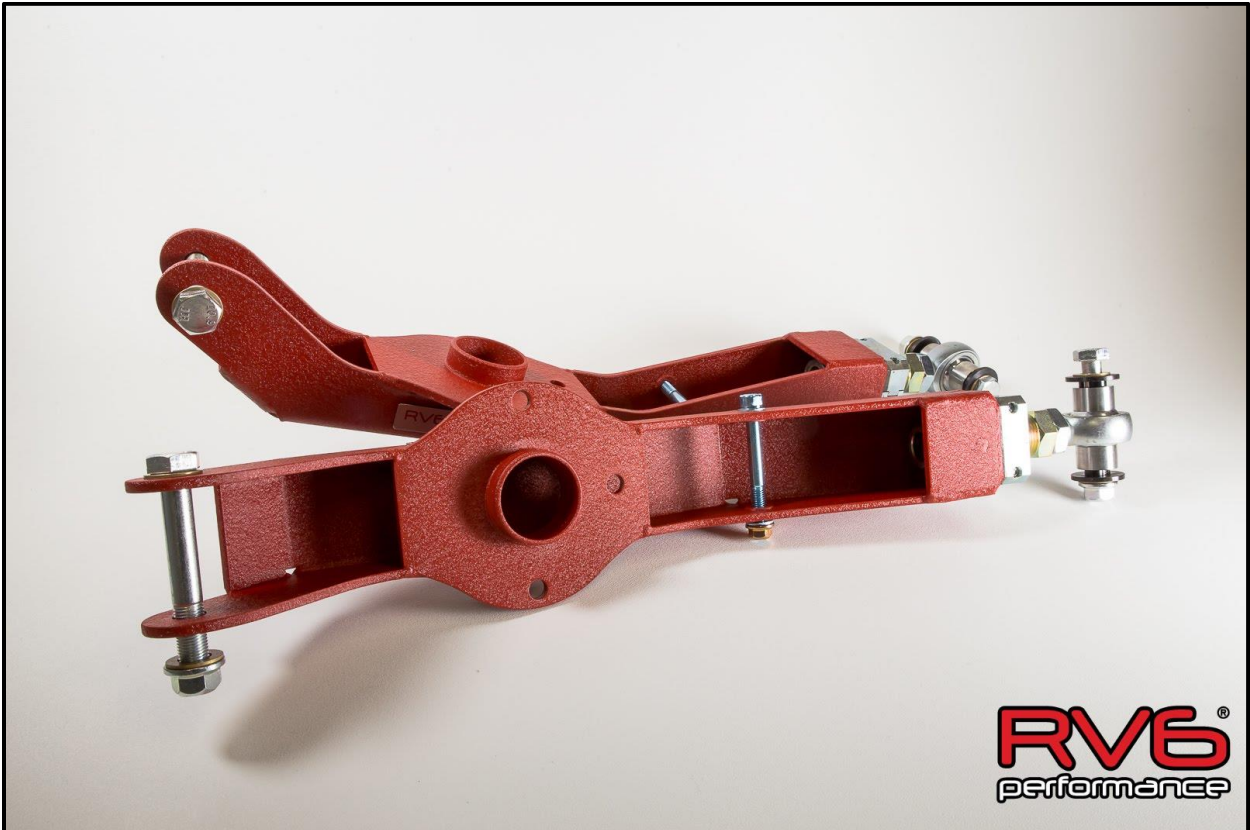
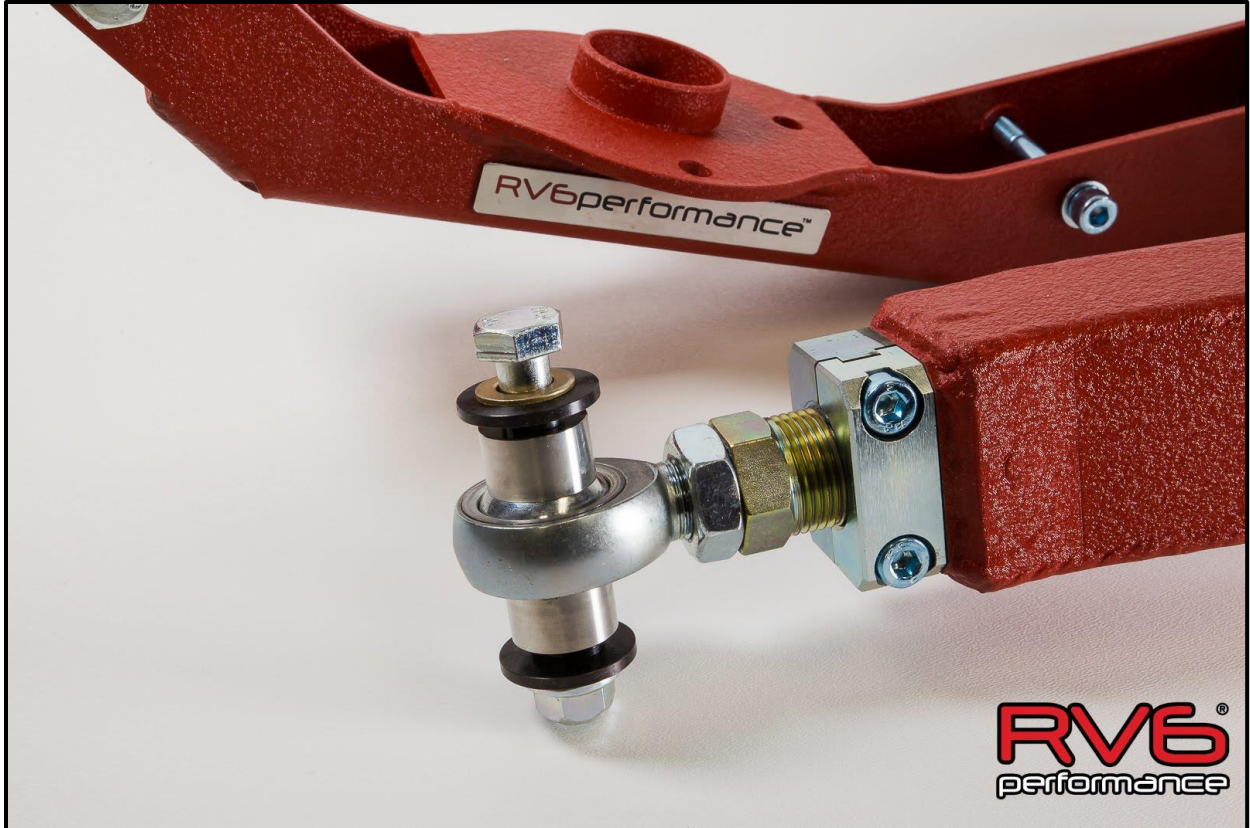


