

AMC

INSTRUCTIONS – FRONT COIL OVER CONVERSION KIT

control freak
suspensions™

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1970 AMX

1970-74 JAVELIN

1970-71 REBEL

1970 REBEL MACHINE

1970-78 GREMLIN

1974-78 MATADOR

1978-83 CONCORD

1979-83 SPIRIT

AMC Australia

AMC Canada

1974-76 BRICKLIN

Includes Optional Adjustable Strut Rod Instructions





Shown w/ Optional Adjustable Strut Rod Kit
Stock Spindle is Shown (Not Included)

Installation Instructions

Front Coil-Over Conversion with Upper & Lower Tubular Control Arms
1970 & Up AMX, Javelin, Spirit, Gremlin, Concord, Hornet, Rebel, Machine
Matador & Bricklin

Tubular control arm kit contents

- Assembled Control Arms
- Grade 8 Hardware
- Instructions

Coil-over kit contents

- Coil Over Shocks & Springs
- Upper Control Arm Adjustable Rod Ends
- Spring Isolators

Thank you for purchasing this performance front coil over conversion kit with adjustable tubular control arms from Control Freak Suspensions[®], manufactured entirely in the USA. We believe these arms are the best available at any price. Please note that while installation is relatively easy for those with mechanical skills and modest experience, novices should employ a professional for installation. Also, fit is guaranteed on vehicles that are unmolested...that is cars that have not suffered any front-end damage. Such damage can bend or alter the unibody chassis, making installation more difficult.

Torque Specifications – Upper Control Arm

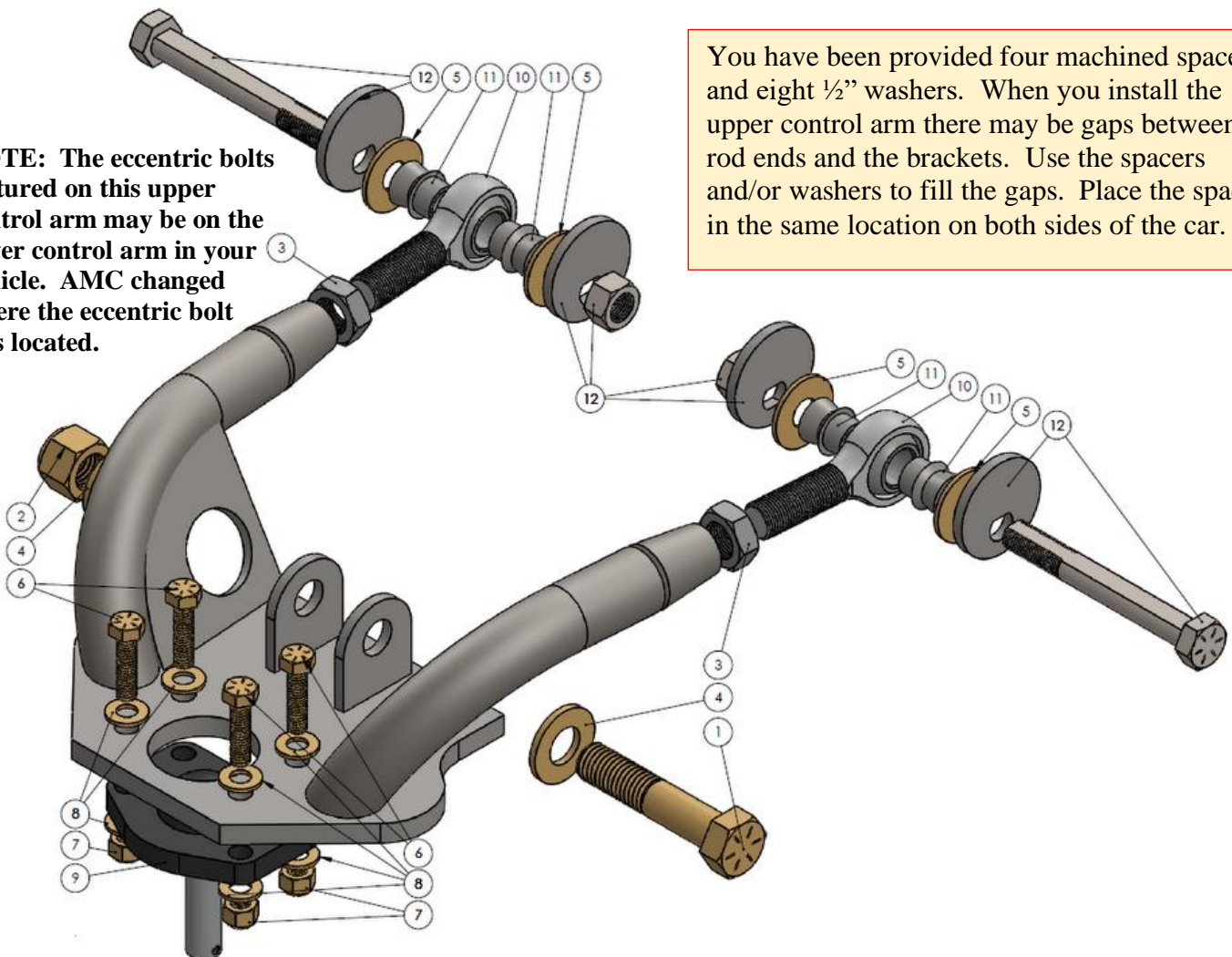
- Upper Ball Joint Bolts to Control Arm35-40 ft-lbs
- Lower Ball Joint Bolts to Control Arm:35-40 ft-lbs
- Upper Control Arm to Chassis:70-75 ft-lbs
- Lower Control Arm to Chassis:.....70-75 ft-lbs
- Lower Shock to Lower Control Arm:30-35 ft-lbs
- Sway Bar Bolts:15-18 ft-lbs
- Stock Strut Rod to Chassis:35-40 ft-lbs
- Stock Strut Rod to Control Arm:35-40 ft-lbs
- Optional Adjustable Strut Rod to Chassis:35-40 ft-lbs
- Optional Adjustable Strut Rod to Lower Control Arm:35-40 ft-lbs

