RV6 Performance Front Compliance Mount and Spherical Bushing Install Guide For 10th Generation Civic Type R FK8

This is an install guide written for the RV6 Performance front compliance mount and spherical bushing kit for the 10th generation 2017+ FK8 Civic Type R. This kit replaces the two chassis mounted rubber bushings on both left and right front lower control arms with solid bearings. The components referenced here are specific to the 10th generation Civic Type R, but RV6 Performance does offer respective parts for non-Type R models. This kit is aimed to remove all the play and slop around the front suspension and provide a clean, crisp and responsive feel when turning. Note that when moving from compliant rubber bushings to solid bearings an increase in NVH can be expected.

Included in this kit are 2x spherical bearings to replace the front bushing in the control arms (including 4x steel spacers to make the bearing an exact drop in), 2x solid compliance mount bearings and housings to replace the entire bushing and housing at the rear of the front control arm (including a shim pack to fine tune the bearing housing fit against the front sub frame), and 4x new bolts to secure the rear compliance mount housings to the chassis. A 4mm Allen wrench is also supplied to finish assembly of the compliance mount housings. Note the 2x stock M16 bolts securing the front control arm spherical bushings to the chassis must be re-used.


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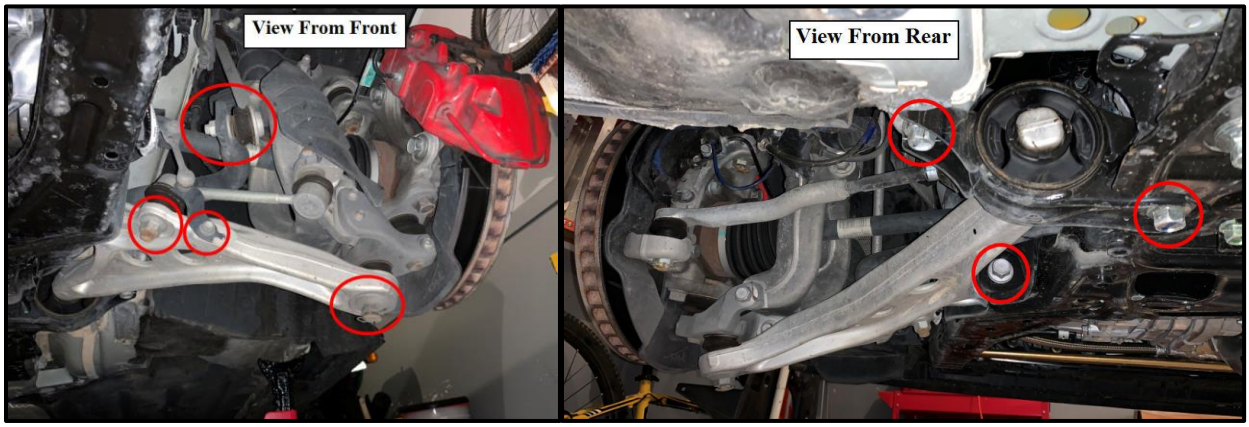
Preface:

This guide details the installation of this bushing kit on a 2017 Type R, #00561. This vehicle has not had any changes to the front suspension from stock. This process will be the same even if lowering springs or coilovers have been installed and should also be applicable for non-Type R 10th generation Civics. For this document all directions mentioned are the same as if you are seated in the vehicle (IE forward means towards the front of the vehicle.) For this document the terms "bushing" and "bearing" will be used interchangeably. Unless specifically mentioned, when referencing hardware in the document below the size listed is for the tool size required, not the size of the hardware itself.

To install these components the front control arms will need to be removed from the vehicle. In order to do so a total of 7 bolted joints will have to be taken apart on each side of the vehicle. These 7 locations are shown in the 2 images below with each joint circled in red. Note that one of the connections shown here is for the sway bar which will need to be de-coupled in order to provide clearance to the hardware securing the front bearing of the control arm. In addition to removing this hardware the lower ball joint will need to be separated. It does not appear possible to remove the stock components with the control arm still assembled in the vehicle. Despite removing the lower control arm an alignment should not be required after assembly as no adjustable connections will be taken loose during this install.



Always perform auto work in a safe manner. Never work underneath a vehicle without appropriate retention devices (jack stands or a lift.) Always wear proper protective equipment. Safety glasses and gloves are recommended. Other tools may be substituted based on availability or personal preference from the list provided below.

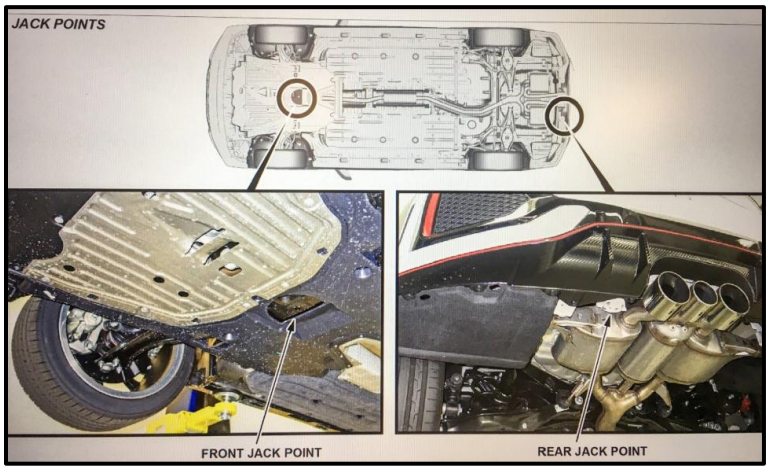
Tools Recommended:

- Socket Wrenches:
  - 3/8" or 1/2" Socket Wrench / Breaker Bar / Impact Gun
    - 10mm Socket
    - 12mm Socket
    - 19mm Socket
    - 22mm Socket
  - Various Extensions
  - Universal socket adapter (Flex Joint)
- Allen wrenches / Hex Bits
  - 4mm
  - 5mm
  - 8mm
- Open Ended Wrenches
  - 14mm
  - 19mm
- Phillips Head Screw Driver
- Flat Head Screw Driver
- Needle Nose Pliers
- Snap Ring Pliers
- Hammer / Mallet / Dead Blow (Ideally Brass or Plastic)
- Ball Joint Separator Tool
- Means to Press Bearings In and Out. Options include:
  - Hydraulic Press
  - Ball Joint Removal Kit
  - Varying Selections of Pipe (Inner Diameter ~50-55mm)
  - C-Clamps
- Bench Vise or Clamps
- Floor Jack(s) or Lift
- Jack Stands (2-4x)
- PB Blaster (Or Similar Penetrating Liquid)

Installation Steps:

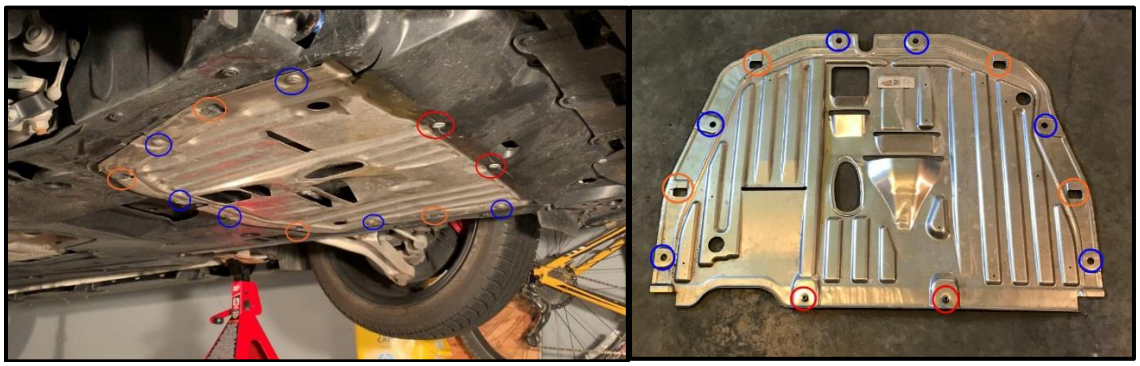
Step 1: Raise Vehicle and Install Jack Stands

- 1.1: Utilize the front center jack location shown below or other means to raise the vehicle and install jack stands under the side retention points. Due to difficulty accessing the central jacking location ramps or a smaller secondary jack may be used to partially lift the vehicle at the lower retrieval hook (underneath the engine) or at one side jack stand location. Raise the vehicle enough to position the primary floor jack under the central jack location and proceed with lifting the vehicle from there. Install jack stands when enough clearance is obtained underneath the vehicle.



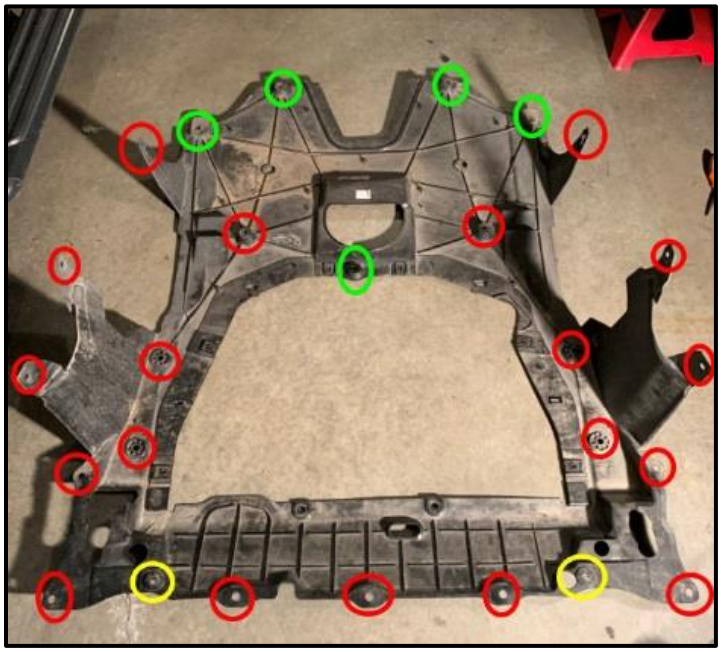
Step 2: Remove belly pan and plastic shrouding:

- 2.1: Remove 2x Phillips head machine screws at the front edge of the belly pan (Red Circles.) Remove 6x 90 degree plugs with a flat head screwdriver (Blue Circles.) Slide belly pan rearward to release it from the 4x tabs (Orange circles.)



- 2.2: Remove 19x pop clips on the bottom and side faces of the plastic shrouding (Red Circles.) Remove 2x 5mm internal hex bolts at the front of the cover (Yellow Circles.) Remove 5x 10mm head bolts (Green Circles.) Slide the plastic shrouding from underneath the vehicle and set aside. Ensure the shroud is free of all retention points and nearby components before attempting to

remove, especially at the side portions as they may become hung up around the steering knuckles and wheel well.