RV6 Performance Rear Camber Arm Install Guide For 10th Generation CivicX

This is an install guide written for the RV6 Performance rear camber arm kit for the 10th generation 2017+ FK8 Civic Type R. This kit replaces both the left and right rear lower control arms installed on the OEM vehicle. The RV6 Performance arms provide greater suspension control by allowing camber adjustments at the rear tires. The stock lower control arms that control the rear tire camber angle are not adjustable from the factory. Altering the rear tire camber may be desired due to user preference, or it may be required due to changes in the suspension geometry that occur when the vehicle is lowered with springs or coilovers. The RV6 Performance rear camber arm kit is essential to set and fine tune the camber angle at the rear wheels in order to maximize traction.

Included in this kit are a complete left and right lower camber arm assembly. The arms themselves are painted in a high-quality wrinkle red finish and feature adjustable heim joints at the subframe connection ends to allow camber tuning. New hardware is included to mount each arm to the subframe, rear knuckles, and sway bar end links. 2x wrenches are also provided to turn the required hardware when adjusting the overall arm length.





Preface:

This guide details the installation of this camber arm kit on a 2017 Type R, #00561. Prior to assembly this vehicle had modifications to the rear suspension in the form of an aftermarket rear sway bar, toe links, solid rear knuckle bearings and the addition of a subframe rigid collar kit. Despite these changes the installation steps covered in this document will be identical to the process of working with fully stock components. The process detailed will be the same even if other suspension modifications such as lowering springs, coilovers, camber kits or alternative rear sway bars have been installed.

Note that any time suspension components are installed or altered a vehicle alignment should be performed to ensure the optimum settings are achieved. Also note that in general when moving from compliant OEM style rubber bushings to solid bearings some increase in NVH can be expected.

To maximize the suspension response and the user control over the rear tire alignment settings it is recommended to install the RV6 Performance lower control arms, adjustable rear toe links, rear sway bar and the solid rear suspension bearings as an entire package.

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.) Also, for this document the terms "bushing" and "bearing" are used interchangeably. The term "heim joint" refers to the spherical bearing and housing used to allow freedom of motion at specific component connections. 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.

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.

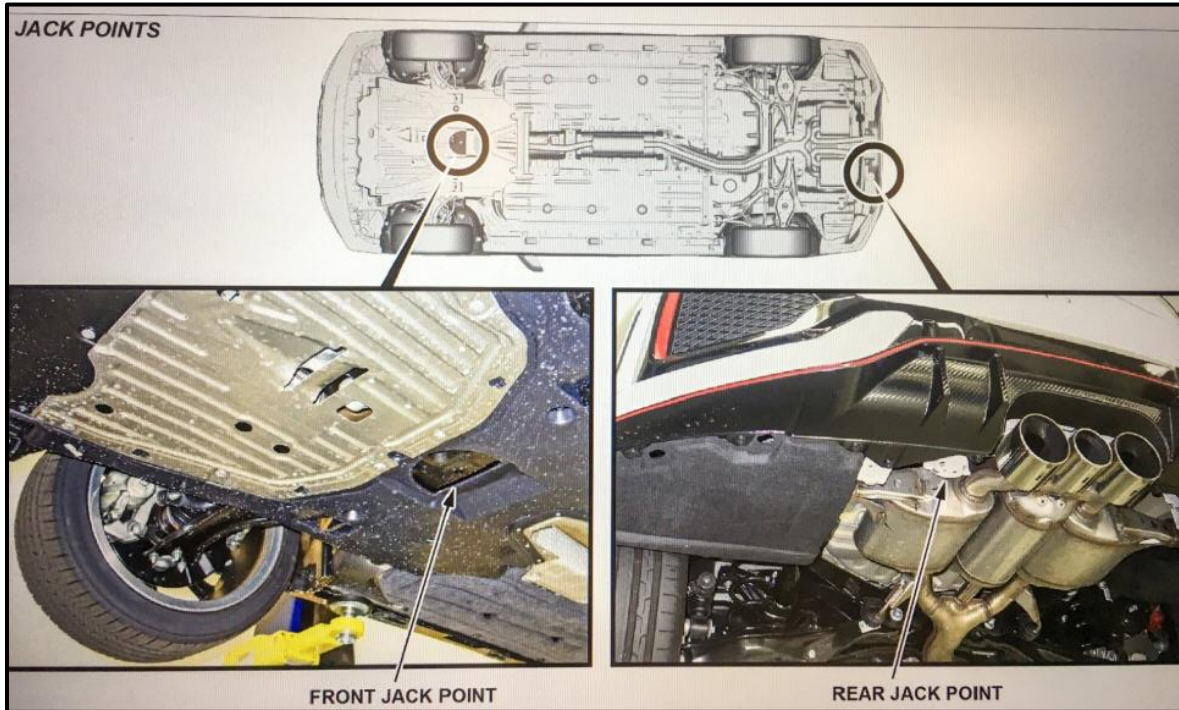
Tools Recommended:

- Socket Wrenches:
 - 3/8" or 1/2" Socket Wrench / Breaker Bar / Impact Gun
 - 12mm Socket
 - 14mm Socket
 - 17mm Socket
 - 19mm Socket
 - Various Extensions
 - Universal socket adapter (Flex Joint)
- Allen wrenches / Hex Bits
 - 6mm
- Open Ended Wrenches
 - 17mm
- Flat Head Screwdriver
- Floor Jack(s) or Preferred Means to Raise the Vehicle
- Jack Stands (2-4x)
- PB Blaster (Or Similar Penetrating Liquid)

Installation Steps:

Step 1: Raise Vehicle, Install Jack Stands and Remove Rear Wheels

- 1.1: Utilize the rear central jack location shown below to raise the rear of the vehicle and install jack stands under both the left and right rear retention points. Although not necessary, the front of the vehicle may also be lifted to maximize working space. If desired, utilize the front center jack location to raise the vehicle and install jack stands under both left and right front retention points.



Note: Due to difficulty accessing the front central lifting location a smaller secondary jack may be used to partially raise the vehicle at the front 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 lift location and proceed with raising the vehicle from there. Alternatively, vehicle ramps, low profile car jacks or full lift systems may be used. Install jack stands when enough clearance is obtained underneath the vehicle if not working on a lift system.

- 1.2: Remove the two rear wheels in order to gain more access to the rear knuckles.

Step 2: Remove OEM Rear Lower Control Arms

- 2.1: Remove the 1x 12mm head bolt securing the sway bar end links to the rear lower control arms (Red Circles) on both left and right sides of the vehicle, 2x bolts total. Note that the nuts for the end link connections located on the front side of the OEM lower control arms are welded to the arms directly and should not be rotated. This hardware will not be re-used.

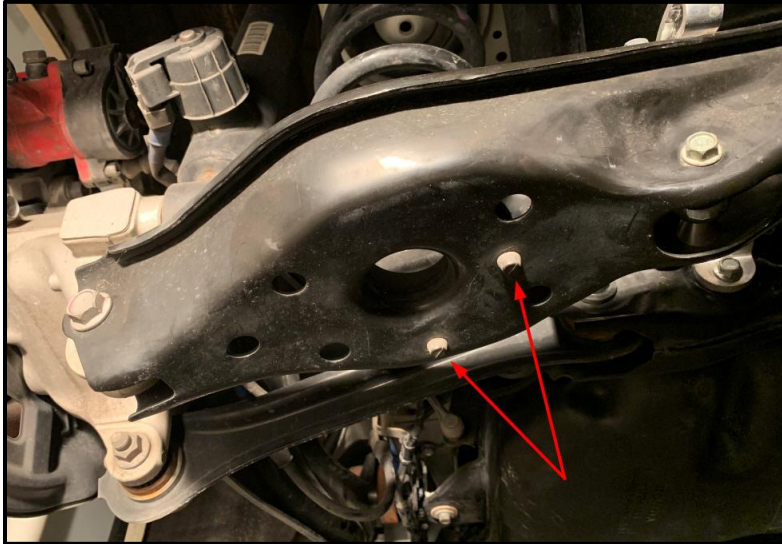


- 2.2: Position a floor jack underneath the control arms near the outboard mounting locations at the rear knuckles. It is advised to place a flat piece of scrap wood between the jack and the lower control arms to prevent damage to the painted surfaces during this process. Raise the jack until it is just starting to put pressure on the control arms but not so much that the vehicle is raised from the jack stands. Reference the image below.



This step is required because the control arms have a load applied to them due to the suspension springs being slightly compressed in the system. Once the bolts described in Step 2.4 are removed the springs will try to release this stored energy and could cause the control arms to move forcefully and unexpectedly.

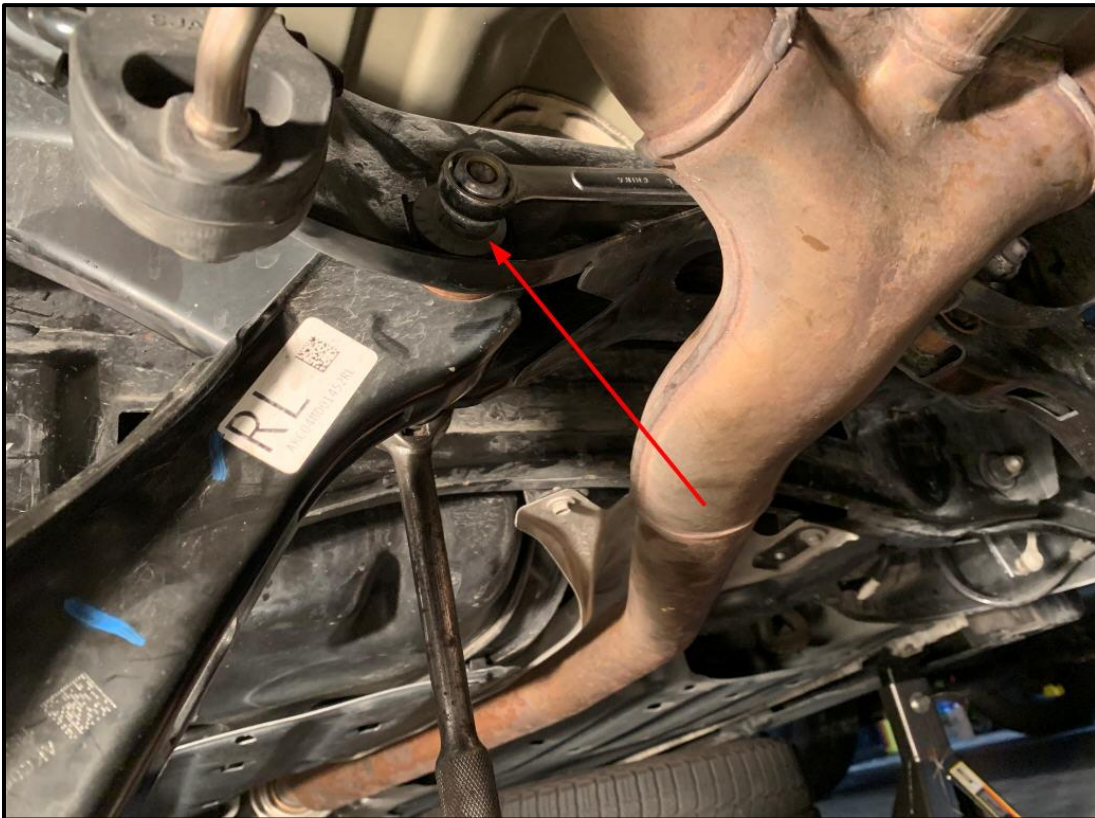
- 2.3: Take note of the initially assembled positions of the vehicle springs and rubber spring caps so they can be reinstalled in the same orientations with the new rear camber arms. The main intent is to note the location of the rubber protrusions on the lower spring cap as shown in the image below (Red Arrows.)