Installation of Tubular Control Arms

1. Measure your vehicles ride height before you begin. Take the measurements with the car at rest on a level surface, measuring the ride height from the front of the rocker panels to the ground and from the rear of the rocker panels to the ground. Write these measurements down as they will be needed later on.
2. The first step is to remove the stock control arms. Please consult a shop manual specific to your vehicle in order to properly dismantle and remove the necessary suspension components. Chilton's, Mitchell or others may be appropriate for your vehicle. A spring compressor is needed to remove and install the front coil springs. **A COIL SPRING COMPRESSOR COMPRESSES THE SPRING. A COMPRESSED SPRING IS EXTREMELY DANGEROUS AND SHOULD BE DONE WITH EXTREME CARE.**
3. Once you have removed the front shocks, springs and upper control arms, the front spindles will still be attached to the lower control arms. The stock lower control arm can now be removed, and the spindle carefully set aside. Take note if the lower control arms have a small steering stop attached to them. If so, you will use the supplied steering stops, packaged with the new tubular lower control arm.
4. To install the new tubular control arms, you will first have to finish assembly of the upper control arm by installing the four (4) rod ends with jam nuts. See the picture on the next page. Be sure to use anti-seize solution on the threads to prevent cross-threading or galling. Once that is done, with about three threads showing beyond the jam nut, attach the control arms to the chassis with the factory bolts.