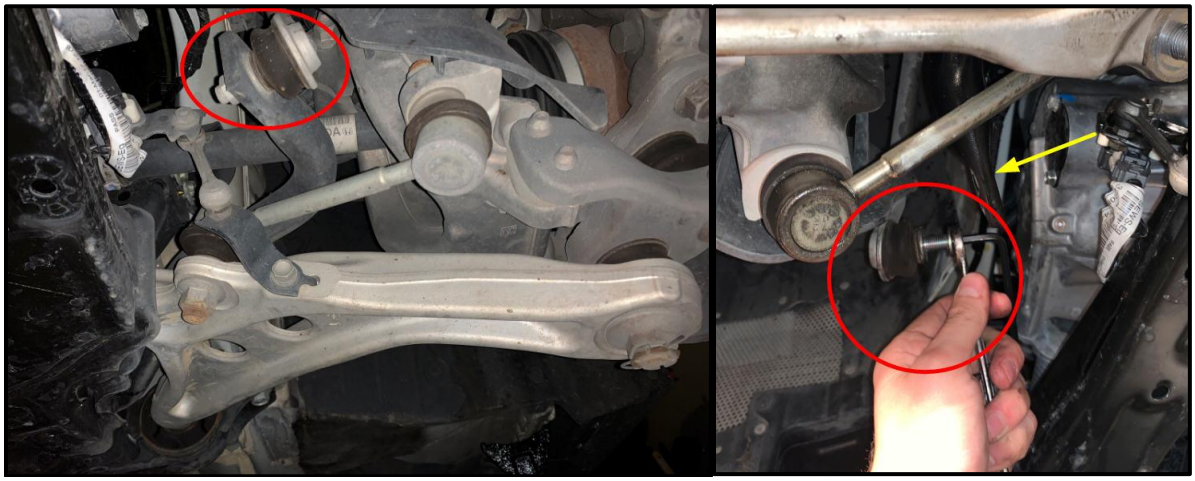
Step 3: Remove front control arms:

- 3.1: Remove 1x 12mm head bolt securing the ride height sensor linkage bracket from the control arm (Red Circle.) Gently reposition the linkage away from the control arm.

- 3.2: Remove 1x 19mm nut from the linkage stud (Red Circle.) This nut may be broken loose with a socket or impact but to fully remove the nut the stud will need to be retained with an 8mm hex bit while the nut is turned with a 19 mm wrench. See the photo below for a possible tool arrangement. Note there may not immediately be enough clearance to remove the linkage stud from the control arm - do not force the stud through the arm as this may damage the threads.

The steering knuckle can be rotated slightly to allow more freedom to slide this stud through the control arm or it can be removed once the ball joint is separated.

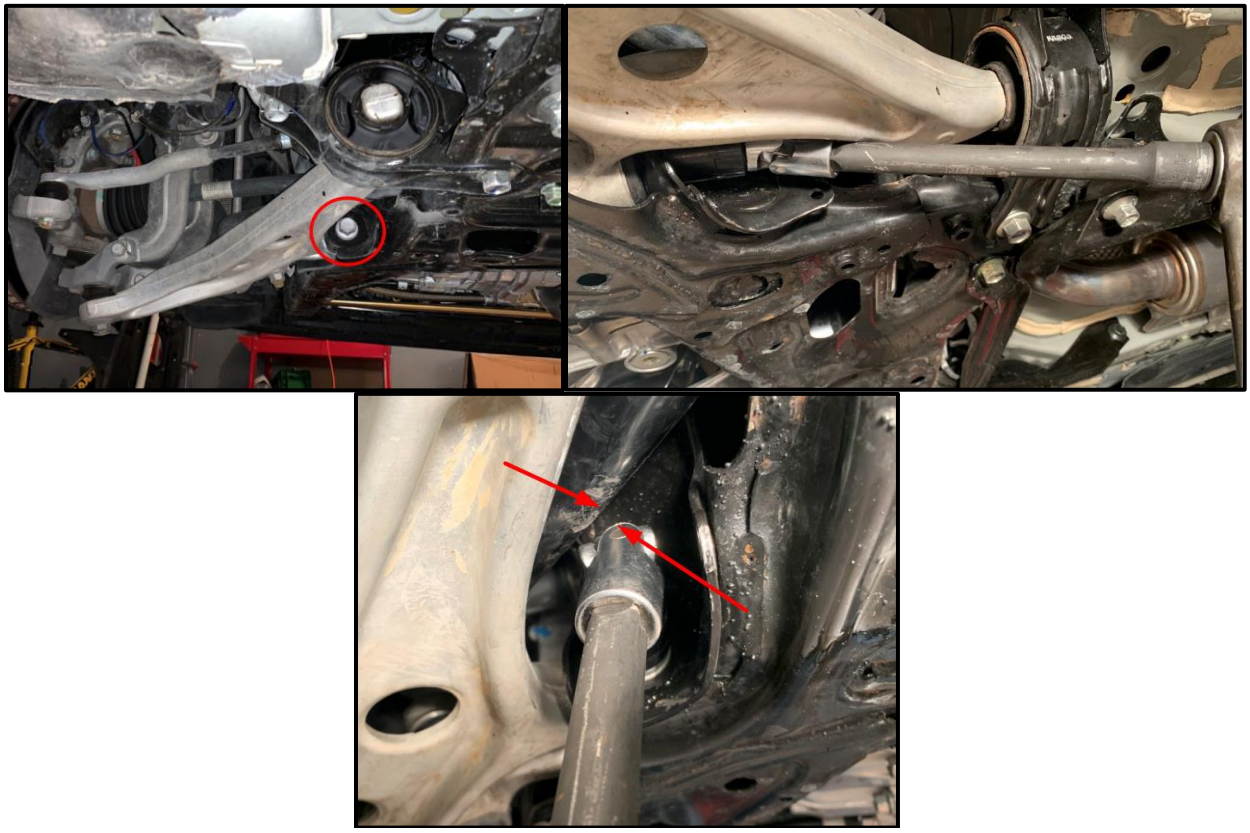
- 3.3: Remove 1x 14mm nut from both the left and right end of the front sway bar end link stud (Red Circle.) This step is required to provide additional socket clearance for the bolt securing the front bushing in the control arm. Once the sway bar is de-coupled it will rotate away from the control arm bushing and provide additional clearance. Note that both left and right-side studs must be removed before the sway bar will rotate. To fully remove the nut a 14 mm wrench and 5 mm hex bit will be required using the same method as detailed in step 3.2. Reference the image below showing the tool arrangement. Note that the de-coupled stud (Red Circle) and sway bar (Yellow Arrow) are from the passenger side of the vehicle while the other photo in this step is of the driver side.



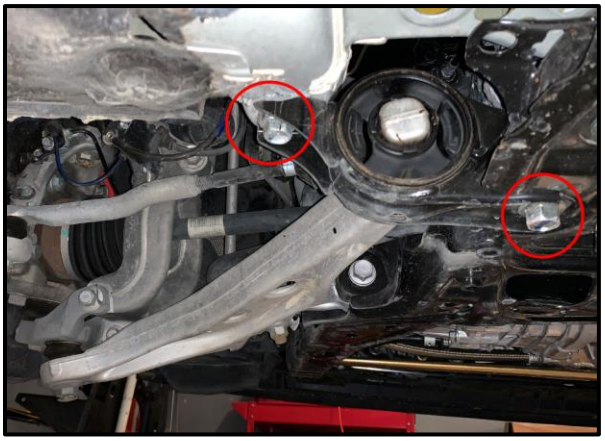
- 3.4: Remove 1x 19mm head bolt securing the front control arm bushing (Red Circle.) This bolt is the most difficult to access even after gaining more clearance by rotating the front sway bar. The method used here to remove the bolt was as follows:
    - Initially loosen the bolt with a 19mm socket and a breaker bar.
    - Continue working the bolt out using a 19mm socket, universal joint, extension and ratcheting socket wrench. Note this will only work for part of the removal as the universal joint will interfere with the sway bar at a certain point (Red Arrows in the final image.)

Ensure you leave enough clearance to remove all tools, otherwise the bolt will need to be partly re-installed to remove the sockets. A shallow 19mm socket may reduce the difficulty of removing this bolt.

- Finish removing the bolt with a 19mm wrench. There will be clearance to fully remove the bolt from the chassis.

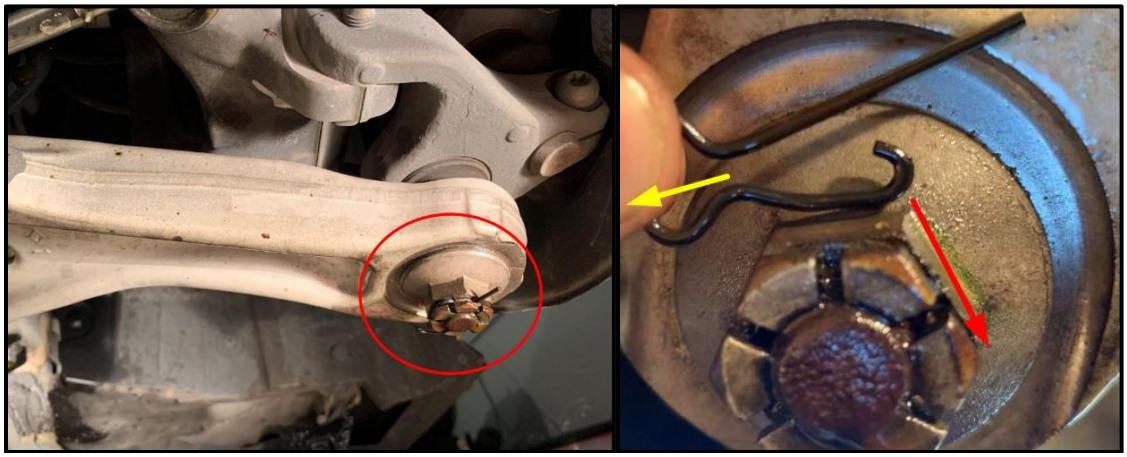


- 3.5: Remove 2x 19mm head bolts securing the rear control arm bearing / compliance mount housing to the chassis (Red Circles.)



