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BFS

Bolander Fabrication & Suspensions

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(319) 601-6770

Quality Suspensions For Your Mopar Muscle Car

Get ready to elevate your ride to a whole new level! With easy installation and exceptional durability, the BFS Coil-over conversion suspension kit is perfect for both seasoned racers and weekend warriors alike. Don't settle for anything less—experience the quality and precision that comes with this state-of-the-art upgrade. Join the BFS family and take your driving experience to heights you never imagined. Check it out now and feel the difference for yourself.

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BFS A/B/E body Tubular K Frame Installation Instructions

Component List

<u>Item Description</u>	<u>Quantity</u>
Tubular BFS K Frame	1
Steering Rack (Power or Manual)	1
Lower Control Arms	2
Upper Control Arms	2
Spindles	2
Steering Column Connection Linkage	1
Steering Column Support Bearing	1

Hardware List

- 2- 5/8-11x 5" Long Bolts – Tie Rod Spindle Bolts**
- 2- 5/8-11x 4 ½" Long Bolts – Rack Bolts**
- 4- 5/8-11 Nylock Nuts**
- 12- 5/8 Flat Washers – Rack Bolts/Nuts**
- 4- 1/2-13 x 4" Long Bolts – Lower Control Arm Bolts**
- 2- 1/2-13x 4 ¼" Long Bolts – Upper Shock Mount Bolt**
- 2- 1/2-13x 4 ½" Long Bolts – Motor Mount Bolts**
- 2- 1/2 -13x 7" Long Bolts – Lower Shock Mount**
- 2- 1/2-13x 1 ¾" Long Bolts – Shock Tower Brack B/E**
- 18- 1/2 Flat Washers – These go with the above ½" bolts**
- 12- 1/2-13 Nylock Nuts – These go with the above ½" bolts**

- 4- 3/8-16x 1" Long Bolts – Sway Bar Bushing Bolts**
- 8- 3/8-16 Nylock Nuts – Sway Bar Bushing Nuts**
- 8- 3/8 Flat Washers – Sway Bar Bushing Washers**
- 4- 5/8-18 RH Jam Nuts – Upper Control Arm Rod End Jam Nuts**
- 4- 5/8-18x1/2 Heim Joints (Upper Control Arm (UCA))**
- 4- 5/8x 1/4" Long Cone Spacers (Tie Rod Ends)**
- 8- 1/2x 3/4" Long Tapered spacers (4 – UCA & 4 – Shock Mounts)**
- 4- 1/2x 1/2" Long Tapered spacers (UCA)**
- 2- 1 1/4 x 1/2" Thick Washers (Rack Spacers)**

Tools Required

Cut off tool (plasma cutter, grinder, cut off wheel etc)	Torsion bar Removal Tool
Breaker bar	Ball Joint Fork/Separator
1/2 in ratchet	Grease (High temp, waterproof and multipurpose)
Jack, Jack Stands or other lifting devices	Blue Loctite
Air Impact Gun and Sockets	Drill with spot weld cutter
Straight Edge	Torque Wrench
Anti-Seize	Penetrating Oil (WD40, PB Blaster etc.)

Removal of Factory Hardware

Remove engine and transmission from the vehicle PER instructions from factory service manual.

Take care not to damage the bolts or the threads of the (4) K frame bolts as you will need to reuse these 4 bolts. You will also need to use the factory upper control arm eccentric washer bolts.

Chassis Modifications

Step 1: Locate the factory bump stops on the frame rails of the vehicle. There should be two bump stops on each side. Using a cut off wheel, plasma cutter or a spot weld cutter or other cutting device, remove the bump stops from the frame rails on both sides

See picture.



After removing the bump stumps, grind any leftovers smooth with the frame. You may also want to touch up your frame with paint or undercoating to prevent rust from forming.

Step 2: On some A bodies, the upper control arm mount will have extra material on the rear lip of the front control arm mount (this does not apply to all A bodies, it is best to bolt the control arm in first, move up and down to see if interference exists), you will need to notch the rearward part of the mount, approximately ½" of an inch on both sides of the vehicle. See picture below for exact location:



You have now completed the removal of all items needing to be removed from the car in preparation for the new BFS kit.

Installation and Set Up; Clean K-Frame Bolt threads in the frame rails, it's a good idea to run a tap through them, (Threads are 5/8"-11). Blow all threads in the k-frame and control arms out to remove any possible debris that could have built up from shipping.

