| | GROUP | MODEL |
|---|---|---|
| | **Safety Recall Campaign** | **2006~2012MY Sedona (VQ)** |
| | NUMBER | DATE |
| | **SC133 (Rev 1 7/27/2106)** | **July 2016** |

# VOLUNTARY SAFETY RECALL CAMPAIGN

**SUBJECT:** FRONT LOWER CONTROL ARM INSPECTION, REPLACEMENT OR APPLICATION OF PREVENTATIVE ANTI-CORROSION MATERIAL (SC133)

## ✶ NOTICE

**This bulletin has been revised to include additional information. New/revised sections of this bulletin are indicated by a black bar in the margin area.**

Certain 2006-2012 MY Sedona vehicles manufactured from 6/15/2005 through 08/14/2012 which have previously had a corrosion recall repair performed pursuant to Safety Recall SC100 may still be experiencing corrosion issues. The front lower control arms may break due to corrosion resulting from prolonged exposure to environments where heavy road salt is used, increasing the risk of crash. The affected vehicles are originally sold or currently registered in one of twenty-eight (28) salt belt states where heavy amounts of road salt are used for de-icing in the winter months. The 28 salt belt states are: AK, CT, DC, DE, IA, IL, IN, MA, MD, ME, MI, MN, MO, NH, NJ, NY, OH, PA, RI, VT, WI, WV, KS, KY, NE, ND, SD and UT. To correct this concern and improve customer satisfaction, Kia is launching this safety recall campaign. On 2006-2007 MY Sedona vehicles, the front lower control arms are to be replaced with new ones if they had not been previously replaced. On 2008-2012 MY Sedona vehicles, the front lower control arms are to be inspected and either replaced with new ones if necessary, or the front lower control arms will receive an additional anti-corrosion coating.

***"Underbody maintenance"***

*"Corrosive materials used for ice and snow removal and dust control may collect on the underbody. If these materials are not removed, accelerated rusting can occur on underbody parts such as the fuel lines, frame, floor pan and exhaust system, even though they have been treated with rust protection. Thoroughly flush the vehicle underbody and wheel openings with lukewarm or cold water once a month, after off-road driving and at the end of each winter. Pay special attention to these areas because it is difficult to see all the mud and dirt. It will do more harm than good to wet down the road grime without removing it. The lower edges of doors, rocker panels, and frame members have drain holes that should not be allowed to clog with dirt; trapped water in these areas can cause rusting."*

**File Under: <Voluntary Safety Recall Campaign>**

**Circulate To:** ☒ **General Manager** ☒ **Service Manager** ☒ **Parts Manager**

☒ **Service Advisor(s)** ☒ **Technician(s)** ☒ **Body Shop Manager** ☐ **Fleet Repair**

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## * NOTICE

**IMPORTANT For Dealers and Customers Not Immediately Affected By This Campaign.**

**This campaign is primarily being conducted regarding owners whose vehicles in the affected VIN range are owned and maintained in states where significant amounts of road salt are applied. However, the objective of this campaign is to ensure that all vehicles experiencing such corrosion damage as described in this bulletin are repaired without charge to the customer, regardless of their current location. As a result, additional customer vehicles not currently listed may need to be inspected and/or repaired as a result of this campaign. Possible situations and dealer responses include:**

**(1) A customer who has not received a recall repair notice now resides in a salt belt state. Advise KMA and promptly conduct the campaign repair.**

**(2) During normal maintenance or repairs for a vehicle located outside of the salt belt states, the dealer identifies that a vehicle has corrosion damage which appears to warrant a campaign repair. Contact the District Parts and Service Manager for approval before conducting the campaign repair.**

**(3) A customer currently living outside a salt belt state alleges a potential corrosion condition or simply requests a repair or an inspection. Promptly conduct an inspection at no charge to the customer. If the dealer identifies that the vehicle has corrosion damage which appears to warrant a campaign repair, contact the District Parts and Service Manager for approval before conducting the campaign repair.**

**For scenarios (2) and (3), non-salt belt state dealers should contact Snap-On Tools directly to request the Special Service Tool needed for this campaign repair. .**

## * NOTICE

**There is no charge to the vehicle owner for this repair. Under applicable law, you may not sell or otherwise deliver any affected Sedona (VQ) until it has been repaired pursuant to the procedures set forth in this bulletin.**

## * NOTICE

**To assure complete customer satisfaction, always remember to refer to WebDCS Warranty Coverage (validation) Inquiry Screen (Service > Warranty Coverage >Warranty Coverage Inquiry) for a list of any additional campaigns that may need to be performed on the vehicle before returning it to the customer.**

**SUBJECT:** FRONT LOWER CONTROL ARM INSPECTION, REPLACEMENT OR APPLICATION OF PREVENTATIVE ANTI-CORROSION MATERIAL (SC133)

**⚠ WARNING**

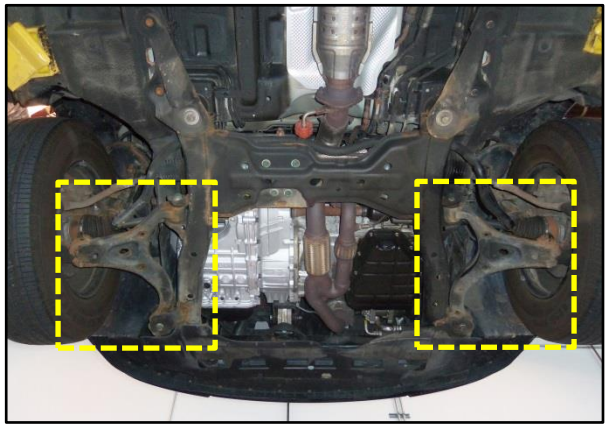
**To prevent possible injury, make sure to wear eye and ear protection while performing the procedures described within. In addition, a dust mask should be worn to prevent inhaling any airborne rust particles or chemical vapors.**

**✶ NOTICE**

**Replace the front lower control arms on all 2006 and 2007MY Sedona vehicles. No inspection is required and no corrosion resistance improvement is required on those 2 model years. Follow the Control Arm Replacement Procedure on page 13 to replace both control arms.**

**Inspection Procedure for 2008~2012MY:**

1. Place the vehicle on a lift and inspect the condition of the lower control arms. If any perforations or open cavities are present on either control arm, proceed to the **Control Arm Replacement Procedure** on Page 13. Otherwise, proceed to step 2.



2. Remove the front wheel assemblies.

**✶ NOTICE**

**Make sure to perform steps 3 thru 16 on both lower control arms.**

3. Use a ball peen hammer to strike the lower control arm at multiple spots indicated. Check for weak spots in the metal and overall integrity of the lower control arm on both sides. If the lower control arm fails, proceed to the **Control Arm Replacement Procedure** on page 13 to replace the control arm. If overall integrity is confirmed, proceed to step 4.

