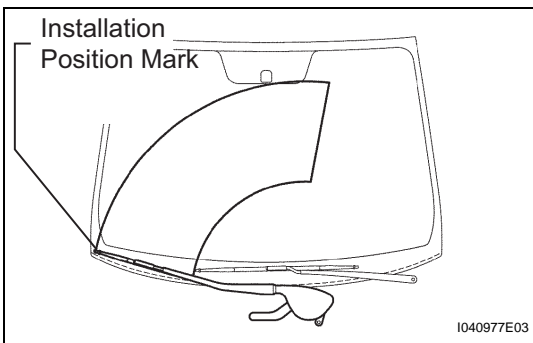


- (c) Install the front wiper arm LH with the nut so that the front wiper blade comes to the position shown in the illustration.

**Torque: 21 N\*m (214 kgf\*cm, 15 ft.\*lbf)**

HINT:

While installing the nut, hold down the arm hinge by hand.



**4. INSTALL FRONT WIPER ARM AND BLADE ASSEMBLY RH**

- (a) Clean the wiper arm serration with a round file or equivalent (when reinstalling).
- (b) Clean the wiper pivot serration with a wire brush.
- (c) Install the front wiper arm RH with the 2 nuts so that the front wiper blade comes to the position shown in the illustration.

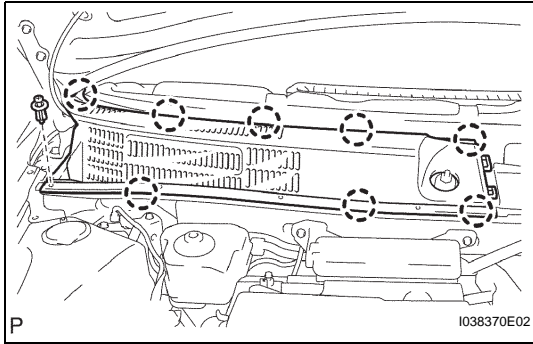
**Torque: 21 N\*m (214 kgf\*cm, 15 ft.\*lbf)**

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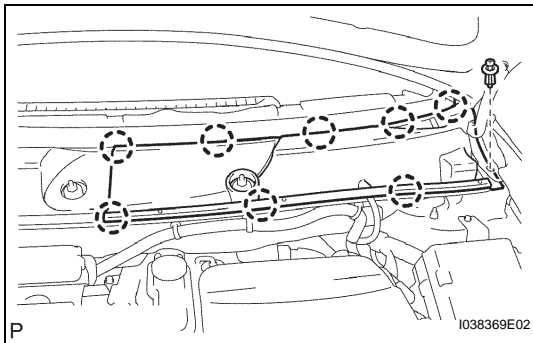
**HINT:**

While installing the nut, hold down the arm hinge by hand.

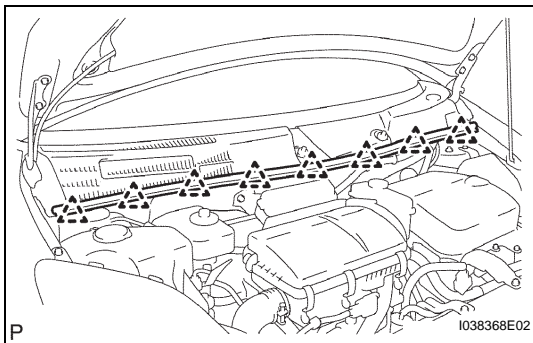
- (d) Operate the front wipers while spraying water or washer fluid on the windshield glass. Ensure that the wipers function properly and there is no interference with the body.

**5. INSTALL COWL TOP VENTILATOR LOUVER RH**

- (a) Attach the 8 claws and install the louver.
- (b) Install the clip.

**6. INSTALL COWL TOP VENTILATOR LOUVER LH**

- (a) Attach the 8 claws and install the louver.
- (b) Install the clip.

**7. INSTALL HOOD TO COWL TOP SEAL**

- (a) Attach the 8 clips and install the cowl to seal.

**8. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL****9. PERFORM INITIALIZATION**

- (a) Perform initialization (see page [IN-32](#)).

