



# INSTALLATION INSTRUCTIONS

## '65-79 FORD F-100

### INDEPENDENT FRONT SUSPENSION

Please read these instructions *completely*  
**before** starting your installation.

**Assemble suspension on vehicle** before powder-coating to ensure proper fitment, and to make modifications if necessary.

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## PARTS LIST

- 1) Ford Bolt-On Crossmember
- 2) 1-1/4" Upper Control Arms
- 3) 1-1/2" Lower Control Arms
- 2) Chrome Springs

- 2) Spindles
- 1) Power Rack & Pinion
- 2) Adjustable Shocks
- 1) Wilwood Brake Kit

## Hardware Package

- 8) 1 3/8" Stainless Steel Washers
- 2) 5/8-18 Nylock Nuts
- 2) 5/8-18 Nylock Jam Nuts
- 2) 1/2"-20 x 2 1/2" Hex Bolts
- 2) 5/8"-18 x 11" Hex Bolts

- 30) 1/2"-20 x 1 1/2" Hex Bolts
- 60) 1/2" Washers
- 34) 1/2"-20 Nylock Nuts
- 2) 1/2"-20 x 8 1/2" Hex Bolts
- 2) 5/8-18 x 13" Hex Bolts

**You are about to install your HEIDTS suspension system. You are probably wondering how complicated installing a complete I.F.S. system really is, with all those pieces, all the angles, anti-**

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drive, geometry ...Don't worry. The HEIDTS I.F.S. kits are designed so all that is taken care of for you. Just follow the instructions step by step, reading each step completely, and in a very short time your truck will be sitting on the nicest riding I.F.S. kit available.

- 1) Begin your installation by jacking up your vehicle and supporting it on sturdy jack stands. The stands must be placed on the flat section of the frame rails close to the front body mounts. Remove the engine, transmission, hood and fenders. SAVE AND LABEL ALL FASTENERS FOR RE-INSTALLATION! Remove the front wheels and shocks. Disconnect the brake lines, tie-rods, and I Beams. Next, remove the old steering box, pitman arm, and the steering column. (See Figure 1). You **cannot** reuse the original steering column.



Figure 1

- 2) Before removing the old crossmember and spring hats from the frame. Weld a piece of angle iron or tubing to keep the frame rails from moving during the uninstalling of the factory cross member. See Figures 2 through 4.



Figure 2

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Figure 3



Figure 4

- 3) The F-100 has existing factory holes on the frame rails. We will utilize two holes on each side of the frame to mount the front cross member. Take a rough measurement from the bottom of the front of the frame. The factory holes are roughly located  $26 \frac{1}{4}$ " and  $31 \frac{7}{8}$ " from the front. Drill these holes out to  $\frac{1}{2}$ ". There are two holes on each side. See Figures 5-7.

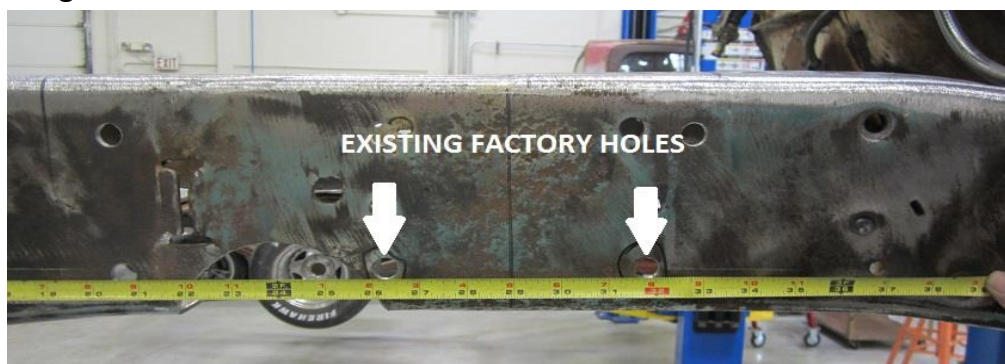


Figure 5



Figure 6



Figure 7

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- 4) Use the installation template in the kit for the next step. Place installation template on the frame rails utilizing the pre existing frame holes. Bolt the template to the frame using  $\frac{1}{2}$ -20 x 1  $\frac{1}{2}$ " grade 8 bolts and a clamp for the opposite side. **(See Figure 8)** Place a straight edge underneath the frame of the front sway bar bolt. **(See Figure 9)** Use a sharpie to mark the cut outs for the rack and pinion and sway bar. Use a 7/16 center punch for the two front sway bar holes. **See Figure 10.** Repeat this step for the passenger side. **See Figures 8-13.**