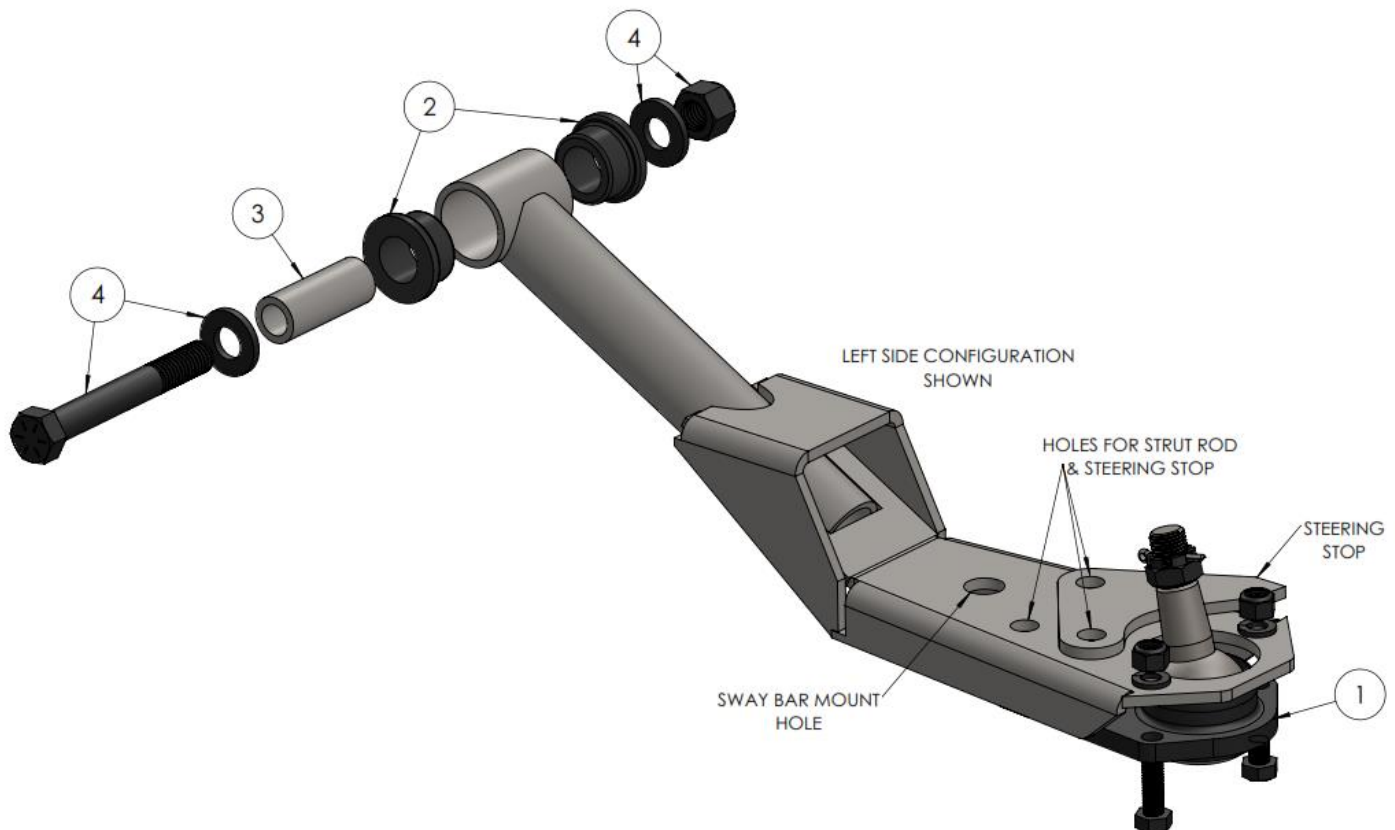
CO-1320 UCA BOLT KIT			
ITEM	PART NUMBER	DESCRIPTION	QUANTITY
1	62C300HCS8Z	5/8" - 11 X 3.00" HEX HEAD BOLT GR8 YZ	1
2	62CNN8Z	5/8" - 11 NYLOCK NUT GRADE 8	1
3	62FNFJ5Z	5/8" - 16 JAM NUT GRADE 8 RH THREAD	2
4	62NWSHZ	5/8" SAE FLAT WASHER	2
5	43NWSHZ	7/16" USS FLAT WASHER	4
6	31C125HCS8Z	5/16" - 18 X 1.25" HEX HEAD BOLT GR8 YZ	4
7	31CNN8Z	5/16" - 16 NYLOCK NUT GRADE 8	4
8	31NWSHZ	5/16" SAE FLAT WASHER	8
9	K3082	BALL JOINT	1
10	XMR-10	5/8" CHROMEOLY ROD END 5/8"-18 RH THREAD	2
11	HMS 08/10	HIGH MISALIGNMENT SPACER	4
12	-	STOCK CAM BOLTS	2

NOTE: The eccentric bolts pictured on this upper control arm may be on the lower control arm in your vehicle. AMC changed where the eccentric bolt was located.



You have been provided four machined spacers and eight 1/2" washers. When you install the upper control arm there may be gaps between the rod ends and the brackets. Use the spacers and/or washers to fill the gaps. Place the spacers in the same location on both sides of the car.

