

INSTRUCTIONS

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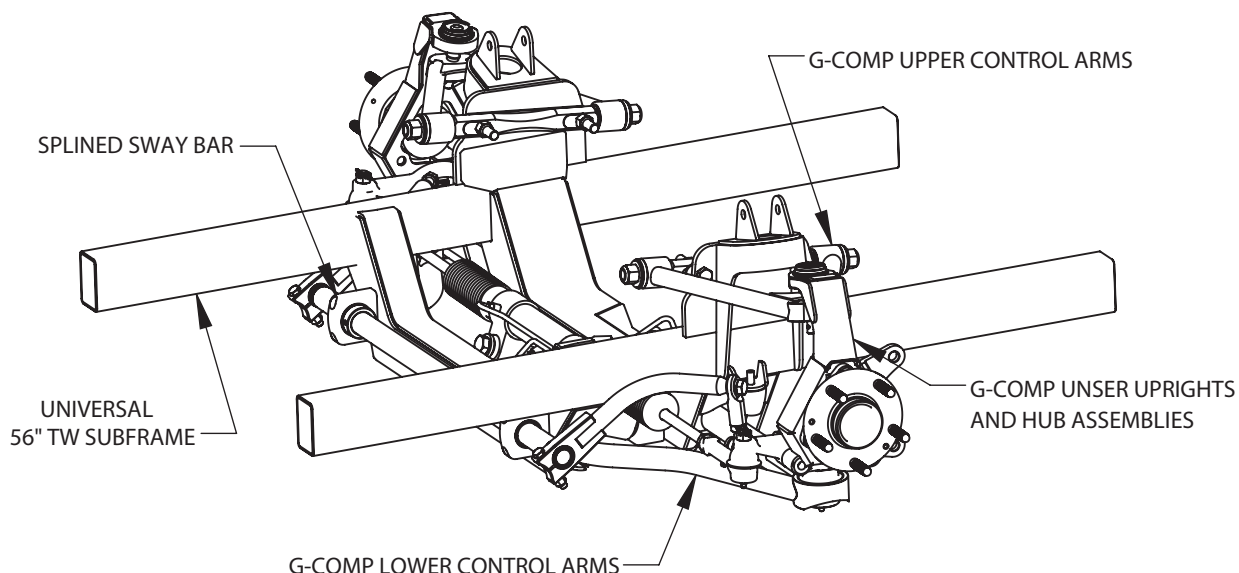
3502000-56

Universal G-Comp Subframe

Kit Contents	
350100.2	G-COMP CAMBER SHIM KIT
3501100	UNSER EDITION SPINDLE UPRIGHT
3502000.1	56-58" SUBFRAME WELDMENT
3502000.3	HARDWARE KIT - 56"
350203	G-COMP UNSER UPPER CONTROL ARMS
350204	G-COMP UNSER LOWER CONTROL ARMS
350207	UNSER EDITION HUB BOLT KIT
350350	UNSER EDITION FRONT HUB
91035010	G-COMP STEERING ARM - PAIR
91035100	G-COMP 32" STANDARD SWAY BAR
91035250	G-COMP SWAY BAR ARMS
91035345	NARROW P/S RACK FOR G-COMP
91035900	G-COMP SWAY MOUNT KIT

This kit is designed as a performance upgrade to the OEM suspension system in almost any vehicle. This installation will involve fabrication and welding to connect the new subframe weldment to the existing structure of the vehicle. As such, this should only be attempted by an experienced fabricator familiar with this type of work.

Please read and understand these instructions completely before starting this project.