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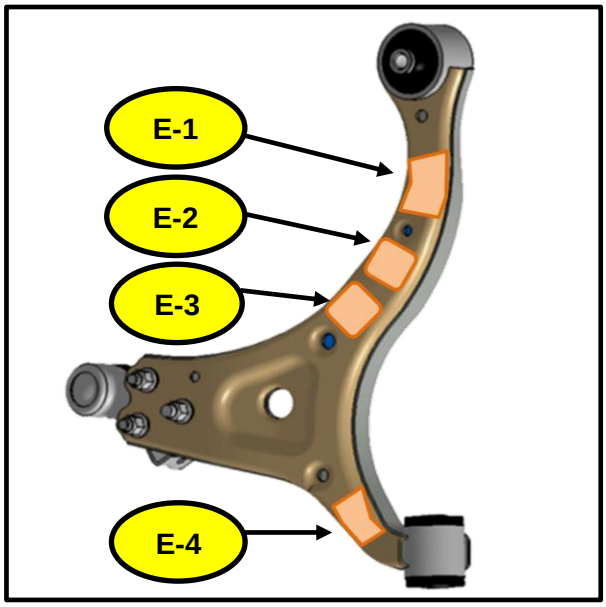
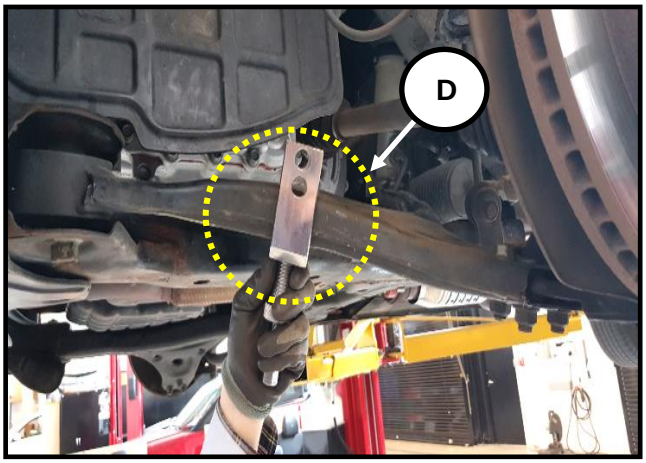
4. Using the supplied punch tool, perform punch test on four indicated locations (E-1, 2, 3, 4) of the bottom side of the lower control arm.

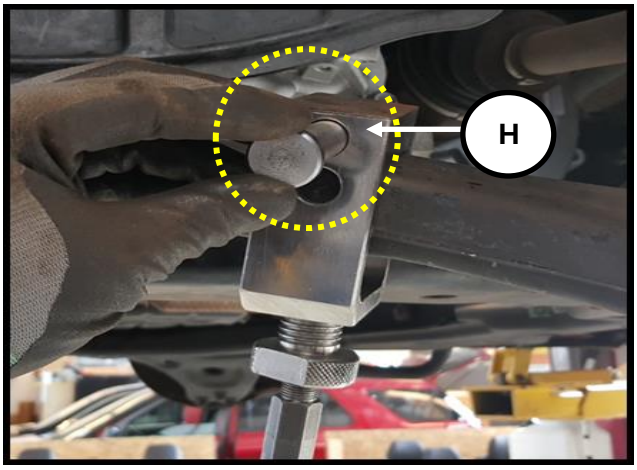



5. Attach the Punch Tool (D) to one of the punching point locations E-1, 2, 3, 4 of the lower control arm.
(The example shown is location E-2)

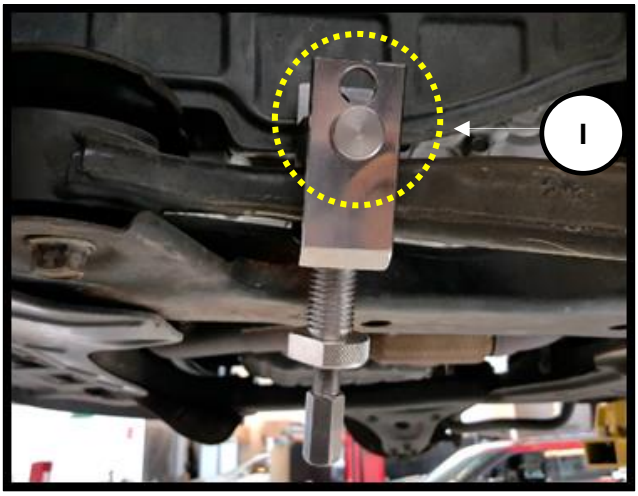



6. Set the Support Bar (G) on the top panel of the punch tool. Align the hole of the Support Bar to the hole in the Punch Tool.

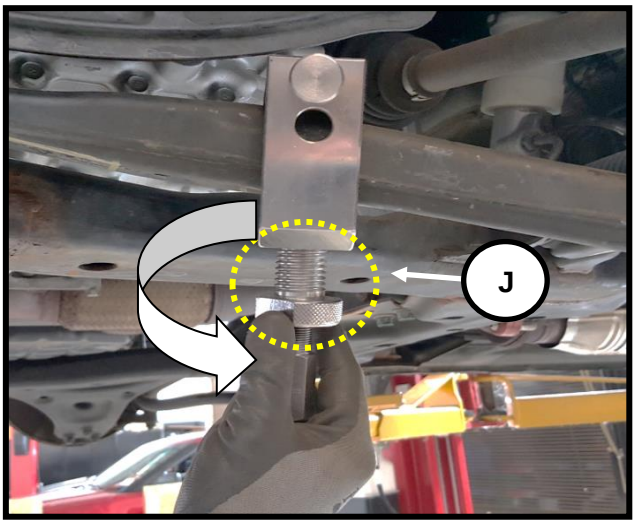
7. Insert Support Pin to the upper hole (H) of the Punch Tool. (location E-2, E-3, E-4 ONLY) Refer to step 8 for the E-1 position setting.




8. For (E-1) position, insert Support Pin to the lower hole of the Punching Tool.




9. With the center punch bolt retracted, hand tighten the Punch Set Bolt (J), of the punch tool, against the control arm surface.

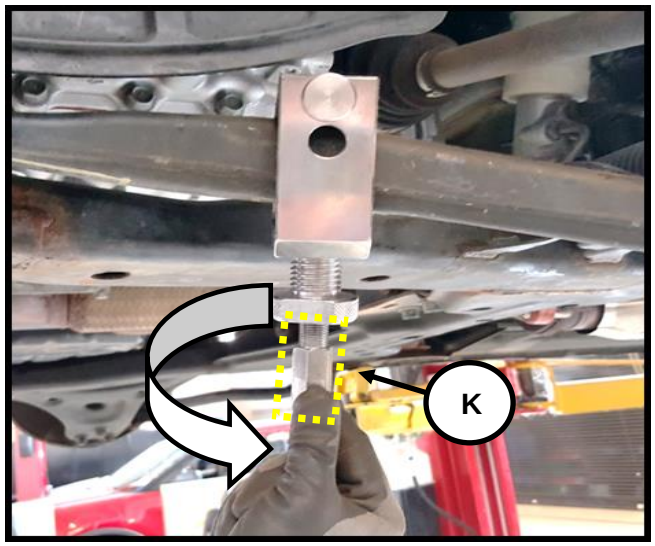


**NOTE:** Proper placement of the Punch Set Bolt with Center Punch Bolt retracted.

**WARNING**

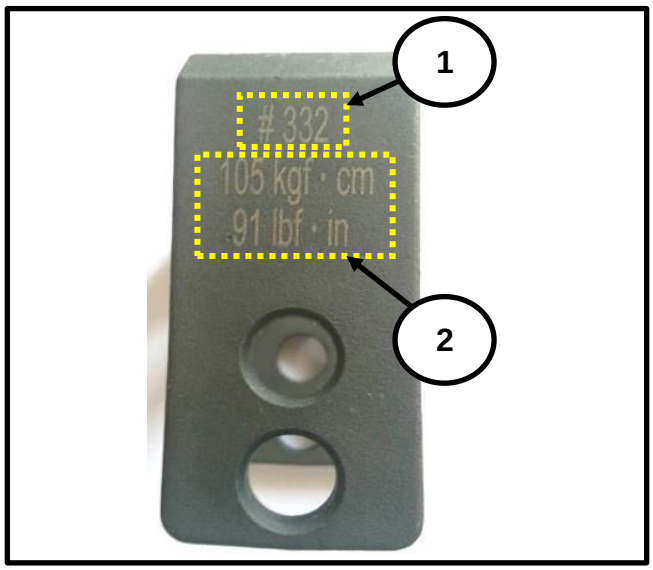
**This is an incorrect installation of the Punch Set Bolt; the Center Punch Bolt is extended and the tool could be damaged.**