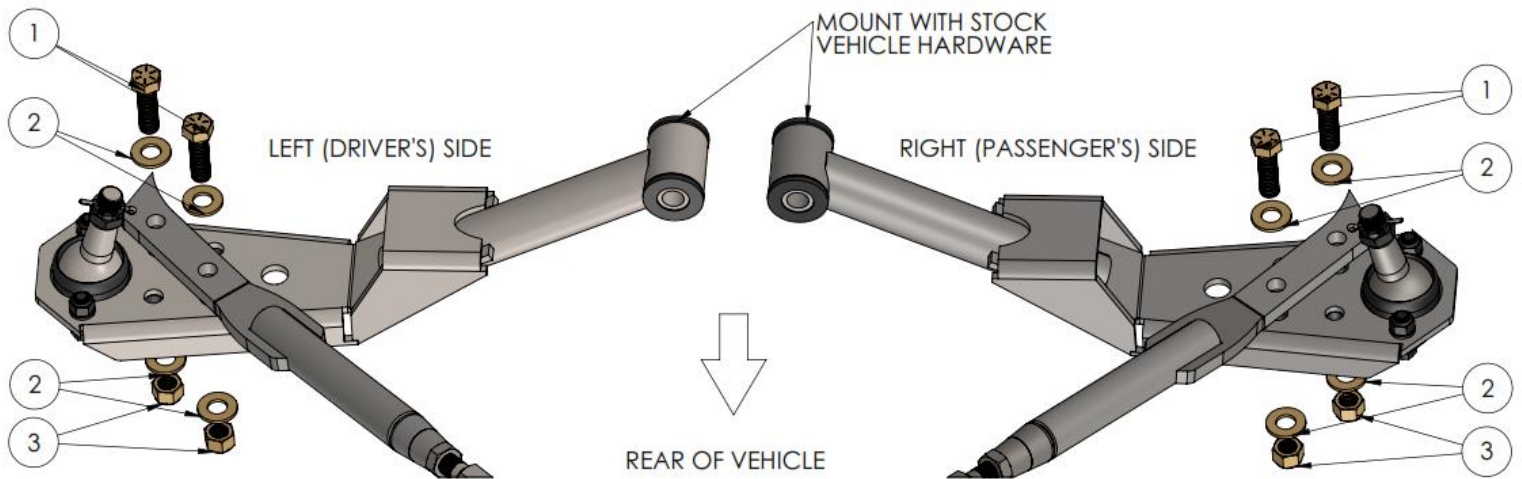
LOWER CONTROL ARM HARDWARE			
ITEM	PART NUMBER	DESCRIPTION	QUANTITY (PER ARM)
1	K3083	LOWER BALL JOINT WITH HARDWARE	1
2	60348-BL	LCA BUSHING 0.75" I.D.	2
3	CA-1003	SLEEVE 0.75" x 0.12" DOM CL: 1.9375"	1
4	-	STOCK MOUNTING HARDWARE	-



5. You will notice that the ball joint bolts on the lower control arm have been left a little loose. This is to assist in aligning the factory strut rod. Attach the lower control arm to the chassis with the factory bolt and hand tighten only. When you removed the stock lower control arms, you were asked to take notice of a separate steering stop attached to the arms. If there was a stop, unpack the new stops packaged with the lower control arms and put them into the same position as on the stock arms.
6. If you are using the stock strut rods, attach them to the lower control arm and hand tighten the nuts. If you are using our Adjustable Strut Rod kit, go to the next page. With the lower control arm loosely bolted to the chassis, and the strut rod hand tightened to the control arm, tighten the ball joint bolts to the torque specs on Page 4. You can now mount the spindle to the lower control arm and hand tighten the castle nut on the ball joint.

