

WASHER NOZZLE

680HU-01

INSPECTION

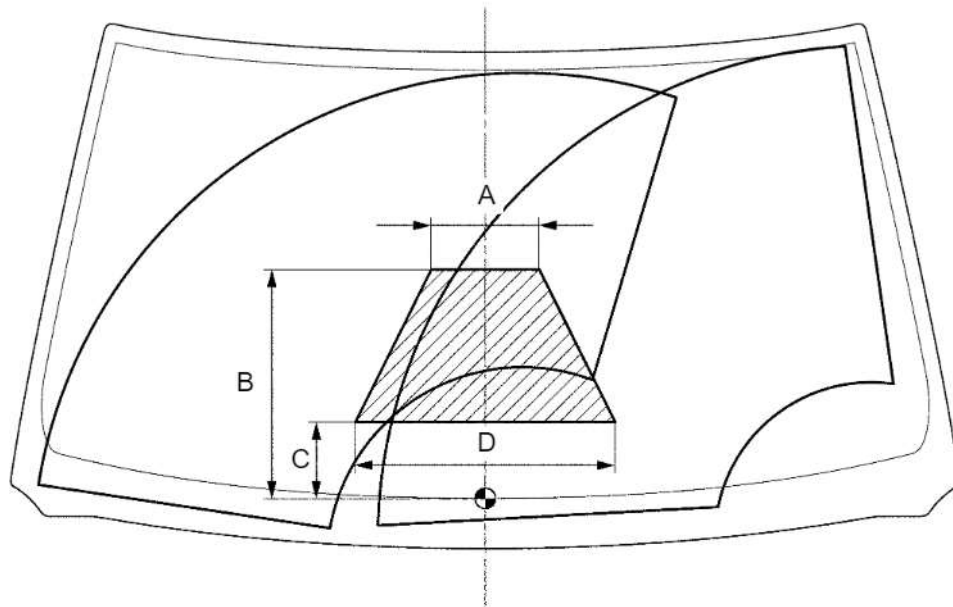
1. INSPECT WASHER NOZZLE

- (a) With the engine running, check that the washer fluid hits in the range indicated by the hatched areas on the windshield and the rear window.

HINT:

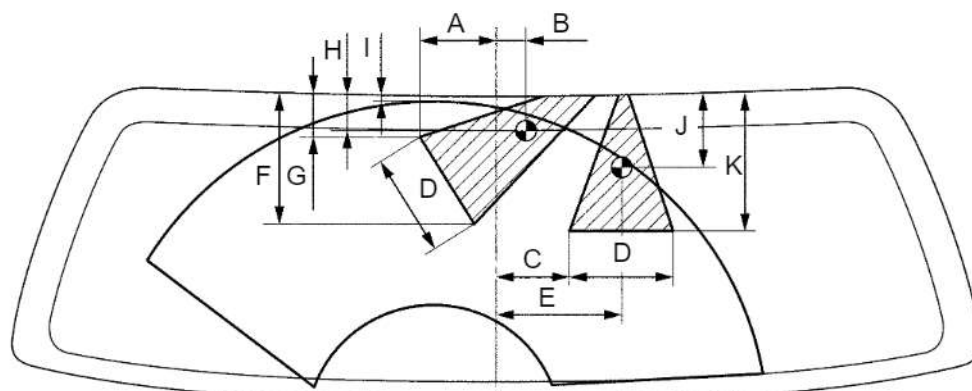
This washer nozzle does not have an adjustment function because this nozzle is a spray type.

Front:



A: 206.9 mm (8.14 in.)
 B: 401.8 mm (15.82 in.)
 C: 114.7 mm (4.51 in.)
 D: 385.6 mm (15.18 in.)

Rear:



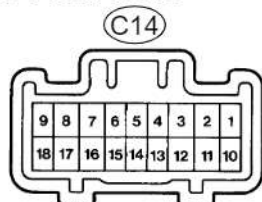
A: 111.9 mm (4.4 in.)	F: 185.6 mm (7.3 in.)	K: 200.8 mm (7.9 in.)
B: 43.4 mm (1.7 in.)	G: 60.5 mm (2.38 in.)	
C: 106.7 mm (4.2 in.)	H: 51.4 mm (2.02 in.)	
D: 150 mm (5.9 in.)	I: 6.5 mm (0.25 in.)	
E: 181.8 mm (7.15 in.)	J: 105 mm (4.13 in.)	

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I39811

INSPECTION

Connector Front View:



I30405

1. WINDSHIELD WIPER SWITCH ASSY

(a) Continuity Check

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

Standard:

Front Wiper Switch

Tester connection	Switch operation	Specified condition
7 (+1) - 17 (+B)	MIST	Below 1 Ω
7 (+1) - 16 (+S)	OFF	Below 1 Ω
7 (+1) - 16 (+S)	INT	Below 1 Ω
7 (+1) - 17 (+B)	LO	Below 1 Ω
8 (+2) - 17 (+B)	HI	Below 1 Ω

Front Washer Switch

Tester connection	Switch operation	Specified condition
2 (EW) - 11 (WF)	OFF	10 k Ω or higher
2 (EW) - 11 (WF)	ON	Below 1 Ω

