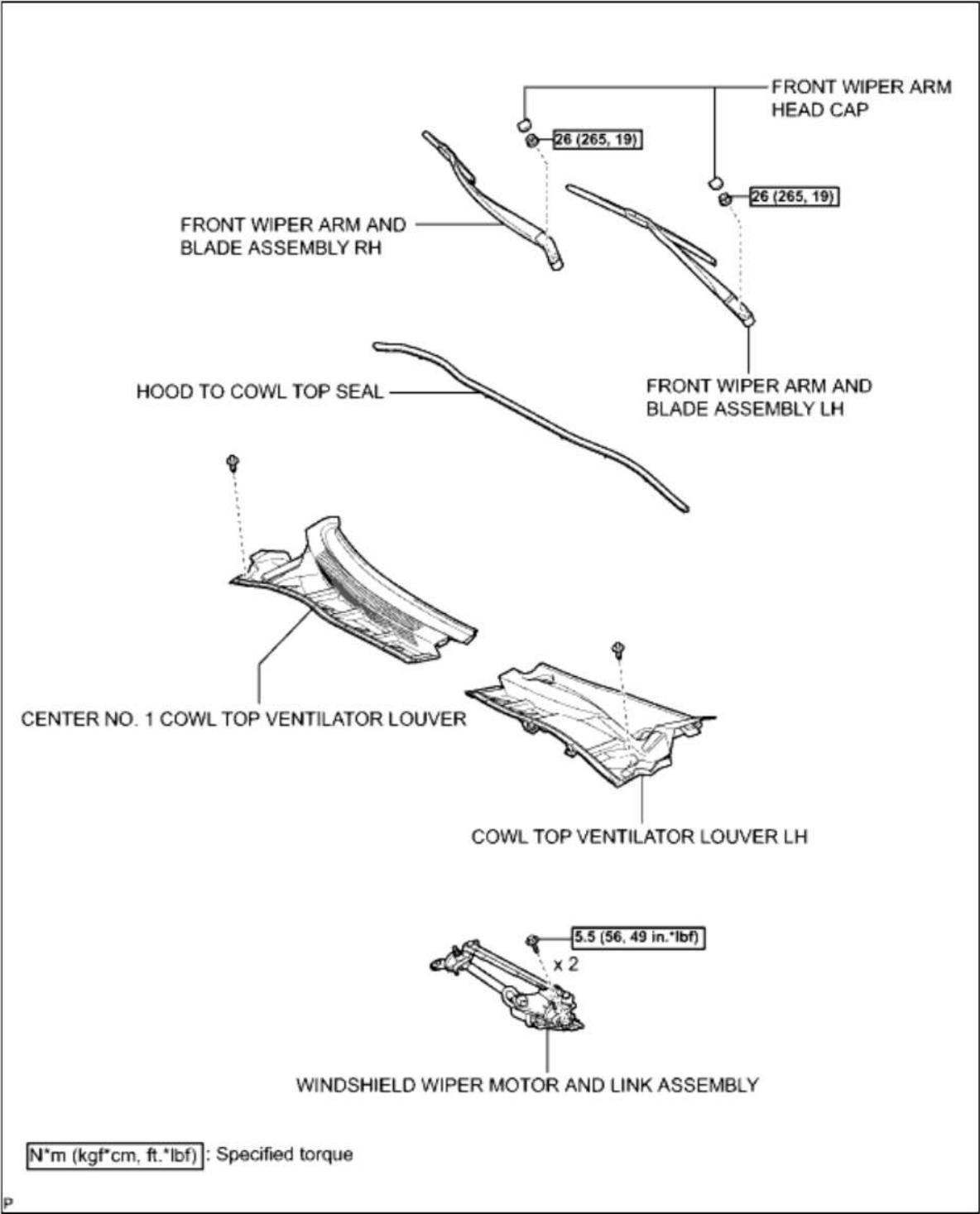


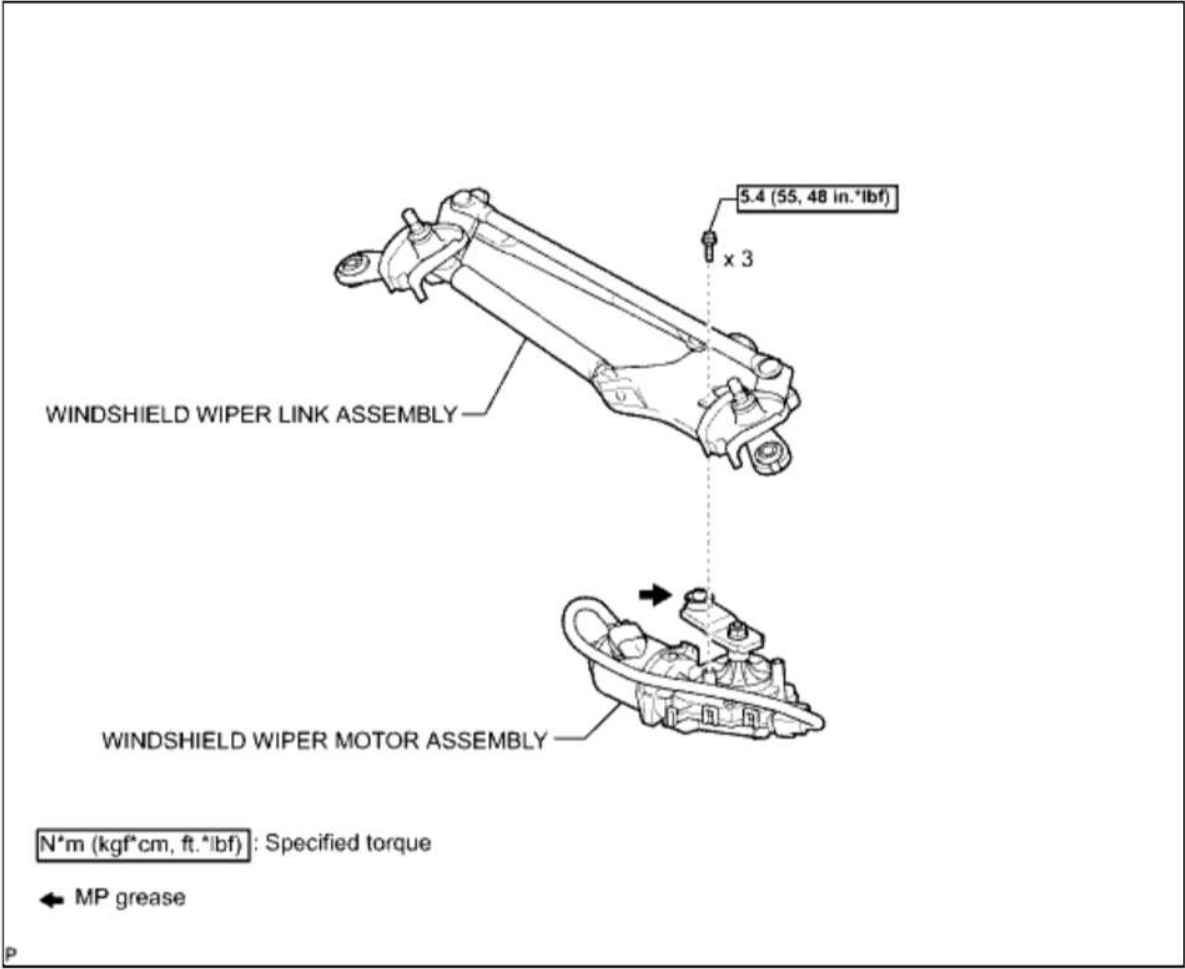
Last Modified: 3-10-2010	6.4 K	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XJ400GX
Title: WIPER / WASHER: FRONT WIPER MOTOR: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION



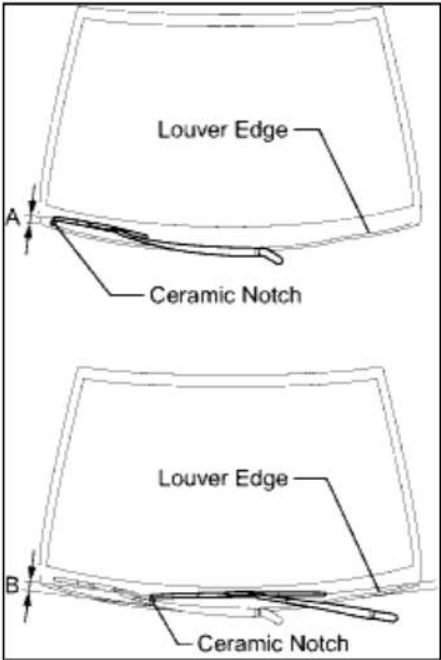
ILLUSTRATION



Last Modified: 3-10-2010	6.4 G	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000003H6Q004X
Title: WIPER / WASHER: FRONT WIPER MOTOR: ON-VEHICLE INSPECTION (2010 Corolla)		

ON-VEHICLE INSPECTION

1. INSPECT WINDSHIELD WIPER MOTOR ASSEMBLY



(a) Operate the windshield wiper motor.

(b) Stop the windshield wiper motor operation.

(c) Check the automatic stop position.

OK:

The windshield wipers stop at the positions shown in the illustration.

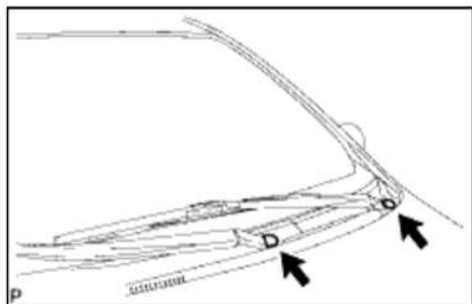
If the result is not as specified, the windshield wiper motor may have a malfunction.

AREA	MEASUREMENT
A	27.5 to 42.5 mm (1.08 to 1.67 in.)
B	22.5 to 37.5 mm (0.886 to 1.48 in.)

Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XJ500GX
Title: WIPER / WASHER: FRONT WIPER MOTOR: REMOVAL (2010 Corolla)		

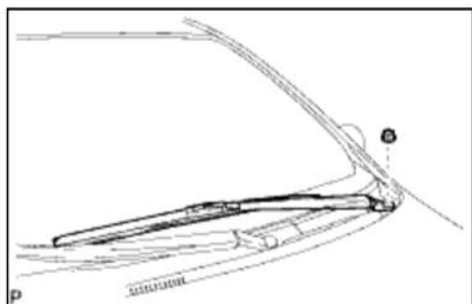
REMOVAL

1. REMOVE FRONT WIPER ARM HEAD CAP



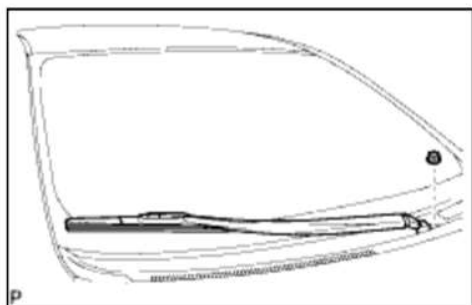
(a) Remove the 2 windshield wiper arm covers.

2. REMOVE FRONT WIPER ARM AND BLADE ASSEMBLY LH



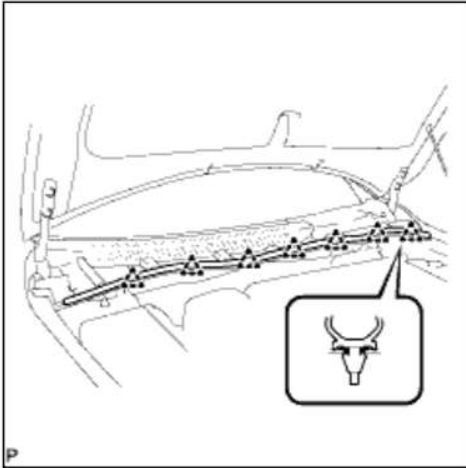
(a) Remove the nut and the front wiper arm and blade assembly LH.

3. REMOVE FRONT WIPER ARM AND BLADE ASSEMBLY RH



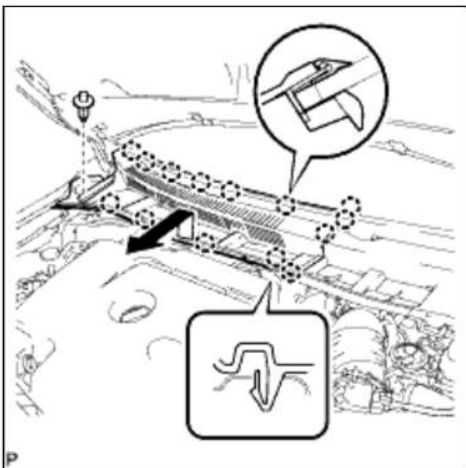
(a) Remove the nut and the front wiper arm and blade assembly RH.

4. REMOVE HOOD TO COWL TOP SEAL



(a) Disengage the 7 clips and remove the hood to cowl top seal.

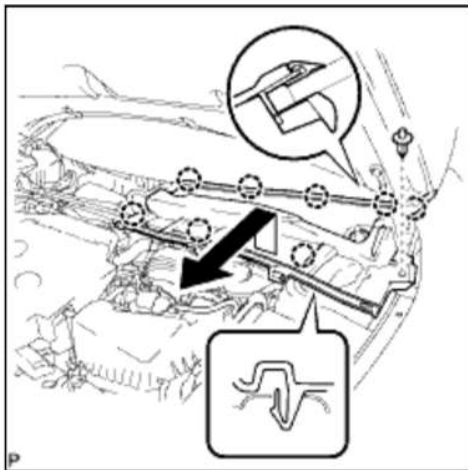
5. REMOVE CENTER NO. 1 COWL TOP VENTILATOR LOUVER



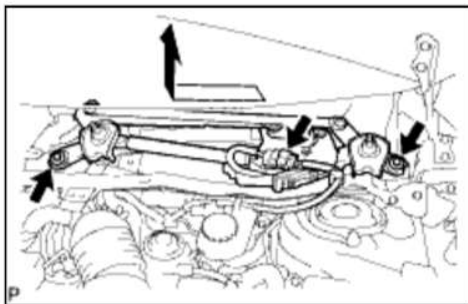
(a) Disengage the clip and 14 claws, and remove the center No. 1 cowl top ventilator louver.

