TECHNICAL INSTRUCTIONS (INTERIM)

FOR

SAFETY RECALL F2S

FRONT WIPER CRANK ARM

CERTAIN 2009 - 2012 MODEL YEAR RAV4

AND

CERTAIN 2012 - 2014 MODEL YEAR RAV4 EV

NOTE: These technical instruction are for the interim repair, all vehicles will need to return to have the cowl top lover replaced at a later date.

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

Verify Vehicle Eligibility
1. Check the TIS Vehicle Inquiry System.

Not Covered → No further action required.

Covered →

Remove the front wiper assembly.

Replace the crank arm.

Reinstall the front wiper assembly.

Campaign complete, return the vehicle to the customer.

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

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Part Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>04005-47342</td>
<td>Ft. Wiper Crank Arm</td>
<td>1</td>
</tr>
</tbody>
</table>

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.

Due to the remedy parts production lead time, Toyota will begin an interim repair on vehicles most likely to experience the condition. The interim repair will be initiated in the 20 cold climate states and the District of Columbia: CT, DE, IL, IN, KY, MA, MD, ME, MI, MN, NH, NJ, NY, OH, PA, RI, VA, VT, WI, WV.
VI. WORK PROCEDURE

1. SET WIPER POSTION
   a) Turn IG “ON”
   b) Turn on the wipers.
   c) Turn off the wipers.
   d) Turn IG “OFF”.
   
   NOTE: Allow enough time for the wipers to go to the park postion prior to turning IG “OFF”.

2. REMOVE THE WIPER MOTOR AND LINKAGE

<table>
<thead>
<tr>
<th>Model</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAV4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RAV4 EV</td>
<td></td>
<td></td>
<td>2013</td>
<td>2014</td>
</tr>
</tbody>
</table>

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

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.

PRECAUTION WITH THE FRONT WIPER LINKAGE

**DO NOT** excessively bend the front wiper linkage.
3. REMOVE THE MOTOR FROM THE LINKAGE

a) 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.

   ![](image1.png)

   **STOP**
   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.

   ![](image2.png)

   **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.

   ![](image3.png)

   **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)**

   ![](image4.png)

   **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*lbf)

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 matchmarks 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
   RAV4
   2009
   2010
   2011
   2012
   RAV4 EV
   2012
   2013
   2014

6. VERIFY CORRECT FRONT WIPER OPERATION
VII. APPENDIX

A. CAMPAIGN DESIGNATION DECODER

<table>
<thead>
<tr>
<th>C</th>
<th>0</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year Campaign is Launched</td>
<td>Repair Phase</td>
<td>Current Campaign Letter for this year</td>
</tr>
<tr>
<td>8 = 2008</td>
<td>0 = Remedy</td>
<td>1st Campaign = A</td>
</tr>
<tr>
<td>9 = 2009</td>
<td>1 = Interim (Remedy not yet available) “1” will change to “0” when the Remedy is available</td>
<td>2nd Campaign = B</td>
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<tr>
<td>A = 2010</td>
<td></td>
<td>3rd Campaign = C</td>
</tr>
<tr>
<td>B = 2011</td>
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<td>4th Campaign = D</td>
</tr>
<tr>
<td>C = 2012</td>
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<td>5th Campaign = E</td>
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<tr>
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<td>9th Campaign = I</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Etc...</td>
</tr>
</tbody>
</table>

Examples:
- A0D = Launched in 2010, Remedy Phase, 4th Campaign Launched in 2010
- B1E = Launched in 2011, Interim Phase, 5th Campaign Launched in 2011
- C1C = Launched in 2012, Interim Phase, 3rd Campaign Launched in 2012