10. Tighten the center punch bolt (K) of tool hand tight.



11. Set a torque wrench to the torque (2) shown on the side of the Punch Tool.

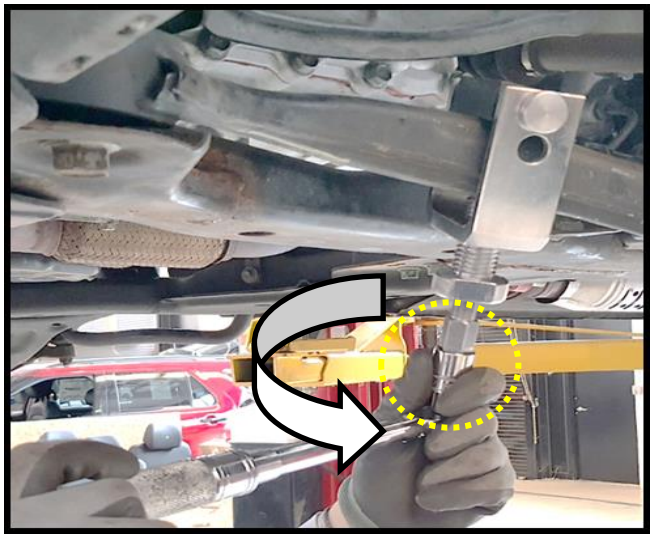
    **NOTE:** The punch tools are individually calibrated. For validation purposes, it is required to write the tool serial number (1) and torque specification (2) on the RO.



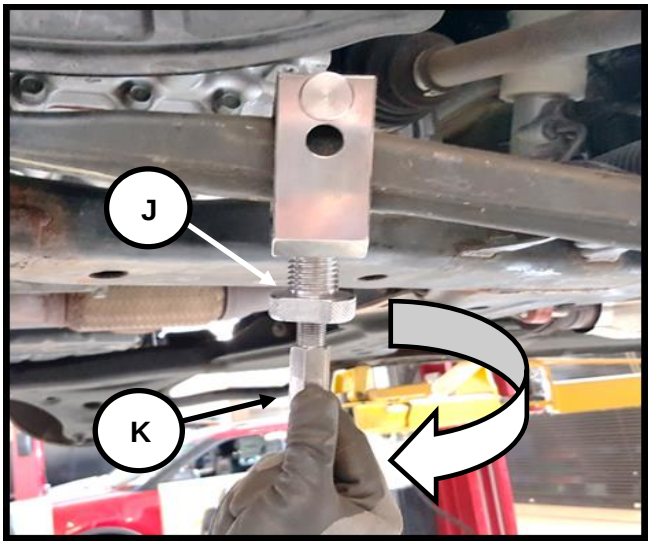

12. Torque the center punch bolt carefully until the torque wrench reaches the specified torque as shown on the tool. **DO NOT OVER TORQUE.**

**★ NOTICE**

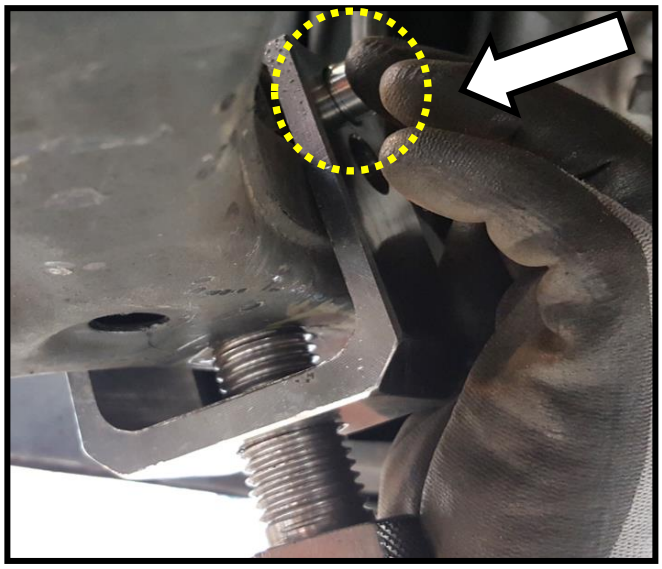
**At any time during the torqueing process the pin may penetrate the control arm emitting a loud crack sound. If this is heard, the control arm has failed the test. Proceed to control arms replacement.**



13. Retract the Center Punch Bolt (K), then retract the Punch Set Bolt (J).



14. Remove the support pin and lower the punch tool to inspect the control arm.



15. Inspect the punched area after punch test. If the punch test appears as shown in "FAIL" example at any test point, discontinue testing and replace both control arms per **Control Arm Replacement Procedure** on page 13. If the punch did not penetrate the control arm on both control arms, as shown in "PASS", proceed to **Internal Inspection Procedure** on page 9.


**★ NOTICE**

**If any test point appears as shown in "FAIL" replace both control arms per Control Arm Replacement Procedure on page 13.**

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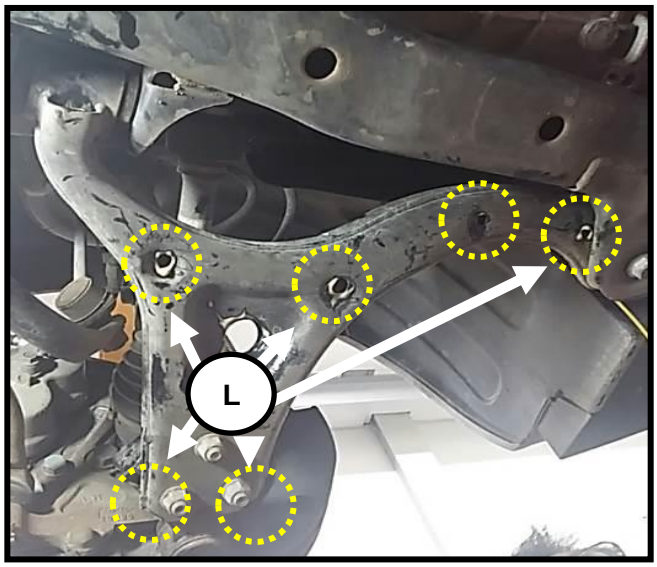
**Internal inspection Procedure:**

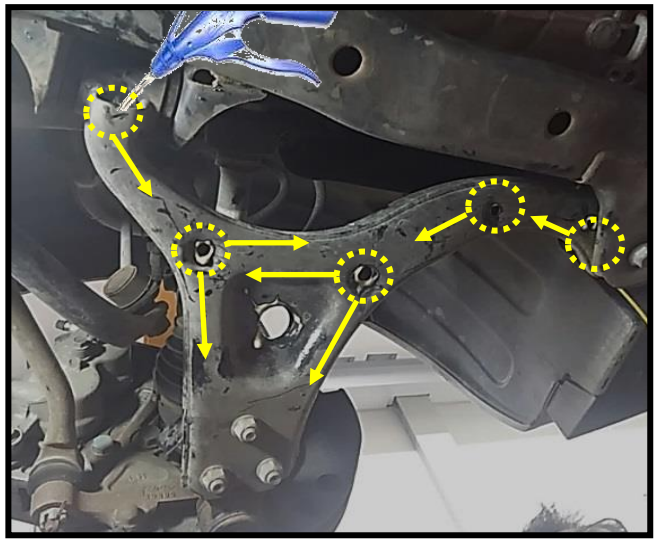
1. Insert a magnetic pick up tool inside the lower control arm openings to remove any loose rust flakes at all indicated holes (L). Insert the magnet as far as it will go in both directions. Repeat until no more flakes are removed.