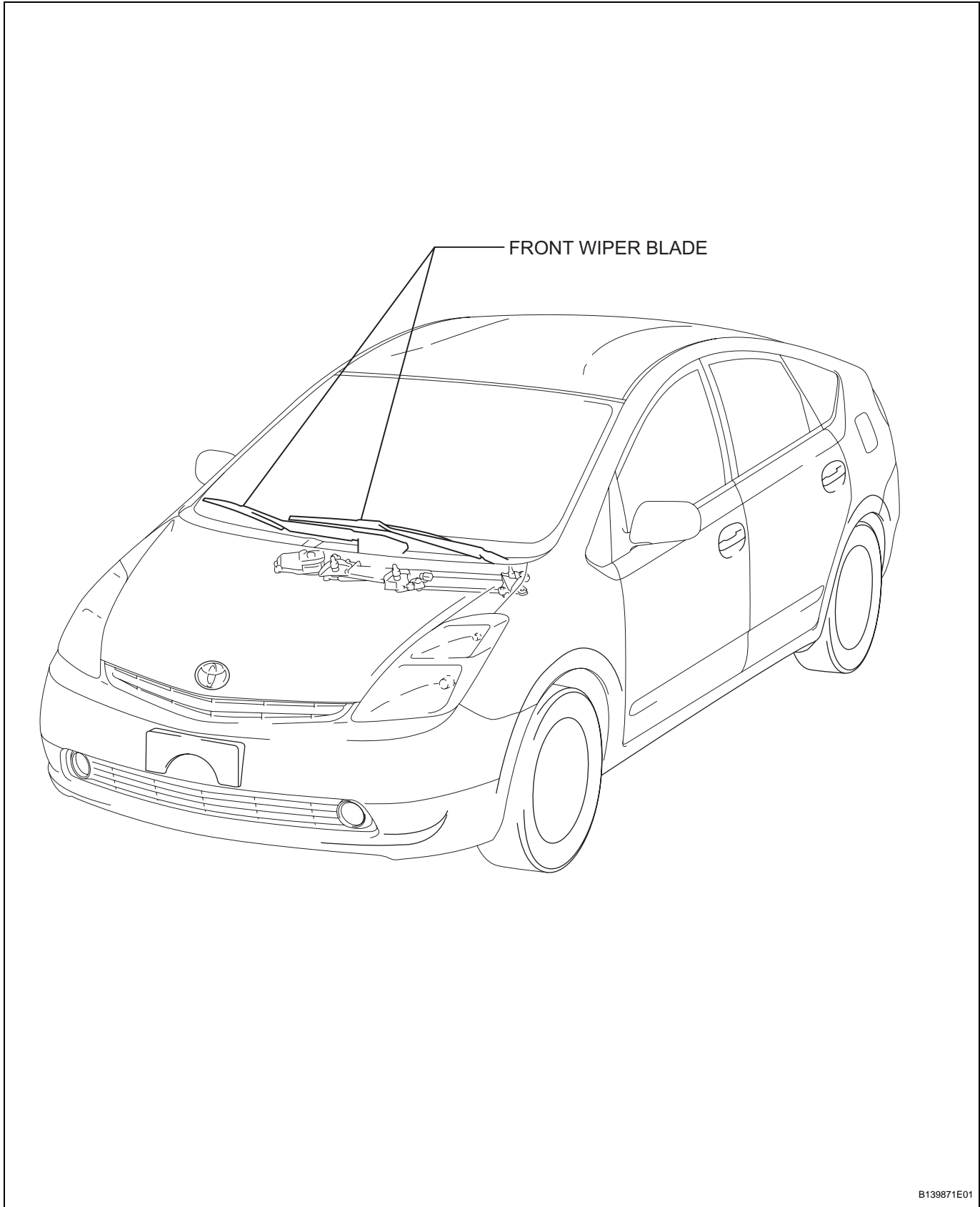
**NOTICE:**

Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.

# FRONT WIPER RUBBER

## COMPONENTS

WW



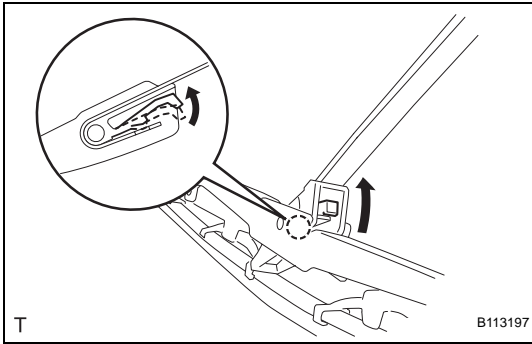
## REMOVAL

### HINT:

- Use the same procedures for the RH side and LH sides.
- The procedures listed below are for the LH side.

### 1. REMOVE FRONT WIPER BLADE

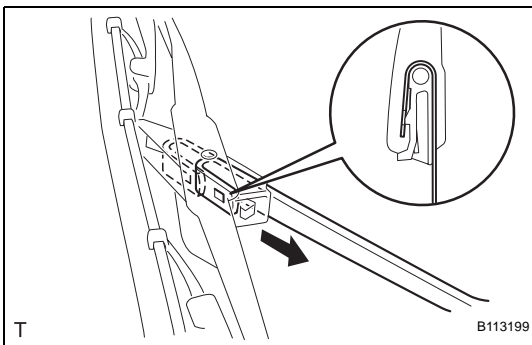
- (a) Detach the claw as shown in the illustration.



- (b) Remove the wiper blade as shown in the illustration.

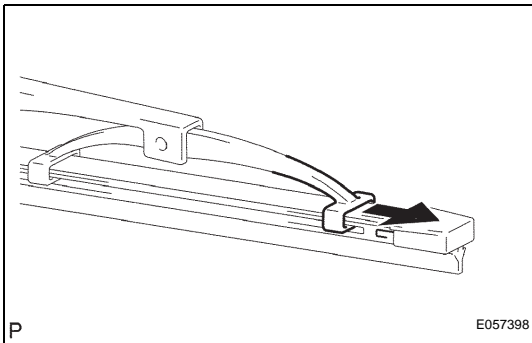
### NOTICE:

**Do not fold the wiper arm with the wiper blade removed. The arm tip may damage the windshield surface.**



### 2. REMOVE WIPER RUBBER

- (a) Detach the head part (large side) of the wiper rubber from the wiper blade.

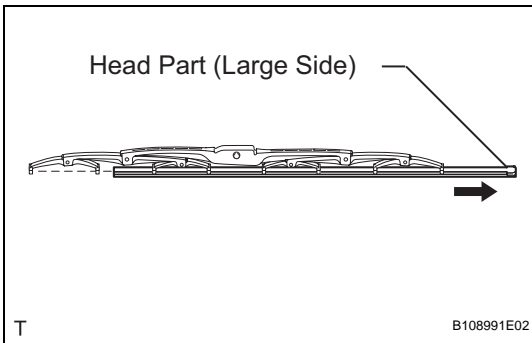


- (b) Remove the wiper rubber in the direction indicated by the arrow in the illustration.

### NOTICE:

**Do not pull out the wiper rubber forcibly. Doing so will deform the backing plate or damage the blade claw.**

- (c) Remove the 2 wiper rubber backing plates from the wiper rubber.



# INSTALLATION

**HINT:**

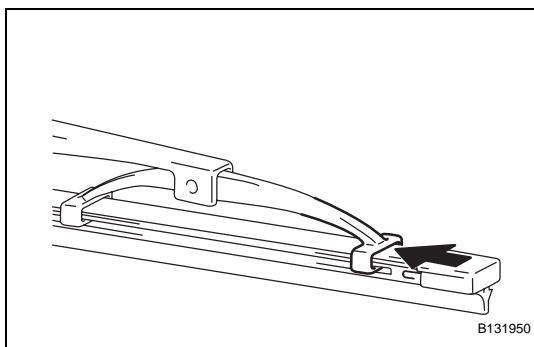
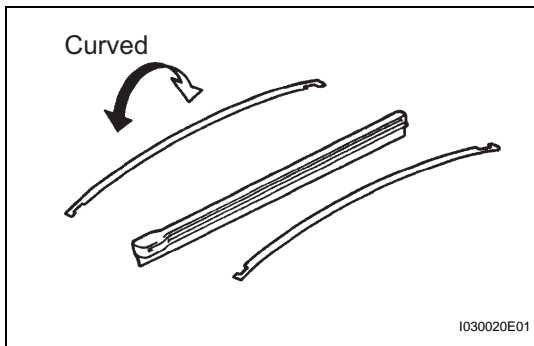
- Use the same procedures for the RH side and LH sides.
- The procedures listed below are for the LH side.

**1. INSTALL WIPER RUBBER**

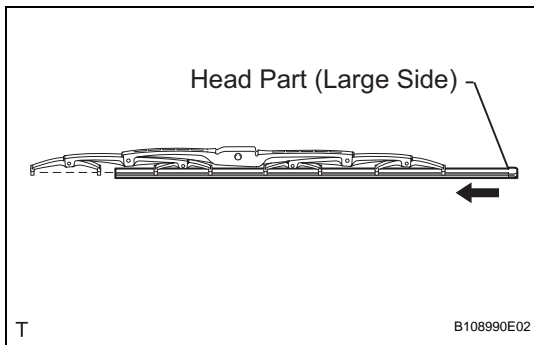
- (a) Install the 2 packing plates to the rubber.