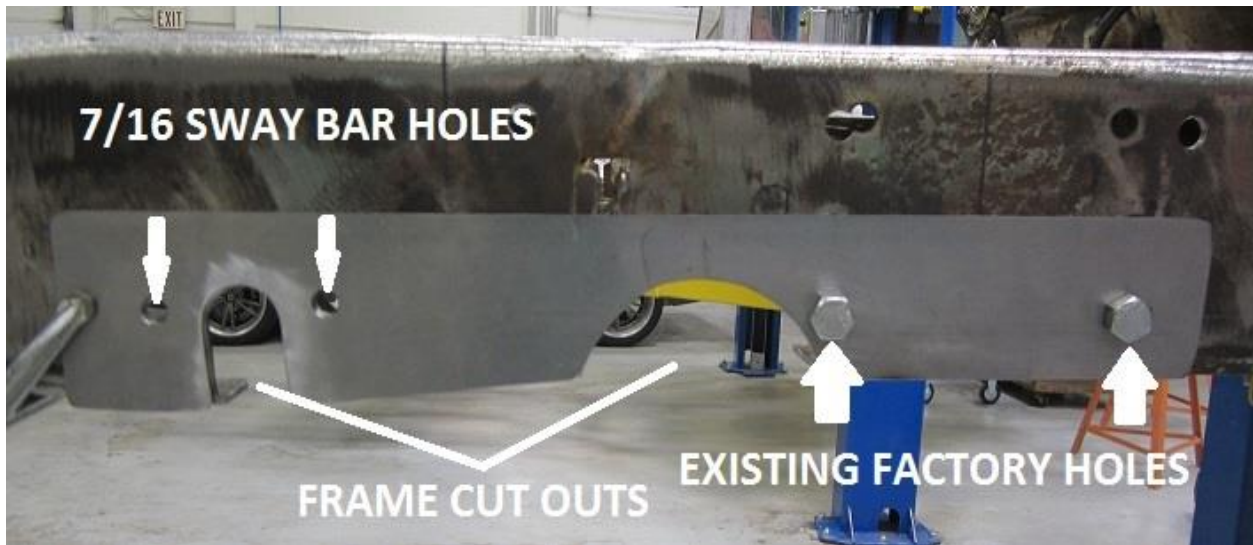


Figure 8



Figure 9

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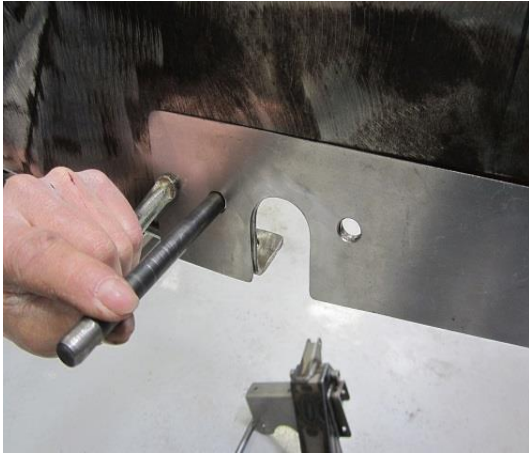