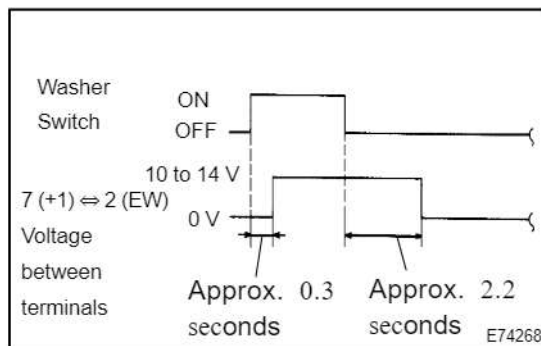
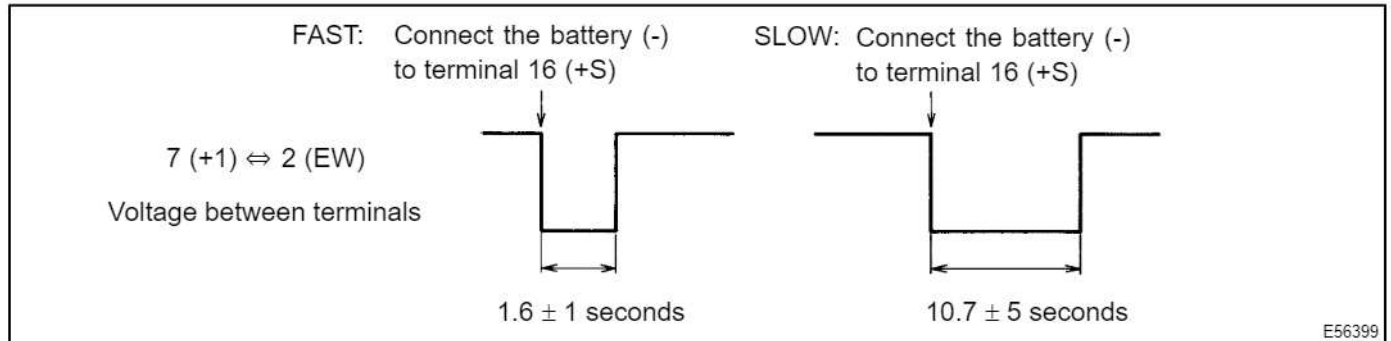
Rear Wiper and Washer Switch

Tester connection	Switch operation	Specified condition
2 (EW) - 12 (WR)	WASH (Rear wiper switch OFF side)	Below 1 Ω
2 (EW) - 10 (+1R) 2 (EW) - 12 (WR) 2 (EW) - 13 (C1R)	OFF	10 k Ω or higher
2 (EW) - 13 (C1R)	INT	Below 1 Ω
2 (EW) - 10 (+1R)	ON	Below 1 Ω
2 (EW) - 10 (+1R) 2 (EW) - 12 (WR)	WASH (Rear wiper switch OFF side)	Below 1 Ω

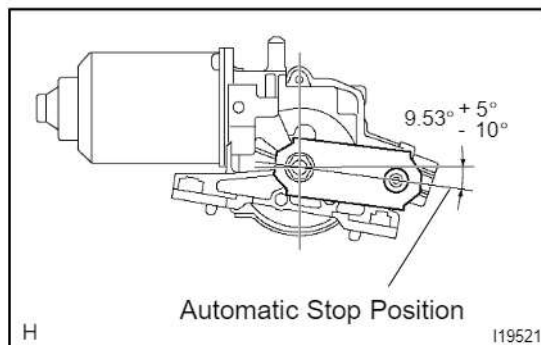
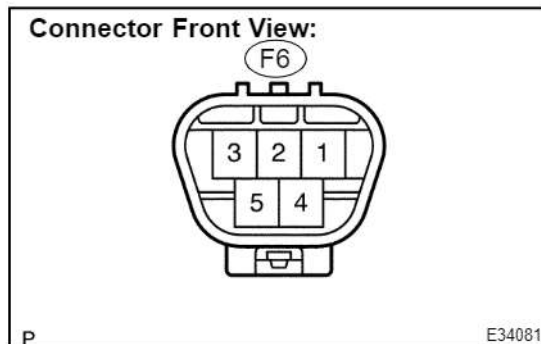
(b) Intermittent Operation Check

- (1) Connect the voltmeter (+) terminal to terminal 7 (+1) of the connector, the voltmeter (-) terminals to terminal 2 (EW) of the connector.
- (2) Connect the battery (+) to terminal 17 (+B) of the connector, the battery (-) to terminal 2 (EW) and 16 (+S) of the connector.
- (3) Turn the wiper switch to INT.
- (4) Connect the battery (+) to terminal 16 (+S) of the connector for 5 seconds.

- (5) Connect the battery (-) to terminal 16 (+S) of the connector. Operate the intermittent wiper relay and check voltage between terminal 7 (+1) and terminal 2 (EW).



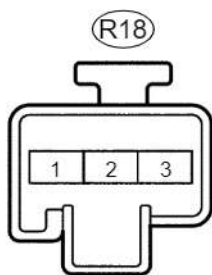
- (c) Operation Check (Front Wiper)
- (1) Turn the wiper switch OFF.
 - (2) Connect the positive (+) lead from the battery to terminal 17 (+B) and the negative (-) lead to terminals 2 (EW) and 16 (+S).
 - (3) Connect the positive (+) lead from the voltmeter to terminal 7 (+1) and the negative (-) lead to terminal 2 (EW). Turn the washer switch ON and OFF and check voltage between terminal 7 (+1) and terminal 2 (EW).



2. WINDSHIELD WIPER MOTOR ASSY

- (a) LO Operation Check
- (1) Connect the positive (+) lead from the battery to terminal 1 (+1) and the negative (-) lead to terminal 5 (E), check that the motor operates at low speed.
- (b) HI Operation Check
- (1) Connect the positive (+) lead from the battery to terminal 4 (+2) and the negative (-) lead to terminal 5 (E), and check that the motor operates at high speed.
- (c) Automatic Stop Operation Check
- (1) Connect the positive (+) lead from the battery to terminal 1 (+1) and the negative (-) lead to terminal 5 (E), and operate the motor at low speed and stop the motor operation anywhere except at the stop position by disconnecting positive (+) lead from terminal 1 (+1).
 - (2) Connect terminals 1 (+1) and 3 (S).
 - (3) Connect the positive (+) lead from the battery to terminal 2 (B), and check that the motor stops running at the stop position after the motor operates again.