6. REMOVE COWL TOP VENTILATOR LOUVER LH

(a) Disengage the clip and 8 claws, and remove the cowl top ventilator louver LH.



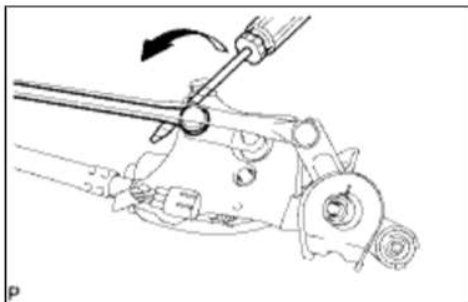
7. REMOVE WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY



(a) Disconnect the connector.

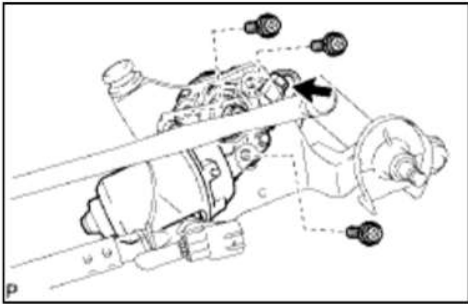
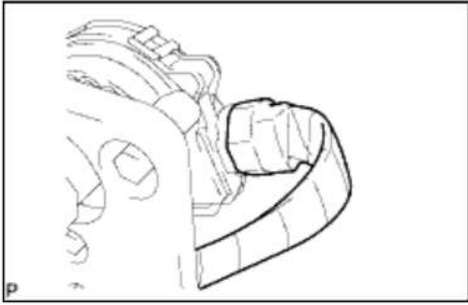
(b) Remove the 2 bolts and the windshield wiper motor and link assembly.

8. REMOVE WINDSHIELD WIPER MOTOR ASSEMBLY



(a) Using a screwdriver with its tip taped, disconnect the rod of the windshield wiper link assembly from the crank arm pivot of the windshield wiper motor assembly as shown in the illustration.

(b) Remove the electrical tape from the wire harness so that the connector can be disconnected.



(c) Disconnect the connector.

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

HINT:

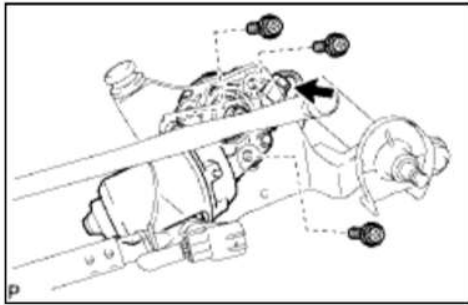
If the windshield wiper motor assembly cannot be removed from the windshield wiper link assembly, turn the crank arm so that the windshield wiper motor assembly can be removed.



Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XJ300GX
Title: WIPER / WASHER: FRONT WIPER MOTOR: INSTALLATION (2010 Corolla)		

INSTALLATION

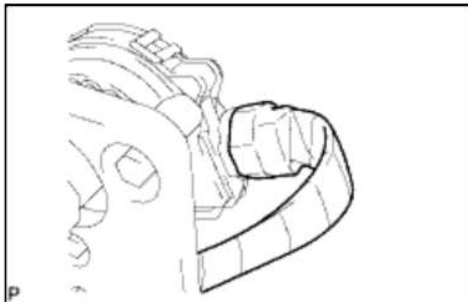
1. INSTALL WINDSHIELD WIPER MOTOR ASSEMBLY



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

Torque: 5.4 N·m (55 kgf·cm, 48in·lbf)

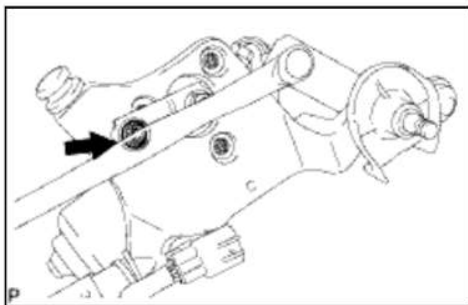
- (b) Connect the connector.



- (c) Apply new electrical tape to the wire harness.

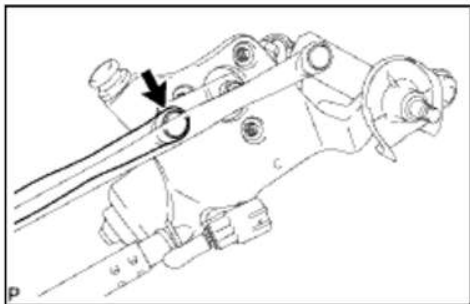
HINT:

For the area where the electrical tape was removed, apply new electrical tape so that the wire harness is firmly attached to the board.

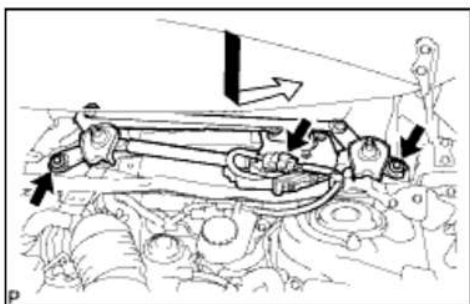


- (d) Apply MP grease to the crank arm pivot of the windshield wiper motor assembly.

- (e) Connect the rod of the windshield wiper link assembly to the crank arm pivot of the windshield wiper motor assembly.



2. INSTALL WINDSHIELD WIPER MOTOR AND LINK ASSEMBLY

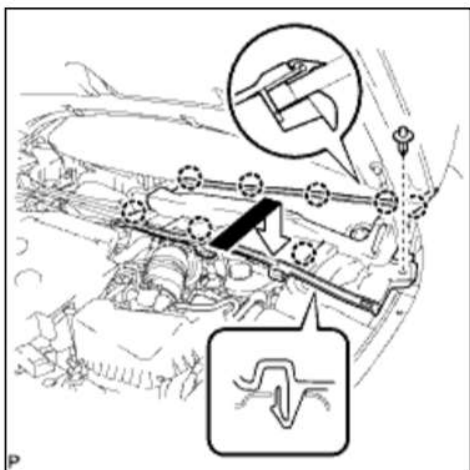


(a) Install the windshield wiper motor and link assembly with the 2 bolts.

Torque: 5.5 N·m (56 kgf·cm, 49in·lbf)

(b) Connect the connector.

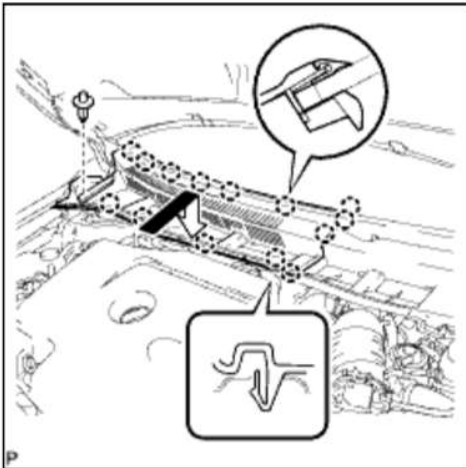
3. INSTALL COWL TOP VENTILATOR LOUVER LH



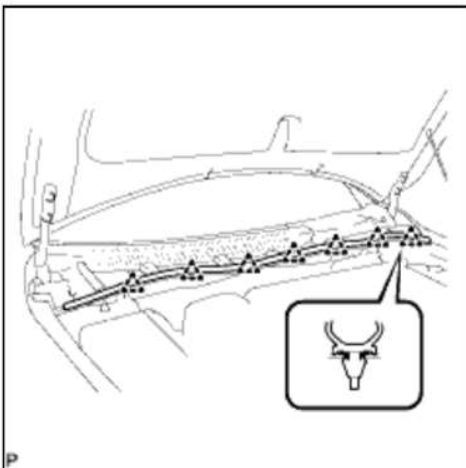
(a) Engage the clip and 8 claws, to install the cowl top ventilator louver LH.

4. INSTALL CENTER NO. 1 COWL TOP VENTILATOR LOUVER

(a) Engage the clip and 14 claws, to install the center No. 1 cowl top ventilator louver.



5. INSTALL HOOD TO COWL TOP SEAL

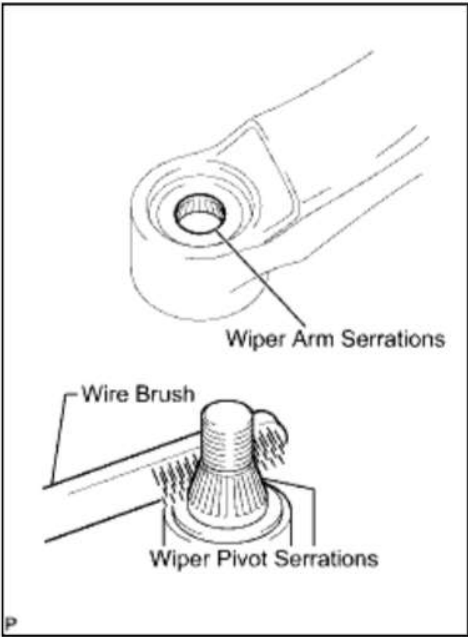


(a) Engage the 7 clips to install the hood to cowl top seal.

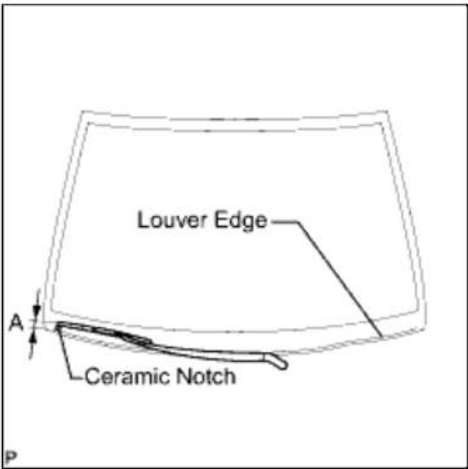
6. INSTALL FRONT WIPER ARM AND BLADE ASSEMBLY RH

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

(b) Clean the wiper arm serrations.



- (c) When reinstalling:
- (1) Clean the wiper pivot serrations with a wire brush.



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

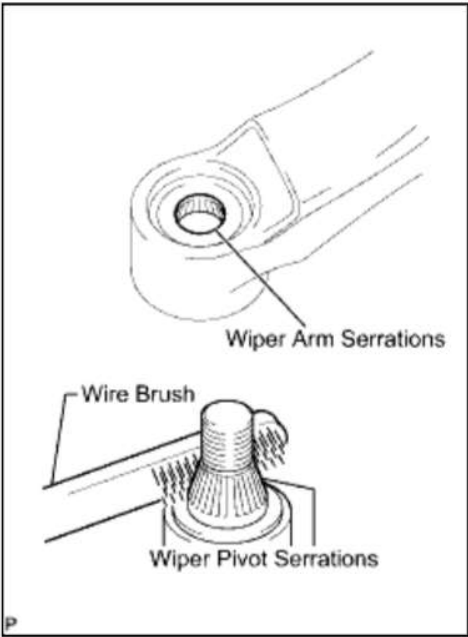
Torque: 26 N·m (265 kgf·cm, 19ft·lbf)

HINT:
Hold the arm hinge by hand to fasten the nut.

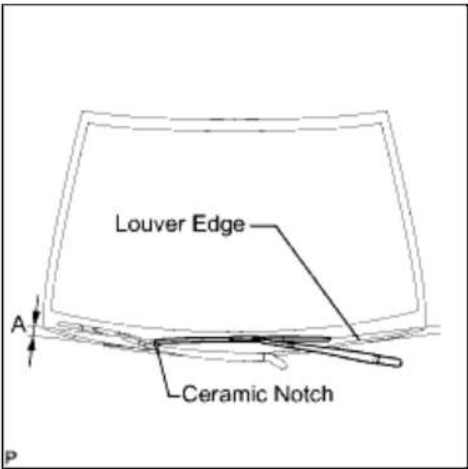
AREA	MEASUREMENT
A	27.5 to 42.5 mm (1.08 to 1.67 in.)

7. INSTALL FRONT WIPER ARM AND BLADE ASSEMBLY LH

- (a) Operate the wiper and stop the windshield wiper motor at the automatic stop position.
- (b) Clean the wiper arm serrations.



- (c) When reinstalling:
- (1) Clean the wiper pivot serrations with a wire brush.



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

Torque: 26 N·m (265 kgf·cm, 19ft·lbf)

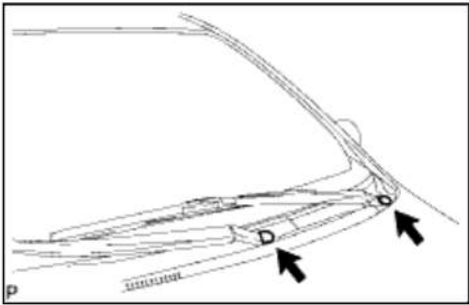
HINT:
Hold the arm hinge by hand to fasten the nut.

AREA	MEASUREMENT
A	22.5 to 37.5 mm (0.886 to 1.48 in.)