**⚠ WARNING**

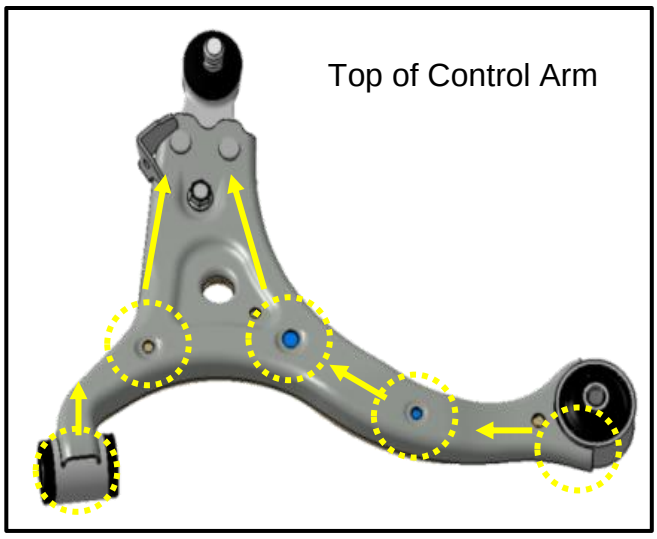
**Wear eye protection to prevent possible injury from flying debris. In addition, a dust mask should be worn to prevent inhaling any airborne rust particles or debris.**

2. Remove any remaining debris from the inside of the lower control arm using an air gun. Make sure to insert the nozzle in all holes (L) top and bottom side. Rotate the nozzle in indicated directions to completely remove any foreign material or rust flakes.



**✶ NOTICE**

**Repeat step 2 a total of three (3) times per lower control arm.**



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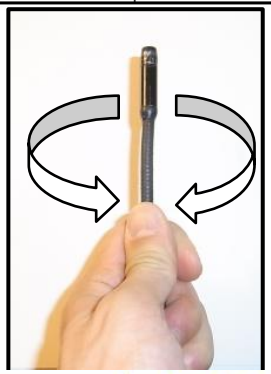
3. After removing all loose rust flakes from inside the lower control arm, use the borescope (supplied) to check remaining rust flakes and particles through hole in the lower control arm indicated in step 6 on the next page.

4. Power up and calibrate the display orientation direction by gripping the probe and turning as required. (Apply and align the 90 degree angle adapter, as needed, for picture quality.)

| NG | OK |
|---|---|
|  |  |

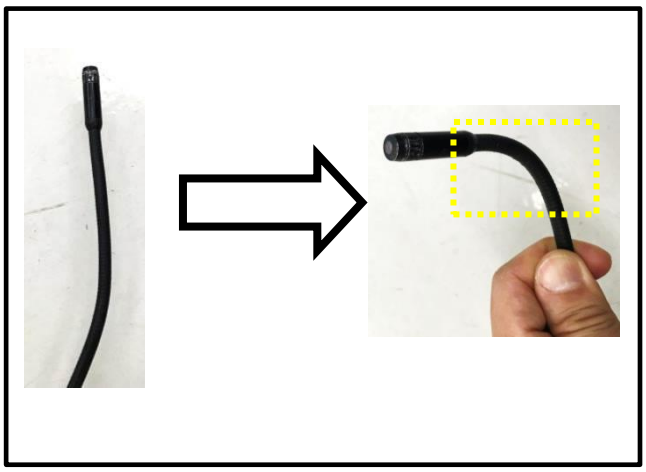


**★ NOTICE**

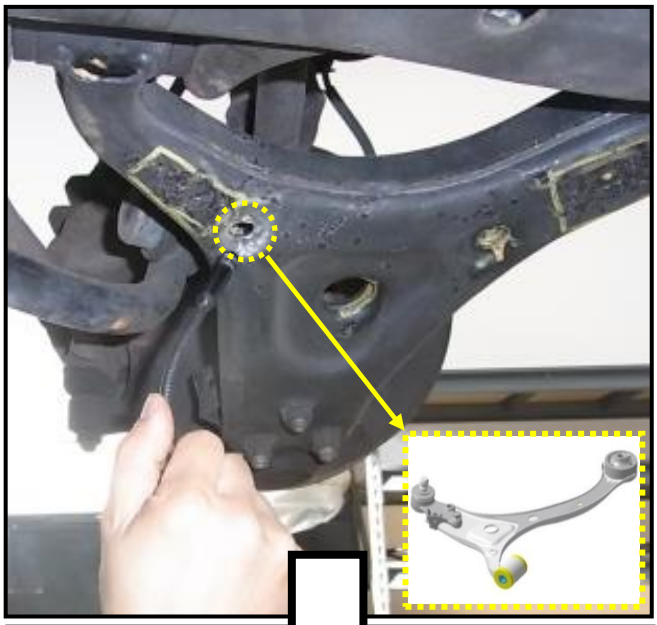
**Always insure the camera lens and 90 degree adaptor are cleaned with a fresh paper towel and rubbing alcohol prior to inspection and image capturing. Poor image quality submissions to warranty may be rejected.**

| Check the borescope camera's power (1) | Check the reflector alignment position. |
|---|---|
|   |  |

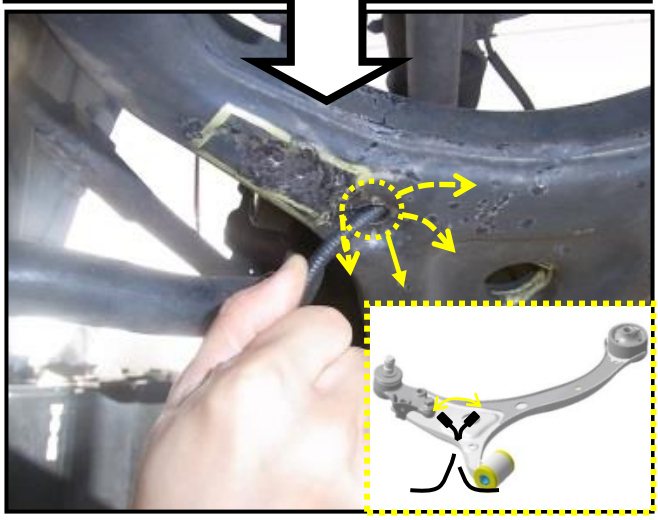
5. Once the camera and display are oriented, bend the probe just behind the camera to help maintain orientation during inspection.



