CALL US @ 864-848-0601 or EMAIL @ sales@southernrods.com

INSTRUCTIONS FOR 1964-72CHEVELLE TUBULAR CONTROL ARMS

These arms duplicate stock alignment specs. The upper and lower ball joints are stock for these cars, MOOG #K-5108 upper and #K-5103 lower. The upper shaft is a special "problem solver" offset shaft kit, MOOG # K-5250 made to help solve the sagging problem common to these sub-frames. The shaft has a 3/16" offset built in that lets you change the length of the upper arm a total of 3/8". Start with the shaft facing the wheel side, as printed on the shaft. If you ever need to replace the upper bushings, they are MOOG # K-5196. Lower arm bushings are stock for '70-'72 and fit all year chassis MOOG #K-6076.

Stock length arms accept your stock tie rods. Narrowed arms on '64-'70 cars use a '65-'70 Chevy pickup inner tie rod end as the new outer MOOG #ES-370R or NAPA # 269-2187.
No shorter tie rod end exists that fits the different thread on the '71-'72 cars, so the inner and outer tie rod ends will need to be shortened ½" and the sleeve cut a matching ½" on each end to avoid running out of thread space.

Stock length arms accept your sway bar, but the narrowed ones put the ball joint right where the sway bar used to mount, and will not accept it. You can bend your sway bar cold in a shop press to remount it and make new mounting points. If the sub-frame is in a street rod without the nose heavy condition of a stock Camaro, we have found that adding a rear sway bar and eliminating the front actually makes for a more neutral handling car.

Narrowed arms also require removing the welded on upper and lower bump-stops from the frame itself in order to get the needed travel. We do supply bump-stops NAPA #265-4005 with both stock and narrowed arms.

Be sure to check the upper arms for clearance on the mounting ears, as GM was very sloppy on the placement of the mounting holes in those ears. You may need to massage the ears back a little to ensure free upper arm travel.

Any brakes designed for these cars should fit without trouble. Be aware that the stock disc brakes widen the track ¾" per side-that's why Rally wheels have a ¾" backspace built in. Fatman carries a disc kit from ECI that narrows the track back to 1" narrower than the stock drum brakes! Our GTECH 2" drop spindle accepts any disc brake set up from stock to enormous (made for your stock GM spindle) and has optimized geometry. We eliminated the bump steer and the taller new spindle improves the suspension camber curve so that tested skid pad G numbers are 20% greater. Your muscle car can handle as good as it looks! The taller spindle also allows more front end rise to get quicker 60 foot times at the drag strip.

The photos below both show the driver side control arms. Mark your original arms D for driver and P for passengers as we have done with the new ones. Note that the upper control arms will have the ball joint plates level as viewed from the side, the upper control arm shaft higher at the front than the rear (this is known as the anti-dive angle). The lower control arms have a sway bar mount welded to the forward side.

<<< to front of car <<<

ALIGNMENT: Use factory specs going toward the positive side of the range on camber and caster. Your alignment shop will often tickle those specs for local road conditions.

Fatman's tubular control arms are built on fixtures made from original GM parts. As such, they are normally a bolt on part. Occasionally, problems occur in obtaining proper camber and caster adjustment. As large as these crossmembers are, even the stock vehicles tend to sag in normal use. The problem is so common that we use the offset upper shafts discussed in the first paragraph in these instructions. If you have trouble, the first step is to loosen the upper bushing nuts, remove the camber bolts, and rotate the shaft in the bushings to change its length.

The second most common cause is a change in spindle height relative to the original GM design. When the spindle height changes, the upper ball joint moves in and out, as well as up and down, making the alignment dependent on that spindle height. Always leave the upper and lower pivot bushings loose until the weight is on the suspension. Tightening them with the car raised and the wheels dropped causes the bushings to act just like the rubber torsion bars used in small utility trailers, making the car sit too high.

Replacing or cutting the springs to change ride height, changing the engine, adding A/C, using narrowed control arms, or changing the load by putting the suspension in a hot rod all change the spindle height. Sometimes a sub-frame installation has not been properly planned and the ride height cannot be tuned to your taste without changing the spindle height so much that proper alignment is difficult.