- (e) Operate the front wipers while spraying washer fluid on the windshield glass. Make sure that the front wipers function properly and the wipers do not come into contact with the vehicle body.

8. INSTALL FRONT WIPER ARM HEAD CAP

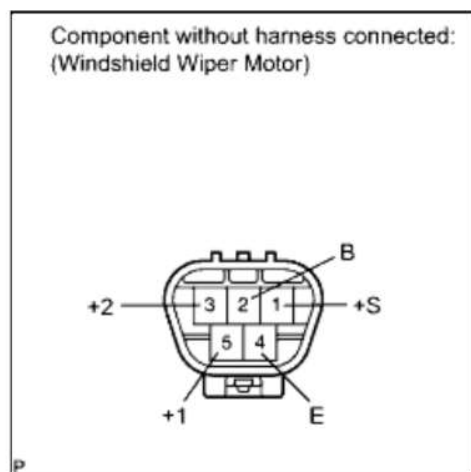
- (a) Install the 2 caps.



Last Modified: 3-10-2010	6.4 G	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XJR000X
Title: WIPER / WASHER: FRONT WIPER MOTOR: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT WINDSHIELD WIPER MOTOR ASSEMBLY



(a) Check LO operation.

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

OK:

Motor operates at low speed (LO).

(b) Check HI operation.

- (1) Connect a battery positive (+) lead to terminal 3 (+2) and a negative (-) lead to terminal 4 (E), and check that the motor operates at high speed (HI).

OK:

Motor operates at high speed (HI).

(c) Check automatic stop operation.

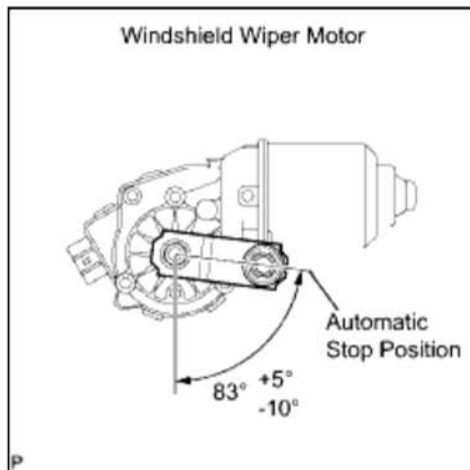
- (1) Connect a battery positive (+) lead to terminal 5 (+1) and a negative (-) lead to terminal 4 (E). With the motor rotating at low speed (LO), disconnect terminal 5 (+1) to stop the wiper motor operation at any position other than the automatic stop position.
- (2) Using SST, connect terminals 1 (+S) and 5 (+1). Then connect a battery positive (+) lead to terminal 2 (B) and a negative (-) lead to terminal 4 (E) to restart the motor operation at low speed (LO).

SST: 09843-18040

- (3) Check that the motor stops automatically at the automatic stop position.

OK:

Motor stops automatically at the automatic stop position.



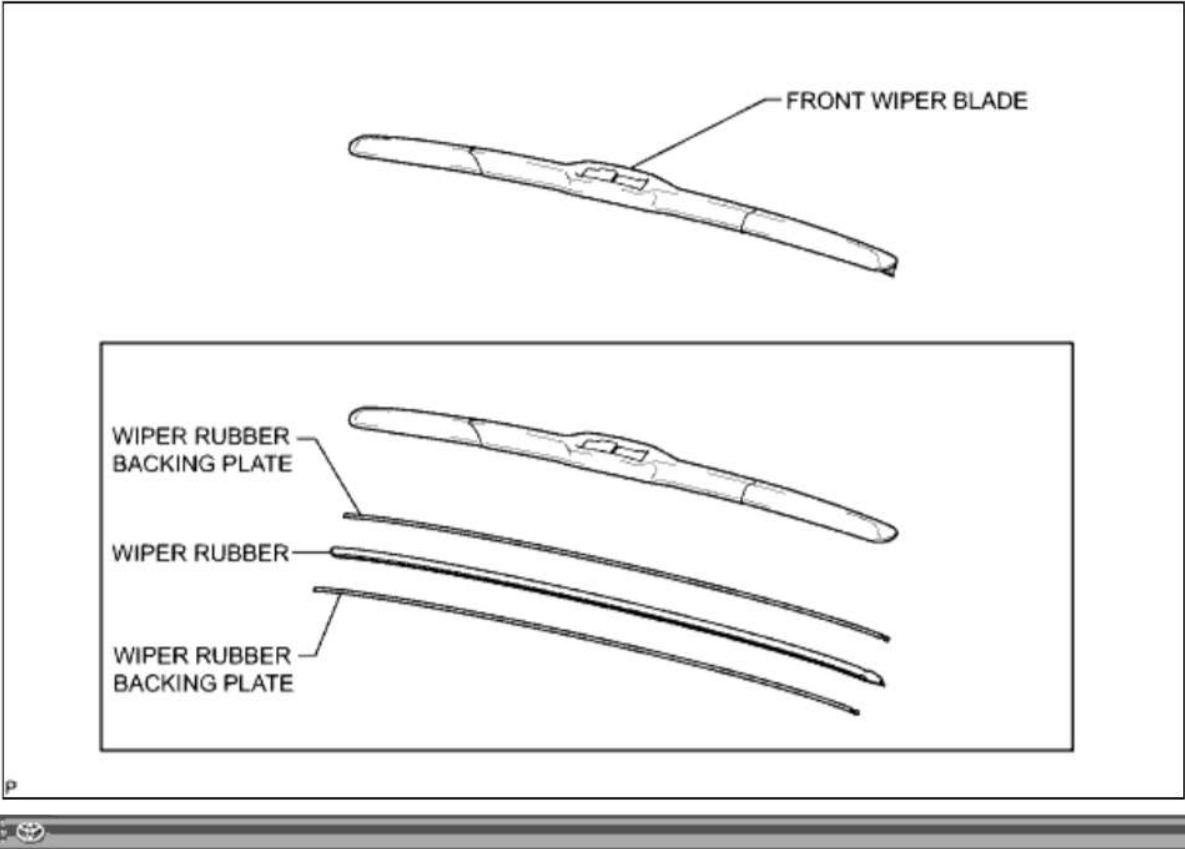
If the result is not as specified, replace the motor assembly.



Last Modified: 3-10-2010	6.4 K	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XJT00KX
Title: WIPER / WASHER: FRONT WIPER RUBBER: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION

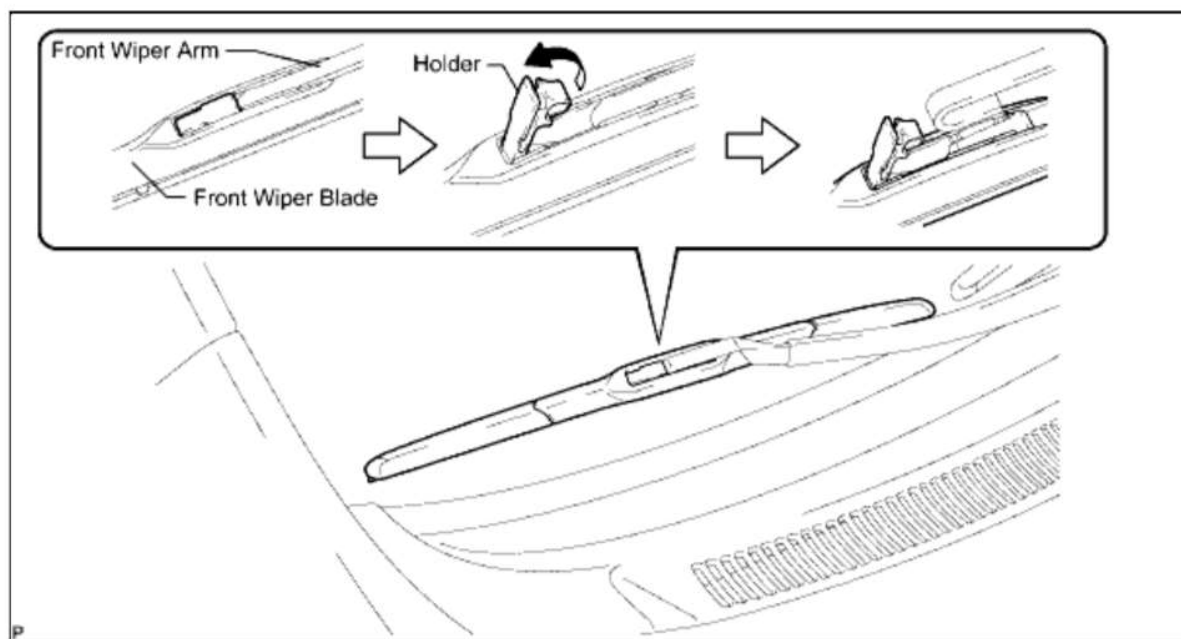


Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XJU00JX
Title: WIPER / WASHER: FRONT WIPER RUBBER: REMOVAL (2010 Corolla)		

REMOVAL

1. REMOVE FRONT WIPER BLADE

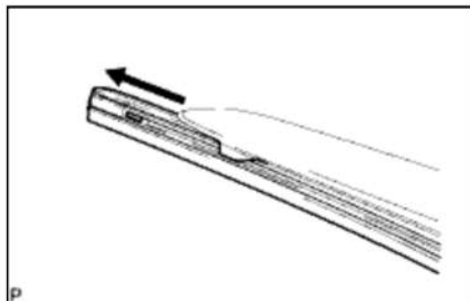
- Disengage the holder of the front wiper blade.
- Remove the front wiper blade from the front wiper arm as shown in the illustration.



NOTICE:

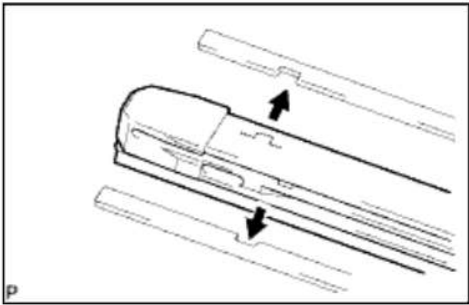
Do not bend the front wiper arm with the front wiper blade removed because the arm tip could damage the windshield surface.

2. REMOVE WIPER RUBBER



- Remove the wiper rubber and the wiper rubber backing plates from the front wiper blade.

- Remove the 2 wiper rubber backing plates from the wiper rubber.

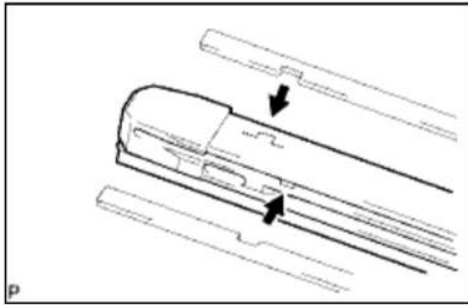


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Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XJS00JX
Title: WIPER / WASHER: FRONT WIPER RUBBER: INSTALLATION (2010 Corolla)		

INSTALLATION

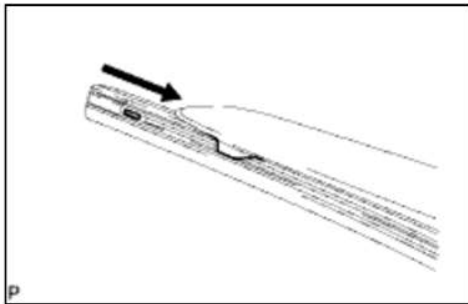
1. INSTALL WIPER RUBBER



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

NOTICE:

- Align the protrusions on the wiper rubber with the notches in the backing plates.
- Align the curves of the backing plates with the curve of the glass.



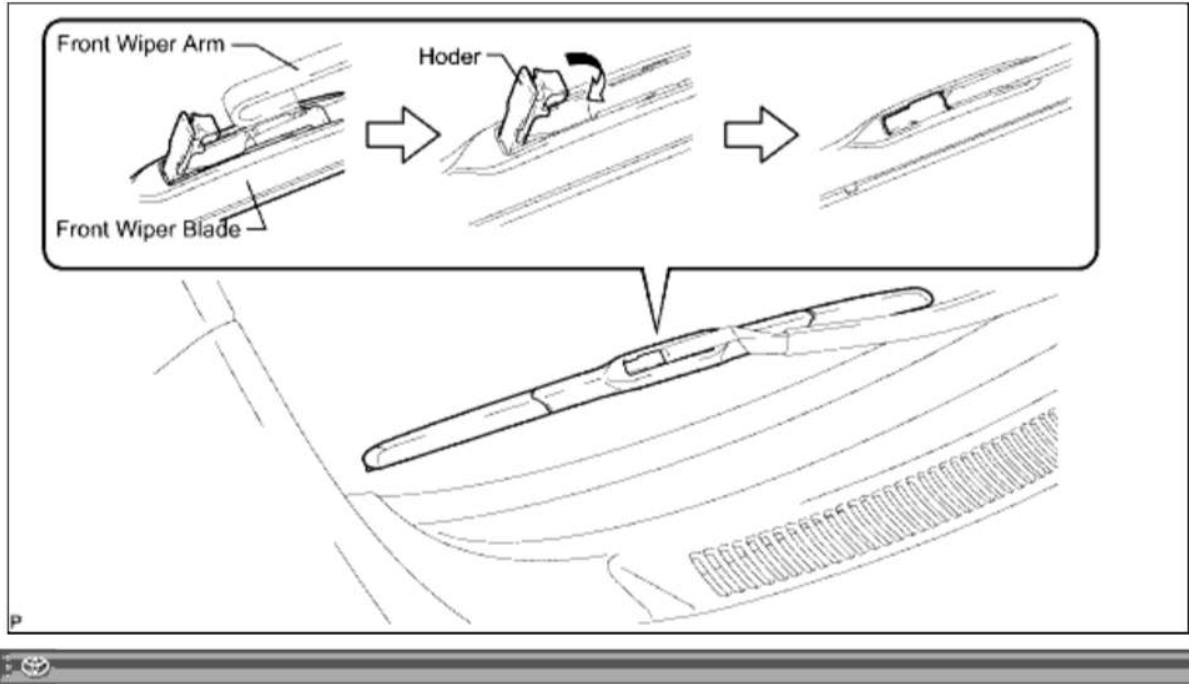
(b) Install the wiper rubber to the front wiper blade with the tip of the rubber (curved end) facing the axis of the wiper arm.