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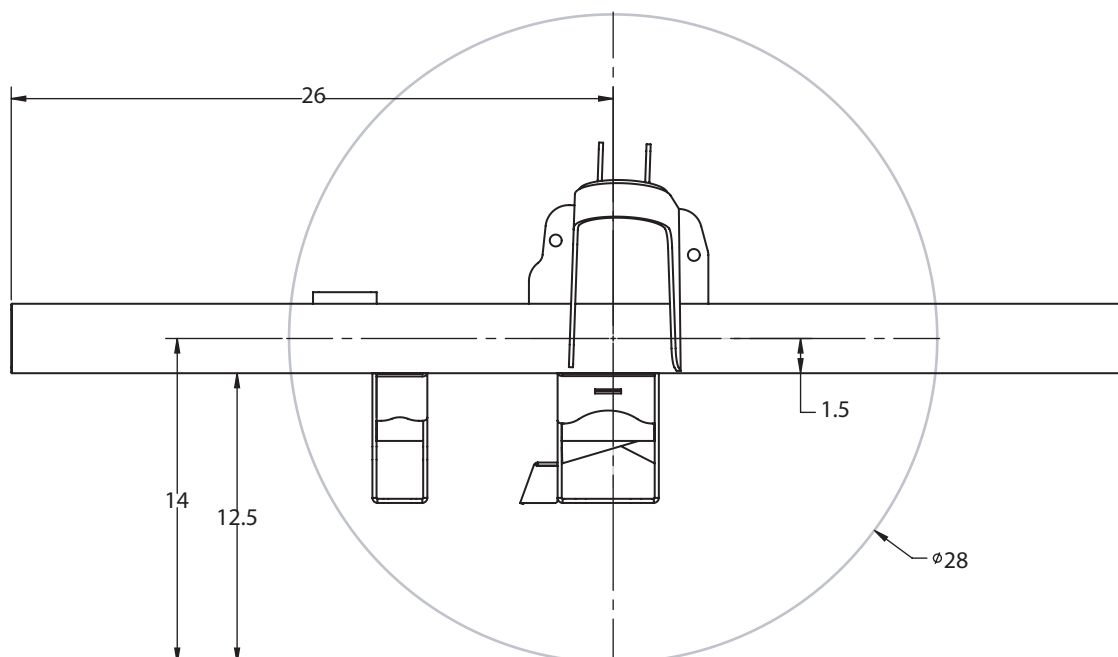
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To start, determine desired ride height based on the tire size you will be using. The axle centerline for this suspension is 1-1/2" above the lower surface of the frame rail at designed ride height and 26" back from the front edge of the subframe rail. **Note:** This 26" dimension will vary slightly depending on how much caster you put in the suspension - more caster will move centerline back. Based on this, calculate the frame rail height dimension. For example: (see illustration below) if the proposed tire diameter is 28", then the centerline of the tire (spindle centerline) would be 14" (28"/2) above ground level. Subtracting the 1-1/2" from the 14" leaves the lower surface of the rail at 12-1/2" above the ground. Now, substitute your desired tire diameter into this formula to calculate your frame rail height. Mock the vehicle up at your desired ride height and determine the best way to attach the subframe weldment to the existing structure of the vehicle while maintaining this relationship. In the case of a full frame car, cutting the existing frame near the firewall and fabricating a 2x3 (or similar) tube rail to attach the subframe to the existing structure is an option. Depending on the condition of the existing frame or plans for the rear suspension, it may also be easier and better to fabricate an entirely new full frame. On unibody type vehicles, the job can be a bit tougher and require a bit more engineering. It is up to the fabricator to determine the best method to use and to ensure that the completed chassis is structurally rigid enough to handle the input loads that will occur as the vehicle is driven. If you are inexperienced in this type of fabrication, it is highly recommended that you seek the assistance of a professional shop that has experience in this area.



