

Toyota Motor Sales, U.S.A., Inc. 19001 South Western Avenue, S207 Torrance, CA 90509-2991

TMS-NTC-13088 March 29, 2013

Recall Management Division National Highway Traffic Safety Administration 1200 New Jersey Avenue, SE Washington, DC 20590

Re: Toyota Safety Recall 12V-373 – Updated Remedy Instructions

To whom it may concern,

Please find attached Updated Remedy Instructions for Toyota Safety Recall 12V-373 on the following Toyota and Lexus vehicles:

- 2006 to Early 2011 Model Year RAV4
- 2010 Model Year HS250h

If you have any questions regarding this matter, please contact me at (310) 468-5316.

Sincerely,

Quality Compliance Assistant Manager

MI J. K

#### Attachments:

- Lexus 12V-373 (CLE) Updated Remedy Instructions
- Toyota 12V-373 (C0J) Updated Remedy Instructions

### **IMPORTANT UPDATE MARCH 28, 2013**

# FOR SAFETY RECALL COJ REAR LOWER SUSPENSION ARM No.1 2006 – EARLY 2011 MODEL YEAR RAV4

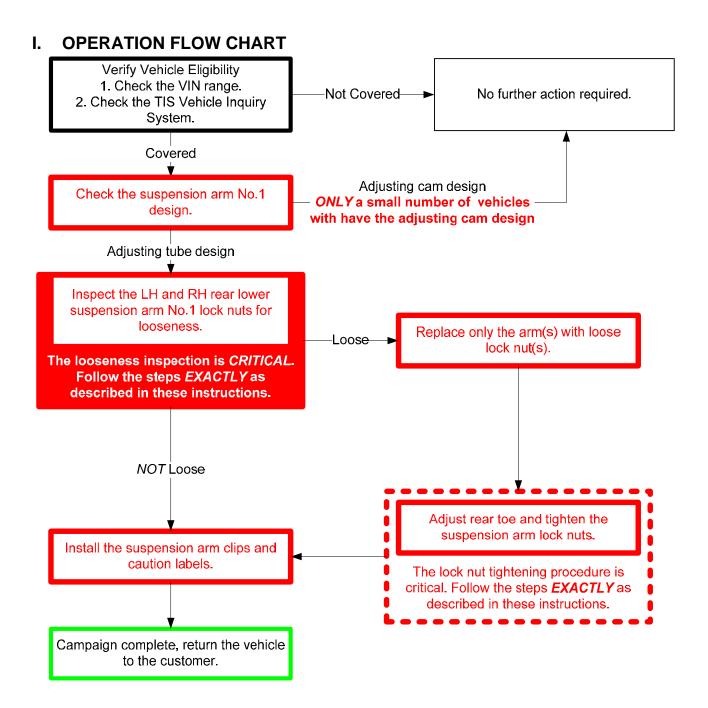
**Complete C0J Technical Video Supplement** 

#### **UPDATED MARCH 28, 2013**

#### **Updated 3/28/13**

- The entire inspection process has been updated to clarify existing inspection points (SECTION VI)
- The parts section has been updated to include detailed kit part contents (SECTION II)

Previous versions of these Technical Instructions should be discarded



#### II. PREPARATION

#### A. PARTS

Part Number	mber Part Description	
04002-60142		
or	Clip and label kit*	1
04002-60242		
	*The kit above includes the following parts.	
04002-50142	Clip with label for	
or	Rear lower suspension arm No.1**	2
04002-50342	real lower suspension anni rec.	
_	Label for rear lower suspension arm No.2	4

<sup>\*\*</sup>The clips are produced by two suppliers; therefore, there is two part numbers for the clip kits. The kit part numbers are interchangeable. These parts cannot be ordered separately.

Part Number Part Description		Quantity
04002-22142 Rear Suspension Arm No.1 Kit*		1
	*The kit above includes the following parts.	
48710-0R010	Rear Lower Suspension Arm No.1	1
90179-12027	Nut	1

<sup>\*</sup>Parts will be placed on DOS, refer to the dealer letter for more information.

#### **B. TOOLS & EQUIPMENT**

- Standard hand tools
- Torque wrench
- 22mm crowfoot
- 4 Wheel alignment machine

SST - This is an essential special service tool that the dealership should have.