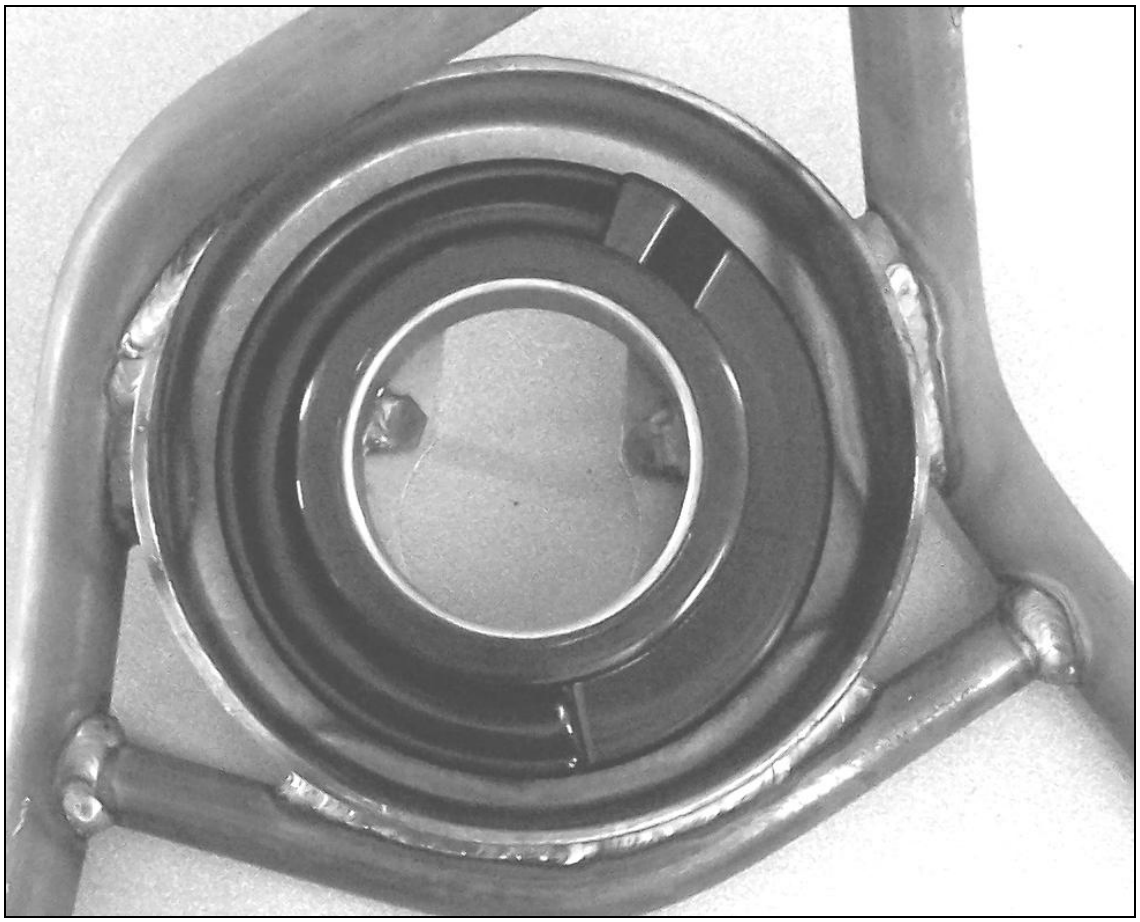
You must have <u>ALL</u> the components in place and the suspension at ride height before you can try the alignment. This is apparent when you see a Camaro sitting with the engine out, sitting high, with the wheels all out of shape. Having two fat buddies stand on the bumper just isn't an accurate way to guess at the ride height! Hot rod sub-frames often involve an engine setback, so lighter and/or shorter springs might be necessary. Narrowed arms can act the same since the car's weight has less leverage to compress the springs.

A good rule of thumb is that cutting one coil will lower the car about 2". You can easily cut one coil with no real effect on ride quality, but cutting more will stiffen the ride and may cause trouble with suspension travel and ball joint angles. If you need more drop, consider drop spindles, lighter springs, or a shorter tire. To raise the car, taller tires generally work better than stiffer springs, which often cause the upper arms to interfere with the shock towers. Switching to coilovers can be an excellent way to get a softer or stiffer spring as needed without getting into ride height problems. The engine setback in street rod sub-frames often requires a lighter spring rate than is available, unless coilovers are used. You'll also get the benefit of a race quality shock that offers improved suspension damping without a harsh ride.