- 2.4: Remove the 17mm head bolts securing the control arms to the rear knuckles (Red Circle) on both left and right sides of the vehicle, 2x bolts total. The front side of the control arms use an integrated threaded stud for these bolts and as such no backup wrench is needed. It is possible that these bolts may be difficult to remove due to the tension in the system described in Step 2.2. If unable to remove the bolt normally adjust the height of the floor jack to try and relieve any pressure on the bolt. The bolts will slide out of the rear knuckles with little effort once the control arms are in the proper position. Ensure the floor jack is in a locked position before removing these bolts. This hardware will not be re-used.



- 2.5: Slowly lower the floor jack to release the stored energy in the suspension springs. The springs should remain attached to the lower control arms once the jack is lowered due to the rubber protrusions in the lower spring caps being seated in the holes mentioned in step 2.3. Lower the control arms as much as the working area allows. Gently pull up on the lower spring caps to pull the rubber protrusions out of the lower control arms. Remove the springs and spring caps from the vehicle and set aside.
- 2.6: Remove the floor jack from the work area.
- 2.7: Remove the 1x 14mm head bolt securing the control arms to the rear sub frame (Red arrow) on both left and right sides of the vehicle, 2x bolts total. Use a 14mm socket at the bolt head and a 17 mm wrench on the nut as a backup to prevent it from rotating. The tool arrangement is shown in the image below.



Note that the washers on the rear of the sub frame (nut side of the joint) are threaded onto the main bolt by design. They are also off center from the axis of the washer and are intended to be retained in place by the flanged protrusions in the sub frame. The method used to remove these washers was to insert a flathead screwdriver between the left side protrusion in the sub frame and the washer. Due to the washer not being centered on the bolt it will naturally become held in place due to the screwdriver acting as a wedge once the thicker portion of the washer rotates against the screwdriver when loosening the bolts. This process works best when the washer is flush against the rear surface of the sub frame. See the image below for the placement of the flat head screwdriver.



Once the washers are unthreaded from the bolts remove all components from the vehicle. This hardware will not be re-used.

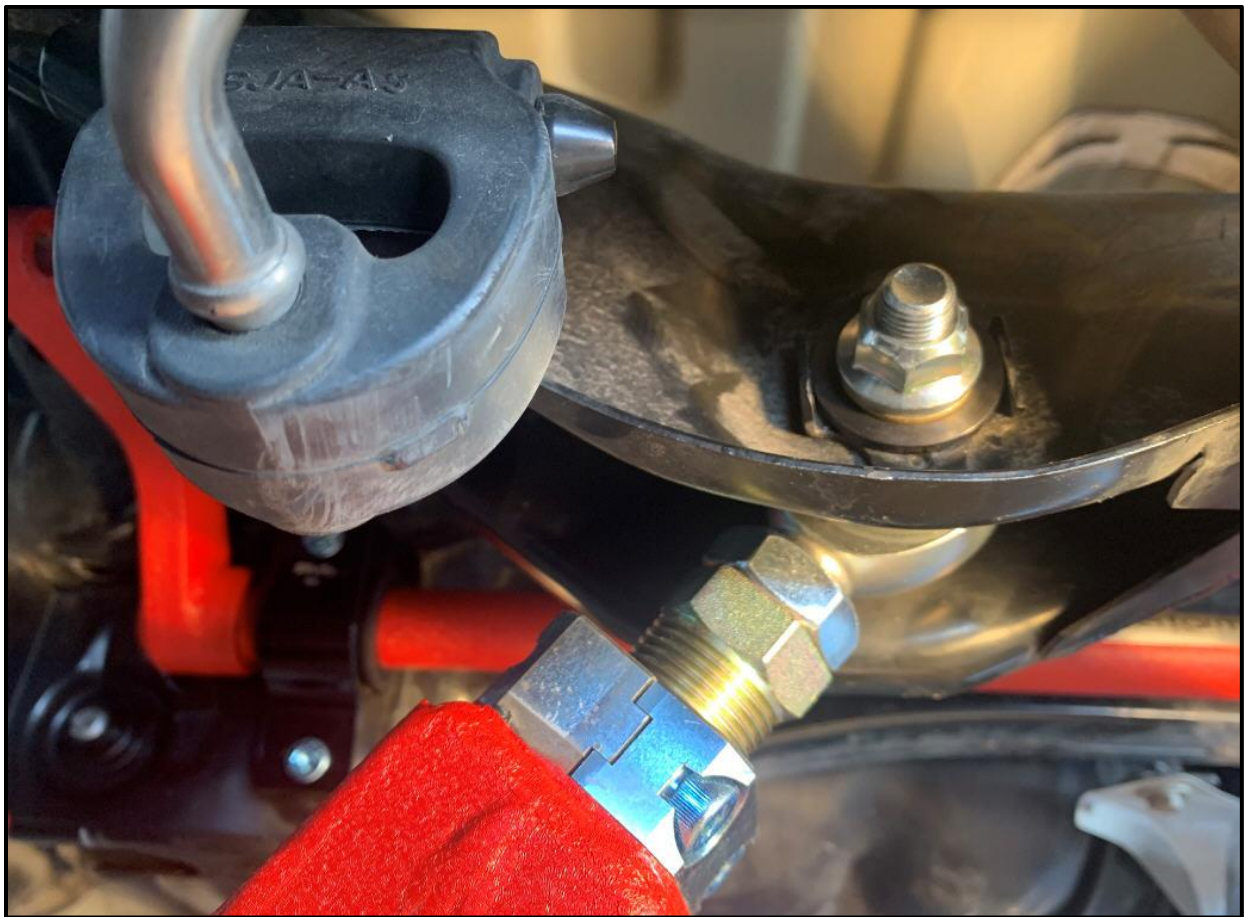
- 2.8: Remove the left and right lower control arms from the vehicle.