6. Insert the camera into hole as shown.



7. Rotate the camera in order to check all angles for any rust flakes which remain inside the control arm.



**✱ NOTICE**

**If it is difficult to view the inside of the arm with the camera due to flexibility of the scope wand, use the 90 degree lens attachment.**

8. If the interior of the control arm is free of excessive rust particle build up, perform the **Reconditioning Procedure** on page 16 .

9. If the interior of the control arm has excessive rust scale which cannot be removed, replace both of the control arms. Refer to **Control Arm Replacement Procedure** on page 13.

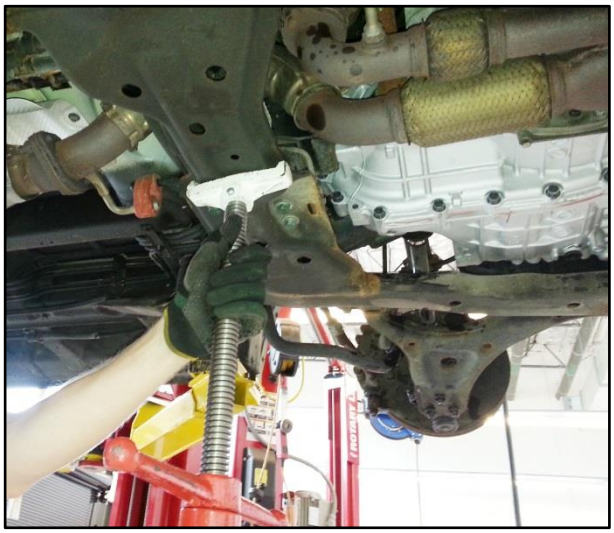
*** NOTICE**

**If the control arm has to be replaced due to excessive internal rust, a picture must be attached to the warranty claim. Refer to the borescope manual for saving and attaching image files.**

**Control Arm Replacement Procedure:**

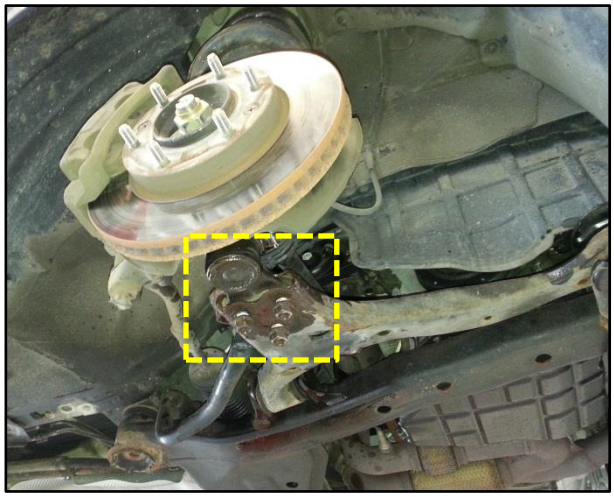
1. Remove the front wheels.

2. Place a transmission jack under the sub-frame for support.

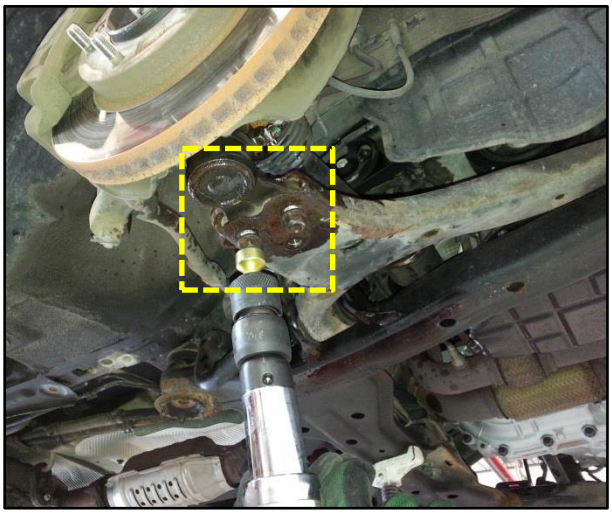


3. Loosen but do not remove the three (3) nuts securing the lower control arm to the ball joint.

   **Tightening torque:**
   **65.1 ~ 86.8 lb-ft (90 ~ 120 Nm)**



4. Remove the rear bolt and nut and from the lower control arm. Then, use a mallet or air hammer to remove the two (2) front "wheel-stud" type bolts and the nuts.

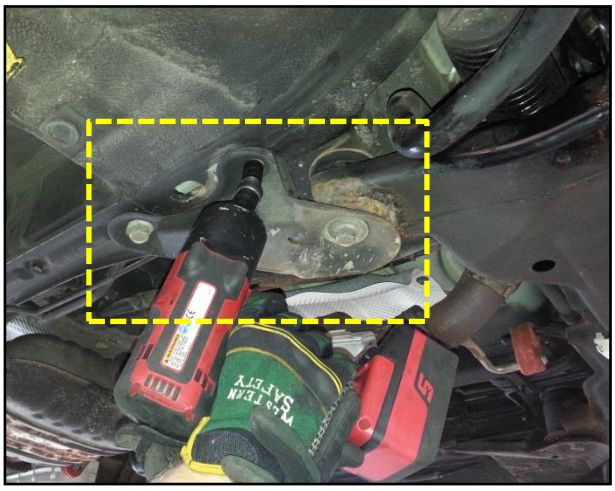


**✶ NOTICE**

**Make sure to use the bolts and nuts included with the replacement parts kit when reinstalling the lower control arm to the ball joint.**

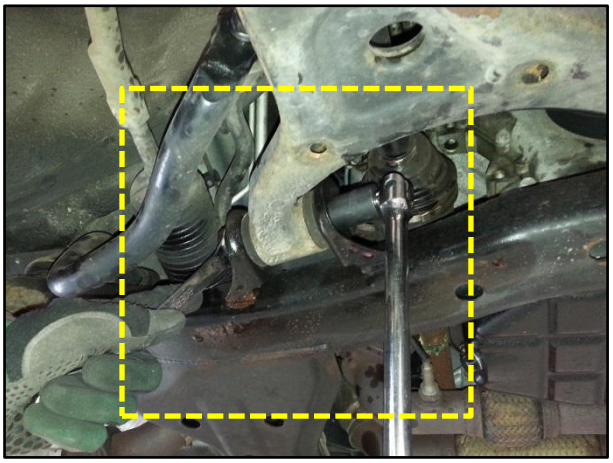
5. Remove three (3) bolts securing the sub-frame and the sub-frame bracket.

**Tightening torque:**
**115.7 ~ 130.2 lb-ft (156.9 ~ 176.5 Nm)**



6. Remove the bolt and nut securing the rear mounting location for the lower control arm.

**Tightening torque:**
**115.7 ~ 130.2 lb-ft (156.9 ~ 176.5 Nm)**



7. Remove the bolt securing the front mounting location for the lower control arm.

   **Tightening torque:**
   **115.7 ~ 130.2 lb-ft (156.9 ~ 176.5 Nm)**

8. Use an air hammer with a chisel bit to remove the lower control arm from the ball joint.

**WARNING**

**To avoid possible injury, make sure to support the lower control arm prior to removing it from the ball joint.**

9. Perform the reinstallation of the lower control arms in the following sequence:
   1. Front mounting location.
   2. Ball joint mounting location (use new hardware included with kit).
   3. Rear mounting location.
   4. Sub-frame bracket and bolts.