Figure 10



Figure 11

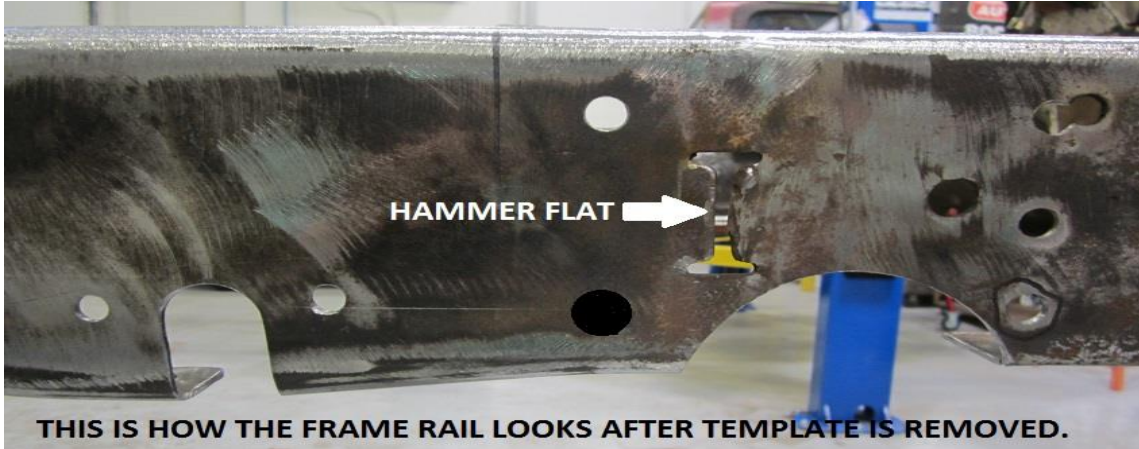


Figure12

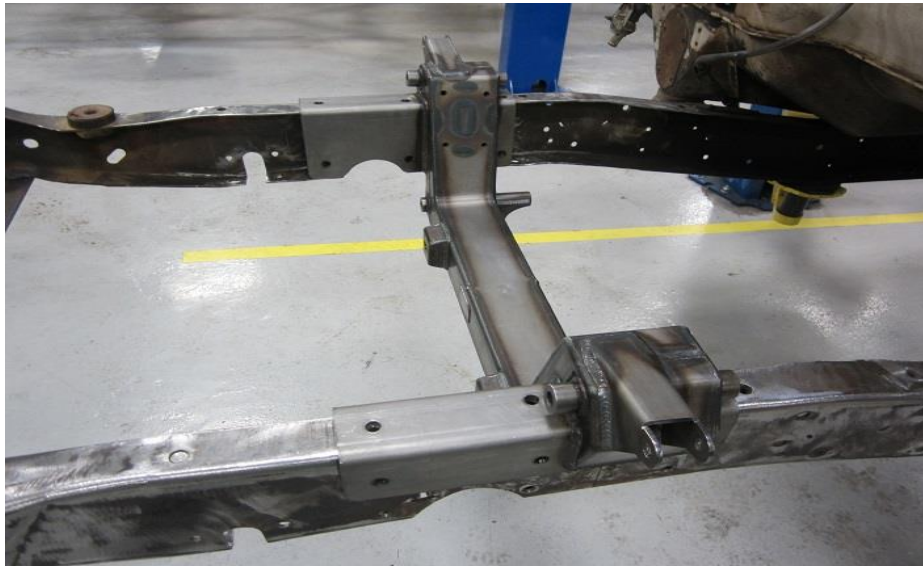


Figure 13

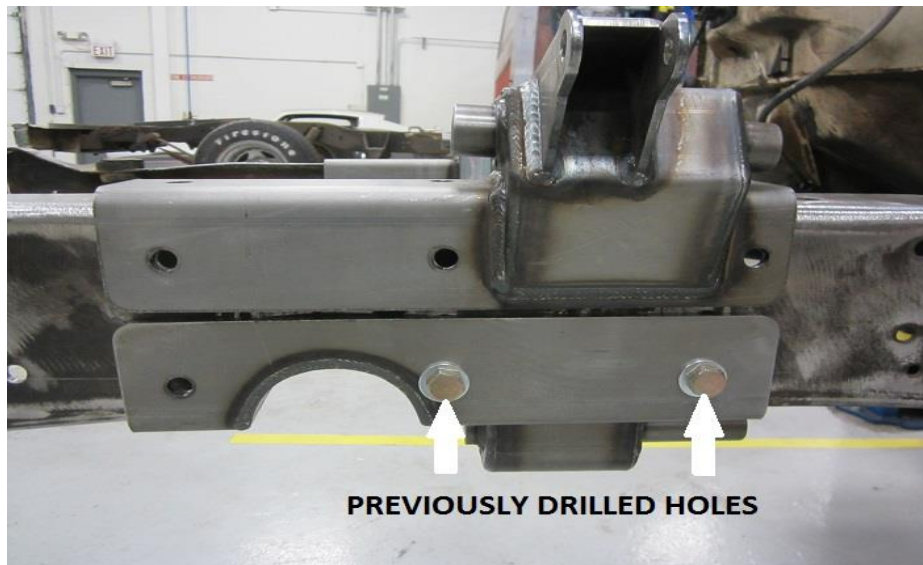
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- 5) After the holes are dilled and the frame is cut for the rack and pinion and sway bar it is time to install the front cross member. Place the cross member inside the frame rails close to the holes you previously drilled. **See Figure 14.** Next install the lower frame mounts utilizing the holes previously drilled to locate the mount. Install both sides. **See Figure 15.**