HINT:

Firmly push the wiper rubber into the wiper blade to securely engage them.

2. INSTALL FRONT WIPER BLADE

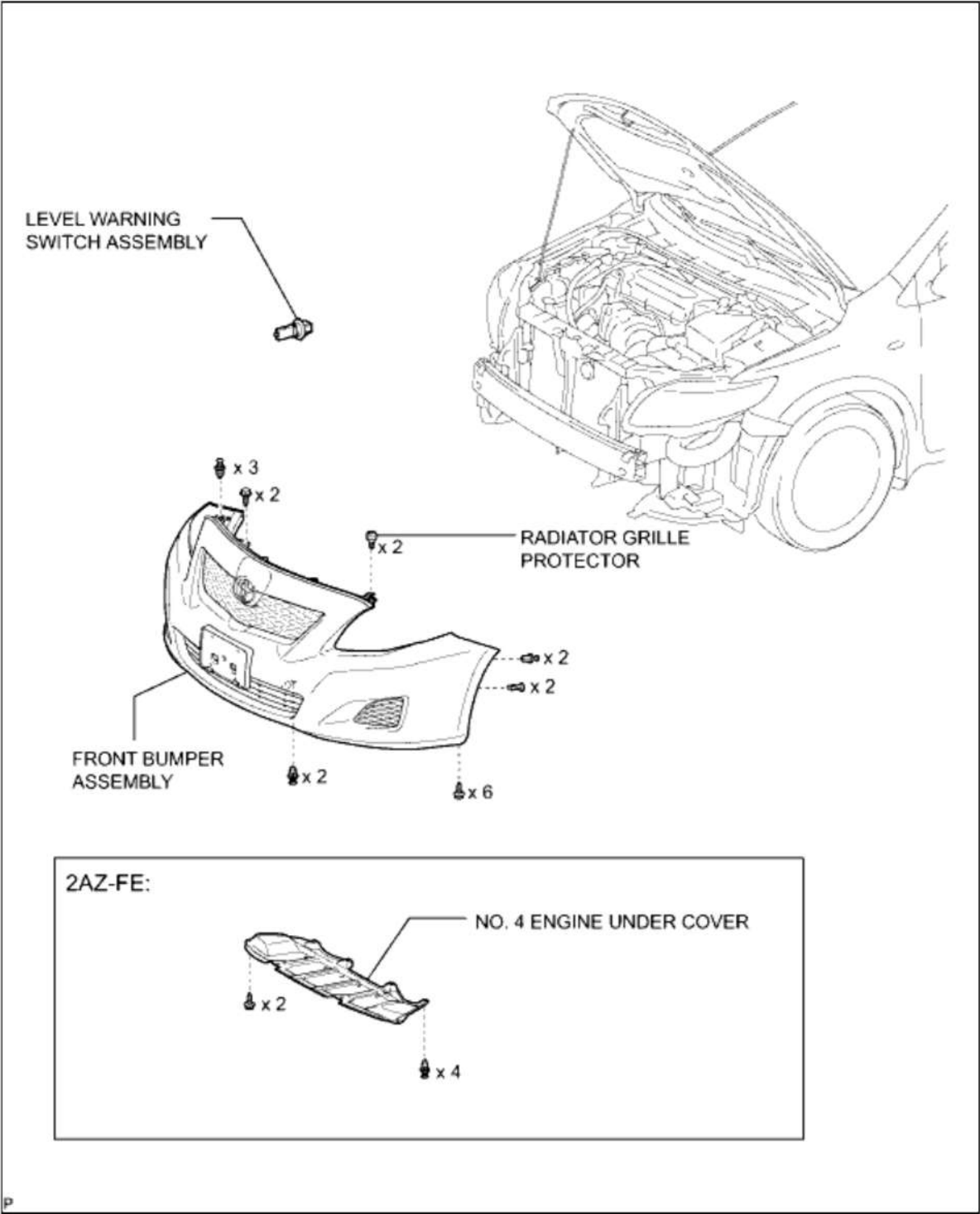
- (a) Install the front wiper blade as shown in the illustration.
- (b) Engage the holder of the front wiper blade.



Last Modified: 3-10-2010	6.4 K	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000003FU9001X
Title: WIPER / WASHER: WASHER LEVEL WARNING SWITCH: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION





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Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000003FUA001X
Title: WIPER / WASHER: WASHER LEVEL WARNING SWITCH: REMOVAL (2010 Corolla)		

REMOVAL

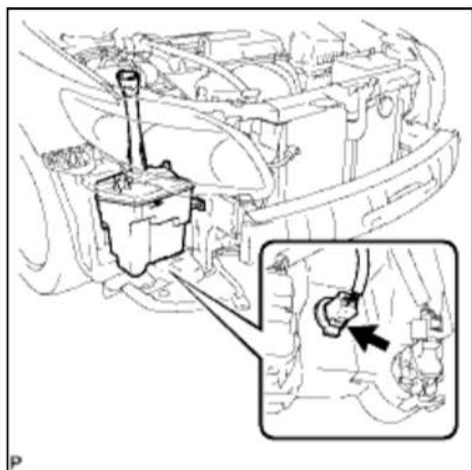
1. REMOVE RADIATOR GRILLE PROTECTOR [INFO](#)

2. REMOVE NO. 4 ENGINE UNDER COVER (for 2AZ-FE) [INFO](#)

3. REMOVE FRONT BUMPER ASSEMBLY [INFO](#)

4. DRAIN WASHER FLUID [INFO](#)

5. REMOVE LEVEL WARNING SWITCH ASSEMBLY



(a) Disconnect the connector.

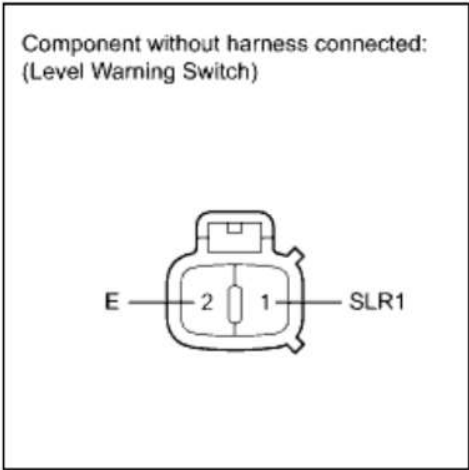
(b) Remove the level warning switch assembly.



Last Modified: 3-10-2010	6.4 G	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM0000035M7008X
Title: WIPER / WASHER: WASHER LEVEL WARNING SWITCH: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT LEVEL WARNING SWITCH ASSEMBLY



(a) Remove the washer jar.

(b) Disconnect the level warning switch connector.

HINT:

The check should be performed with the level warning switch assembly installed to the washer jar.

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

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
1 (SLR1) - 2 (E)	Washer jar is full	10 kΩ or higher
1 (SLR1) - 2 (E)	Washer jar is empty	Below 1 Ω

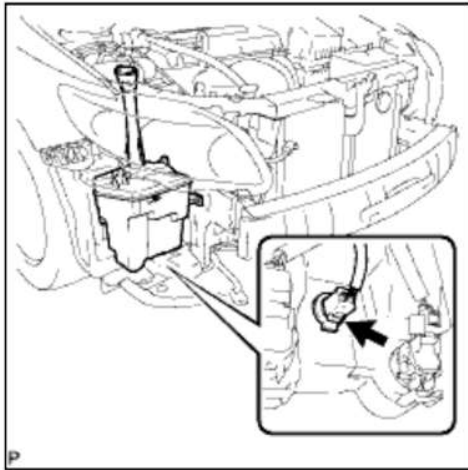
If the result is not as specified, replace the level warning switch assembly.



Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000003FU8001X
Title: WIPER / WASHER: WASHER LEVEL WARNING SWITCH: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL LEVEL WARNING SWITCH ASSEMBLY



(a) Install the level warning switch assembly.

(b) Connect the connector.

2. FILL WASHER JAR WITH WASHER FLUID [INFO](#)

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

4. INSTALL NO. 4 ENGINE UNDER COVER (for 2AZ-FE) [INFO](#)

5. INSTALL RADIATOR GRILLE PROTECTOR [INFO](#)

6. VEHICLE PREPARATION FOR FOG LIGHT AIMING (w/ Fog Light) [INFO](#)

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

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

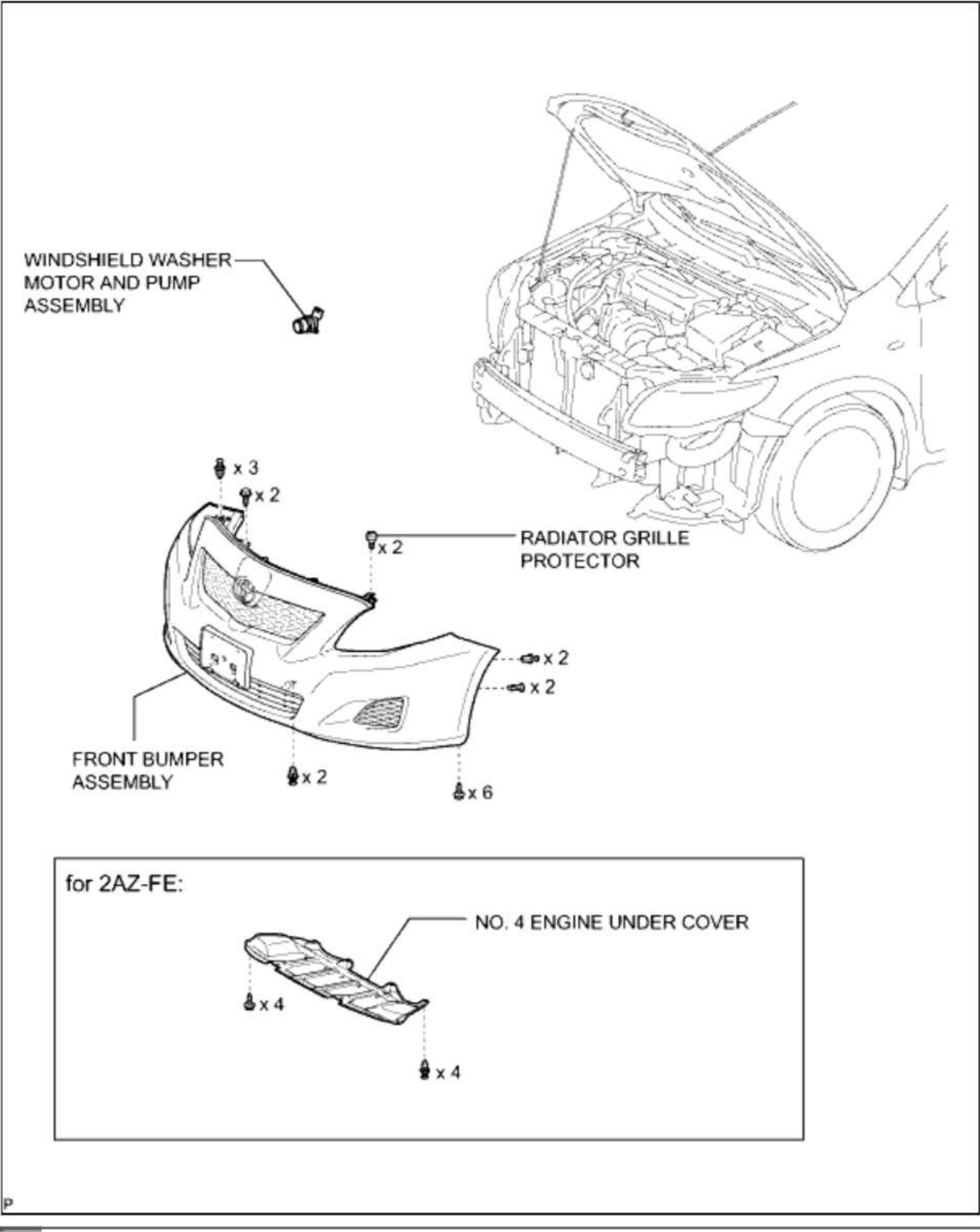
9. ADJUST FOG LIGHT AIMING (w/ Fog Light) [INFO](#)



Last Modified: 3-10-2010	6.4 K	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XK400IX
Title: WIPER / WASHER: WASHER MOTOR: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION





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Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XK500IX
Title: WIPER / WASHER: WASHER MOTOR: REMOVAL (2010 Corolla)		

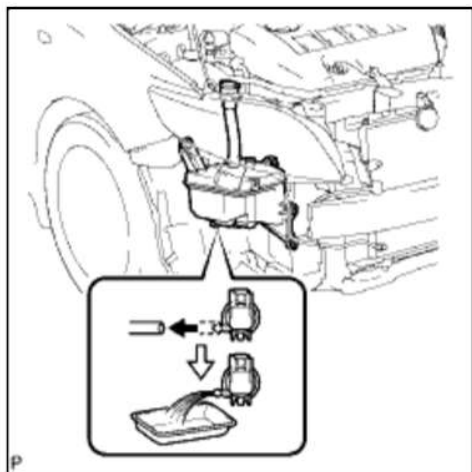
REMOVAL

1. REMOVE RADIATOR GRILLE PROTECTOR

2. REMOVE NO. 4 ENGINE UNDER COVER (for 2AZ-FE)

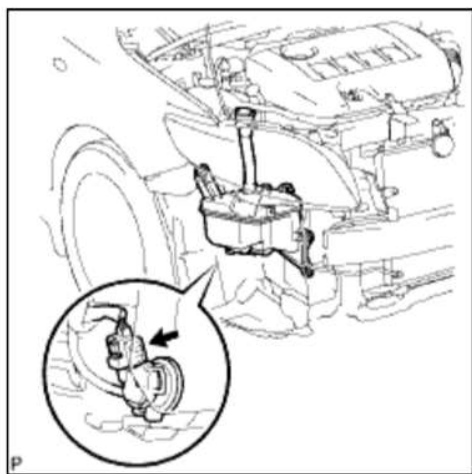
3. REMOVE FRONT BUMPER ASSEMBLY

4. DRAIN WASHER FLUID



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

5. REMOVE WINDSHIELD WASHER MOTOR AND PUMP ASSEMBLY



(a) Disconnect the connector.