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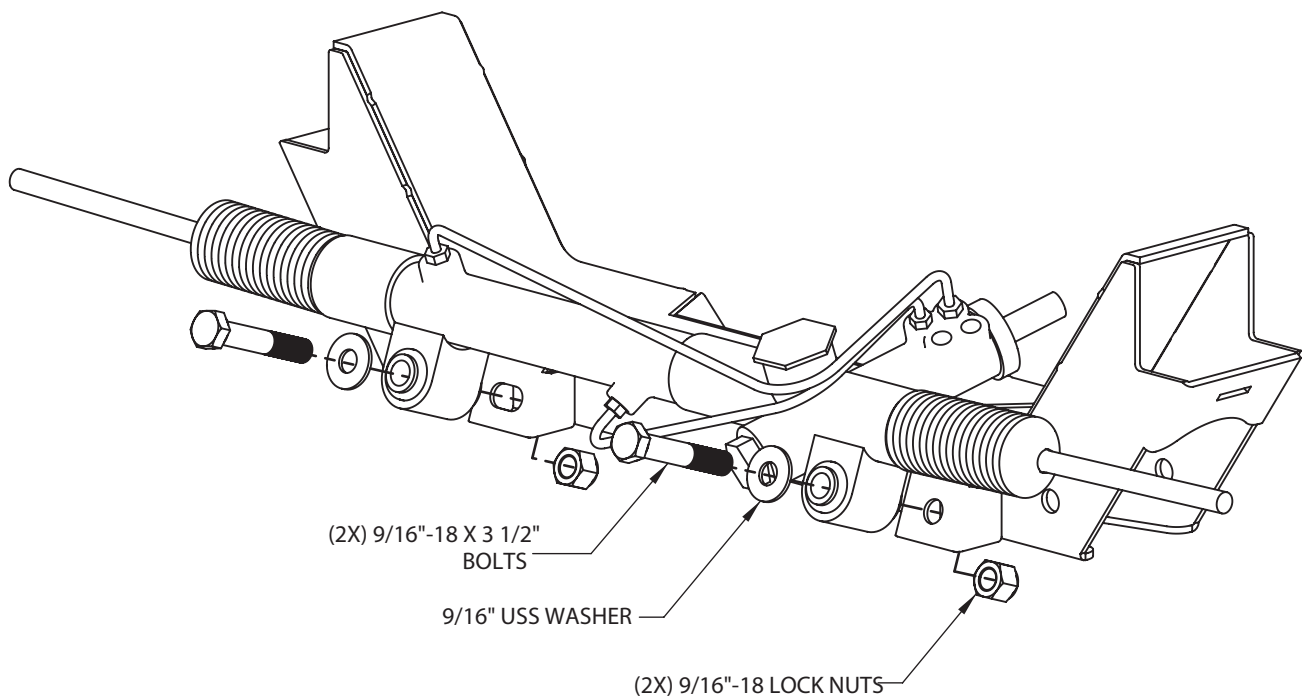
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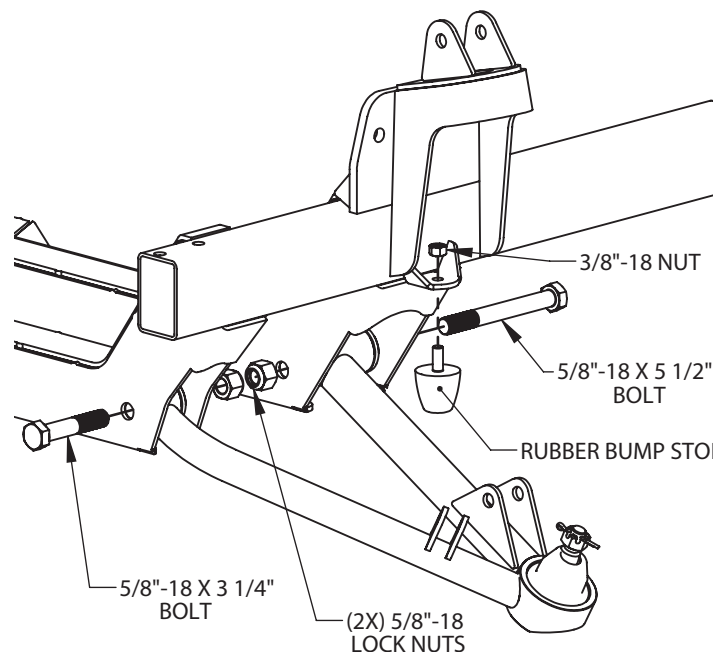
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1. **Steering Rack.** This G-comp front suspension kit is designed to use a narrowed thunderbird style rack. Install the steering rack as shown, using the two 9/16"-18 x 3 1/2" bolts, washers and lock nuts.



2. **Install the lower control arms into the crossmember.** Align the control arm bushings with the lower control arm holes in the cross-member. The front bolts, 5/8"-18 x 3-1/4" are to be installed from the front side. The rear bolts, 5/8"-18 x 5-1/2" are to be installed from the rear. Install the 5/8"-18 lock nuts and tighten. Install the lower control arm bump stops to the sub-frame using the supplied 3/8" lock nuts as shown.