Part Number	Part Name	Quantity
09960-20010	Ball Joint Puller Set	1

#### III. BACKGROUND

In the Rear Suspension Arm No.1 Assembly ("arm"), if the nuts for adjusting the rear wheel alignment are not tightened following the proper procedure and torque specification when vehicle alignment service is performed, backlash may develop at the thread portion of the arm (shaft and turn-buckle), followed by formation of rust. If this occurs, threads may wear, causing the arm to separate, which could result in the loss of vehicle control.

#### IV. IDENTIFICATION OF AFFECTED VEHICLES

#### A. COVERED VIN RANGE

			VDS Range
WMI	Year	VDS	Range
2T3	2009	BF31V	W001119-W024119
2T3	2009	BF32V	W001207-W024120
2T3	2009	BF33V	W001207 W024120
2T3	2009	BF34V	W003775-W021681
2T3	2009	BF35V	W003773 W021001
2T3	2009	BK31V	W001421 W024111
2T3	2009	BK32V	W001143 W013774 W001142-W013693
2T3	2009	BK33V	W001142 W013033
2T3	2009	BK34V	W001688-W010762
2T3	2009	BK35V	W002139-W013749
2T3	2009	ZF31V	W001050-W016880
2T3	2009	ZF32V	W001036 W016865 W001048-W016874
2T3	2009	ZF33V	W001049-W016918
2T3	2009	ZF34V	W003810-W012950
2T3	2009	ZF35V	W001625-W016916
2T3	2009	ZK31V	W001020 W010010 W001081-W003645
2T3	2009	ZK32V	W001149-W003642
2T3	2009	ZK33V	W001076-W003644
2T3	2009	ZK34V	W001670-W002621
2T3	2009	ZK35V	W001965-W003631
2T3	2010	BF4DV	W022899-W082387
2T3	2010	BK4DV	W013775-W036881
2T3	2010	DF4DV	W024130-W082385
2T3	2010	DK4DV	W013776-W036900
2T3	2010	EF4DV	W024745-W069582
2T3	2010	EK4DV	W014634-W036700
2T3	2010	JF4DV	W024129-W082307
2T3	2010	JK4DV	W013811-W036888
2T3	2010	KF4DV	W016950-W052601
2T3	2010	KK4DV	W003824-W008864
2T3	2010	RF4DV	W022777-W082383
2T3	2010	RK4DV	W013813-W036821
2T3	2010	WF4DV	W016936-W052514
2T3	2010	WK4DV	W003659-W008863
2T3	2010	XF4DV	W018112-W052094
2T3	2010	XK4DV	W003701-W006779
2T3	2010	YF4DV	W016920-W052604
2T3	2010	YK4DV	W003435-W008860
2T3	2010	ZF4DV	W016923-W052607
2T3	2010	ZK4DV	W003652-W008861
2T3	2011	BF4DV	W077612-W082793
2T3	2011	BK4DV	W036909-W037018
2T3	2011	DF4DV	W082411-W082788
2T3	2011	DK4DV	W036901-W037033
2T3	2011	JF4DV	W082409-W082756
2T3	2011	JK4DV	W037020-W037025
2T3	2011	KF4DV	W052688-W052839
2T3	2011	RF4DV	W082407-W082781
2T3	2011	RK4DV	W036971-W036988
2T3	2011	WF4DV	W050399-W052858
2T3	2011	WK4DV	W008866-W008877
2T3	2011	YF4DV	W052611-W052872
2T3	2011	YK4DV	W008867-W008880

