



## 1935-1940 Ford Car & 1935-1941 Ford Truck Chassis Coil-Spring Front & Leaf Spring Rear

Tech line: 1-855-693-1259

[www.totalcostinvolved.com](http://www.totalcostinvolved.com)

**Read and understand these instructions before starting any work!**

**USE THE PARTS LIST BELOW TO MAKE SURE YOUR KIT IS COMPLETE BEFORE INSTALLATION.**

**IF ANY PIECES ARE MISSING, PLEASE CONTACT: Total Cost Involved Engineering 1-855-693-1259**

Start by placing the frame on a level floor on jack stands



### ~ Installing the Coil-Spring Front End ~



**Installing the lower control arms:**

**\*NOTE\*** The acorn side of the 5/8" shaft faces forward.

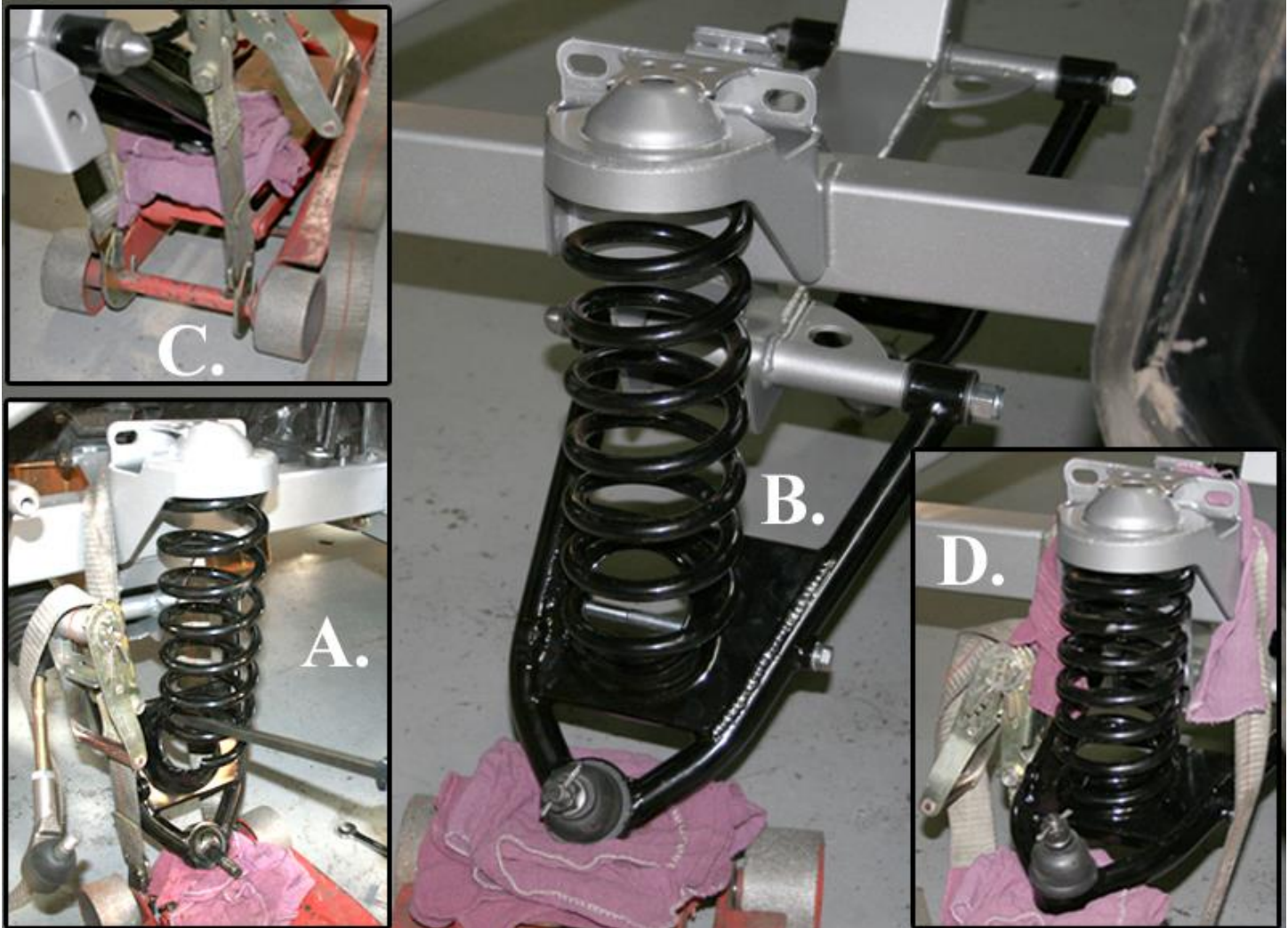
The arrows in the picture denote where the washers are used. There is no washer placed against the front side of the cross member. There are only 3 washers used per side of the vehicle. Install the 5/8" full nylock nut on the back side of the shaft and torque to 75 ft. lbs.

