

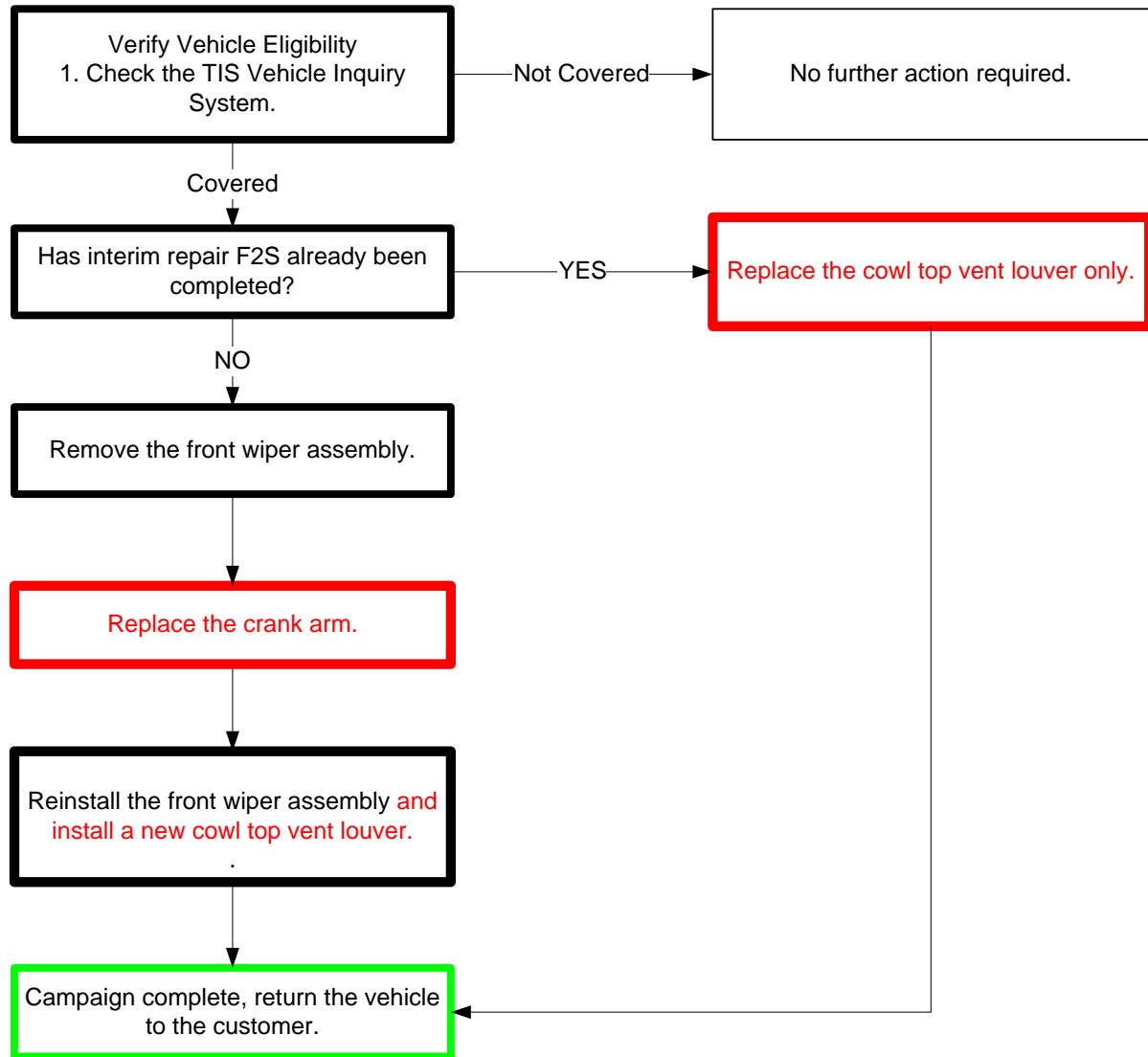
TECHNICAL INSTRUCTIONS (REMEDY)
FOR
SAFETY RECALL F0S
FRONT WIPER CRANK ARM
CERTAIN 2009 - 2012 MODEL YEAR RAV4
AND
CERTAIN 2012 - 2014 MODEL YEAR RAV4 EV

The repair quality of covered vehicles is extremely important to Toyota. All dealership technicians performing this recall are required to successfully complete the most current version of the E-Learning course “Safety Recall and Service Campaign Essentials”. To ensure that all vehicles have the repair performed correctly; technicians performing this recall repair are required to currently hold at least one of the following certification levels:

- Toyota Certified (Any Specialty)
- Toyota Expert (Any Specialty)
- Master
- Master Diagnostic Technicians

Always check which technicians can perform the recall remedy by logging on to <https://www.uotdealerreports.com>. It is the dealership’s responsibility to select technicians with the above certification level or greater to perform this recall repair. Carefully review your resources, the technician skill level, and ability before assigning technicians to this repair. It is important to consider technician days off and vacation schedules to ensure there are properly trained technicians available to perform this repair at all times.

I. OPERATION FLOW CHART



II. IDENTIFICATION OF AFFECTED VEHICLES

A. COVERED VIN RANGE

- Check the TIS Vehicle Inquiry System to confirm the VIN is involved in this Safety Recall, and that the campaign has not already been completed prior to dealer shipment or by another dealer.
- TMS warranty will not reimburse dealers for repairs conducted on vehicles that are not affected or were completed by another dealer.

