FAT MAN
FABRICATIONS
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INSTRUCTIONS FOR '70-'81 CAMARO/'75-'79 NOVA/ '73-'77 CHEVELLE-MONTE CARLO TUBULAR CONTROL ARMS

These arms duplicate stock alignment specs. The upper and lower ball joints are stock for these cars, MOOG #K-5208 upper and #K-6145 lower. The upper shaft kit is MOOG #K-6148 for '70-'73 Camaro. These frames often sag in normal service, so much so that MOOG supplies this upper shaft kit in a version with a 3/16" offset built in. The upper arm length can be increased 3/8" total by rotating the shaft within the bushings. Start with the shaft installed with the "wheel side" lettering outboard, and rotate the shaft if you run out of room for shims.

Lower arm bushings are stock for a '73-'81 Camaro, MOOG #K-6109. Those lower bushings accept a 9/16" bolt which we supply. Some earlier cars used a ½" bolt, and we supply the stronger 9/16" since it is easier to drill a hole larger than to have to use a very thin bushing adaptor.

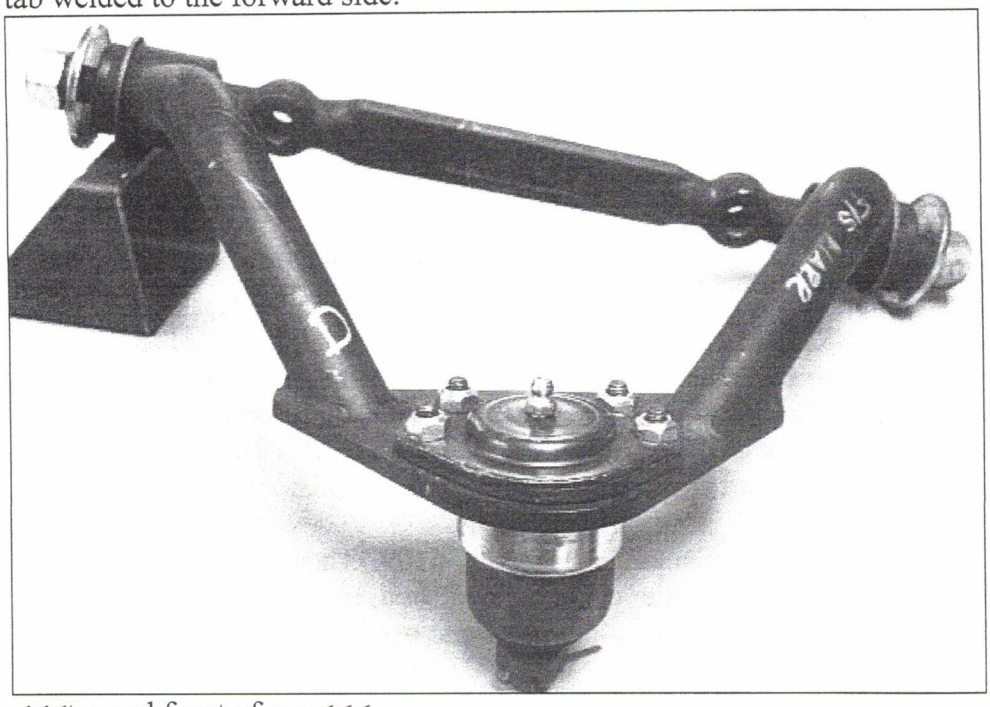
Stock length arms accept your stock tie rods. The 1" narrowed arms will require a shorter tie rod assembly. Different manufacturers make their tie rods in different ways, but most have enough thread to allow them to be screwed in enough to work as is. If yours will not, cut the inner and outer tie rods ½" each, and shorten each end of the tie rod sleeve a matching ½" to avoid running out of thread space.

Stock or narrowed length arms accept your sway bar as is. If the subframe 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 often makes for a more neutral handling car.

We supply new bumpstops mounted on the lower control arms, NAPA #265-4005.

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.

The photos below both show the driver side control arms. Mark your original arms D for driver and P for passenger, 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 tab welded to the forward side.