			VDS Range
WMI	Year	VDS	Range
2T3	2011	ZF4DV	W052609-W052873
2T3	2011	ZK4DV	W008870-W008870
JTM	2006	BD31V	5000052-6022606
JTM	2006	BD32V	5000029-6022607
JTM	2006	BD33V	5000087-6022596
JTM	2006	BD34V	5000058-5051164
JTM	2006	BD35V	5000031-5051248
JTM	2006	BK31V	5000008-6010002
JTM	2006	BK32V	5000011-6010006
JTM	2006	BK33V	5000022-6009992
JTM	2006	BK34V	5000028-5012673
JTM	2006	BK35V	5000010-5012694
JTM	2006	ZD31V	5000027-6020783
JTM	2006	ZD32V	5000006-6020798
JTM	2006	ZD33V	5000019-6020842
JTM	2006	ZD34V	5000025-5032507
JTM	2006	ZD35V	5000005-5032573
JTM	2006	ZK31V	5000007-6003129
JTM	2006	ZK32V	5000005-6003131
JTM	2006	ZK33V	5000011-6003132
JTM	2006	ZK34V	5000004-5005681
JTM	2006	ZK35V	5000060-5005684
JTM	2007	BD31V	5051303-6054728
JTM	2007	BD32V	5051315-6054737
JTM	2007	BD33V	5051301-6054736
JTM	2007	BD34V	5052182-5124068
JTM	2007	BD35V	5051278-5124278
JTM	2007	BK31V	5012706-6028074
JTM	2007	BK32V	5012016-6028066
JTM	2007	BK33V	5012697-6028069
JTM	2007	BK34V	5012752-5040742
JTM	2007	BK35V	5012701-5040698
JTM	2007	ZD31V	5031315-6052970
JTM	2007	ZD32V	5031131-6052984
JTM	2007	ZD33V	5032593-6052993
JTM	2007	ZD34V	5032641-5077858
JTM	2007	ZD35V	5032630-5077997
JTM	2007	ZK31V	5005691-6010016
JTM	2007	ZK32V	5005392-6010013
JTM	2007	ZK33V	5005699-6010017
JTM	2007	ZK34V	5005692-5016122
JTM	2007	ZK35V	5005728-5016021
JTM	2008	BD31V	5122515-6089730
JTM	2008	BD32V	5124567-6089718
JTM	2008	BD33V	5124318-6089729
JTM	2008	BD34V	5124315-5215683
JTM	2008	BD35V	5124310-5215906
JTM	2008	BK31V	5040755-6050078
JTM	2008	BK32V	5039902-6050082
JTM	2008	BK33V	5040768-6050066
JTM	2008	BK34V	5040763-5071435
JTM	2008	BK35V	5040804-5071479
JTM	2008	ZD31V	5078027-6081056

#### **COVERED VIN RANGE CONTINUED...**

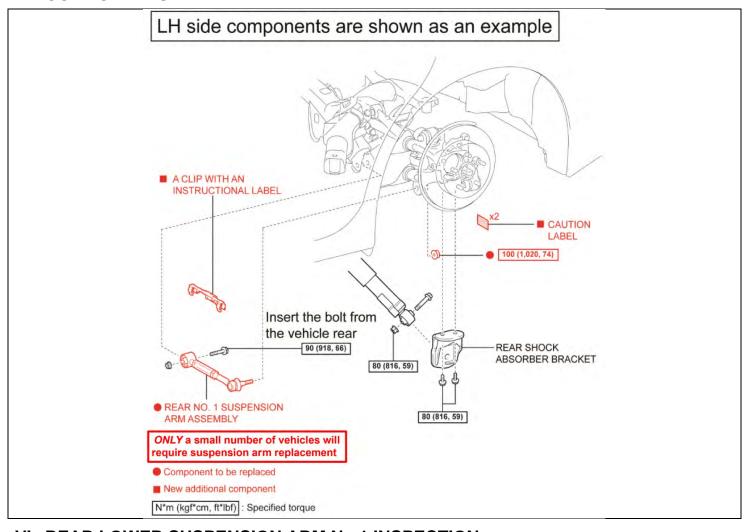
WMI	l Year		VDS Range
VVIVII		VDS	Range
JTM	2008	ZD32V	5078035-6081048
JTM	2008	ZD33V	5076662-6081084
JTM	2008	ZD34V	5078041-5117037
JTM	2008	ZD35V	5078033-5117144
JTM	2008	ZK31V	5015779-6016058
JTM	2008	ZK32V	5016141-6016055
JTM	2008	ZK33V	5016138-6016053
JTM	2008	ZK34V	5016157-5024038
JTM	2008	ZK35V	5016148-5024022
JTM	2009	BF31V	5000104-D021298
JTM	2009	BF32V	5000105-D021282
JTM	2009	BF33V	5000109-D021303
JTM	2009	BF34V	5000106-5011765
JTM	2009	BF35V	5000103-5017199
JTM	2009	BK31V	5070458-D010236
JTM	2009	BK32V	5057953-D010128
JTM	2009	BK33V	5057681-D010235
JTM	2009	BK34V	5071496-5084167
JTM	2009	BK35V	5071507-5084172
JTM	2009	ZF31V	5000103-D015503
JTM	2009	ZF32V	5000110-D015507
JTM	2009	ZF33V	5000105-D015511
JTM	2009	ZF34V	5000120-5014170
JTM	2009	ZF35V	5000104-5014232
JTM	2009	ZK31V	5023836-D003176
JTM	2009	ZK32V	5023823-D003174
JTM	2009	ZK33V	5024054-D003135
JTM	2009	ZK34V	5024061-5026106
JTM	2009	ZK35V	5024071-5025801
JTM	2010	BF4DV	5017206-D039942
JTM	2010	BK4DV	5084190-D017766
JTM	2010	DF4DV	5017212-D039591

