Installation Supplement for Frame Stub Components - Stages 3 & 5

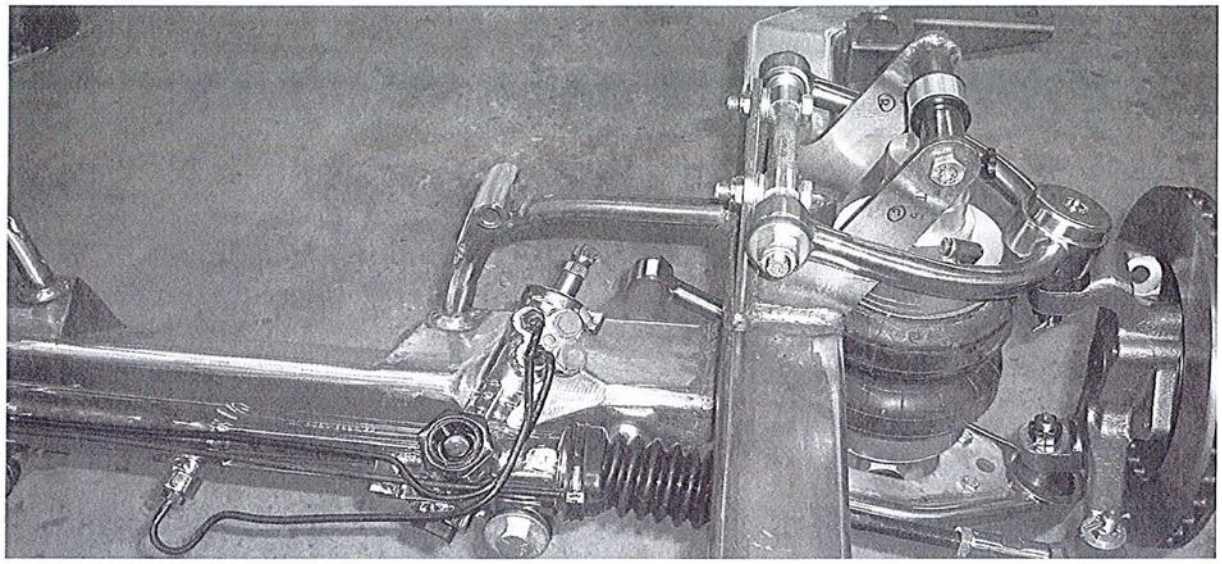
We highly recommend that you FIRST read these directions from beginning to end BEFORE you begin. Many things will become clearer as the work progresses and much easier to understand when the entire process is considered. We also stand ready to answer any questions on the phone at 864-848-0601 or by email at sales@southernrods.com .

Your frame stub has been installed and now we are ready to mount the suspension components. There are separate instruction sheets for the brakes, control arms, and steering but we'll repeat the assembly instructions here as well.

A little tip that aids installation of the upper control arms is to first insert the 1/2" x 2-1/4" bolts in the holes in the upper arm cross shaft pointing in toward the center of the car. Three washers per bolt are then added to the shaft spacing the cross shaft away from the camber plate. Then insert the bolts through the camber plate and rotate the cross shaft to ease them in. The washers are supplied as a starting point for alignment shims.

Add the coilovers (or Shockwaves) next if the car is complete. If the chassis will remain incomplete for a period, we find it helpful to leave the coilovers off for now. You won't be able to adjust your ride height until all the weight is on the car. This includes sheet metal, radiator, bumpers, body, glass, interior, and a complete engine. They cannot be properly adjusted without **ALL OF THE WEIGHT** on the car. They will also be protected from weld spatter and over spray as you continue the build if you wait to install them. We use a 14" length of 1/2" thick flat stock with 5/8" holes drilled at 12-1/2" centers to serve as a strut to support the chassis during the mockup stage. When the car is 100% complete, we expect the coilovers (or Shockwaves) to have around 1-1/2" of threads showing under the adjuster nut and be 12" to 12-1/2" tall, measured center-to-center of the eyes. This should put the lower control arm about level.

Shockwaves must be mounted with the air spring on the bottom and the fittings on top, as shown in the photo below.



It is critical that the coilover shocks neither bottom nor top out in their travel. If allowed to run out of travel parts will be damaged with handling and ride quality reduced greatly. This can cause damage or failure of the ball joints and coilovers over time. The suspension will be at full extension under the heavy force of the springs trying to return to their uncompressed height. Two large friends standing on the front of the frame will not simulate the extra weight of the drivetrain, sheet metal, etc., and the suspension typically will NOT move much if at all since you are now trying to overcome the friction of the tires on the ground. The wheels travel in an arc as they move up and down. This is why an alignment rack has moveable turntables to place the tires on when doing an alignment. The ride height is correct when the lower control arms are extending from the crossmember at level. This allows for proper geometry and suspension travel. If the ride height is not to your liking with the lower arms level you can swap out to a different spindle (standard, 2" drop, or 1 ½" raised) to achieve the desired stance.