Step 3: Install the RV6 Performance Rear Camber Arms

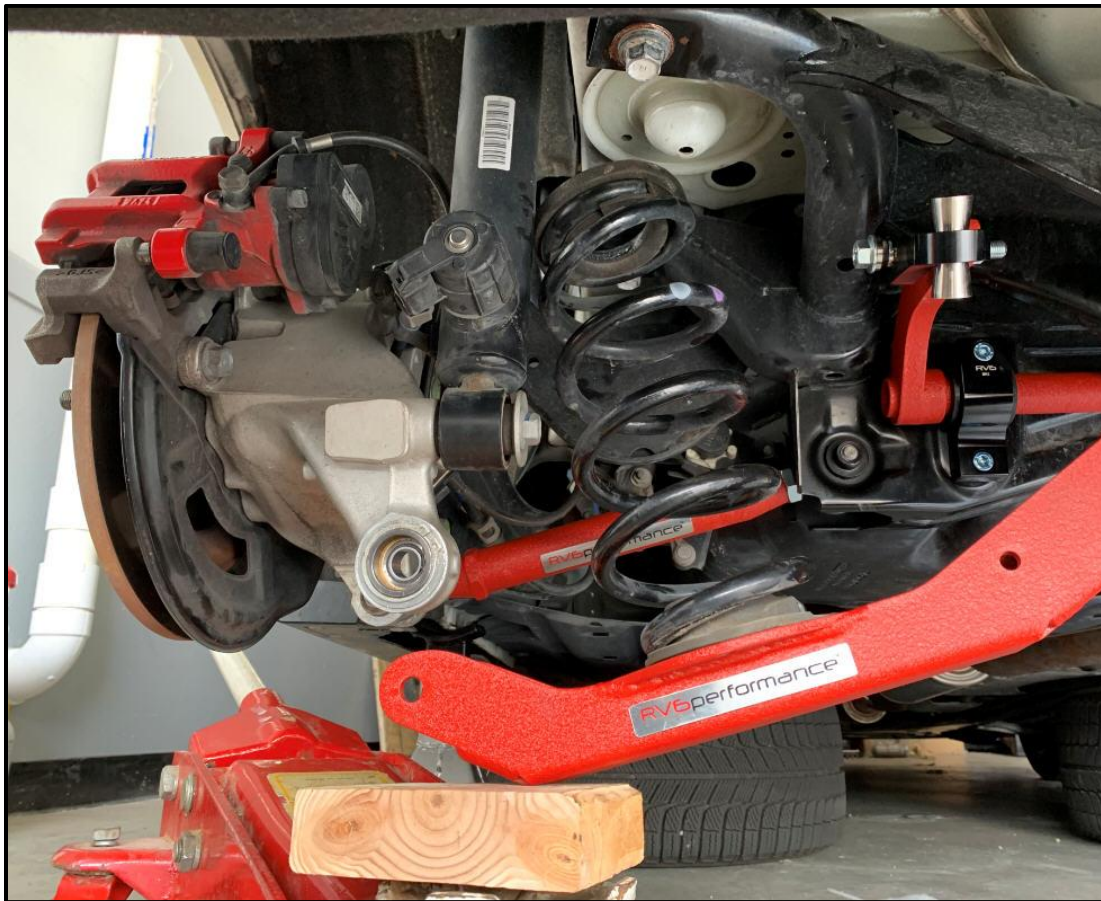
The RV6 Performance adjustable rear camber arms are set to the same length as the OEM lower control arms prior to shipping. As such there should not be any need to adjust the length of the arms prior to assembling into the vehicle and having the required alignment performed. Note that while all mounting locations on the two supplied lower control arms are identical, it is intended to install them such that the RV6 Performance name plaque faces the rear of the vehicle.