**NOTICE:**

**Install the packing plates facing the proper direction.**



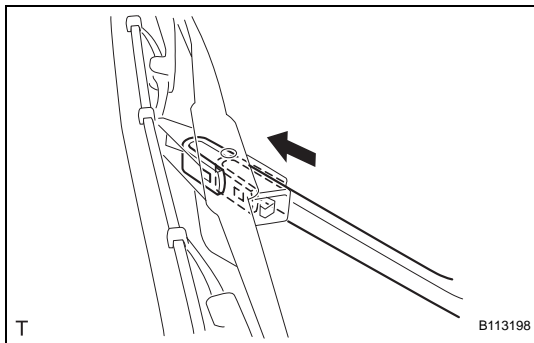
- (b) Install the wiper rubber to the claw of the wiper blade in the direction indicated by the arrow in the illustration.



- (c) Attach the head part (large side) of the wiper rubber to the rear end side claw of the wiper blade.

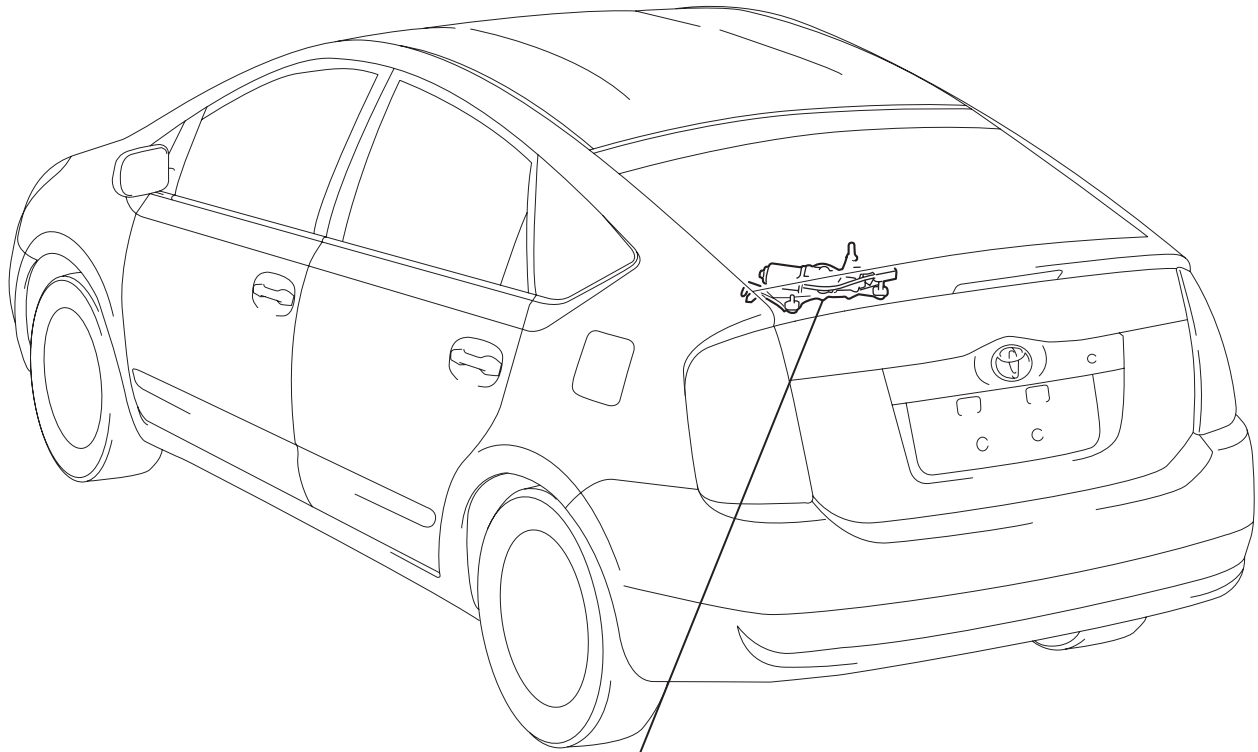
**2. INSTALL FRONT WIPER BLADE**

- (a) Attach the claw to install the wiper blade.



# REAR WIPER MOTOR

## COMPONENTS



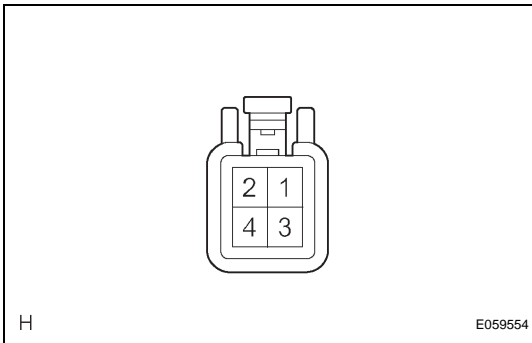
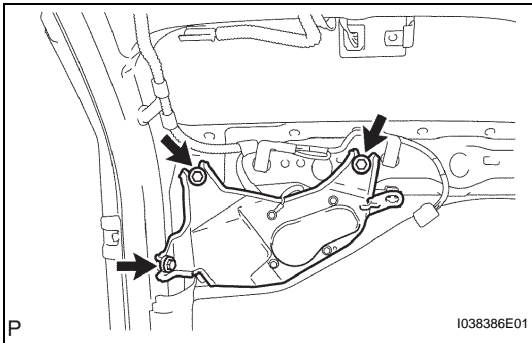
REAR WIPER MOTOR ASSEMBLY

WW



## REMOVAL

1. **DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL**  
**CAUTION:**  
 Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.
2. **REMOVE REAR WIPER ARM COVER**
3. **REMOVE REAR WIPER ARM ASSEMBLY**  
 (a) Remove the nut and rear wiper arm.
4. **REMOVE BACK DOOR LOWER TRIM BOARD ASSEMBLY (See page ED-43)**
5. **REMOVE REAR WIPER MOTOR ASSEMBLY**  
 (a) Disconnect the connector.  
 (b) Remove the 3 bolts and rear wiper motor.