18/8/1	WMI Year	VDS Range		
VVIVII	rear	VDS	Range	
JTM	2010	DK4DV	5084192-D017767	
JTM	2010	EF4DV	5021182-5033749	
JTM	2010	EK4DV	5084606-5096973	
JTM	2010	JF4DV	5017209-5037237	
JTM	2010	JK4DV	5084196-5098439	
JTM	2010	KF4DV	5014245-5032167	
JTM	2010	KK4DV	5026161-5027285	
JTM	2010	RF4DV	5017208-D039590	
JTM	2010	RK4DV	5084203-D017704	
JTM	2010	WF4DV	5014246-D028128	
JTM	2010	WK4DV	5026116-D004794	
JTM	2010	XF4DV	5016939-5031934	
JTM	2010	XK4DV	5026233-5027247	
JTM	2010	YF4DV	5013774-D029440	
JTM	2010	YK4DV	5026113-D004796	
JTM	2010	ZF4DV	5014243-D029469	
JTM	2010	ZK4DV	5026110-D004788	
JTM	2011	BF4DV	5037250-5037816	
JTM	2011	DF4DV	5037541-D039852	
JTM	2011	EF4DV	5037428-5037474	
JTM	2011	JF4DV	5036972-5037773	
JTM	2011	KF4DV	5032171-5032615	
JTM	2011	KK4DV	5027374-5027382	
JTM	2011	RF4DV	5037253-5037813	
JTM	2011	RK4DV	5098183-5098978	
JTM	2011	WF4DV	5032170-5032622	
JTM	2011	WK4DV	5027373-5027384	
JTM	2011	XF4DV	5032183-5032209	
JTM	2011	YF4DV	5032383-5032596	
JTM	2011	YK4DV	5027377-D004797	
JTM	2011	ZF4DV	5032172-D029470	
JTM	2011	ZK4DV	5027376-D004782	

#### NOTE:

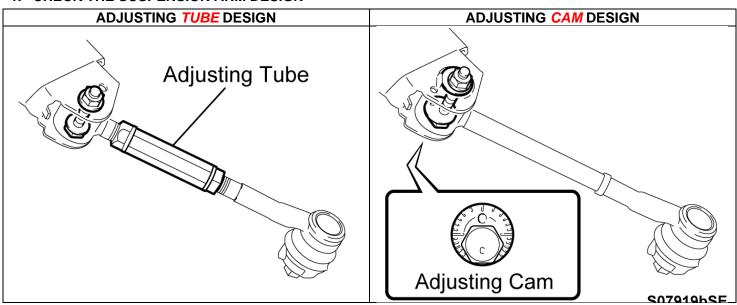
- Check the TIS Vehicle Inquiry System to confirm the VIN is involved in this Safety Recall, and that the campaign has not already been completed prior to dealer shipment or by another dealer.
- TMS warranty will not reimburse dealers for repairs conducted on vehicles that are not affected or were completed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

#### V. COMPONENTS



#### VI. REAR LOWER SUSPENSION ARM No.1 INSPECTION

#### 1. CHECK THE SUSPENSION ARM DESIGN



<b>ARM DESIGN</b>	ACTION REQUIRED
Adjusting <b>Tube</b>	Proceed to STEP 2. CHECK FOR LOOSENESS VISUALLY AND BY HAND
Adjusting <b>Cam</b>	No further action required. Campaign complete.

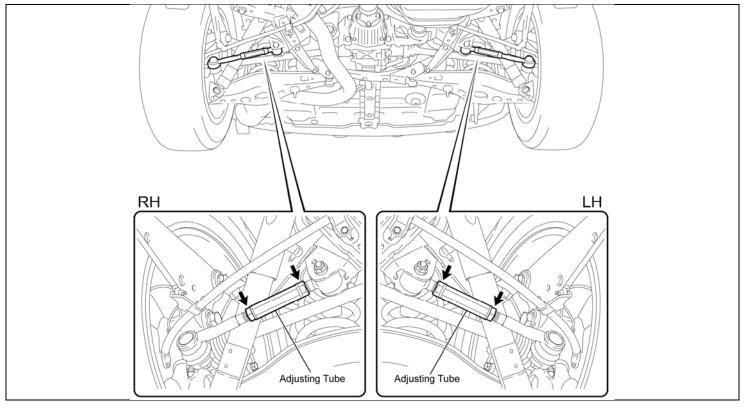


- Replace the suspension arm(s) if:
- Looseness is found.
- A gap is visible between the lock nut(s) and adjusting tube.
- The arm(s) that do not exhibit the above conditions *MUST* also be checked using a torque wrench as described in steps 3-5 and the video link below.