10. Reinstall all other removed components.

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**Reconditioning Procedure:**

**⚠ WARNING**

**To avoid possible injury, this procedure must be performed in a well-ventilated area and safety glasses must be worn at all times. In addition, do NOT smoke and avoid open flames while applying cavity wax and underbody coating, as they are highly flammable!**

**✶ NOTICE**

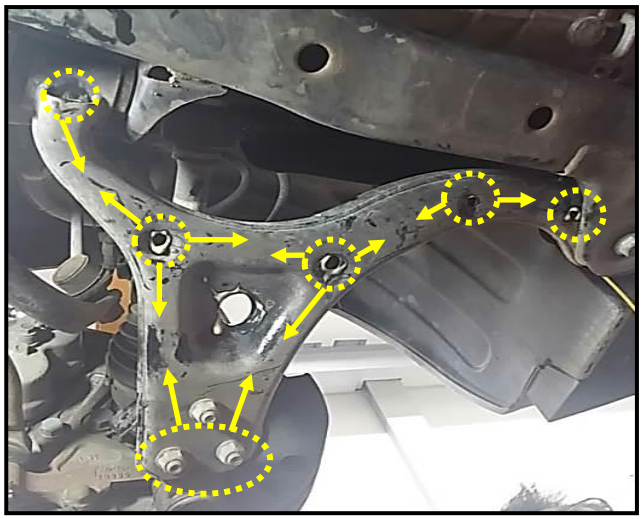
**This procedure should only be performed in temperatures above 32° F (0° C). Ensure that all surfaces are completely dry and free of moisture before applying cavity wax or underbody coating.**

1. Use a metal bristle brush to remove any surface rust from the outside of the lower control arms. Then use shop air to remove any loose dust from the lower control arm surfaces.

**⚠ WARNING**

**Wear eye protection to prevent possible injury from flying debris. In addition, a dust mask should be worn to prevent inhaling any airborne rust particles or debris.**

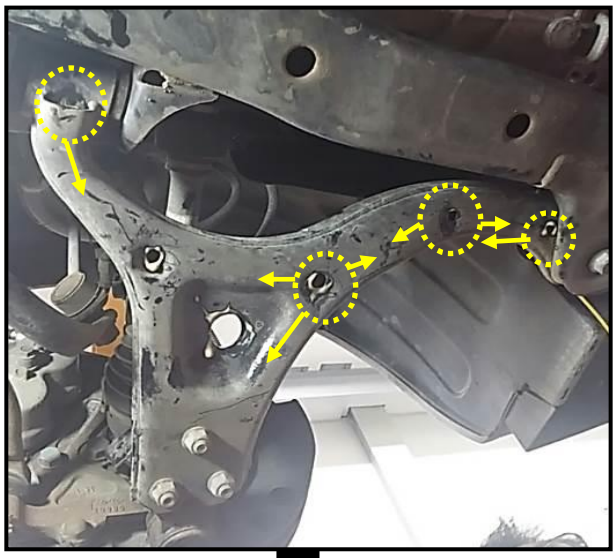
2. Use spray can cavity wax and spray into every hole in the lower control arm, as shown. To evenly apply cavity wax, turn the nozzle in all directions while spraying and make sure to use ONLY one quarter (1/4) of the contents in each can per lower control arm.

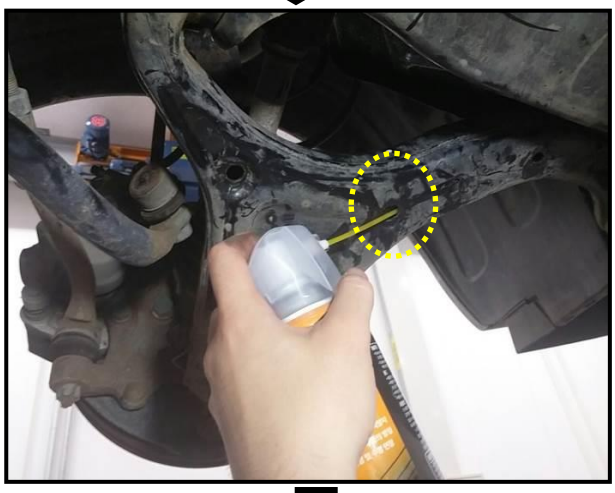


**⚠ WARNING**

**Cavity wax is extremely flammable! Do NOT smoke and avoid any open flames during application, to avoid possible injury.**

3. Use the spray can wax to apply cavity wax into the four (4) indicated holes.

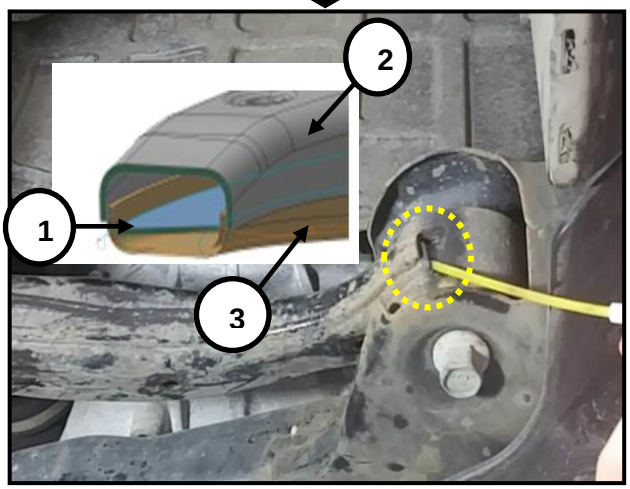




**✶ NOTICE**

**These three holes require at least three (3) seconds of continuous spray for a thorough application.**

**NOTE:** Insert the nozzle into the narrow opening between the reinforcment panel (1), upper panel (2) and lower panel (3). Use spray can wax and spray a heavy coating to the upper and lower side of the reinforcment panel.



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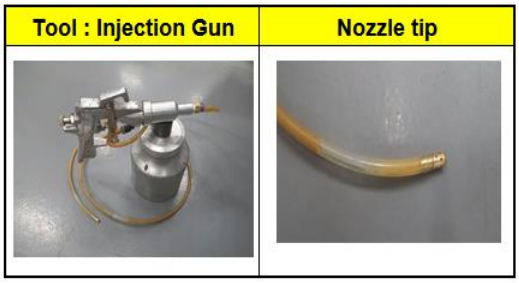
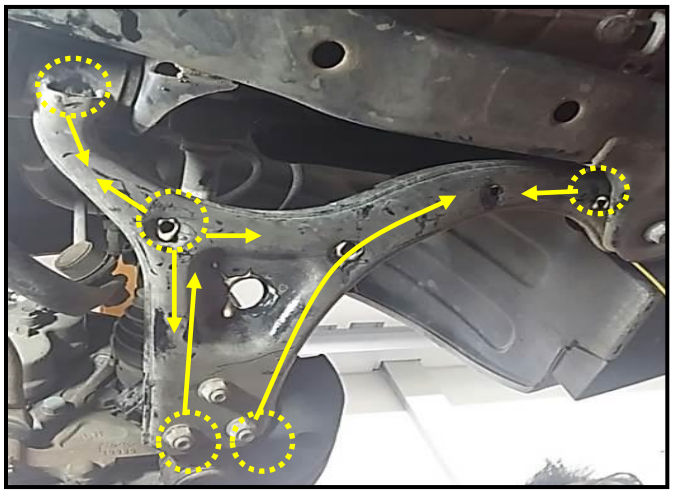
4. Prepare the Wax Injection Gun and supplied tip for application of cavity wax material. Remove hose with the ridged noxzzle end and install the new (flexible over entire length) hose.