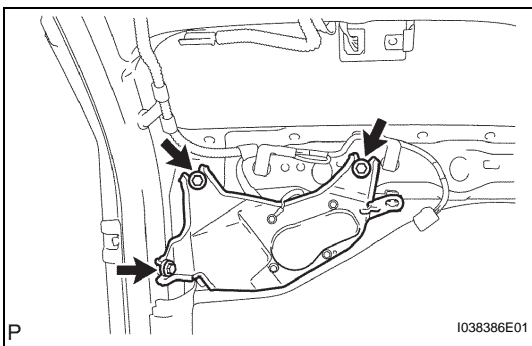


## INSPECTION

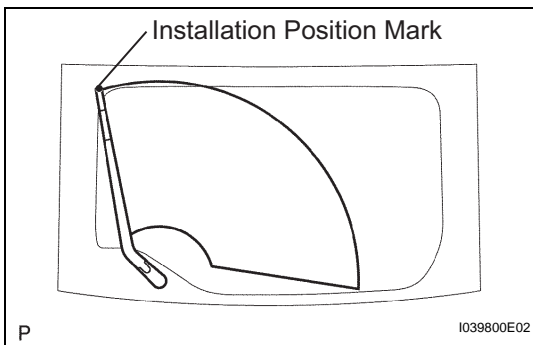
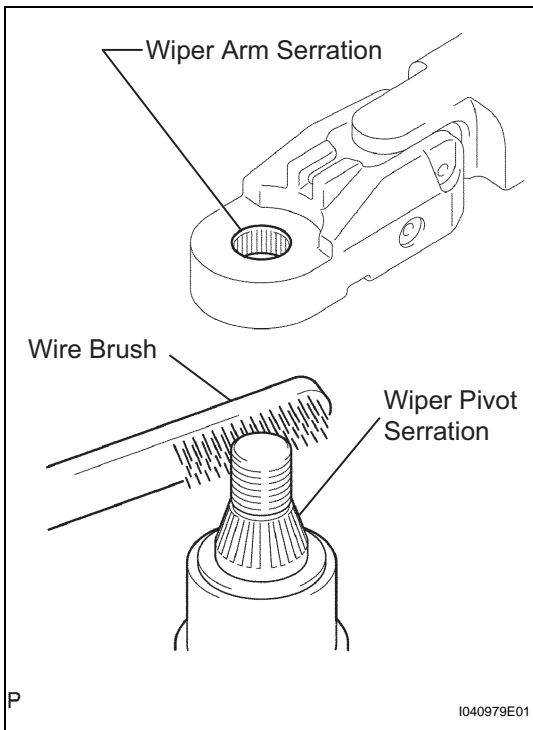
1. **INSPECT REAR WIPER MOTOR ASSEMBLY**  
 (a) Operation Check  
 (1) Connect the positive battery (+) lead to terminal 3 (+1), and the negative battery (-) lead to terminal 2 (-), and check that the rear wiper motor operates.  
**OK:**  
 The rear wiper motor operates.

## INSTALLATION

1. **INSTALL REAR WIPER MOTOR ASSEMBLY**  
 (a) Install the rear wiper motor with the 3 bolts.  
**Torque: 5.5 N\*m (56 kgf\*cm, 49 in.\*lbf)**  
 (b) Connect the connector.
2. **INSTALL BACK DOOR LOWER TRIM BOARD ASSEMBLY (See page ED-48)**



WW



### 3. INSTALL REAR WIPER ARM ASSEMBLY

- (a) Stop the wiper motor at the automatic stop position.
- (b) Clean the wiper arm serration with a round file or equivalent.
- (c) Clean the wiper pivot serration with a wire brush.

- (d) Install the arm and blade with the nut. Make sure that the arm and blade comes to the position shown in the illustration.

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

HINT:

- Hold down the arm hinge by hand while installing the nut.
- Install the arm and blade so that the rear wiper blade is aligned with the defogger line.

- (e) Install the cap.

### 4. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

### 5. PERFORM INITIALIZATION

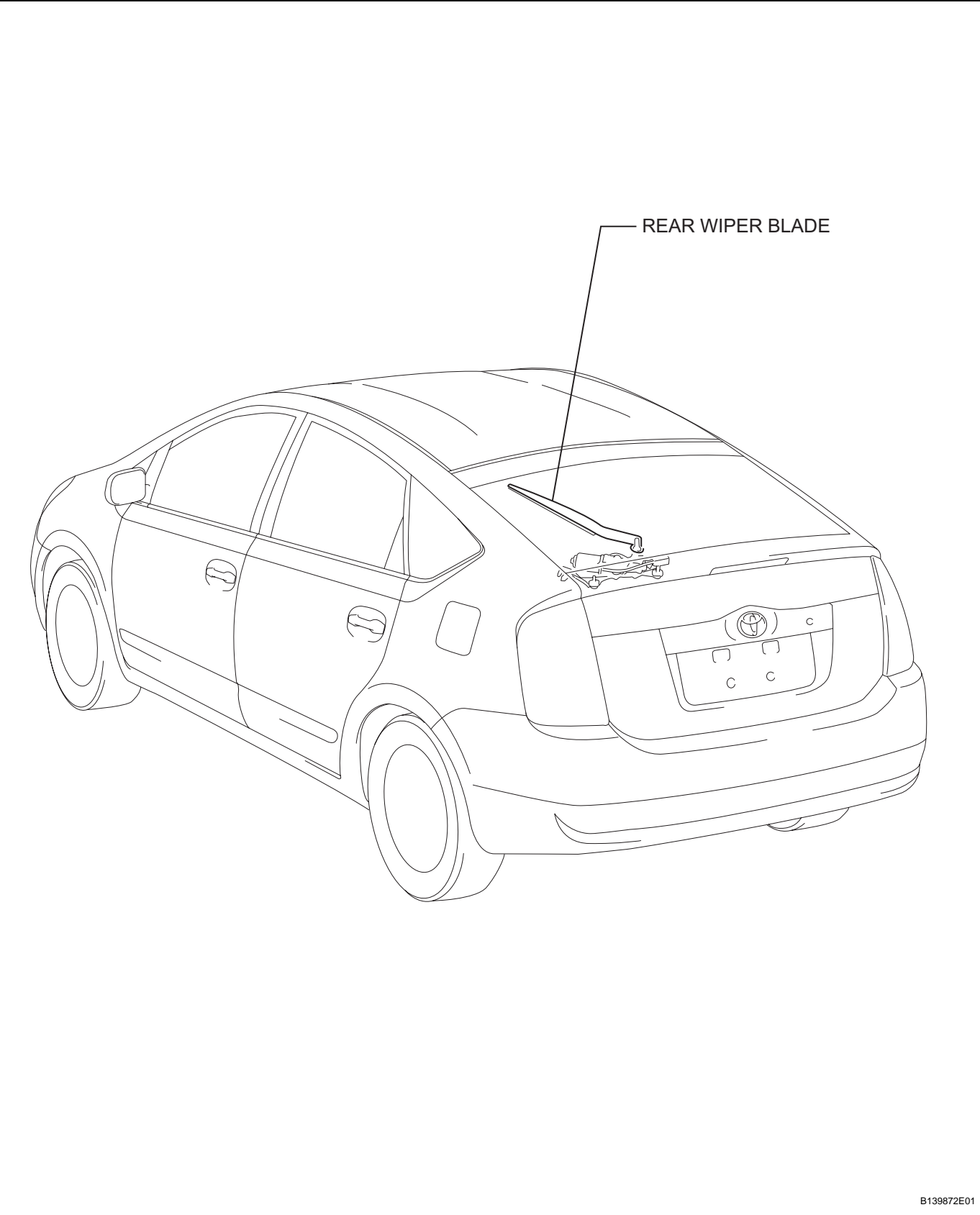
- (a) Perform initialization (see page [IN-32](#)).