**\*NOTE\*** Driver side control arm is pictured

# Coil Spring Installation

## Helpful Hints For Installing Springs

We suggest that you wait until final vehicle assembly (vehicle at full weight) to install the coil springs because it will put undue stress on the ball joints and could cause the boots to tear. Another option is to remove the upper and lower ball joint boots and then cover the ball joints to keep dirt out until you're ready to drive the vehicle.



## For Proper Installation of Coil Springs A Spring Compressor is needed

**Here are some helpful hints for installing the springs without a spring compressor.**

**Installing the coil springs onto the front end**

**Before you Start:**

**\*NOTE\* It is best to use a spring compressor for this process. If you do not have a spring compressor this is an affective way to install your coil springs.**

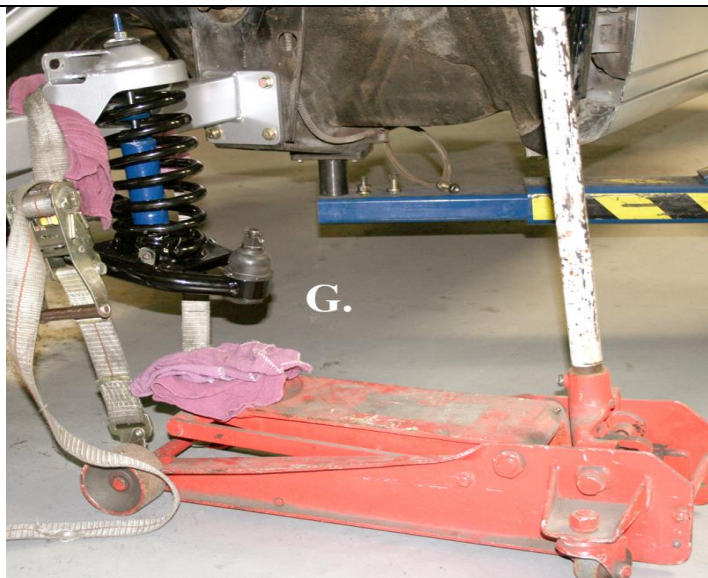
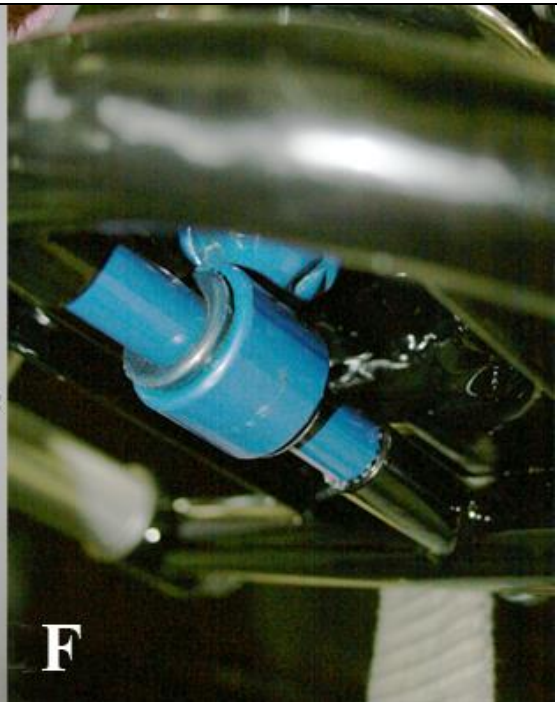
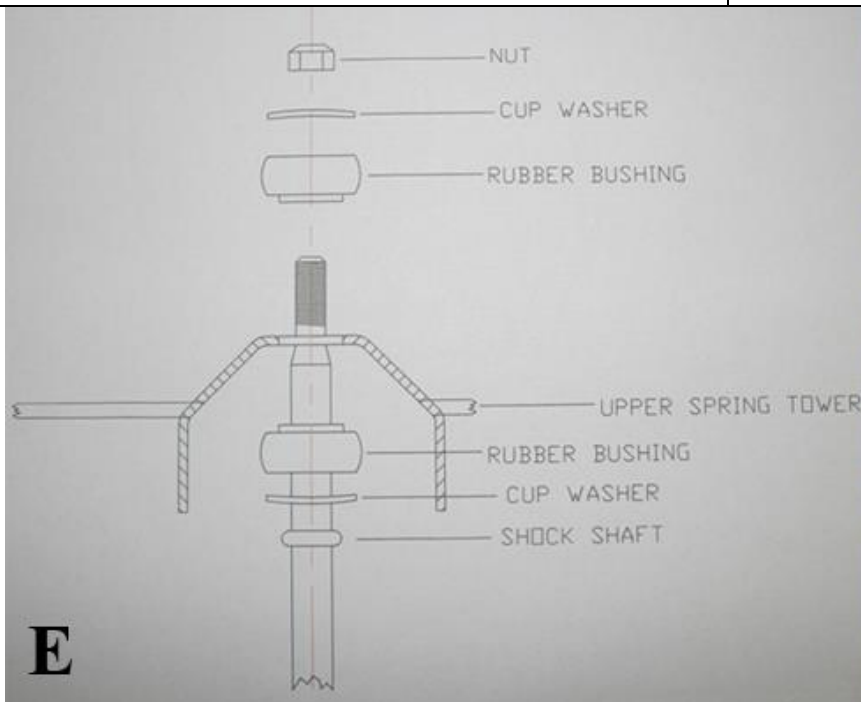
**Additional Components Needed:**