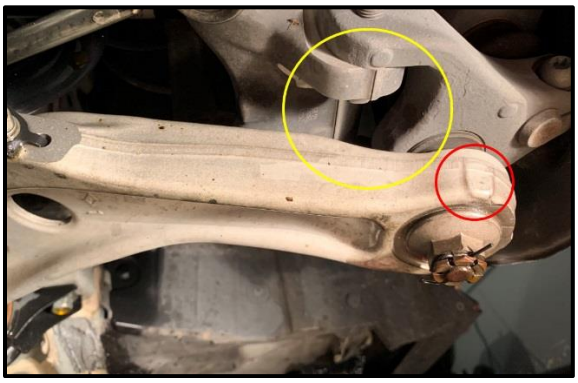
- 3.6: Using needle nose pliers remove the cotter pin from the ball joint castle nut (Red Circle.) Grasp the pin on the side profile and gently pull away from the castle nut (Red Arrow.) Once this

tab is disengaged the pin can be slid rearward and removed from the castle nut (in the direction of the Yellow Arrow.) Note that these pins are re-useable if the pin is not damaged during removal.



- 3.7: Remove the 22 mm castle nut from the ball joint (Reference the image in step 3.6.)
- 3.8: Separate the front control arm from the lower ball joint. This step can be accomplished in several different ways depending on your personal preference. Regardless of the method used to separate the control arm from the ball joint be extremely careful to not damage the ball joint bearing, boot, stud or threads. Extensive additional steps will be required to replace the ball joint if it is damaged.

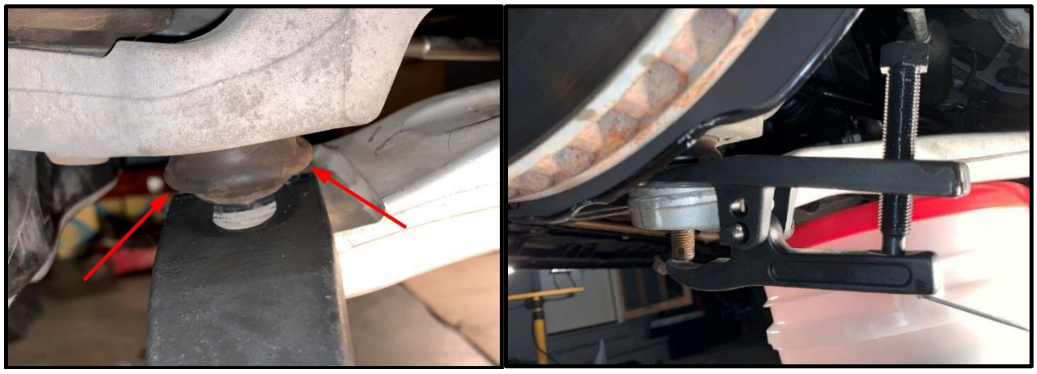
  Traditional methods to separate a ball joint involve "shocking" the joint by hitting the raised portion of the control arm hard with a mallet. There are two raised areas on the control arm for this purpose; one on the front and one on the rear side of the ball joint area (front location shown in the Red Circle below.) The success of this method alone can vary. This method also runs the risk of damaging the control arm due to the force required when striking the hammer. This is especially true against softer metals. A brass mallet is preferred to reduce the risk of damaging the control arm



The recommendation here is to also apply a separating force to the ball joint with the use of a pry tool or a ball joint separator. A few strikes from a mallet will still be required but the force will be greatly reduced. A pry tool can be inserted between the control arm and the knuckle (area shown in Yellow Circle above) and a force can be applied to the joint while a mallet is used to strike the

control arm as described above. This will require 2 people. If working alone a ball joint separator tool accomplishes the same effect.

If using a ball joint separator, carefully insert the clevis jaw portion between the bottom of the ball joint boot and the upper surface of the control arm. The method used here to accomplish this was to take a small screwdriver and gently pull up the ball joint boot by prying against the bulged portion of the boot with the round shank of the screwdriver. The image below shows the clevis portion of the separator tool correctly inserted between the boot and the control arm, and also shows the bulged portion of the boot that was pulled upwards with the screwdriver (Red Arrows.) Note this image does not show the separator tool fully inserted. The final image shows the tool fully inserted and loosely assembled. At this point tighten the separator tool bolt until a reasonably amount of torque is required to turn it further. Then strike the control arm in the specified areas 3-4 times with a mallet to try and shock the joint apart. If it does not separate, tighten the bolt on the separator tool a 2-3 turns and repeat the process. The intent is not to have the ball joint separate with the use of the tool alone, but rather to have some force applied to the joint to assist with the shock supplied by the mallet strike. Attempting to separate the joint using this tool alone runs a risk of damaging the ball joint stud or threads since the force applied is directed entirely through the ball joint stud.



- 3.9: Remove the control arm from the vehicle. Ensure all other components and studs are disconnected from the control arm before applying excessive force attempting to remove it from the vehicle (such as the linkage stud mentioned in step 3.2.) Once the ball joint is separated the control arm can be removed from the ball joint stud by rotating the arm downward. Next rotate the control arm to the rear of the vehicle to remove the front bushing from the chassis. Finally, the arm can be pulled towards the outboard side of the car to remove the rear control arm bushing and housing from the chassis.

Step 4: Remove rear control arm bearing and housing:

- 4.1: Remove the rear control arm bearing and housing from the rear spindle of the control arm. This can be accomplished by clamping part of the bearing housing in a bench vise and twisting / pulling the control arm. Alternatively, the control arm may be secured to a solid surface and the bearing can be physically rotated and pulled to remove it. A screwdriver or solid rod can be inserted into the two holes on the clevis side of the bearing housing and then used to rotate the bearing against the control arm (depicted below in Red.) A combination of any methods can be used as long as care is taken not to damage the control arm when securing it (for example use

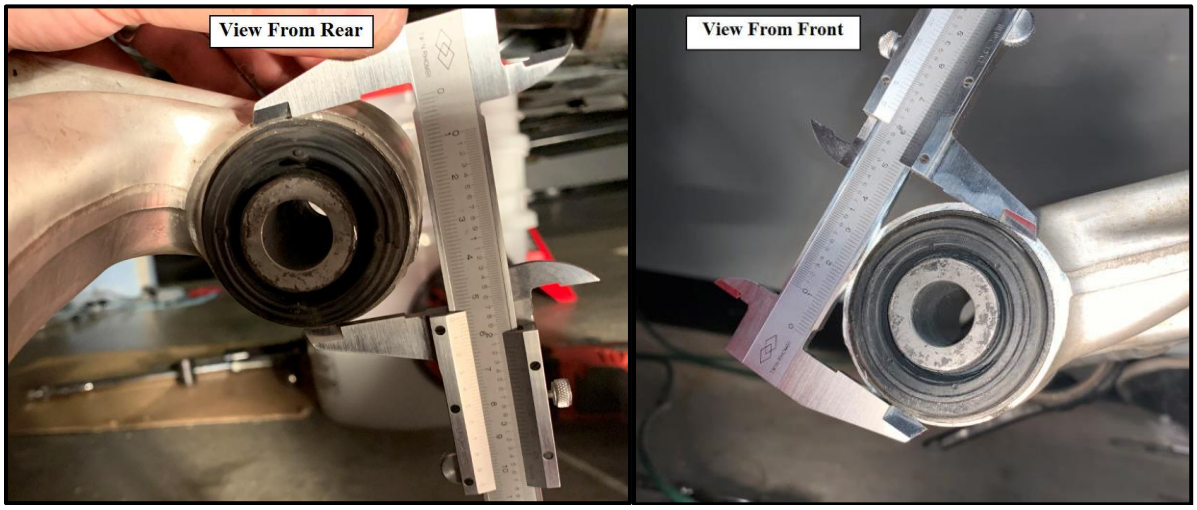
clamps with rubber holding surfaces or insert a sacrificial piece of scrap wood between the control arm and a metal vice.) The inner profile of the rear bearing is also shown to illustrate the "ribbed" profile that reacts against the square profile on the control arm spindle. It may be difficult to rotate the bearing against the spindle initially, but as you successfully slip the bearing against the spindle it will gradually become easier to perform the motion and ultimately remove the bearing.

Step 5: Remove Front Control Arm Bearing:

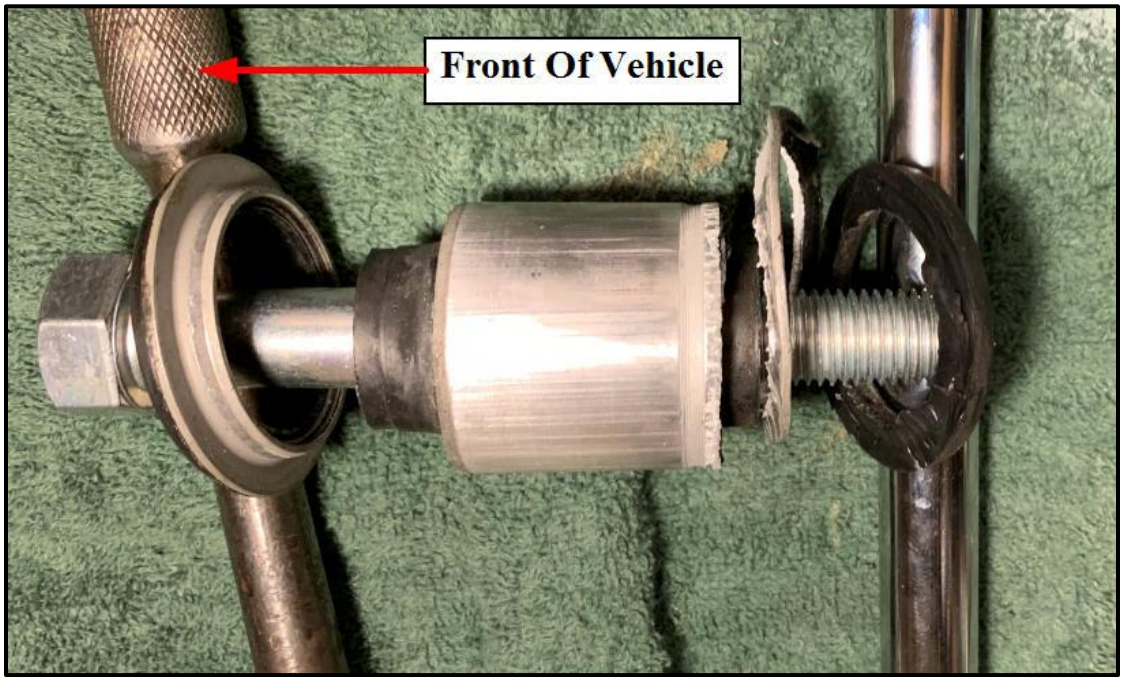
- Preface: It should be mentioned that the method detailed to remove this bearing will not exactly reflect what is shown in the images. This is due to the lack of information available at the time of this installation and the experimental nature of removing these bearings. At the time of writing this document there was no means to purchase this bearing by itself or see the inner profile of said bearing - the only option was to purchase the entire control arm assembly with the bearing already pressed in. Even if the procedure is followed exactly as the pictures show (instead of what is described) there is little risk of damage to the control arm. Mention will be made where the procedure should be different than the images, mainly regarding the direction the bearing is intended to be pressed out. The procedure detailed can also be varied based on the tools available to the installer.