**NOTICE:**

**Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.**

# REAR WIPER RUBBER COMPONENTS

WW



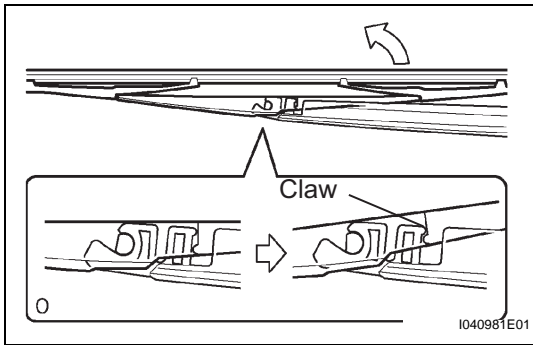
## REMOVAL

### 1. REMOVE REAR WIPER BLADE

- (a) Raise the rear wiper blade to the position shown in the illustration where the meshing of the claw disengages with a clicking sound.

**NOTICE:**

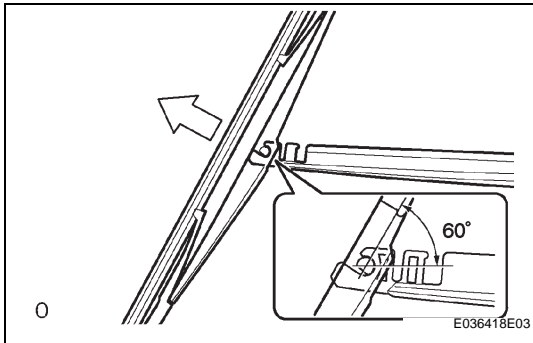
**Be careful not to break the claw.**



- (b) Pull the rear wiper blade straight away from the rear wiper arm towards the left side of the vehicle.

**NOTICE:**

**Do not fold the rear wiper arm with the rear wiper blade removed from it.**



### 2. REMOVE REAR WIPER RUBBER

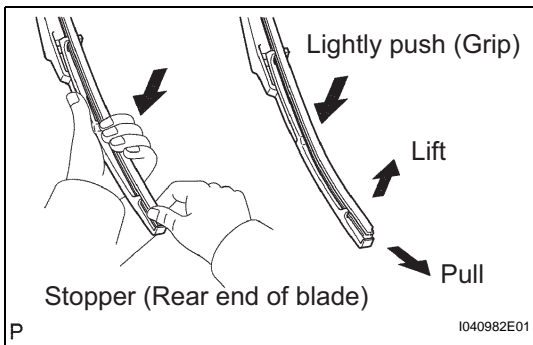
- (a) Pull the end of the wiper rubber protruding from the blade stopper as shown in the illustration.

**NOTICE:**

**Do not pull out the wiper rubber forcibly. If you do, the backing plates will be deformed or the blade claws will be damaged.**

**HINT:**

Lightly pushing the rubber from the ends towards the middle will allow it to be removed more easily.



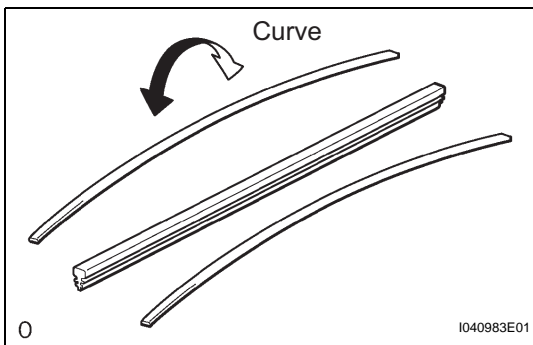
## INSTALLATION

### 1. INSTALL REAR WIPER RUBBER

- (a) Install the No. 1 and No. 2 rear wiper rubber backing plates as shown in the illustration.

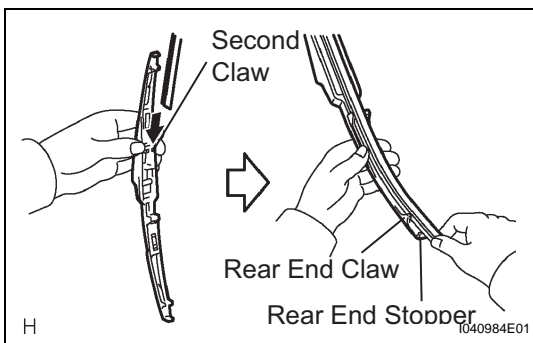
**NOTICE:**

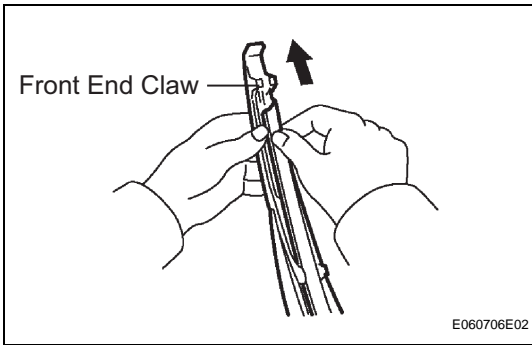
**Install the backing plates in the correct direction.**



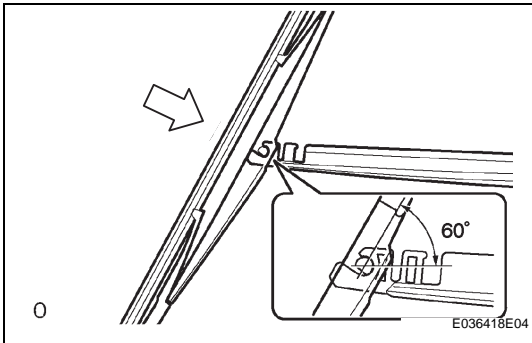
- (b) Insert the rear wiper rubber from the front end of the rear wiper blade to the rear end through the second claw.

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





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



**2. INSTALL REAR WIPER BLADE**

- (a) Push the wiper blade straight toward the right side of the vehicle to install it to the wiper arm.