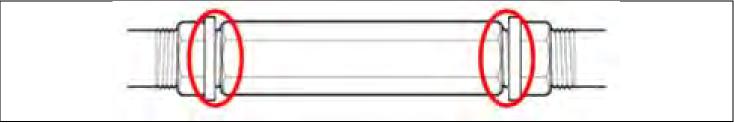
#### Video supplement: Introduction & Suspension Arm Inspection steps

#### 2. CHECK FOR LOOSENESS VISUALLY AND BY HAND

a) Check visually and by hand to determine if any looseness is seen or felt in the suspension arm lock nuts or adjusting tube. Check the LH and RH arms.



b) Inspect for a gap between the lock nuts and the adjusting tube.



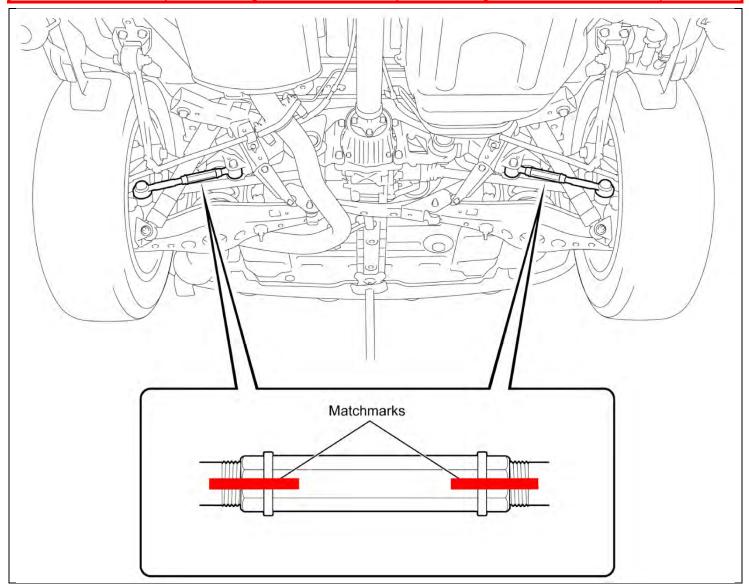
CONDITION	ACTION REQUIRED
Loose OR	Replace the suspension arm(s) with looseness <i>OR</i> if a gap is found between the lock nut(s) and adjusting tube. Refer to <u>TIS</u> for instructions on suspension arm replacement.  NOTE:  To prevent stress on the new suspension arm bushing, apply a load to the suspension system to confirm the suspension arm bushing is aligned correctly when tightening by confirming that rear suspension arm No.1 is level with the
Gap	<ul> <li>Suspension arm adjustment and tightening procedure is critical. After replacing the arm, refer to SECTION VII. in these instructions for this procedure.</li> </ul>
NOT Loose AND NO Gap	Proceed to STEP 3. PLACE MATCHMARKS ON SUSPENSION ARM

#### 3. PLACE MATCH-MARKS ON SUSPENSION ARM

- a) Place match-marks across the suspension arms as shown. Mark the arms that were not found loose during **STEP 2.**
- b) Use these match-marks to determine if looseness is found in steps 4 and 5 when applying torque.



- Match mark application is *CRITICAL*, confirm match marks extend from the suspension arm threads over the lock nut and onto the adjusting tube.
- Even slight movement of the match marks could be a sign of looseness, confirm the match marks are precise enough to allow for the inspection of slight movements in the components.



# 4. CHECK THE ADJUSTING TUBE FOR LOOSENESS WITH TORQUE WRENCH (This checks inboard lock nut for looseness)

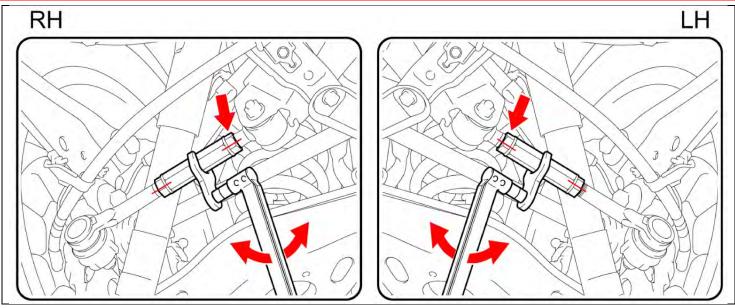
- a) Check for looseness in the adjusting tube using a torque wrench.
- b) Apply the specified torque to the adjusting tube *in both directions*. Check the arms that were not previously found loose during **STEP 2.** Inspect *INBOARD AND OUTBOARD* match-marks to see if they become misaligned.