**Figure 14**



**Figure 15**

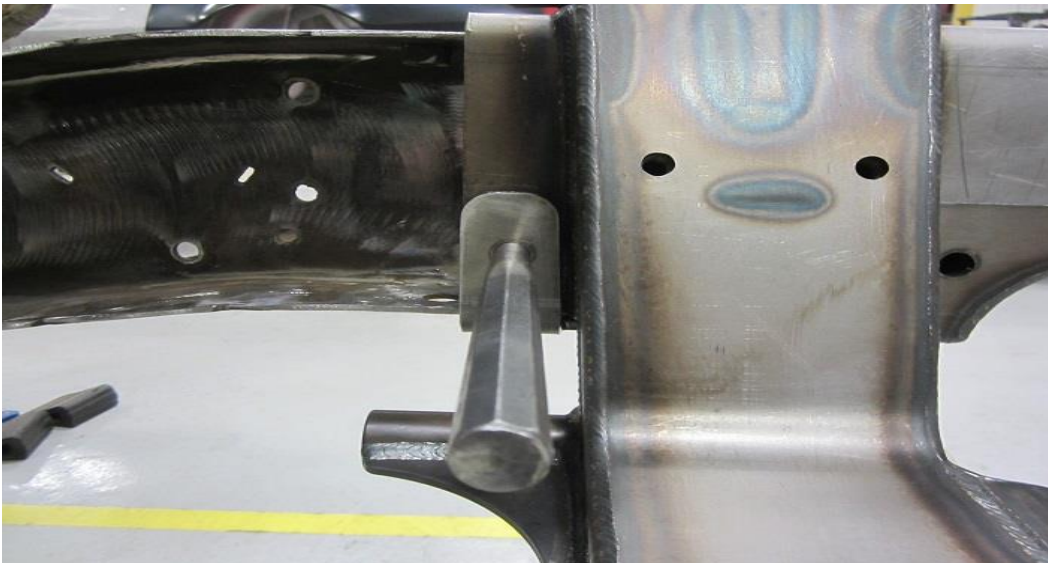
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- 6) Notice the holes inside the lower frame mounts. These three holes locate the front cross member. Use a drift pin to center all three holes with the cross member. Install  $\frac{1}{2}$ -20 x 1  $\frac{1}{2}$ " Grade 8 bolts, washers and Nylock nuts. Hand tighten the inside bolts to the main cross member. **See Figures 16-18.**



**Figure 16**



**Figure 17**

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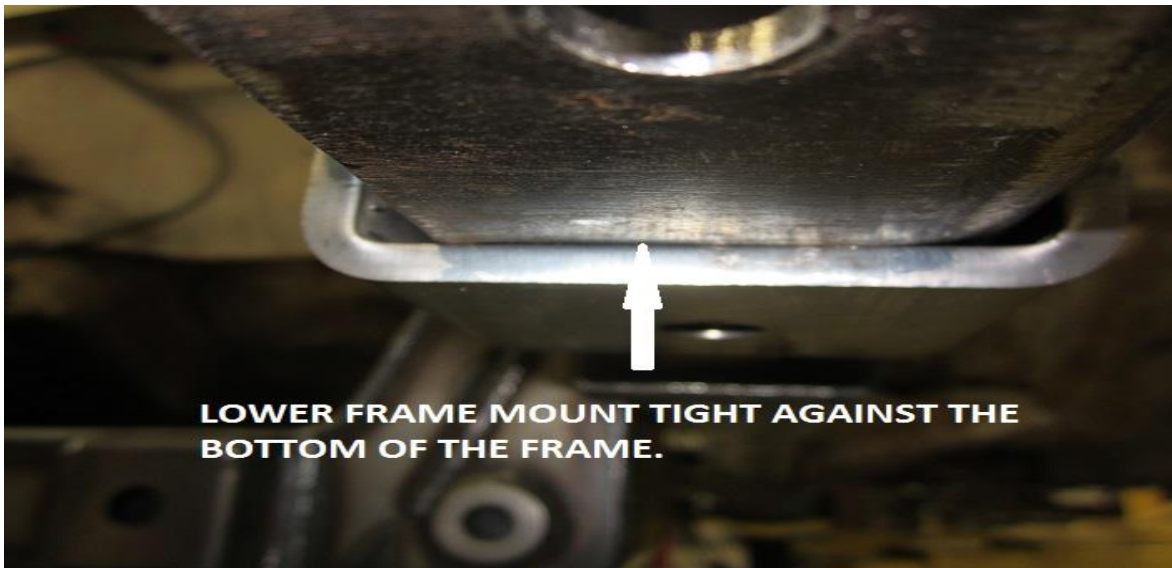