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

Last Modified: 3-10-2010	6.4 G	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XK300UX
Title: WIPER / WASHER: WASHER MOTOR: INSPECTION (2010 Corolla)		

INSPECTION

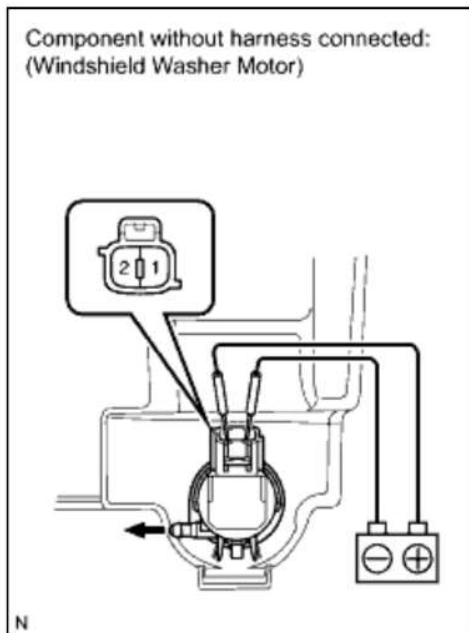
1. INSPECT WINDSHIELD WASHER MOTOR AND PUMP ASSEMBLY

- (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.



- (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.

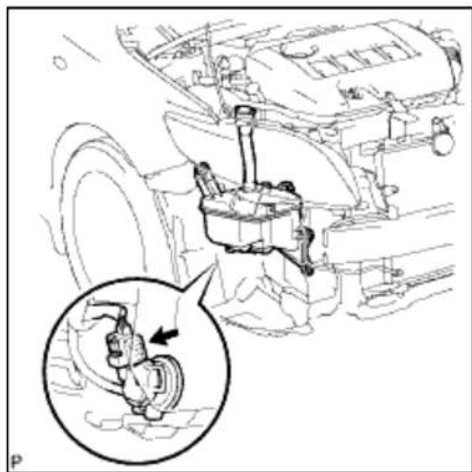
If the result is not as specified, replace the windshield washer motor and pump assembly.



Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XK200IX
Title: WIPER / WASHER: WASHER MOTOR: INSTALLATION (2010 Corolla)		

INSTALLATION

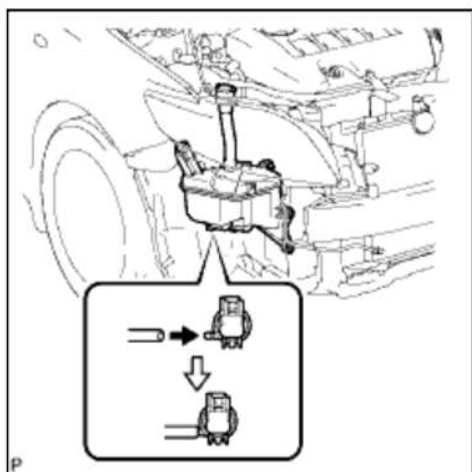
1. INSTALL WINDSHIELD WASHER MOTOR AND PUMP ASSEMBLY



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

(b) Connect the connector.

2. FILL WASHER JAR WITH WASHER FLUID



(a) Connect the washer hose to the windshield washer motor and pump assembly and fill the washer jar with washer fluid.

3. INSTALL FRONT BUMPER ASSEMBLY INFO

4. INSTALL NO. 4 ENGINE UNDER COVER (for 2AZ-FE) INFO

5. INSTALL RADIATOR GRILLE PROTECTOR INFO

6. VEHICLE PREPARATION FOR FOG LIGHT AIMING (w/ Fog Light) 

7. PREPARATION FOR FOG LIGHT AIMING (w/ Fog Light) 

8. FOG LIGHT AIMING INSPECTION (w/ Fog Light) 

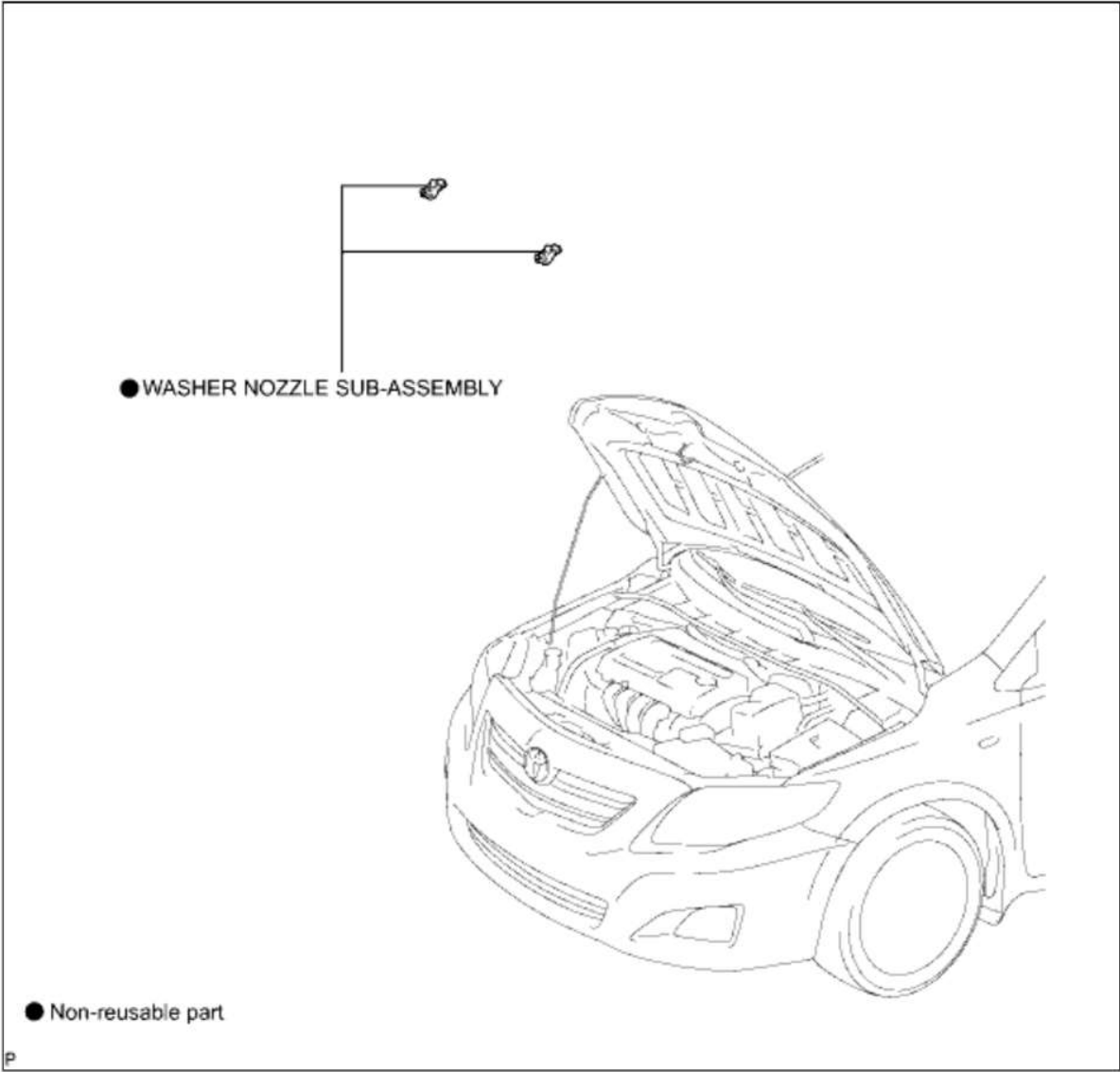
9. FOG LIGHT AIMING ADJUSTMENT (w/ Fog Light) 



Last Modified: 3-10-2010	6.4 K	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000003F89004X
Title: WIPER / WASHER: WASHER NOZZLE: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION

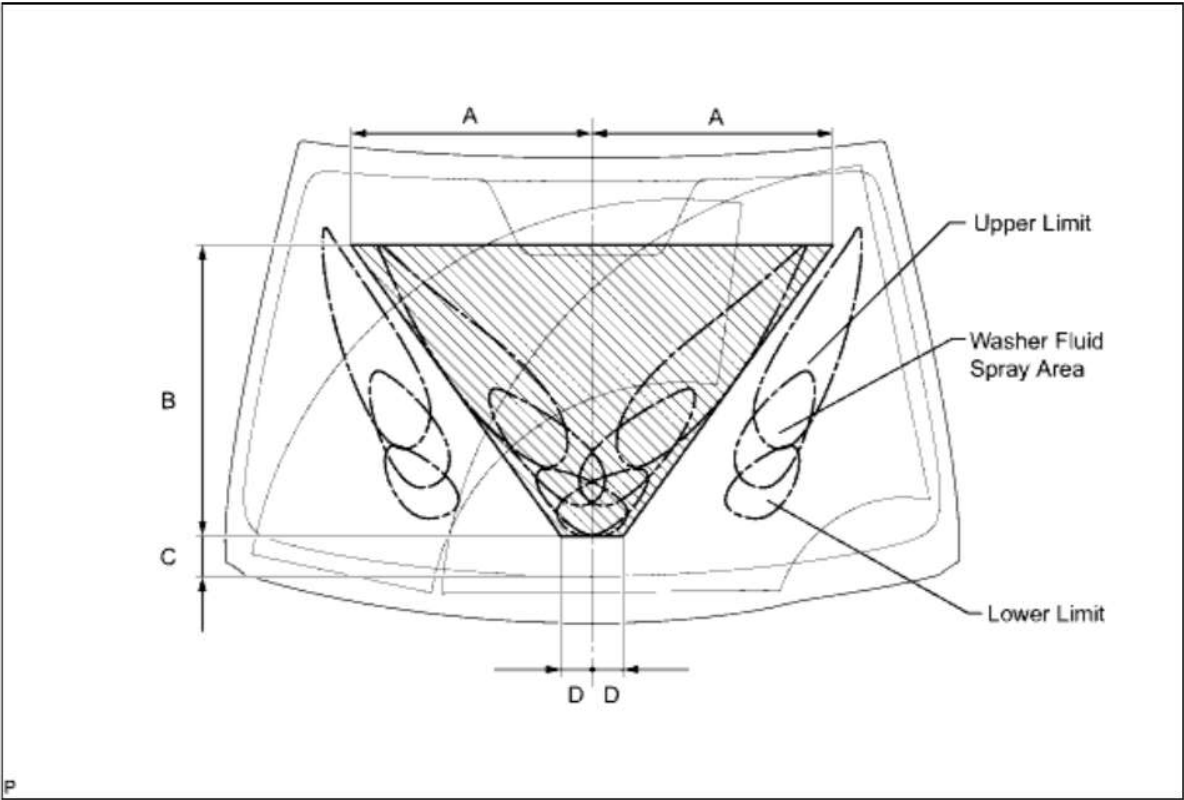


Last Modified: 3-10-2010	6.4 G	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XKB00EX
Title: WIPER / WASHER: WASHER NOZZLE: ON-VEHICLE INSPECTION (2010 Corolla)		

ON-VEHICLE INSPECTION

1. INSPECT WASHER NOZZLE SUB-ASSEMBLY

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



PART	LENGTH	
A	396 mm	15.59 in.
B	511 mm	20.12 in.
C	72 mm	2.83 in.
D	75 mm	2.95 in.

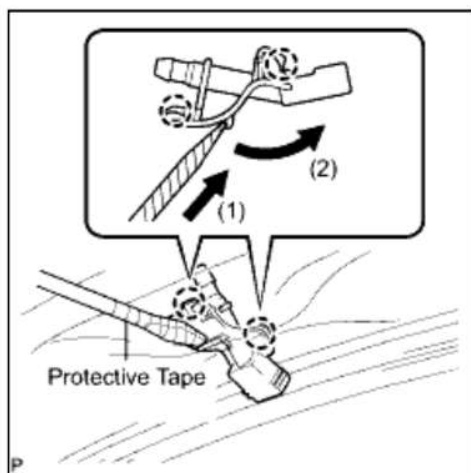
OK:
Washer fluid hits the windshield in the areas shown in the illustration.

HINT:
If the result is not as specified, replace the washer nozzle.

Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM00000332V00FX
Title: WIPER / WASHER: WASHER NOZZLE: REMOVAL (2010 Corolla)		

REMOVAL

1. REMOVE WASHER NOZZLE SUB-ASSEMBLY



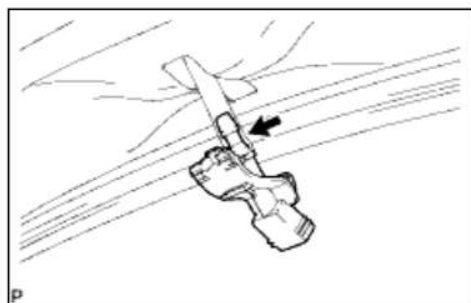
- (a) Using a screwdriver, disengage the 2 claws and separate the washer nozzle sub-assembly as shown in the illustration.

NOTICE:

Be careful not to damage the windshield.

HINT:

Tape the screwdriver tip before use.



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

NOTICE:

Washer nozzles cannot be reused.

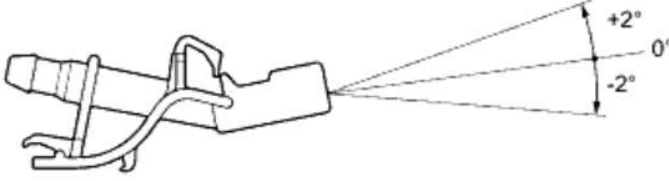
Last Modified: 3-10-2010	6.4 N	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XKA00FX
Title: WIPER / WASHER: WASHER NOZZLE: ADJUSTMENT (2010 Corolla)		

ADJUSTMENT

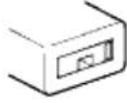
1. ADJUST WASHER NOZZLE SUB-ASSEMBLY

(a) Select a washer nozzle sub-assembly so that the washer fluid spray area is as specitied.

for TMC Made:



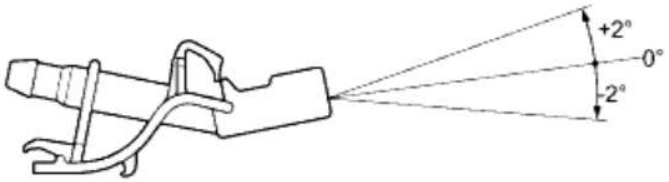
Washer Fluid
Spray Angle



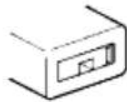
Part Number

85380-1222085380-1221085380-12230

for NUMMI, TMMC Made:



Washer Fluid
Spray Angle



Part Number

85380-0214085380-0213085380-02150

P

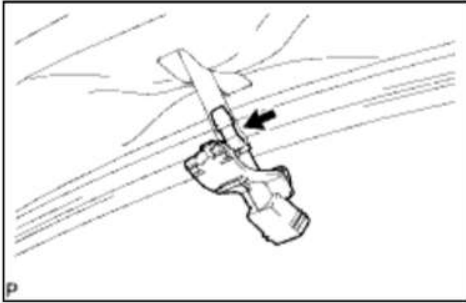
<https://cardiagn.com/wiper-washer-2010-corolla/>

35/50

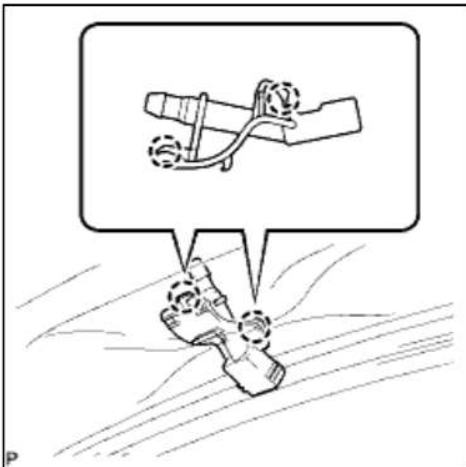
Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM00000332U00FX
Title: WIPER / WASHER: WASHER NOZZLE: INSTALLATION (2010 Corolla)		

INSTALLATION

1. INSTALL WASHER NOZZLE SUB-ASSEMBLY



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



(b) Engage the 2 claws to install the washer nozzle sub-assembly.

Last Modified: 3-10-2010	6.4 L	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000001VPW00ZX
Title: WIPER / WASHER: WIPER AND WASHER SYSTEM: PRECAUTION (2010 Corolla)		

PRECAUTION

1. PRECAUTION OF WASHER NOZZLE ADJUSTMENT

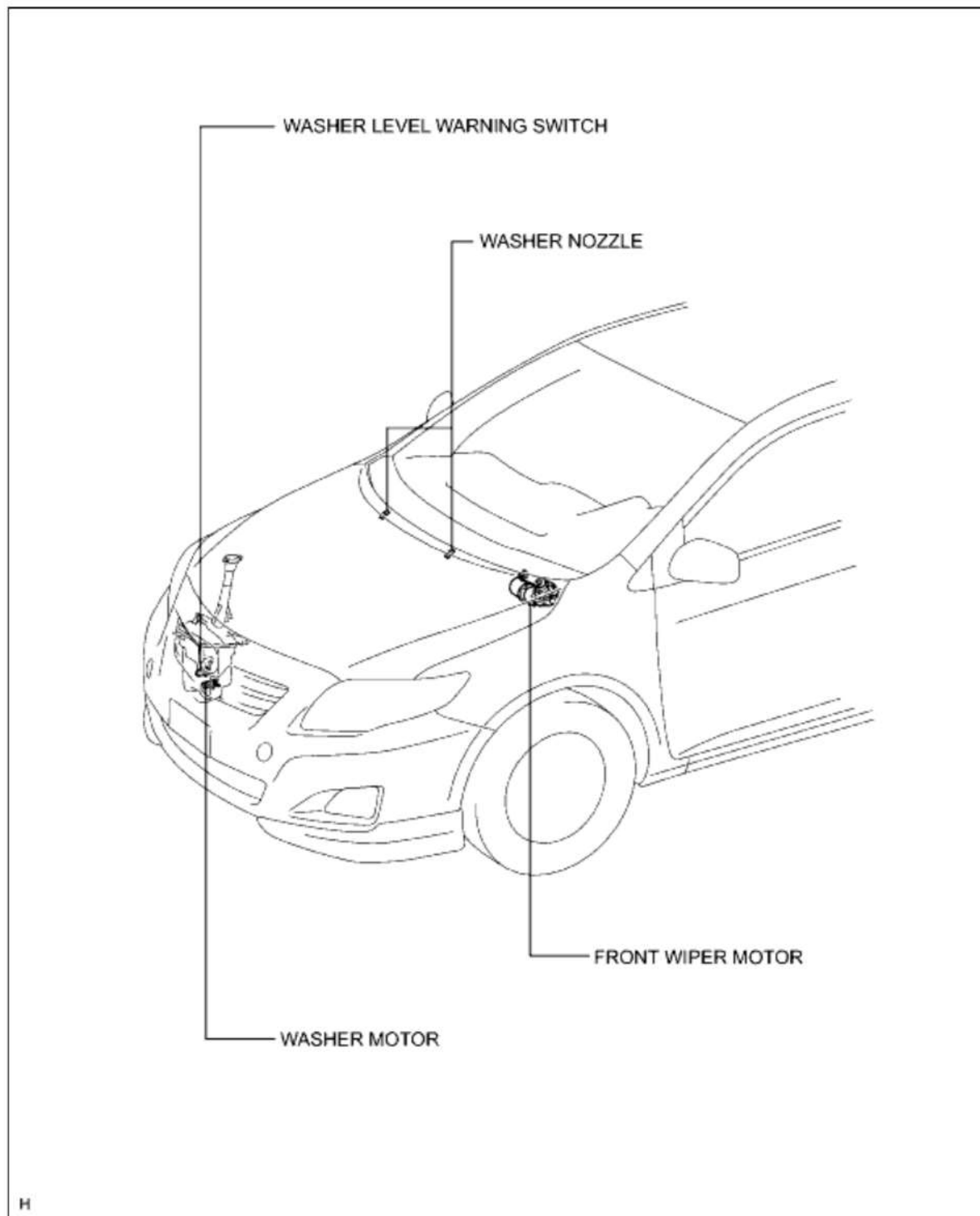
- (a) Do not clean or adjust the washer nozzle with a safety pin, etc. because:
- (1) the washer nozzle tip is made of resin and could be damaged.
 - (2) adjustment is not necessary for this spray type washer nozzle. If it is necessary to change the nozzle angle, replace the washer nozzle with one that 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.



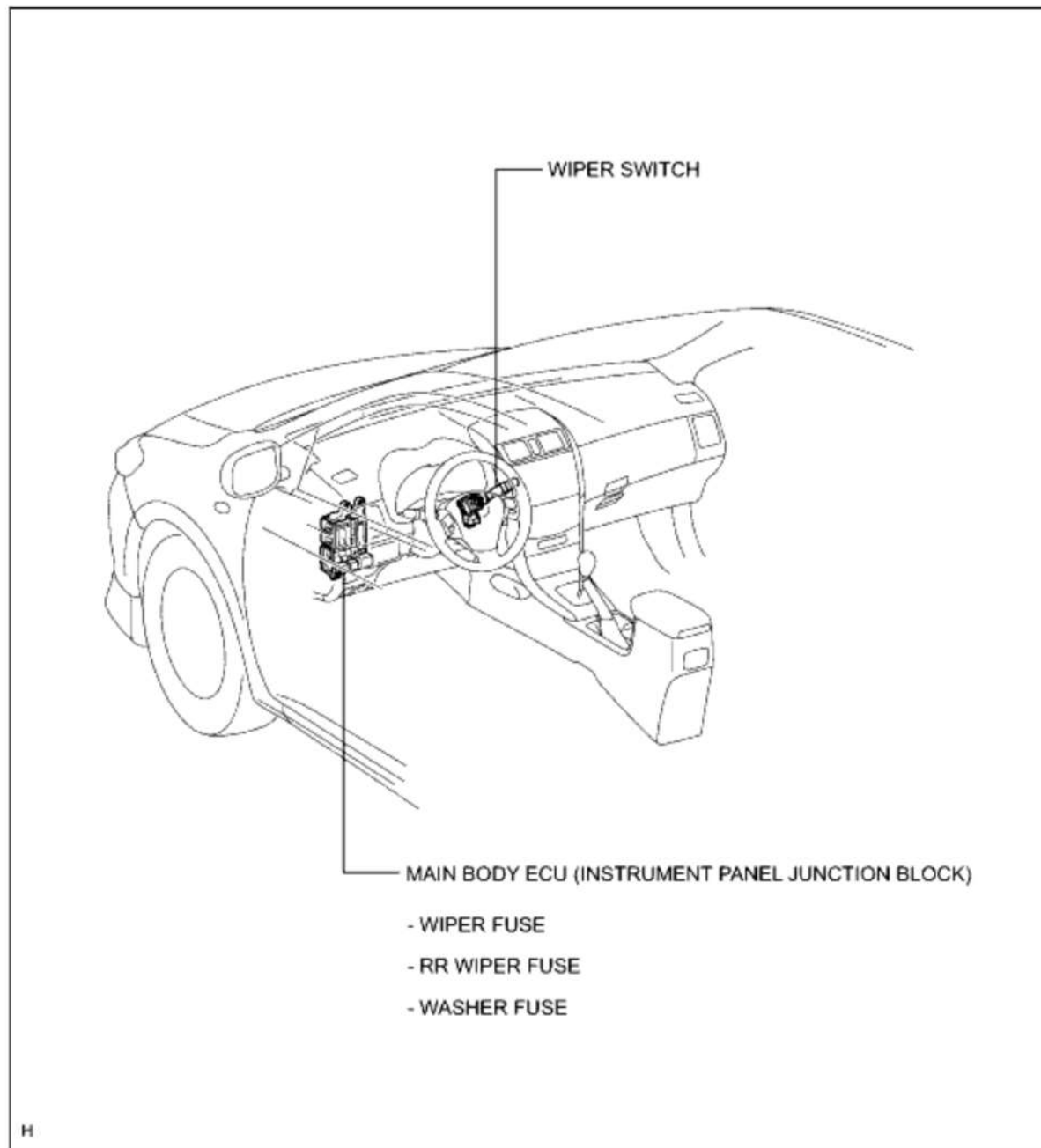
Last Modified: 3-10-2010	6.4 R	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM0000035M8008X
Title: WIPER / WASHER: WIPER AND WASHER SYSTEM: PARTS LOCATION (2010 Corolla)		