III. PREPARATION

A. PARTS

Part Number	Part Description	Quantity
04005-47342	Ft. Wiper Crank Arm	1
04005-6310R	Cowl Top Vent Louver*	1

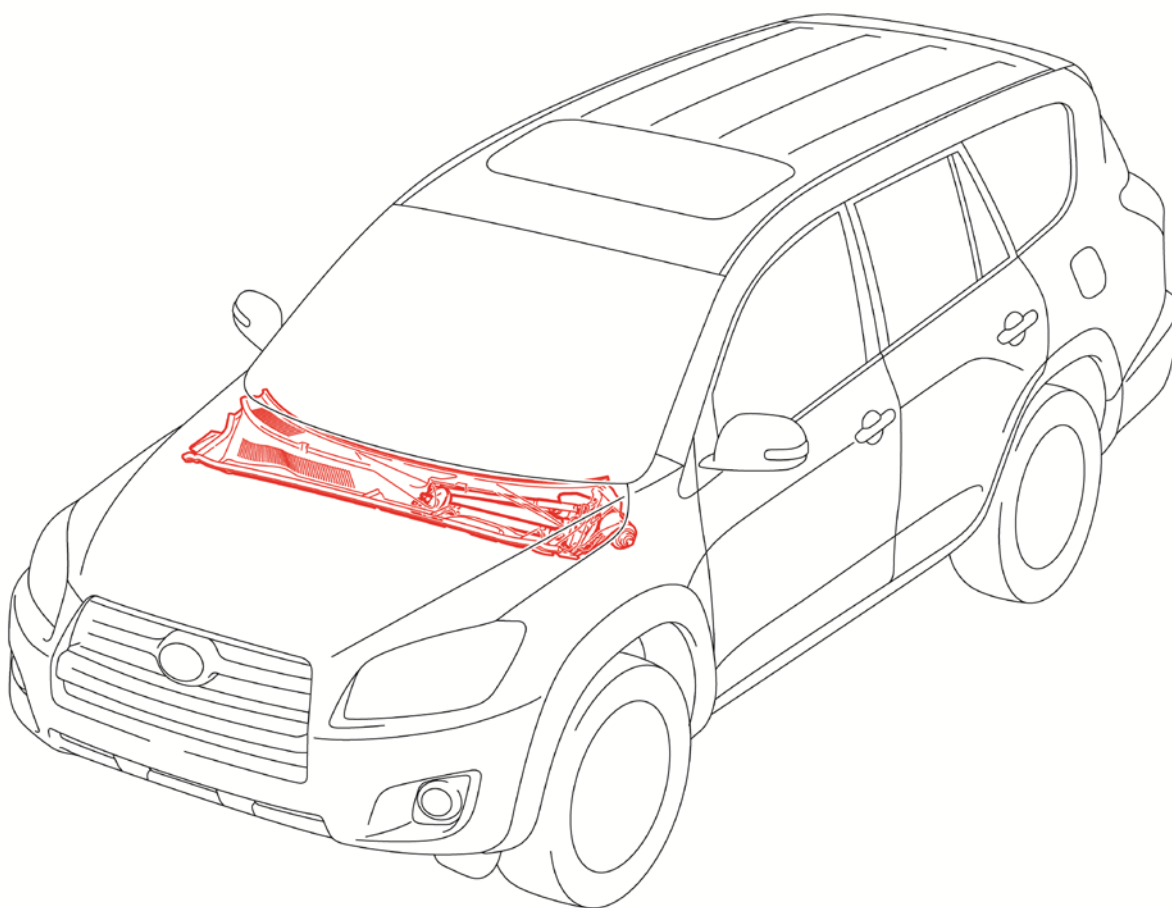
NOTE: * If Interim repair F2S has already been completed, only the Cowl Top Vent Louver needs to be replaced.