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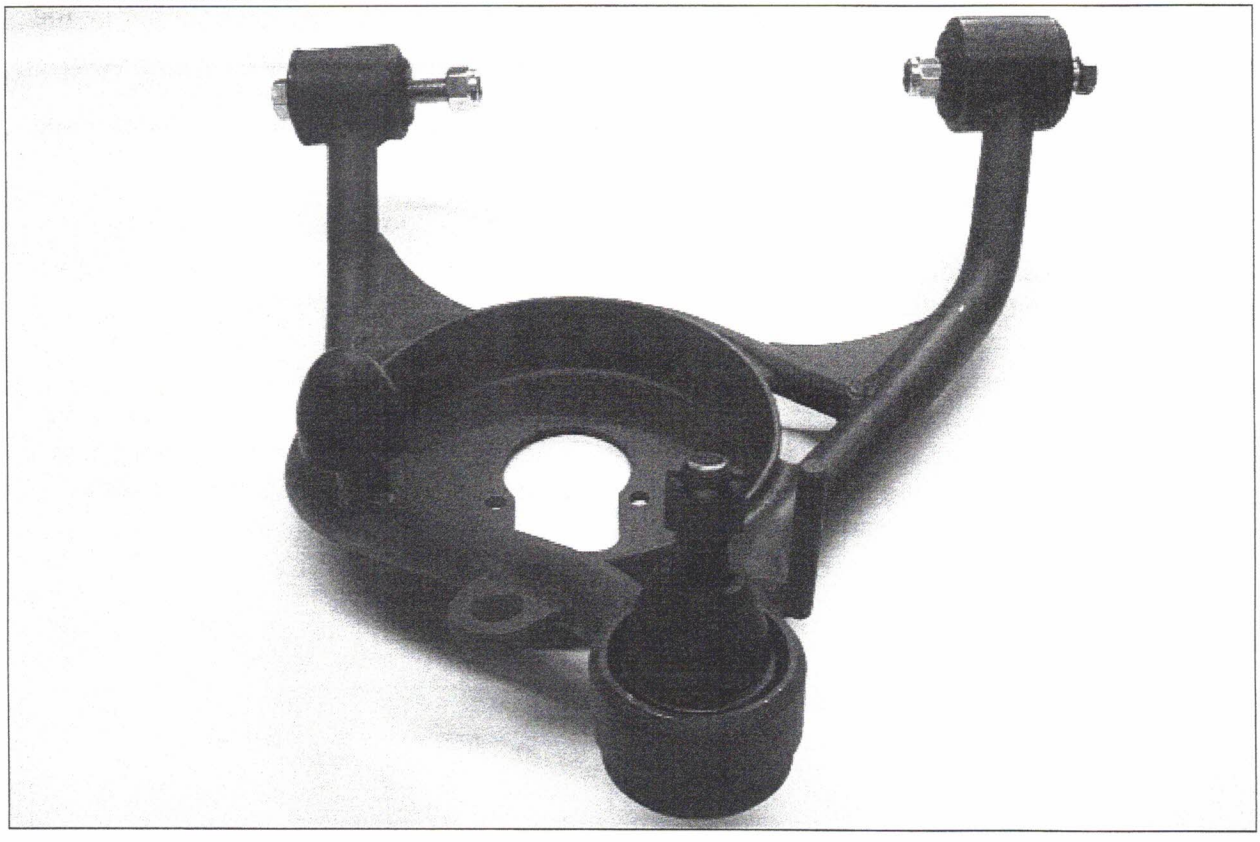


Fatman's tubular control arms are built on fixtures made from original GM parts. As such, they are normally a bolt on part. Occasionally, problems occur in obtaining proper camber and caster adjustment. As large as these crossmembers are, even the stock vehicles tend to sag in normal use. The problem 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 it's length.