Connector Front View:



E34836

E74201

3. REAR WIPER MOTOR ASSY

(a) Operation Check

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

NOTICE:

The body earth should be connected.

(b) Automatic Stop Position Operation Check

- (1) Connect the positive (+) lead from the battery to terminal 1 (+B) and the negative (-) lead to terminal 3 (LS).

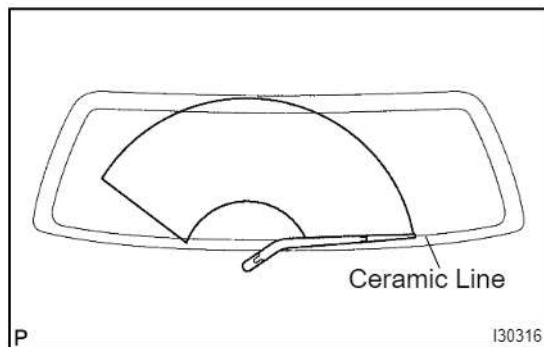
NOTICE:

The body earth should be connected.

- (2) With the motor being rotated, disconnect terminal 1 (+B) and terminal 3 (LS) to stop the motor operation at any position except the automatic stop position.
- (3) Connect the positive (+) lead from the battery to terminal 1 (+B), and check that the motor is restarted and automatically stopped.

NOTICE:

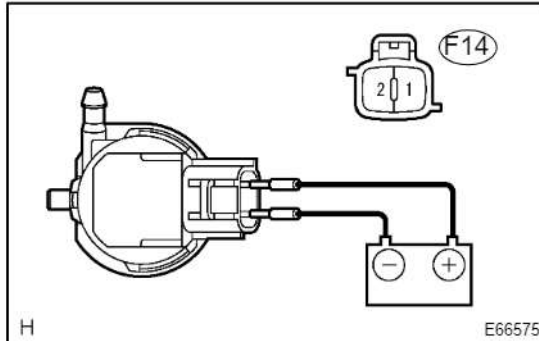
The body earth should be connected.



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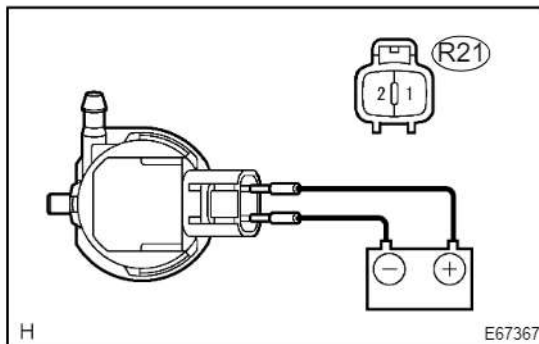
ON-VEHICLE INSPECTION



1. FRONT WASHER MOTOR

(a) Operation Check

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



2. REAR WASHER MOTOR

(a) Operation Check

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

3. LEVEL WARNING SWITCH ASSY

- (a) Check washer level warning switch continuity.
- (b) Check that no continuity exists between terminals with switch OFF (float up).
- (c) Check that continuity exists between terminals with switch ON (float down).

WIPER AND WASHER SYSTEM

6805A-09

PRECAUTION

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 because the washer nozzle is spray type.
- (b) In case the washer nozzle is clogged with wax, etc., remove it and clean the nozzle hole with a soft resin brush, etc.

PROBLEM SYMPTOMS TABLE

WIPER AND WASHER SYSTEM

Symptom	Suspected Area	See page
Front wipers and washers do not operate.	1. WIPER/WASHER Fuse 2. Front Wiper Switch 3. Wire Harness or Connector	- 66-4 -
Front wipers do not operate in LO or HI.	1. WIPER Fuse 2. Front Wiper Switch 3. Front Wiper Motor 4. Wire Harness or Connector	- 66-4 66-4 -
Front wipers do not operate in INT.	1. Front Wiper Switch 2. Front Wiper Motor 3. Wire Harness or Connector	66-4 66-4 -
Front washer motor does not operate.	1. WASHER Fuse 2. Front Washer Switch 3. Front Washer Motor 4. Wire Harness or Connector	- 66-4 66-3 -
Front wipers do not operate when washer switch is ON.	1. Front Wiper Switch 2. Front Wiper Motor 3. Wire Harness or Connector	66-4 66-4 -
Rear wipers and washers do not operate.	1. RR WIP Fuse 2. Rear Wiper and Washer Switch 3. Wire Harness or Connector	- 66-4 -
Rear wipers do not operate in INT.	1. Rear Wiper and Washer Switch 2. Rear Wiper Motor 3. Wire Harness or Connector	66-4 66-4 -
Rear washer motor does not operate.	1. WASHER Fuse 2. Rear Wiper and Washer Switch 3. Rear Washer Motor 4. Wire Harness or Connector	- 66-4 66-3 -
Rear wipers do not operate when washer switch is ON.	1. Rear Wiper and Washer Switch 2. Rear Wiper Motor 3. Wire Harness or Connector	66-4 66-4 -
Washer fluid does not operate.	1. Washer Hose and Nozzle	-
● When the wiper switch is OFF, the wiper blade does not retract or the retract position is wrong.	1. *1 Wiper Motor	66-7
Washer fluid level warning does not operate.	1. Level Warning Switch Assy 2. Combination Meter Assy 3. Wire Harness or Connector	66-7 05-1882 -

*1: Inspect wiper arm and blade set position

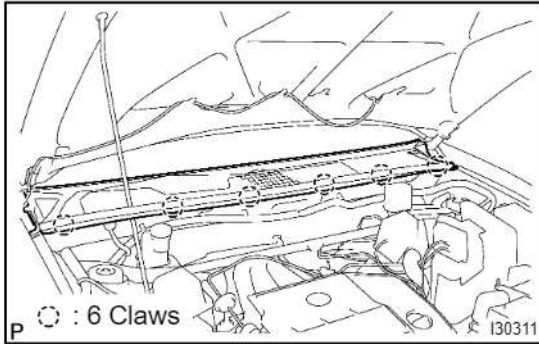
WINDSHIELD WIPER MOTOR ASSY REPLACEMENT

680HP-02

HINT:

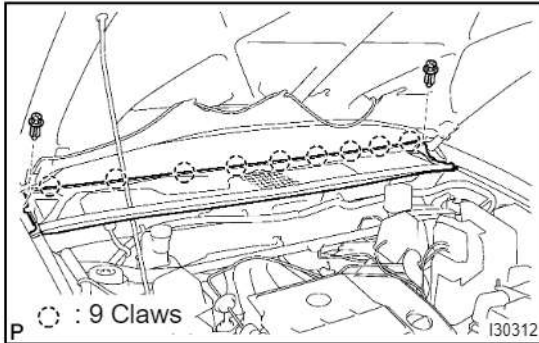
Installation is in the reverse order of removal.

1. **REMOVE WINDSHIELD WIPER ARM COVER**
2. **REMOVE FR WIPER ARM & BLADE ASSY LH**
 - (a) Stop the windshield wiper motor assy at the automatic stop position.
 - (b) Remove the nut and the FR wiper arm & blade assy LH.
3. **REMOVE FR WIPER ARM & BLADE ASSY RH**
 - (a) Remove the nut and the FR wiper arm & blade assy RH.

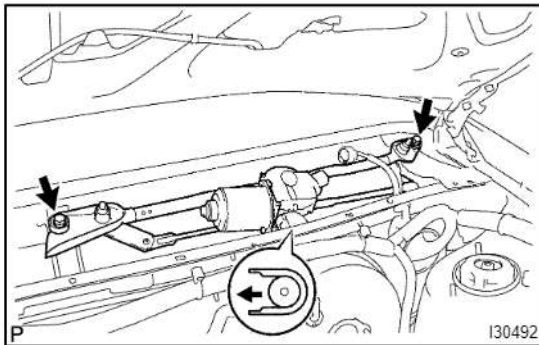


4. REMOVE COWL TOP VENTILATOR LOUVER SUB-ASSY

- (a) Disengage the 6 claws.

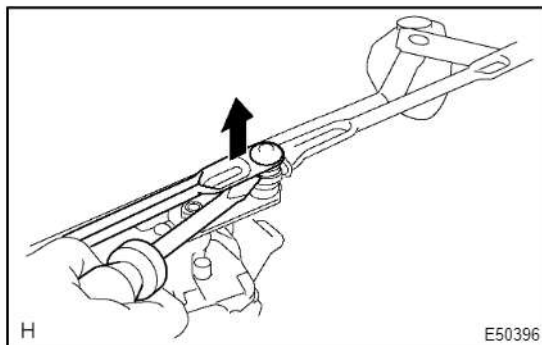


- (b) Remove the 2 clips.
- (c) Disengage the 9 claws, and remove the cowl top ventilator louver sub-assy.



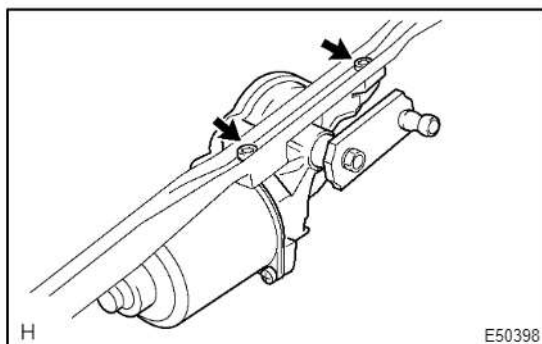
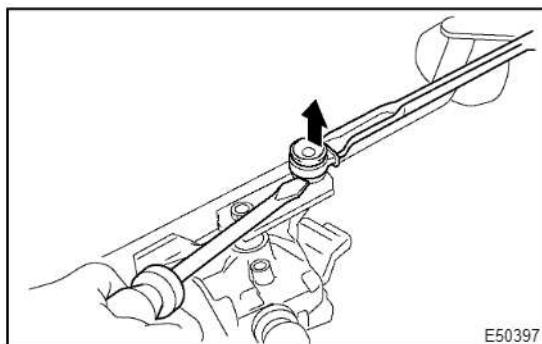
5. REMOVE WINDSHIELD WIPER MOTOR & LINK ASSY

- (a) Disconnect the connector.
- (b) Remove the 2 bolts.
- (c) Remove the windshield wiper motor & link assy by disengaging the pin as shown in the illustration.

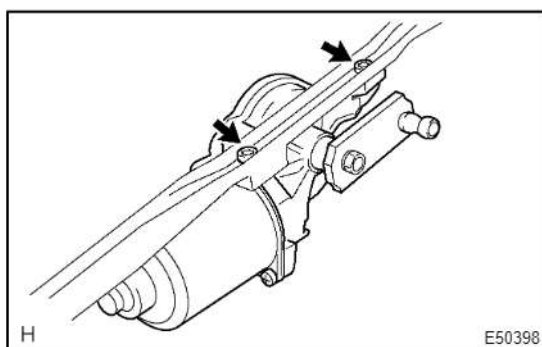


6. REMOVE WINDSHIELD WIPER MOTOR ASSY

- (a) Using a screwdriver, disengage the meshing of the 2 rods at the crank arm pivot of the windshield wiper motor assy.