Torque: 15ft. lbf (20N·m)

- Use a 22mm crowfoot attached to a 15 inch torque wrench. If a tool setup other than specified is used, refer to <u>TIS</u> for torque wrench calculation.
- Confirm the torque wrench is set correctly and that only the specified torque is being applied to the adjusting tube in both directions.



- NEVER apply torque to the inboard lock nut during inspection, inboard lock nut inspection is done by applying torque to the adjusting tube.
- Replace the suspension arm(s) if:
  - Looseness is found.
  - A gap is visible between the lock nut(s) and adjusting tube.



CONDITION	ACTION REQUIRED
Loose	<ul> <li>Replace the suspension arm(s) with looseness. Refer to TIS for instructions on suspension arm replacement.</li> <li>NOTE:</li> <li>To prevent stress on the new suspension arm bushing, apply a load to the suspension system to confirm the suspension arm bushing is aligned correctly when tightening by confirming that rear suspension arm No.1 is level with the ground.</li> <li>Suspension arm adjustment and tightening procedure is critical. After replacing the arm, refer to SECTION VII. in these instructions for this procedure.</li> </ul>
<b>NOT</b> Loose	Proceed to STEP 5. CHECK THE OUTBOARD LOCK NUT FOR LOOSENESS

#### 5. CHECK THE OUTBOARD LOCK NUT FOR LOOSENESS (lock nut closest to ball joint)

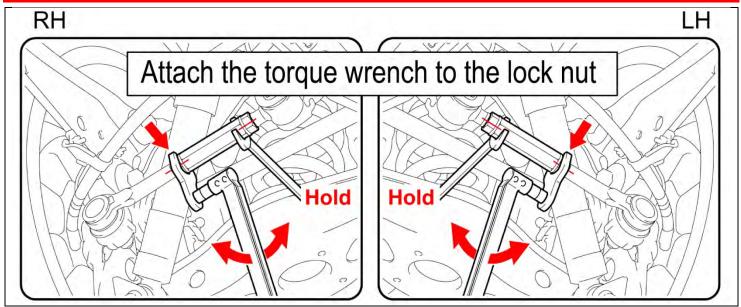
- a) While holding the adjusting tube with a wrench, check for looseness in the outboard lock nut using a torque wrench with a 22mm crowfoot attached.
- b) Apply the specified torque to the lock nut *in both directions*. Check the arms that were not previously found loose during **STEPS 2-4.** Inspect *INBOARD AND OUTBOARD* match-marks to see if they become misaligned.

Torque: 15ft. lbf (20N·m)

- Use a 22mm crowfoot attached to a 15 inch torque wrench. If a tool setup other than specified is used, refer to TIS for torque wrench calculation.
- Confirm the torque wrench is set correctly and that only the specified torque is being applied to the outboard lock nut in both directions.



- You *MUST* use a wrench to hold the adjusting tube when applying torque to the outboard lock nut.
- Replace the suspension arm(s) if:
  - Looseness is found.
  - A gap is visible between the lock nut(s) and adjusting tube.



CONDITION	ACTION REQUIRED
Loose	<ul> <li>Replace the suspension arm(s) with looseness. Refer to TIS for instructions on suspension arm replacement.</li> <li>NOTE:</li> <li>To prevent stress on the new suspension arm bushing, apply a load to the suspension system to confirm the suspension arm bushing is aligned correctly when tightening by confirming that rear suspension arm No.1 is level with the ground.</li> <li>Suspension arm adjustment and tightening procedure is critical. After replacing the arm, refer to SECTION VII. in these instructions for this procedure.</li> </ul>
<b>NOT</b> Loose	Proceed to SECTION VIII.SUSPENSION ARM CLIP AND CAUTION LABEL INSTALLATION



Only perform this section if the suspension arm was found loose and replaced. If no suspension arm was found loose and replaced, proceed to SECTION VIII. SUSPENSION ARM CLIP AND CAUTION LABEL INSTALLATION

#### VII. SUSPENSION ARM ADJUSTMENT AND LOCK NUT TIGHTENING

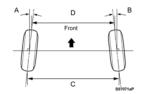
Video Supplement: Suspension Arm Adjustment and Lock Nut Tightening steps

#### 1. ADJUST REAR TOE

a) Adjust the rear wheel toe using an alignment machine.