- 3.1: If it was installed prior to shipping remove the hardware from the outboard connection, sway bar end link connection and heim joint connection. Do not remove the internal hex bolts securing the silver cap around the threaded adjustment features at the heim joint end. Keep track of the specific locations for each bolt.
- 3.2: Start by assembling the inboard connections of the camber arms (the ends with the heim joints) to the rear sub frame using the supplied 19mm head bolts. Ensure that the metal sleeves provided are properly seated in the front and rear slots on both left and right sub frame connections as shown below. Assemble the bolts from the front of the joint towards the rear while making sure a washer is installed between the metal sleeves and the respective bolt head and nut. Tighten the bolts to the sub frame on both left and right components, 2x bolts total, such

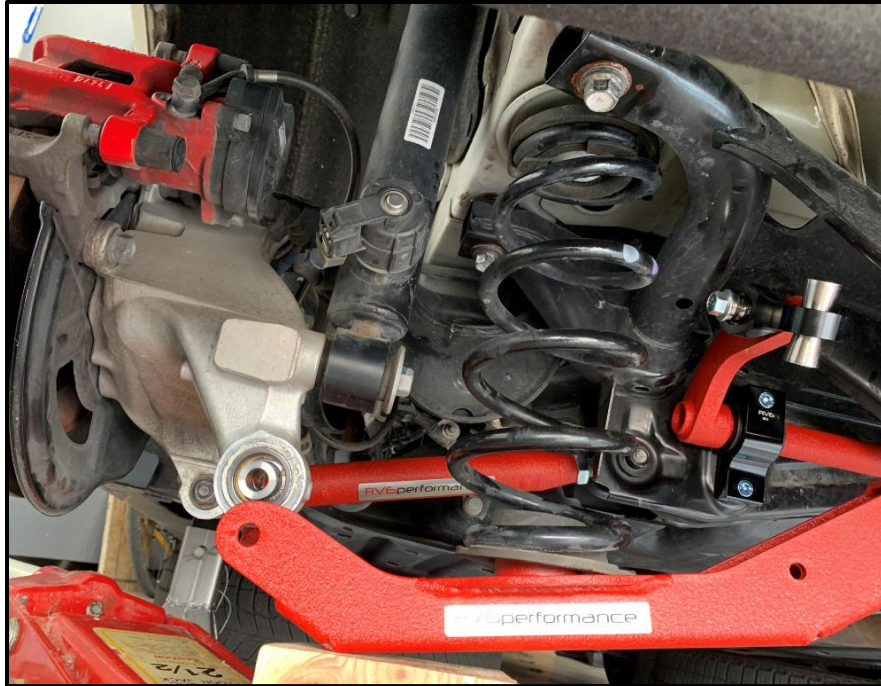
that the metal spacers are retained in the subframe as shown below. Do not tighten the bolts so much that the arms cannot be easily rotated on the bolts. Due to the locking nature of the nuts this will require a 19mm socket on the bolt heads and a 17mm socket on the nuts to act as a backup.



- 3.3: Position a floor jack underneath the camber arms near the outboard mounting locations. It is advised to place a flat piece of scrap wood between the jack and the lower control arms to prevent damage to the painted surfaces during this process.
- 3.4: Raise the jack such that the camber arms are near the final assembly position but with enough clearance to re-install the suspension springs and spring caps. Place the suspension springs and spring caps back into the vehicle in the same positions they were in prior to disassembly as shown in the image below. Ensure the rubber protrusions in the lower spring cap are inserted in the same locations as with the stock control arms. Note that one hole will not be used on each side. Ensure the rubber protrusions are fully seated.



- 3.5: Raise the jack enough such that the upper spring caps can be correctly positioned around the retention features in the chassis on both left and right sides of the vehicle. Raise the jack slightly once the correct alignment is achieved to hold the springs in place while the outboard bolts securing the camber arms to the rear knuckles are installed. See the image below.

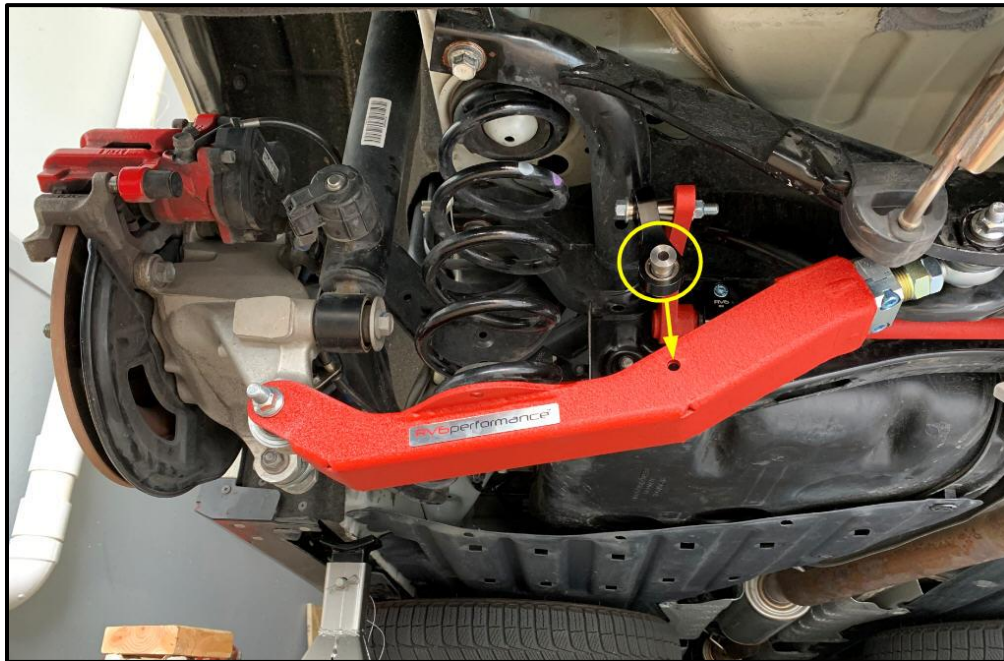


- 3.6: Continue to raise the jack as needed so that the outboard mounting locations of the arms align with the mounting location in the rear knuckles. Secure the lower control arms to the rear knuckles using the supplied 19mm head bolts. Assemble the bolts from the front side of the joint towards the rear and ensure that a washer is present between the surfaces of the camber arms and the respective bolt head and nut. Hand tighten the 1x bolt at the rear knuckle on both left and right components, 2x bolts total. Due to the locking nature of the nuts this will require a 19mm socket on the bolt heads and a 17mm socket on the nuts to act as a backup.