Figure 18

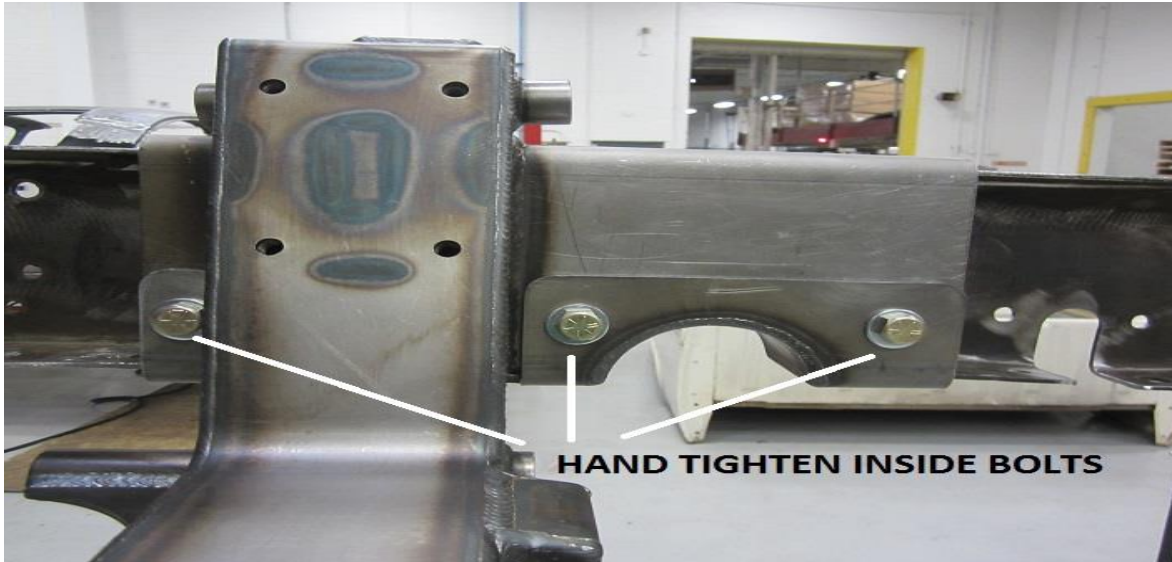
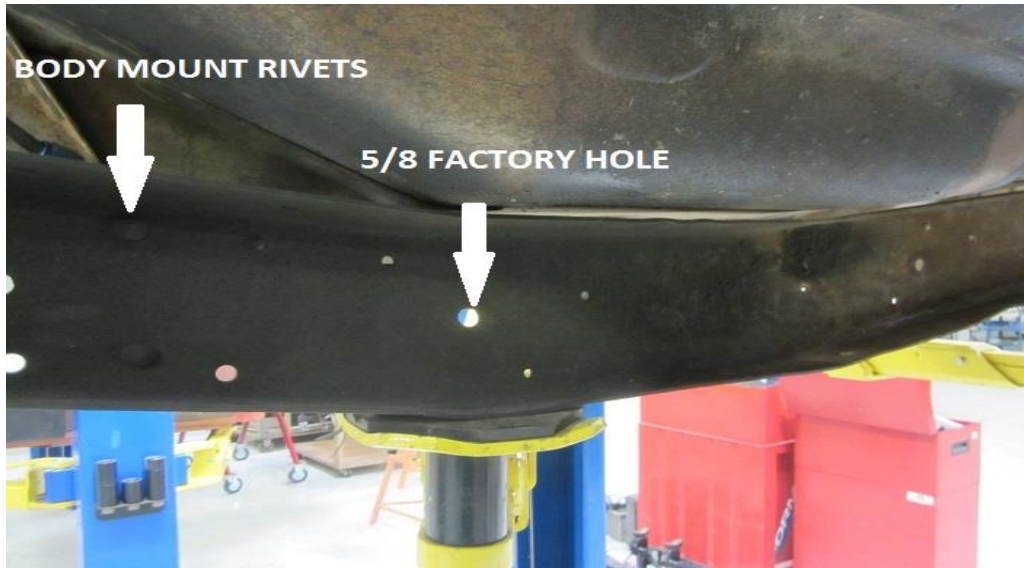