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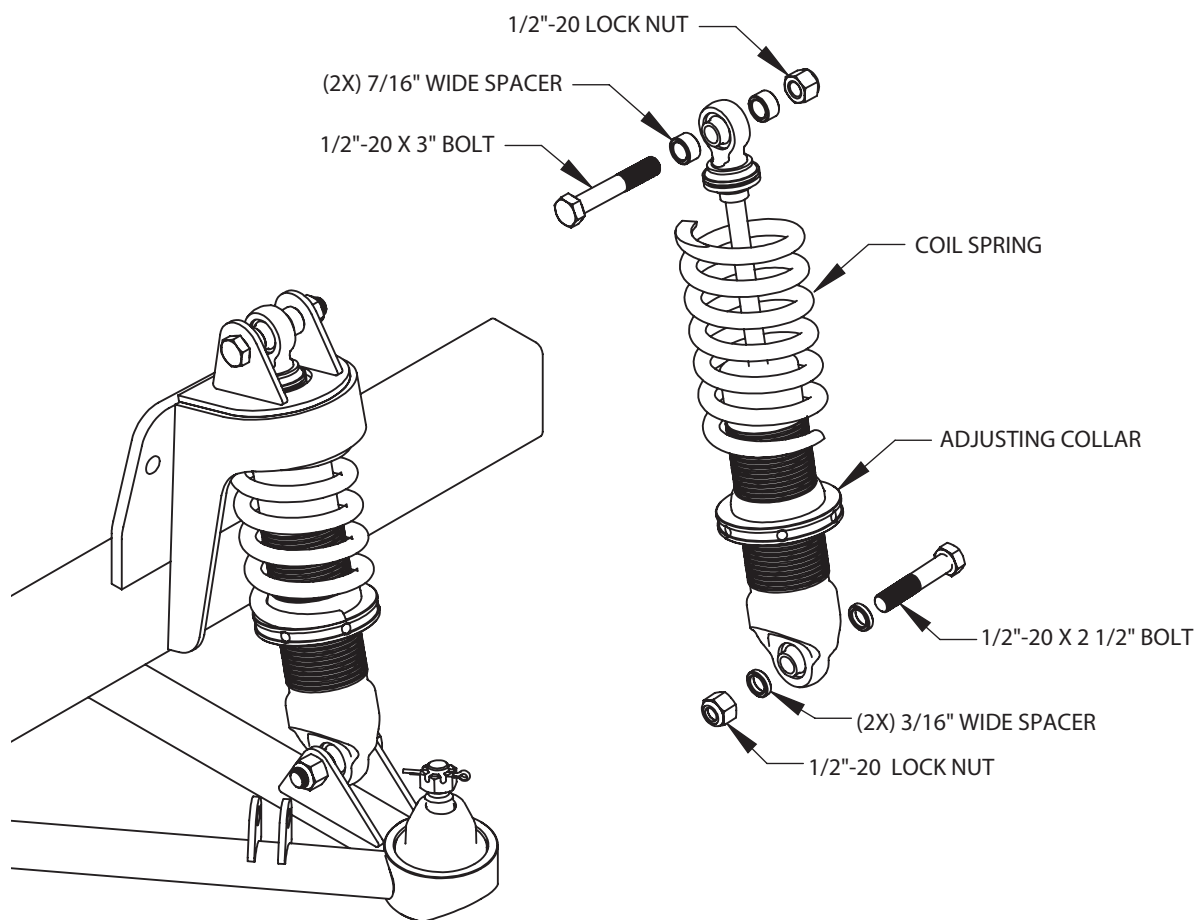
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3. Install the shocks. This procedure may vary slightly depending on the shocks used. Spin the adjusting collar onto the threaded shock body. Adjust the collar all the way to the bottom of the threads. Install the spring over the shock body. **NOTE:** The G-Comp sub-frame has the upper spring retainer built into the sub-frame so the upper coil-over shock spring retainer is not used. Using the 1/2"-20 x 2-1/2" bolt and two 3/16" wide spacers, install the shock into the lower mount on the control arm. Secure it with a 1/2"-20 lock nut. Fully extend the shock and raise the lower arm so the upper shock mount and spring align with the shock mount and spring pocket on the sub-frame. Install the 1/2"-20 x 3" upper shock bolts and 7/16" wide spacers. Secure it with a 1/2"-20 lock nut. **NOTE:** This kit is designed to use shocks with a compressed length of 10" and an extended length of 14". Shock ends should be 1/2" bearings with a mounting width of 1". For recommended part numbers, please visit our website or contact one of our tech experts.