Very strong ratcheting tie downs with hooks  
Floor Jacks  
Clean Towel



1. **(Image A)** With the vehicle securely positioned on jack stands remove the grease fitting on the lower ball joint. Install the coil spring with the flat ground side up in the spring pocket and the pig tail end inserted onto the notched portion on the lower a-arm. Use a long screwdriver or flat bar inserted above the last coil and hooked through the coil pocket to hold the spring from coming out as you jack up the a-arm.
2. **(Image B)** Position the floor jack under the lower a-arm as shown with a clean towel protecting the finish.

3. **(Image C)** Hook the ratcheting tie down to the front of the floor jack cross bar, then go up and over the upper a-arm mounting bracket. With the other end of the tie down hooked to the other side of the jack's crossbar. This keeps the frame from going up as you raise the a-arm.
4. **(Image D)** Slowly raise the jack until it is safe to remove the large screwdriver holding the spring in place. Keep raising the jack until the lower a-arm is high enough to fit the shock absorber into place.

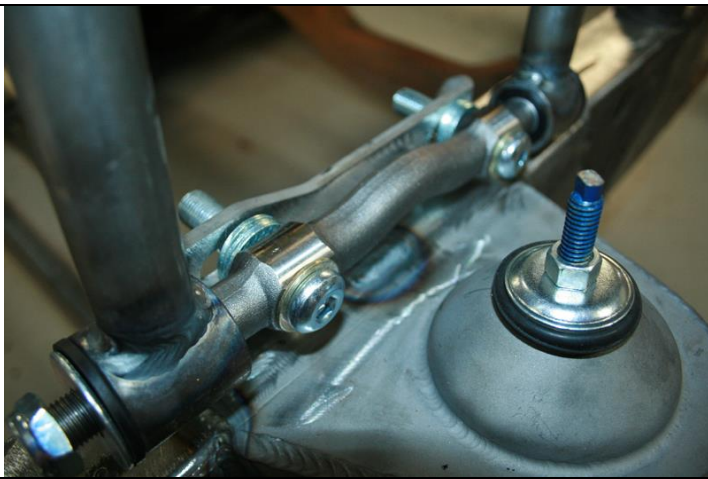


5. **(Image F)** Install the shock through the bottom of the lower a-arm with the shock stem going through the mounting hole in the upper hat. Align the lower shock sleeve with the shock bosses on the lower a-arm and install the 7/16" shock bolt and tighten