  The stock bearing consists of a metal inner tube section that is bonded to a rubber portion (the actual bearing) and this is all encapsulated in a metal sleeve. One end of this metal sleeve is flanged which acts as the positive stop against the control arm face when pressed into the control arm bore. The opposing side of the bearing is then sealed with a flanged cap. However, when

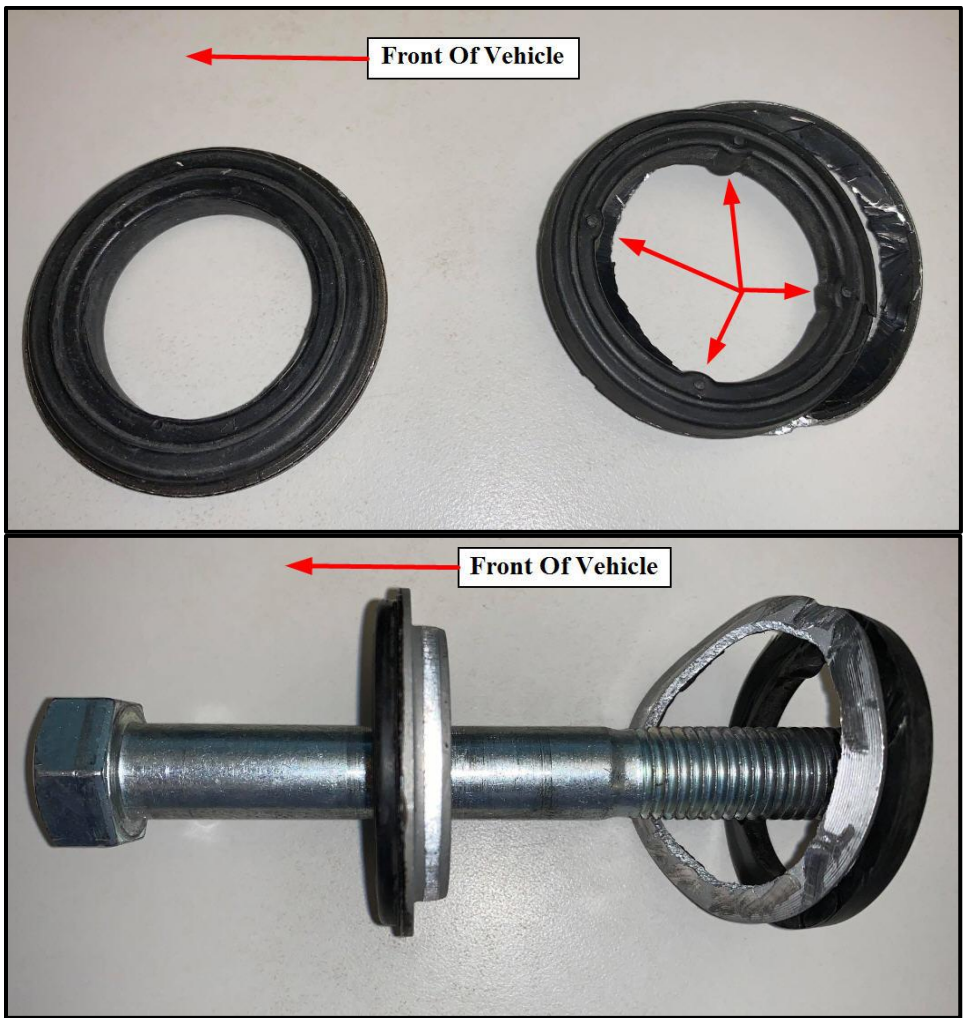
looking externally at either end of the bearing it is nearly identical with both flanges measuring roughly 54mm in diameter as shown below.



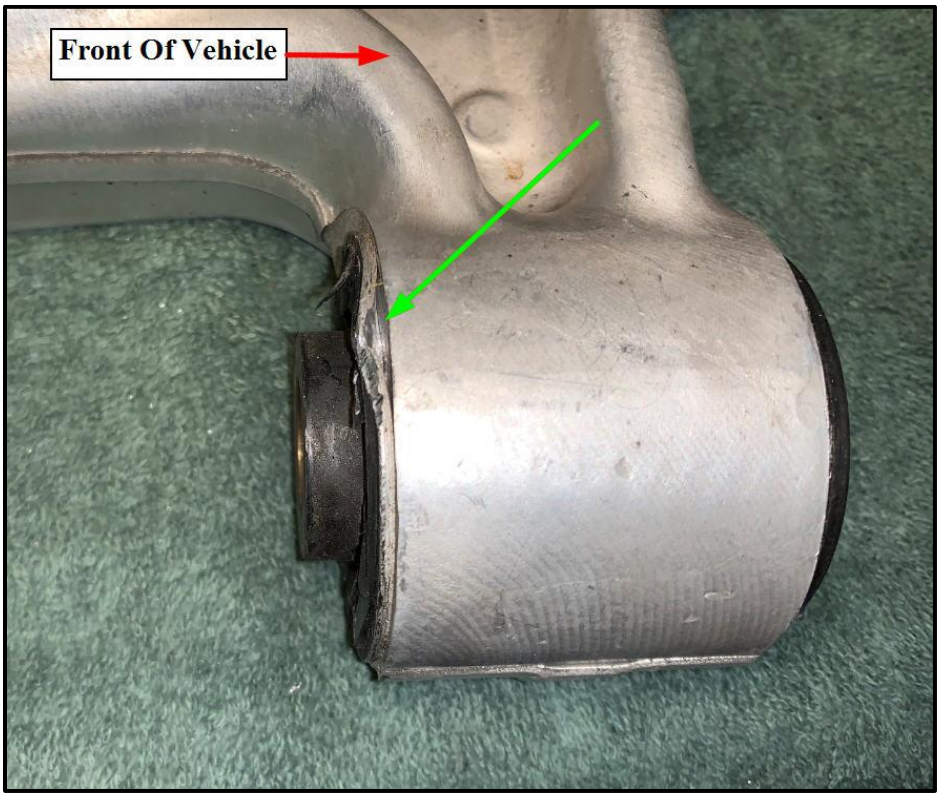
As a result of not knowing which end of the bearing the cap was, the bearing detailed in this guide became damaged during disassembly as the flange connected to the bearing sleeve was removed to understand the components. The outer rubber portion on the rear side of the following images was also cut off manually prior to any other steps solely to understand the initial assembly of the bearing better - this is not required to be performed in any way. It should be noted that damage to the bearing is somewhat irrelevant as the spherical bearing supplied in the RV6 Performance kit replaces the entire stock rubber bearing assembly. The fully removed bearing is shown below and the damage to the flanged side of the stock bearing sleeve can be seen. Again, since none of these components are to be re-used this is acceptable.



The vehicle this bearing was removed from had the bearing cap installed on the front side of the control arm bore on both left and right control arms. This would generally mean the cap is to be removed first and the bearing pressed towards the rear of the car which should allow the stock bearing and flange to remain intact during removal. It should be the case that all 10th generation Civic Type R vehicles are assembled the same way, but if that is not the case there is one feature to help identify which end of the bearing is the removable cap. When inspecting the visible rubber on either end of the stock bearing the side that shows 4 protruding nubs on the inner diameter of the rubber will be the side where the flange is integral to the bearing sleeve (features shown in Red below.) The opposing side will be the removable cap which can be easily pried out with a small screwdriver or pick tool.



- 5.1: Remove bearing cap. Place the tip of a flathead screwdriver between the flange and the control arm face and strike lightly with a hammer. The screwdriver should be angled slightly so the tip does not dig into the control arm face. NOTE: The image below is during the removal of the integrated flange, but the procedure would be the same if working to remove the front cap on the opposite face. The deformation on the flange in the image below does illustrate where and how the prying force from the screwdriver should be applied (reference the angle of the Green Arrow.) Very little effort will be required to remove the actual cap.

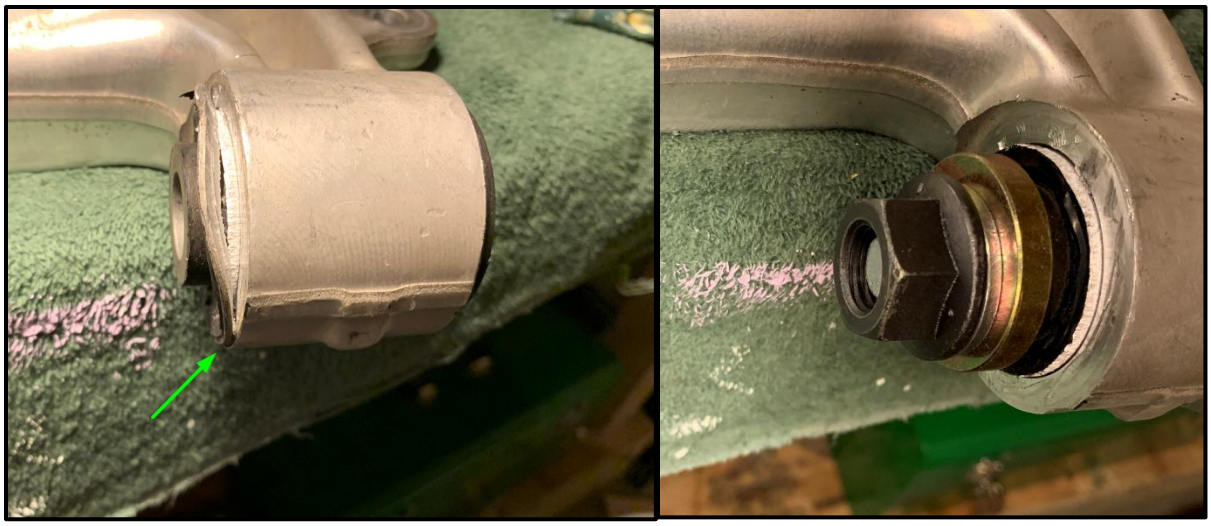


- 5.2: Prepare the bearing to be pressed out. Under normal circumstances as described in the Preface section, this step would be to brace / restrain the control arm and have a means to push the bearing out from the front towards the rear of the control arm bore. In order to setup a press for this you need 3 things: a "driver" to push the bearing, a "housing" to catch the bearing as it is pushed out, and the means to apply the force.