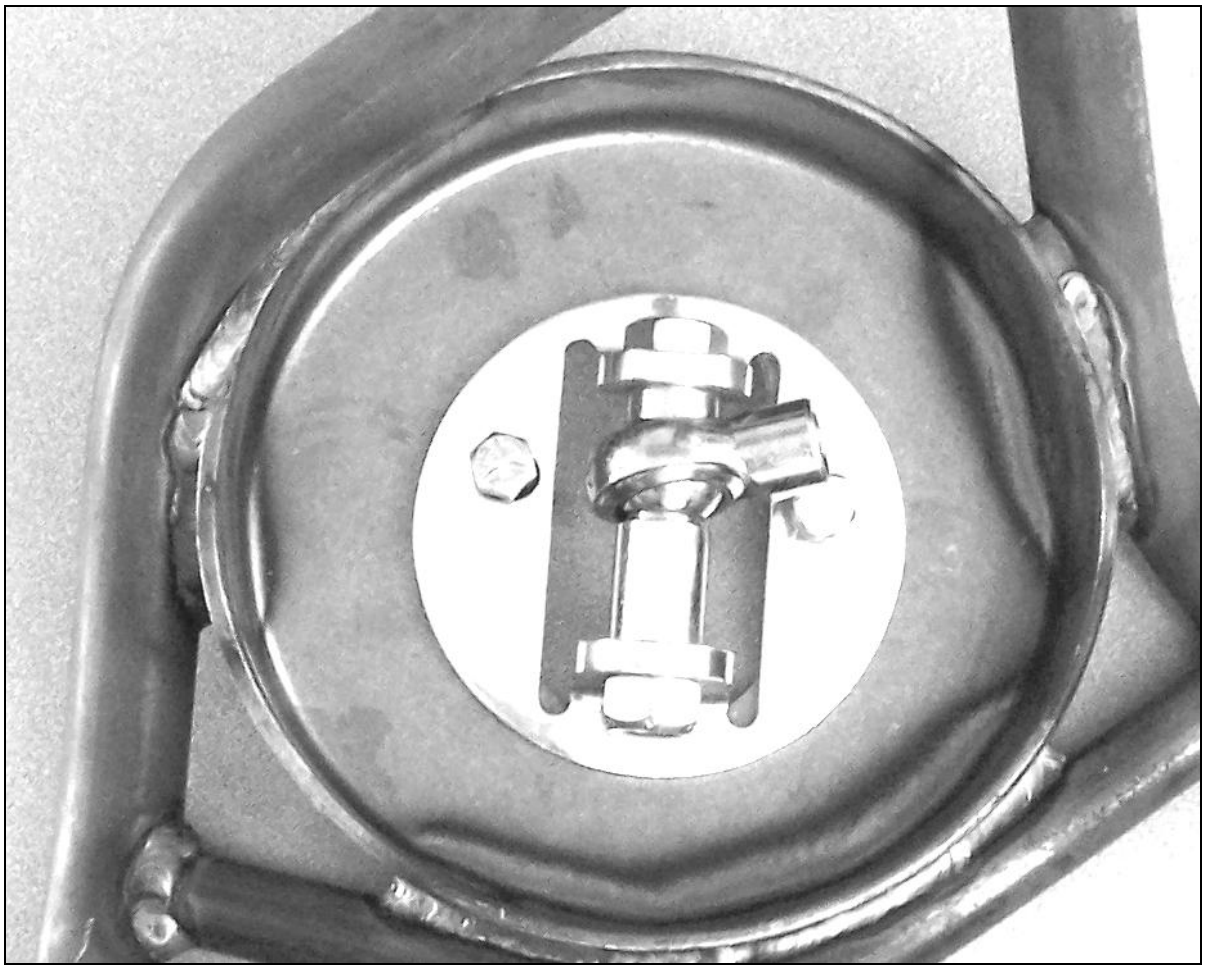
SPRING INSTALLATION is accomplished using one of three different mounts on the lower arms. The control arms are always the same with a bolt in arrangement for each type spring. Please see the next page for details.