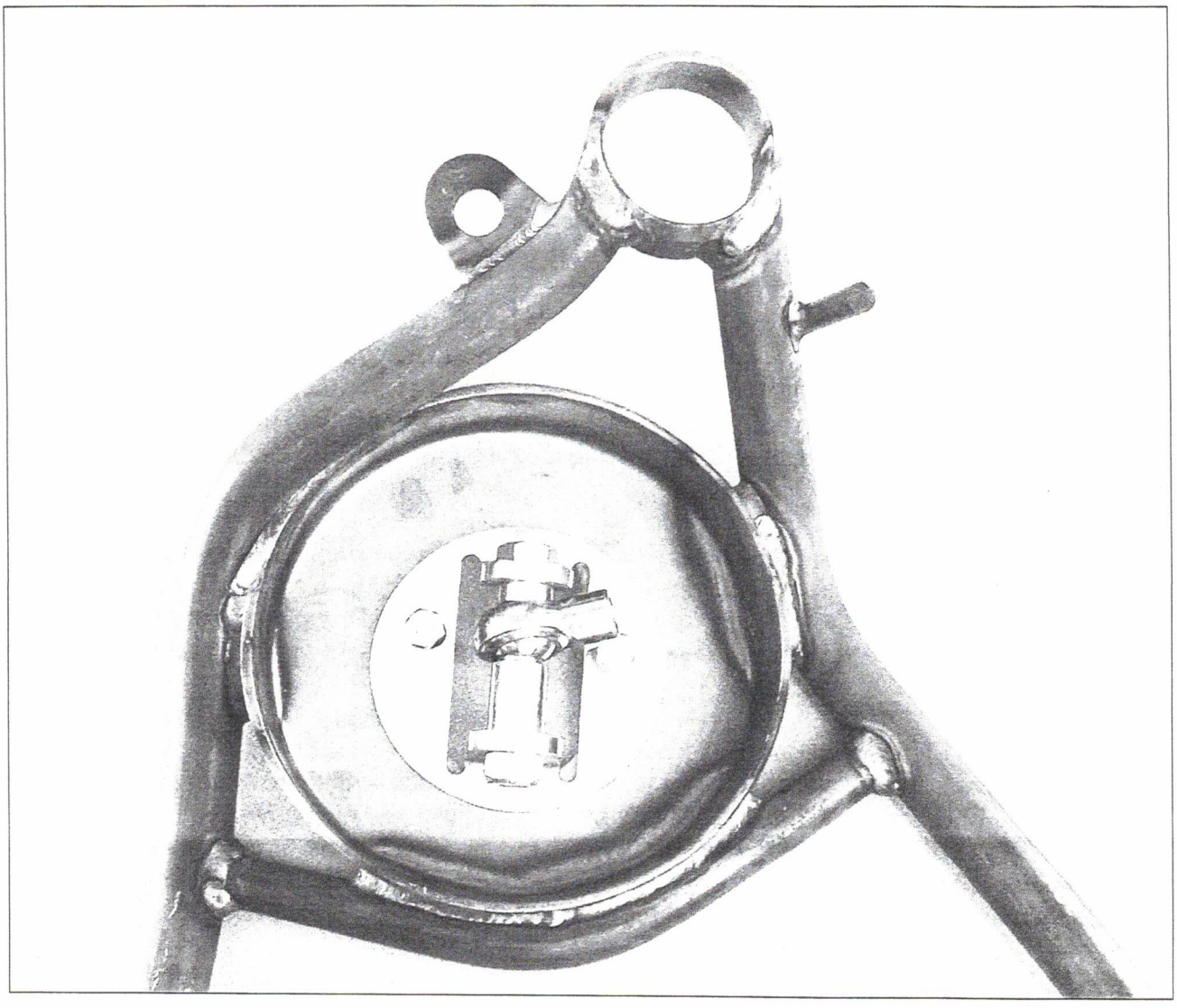
The second most common cause is a change in spindle height relative to the original GM design. When the spindle height changes, the upper ball joint moves in and out, as well as up and down, making the alignment dependent on that spindle height. Always leave the upper and lower pivot bushings loose until 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 subframe 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 ALL 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 subframes 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 subframes 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.

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 seen above.