Step 1: With the help of a friend or a jack, carefully raise the new BFS K frame into position under the car. Re-install the factory K frame bolts through the provisions in the new K frame. Torque to 80 ft lbs. (or factory specs where applicable). You may also install the supplied shock tower support bracket to the stock location shock tower. It will attach to the BFS K frame shock tower when the coil-overs are installed.

Step 2: Install the ball joints into the control arms, the ball joint on the lower control arms screw in from the bottom side, the 1" extended stud ball joint goes into the upper control arms. (Because of the long stud, there will be a gap between the dust boot and the spindle, if the boot keeps sliding off the ball joint, you can cut a short piece of 1" heater hose 1" long and put in there to hold the dust boot up.) Next, install the heim joints and jam nuts in the upper control arms, usually 3 threads showing is an adequate start, fine adjustments can be made later if needed.

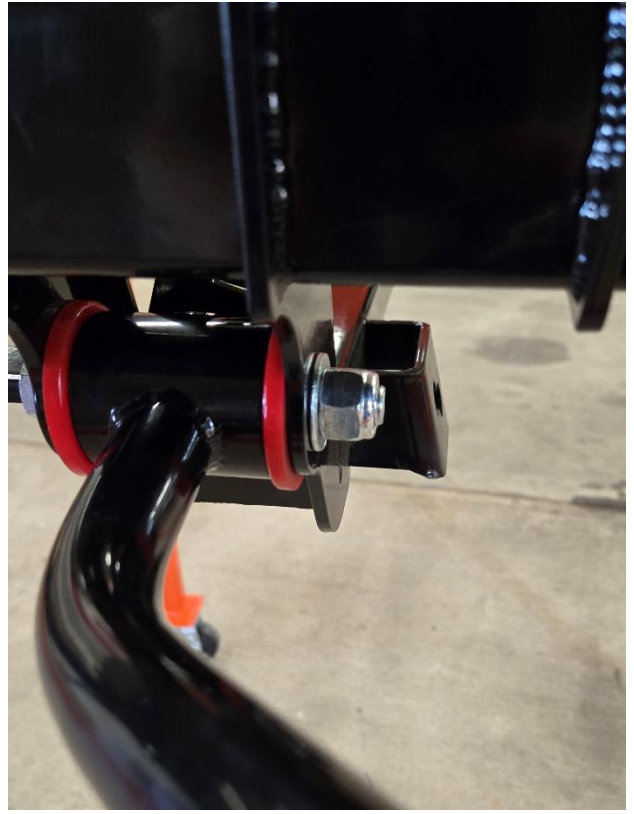
*Note: Because of the factory built in anti-dive geometry, the front upper control arm mount is higher off the frame than the rear, make sure the upper control arm is put on the correct side, (the arms offsetting up arm goes towards the front of the car, if put on backwards, it will clearly look backward as the ball joint will be severely offset in the housing and will limit travel). Using the spacers put the ¾" long spacer on the front, and the ½" spacer on the rear (**Pictured Lower Left**), use factory eccentric washer camber (**Pictured Lower Right**) bolts to secure. **NOTE:** Because of frame irregularities and the age of vehicles, there may be slight differences in the width of upper control arm brackets on each side, this is very common.*



The Front of the vehicle is the LEFT Side of this picture.

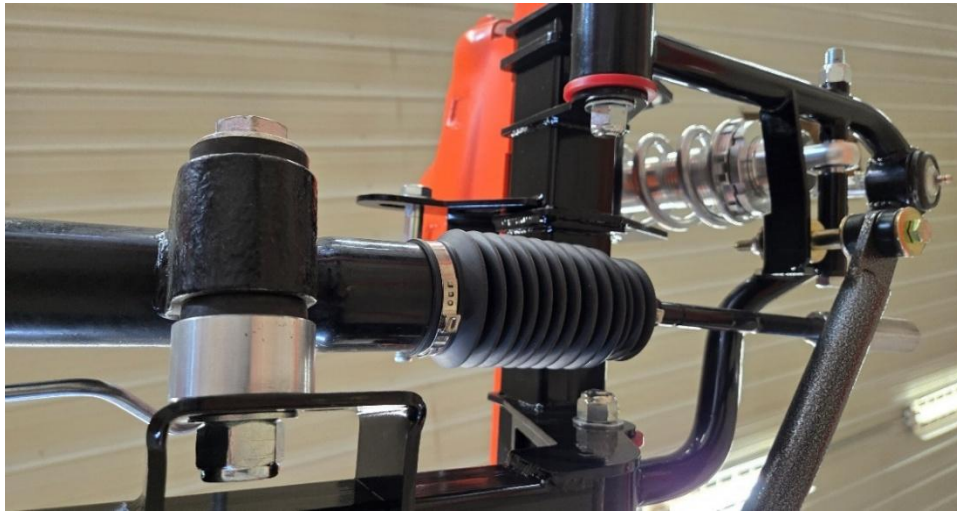
Step 3:

Install the lower control arms using the $\frac{1}{2}$ "x4" long bolts, flat washers, and nylock nuts onto the k frame. DO NOT OVERTIGHTEN! It is a common misconception to overtighten, (the steel sleeve inside the bushing is meant to pivot/turn on the bolt), by overtightening, the bushing will end up pivoting/turning inside the control arm, resulting in squeaking and premature bushing failure.



Step 4: Install the rack and pinion with a $\frac{5}{8}$ x 4 $\frac{1}{2}$ " long bolt, flat washers, nylock nut, and spacer, the spacer goes between the rack and mounting perch on the k-frame. Power rack will mount in upper set of holes and manual will utilize the lower set. On Power steering models, the pressure line is the lower fitting input, and the return is the upper fitting input, there are also arrows on the side of the steering shaft input body showing the direction of flow.





Step 5: If equipped with a sway bar install now, and attach the links to the control arms.



Install the coil-overs on to the lower control arms with bolt installing from front to rear (Nut towards the rear of the vehicle) and then the upper mount, use a $\frac{3}{4}$ " long tapered spacer on each side of the upper mount. (Upper bolt will also tie the shock tower brace installed earlier to the upper mount.)



NOTE: Before adjusting the spring height, use some silver anti-seize on the shock body threads to prevent galling. Failure to do this can result in damage to the coil over.

Do not adjust the adjuster nuts currently, we will set ride height later. Recommended ride height is setting the lower control arms level.

Step 6: Install spindles. Steering arms should point towards the front of the car, make sure to use the spacers provided to space the castle nut properly so the cotter pin lines up in the castle nut on both the upper and lower ball joints.



Ball Joints are pre-greased, but it is always a good idea to check them, if they need greased, do not grease until the car is on the ground and the suspension is “loaded” to prevent grease locking.

Step 7: *COAT THE RACK TIE ROD THREADS AND HEIM JOINT THREDS WITH ANTI-SEIZE!*

Screw the heim joints into the tie rod adjuster sleeves, then screw the tie rod adjuster sleeves on to the rack tie rods. Connect the steering arms from the rack to the spindles using a 5/8 x 5” long bolt and nylock nut. Put supplied cone spacers on each side of the heim joint with the tapered end seating against the pivot socket of the heim joint.

Install the brakes, the wheels, and tires on the car, following brake and wheel manufacturer’s instructions. ***IT IS YOUR RESPONSIBILITY TO CHECK ALL TIRE AND WHEEL CLEARANCES, ANY DAMAGE CAUSED TO THE BRAKES OR WHEELS BECAUSE OF CLEARANCE ISSUES FALLS ON THE RESPONSIBILITY OF THE INSTALLER, AND BOLANDER FABRICATION & SUSPENSIONS, OR ANY PRODUCT MANUFACTURERS SOLD WITH THIS KIT CAN NOT BE HELD LIABLE.***

Step 9: Lower the car carefully and measure your car. Set your ride height using a spanner wrench and coil spring adjuster on the coil over. Again, before you turn the spring adjust, you MUST ensure anti-seize is used. At this point, you may also set your rebound and compression on the shock. There are 19 adjustment points on the coil overs from Viking.