Figure 19

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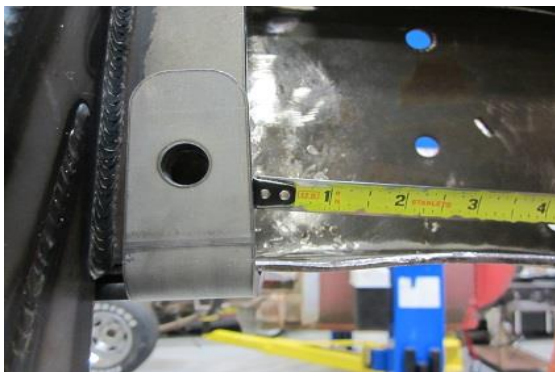


- 7) The next step will be squaring the front cross member. This is an important step before you drill the remaining holes in the frame. We will utilize a 5/8" factory frame hole that's approximately 7" from the body mount rivets inside the frame. **See Figure 20.**



**Figure 20**

- 8) Measure from the rear of the lower frame mount to the start of the 5/8 factory frame hole. Measure both driver and passenger sides and square cross member until both measurements are the same. We measured 26 1/16" but due to factory tolerances your frame may be slightly different. **See Figures 21 and 22.**



**Figure 21**



**Figure 22**

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- 9) Once the cross member is squared, tighten the six inner frame bolts and four outer frame bolts. After the bolts are tightened, center punch the remaining twenty bolt holes on the cross member. Six holes on top, six on the bottom and eight on the sides. Once the holes are all center punched, drill all holes to  $\frac{1}{2}$ ". See Figures 23-25.



Figure 23



Figure 24



Figure 25

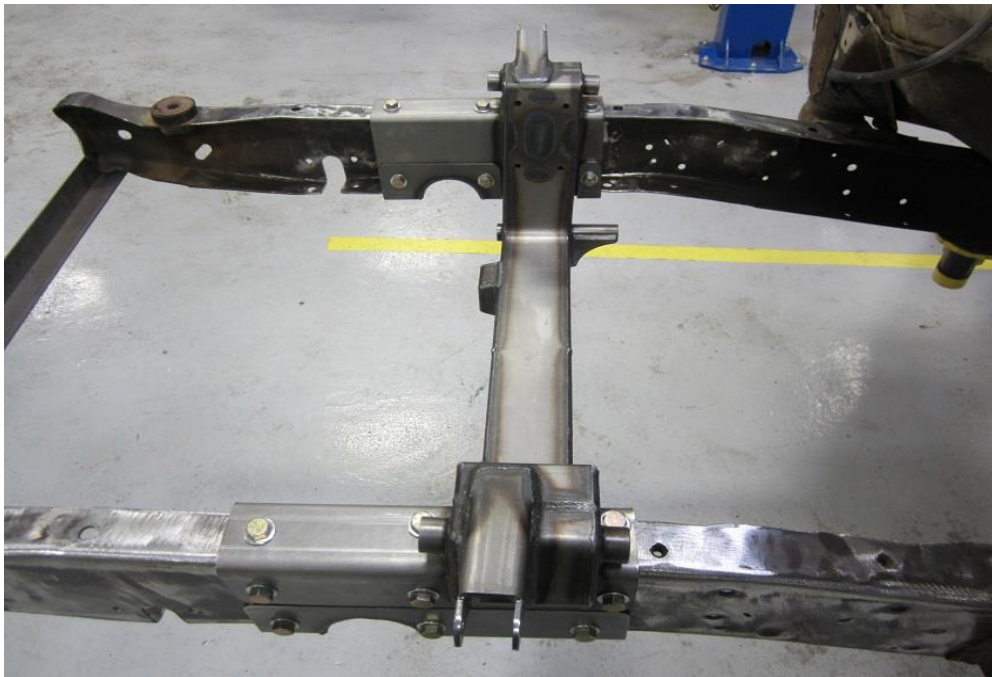
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- 10) After the holes are all drilled, finish bolting in the front cross member using 30 ½-20 x 1 ½" grade 8 bolts, 60 washers and 30 nylock nuts. Tighten all nuts and bolts. See Figures 26 and 27.