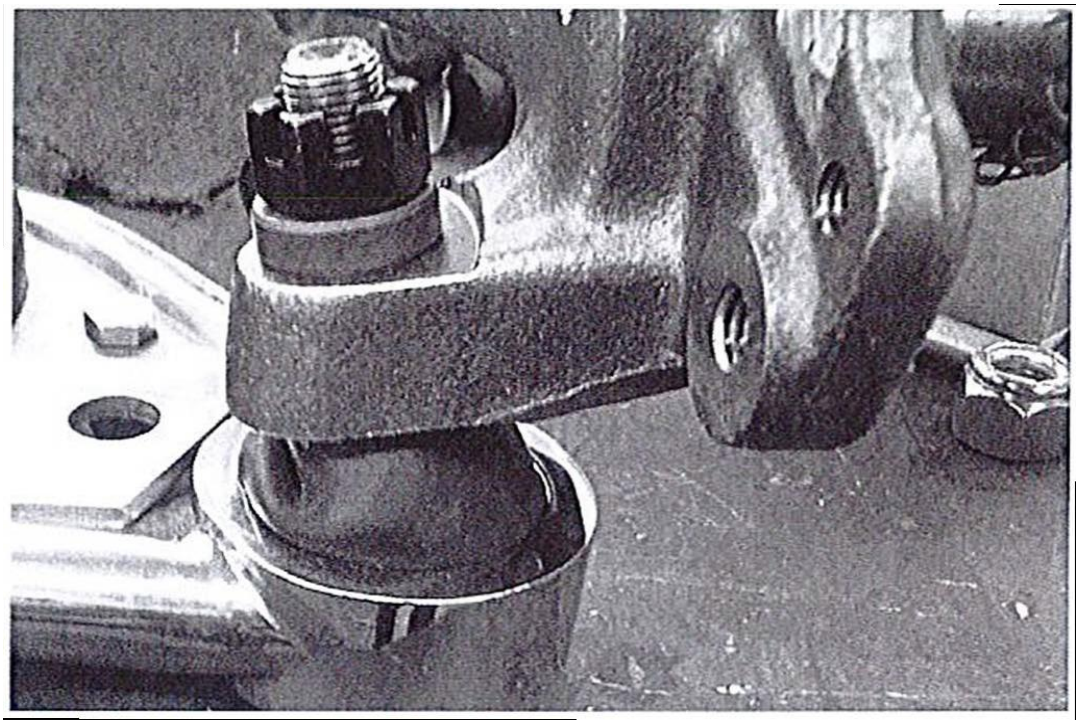
The rack and pinion will have its mounting bushings in a plastic bag inside one of the boxes of your order. The bushings install with the flange to the rear against the crossmember rack mount bracket. The easiest way to get them in place is to pull out the inner steel sleeve from the rubber bushing first, tap the rubber into the rack body, and then tap the steel sleeve into place.

If you are installing a widened kit, be sure to look at the enclosed instructions which explain how to install the rack extension.

Some cars can have the steering connected by using only 2 U-joints. Most vehicles will require 3U-joints with a center bearing to get around the exhaust manifolds. We offer a nice kit with all the Borgeson joints, shafts, and bearing to make it easy. Most pickup truck installations work well with block hugger headers or Ram's Horn manifolds. Most street rod applications do best with either Sanderson's block huggers which keep the exhaust closer to the block and away from the frame rail, or Hedman's ultra-close block hugger headers.

A steering hookup example is shown below. It shows a 1969 Camara stub with our Stage 3 coilover suspension, but the basic design is fairly universal. We offer this as a kit supplying the proper U-joints, shafts, and center bearing.

There are a couple other things installers often seem to miss when reading the instructions. With Chevy pattern disc brake kits, the instructions tell you that the GM bearing races must be removed and the races packed with the supplied A-12 and A-13 bearings installed. If you don't follow these instructions the rotor will sit too far out on the spindle and the cotter pin hole will not be accessible. The control arm instructions explain that the lower ball joint requires a spacer that we supply to raise the castle nut enough so that the nut can be securely tightened against the ball joint boss on the spindle.



The additional 5/8” hole you see on the plate is for the sway bar link if being installed on your vehicle.

Remount the front sheet metal and cut out the inner splash shields to 1" clearance around your new suspension. It'soften easier and prettier to make new inner splash shields from steel or aluminum with a few louvers for style.

Bleed the brakes, check the steering for strength and smoothness, and enjoy a low smooth ride!

Please be sure to provide the following recommended specs to the alignment shop as they generally will not see these instructions and will use OEM Mustang II specs, which do not call for enough positive caster for the improved road feel that our specs provide.

Mustang II alignment specs are as follows:

Camber: +1/2 degree
Caster (manual steering): +1/2 to +1 degree
Caster (power steering): +3-1/2 to +4 degrees
Toe: -1/8”

*Use only genuine power steering fluid with the power racks we provide.

Handy Part Numbers:

Brake Hoses NAPA #36959 fits 1985 Buick Riviera front and accepts 3/15" hardline. This hose is 17" long and works well on almost any front disc setup. Discard the steel bracket on the hose. It accepts a metric banjo (hollow) bolt at the caliper and fits non-metric calipers by simply passing a 7/16" drill through the caliper end block. An excellent rear hose is NAPA #36799 which comes from 1975 Jeep CJ-5. It is 17" long and accepts 3/15" hard lines. Metric banjo bolt is NAPA #82703, while the 7/15" - 20 thread version is #82698.

Mustang II Power Steering Hoses The smaller line is the pressure side. Both O-ring and flare fittings are used, and most rebuilt racks include adapters to use flare fittings which we prefer. With a standard GM power steering pump use NAPA 7-1874 pressure and 7-1880 return lines for rack using O-Ring fittings. See the notes in the back of our catalog regarding swivel O-Ring fittings. For flare fittings use Gates pressure hose #35637 and #35287 return.

Motor and Trans Mounts Small block Chevys use NAPA #602-1054 motor mounts. Big block Chevys use #602-1127. All GM transmissions using mount #620-1031 (This GM transmission mount is easily adapted to Chrysler transmissions). Ford small blocks use #602-1152 motor mounts and #620-1040 transmission mount. Cleveland engines can use NAPA #602-1151. The 429-460 work well with #602-1694/1695 and a #620-1058 transmission mount for the C-6.