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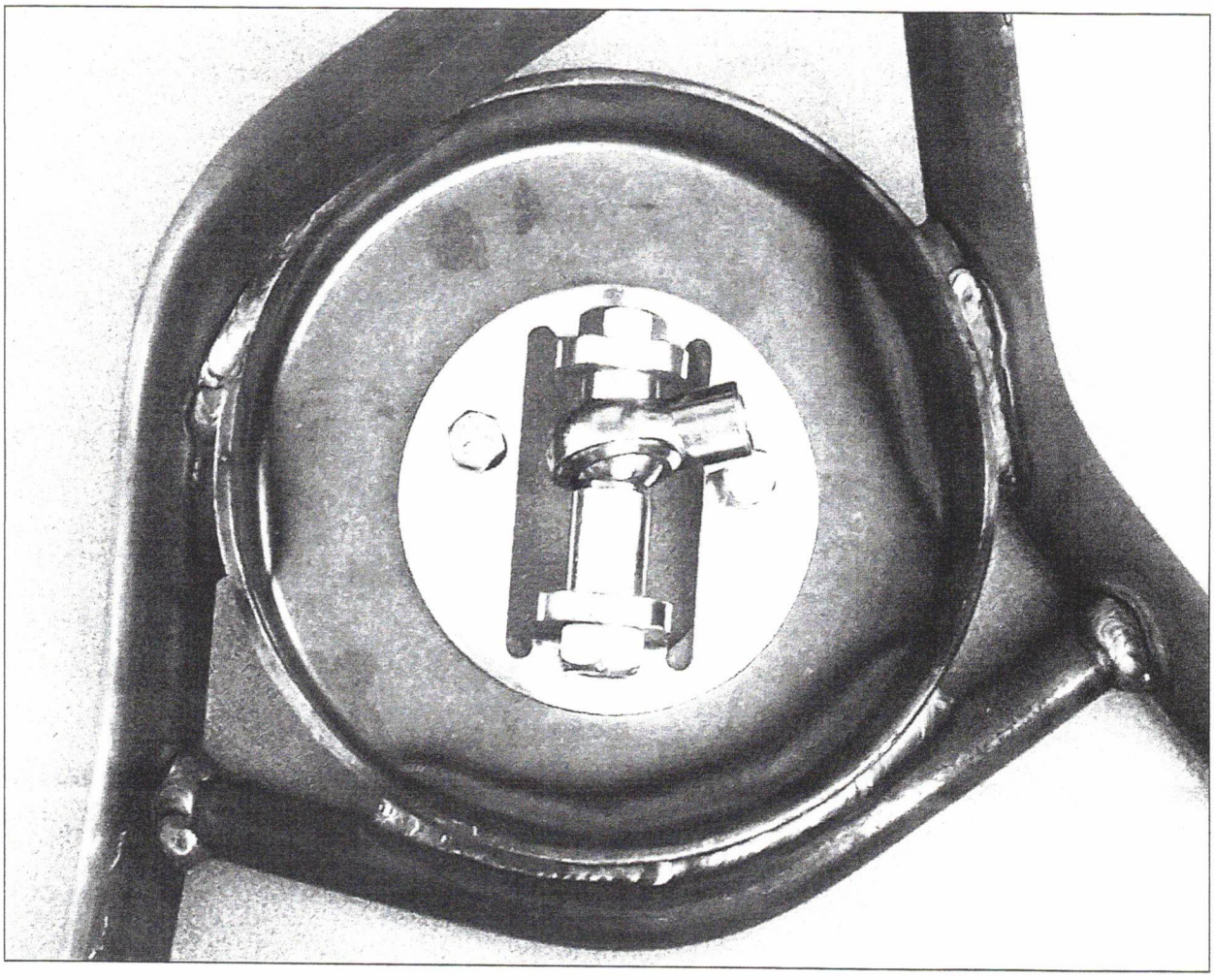

When your arms are ordered to mount an Airride Technologies kit, we supply a ½" thick disc that also bolts into the shock holes in the spring cup welded into the lower arms. They are the

same diameter as the inside of the lower mount Airride 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 Airride lower air spring mount as it goes over our adaptor disc.