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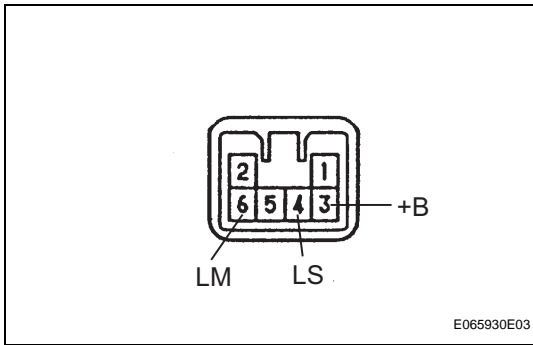
## WIPER RELAY

### ON-VEHICLE INSPECTION

#### 1. INSPECT WINDSHIELD WIPER RELAY ASSEMBLY

##### (a) Operation check

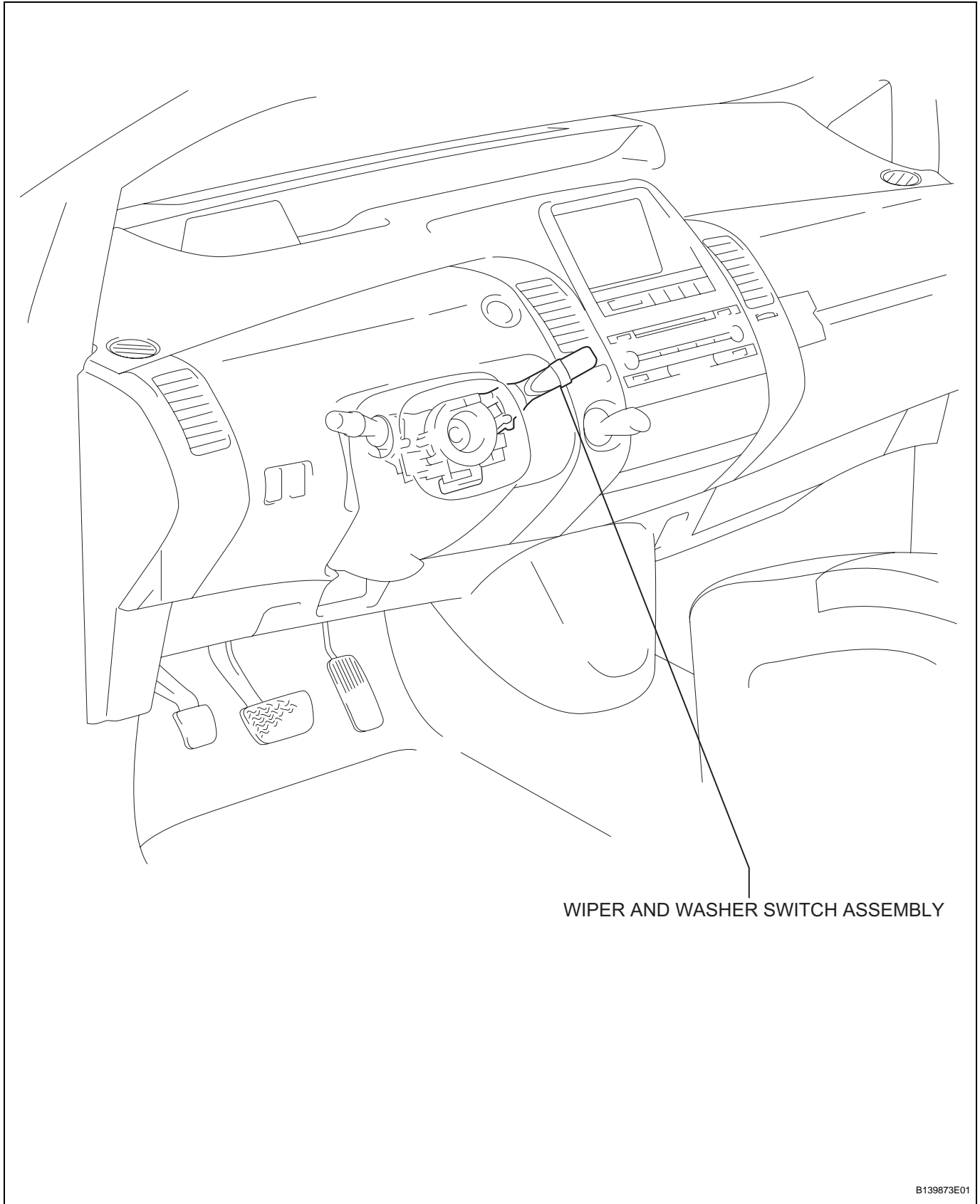
- (1) Connect the voltmeter positive (+) lead to terminal 4 (LM) of the connector, and the voltmeter negative (-) lead to terminal 6 (LS).
- (2) Connect the positive battery (+) lead to terminal 3 (+B) of the connector, and the negative battery (-) lead to terminal 6 (LS). Measure the voltage between terminals 4 (LM) and 6 (LS).

**Standard voltage:****10 to 14 V**

# WIPER SWITCH

## COMPONENTS

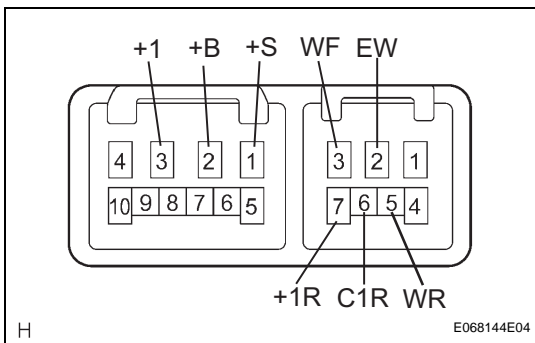
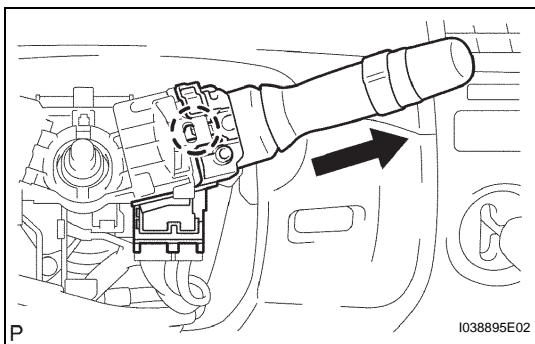
WW



WIPER AND WASHER SWITCH ASSEMBLY

## REMOVAL

1. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL  
**CAUTION:**  
 Wait at least 90 seconds after disconnecting the cable from the negative (-) battery terminal to prevent airbag and seat belt pretensioner activation.
2. REMOVE NO. 2 STEERING WHEEL COVER LOWER
3. REMOVE NO. 3 STEERING WHEEL COVER LOWER
4. REMOVE STEERING PAD ASSEMBLY (See page [RS-268](#))
5. REMOVE STEERING WHEEL ASSEMBLY (See page [SR-8](#))
6. REMOVE TILT LEVER BRACKET (See page [SR-8](#))
7. REMOVE STEERING COLUMN COVER (See page [SR-8](#))
8. REMOVE WIPER AND WASHER SWITCH ASSEMBLY
  - (a) Disconnect the connector.
  - (b) Push and disengage the claw shown in the illustration and remove the windshield wiper switch.**NOTICE:**  
 The claw will be broken if pressed too hard.