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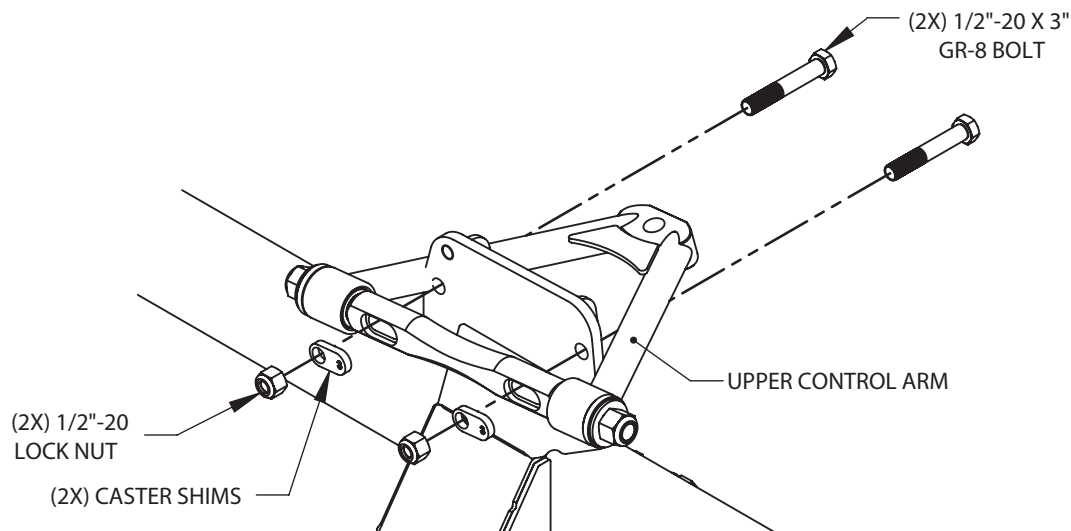
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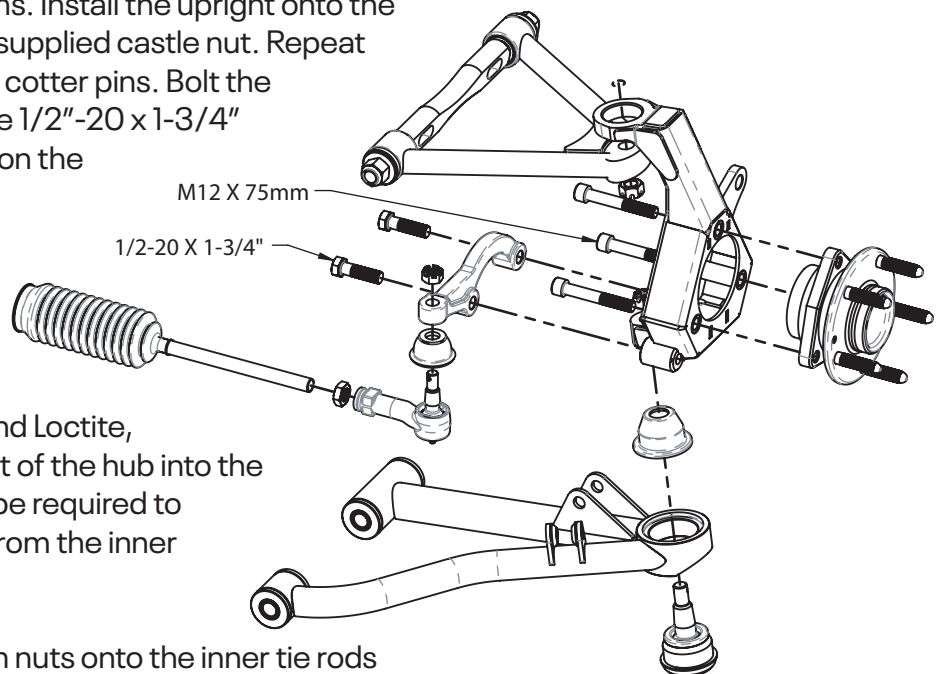
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4. Mount the upper control arms to the sub-frame using the 1/2"-20 x 3" bolts and lock nuts. Rotate the cross shafts so the caster shim pockets are facing toward the center of the vehicle. Install the bolts through the caster shims, cross shafts, and the sub-frame as shown. Then secure with the 1/2"-20 locknuts. For initial installation, install the #2 caster shim with the hole positioned to the front of the pocket. This should give a good initial starting point for alignment.