**Note: If you have difficulty with the sleeve fitting between the bosses lightly sand the ends of the sleeve.**

6. **(Image E)** Install the cup washers, bushings and nut on top of the shock stem and tighten. Carefully lower the jack and remove the ratchet tie down. Re-install your ball joint grease fittings. **(Image G)** This is what your installed spring will look like.

**The spring that comes with the kit is a 300 lb. per inch rate and is identified with a green dot on the flat end.**



### Installing the upper control arms:

Use three of the provided .090" thick washers between the tower and the control arm shaft on each bolt. The rest can be placed under the head of each bolt and under the lock nut. These spacers may need to be moved around when final alignment is performed. Once all the hardware is in place go ahead and set the bolts in the center of alignment slots and tighten down.

The slotted arm mount holes will make it easy to add in extra positive caster for power rack applications.



### Installing the spindle assemblies:

Place the spindle onto the lower ball joint with the steering arm facing forward with the large I/D tie rod end taper facing down. (The tie rod end goes up into the spindle)

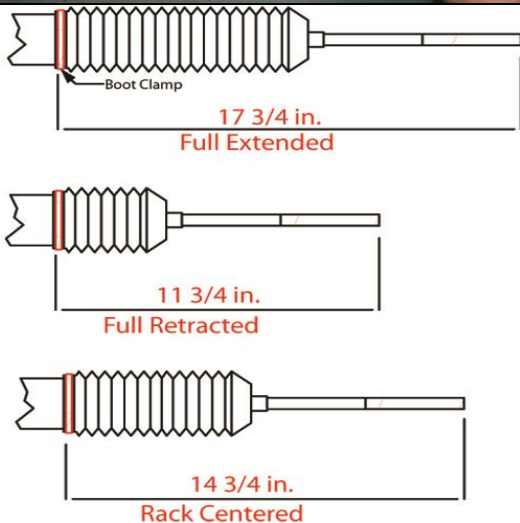
Place the ball joint washer first and then the castle nut. Torque the lower ball joint to 90 ft. lbs and install the cotter pin. The lower ball joint is a **MOOG K719**



Pull the upper control arm down onto the spindle. Place the ball joint washer first and then the castle nut. Torque the upper ball joint to 70 ft. lbs and install the cotter pin. The upper ball joint is a **MOOG K772**

### \*NOTE\* Caliper Fittings:

GM Calipers = 10mm x 1.5  
 Wilwood Calipers = 1/8" NPT



### Centering the rack assembly:

The rack needs to be centered to allow equal steering left to right. On a bench, turn the pinion out to lock one way. Measure from a convenient point to the end of the inner tie rod. (This rack was 17 3/4). Turn the pinion of the opposite lock position and measure from the same point to the end of the same tie rod (11 3/4).  $17 \frac{3}{4} \text{ minus } 11 \frac{3}{4} = 6$ . Divided by 2 = 3 Add that number to the smallest measurement ( $11 \frac{3}{4} + 3 = 14 \frac{3}{4}$ ) and turn the pinion back till you get that measurement and your rack is centered.