## INSPECTION

1. INSPECT WINDSHIELD WIPER SWITCH ASSEMBLY
  - (a) Measure the resistance according to the value(s) in the table below.

**Standard resistance:**  
**Front wiper switch**

Tester Connection	Switch Position	Specified Condition
C10-2 (+B) - C10-3 (+1)	MIST	Below 1 Ω
C10-1 (+S) - C10-3 (+1)	OFF	Below 1 Ω
C10-1 (+S) - C10-3 (+1)	INT	Below 1 Ω
C10-2 (+B) - C10-3 (+1)	LO	Below 1 Ω
C10-2 (+B) - C10-4 (+2)	HI	Below 1 Ω

**Rear wiper switch (w/ Rear wiper)**

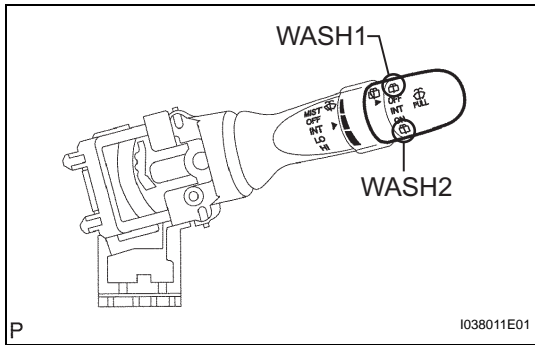
Tester Connection	Switch Position	Specified Condition
C9-2 (EW) - C9-6 (C1R), C9-2 (EW) - C9-7 (+1R)	OFF	10 kΩ or higher
C9-2 (EW) - C9-6 (C1R)	INT	Below 1 Ω
C9-2 (EW) - C9-7 (+1R)	ON	Below 1 Ω

**Front washer switch**

Tester Connection	Switch Position	Specified Condition
C9-2 (EW) - C9-3 (WF)	OFF	10 kΩ or higher



Tester Connection	Switch Position	Specified Condition
C9-2 (EW) - C9-3 (WF)	ON	Below 1 Ω



**Standard resistance:  
Rear washer switch (w/ Rear wiper)**

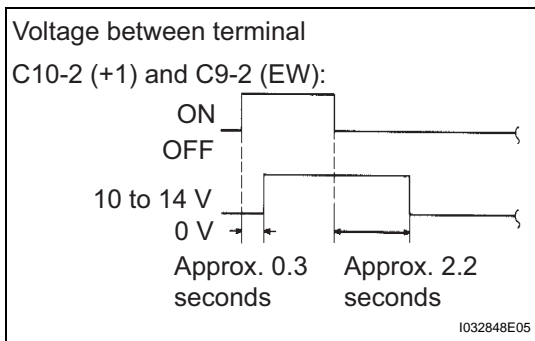
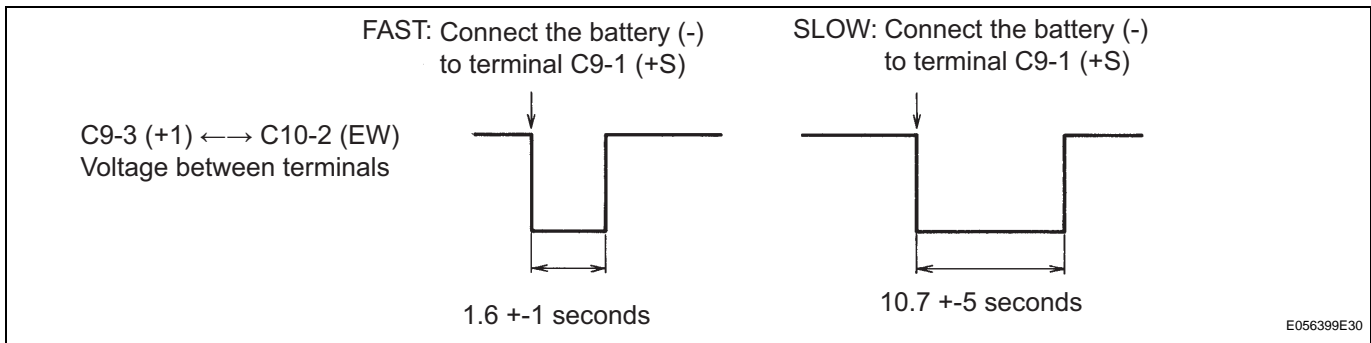
Tester Connection	Switch Position	Specified Condition
C10-5 (WR) - C9-2 (EW), C9-2 (EW) - C9-7 (+1R)	OFF	10 kΩ or higher
C10-5 (WR) - C9-2 (EW)	ON (WASH1)	Below 1 Ω
C10-5 (WR) - C9-2 (EW), C9-2 (EW) - C9-7 (+1R)	ON (WASH2)	Below 1 Ω

**(b) Intermittent Operation Check**

- (1) Connect the voltmeter positive (+) lead to terminal C9-3 (+1) of the connector and the voltmeter negative (-) lead to terminal C10-2 (EW).
- (2) Connect the positive battery (+) lead to terminal C9-2 (+B) of the connector and the negative battery (-) lead to terminals C10-2 (EW) and C9-1 (+S).
- (3) Turn the wiper switch to the INT position.
- (4) Connect the positive battery (+) lead to terminal C9-1 (+S) of the connector for 5 seconds.
- (5) Connect the negative battery (-) lead to terminal C9-1 (+S) of the connector. Operate the intermittent wiper relay and measure the voltage between terminals C9-3 (+1) and C10-2 (EW)

**OK:**

**Refer to the illustration below.**



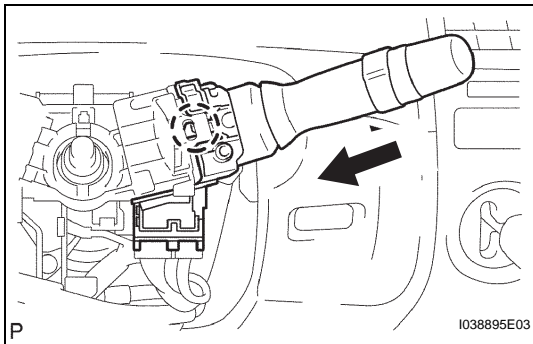
**(c) Front Washer Operation Check**

- (1) Turn the wiper switch to the OFF position.
- (2) Connect the positive battery (+) lead to terminal C9-2 (+B) of the connector, the negative battery (-) lead to terminals C9-1 (+S) and the terminal C10-2 (EW).
- (3) Connect the voltmeter positive (+) lead to terminal C9-3 (+1) of the connector and the voltmeter negative (-) lead to terminal C10-2 (EW).