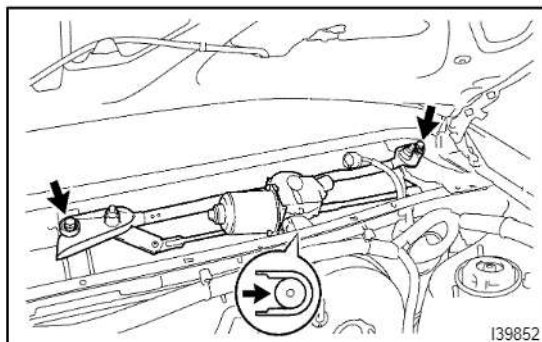
- (b) Using a torx→ socket wrench, remove the 2 bolts and the windshield wiper motor assy.



7. INSTALL WINDSHIELD WIPER MOTOR ASSY

- (a) Apply MP grease to the clank arm pivot of the windshield wiper motor assy.
 (b) Using a torx→ socket wrench, install the windshield wiper motor assy with the 2 bolts.

Torque: 5.39 N·m (55 kgf·cm, 48 in·lbf)

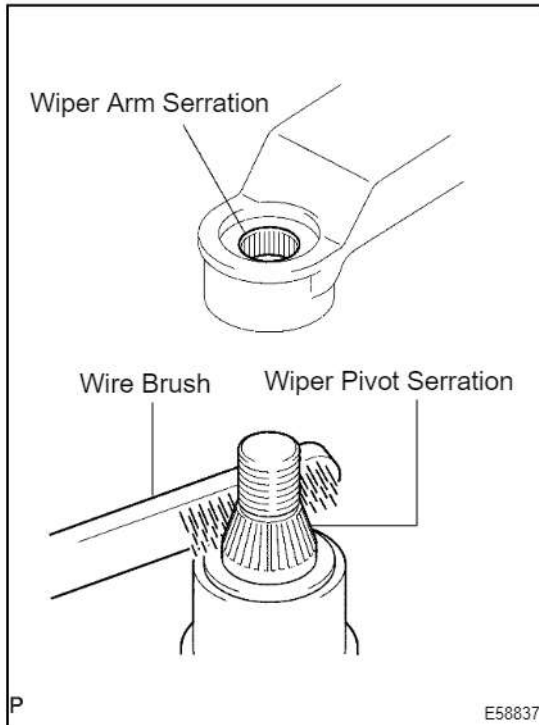


8. INSTALL WINDSHIELD WIPER MOTOR & LINK ASSY

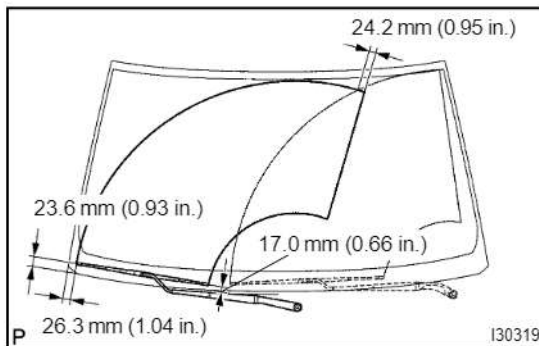
- (a) Temporarily install the windshield wiper & Link assy by engaging the pin.
 (b) Install the windshield wiper motor & link assy with the 2 bolts.
Torque: 7.0 N·m (71 kgf·cm, 61 in·lbf)
 (c) Connect the connector.

9. INSTALL FR WIPER ARM & BLADE ASSY RH

- (a) Stop the windshield wiper motor assy at the automatic stop position.



- (b) Scrape off the serration part of the wiper arm with a round file or equivalent.
- (c) Clean the wiper pivot serration with a wire brush.

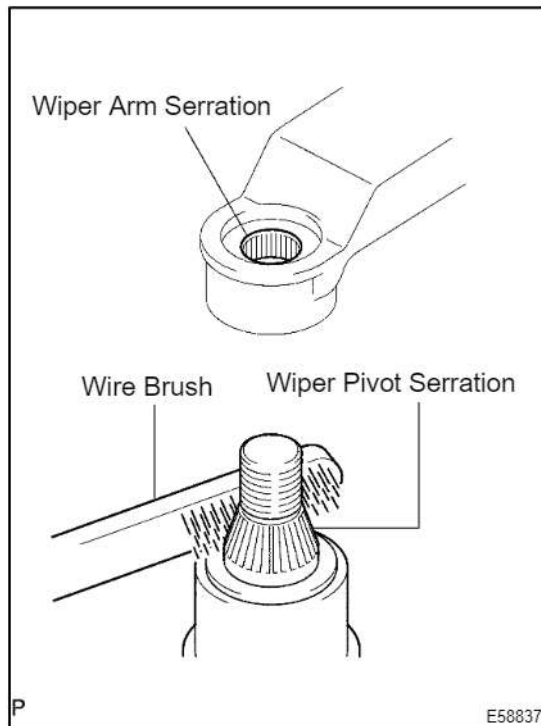


- (d) Install the front wiper arm & blade assy RH with the nut to the position shown in the illustration.

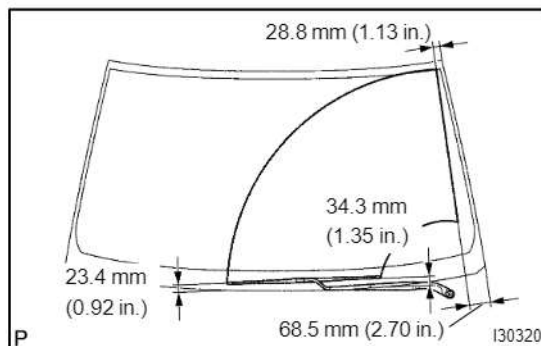
Torque: 24 N·m (245 kgf·cm, 18 ft·lbf)

HINT:

Hold down the arm hinge by hand in order to fasten the nut.

**10. INSTALL FR WIPER ARM & BLADE ASSY LH**

- (a) Scrape off the serration part of the wiper arm with a round file or equivalent.
- (b) Clean the wiper pivot serration with a wire brush.



- (c) Install the front wiper arm & blade assy LH with the 2 nuts to the position shown in the illustration.