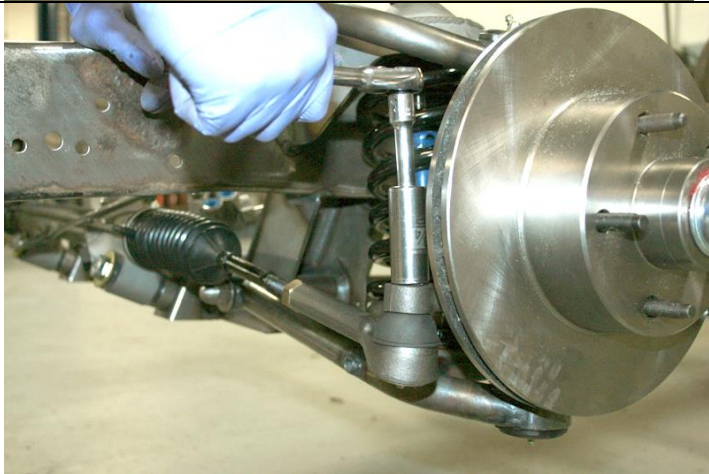


### Installing the rack and pinion:

Place the rack on the cross member brackets as shown. Use the supplied 5/8" hardware to fasten it into place. The picture shows a power rack that requires a 5/8" spacer between the rack and the mounting brackets. A manual rack bolts directly to the mounting brackets not needing these spacers.

Torque bolts to 90 ft. lbs

**\*NOTE\* Power Rack & Pinion fittings:**  
9/16"-18 Pressure side & 5/8"-18 Return side



Install the jam nut and outer tie rod end onto both sides of the rack. With the rotors pointing straight ahead(0 toe) install the tie rod ends into the bottom of the steering arm.

Torque the tie rod end to 60 ft. lbs. and install the cotter pin.

**\*NOTE\* Rack & Pinion output shaft:**  
Manual rack = 9/16"-26 spline  
Power rack = 3/4"-36 Spline



### Installing the anti-sway bar:

Slide the lock ring collar over the bar on each side first. The split bushings go over the bar and then the aluminum blocks slide on over the bushings.



The anti-sway bar mounts to the rear of the cross member below the lower control arm pins. Use the supplied hardware to install the aluminum blocks onto the cross member. Torque to 35 ft lbs.

Center the anti-sway bar and lock down the set screws against the bushings.



The sway bar routes from behind the cross member under the control arms and hooks up to the front of the control arms. Use the supplied hardware to install the heim joints with the male on the bottom.

**\*NOTE\*** You can adjust the preload(or lack thereof) once the vehicle is ready to be driven. Disconnect one heim, place driver in the driver's seat, adjust the loose heim until it goes onto the anti-sway bar with zero load.



#### Alignment specifications

**Caster:** Power rack 4-6 degrees positive  
Manual rack 2-4 degrees positive

**Camber:** 0 Degree

**Toe-in:** 1/32 to 1/16 inch

After 500-1000 miles the front springs will begin to break in. The lower control arms should be level to the ground or within a degree or two. You can now perform the final alignment. If the vehicle is still too high after 1000 miles it may be necessary to cut some of the coil off. Never cut more than a 1/4 coil off at a time.

#### AXLE STUD SIZES:

4.5" Bolt circle rotors = 1/2"x20('75-'80 Ford Granada)

4.75" Bolt circle 10.5" rotors = 12mmx1.5('82-'87 Camaro)

4.75" Bolt circle 11" rotors = 7/16"x20('75-'80 Granada redrilled)

ALL Wilwood hubs = 1/2"x20

## ~ Installing the Leaf Springs & Rearend ~



#### Installing the Leaf Springs:

**\*NOTE\*** The axle housing is shipped void of fluid so now would be a good time to fill with the provided fluids.

Place the front of the leaf spring onto the frame bracket as shown. Install hardware and tighten down.



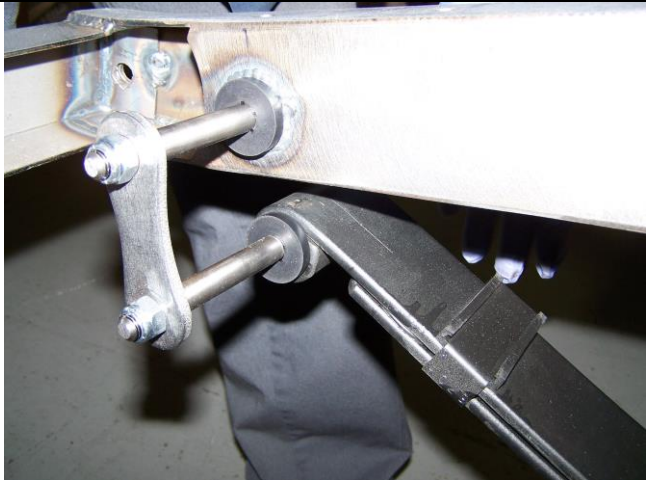


Place the rear axle housing on a jack and roll it into position.