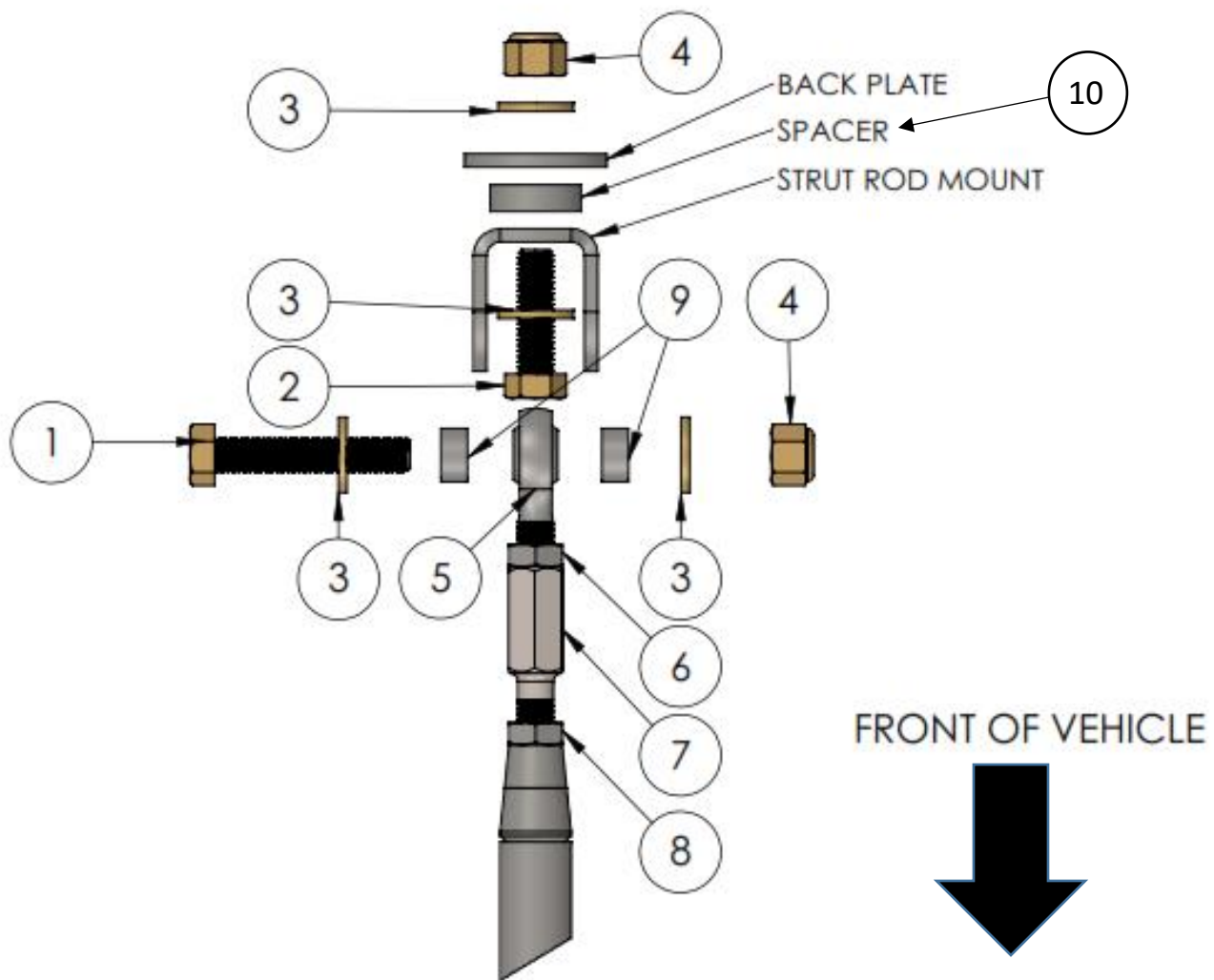
OPTIONAL ADJUSTABLE STRUT RODS - INSTRUCTIONS

AMC STRUT ROD TO CONTROL ARM HARDWARE			
ITEM	PART NUMBER	DESCRIPTION	QUANTITY (PER SYSTEM)
1	43C150HCS8Z	7/16" - 1.50" HEX HEAD BOLT GRADE 8	4
2	43NWSHZ	7/16" SAE FLAT WASHER	8
3	43CNN8Z	7/16" - 14 NYLON LOCK NUT GRADE 8 YZ	4