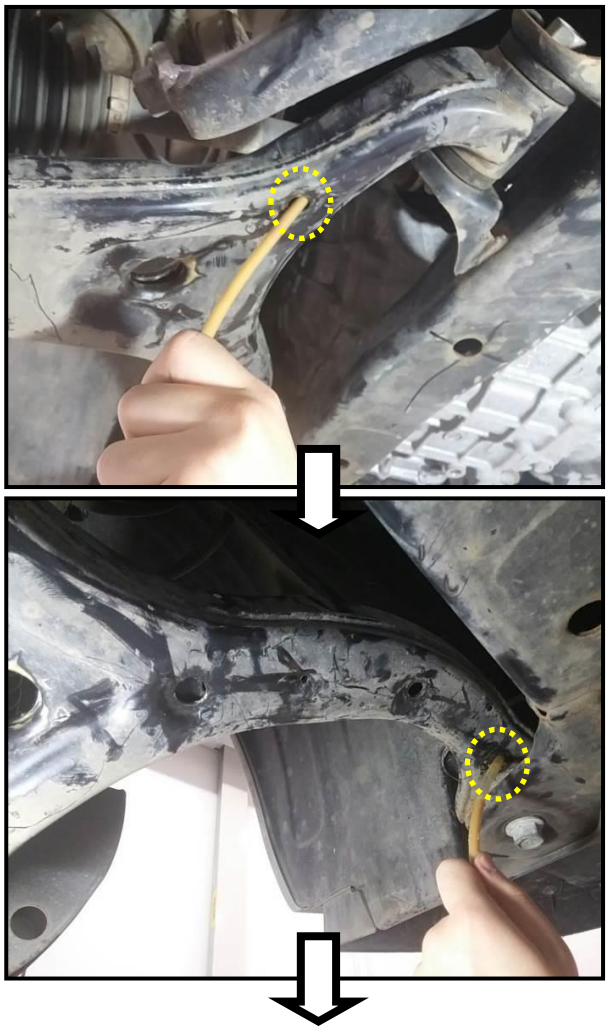



5. Use the Wax Injection Gun to apply cavity wax to the five (5) indicated holes on the lower control arm. Make sure to use ONLY one quarter (1/4) of the contents in each bottle per lower control arm.



**★ NOTICE**

**These holes require at least three (3) seconds of continuous spray for a thorough application.**



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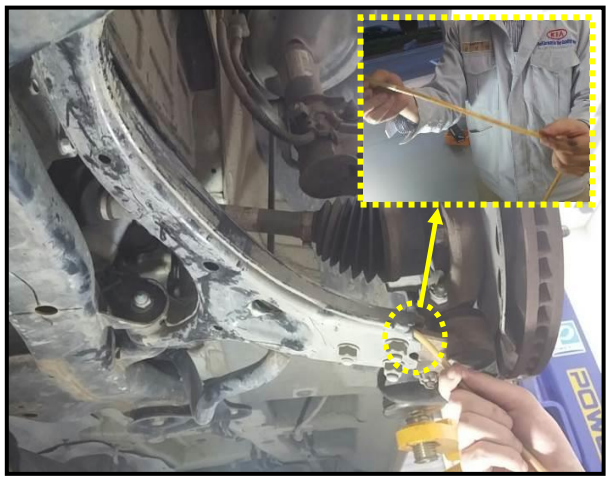
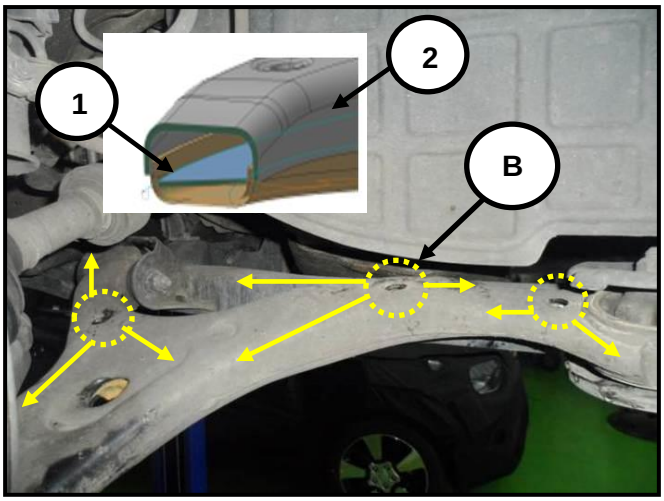
**★ NOTICE**

**At the entry point indicated, insert the nozzle 12 inches into the control arm. This area require at least five (5) seconds of continuous spray for a thorough application.**

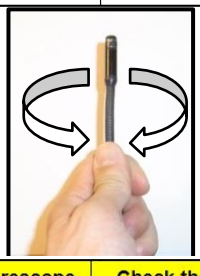


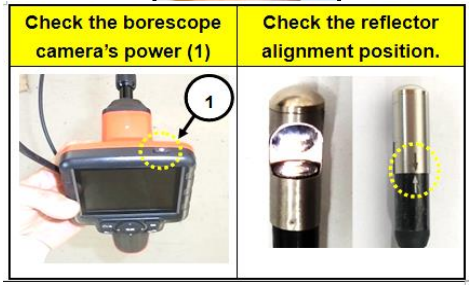
6. Use the spray can cavity wax on the top side of the lower control arm at the three (3) indicated holes. Spray the wax for at least three seconds.




**NOTE:** Insert the nozzle into the narrow opening between the reinforcment panel (1) and upper panel (2) of hole (B). Use spray can wax and spray a heavy coating to the upper and lower side of the reinforcment panel.

7. Prepare the borescope for inspection of the wax application the same as previously prepared for rust inspection.

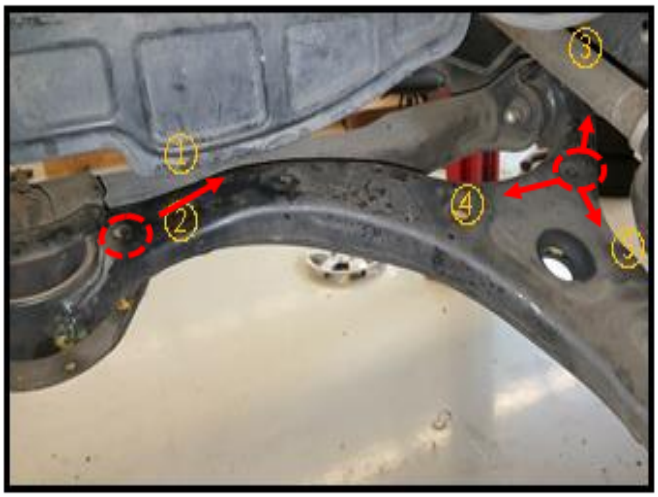






**★ NOTICE**

**Always insure the camera lens and 90 degree adaptor are cleaned with a fresh paper towel and rubbing alcohol prior to inspection and image capturing. Poor image quality sent to warranty may be rejected.**

8. Insert the camera through the upper holes of the panel without bending the camera wand. (Use the 90 degree reflector.)