**\*optional disc brakes shown\***



Install one dog bone and two nylocks on one side of a shackle. Repeat for the other side of the vehicle

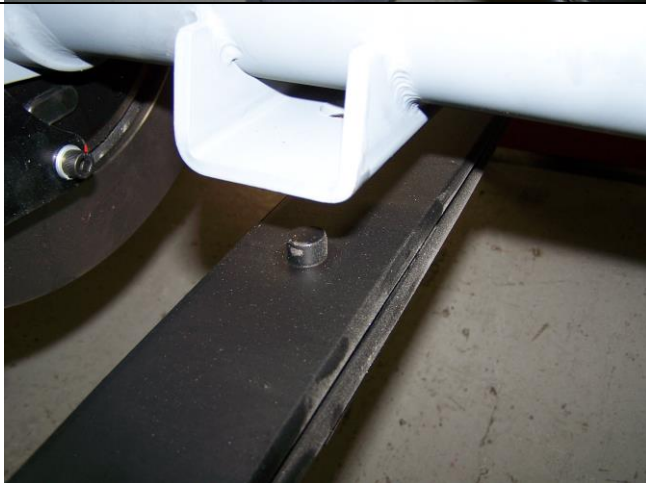


Install the provided polyurethane bushings onto the leaf spring and frame rail. Make sure to lubricate the bushings with the provided Energy Suspension lubricant.

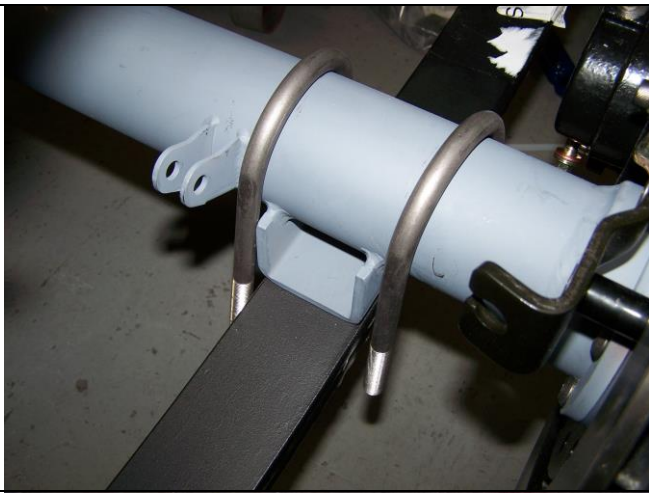
Lift the rear portion of the leaf spring up into position and install the shackles.

Install the dog bones on the opposing side and install and tighten the nylocks.

**\*repeat for the other side of the vehicle**



You can now drop the axle down onto the alignment on the leaf spring.



Install the 3" u-bolts onto the housing



Install the provided lower shock bolt onto the 5-Hole plate as shown.

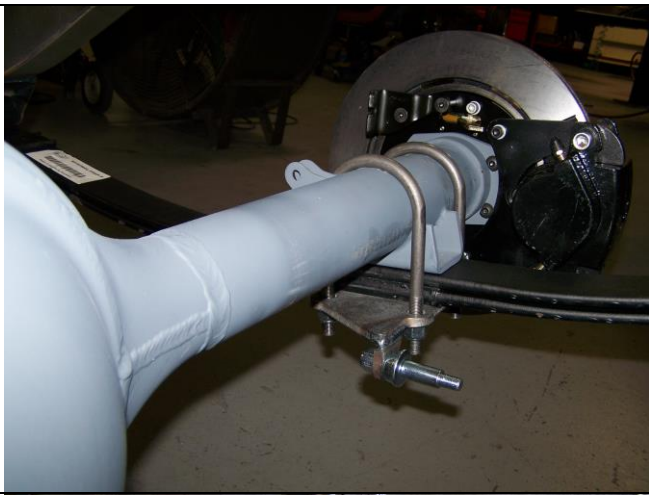


Using a bench vise to hold the body of the bolt install the provided nylock and tighten down.



Install the 5-Hole plate under the leaf spring as shown with the shock stud pointing towards the back of the vehicle. Install and tighten down the provided nylocks.