Torque: 24 N·m (245 kgf·cm, 18 ft·lbf)

HINT:

Hold down the arm hinge by hand in order to fasten the nut.

- (d) Operate the wiper while running water or washer fluid over the window, and check the wiping condition and that the front wiper does not scrape against the body.

WIPER RUBBER LH

REPLACEMENT

680HQ-01

HINT:

- Use the same procedures for the RH side and LH side.
- The procedures listed below are for the LH side.
- Installation is in the reverse order of removal.

1. REMOVE FR WIPER BLADE LH

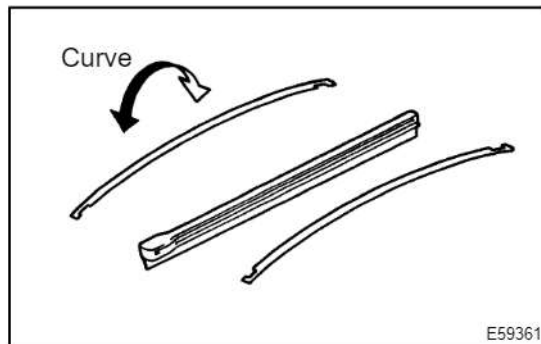
- (a) Remove the front wiper blade LH from the front wiper arm LH.

NOTICE:

Do not fold down the front wiper arm with the front wiper blade removed from it.

2. REMOVE WIPER RUBBER LH

- (a) Remove the front wiper rubber LH from the front wiper blade.
 (b) Remove the 2 wiper rubber backing plates from the wiper rubber LH.

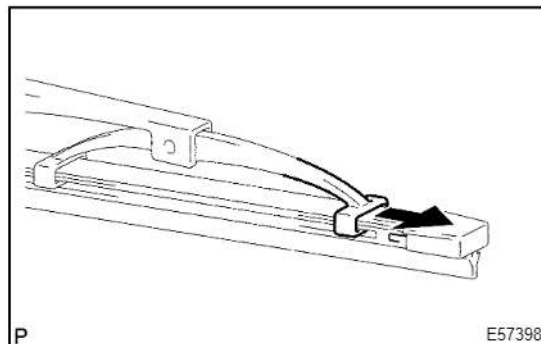


3. INSTALL WIPER RUBBER LH

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

NOTICE:

Install the backing plates in the correct direction.



- (b) Install the wiper rubber LH so that the head part (larger side) of the wiper rubber faces the arm axle side.

NOTICE:

Push the front wiper blade into the grooves of the wiper rubber to engage them completely.

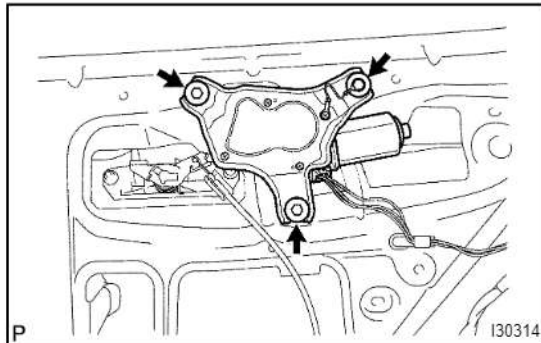
REAR WIPER MOTOR ASSY REPLACEMENT

680HR-01

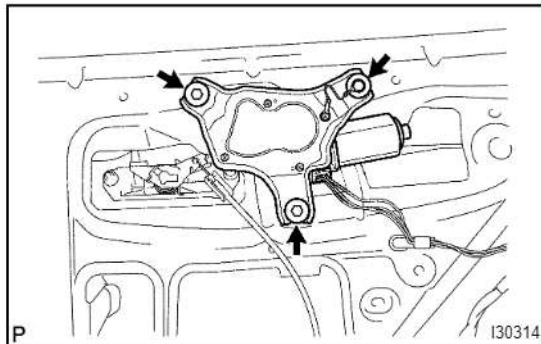
HINT:

Installation is in the reverse order of removal.

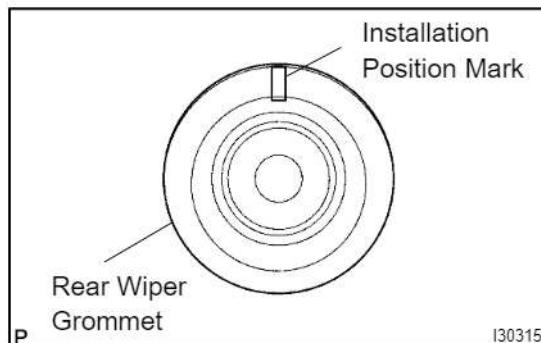
1. **REMOVE RR WIPER ARM & BLADE ASSY**
 - (a) Remove the rear wiper arm cover.
 - (b) Remove the nut and the RR wiper arm & blade assy.
2. **REMOVE REAR WIPER MOTOR GROMMET**
3. **REMOVE ASSIST STRAP HOLE COVER (SEE PAGE 75-20)**
4. **REMOVE ASSIST STRAP ASSY RH (SEE PAGE 75-20)**
5. **REMOVE BACK DOOR TRIM PANEL ASSY (SEE PAGE 75-20)**



6. **REMOVE REAR WIPER MOTOR ASSY**
 - (a) Disconnect the connector.
 - (b) Remove the 3 bolts and the rear wiper motor assy.