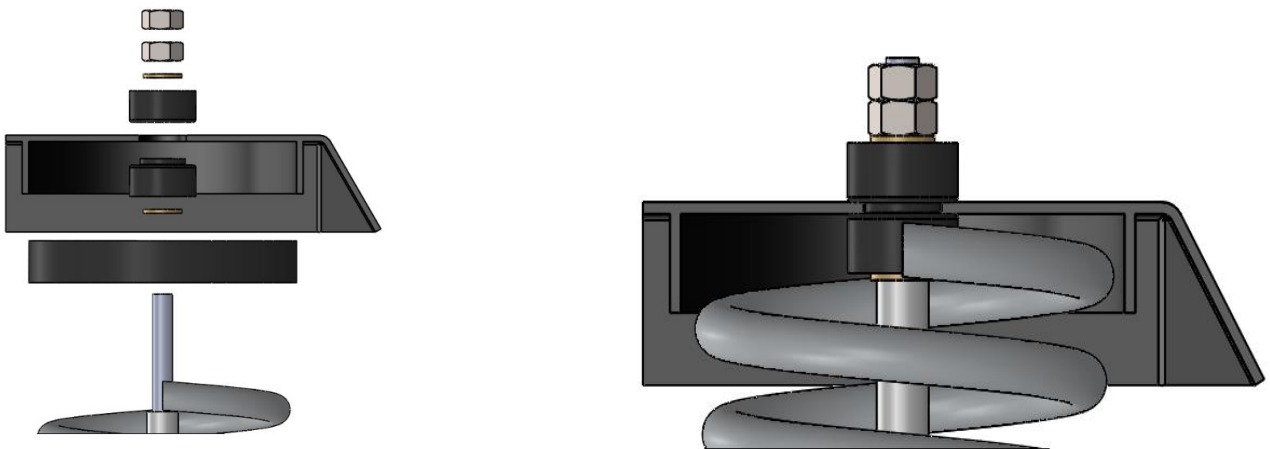


STRUT ROD TO CHASSIS MOUNTING HARDWARE - AMC

ITEM	PART NUMBER	DESCRIPTION	QUANTITY (PER SYSTEM)
1	50C275HCS8Z	1/2" - 20 x 2.75" HEX HEAD BOLT GRADE 8 YZ	2
2	50C175HCS8Z	1/2" - 20 x 1.75" HEX HEAD BOLT GRADE 8 YZ	2
3	50NWSHZ	1/2" SAE FLAT WASHER	8
4	50CNN8Z	1/2" - 20 NYLON LOCK NUT GRADE 8	4
5	XMR-8	1/2" - 20 ROD END - RH THREADS	2
6	50FNFJ5Z	1/2" - 20 JAM NUT RH THREADS	2
7	LSA 8-8	1/2" - 20 ADJUSTABLE LADDER BAR	2
8	50FNFJL5Z	1/2" - 20 JAM NUT - LH THREADS	2
9	CA-2126	ROD END SPACER 0.500 I.D.	4
10	CA-1033	AMC STRUT ROD SPACER	2



7. Attach the supplied strut rod mounts onto the lower control arm as shown in the illustration on Page 7. The mount has three holes, but you will only use the two holes that align to your lower control arm.
8. Attach the strut rod bracket to the strut rod mount on the chassis. The attachment is illustrated on Page 8. Torque the bracket to the specifications on Page 4.
9. Make sure the jam nuts are threaded onto the machined hex adjuster and the rod end before installing them. Coat the threads with anti-seize before installing. Thread the hex adjuster into the strut rod tube. Thread the rod end into the hex adjuster. The thread on the hex adjuster into the strut rod is right-hand. The rod end is left-hand thread. Torque all bolts to the specifications on Page 4. The length of the strut rod is adjustable for alignment purposes by loosening the jam nuts and turning the hex adjuster. Be certain to tighten the jam nuts once the correct alignment is completed.
10. Remove the coil over body and the springs from their cartons. The coil over bodies have already been assembled for you with the correct parts. Apply anti-seize to the lower threads of the coil over body to prevent galling. Screw the coil over lock nut and spring seat onto the coil over body. Don't forget the flat disc washer. It goes between the nut and the spring. Slip the spring over the top of the coil over, narrow diameter facing down.
11. Once the spring and coil over body are mated, put the new spring isolator on the top of the spring. Now place the inner bushings and washer over the top coil over stud and slip it through the original shock hole and slip the lower coil over mount into the tabs welded to the upper control arm. Use the supplied Grade 8 bolt to secure the lower coil over to the mount and tighten to 40 Foot Pounds of torque. On the upper coil over mount, go into the engine bay and slip the outer bushing and washer for the upper coil over mount over the stud. Then install the first of two nuts. Tighten to 14 ft-lbs. of torque and add the second nut. Tighten both nuts together to lock them.



12. Go back to the spindle nuts and the ball joint nuts and tighten everything down to the supplied specifications.
13. You should screw the coil over nut up to about ¾" to 1" of threads showing. This is a good starting point to set your ride height.