**Figure 26**



**Figure 27**

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11) Now the suspension components can be installed. Start with the upper control arms. Position the upper control arms where the threads for the ball joint are facing up. (See **Figure 28**). Before screwing in ball joints, remove boot, washer and castle nut that came with it in the package. It is **VERY IMPORTANT** to apply Anti-Seize to the threads before screwing in ball joints. Screw in ball joint by hand, until you cannot tighten it any further. Use a large crescent wrench or socket and tighten it further to ensure that it is completely screwed in all the way. Screw in grease fitting (See **Figure 29**). Next is installing the adjusters. Before screwing them in, **apply Anti-Seize to the threads**. Screw in until approximately four threads are left exposed. (See **Figure 30**). The adjusters will later be adjusted when setting the alignment of your vehicle. **Finger tighten** nuts to secure adjusters.



Installing Ball Joint



Tightening Ball Joint

Figure 28



Figure 29

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**Figure 30**

12) To install upper control arms use the  $\frac{5}{8}$ "-18 x 11" Hex Bolts,  $1\frac{3}{8}$ " Stainless Steel Dished Washers, and  $\frac{5}{8}$ "-18 Nylock Jam Nuts provided. Position upper control arm against the upper control arm mount of the crossmember. If you are having trouble getting the control arm to fit, apply some silicon lubricant to the face of the mount on the crossmember. When installing, use washers on the outside of the control arms (**See Figure 31**). *Finger tighten* for alignment later.



**View From Drivers Side**

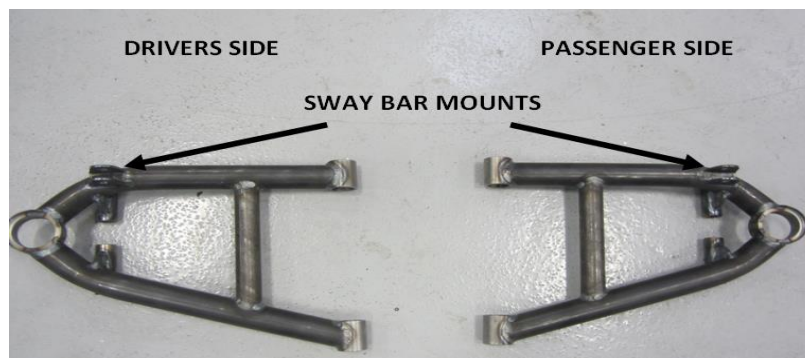
**Figure 31**

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13) Next is preparing the lower control arms for installation. Repeat the process in **Step 11** for installing the ball joint and grease fitting. Remember, **you must apply anti-seize to the ball joint before installing it!** After installing and tightening the ball joints in both lower control arms, install the bushings and bolt sleeves into the bushing cup. Install both bushing halves. Slide sleeve through the hole in the middle of the bushing. Apply silicon lubricant to sleeve if needed. Now you are ready to install the arms to the crossmember. To differentiate between which arm is right and left, observe where the sway bar mounts are. The sway bar mounts are facing the front of the vehicle.

**See Figure 32**



**Figure 32**

14) To install the arms, use the  $\frac{5}{8}$ "-18 x 13" Hex Bolts,  $1\frac{3}{8}$ " Stainless Steel Dished Washers, and  $\frac{5}{8}$ "-18 Nylock Nuts provided. Use one washer directly between the bolt head and bushing, and another one between the bushing and nylock nut, **See Figure 33.**