Here is another angle showing the position of the shock stud.



In order for the leaf spring to compress enough to install the shocks the vehicle should be at full weight.

For the purpose of this manual we will compress the shocks. We did this by attaching a ratchet strap around the axle housing and shock crossmember.

**\*Use extreme caution when applying this method\***



Install the shocks with the smaller eyelet to the top. Install and tighten down all hardware top and bottom.

**\*NOTE\* If you did not purchase the optional anti-sway bar please proceed to page 12**



**Installing the Optional Anti-Sway bar:**

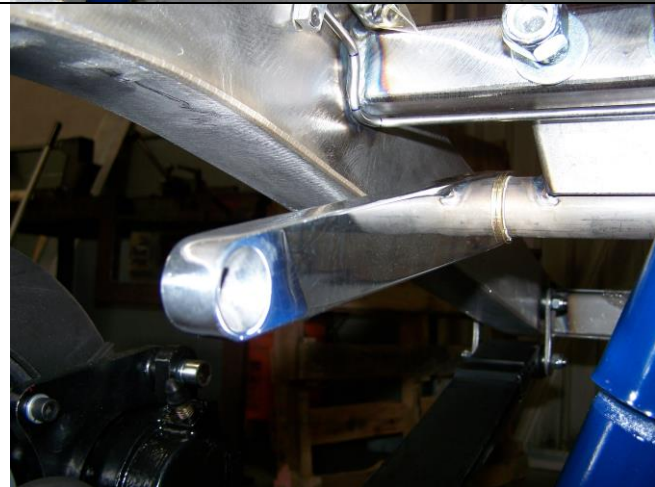
Slide the splined bar into the anti-sway bar housing.



Install the Ny-Liners into the housing



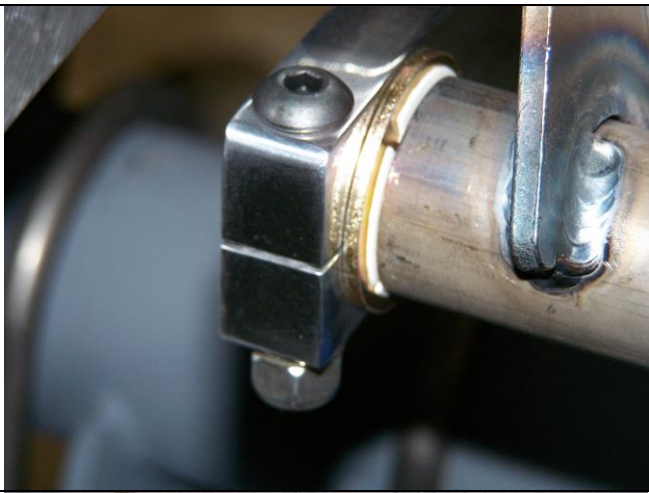
Place the housing onto the shock crossmember and install the provided 5/8" hardware.



Install a gold washer onto the splined bar followed by the aluminum arms with the tapered hole facing inwards.

**\*NOTE\*** Make sure that both arms lined up on the splined bar so when the time comes to install the heims they will sit at the same elevation side to side.





A close up shot of the gold washer along with the hardware installed



Thread the L/H & R/H jam nuts and rod ends onto the pushrod



Install the spacer in between the aluminum arm and the rod end as shown. We want the pushrod to sit as close to vertical as possible. In some cases the spacer may need to be trimmed down to accomplish this.

Install all hardware and tighten down.

## ~ Installing the Pedal Assembly ~



Place the pedal arm into the frame bracket and install the provided bolt.



Thread the pushrod onto the booster



Install the bolt through the pedal arm and into the rod end



Adjust the pedal with the pushrod until you have roughly 1/8" gap between the pedal arm and the frame rail





Install the pedal pad onto the brake pedal arm

No returns or exchanges without a RMA#.

Packages must be inspected upon receipt & be reported within 10 days.

If you are missing parts from your kit, TCI Engineering will send the missing parts via FedEx or U.S. mail ground.

Returned packages are subject to inspection before replacement/refund is given

(Some items will be subject to a 15% restocking fee)

Thank you for your business!