Specification:

A+B: 0°10' +/- 0°05' (0.17° +/- 0.09°) C-D: 2.0 +/- 1.0mm (0.08 +/- 0.04in.)





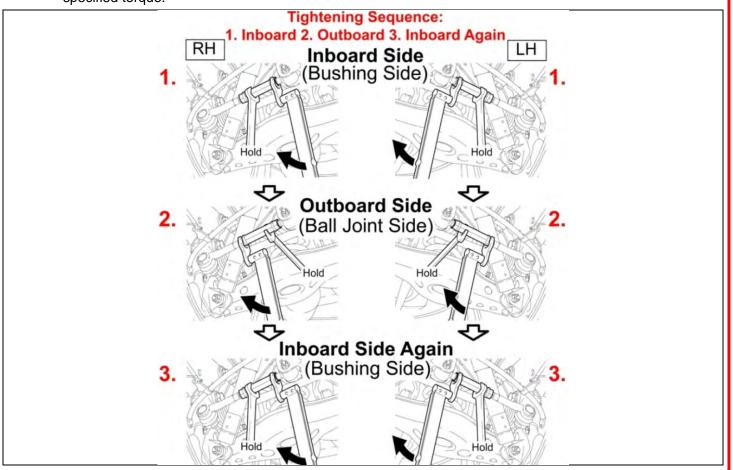
- The tightening procedure for these lock nuts is critical, failure to tighten them in the correct order could cause them to become loose.
- Confirm the alignment machine has been updated with the latest software.

#### **VITAL STEPS**

#### 2. TIGHTEN THE LOCK NUTS EXACTLY AS DESCRIBED BELOW

Use a 22mm combination wrench and a 22mm crowfoot attached to a torque wrench Tightening Sequence: 1. Inboard 2. Outboard 3. Inboard Again Torque: 41ft. lbf (56N·m)

- a) Tighten the inboard lock nut. Hold the adjusting tube steady and tighten the inboard lock nut to the specified torque.
- b) Tighten the outboard lock nut. Hold the adjusting tube steady and tighten the outboard lock nut to the specified torque.
- c) Tighten the inboard lock nut again. Hold the adjusting tube steady and tighten the inboard lock nut to the specified torque.



#### VIII. SUSPENSION ARM CLIP AND CAUTION LABEL INSTALLATION

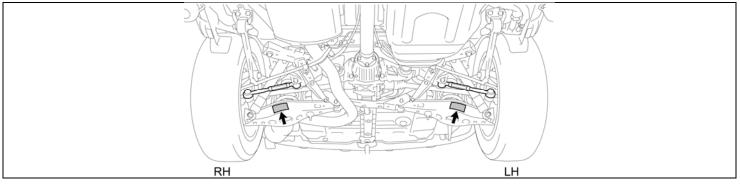
**Video Supplement: Clip and Label Installation steps** 



- To confirm the caution labels adhere properly, clean the surfaces of suspension arm No.2 before applying the labels. It may be necessary to use steel wool and cleaning solution to clean the arm sufficiently.
- Confirm the label on the clip is facing toward the rear of the vehicle.

#### 1. INSTALL CAUTION LABEL TO THE FRONT SIDE OF SUSPENSION ARM No.2

- a) Clean the front side of the LH and RH suspension arm.
- b) Apply caution label on the LH and RH suspension arm.

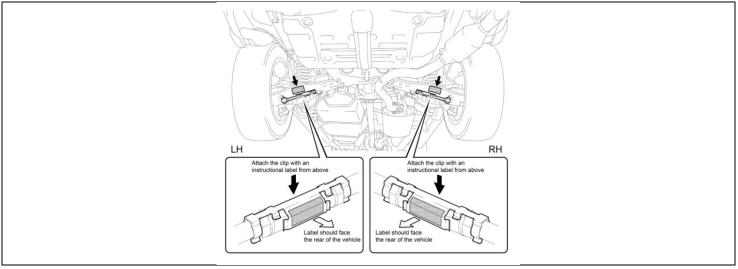


#### 2. INSTALL CAUTION LABEL TO THE BACK SIDE OF SUSPENSION ARM No.2

- a) Clean the back side of the LH and RH suspension arm.
- b) Apply caution label on the LH and RH suspension arm.