Optional Steering Column Bearing Install

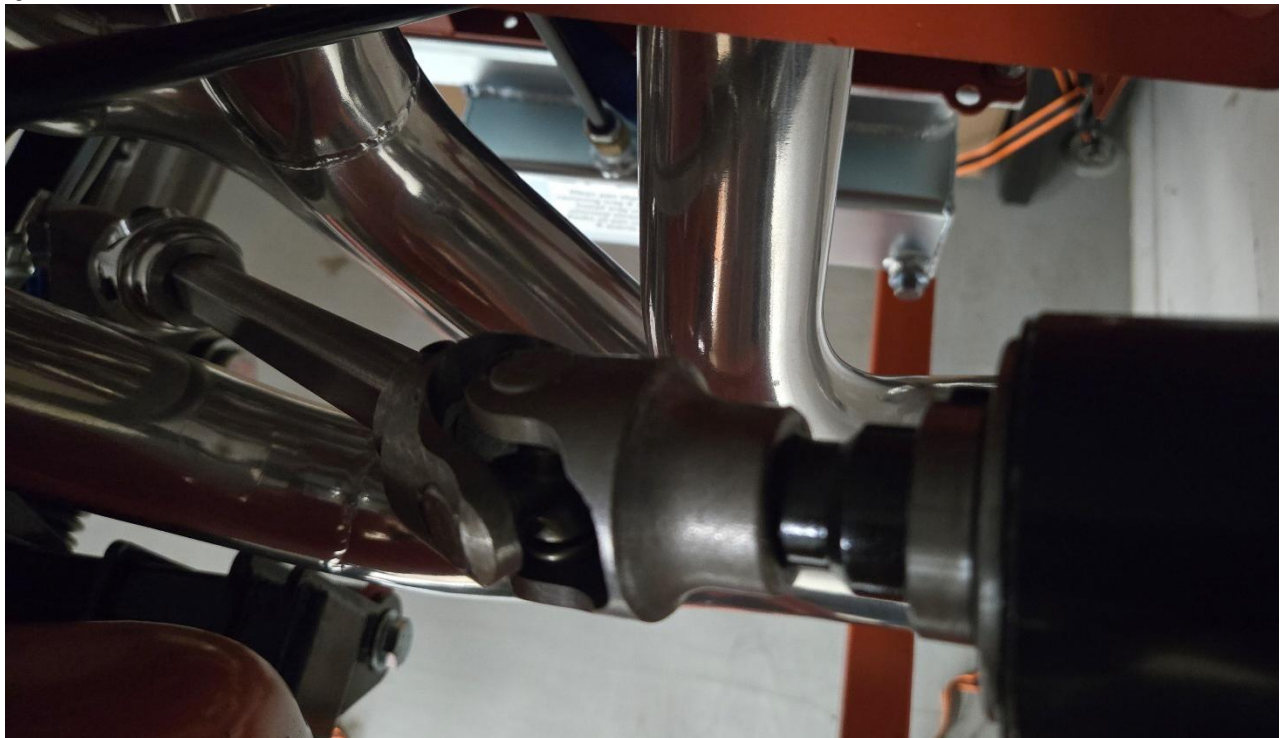


Step 9.1: With the steering column out of the car, remove the column jacket, and pull out the old nylon bushing. On some cars, 73-76 A bodies in particular, you may need to remove a small lip/flange from the jacket. This can be done using a Dremel or similar grinding device.

Step 9.2: Using a press or other tool, press the bearing in up to the removable clip.

Step 9.3: Set the Allen screws.

Step 10: Installing the steering shaft. Remove the factory column to steering box coupling, there is a small pin that keeps it from sliding off the shaft, you may need to scrape off any grease and dirt to find it. It is located on the top of the coupling. Next slide the U joint that has the round SMOOTH part onto steering shaft, make sure it does not protrude into the joint area. (It is best to wait to weld this one until everything is fit, as you may need to shorten the original steering shaft on the column). Next, place U joint onto rack and pinion shaft and lightly tighten the set screw, just to hold in place, then measure the distance between the U joints. I recommend cutting a little long, and test fit, trim as necessary, the shaft should slide roughly $\frac{3}{4}$ of an inch into each U joint. Ensure there is no binding, if everything is a good fit, tighten all set screws. At this point it is a good idea to reinstall the drivetrain and headers to ensure there is no interference before you weld the U joint to the factory column shaft.



You MUST have trained professional check the torque/tightness on all fasteners and check all suspension parts for wear after 25, 50 and 100 miles after initial install, and every 250 miles afterwards.

Alignment specs:

Manual steering: 2-3 degrees positive caster, .02-.05 degrees negative camber, 1/16th toe in.

Power steering: 4-6 degrees positive caster, .02-.05 degrees negative camber, 1/16th toe in.

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