NOTE: COIL OVER SHOCKS WILL SETTLE ABOUT 5/8" AFTER DRIVING ABOUT TEN TO FIFTEEN MILES. Set your starting ride height accordingly.

14. You are now ready to measure the ride height again. Take the vehicle off the jack stands and roll it a full car length back and forth two times to allow the suspension to settle correctly. Take the same measurements you took in Step 1, from the rocker panels to the ground, both at the front and the rear of the rocker panels. Please remember that tubular control arms will lower your car's front-end ride height by about one inch from the stock ride height. If your rear springs are tired or worn, the front end may ride higher.

When the correct ride height is reached, have the vehicle aligned by a professional. Once the car is aligned. Torque the 9/16" bolts holding the control arms to the chassis to the torque specs on Page 4. **Recommended Alignment Specifications**

For street vehicles, adjust to the following recommended alignment settings:

Caster Left: +2.5 Degrees Caster Right: +2.5 to 3 Degrees
Camber Left & Right: 0 Degrees Negative
Toe In Left & Right: 0 TO 1/16"

For racing, adjust to the following recommended alignment settings:

Caster Left: +3.5 Degrees Caster Right: +3.5 Degrees
Camber Left & Right: 1 to 2 Degrees Negative
Toe In Left & Right: 1/32" to 1/8"

Note: Race settings vary upon the type of racing done

**For technical support, please call 407-878-0697
or via e-mail at tech@FreakRide.com**

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WARRANTY DISCLAIMER The purchaser understands and recognizes that racing parts, specialized high performance equipment, and all parts and services sold by Control Freak, are exposed to many and varied conditions due to the manner in which they are installed and used. Control Freak makes no warranties, either expressed or implied, including any warranty of merchantability or fitness for a particular purpose other than those contained in its current catalog with respect to the goods identified on the face of the invoice. There is no warranty expressed or implied as to whether the goods sold hereby will protect purchaser or ultimate user of such goods from injury or death. Control Freak assumes no liability for these suspension products.

DAMAGE CLAIMS Always inspect your package upon delivery. Inspect all packages in the presence of the delivery driver. The driver must note any damage. Ask the driver the Carrier's procedures for handling damage claims. You must hold the original box, packing material and damaged merchandise for inspection or the carrier will not honor the claim. Notify Control Freak for instructions on returning damaged goods. Control Freak is not responsible if no notification is given within two (2) days of receipt.

SHORTAGES Always check the contents of your delivery to insure all the parts that you ordered were received. Please read the invoice and Pack Lists. Double check all packing materials, small items may be wrapped inside with these products. Shortages may occur from damage to the box, so save all packing materials. Inspect the box for holes that would allow parts to fall out. If you are missing any item(s) be sure to check your invoice and/or Pack List for back orders or canceled items before calling the customer service department. If Control Freak has to split a shipment into multiple boxes, packages may be delivered on different days. You need to contact the customer service department within 5 days of delivery to assure the prompt replacement. Control Freak assumes no liability after this period.

WARRANTY CLAIMS If an item has a manufacturer's warranty as being free from defects we will exchange that item. If the item has been used and you are requesting warranty work, Control Freak will determine the validity of the claim. If you have any questions please contact customer service.

RETURNS Our return policy applies to all suspension systems *except* Independent Front Suspension (IFS) systems. Control Freak wants you to be satisfied with your purchase. If within five (5) days after you receive your shipment you are not satisfied, you may return the item for refund, exchange or credit. **This does not apply to any IFS systems.** All exchanged or returned merchandise must be in original factory condition with no modifications or alterations. Returned merchandise must include all original packaging materials, warranty cards, manuals, and accessories. If the items being returned need to be repackaged there will be a re-packing charge of 15%. Pack the item in a sturdy box and include a copy of your invoice and notify us of the return. You must ship orders back **PRE-PAID. WE DO NOT ACCEPT COD SHIPMENTS.** All exchanges need to have reshipping charges included. Items that are returned after 5 days are subject to 15% restocking charges. **Absolutely no returns on custom built suspension systems or other special order merchandise. All IFS systems are considered custom builds. All exchange and/or repair is at the discretion of Control Freak Suspensions.**

Some items may not be street legal in some countries. Such items may be legal for racing vehicles only which may not be used upon a highway

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