- (4) Turn the washer switch to the ON and OFF positions, and measure the voltage between terminals C9-3 (+1) and C10-2 (EW).

**OK:**

Refer to the illustration.



## INSTALLATION

1. **INSTALL WIPER AND WASHER SWITCH**
  - (a) Attach the claw to install the wiper switch.
  - (b) Connect the connector.
2. **INSTALL STEERING COLUMN COVER** (See page [SR-14](#))
3. **INSTALL TILT LEVER BRACKET** (See page [SR-14](#))
4. **INSTALL SPIRAL CABLE SUB-ASSEMBLY** (See page [RS-278](#))
5. **INSTALL STEERING WHEEL ASSEMBLY** (See page [SR-15](#))
6. **INSTALL NO. 2 STEERING WHEEL COVER LOWER**
7. **REMOVE NO. 3 STEERING WHEEL COVER LOWER**
8. **INSTALL STEERING PAD ASSEMBLY** (See page [RS-269](#))
9. **CONNECT CABLE TO NEGATIVE BATTERY TERMINAL**
10. **INSPECT STEERING PAD ASSEMBLY** (See page [RS-269](#))
11. **CHECK SRS WARNING LIGHT** (See page [RS-269](#))
12. **PERFORM INITIALIZATION**
  - (a) Perform initialization (see page [IN-32](#)).

**NOTICE:**

Certain systems need to be initialized after disconnecting and reconnecting the cable from the negative (-) battery terminal.

# WASHER NOZZLE

## ADJUSTMENT

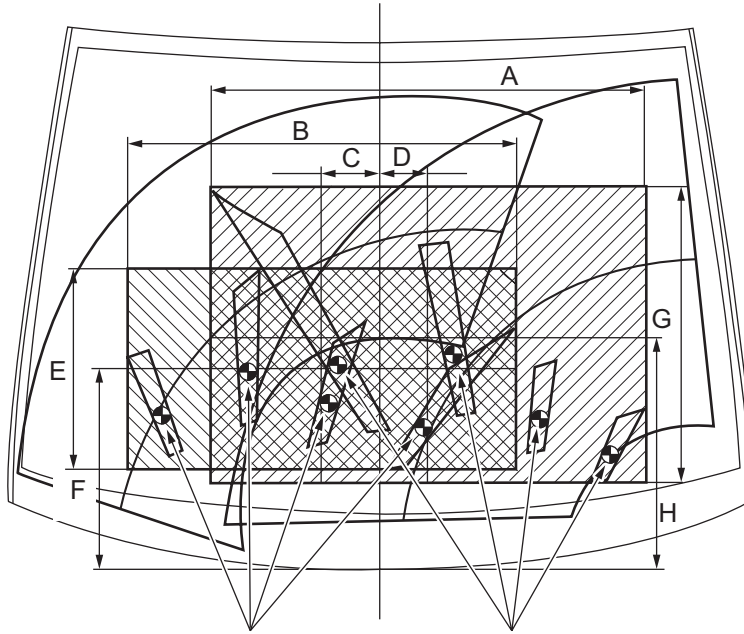
### 1. INSPECT WASHER NOZZLE

- (a) With the power switch ON (IG), check the position that the washer fluid hits the windshield.

**Standard:**

**Washer fluid hits the windshield in the areas indicated in the illustration.**

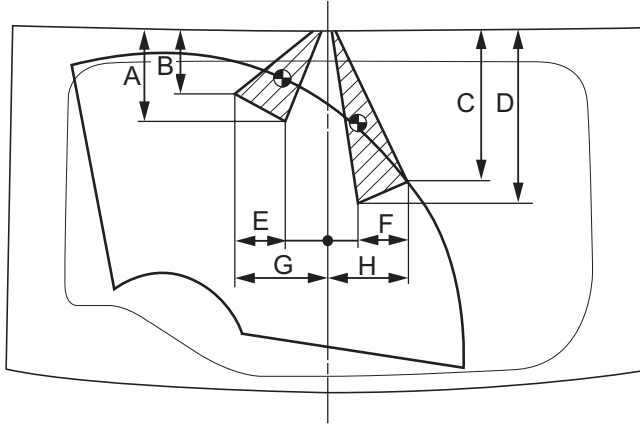
for Front



A: 820 mm (32.28 in.)	E: 380 mm (14.96 in.)
B: 735 mm (28.94 in.)	F: 375 mm (14.76 in.)
C: 112 mm (4.41 in.)	G: 555 mm (21.85 in.)
D: 90 mm (3.54 in.)	H: 435 mm (17.13 in.)

WW

for Rear



- |                       |                        |
|-----------------------|------------------------|
| A: 157 mm (6.18 in.)  | E: 76 mm (2.99 in.)    |
| B: 110 mm (4.33 in.)  | F: 52 mm (2.05 in.)    |
| C: 261 mm (10.28 in.) | G: 163.6 mm (6.44 in.) |
| D: 301 mm (11.85 in.) | H: 143.6 mm (5.65 in.) |

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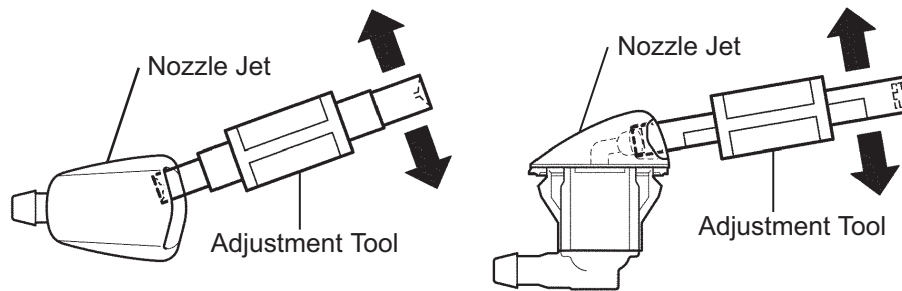


## 2. ADJUST WASHER NOZZLE

- (a) Using a TOYOTA 4 Way Nozzle Adjustment Tool, insert the bumpy part of the adjustment tool into the bumpy part of the nozzle jet and make the adjustment.

**NOTICE:**

- Clarify if the 4 mm or 5 mm diameter washer nozzle is being adjusted.
- Do not use a tool such as metal pin as it may damage the nozzle jet.



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