B. TOOLS & EQUIPMENT

- Standard hand tools
- Torque wrench

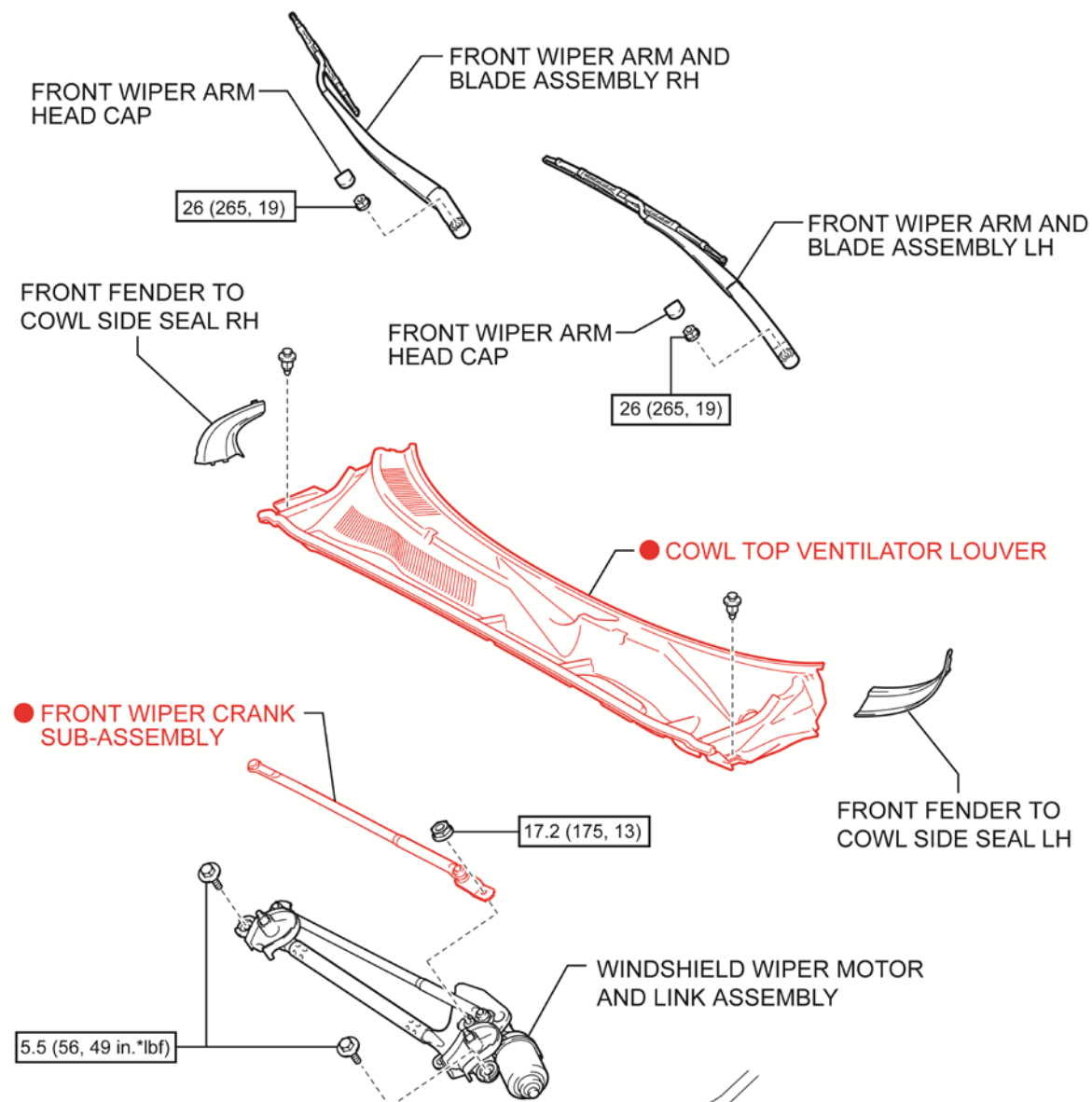
IV. BACKGROUND

In the involved vehicles, water dripping onto the windshield wiper motor link can, over time, cause corrosion and wear at the wiper motor link joint. In some cases this could result in the separation of the wiper link from the wiper motor crank arm. If separation occurs, the windshield wipers could become inoperative, which could reduce driver visibility and increase the risk of a vehicle crash.



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V. COMPONENTS



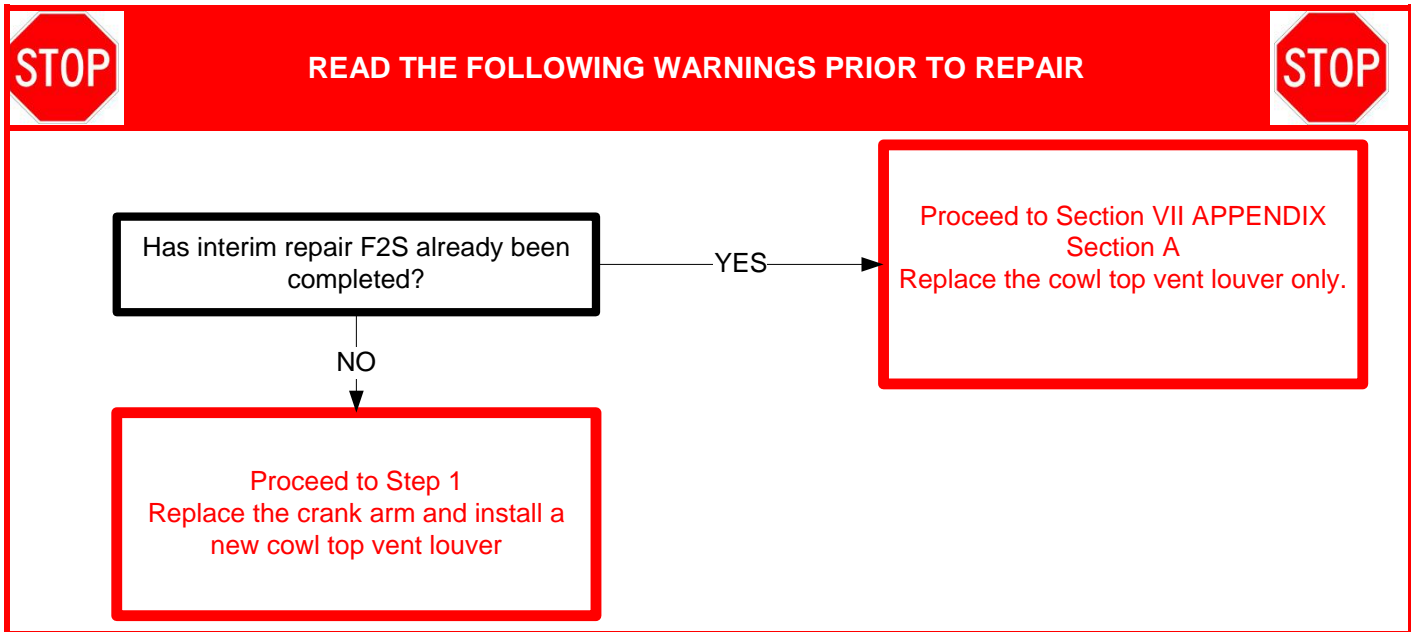
● : Replacement part

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

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- If the interim repair has already been completed replace the cowl top louver only.