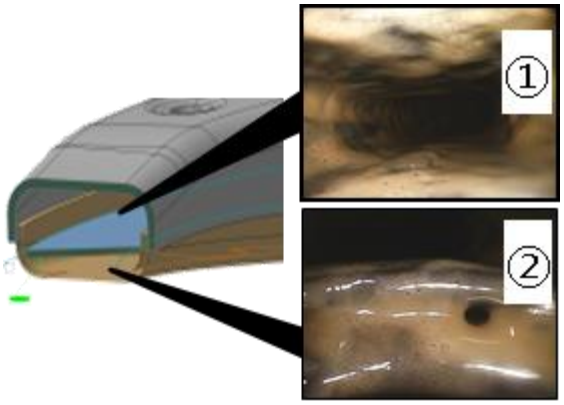


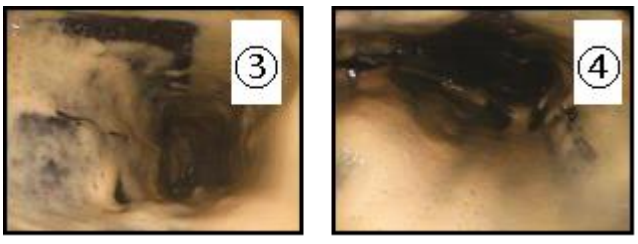


9. Check the wax application coverage inside the lower arm with the video camera. Take and save 5 photos, including the time and date stamp, of the locations, as identified in the pictures on this page.

**★ NOTICE**

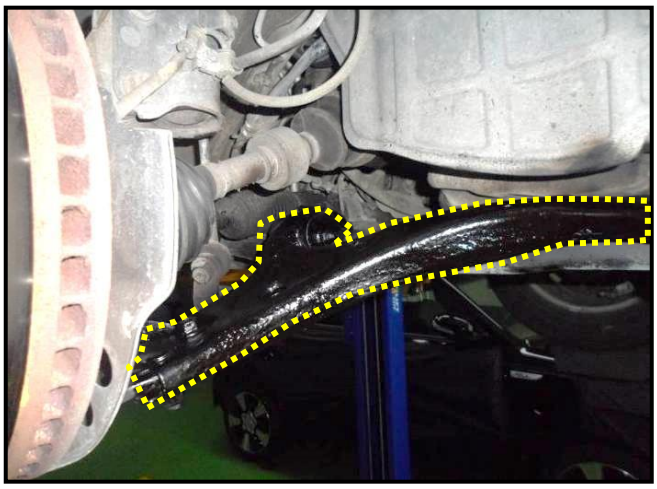
**Refer to the borescope manual for saving and retrieving files. Pictures must be attached to the warranty claim for warranty approval.**




**SUBJECT:** FRONT LOWER CONTROL ARM INSPECTION, REPLACEMENT OR APPLICATION OF PREVENTATIVE ANTI-CORROSION MATERIAL (SC133)

10. Spray underbody coating onto the upper and lower surfaces of the lower control arm. Avoid over-spraying other parts of the vehicle.



**WARNING**

**Underbody coating is <u>extremely flammable</u>! Do <u>NOT</u> smoke and avoid any open flames during application, to avoid possible injury. In addition, latex gloves and a dust mask should be worn to prevent skin contact with the underbody coating and inhaling any vapors.**

11. Reinstall wheels.

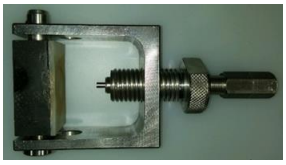
**Tightening torque:**
**65.1 ~ 79.5 lb-ft (90 ~ 110 Nm)**

REQUIRED PARTS:

| Part Name | Part No. | Qty. | Figure | Comments |
|---|---|---|---|---|
| Left Lower Control Arm | 54500 4D102QQK | 1 |  | Includes Replacement bolts for ball joint mounting location |
| Right Lower Control Arm | | | | |

**SUBJECT:** FRONT LOWER CONTROL ARM INSPECTION, REPLACEMENT OR APPLICATION OF PREVENTATIVE ANTI-CORROSION MATERIAL (SC133)

REQUIRED SPECIAL TOOLS:

| Part Name | Part No. | Qty. | Figure | Comments |
|---|---|---|---|---|
| Punch Tool | 1K545 4D100QQK | 1 |  | Auto-shipped to Dealer Replacement, contact Snap-On Business Solutions at (888) 542-1011 |
| Borescope Kit | 1K545 4D200QQK | 1 |  | |
| Application Hose | 06700 10110 | 2 |  | |
| Wax Injection Gun | 06700 10100 | 1 |  | Previously shipped to Dealer Replacement, contact Snap-On Business Solutions at (888) 542-1011 |
| Borescope Reflector | 06700 10120 | 1 |  | Included with Borescope Kit. Replacement, contact Snap-On Business Solutions at (888) 542-1011 |

REQUIRED PARTS:

| Part Name | Part No. | Qty. | Figure | Comments |
|---|---|---|---|---|
| Cavity Wax | UM014 CH062 (ValuGard)<br>UM090 CH041 (ValuGard) | 1 |   | Limit one (1/2) can and (1/2) bottle per vehicle (Order through Kia Chemicals) |
| Underbody Coating | UM010 CH044 | 1 |  | Limit one (1) can per vehicle (Order through Kia Chemicals) |

**SUBJECT:** FRONT LOWER CONTROL ARM INSPECTION, REPLACEMENT OR APPLICATION OF PREVENTATIVE ANTI-CORROSION MATERIAL (SC133)

AFFECTED VEHICLE PRODUCTION RANGE:

| Model | Production Date Range |
|---|---|
| Sedona (VQ) | From June 15, 2005 through August 14, 2012 |

WARRANTY CLAIM INFORMATION:

**C CODE C99 N CODE: N99**

| Claim Type | Causal P/N | Qty | Repair Description | Labor Op Code | Op Time | Replacement P/N | Qty |
|---|---|---|---|---|---|---|---|
| R | 54500 4D101 | 0 | (SC133) Control Arm (FRT/Lower/LH/RT) Inspection & Wax Apply **(Photo attachment 'XX: Others' Required) (ONLY 2008~2012 MY)** | 161072R0 | 1.0 M/H | UM014 CH062W | 1 |
| | | | | | | UM090 CH041W | 1 |
| | | | | | | UM010 CH044 | 1 |
| R | 54500 4D102 | 0 | (SC133) Control Arm (FRT/Lower/LF/RT) Inspect and Replace **(Photo attachment 'XX': Others' Required) (ONLY 2008~2012 MY)** | 161072R1 | 1.2 M/H | 54500 4D102QQK | 1 |
| R | 54500 4D100 | 0 | (SC133) Control Arm (FRT/Lower/LF/RT) Replace **(ONLY 2006~2007MY)** | 161072R2 | 1.0 M/H | 54500 4D102QQK | 1 |

**Note:** For vehicles requiring inspection when Special Service Tools are not yet available, car rental can be claimed using sublet code X1 for up to 5 days at $30.00/day. Details of the rental expenses such as reason, number of days, rental vehicle information and rental company must be stated in the claim comment area for reimbursement. Additionally all supporting documents must be kept with the RO.

**★ NOTICE**

**To assure complete customer satisfaction, always remember to refer to WebDCS Warranty Coverage (validation) Inquiry Screen (Service > Warranty Coverage >Warranty Coverage Inquiry) for a list of any additional campaigns that may need to be performed on the vehicle before returning it to the customer.**