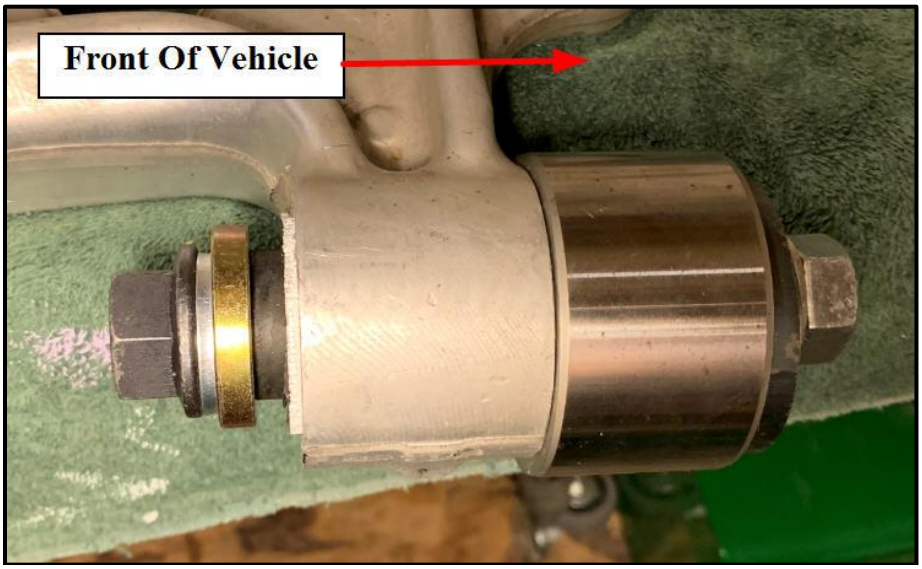
  The first step is to find the "driving" portion of your press setup. The removed stock bearing is shown below, which was measured to have an outer diameter of roughly 43mm. This means that you want to find something to drive out the bearing with a slightly smaller diameter to react against the bearing sleeve without interfering with the ID of the bore in the control arm. The setup detailed here used a thick washer measuring roughly 38mm as the driver. This is about the same diameter as a 1-1/16" socket. This was the largest socket readily available, but a slightly larger socket would have worked well too. It is not recommended to use a driver smaller than 38mm in diameter.

Next a "housing" must be located. This is essentially a hollow tube that will brace the face of the control arm against the device doing the pressing and allow the bearing to slide inside as it is pressed from the control arm bore. A ball joint press kit will have an array of hollow tube sections that could work well here, or a sufficiently sized socket or stray pipe section can work. The important part of this step is the ID of your housing MUST be larger than the bearing being pressed out (to allow clearance for the bearing as it is removed) while also being small enough to sufficiently react against the face of the control arm so you can safely load up the joint with the pressing force.

Due to the requirements listed above for locating a "housing" and the physical dimensions of the bearing flange and control arm face, there did not appear to be enough area to react against. Reference the area indicated by the Green Arrow in the below image to see the minimal amount of area to brace against. This led to the decision to continue with the permanent removal of the integrated bearing flange in an effort to produce more flat surface area of the control arm to react against. This is what is depicted in the image as you continue to pry the flange away from the control arm face. The second image below shows the same face of the bearing once the entire flange is removed, exposing ample surface to brace against. If it is desired to not damage and remove the integrated flange alternative and safe means to brace the control arm will need to be determined.



The final step is to identify the means to do the work. If a hydraulic press is available, the "housing" and "driver" can be stacked on either end of the bearing to be removed and the press can be used to push the driver against the bearing to drive it into the "housing". The method described here is a mechanical press utilizing an M16 bolt (the same size as the stock bolt in this location, but NOT the bolt removed from the vehicle.) The fully assembled mechanical press is shown below, with the 38mm diameter washer on the driving side (the gold colored washer) and a properly sized tube section on the right-hand side to react against the control arm and accept the bearing as it is removed. Both ends are tied together with the M16 bolt and a respective flange nut. Various washers / spacers were used to complete the joint (such as the black spacer between the bolt head and the tube section.)



Note that the setup pictured above was intended to drive the bearing towards the front of the car, whereas the bearing should under ideal circumstances be driven towards the rear of the vehicle to be removed. This is where it is worth mentioning that there is a small but noticeable risk to performing the pressing as the images depict. As seen in an above image the integrated flange tends to shear off at a specific diameter. This diameter, while jagged from ripping the metal, is

also slightly smaller than the diameter of the bearing itself. As such one control arm bearing was successfully pressed towards the front of the car without damage, but to minimize the risk of damaging the bore the second control arm bearing was pressed towards the rear once the joint was understood better.

- 5.3: Remove the front control arm bearing using the pressing setup developed in the previous step. The bolt method will continue to be described here. As the bolt is tightened against the flange nut the bearing is gradually pushed into the "housing". The partially pressed bearing is shown below, which is also the moment the cap was identified as it fell out of the housing. Since M16 bolts in this length are generally not threaded on the whole length it is required to either loosen the joint and stack additional washers to properly space the bolt head and flange nut (as shown below) or to utilize a shorter length bolt. Continue this procedure until the bearing is fully removed from the housing. Hand tools were used in the bearing removal, but an impact gun could be utilized to make the process easier.

- 5.4: Prepare the control arm for the new bearings. As mentioned in the steps above a small amount of marring was incurred on the rear face of the control arm bore when prying off the integrated flange. A small file was used to remove any burrs or raised portions both on the rear face and the chamfer to the bore. The image below makes the marring look much more severe than reality due to the lighting. Small scratches on the face are acceptable as this surface only acts

as a stop to retain the bearing. The important part is to ensure any high areas are knocked down to allow the new bearing to be pressed in fully. Take care not to overly scratch or change the shape of the internal bore itself. At this point it is advised to clean the bearing surfaces while the components are on the bench prior to assembling any new components. Brake cleaner was used to clean the rubber residue left on the spindle from the rear control arm bearing removal and to ensure any metal shavings from the front control arm bore were removed.

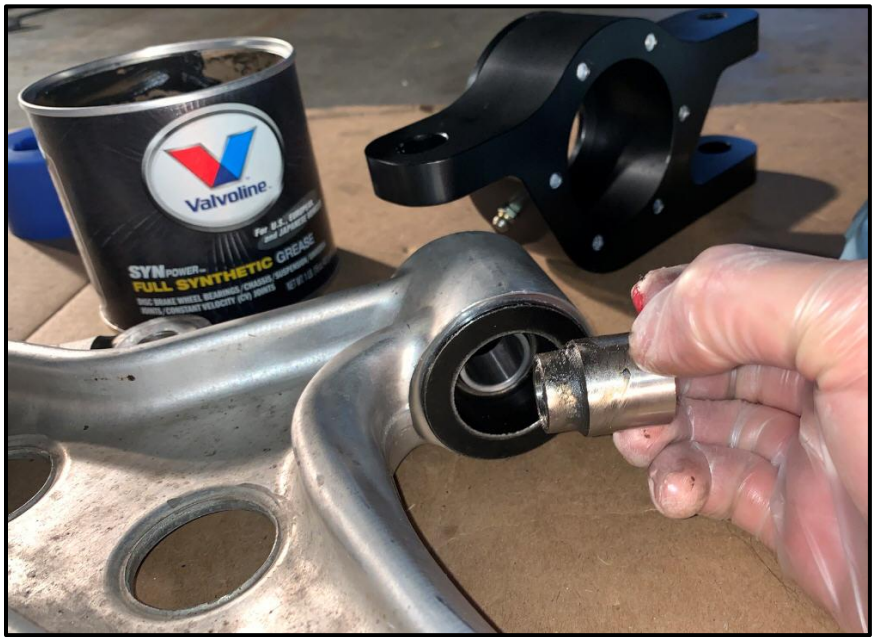
Step 6: Install the RV6 Performance spherical bearing:

- 6.1: First ensure that the metal spacers on either side of the new spherical bearing are removed prior to pressing into the control arm. Using the same or a similar setup as detailed in step 6 the new spherical bearing can be pressed into the front bore of the control arm. The bearing is symmetrical and should be able to be assembled from either end of the control arm, but to maintain commonality with the stock vehicle it was chosen to press this bearing in from the rear face towards the front. The images below show the press used in various stages of assembly. The important notes for this step are:
    - If using the bolt method initially torque the joint by hand to ensure proper seating and initial insertion of the new bearing into the bore. If using a conventional hydraulic press carefully monitor the initial pressing to ensure alignment during assembly.
    - This bearing becomes increasingly difficult to press into the bore as it continues to work into the control arm. As such at roughly the halfway point hand tools were swapped for an impact gun to finish driving the bearing into the bore. Continue to drive the bearing until the rear flange on the spherical bearing is fully seated against the control arm face.
    - Be mindful that the new bearing will protrude through the front face of the control arm bore once it is fully assembled. As such make sure you utilize a hollow "housing" portion that allows the bearing the clearance to fully seat. Note the pipe section used instead of the thick washers in the final image below.

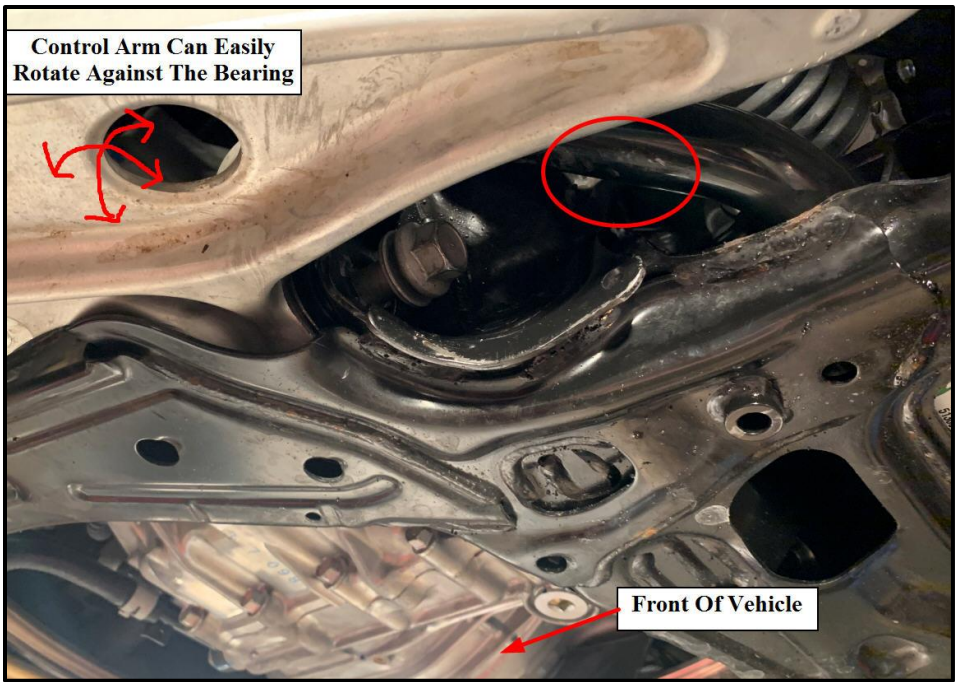
- 6.2: Using snap ring pliers assemble the retaining ring on the front of the spherical bearing once it is fully seated.