VI. WORK PROCEDURE



1. SET WIPER POSTION

- Turn IG "ON"
- Turn on the wipers.
- Turn off the wipers.
- Turn IG "OFF".

NOTE: Allow enough time for the wipers to return to the park postion prior to turning IG "OFF".

2. REMOVE THE WIPER MOTOR AND LINKAGE

RAV4	2009	2010	2011	2012
RAV4 EV	2012	2013	2014	



READ THE FOLLOWING WARNINGS PRIOR TO WIPER MOTOR REMOVAL

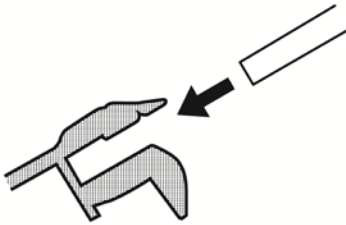


These cautions should be observed when performing this campaign. Failure to follow these cautions could result in damage to the vehicle or inadequate repair quality.

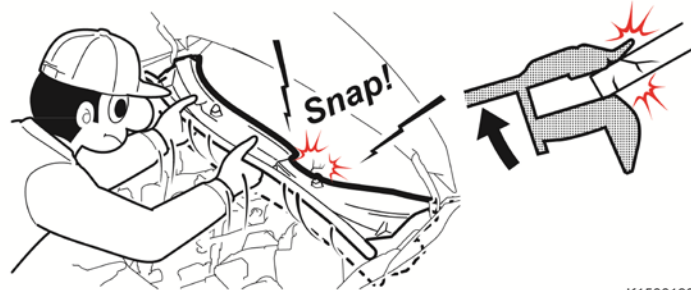
PRECAUTION WHEN REMOVING THE COWL LOUVER

Always pull the louver down until it disengages from the windshield before removal. If the louver is pulled upward prior disengaging it from the windshield, the windshield could crack.

OK Straight out



NG At an angle



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NG



Protective tape

K1500180010

PRECAUTIONS WHEN HANDLING THE GLASS EDGE

To prevent the glass from breaking, clean it and apply protective tape to the bottom edge so that tools and other items **DO NOT** directly contact the glass.

DO NOT put your hand on the bottom edge of the glass to support your weight. The glass could break because there is no support on the rear side of the glass.

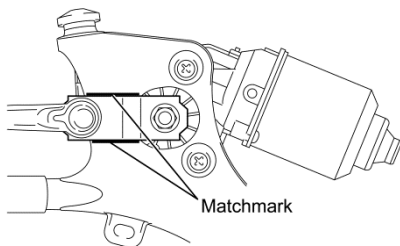
NG



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PRECAUTION WITH THE FRONT WIPER LINKAGE

DO NOT excessively bend the front wiper linkage.

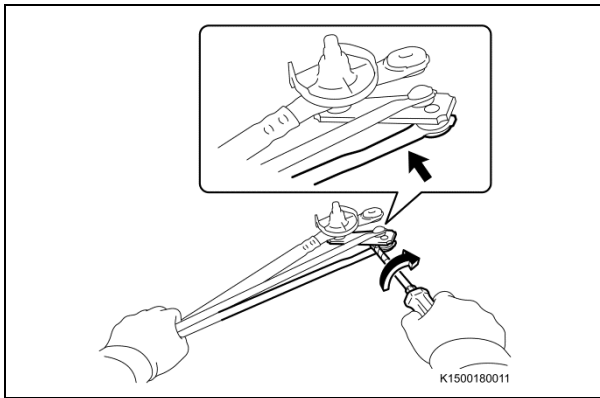


Matchmark

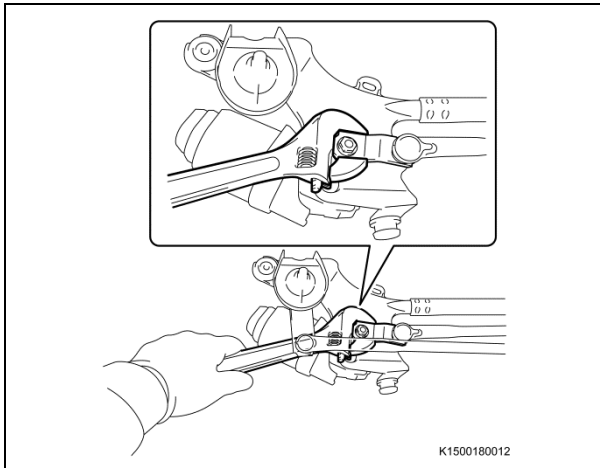
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3. REMOVE THE MOTOR FROM THE LINKAGE

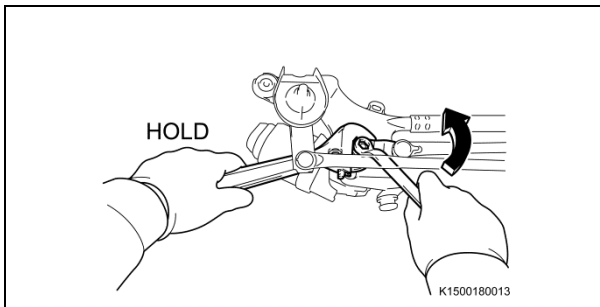
- Place matchmarks on the wiper motor on each side of the crank arm as shown.