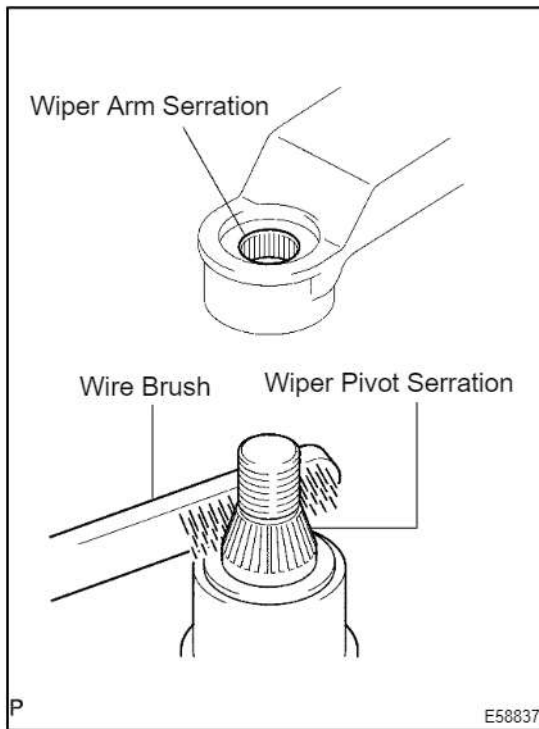


7. **INSTALL REAR WIPER MOTOR ASSY**
 - (a) Install the rear wiper motor assy with the 3 bolts.
Torque: 5.5 N·m (56 kgf·cm, 48 in.·lbf)
 - (b) Connect the connector.

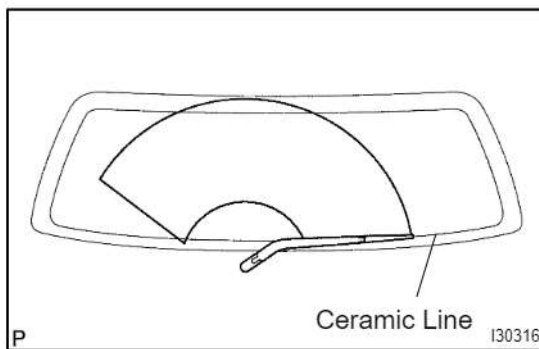


8. **INSTALL REAR WIPER MOTOR GROMMET**
 - (a) As shown in the illustration, install the rear wiper motor grommet with its position mark upside.

9. **INSTALL RR WIPER ARM & BLADE ASSY**
 - (a) Stop the rear wiper motor assy at the automatic stop position.



- (b) Scrape off the wiper arm serration with a round file or equivalent.
- (c) Clean the rear wiper pivot serration with a wire brush.



- (d) Install the RR wiper arm & blade assy in the position shown in the illustration.
- (e) Install the RR wiper arm & blade assy with the nut.
Torque: 5.5 N·m (56 kgf·cm, 48 in·lbf)

HINT:

Hold down the arm hinge by hand in order to fasten the nut.

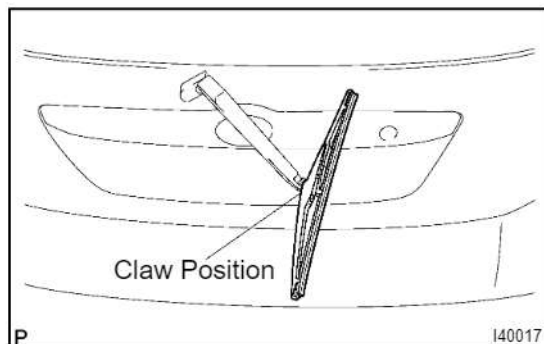
- (f) Install the rear wiper arm cover.
- (g) Operate the wiper while running water or washer fluid over the window, and check the wiping condition and that the rear wiper does not scrape against the body.

REAR WIPER RUBBER REPLACEMENT

680HS-01

HINT:

Installation is in the reverse order of removal.

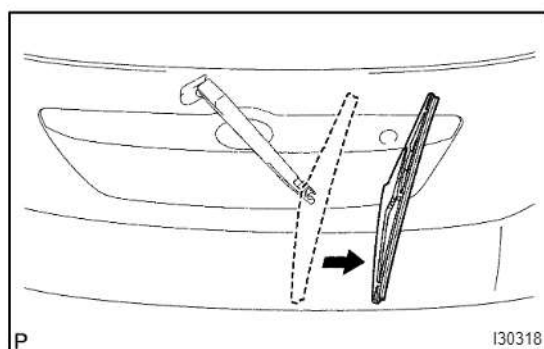


1. REMOVE REAR WIPER BLADE ASSY

- (a) Raise the rear wiper blade assy to the position where the claw disengages with a click sound as shown in the illustration.

NOTICE:

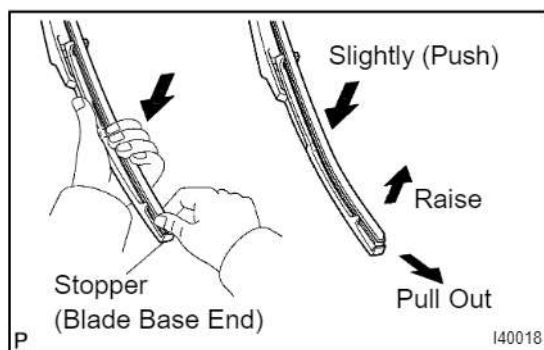
Be careful not to damage the claw.



- (b) Pull the rear wiper blade straight toward the left side of the vehicle to remove it from the rear wiper arm.

NOTICE:

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



2. REMOVE REAR WIPER RUBBER

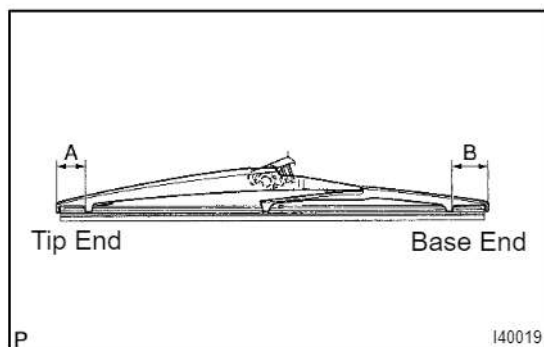
- (a) Make the rear wiper rubber protrude from the base end stopper of the rear wiper blade.