Step 7: Re-install control arms with RV6 Performance compliance bearings and housings:

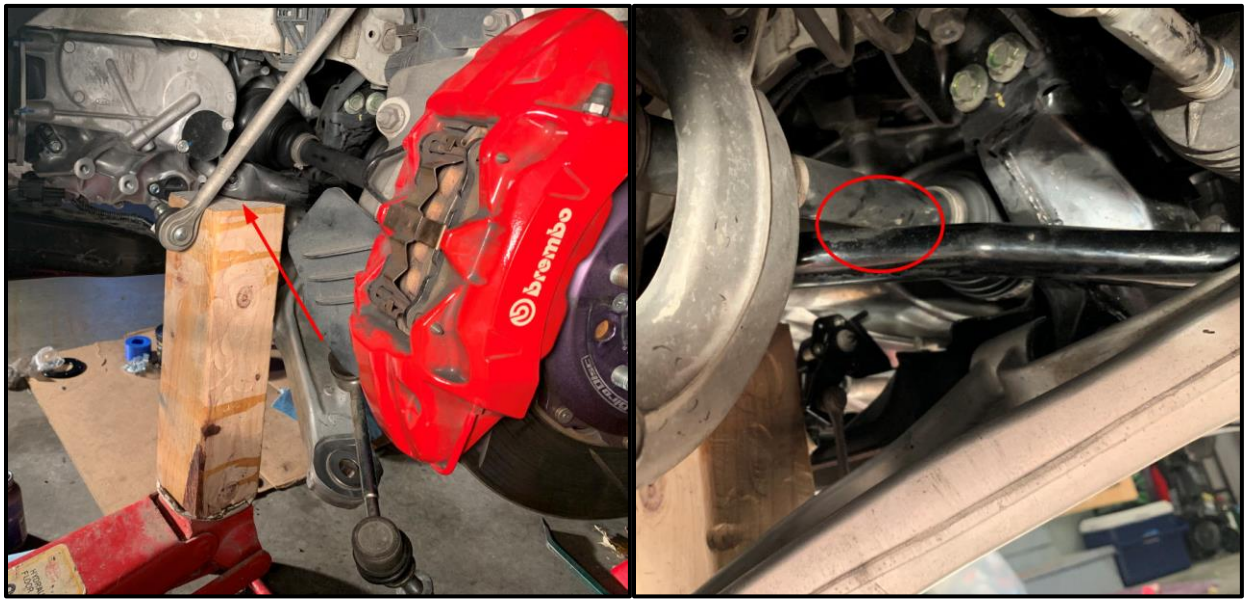
- Preface: This step is lumped together as one because you will assemble the new compliance mount while the control arm is being re-installed. Due to the tighter clearances in all components it is not advised to attempt and install the compliance bearing onto the rear control arm spindle first. From RV6 Performance the rear compliance bearing assemblies are loose and consist of the black housing with one face assembled, a blue solid bearing portion, a loose face to assemble on the rear of the bearing housing and the required hardware to complete the joint. Locate the compliance bearing that will have the unassembled plate pointing towards the rear of the vehicle for the side that you are assembling and have all the remaining components within reach (including the remaining compliance bearing parts and the metal spacers for the front spherical bearing.)
- 7.1: Insert both metal spacers into either end of the front spherical bearing. These spacers are machined with very tight tolerances and as such must be aligned perfectly before they fully seat into the bearing. Do not force them - if resistance is felt try gently moving the components to align them. Very little effort will be required once proper alignment is achieved. A small amount of grease may be used to help retain the spacers during assembly of the control arm.



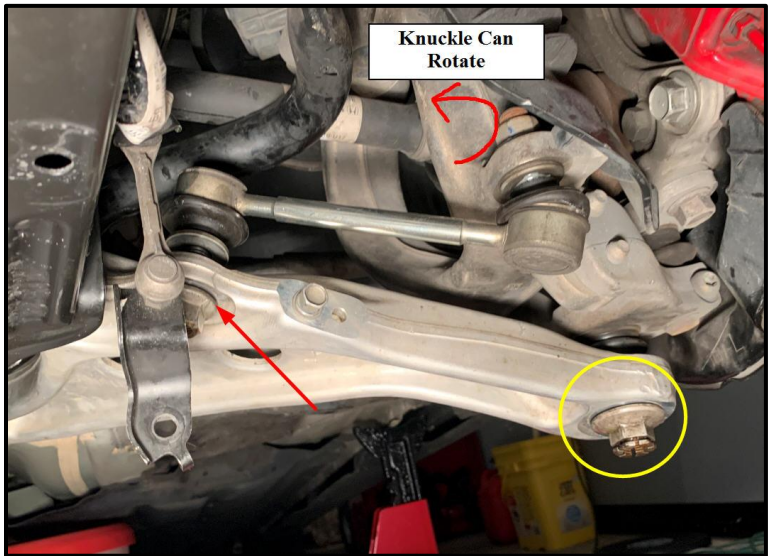
- 7.2: Begin assembling the control arm back into the vehicle. The best method found is to start by assembling the front spherical bearing into the chassis. Carefully align the new bearing into the clevis of the frame and insert the stock bolt through the chassis and spherical bearing. The exact alignment of the control arm doesn't matter at this point, as you can manipulate the arm easily against the spherical bearing once all components are secured (directions of freedom drawn in Red arrows in the below image.) Note that this joint continued to be the most difficult of the entire process due to the sway bar. The new, tighter tolerances of the spherical bearing supplied will become apparent as the stock bolt will have trouble aligning into the joint and inserting through the bearing (the bolt head will interfere with the sway bear in the location circled in Red below.)



The solution was to utilize a floor jack and a piece of 4x4 to brace against the forward end of the sway bar and gently lift the sway bar up to gain clearance for the above-mentioned bolt head. Be very careful that you are properly braced and that all nearby components are not interfering with this process (such as the ride height sensor and the stabilizer link.) Also note that the further the sway bar is rotated the more it will interfere with the axle (circled in Red below.) Gently moving the knuckle will also move the axle to gain more clearance to rotating the sway bar. Raise the sway bar in small increments until you can insert the bolt into the front spherical bearing. Loosely thread the bolt in at this point. Once the bolt is successfully assembled release the pressure from the floor jack.



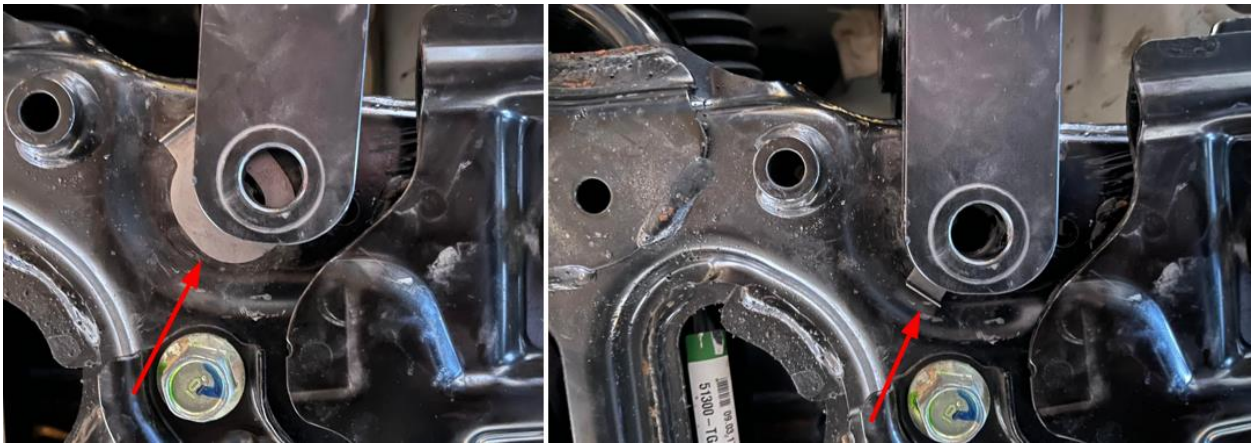
- 7.3: Manipulate the control arm and ball joint stud to allow them to assemble. Loosely thread on the castle nut (Yellow Circle.) The stabilizer link stud can also be assembled at this time by rotating the knuckle until the proper alignment is achieved. Loosely thread the flange nut onto the stud (Red Arrow.) It is advised to not connect the ride height sensor yet to prevent damage that may stem from continuing to manipulate the control arm.



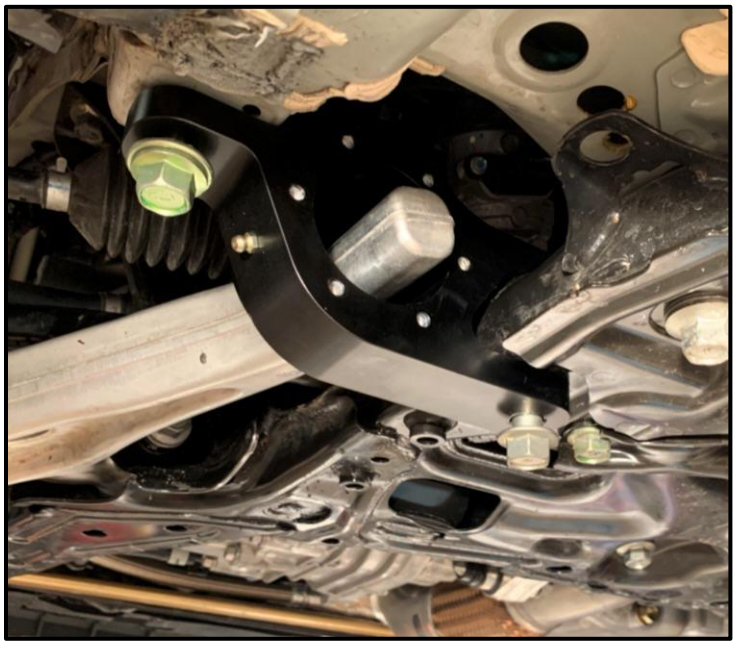
- 7.4: Install the rear compliance mount bearing. Locate the RV6 Performance rear compliance mount housing that will have the unassembled face pointing towards the rear of the vehicle when installed. Ensure the blue bearing portion is removed at this point. Slide the bearing housing over the rear control arm spindle and position into the correct location in the chassis. This will likely require some pushing and pulling against the control arm to allow all components to align properly.

  Loosely assemble the bearing housing to the chassis using the 1x short bolt supplied with the kit at the outboard mounting location.