#### 3. INSTALL CLIP ON SUSPENSION ARM No.1

- a) Install clip on the LH and RH suspension arm.
- b) Confirm the label on the clip is facing toward the rear of the vehicle.



4. TEST DRIVE THE VEHICLE

NOTE: TEST DRIVE IS ONLY REQUIRED IF THE SUSPENSION ARM WAS REPLACED.

5. CAMPAIGN COMPLETE

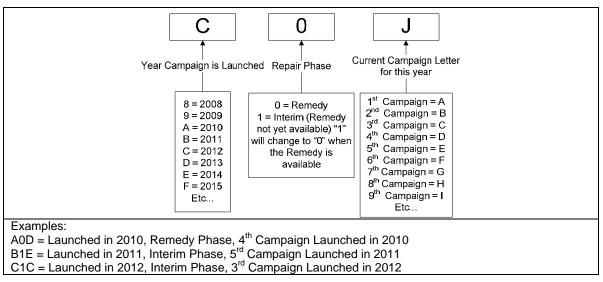
#### **◄ VERIFY REPAIR QUALITY** ►

- Confirm ALL inspection steps are followed EXACTLY as described in these instructions
- Confirm the suspension arm clips and caution labels are installed securely
- If a suspension arm is replaced, confirm the lock nut tightening procedure is followed EXACTLY as
  described in these instructions
- Confirm the owner's manual supplement is in the glovebox

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

#### IX. APPENDIX

#### A. CAMPAIGN DESIGNATION DECODER



#### **B. CAMPAIGN PARTS DISPOSAL**

As required by Federal Regulations, please make sure all campaign parts (original parts) removed from the vehicle are disposed of in a manner in which they will not be reused, *unless requested for parts recovery return.* 



# SAFETY RECALL C0J (Inspection Process) RAV4 Rear Lower Suspension Arm No.1





# **OVERVIEW**

#### Why is this campaign being performed?

In the Rear Suspension Arm No.1 Assembly ("arm"), if the nuts for adjusting the rear wheel alignment are not tightened following the proper procedure and torque specification when vehicle alignment service is performed, backlash may develop at the thread portion of the arm (shaft and turn-buckle), followed by formation of rust. If this occurs, threads may wear, causing the arm to separate, which could result in the loss of vehicle control.

#### Why is the inspection so detailed?

The inspection *MUST* be performed exactly as described in order to confirm the lock nuts are tight, and to confirm the lock nuts do not become loose during the inspection. Even slight movement in the components can lead to arm replacement.

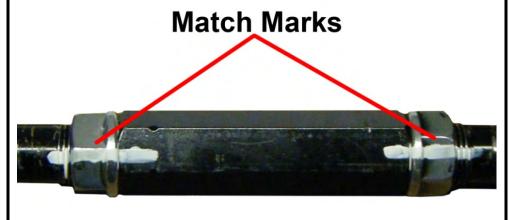
# 1 CHECK VISUALLY AND BY HAND

- Check visually and by hand to determine if any looseness is seen or felt in the suspension arm.
- Check for the presence of a gap between the lock nuts and adjusting sleeve.



# 2 PLACE MATCH MARKS ON ARM

- Place match marks that extend from the suspension arm threads over the lock nut and onto the adjusting tube.
- The marks *MUST* be precise enough to notice slight movements in the components.



# 3 CHECK INBOARD LOCK NUTS

- Using a 15" torque wrench set to 15ft. lbf with a 22mm crowfoot, attempt to move the adjusting tube IN BOTH DIRECTIONS.
- Inspect the match marks on the INBOARD and OUTBOARD lock nuts, adjusting tube, and threads for any movement.



## 4 CHECK OUTBOARD LOCK NUTS

- Hold the adjusting tube using a 22mm wrench and use a 15" torque wrench set to 15ft. lbf with a 22mm crowfoot to attempt to move the outboard (ball joint side) lock nut.
- Inspect the match marks on the INBOARD and OUTBOARD lock nuts, adjusting tube, and threads for any movement.



# REPLACEMENT CRITERIA

**CONDITION** 

**ACTION REQUIRED** 

- Looseness or movement is observed.
  - OF
- 2. Match marks are misaligned, even slightly.

#### OR

- 3. Visible gap between the lock nut(s) and the adjusting tube.
- Replace the suspension arm(s).
- Install the arm clips and install the caution labels.
- Follow the CRITICAL lock nut tightening procedure in the full C0J technical instructions when adjusting rear toe.



# SAFETY RECALL COJ **RAV4 Rear Lower Suspension Arm No.1**