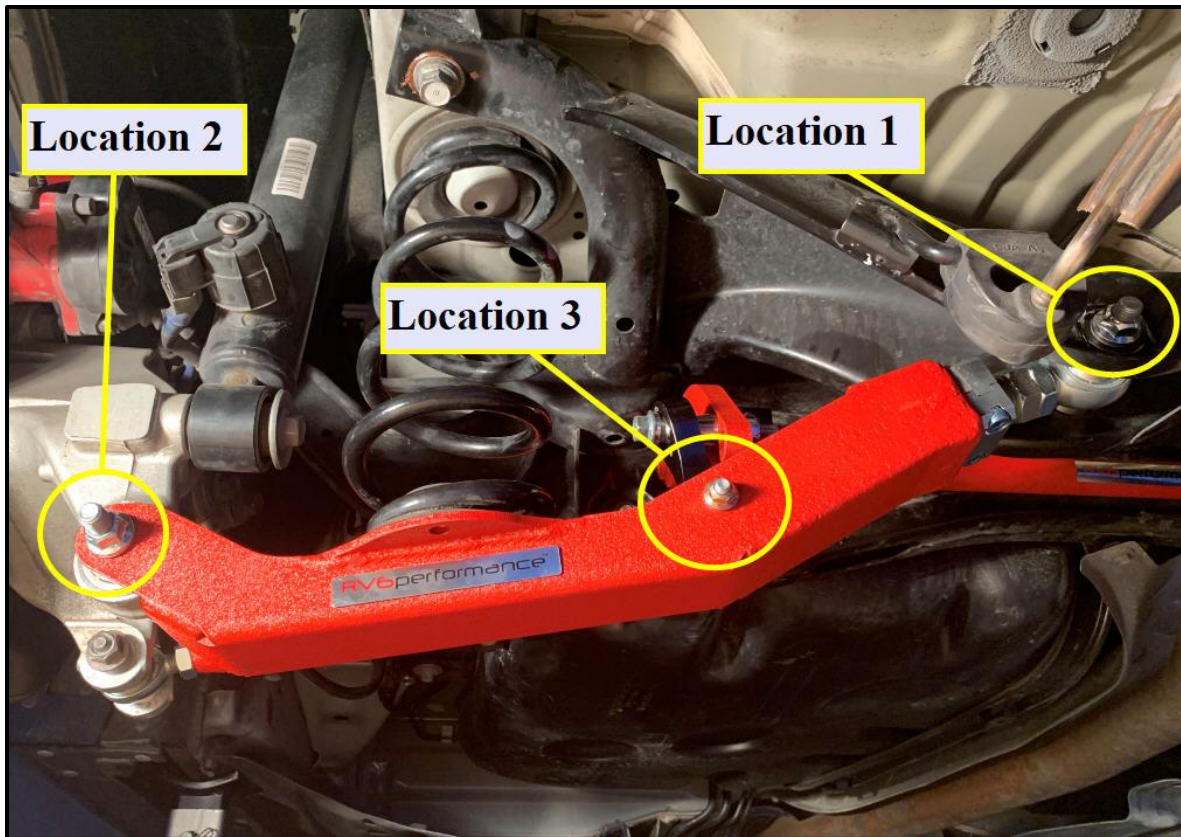
The rear knuckles may require some slight manipulation to align the mounting holes with the camber arms. A pry bar can be used to leverage the knuckle itself until alignment is achieved. Alternatively, a pin / punch can be partially inserted into the mounting holes and used to move the components into alignment with each other so the hardware can be inserted from the opposite side of the joint. Take care to not damage any components if either of these methods are used.

- 3.7: Once the arms are retained in place both at the rear knuckles and the sub frame lower the floor jack and remove it from the work area.
- 3.8: Using a 6mm hex bit and a 12mm socket reassemble the sway bar end links to the camber arms using the supplied internal hex head bolts. Ensure a washer is present between the camber arm face and each respective bolt head and nut. Hand tighten the 1x bolt to the lower control arms on both left and right components, 2x bolts total.



Step 4: Apply Final Torques

- 4.1: Reference the below image for the locations requiring specific torques during re-assembly. The torques to apply are as follows:
 - Location 1 (Lower Camber Arm to Sub Frame / Inboard Side - 2x bolts total): 85 ft*lbf
 - Location 2 (Lower Camber Arm to Rear Knuckle / Outboard Side - 2x bolts total): 51 ft*lbf
 - Location 3 (Rear Sway Bar End Links to Lower Camber Arms - 2x bolts total): 36 ft*lbf