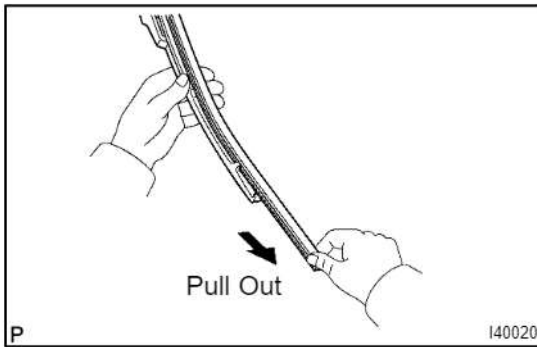
NOTICE:

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

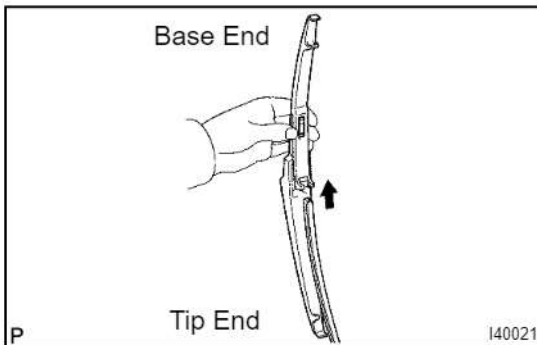
HINT:

- When removing the wiper rubber, pull it out from the base end, as the wiper blade has more space at the base end (section B as shown in the illustration).
- Slightly pushing the wiper blade claw and the surrounding central area will allow the rubber to be pulled out more easily.



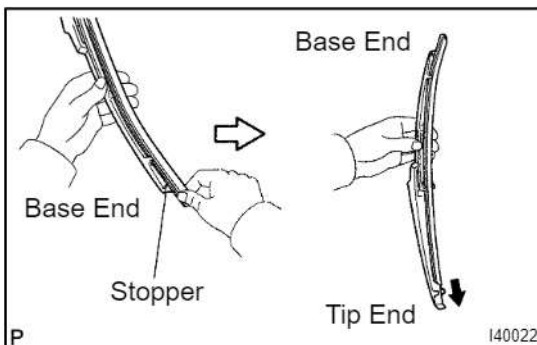


- (b) Pull out the rear wiper rubber from the rear wiper blade completely.

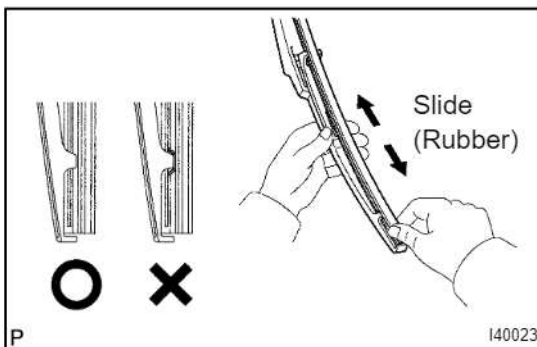


3. INSTALL REAR WIPER RUBBER

- (a) Insert the rear wiper rubber from the claw position in the middle of the rear wiper blade to the base end.



- (b) After passing the rear wiper rubber through the base end claw, make it stick out from the base end stopper to pass it through the tip end claw.



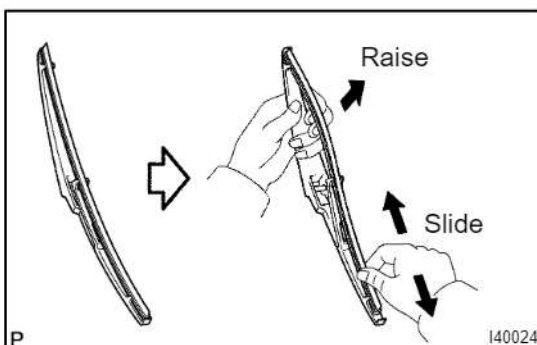
- (c) Make sure that the rear wiper blade claws are fit in the rear wiper rubber groove.

HINT:

- If the blade claws are not fit in the rubber groove, slide the rubber several times to make the blade claw fit.
- Applying a small amount of the window washer fluid to the rubber makes the blade claws fit easily.
- Raise the middle part of the wiper rubber as shown in the illustration to maintain a longer stroke length for sliding the rubber.

NOTICE:

Do not forcibly slide the wiper rubber as the backing plates may be deformed or the blade claw may be damaged.



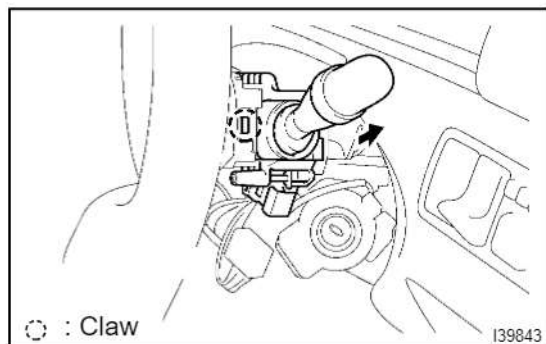
WINDSHIELD WIPER SWITCH ASSY REPLACEMENT

680HT-01

HINT:

Installation is in the reverse order of removal.

1. **REMOVE STEERING COLUMN COVER LWR (SEE PAGE 50-8)**
2. **REMOVE STEERING COLUMN COVER UPR (SEE PAGE 50-8)**

**3. REMOVE WINDSHIELD WIPER SWITCH ASSY**

- (a) Disconnect the connector.
- (b) Using a screwdriver, disengage the claw, and remove the windshield wiper switch assy.

NOTICE:

Pressing the claw hard breaks the claw.

HINT:

Tape the screwdriver tip before use.