PARTS LOCATION

ILLUSTRATION

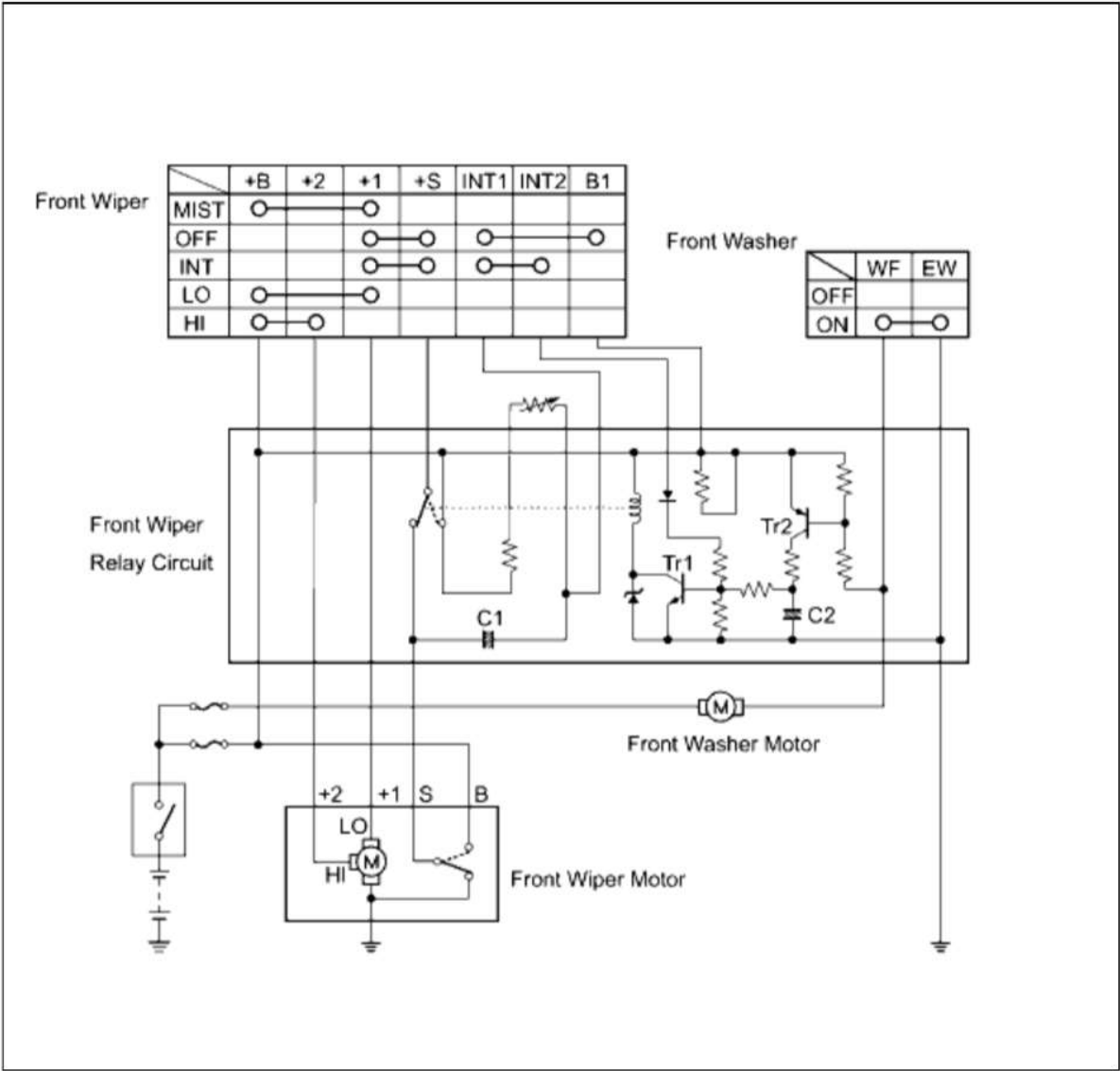


ILLUSTRATION



Last Modified: 3-10-2010	6.4 U	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM0000024I500CX
Title: WIPER / WASHER: WIPER AND WASHER SYSTEM: SYSTEM DIAGRAM (2010 Corolla)		

SYSTEM DIAGRAM



Last Modified: 3-10-2010	6.4 D	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM0000024I400CX
Title: WIPER / WASHER: WIPER AND WASHER SYSTEM: SYSTEM DESCRIPTION (2010 Corolla)		

SYSTEM DESCRIPTION

1. WASHER LINKED OPERATION

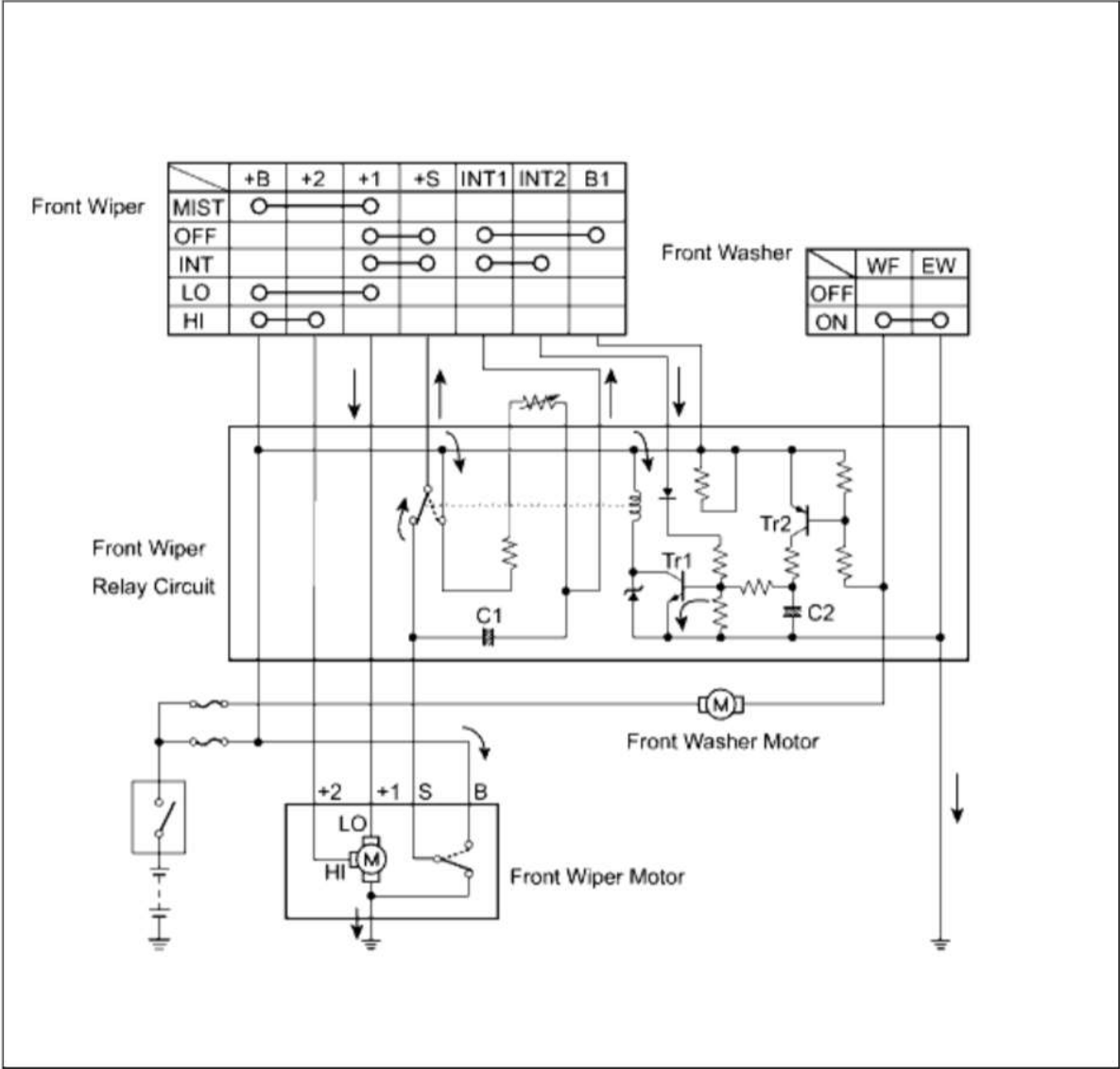
- (a) This system operates the front wipers at low speed immediately after a jet of washer fluid when the front washer switch is turned on for 0.3 seconds or more. The system operates the front wipers at low speed for approximately 2.2 seconds and then stops operation when the washer switch is turned 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 front wiper switch is turned to the INT position, current flows from the already charged capacitor C1 through terminals INT1 and INT2 of the front wiper switch to Tr1 (transistor). When Tr1 turns on, current flows from terminal +S of the front wiper switch to terminal +1 of the front wiper 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 and INT2 of the front wiper switch. When the current flows from capacitor C1 ends, Tr1 shuts off the relay to stop 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.



Last Modified: 3-10-2010	6.4 T	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM00000229U00RX
Title: WIPER / WASHER: WIPER AND WASHER SYSTEM: PROBLEM SYMPTOMS TABLE (2010 Corolla)		

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.

Wiper and Washer System

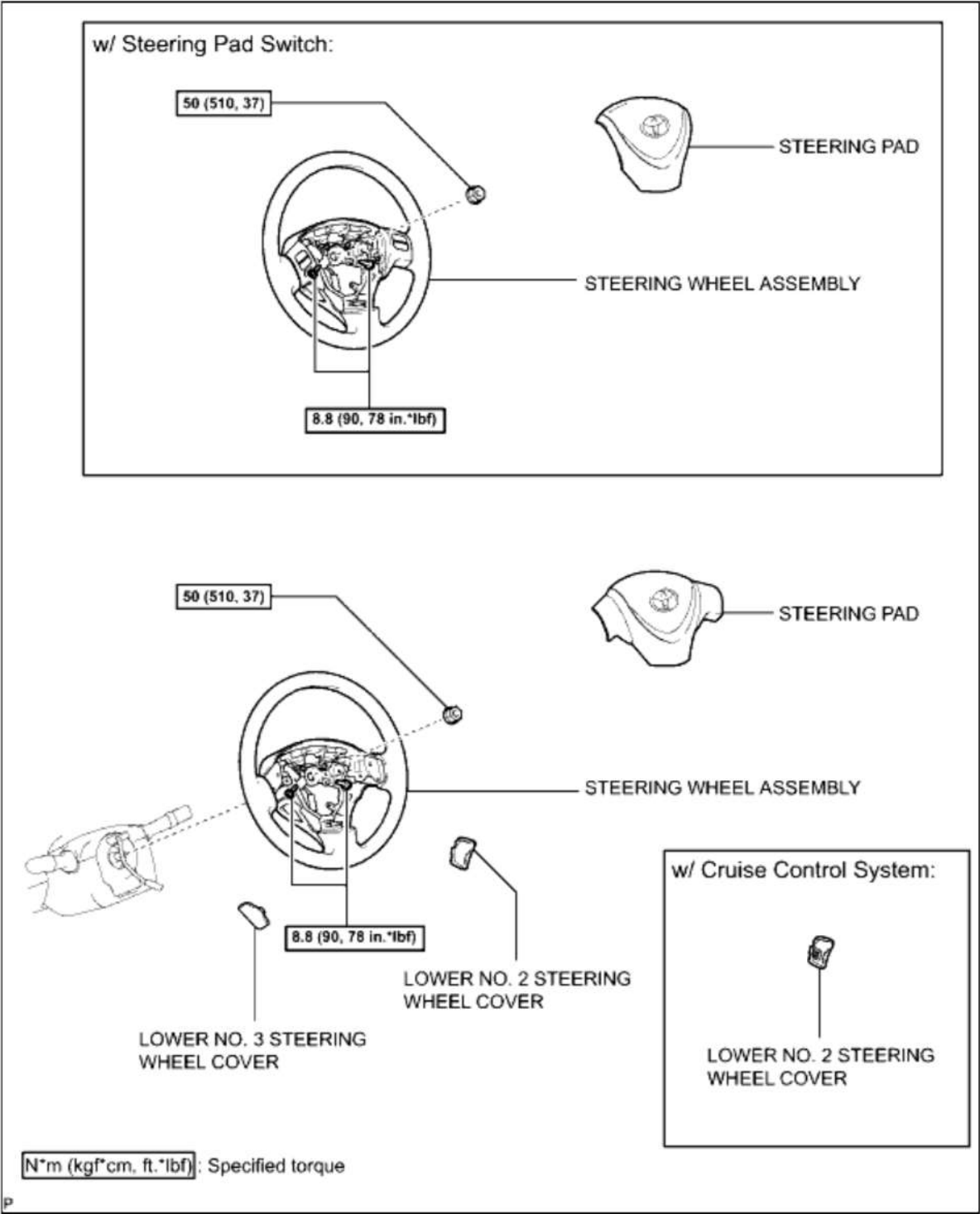
SYMPTOM	SUSPECTED AREA	SEE PAGE
Front wiper and washer system do not operate.	Windshield wiper switch	INFO
	Wire harness	-
Front wiper system does not operate in LO or HI.	WIPER fuse	-
	Windshield wiper switch	INFO
	Front wiper motor	INFO
	Wire harness	-
Front wiper system does not operate in INT.	WIPER fuse	-
	Windshield wiper switch	INFO
	Front wiper motor	INFO
	Wire harness	-
Front washer system does not operate.	WASHER fuse	-
	Windshield wiper switch	INFO
	Front washer motor	INFO
	Wire harness	-
Front wiper arms do not return to their original positions when wiper switch is turned off.	Front wiper motor	INFO
	Wire harness	-
Washer fluid level warning does not operate.	Washer level warning switch	INFO
	Combination meter	INFO
	Wire harness	-