- b) Using a screwdriver wrapped in tape as shown.
- c) Disconnect the wiper link from the crank arm.

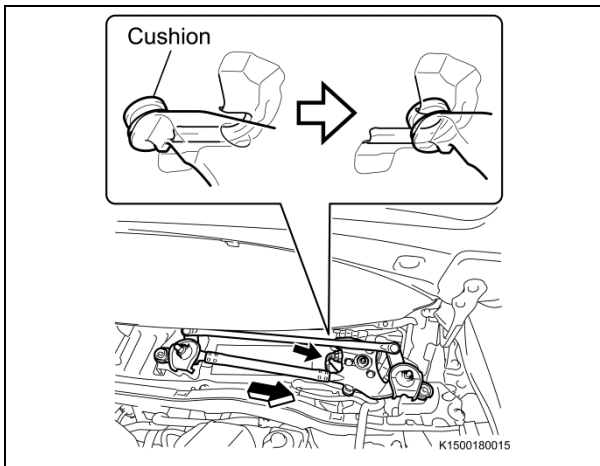


- d) Hold the crank arm with an adjustable wrench as shown.



- e) Remove the nut that holds the crank arm to the wiper motor.

NOTE: The nut will be reused.

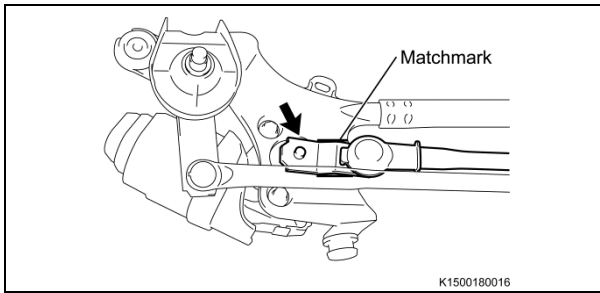


4. INSTALL THE NEW WIPER CRANK

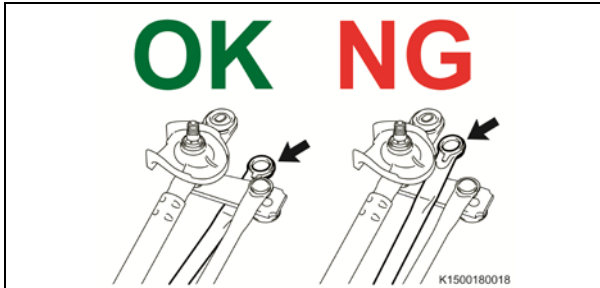
- a) Reconnect the electrical connector for the wiper motor.
- b) Engage the cushion for the linkage into the body as shown.
- c) Temporarily install the 2 bolts.
- d) Turn IG "ON".
- e) Turn the wipers on.
- f) Turn the wipers off.



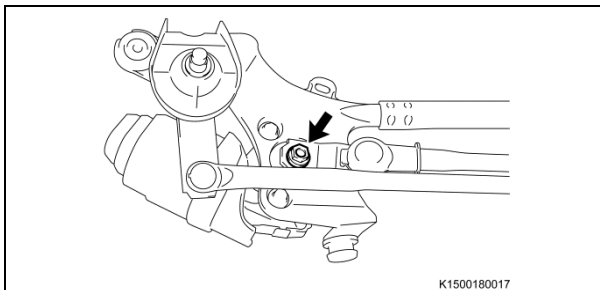
This step is necessary to ensure that the wiper motor is in the park position. DO NOT turn IG off prior to the wiper motor being in the park position.



- g) Turn the IG "OFF".
- h) Remove the motor and linkage from the vehicle.
- i) Disconnect the connector for the motor.
- j) Align the NEW crank arm with the matchmarks on the wiper motor and linkage, and insert it onto the motor shaft.

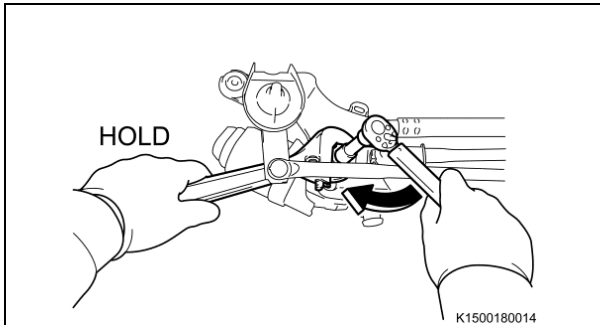


STOP The crank arm and linkage cannot be connected as shown. However, by passing the crank arm under the linkage it will correctly position the arm.



- k) Reinstall the nut and hand tighten.

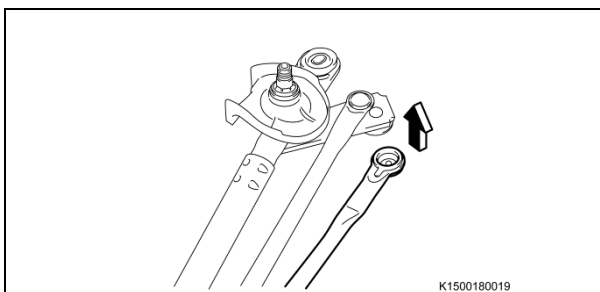
STOP To ensure that the crank arm is in the correct position hand tighten the nut until the crank arm is seated.