CONVENTIONAL COIL SPRINGS use a molded urethane lower spring seat mounted over a short tube. Bolts are welded in place to pass thru the holes in the cup on the

arm, and will mount your normal shocks with the nuts and washers provided. Note that to center the mount in the cup, the bolts will be outboard of the spring center, as seen in the photo. The end of the coil spring should be outboard toward the ball joint, just like on your stock arm. You can rotate the spring bushing on the steel liner to fine tune the assembly if you have trimmed your springs. If so, be sure to grind a radius on the end of the spring so it won't dig into the urethane seat.

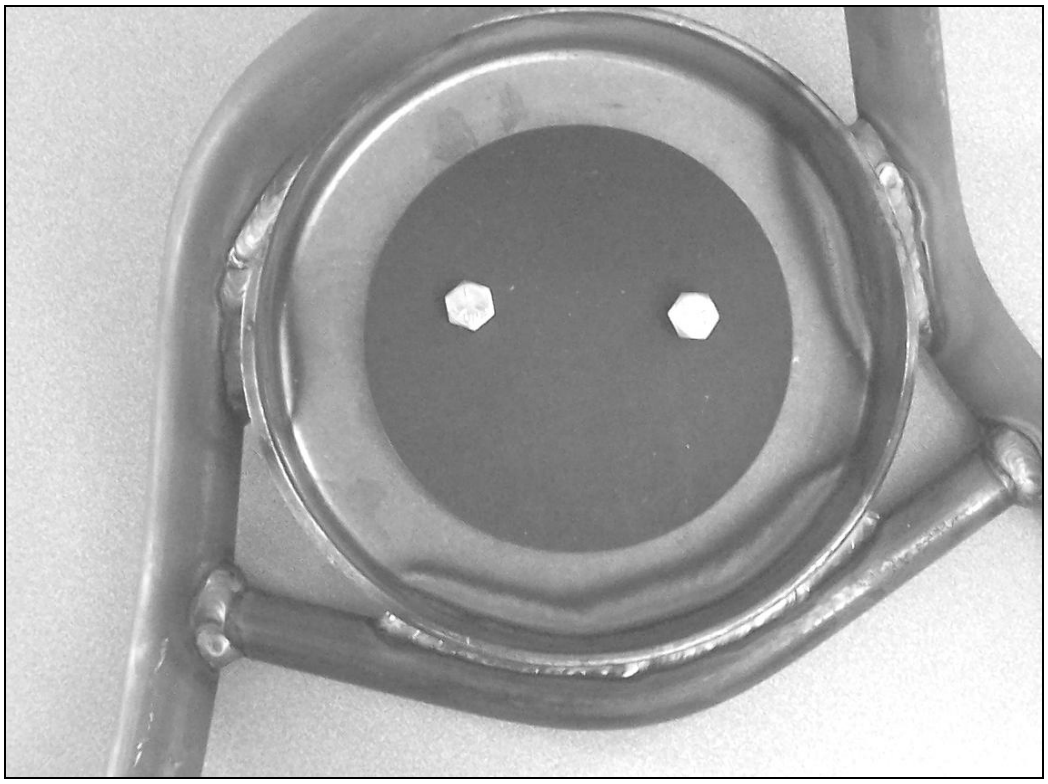


Coilovers will be supplied with a round "foot" with ears to support the lower bearing. That foot is designed to simply bolt into our lower spring cup, without using the urethane seat for conventional springs seen above.



^^^ toward lower ball joint ^^^

When your arms are ordered to mount a Ridetech air ride kit, we supply a ½" thick disc that also bolts into the shock holes in the spring cup welded into the lower arms. They are the same diameter as the inside of the lower mount Ridetech supplies with their mount kit for this application. The disc is normally mounted centered in the cup, but the ½" offset of the holes allows you to move the air spring outboard 1" if you need the extra clearance. The second photo shows the Ridetech lower air spring mount as it goes over our adaptor disc.



^^^ Toward Lower Ball Joint ^^^