  Attempt to insert the supplied shims between the lower housing clevis and the sub frame. Due to the variation in sub frame thickness the number of shims required will vary. Attempt to insert the largest shim size first, then move to inserting smaller shims until no more can be installed between the housing and sub frame. Once the shims are inserted a screwdriver can be used to align all holes.



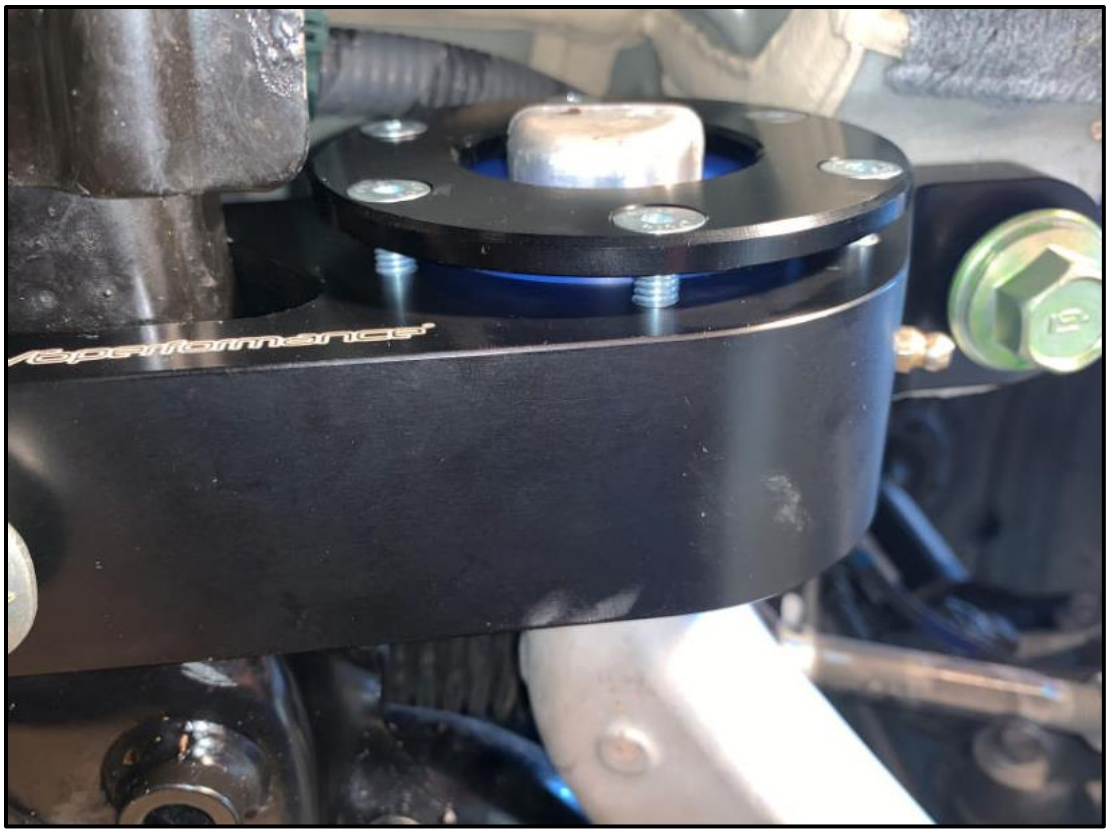
Once the housing is aligned the 1x longer bolt supplied with the kit can be loosely assembled into the inboard connection to the sub frame as shown below.



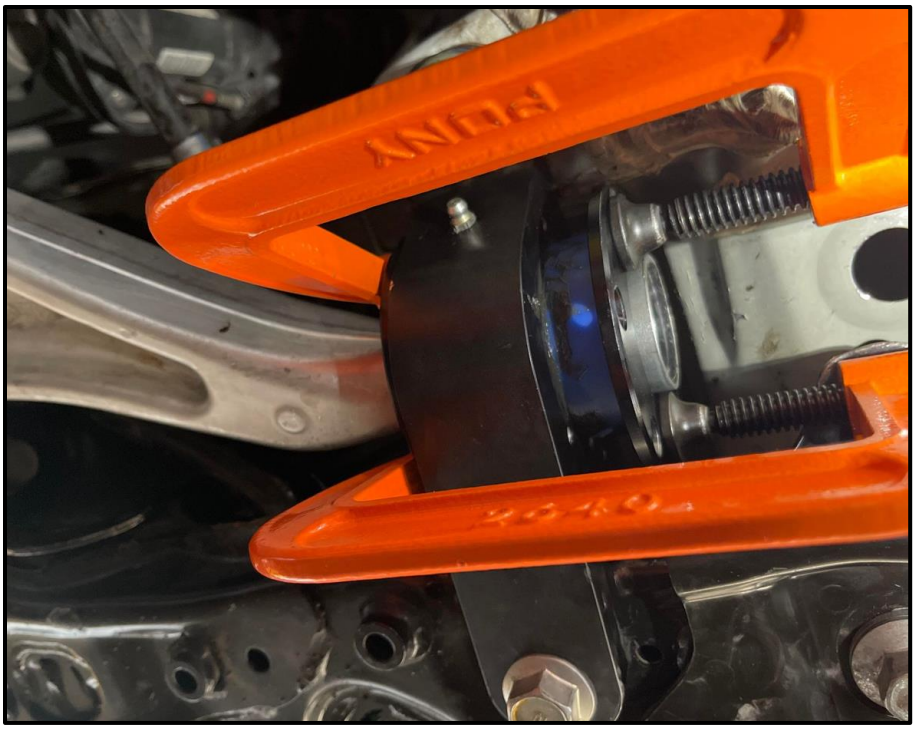
Next begin positioning the blue bearing onto the control arm spindle. Ensure that the grooves in the rubber lining of the bearing sleeve align with the profile in the control arm spindle (reference the Red Arrows below.) It should be possible to have the bearing slightly piloted onto the spindle by hand to keep it from falling off during the next steps. Grease can be applied to the inner surface of the housing and the spindle to make assembly easier.

Due to the tight-fitting nature of this bearing against the spindle it will be required to be hammered on. It is advised to use a rubber or plastic dead blow to prevent damage to the bearing, but the solid material is quite hard and can resist damage from a standard claw hammer if used. A piece of scrap wood can also be placed between the bearing and hammer if a means to support all components safely can be found. Hammer the bearing onto the spindle until it is nearly at the surface of the compliance mount housing. A reasonable amount of hammering force will be required to move the bearing on the spindle. Next manipulate the control arm and compliance mount housing to align the blue bearing with the bore in the black housing. Continue to hammer the bearing onto the spindle and into the bearing housing.

Once the bearing is pressed in far enough onto the spindle it can become difficult to land accurate strikes with the mallet. At this point it was chosen to finish driving the bearing in with the rear housing cover. Take the rear cover for the compliance bearing and assemble it to the housing using 6x of the supplied internal hex bit screws. Run all 6x screws down using the 4mm Allen wrench supplied until the cover is snug against the rear face of the blue bearing. At this point gradually and evenly tighten the 6x screws to continue driving the bearing into the housing, ensuring a star pattern is used to tighten the screws. The recommendation is to make a half turn on one screw, move to a screw on an opposite side of the joint and repeat working around all 6x screws until the cover is fully assembled against the main compliance bearing housing. Note the image below shows a pre-production bearing without the integrated sleeve on the ID. The bearing seating process is the same.



An alternative method to using a hammer to seat the bearing can be to utilize C-clamps and the housing cover to draw the bearing into the housing. Assemble the cover and clamps as shown below, ensuring the clamps are spaced as evenly as possible around the bearing and that the reaction (front) side of the clamp does not prohibit the bearing sleeve from protruding past the front surface of the housing. As with using the screws to draw in the bearing, even tightening of the clamps is required to prevent uneven assembly and binding in the housing. Once the bearing is fully seated remove the clamps and assemble the 6x internal hex screws to secure the cover into the housing.



- 7.5: Reassemble the ride height sensor bracket (Red Circle.)

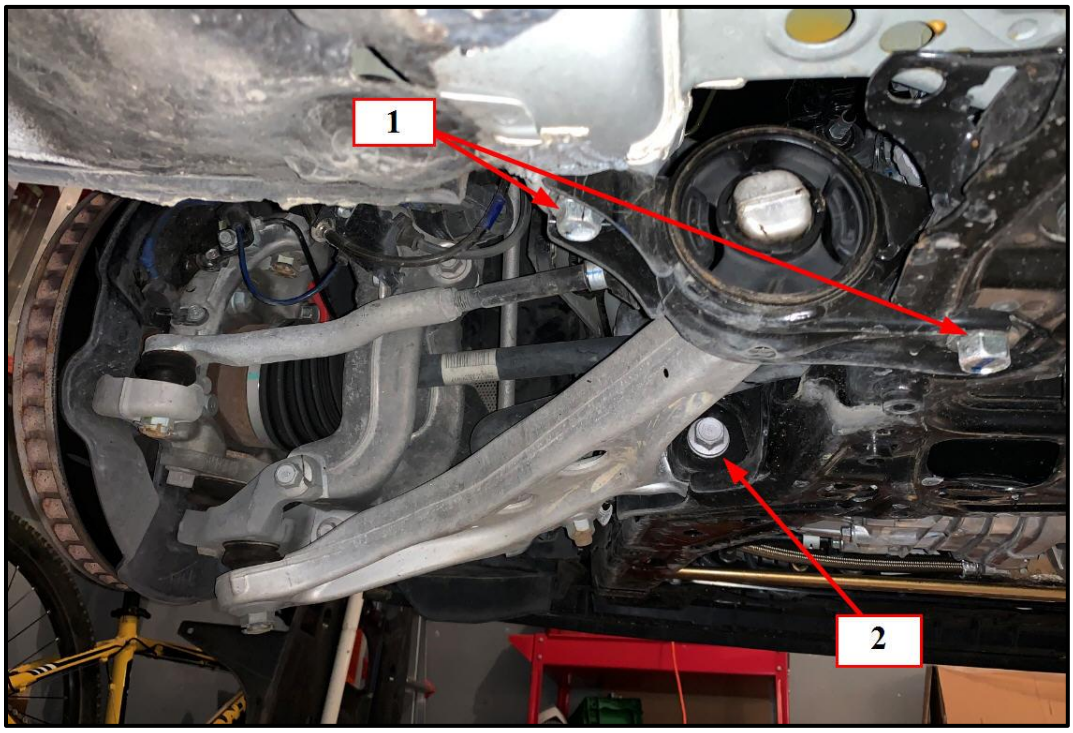
- 7.6: Hand tighten all bolts. Wait to apply final torques until the opposite side control arm is assembled. Remember to leave the sway bar loose at this point to allow it to rotate when assembling the remaining control arm.
- 7.7: Repeat steps 7.1-7.6 with the remaining control arm and bearings.
- 7.8: Reassemble the sway bar to the end links as a final step. A small amount of force will be required to rotate the sway bar down to a location where the end link stud can be inserted. It should be noted that re-attaching the sway bar should be completed after the final torque is