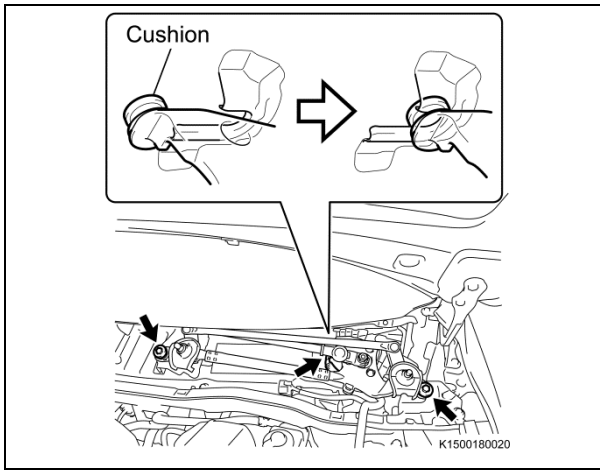
- l) Hold the crank arm with an adjustable wrench and tighten the nut.

Torque: 17.2 N*m (175 kgf*cm, 13 ft*lbf)

STOP Securely hold the crank arm with the adjustable wrench to ensure that the crank arm does not move.



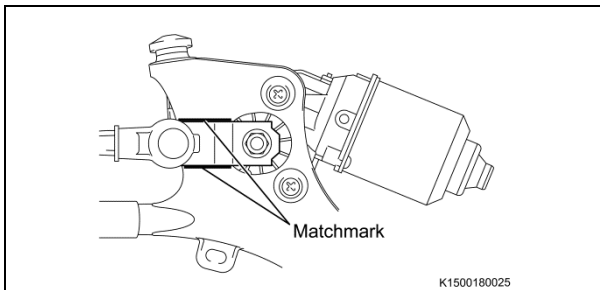
- m) Position and align the crank arm and linkage then connect them.



- n) Reconnect the motor connector.
- o) Engage the cushion of the motor and linkage onto the vehicle.
- p) Install the 2 bolts.
Torque: 5.5 N*m (56 kgf*cm, 49 in*lb)
- q) Start engine and cycle the wipers.



This step is necessary to ensure that the wiper motor is in the park position. DO NOT turn the vehicle off prior to the wiper motor being in the park position. Having the engine running ensures correct voltage to the wiper motor.



- r) Check that the position of the crank arm and the matchmarks are properly aligned.



If the crank arm and the match marks do not align, cycle the wipers again to double check. If the crank arm is still not aligned return to Section VI Step 1.

- s) Turn off the engine.

5. REINSTALL THE WIPER MOTOR AND LINKAGE AND INSTALL A NEW COWL TOP LOUVER

RAV4
RAV4 EV

[2009](#)
[2012](#)

[2010](#)
[2013](#)

[2011](#)
[2014](#)

[2012](#)

6. VERIFY CORRECT FRONT WIPER OPERATION

7. PREFORM ANY NEEDED SYSTEM INITIALIZATIONS

◀ VERIFY REPAIR QUALITY ▶

If you have any questions regarding this repair, please contact your regional representative.

VII. APPENDIX

A. REPLACE THE COWL TOP VENT LOUVER ONLY

NOTE: The following instructions are for replacing the cowl top vent louver only on vehicles that have had interim repair F2S already completed.



READ THE FOLLOWING WARNINGS PRIOR TO REPLACING THE COWL TOP VENT LOUVER

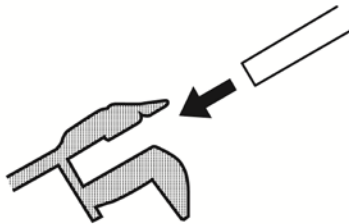


These cautions should be observed when performing this repair. Failure to follow these cautions could result in damage to the vehicle or inadequate repair quality.

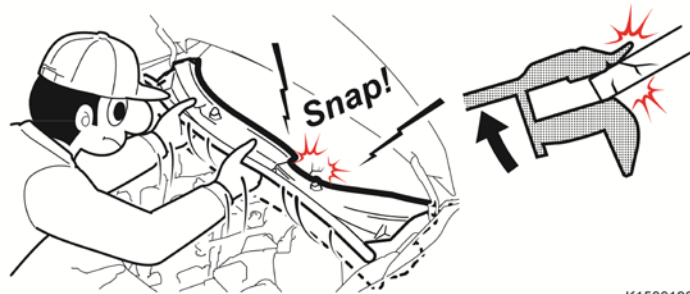
PRECAUTION WHEN REMOVING THE COWL LOUVER

Always pull the louver down until it disengages from the windshield before removal. If the louver is pulled upward prior to disengaging it from the windshield, the windshield could crack.