Step 5: Wrap Up the Installation

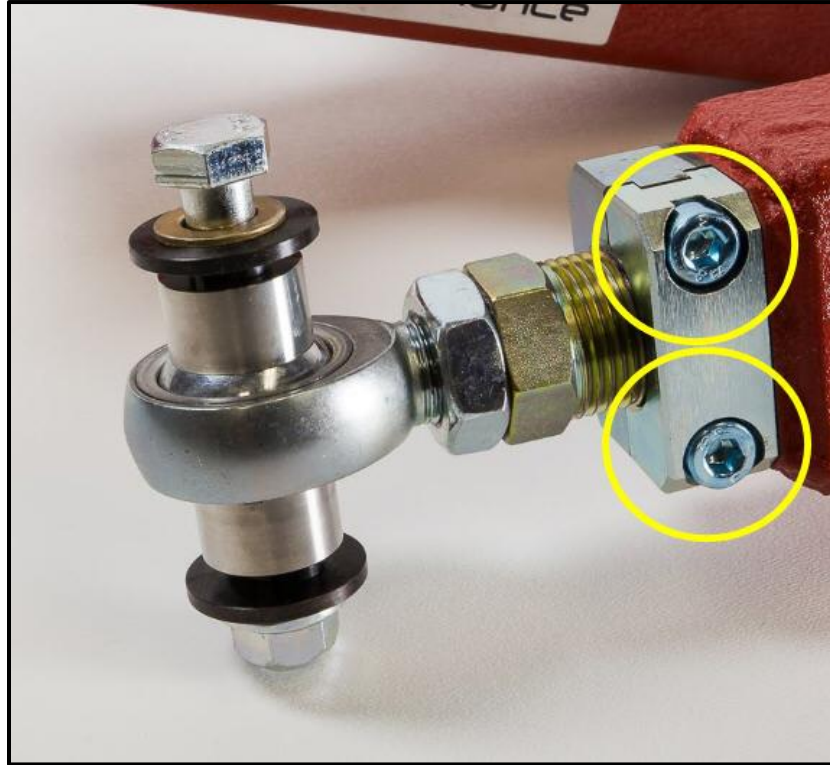
- 5.1: Re-install the rear wheels onto the respective hubs.
- 5.2: Lower the vehicle to the ground after removing the retention method used to keep it elevated.
- 5.3: Ensure proper torques are set at each lug nut. Stock lug nuts must be torqued to 94 ft*lb.

Step 6: Complete a Vehicle Alignment

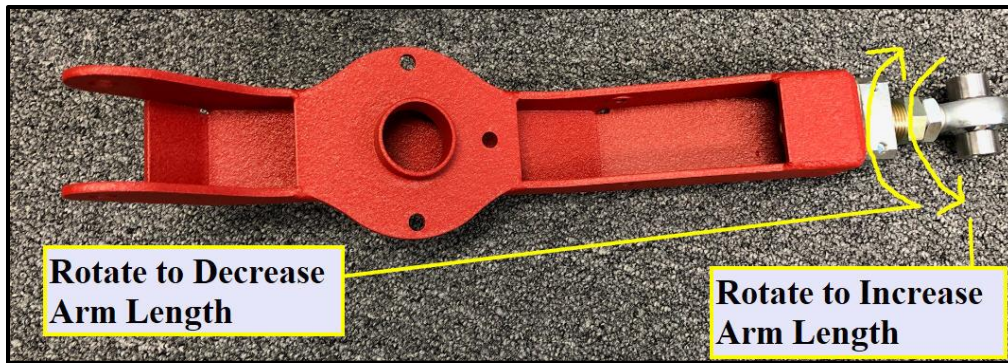
- 6.1: After the installation has been completed have a 4 wheel vehicle alignment performed by your preferred auto service shop to ensure the proper wheel settings are obtained. It is recommended to have an alignment completed immediately after installing these components. No issues should arise from driving short distances without an alignment (such as driving to the location performing the service) but care should be taken to not drive in an aggressive manner. Driving the vehicle aggressively prior to having an alignment completed could result in abnormal or excessive component and tire wear.

The adjustment process for the rear lower control arms is as follows:

- Use a 6mm hex bit to loosen the 2x internal hex head bolts securing the silver end clamps in place (Yellow Circles) on both left and right components, 4x bolts total. Note that these components clamp against the threaded portions and must be loosened prior to proceeding further with the adjustment process.



- Use the supplied slotted wrench to hold the gold threaded components stationary at the integrated hex patterns.
- Use the supplied multi point open ended wrench to loosen the silver nuts from the gold threaded components that are held stationary.
- After the silver nuts have been loosened the supplied slotted wrench can then be used to turn the gold threaded components to increase or decrease the overall control arm lengths. If looking down the length of the control arm from the heim joint turning the gold components clockwise will result in decreasing the overall length and counterclockwise will result in increasing the overall length of the control arms. See the image below for more clarification.



- Once the desired camber angle is achieved hold the gold threaded components stationary at the integrated hex patterns with the supplied slotted wrench and tighten the silver nuts to the gold threaded components using the supplied multi point open ended wrench. A firm hand tight torque is sufficient.
- Use a 6mm hex bit to tighten the 2x internal hex head bolts in the silver clamps on both left and right lower control arms, 4x bolts total. Torque the bolts to 36 ft*lb.
- Note these steps are written assuming the lower camber arms are installed on the vehicle. When adjusting the camber arms on the vehicle the heim joint and main arm assembly are held in place and not allowed to rotate due to being connected to the sub frame and the rear knuckle. If it is desired to adjust the lower camber arm length when it is not installed on a vehicle the process is the same, but measures must be taken to prevent the heim joint and main arm assembly from rotating when turning the gold threaded component.

Tips and Tricks:

- Unless specifically mentioned the order of the instructions to remove the above components is arbitrary. The parts discussed in this document can be removed in any order.
- PB Blaster or a similar penetrating liquid can help reduce the effort required to initially loosen bolted joints that may have seized over time and reduce the risk of shearing hardware during removal. Spray a small amount on the joints to be removed and let sit for at least 15 minutes before attempting to break hardware loose.
- 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.) Alternatively, use of an impact gun is an effective way to remove stubborn hardware due to the hammering style of rotary torque the tool generates.
- 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.
- 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 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.
- 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-rear-camber-arm.html>

Rev	Description	Date	Writer
A	Initial Release	02/25/2020	B. Shatto
B			
C			
D			