5. Install the uprights and steering arms. Install the upright onto the lower ball joint. Install and tighten the supplied castle nut. Repeat with the upper ball joint and install the cotter pins. Bolt the steering arms to the spindles using the 1/2"-20 x 1-3/4" bolts. NOTE: Make sure to use Loctite on the threads.

6. Install the hubs. The Corvette style hubs included with this kit use metric hardware, including metric lug nuts. Using the supplied M12 metric bolts and Loctite, secure the hubs to the uprights. The fit of the hub into the upright is a close tolerance fit. It may be required to remove any paint or powder coating from the inner bore of the upright before assembly.



7. Install the outer tie rod ends and jam nuts onto the inner tie rods of the rack. Thread both tie rod ends on equally. Attach the tie rod ends to the steering arms using the castle nuts supplied with the tie rod ends. Tighten and install the cotter pins. Final alignment will be done at a later time.

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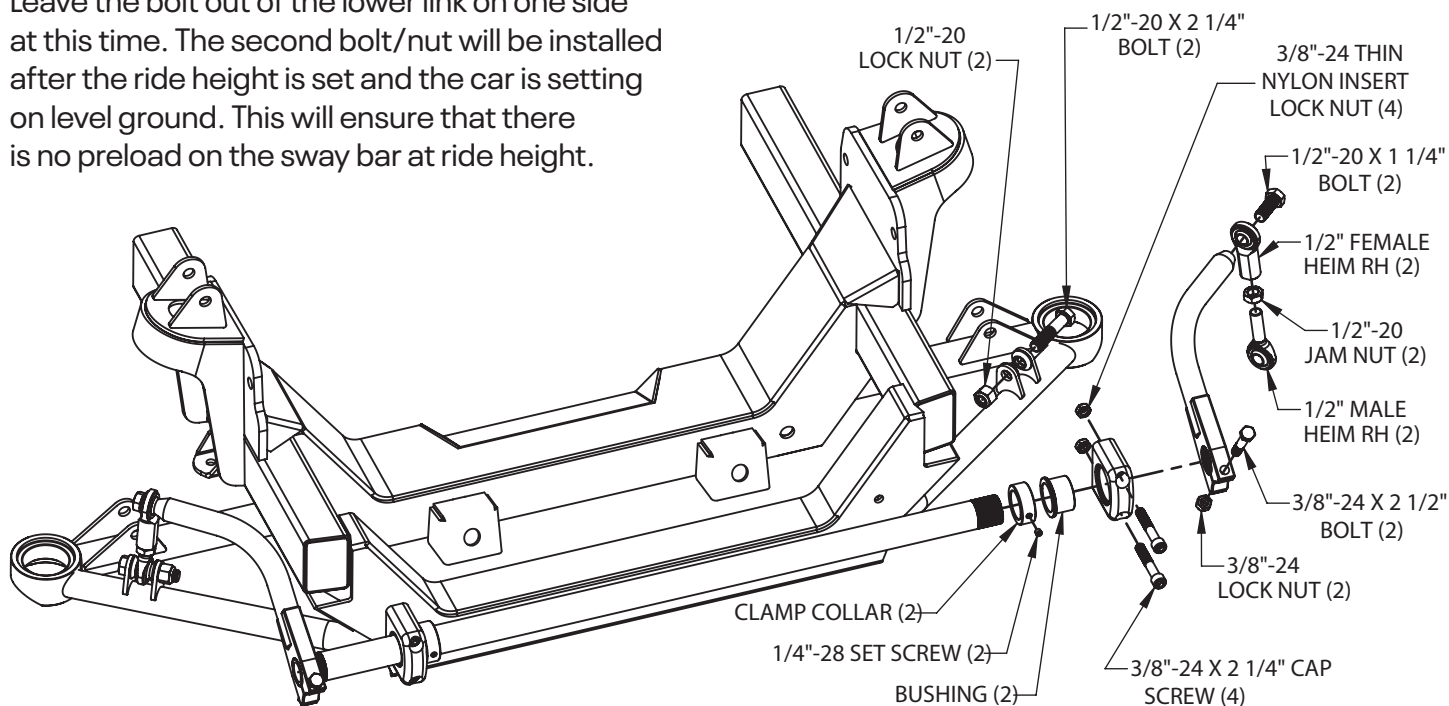
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8. Sway bar assembly: Press the bushings into the aluminum pillow-blocks and install the pillow-blocks to the front cross member with the bushing shoulder to the inside. Use the four 3/8"-24 x 2-1/4" socket head cap screws and secure them with the 3/8"-24 thin lock nuts. Slide the sway bar through the bushings, installing the two clamp collars to the inside of both pillow blocks. Tighten the 3/8" cap screws. Center the sway bar between the pillow blocks. Slide one clamp collar up against the bushing shoulder in the pillow block and tighten the set screw. Slide the second clamp collar up to the opposite bushing in the pillow block leaving about .075" of side clearance between the clamp collar and the bushing. Tighten the set screw. A nickel is about .075" thick and can be used as a spacer between the clamp collar and the bushing to provide the proper side clearance. Assemble the sway bar links as shown, leaving roughly 1/4" of threads showing. Slide the sway bar arms onto the splined ends of the sway bar aligning them flush with the end of the bar. Make sure they are parallel or "clocked" to one another then tighten the 3/8"-24 x 2-1/2" pinch bolts and lock nuts. Slide the 1/2"-20 x 