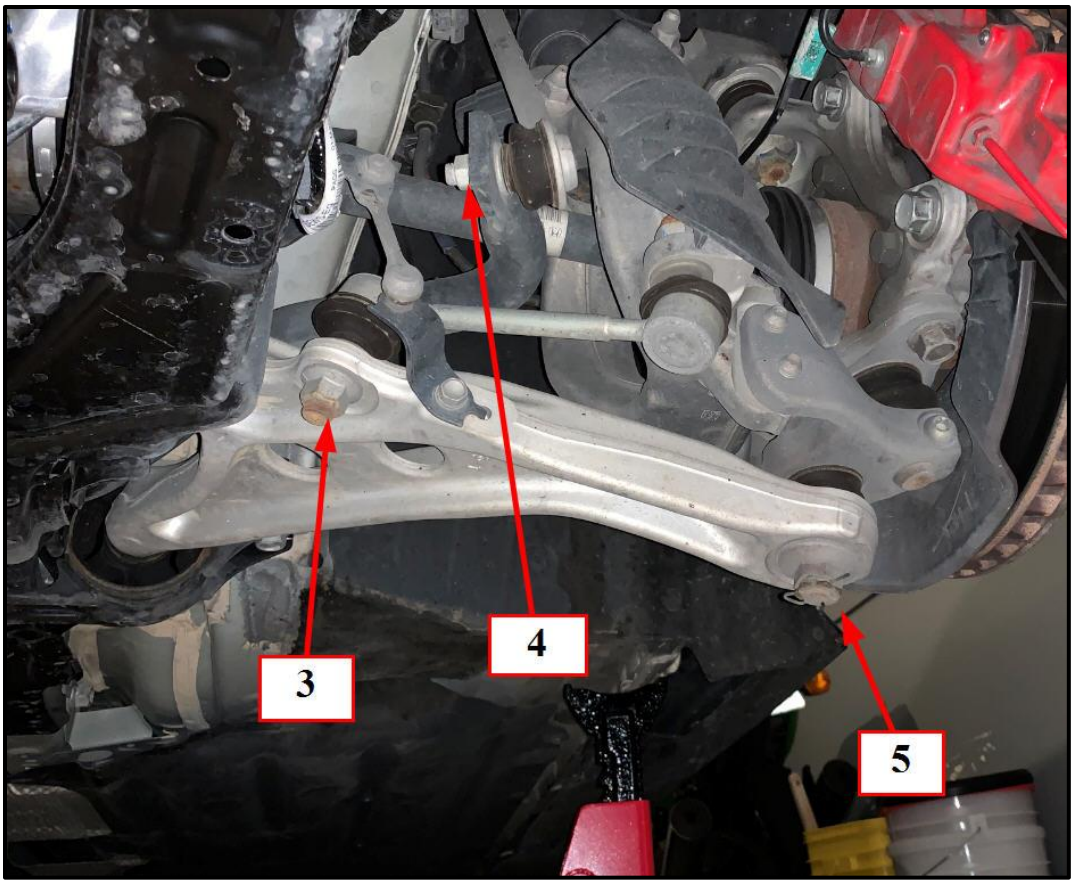
applied to the front control arm spherical bearing bolt to maintain tool clearance (torque listed in step 8.1.)

Step 8: Apply final torques:

- 8.1: Reference the below images for the key locations requiring specific torques during re-assembly. Note this is a "before assembly" image, but the locations are identical post installation. The torques to apply are as follows:

    - Location 1 (rear control arm bearing housing bolts): 77 ft*lbf
    - Location 2 (front control arm bearing bolt): 127 ft*lbf
    - Location 3 (linkage arm stud / nut): 52 ft*lbf
    - Location 4 (sway bar end link stud / nut): 26 ft*lbf
    - Location 5 (lower ball joint castle nut): 76-83 ft*lbf



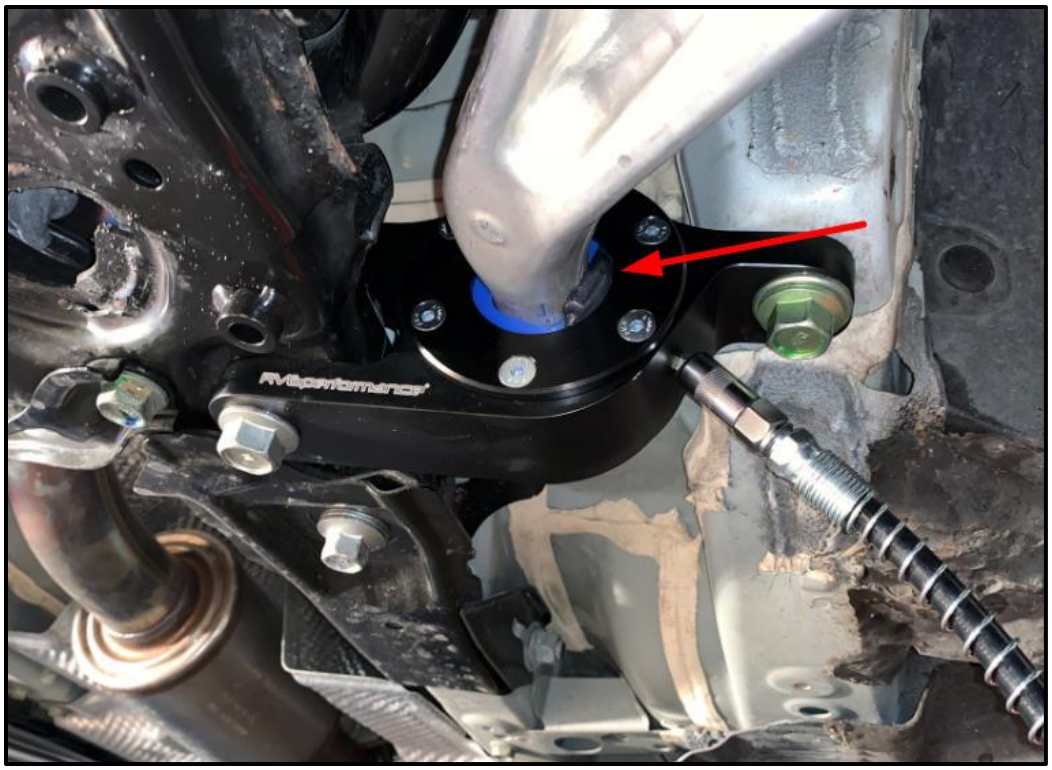


When torqueing the ball joint castle nut the recommendation would be to torque to the lower value and attempt to insert the cotter pin. If the holes in the castle nut do not align with the hole in the ball joint stud tighten the castle nut until the cotter pin can be inserted.

The 6x internal hex screws securing the rear face plate of the RV6 Performance compliance bearing can be torqued to 9.5 ft*lbf if desired, otherwise hand tight should be sufficient. Hand tight on the ride height sensor will also be sufficient.

Step 9: Grease rear compliance bearings:

- 9.1: Using a grease gun apply 3-4 shots / pumps of grease through the zerk in the compliance bearing housings. It is desirable to see grease protruding through the bearing (reference the Red Arrow below.) It is also recommended to re-grease these zerks after a short driving period (~25-50 miles) to ensure proper distribution inside the bearing. Note the image below shows a pre-production bearing without the integrated sleeve on the ID. The greasing location and process are the same.



Step 10: Reassemble plastic shrouding and belly pan:

- 10.1: Reverse the process taken in steps 1-2 to finish the assembly.

Tips and Tricks:

- The order of the instructions to remove the components assembled to the control arm is arbitrary. These components can be removed in any order, just ensure all studs and brackets are fully removed and de-coupled prior to removing the arm from the vehicle.
- The ball joint separator tool used and described in this guide was a very simple and inexpensive model. It did not initially fit around the upper stud potion of the ball joint. Modifications were made to widen the clevis section of the separator with an angle grinder. Afterwards a file was used to knock down any rough edges or burrs before the tool was used on the vehicle.
- If using an impact gun, ensure that you are utilizing impact grade sockets and extensions. These generally have a black finish instead of chrome. Damage to non-impact grade hardware is likely if used with an impact gun. This is especially relevant regarding universal (flex) socket joints.
- To minimize the risk of lost hardware it is recommended to loosely re-install any bolts or nuts in their respective housings or studs once the components are disconnected.
- PB Blaster or a similar penetrating liquid can help reduce the effort required to initially loosen bolted joints that may have seized over time. Spray a small amount on the joints to be removed and let sit for at least 15 minutes before attempting to break hardware loose.
- Anti-seize compound may be applied to any hardware to prevent the threads from becoming seized and aid with future disassembly. If chosen, take note that this lubricates the bolted joint and less torque is required to obtain the same bolt clamping force. The above dry torque values should be reduced by roughly 15-20% when utilizing anti-seize.
- When initially breaking hardware loose in a given joint by hand exercise a smooth and steady application of torque to minimize hardware failure. Avoid sudden bursts of force applied to the socket wrench (no "jerking" motions.)
- When re-torqueing joints that utilize a pattern of bolts (3 or more) apply the torque evenly across all bolts. To ensure proper joint clamping it is not recommended to fully torque one connection then move on to the next, but rather to gradually torque all connections in an alternating pattern until the full torque is achieved at each connection.
- The pop clips securing the bumper / under tray are fragile and often break during removal. It is advised to order several in advance to have in case of breakage. The Honda OEM part number for the pop clips is 91505-TM8-003. Note that throughout several installations different styles of clips have been found used but the part number above has worked in all locations.
- For purchasing and additional details on the above described kit please visit RV6 Performance's website at:
    - https://www.rv6-p.com/rv6-17-civic-type-r-2-0t-fk8-solid-front-compliance-mount-and-spherical-bushing.html

Rev	Description	Date	Writer
A	-Initial Release.	10/5/2019	B. Shatto
B	-Added photo to section 7.4 and modified text. Clarified section 7.8. -Added section 9.	10/6/2019	B. Shatto
C	-Updated introduction and added component photos. Minor formatting updates.	11/22/2019	B. Shatto
D	-Updated recommended tool section to add snap ring pliers	02/14/2020	B. Shatto
E	-Updated introduction to reflect latest compliance mount bearing design. -Updated step 7.4 to reflect the latest compliance mount bearing and detail an alternate assembly method	06/29/2022	B. Shatto