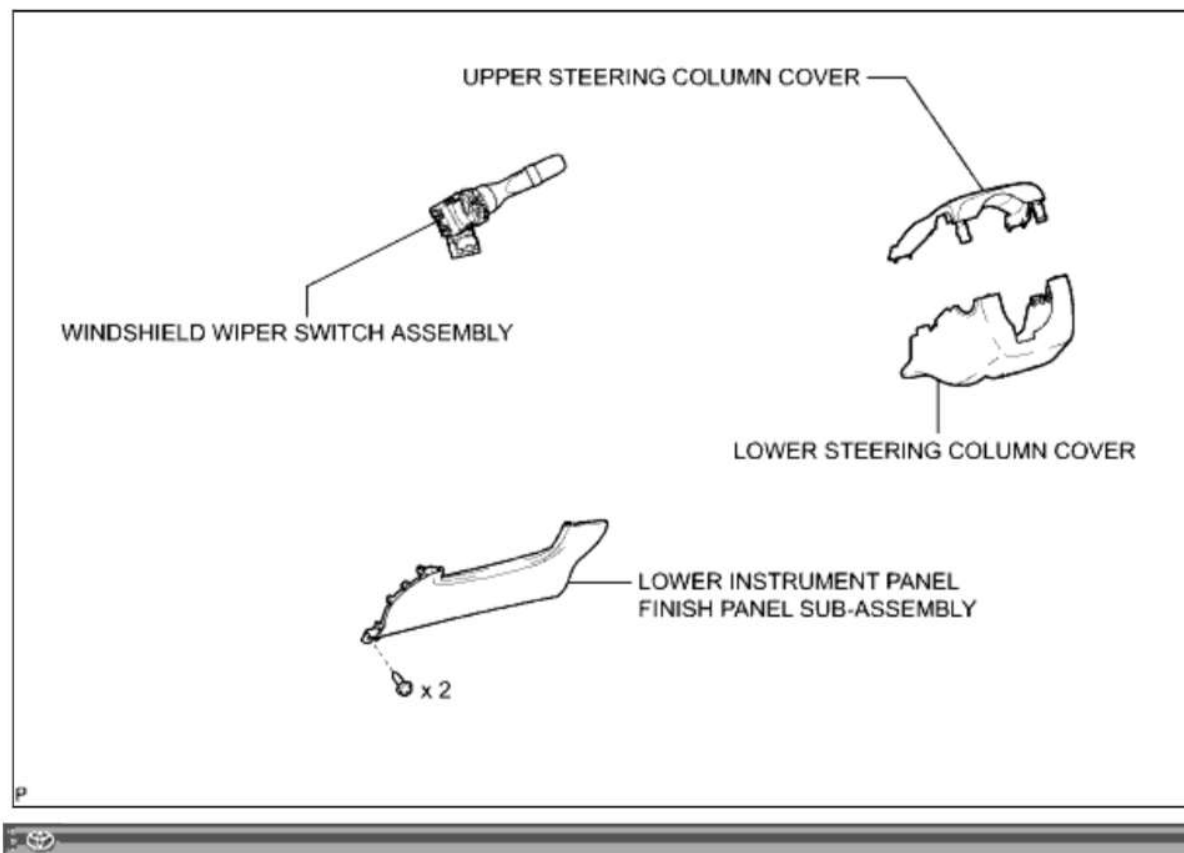
Last Modified: 3-10-2010	6.4 K	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XKE00IX
Title: WIPER / WASHER: WIPER SWITCH: COMPONENTS (2010 Corolla)		

COMPONENTS

ILLUSTRATION



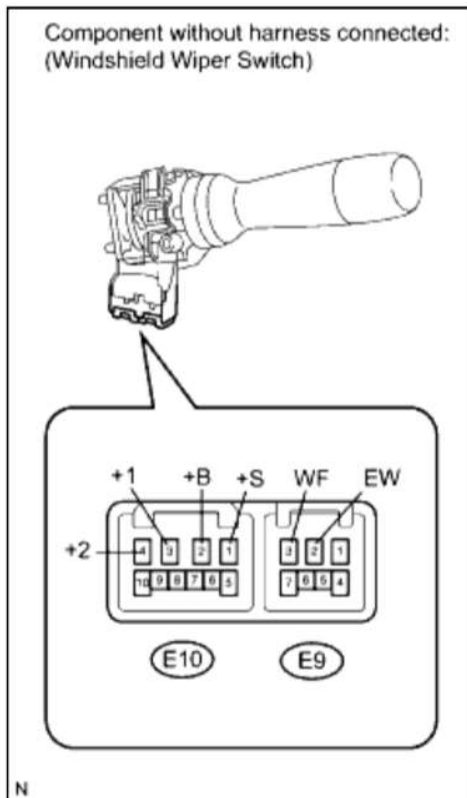
ILLUSTRATION



Last Modified: 3-10-2010	6.4 G	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XKD00QX
Title: WIPER / WASHER: WIPER SWITCH: INSPECTION (2010 Corolla)		

INSPECTION

1. INSPECT WINDSHIELD WIPER SWITCH ASSEMBLY



(a) Check the front wiper switch.

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
E10-1 (+S) - E10-3 (+1)	INT	Below 1 Ω
	OFF	
E10-2 (+B) - E10-3 (+1)	MIST	
	LO	
E10-2 (+B) - E10-4 (+2)	HI	

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

(b) Check the front washer switch.

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

Standard Resistance:

TESTER CONNECTION	SWITCH CONDITION	SPECIFIED CONDITION
E9-2 (EW) - E9-3 (WF)	ON	Below 1 Ω
	OFF	10 k Ω or higher

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

(c) Check intermittent operation (w/o Intermittent timing adjustment).

(1) Connect a voltmeter positive (+) lead to terminal E10-3 (+1) and a negative (-) lead to terminal E9-2 (EW).

(2) Connect a battery positive (+) lead to terminal E10-2 (+B) and a negative (-) lead to

terminals E9-2 (EW) and E10-1 (+S).

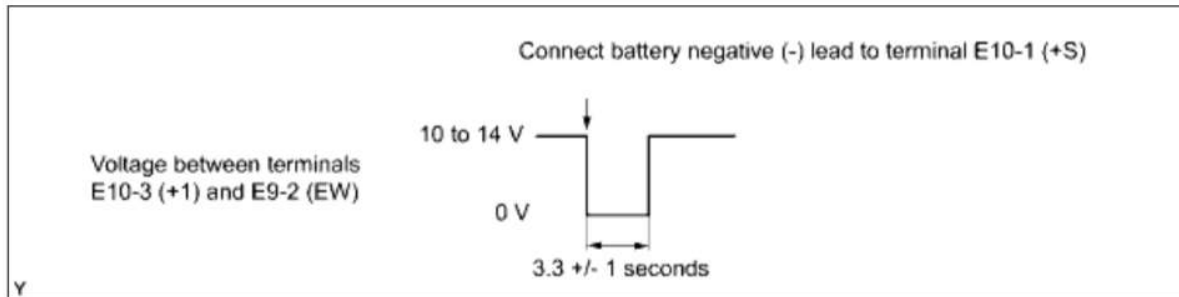
(3) Turn the front wiper switch to the INT position.

(4) Connect a battery positive (+) lead to terminal E10-1 (+S) for 5 seconds.

(5) Connect a battery negative (-) lead to terminal E10-1 (+S). Operate the intermittent wiper relay and check the voltage between terminals E10-3 (+1) and E9-2 (EW).

OK:

Voltage changes as shown in the following illustration.



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

(d) Check intermittent operation (w/ Intermittent timing adjustment).

(1) Connect a voltmeter positive (+) lead to terminal E10-3 (+1) and a negative (-) lead to terminal E9-2 (EW).

(2) Connect a battery positive (+) lead to terminal E10-2 (+B) and a negative (-) lead to terminals E9-2 (EW) and E10-1 (+S).

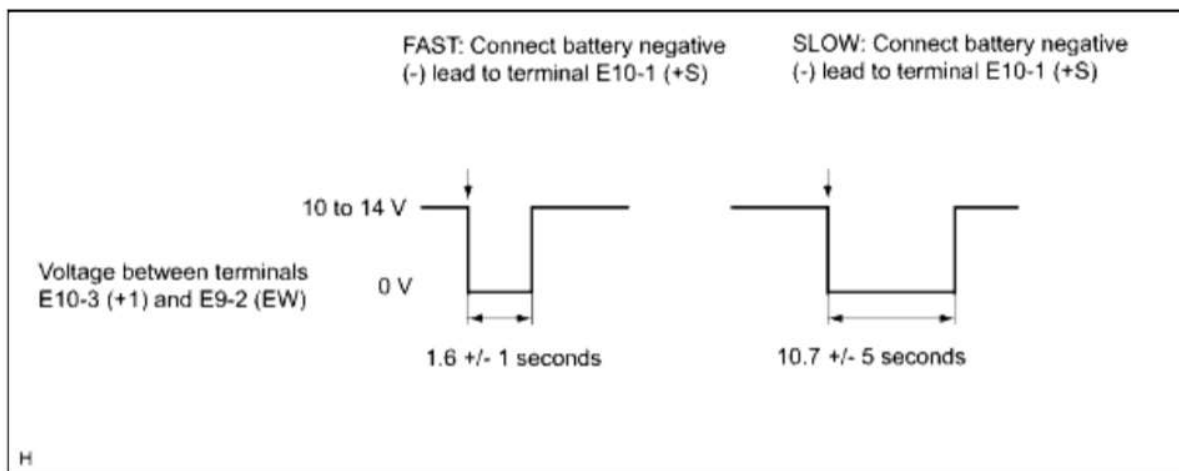
(3) Turn the front wiper switch to the INT position.

(4) Connect a battery positive (+) lead to terminal E10-1 (+S) for 5 seconds.

(5) Connect a battery negative (-) lead to terminal E10-1 (+S). Operate the intermittent wiper relay and check the voltage between terminals E10-3 (+1) and E9-2 (EW).

OK:

Voltage changes as shown in the illustration below.



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

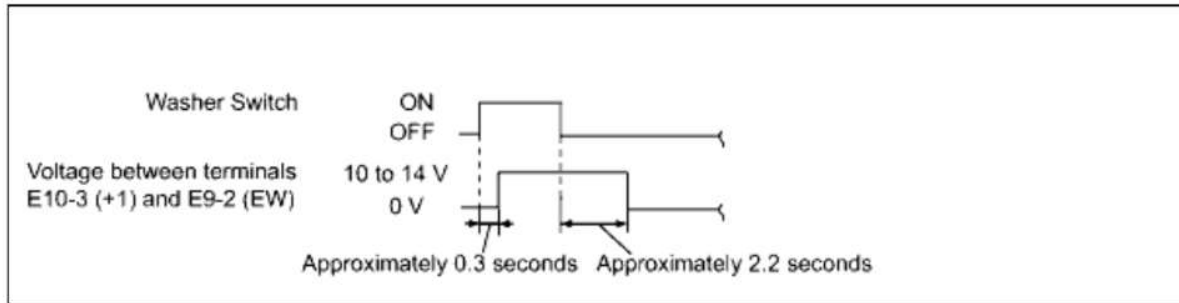
(e) Check front washer operation.

(1) Turn the front washer switch OFF.

- (2) Connect a battery positive (+) lead to terminal E10-2 (+B) and a negative (-) lead to terminals E10-1 (+S) and E9-2 (EW).
- (3) Connect a voltmeter positive (+) lead to E10-3 (+1) and a negative (-) lead to terminal E9-2 (EW).
- (4) Turn the front washer switch ON and OFF, and check the voltage between terminals E10-3 (+1) and E9-2 (EW).

OK:

Voltage changes as shown in the following illustration.



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



TOYOTA

Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XKF00LX
Title: WIPER / WASHER: WIPER SWITCH: REMOVAL (2010 Corolla)		

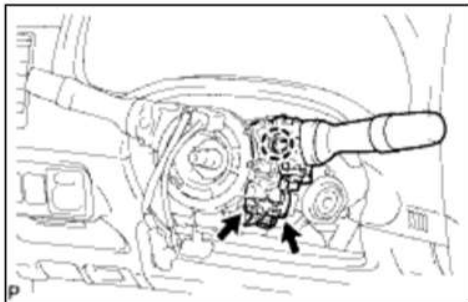
REMOVAL

1. ALIGN FRONT WHEELS FACING STRAIGHT AHEAD
2. DISCONNECT CABLE FROM NEGATIVE BATTERY TERMINAL

CAUTION:

Wait for 90 seconds after disconnecting the cable to prevent airbag deployment INFO.

3. REMOVE LOWER NO.3 STEERING WHEEL COVER INFO
4. REMOVE LOWER NO.2 STEERING WHEEL COVER INFO
5. REMOVE STEERING PAD INFO
6. REMOVE STEERING WHEEL ASSEMBLY INFO
7. REMOVE LOWER INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY INFO
8. REMOVE LOWER STEERING COLUMN COVER INFO
9. REMOVE UPPER STEERING COLUMN COVER INFO
10. REMOVE WINDSHIELD WIPER SWITCH ASSEMBLY



(a) Disconnect the 2 connectors.

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

NOTICE:

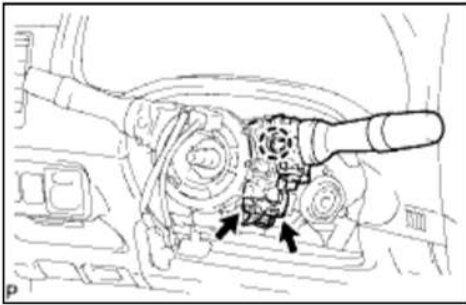
If the claw is pushed with excessive force, it may break.



Last Modified: 3-10-2010	6.4 A	From: 200901
Model Year: 2010	Model: Corolla	Doc ID: RM000002XKC00LX
Title: WIPER / WASHER: WIPER SWITCH: INSTALLATION (2010 Corolla)		

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 [INFO](#)

3. INSTALL LOWER STEERING COLUMN COVER [INFO](#)

4. INSTALL LOWER INSTRUMENT PANEL FINISH PANEL SUB-ASSEMBLY [INFO](#)

5. TURN FRONT WHEELS TO FACE STRAIGHT AHEAD

6. ADJUST SPIRAL CABLE [INFO](#)

7. INSTALL STEERING WHEEL ASSEMBLY [INFO](#)

8. INSTALL STEERING PAD [INFO](#)

9. INSTALL LOWER NO.3 STEERING WHEEL COVER [INFO](#)

10. INSTALL LOWER NO.2 STEERING WHEEL COVER [INFO](#)

11. INSPECT STEERING WHEEL CENTER POINT

12. CONNECT CABLE TO NEGATIVE BATTERY TERMINAL

13. INSPECT STEERING PAD [INFO](#)

14. INSPECT SRS WARNING LIGHT

[INFO](#)