1-1/4" bolts through the female heim joints and thread them into either end of the sway bar arms making sure to use Loctite on the threads. Mount one of the lower links into the bracket on the lower control arm using a 1/2"-20 x 2-1/4" bolt and secure it with the 1/2"-20 lock nut. Leave the bolt out of the lower link on one side at this time. The second bolt/nut will be installed after the ride height is set and the car is setting on level ground. This will ensure that there is no preload on the sway bar at ride height.



9. Install the brake kit to the hub per the instructions included with your brake kit. Note: For recommended part numbers please visit our website or contact one of our tech experts.

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10. Mock up engine and transmission and install mounts as required. At this time, the front end can be reassembled. Some fabrication will be required to mount front fenders supports, radiator and front bumper brackets. All accessories and other components can now be installed.

11. Alignment. The lower control arms should be level with all the weight on the car. To adjust the ride height, take the weight off the suspension and turn the threaded adjusters on the coil over shocks. Once the ride height has been set, place the car back down on level ground. Adjust the free heim end on the sway bar link so that it lines up with the bracket in the lower control arm. Keep adjusting the heim end until the remaining 1/2"-20 x 2-1/4" bolt will slide through easily. Secure it with the 1/2"-20 lock nut and tighten.

Set the alignment to the following initial settings:

Caster = 5°

Camber = Street: Negative .25°-.5° Race: Negative 1.5°-3.0°

Toe = 0" - 1/8" Toe Out

12. Caster adjustments are made by changing the caster inserts. The caster inserts are identified with numbers indicating the distance of the hole from the center of the insert in 1/8" increments.

#1 = 1/8" #2 = 1/4" #3 = 3/8"

The inserts can be reversed to move the hole in front of or behind center for a total adjustment of 3/4".

13. Camber is adjusted using the included A-arm shim plates. Additional shim plates can be purchased separately if desired under Speedway Part # 917-21005. These are available in thicknesses ranging from 1/8" to 1/2".

IMPORTANT

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