OK Straight out



NG At an angle



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NG



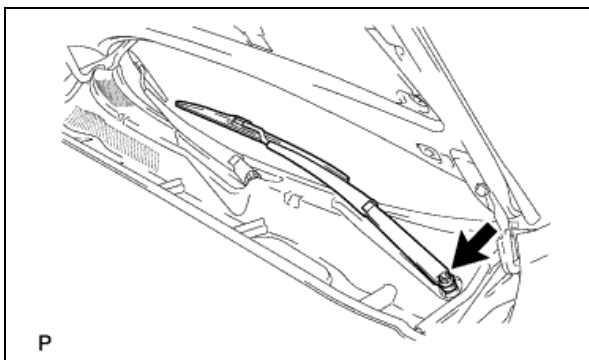
Protective tape

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PRECAUTIONS WHEN HANDLING THE GLASS EDGE

To prevent the glass from breaking, clean it and apply protective tape to the bottom edge so that tools and other items **DO NOT** directly contact the glass.

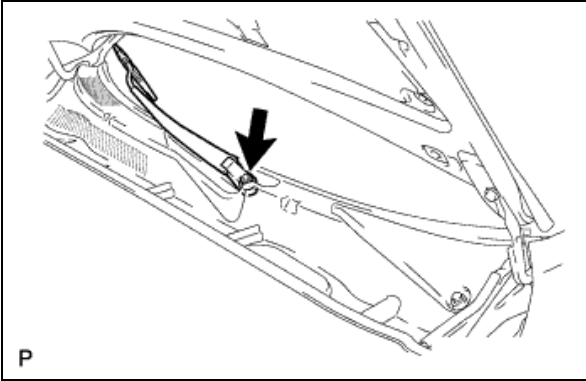
DO NOT put your hand on the bottom edge of the glass to support your weight. The glass could break because there is no support on the rear side of the glass.



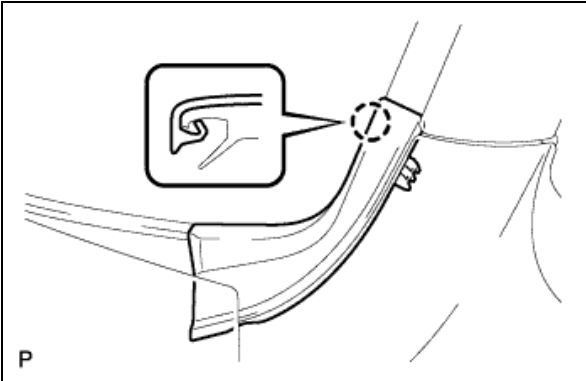
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1. REMOVE THE FRONT WIPER ARMS

- Remove the left wiper arm cap
- Remove the nut for the left wiper arm.
- Remove the wiper arm.

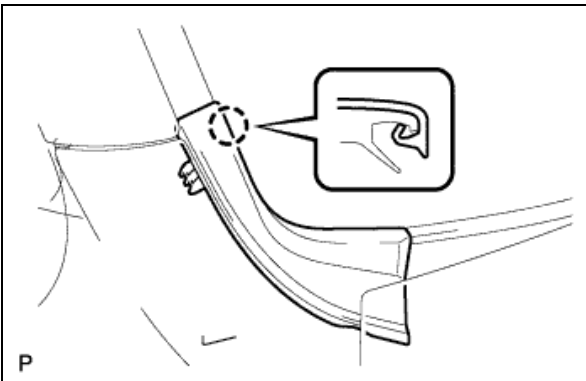


- d) Remove the right wiper arm cap
- e) Remove the nut for the right wiper arm.
- f) Remove the wiper arm.

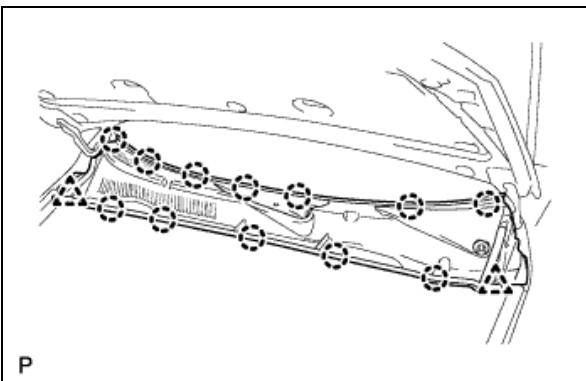


2. REMOVE THE FRONT COWL SEALS

- a) Detach the claw and remove the left front cowl seal.

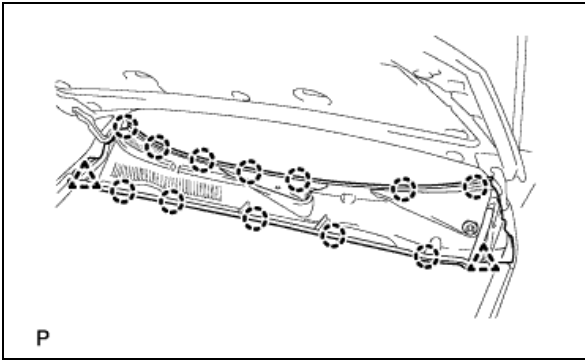


- b) Detach the claw and remove the right front cowl seal.



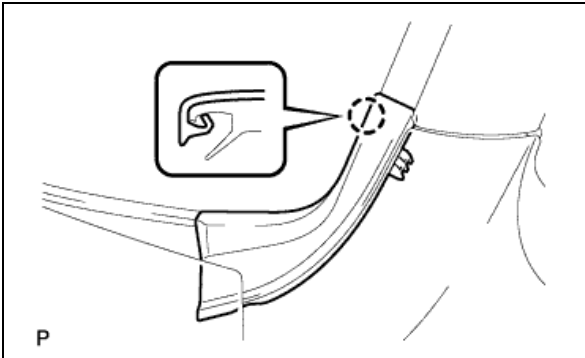
3. REMOVE THE COWL TOP VENT LOUVER

- a) Remove the 2 clips.
- b) Detach the 12 claws and remove the louver.
- c) Mark the old louver so it is not reused.



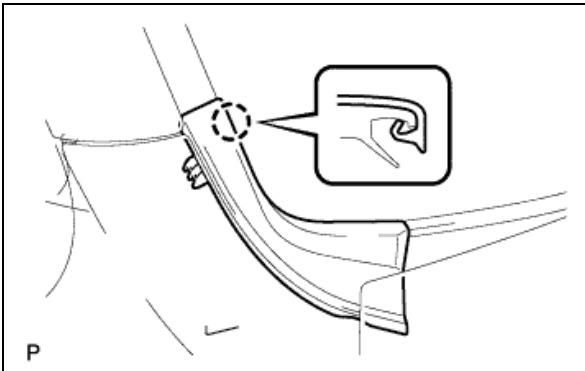
4. INSTALL THE NEW COWL TOP VENT LOUVER

- a) Install the new louver.
- b) Attach the 12 claws.
- c) Reinstall the 2 clips.

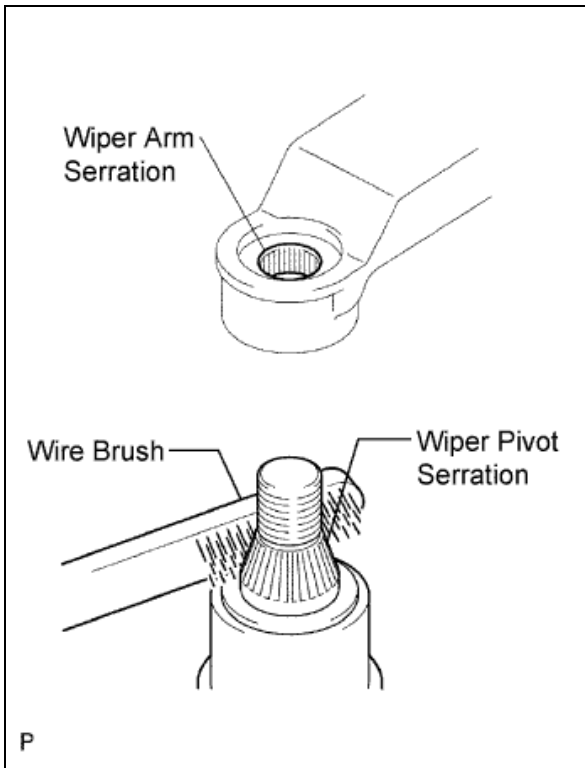


5. REINSTALL THE FRONT COWL SEALS

- a) Reattach the claw to reinstall the left side seal.

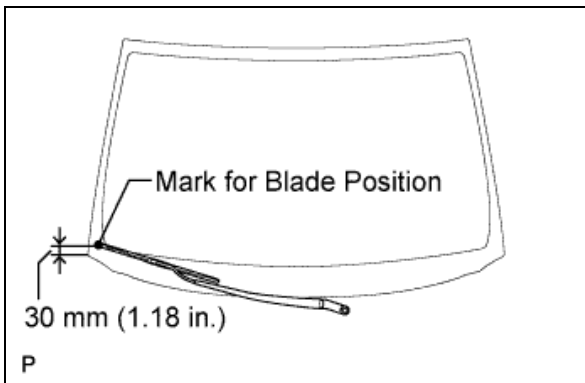


- b) Reattach the claw to reinstall the right side seal.

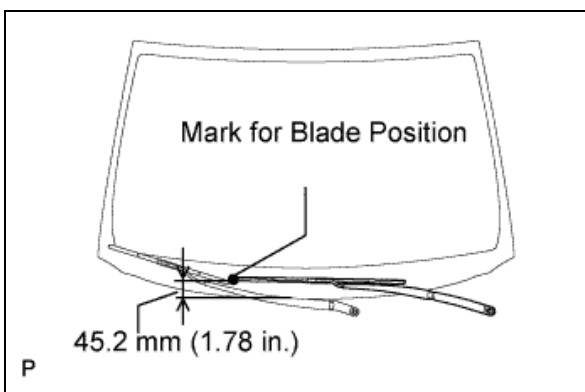


6. REINSTALL THE WIPER ARMS

- Turn IG "ON"
- Turn on the wipers.
- Turn off the wipers.
- Turn IG "OFF".
- NOTE: Allow enough time for the wipers to return to the park position prior to turning IG "OFF".**
- Clean both wiper arm serrations with a round file or equivalent.
- Clean both wiper pivot serrations with a wire brush.



- Reinstall the right wiper arm and nut.
Torque: 26 N·m (265 kgf·cm, 19 ft lbf)
NOTE: Ensure to position the arm and blade as shown.



- Reinstall the left wiper arm and nut.
Torque: 26 N·m (265 kgf·cm, 19 ft lbf)
NOTE: Ensure to position the arm and blade as shown.
- Operate the front washers and wipers and check that there is no interference between the blades and the pillar.
- Reinstall the left and right wiper arm caps.

7. VERIFY CORRECT FRONT WIPER OPERATION

B. CAMPAIGN DESIGNATION DECODER