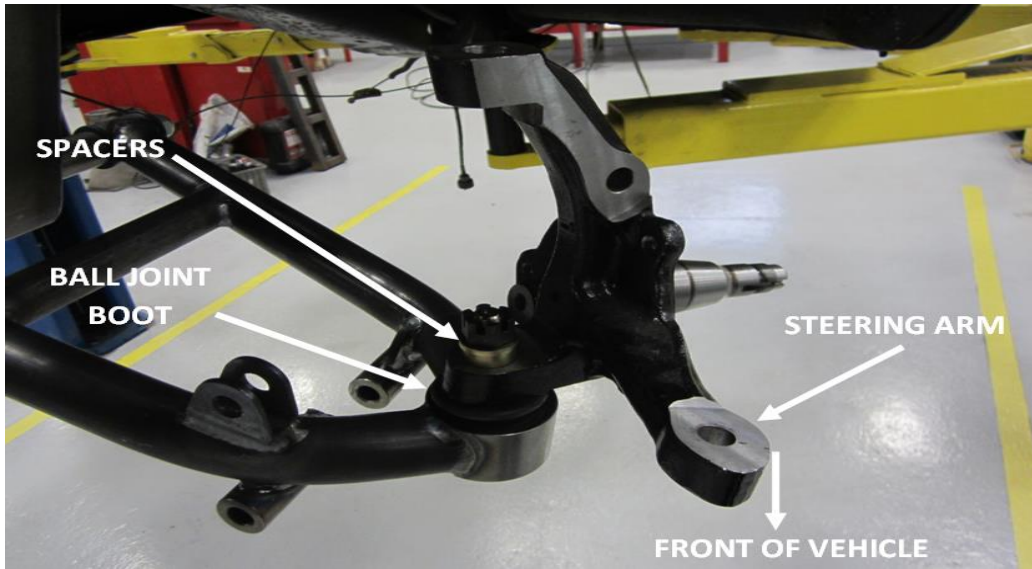


**Figure 33**

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15) Next, the spindles can be installed. To differentiate between right and left, the steering arms should be facing the front of the vehicle. Also, to distinguish between the top and bottom, the section for mounting the lower ball joint is very short, and the part of the spindle that mounts to the upper ball joint is elongated. **See Figure 34.** Before installing the spindle, first place the boot on top of the ball joint cup. After mounting the spindle on the ball joint, install the provided gold-colored spacers. Next, screw on the castle nut. After tightening down the castle nut all the way, install the cotter pin and secure it by bending the tangs out. **See Figures 35 and 36.** Repeat for the passenger side.



**Figure 34**



**Figure 35**



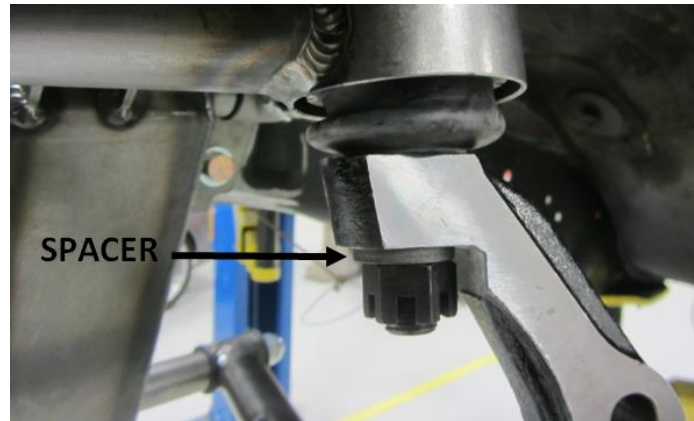
**Figure 36**

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16) The next step is to bolt down the upper ball joint to the top of the spindle. Repeat the same procedure from **Step 15**, except this time using the single spacer (**See Figure 37**). Install castle nut and cotter pin. Repeat for the passenger side.

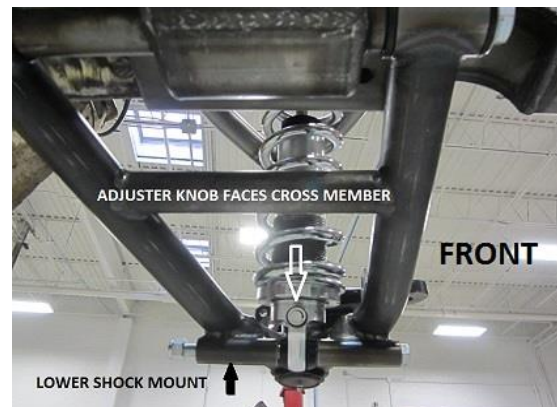


**Figure 37**

17) At this point you are ready to install the shocks. To do so, use the  $\frac{1}{2}$ "-20 x  $2\frac{1}{2}$ " Hex Bolts,  $\frac{1}{2}$ "-20 x  $8\frac{1}{2}$ " Hex Bolts, and  $\frac{1}{2}$ "-20 Nylock Nuts. The adjusting knob will distinguish the bottom of the shock. Make sure that the adjusting knob is facing the crossmember. Slide the  $\frac{1}{2}$ "-20 x  $8\frac{1}{2}$ " Hex Bolts through the shock sleeve in the lower control arm, and use a  $\frac{1}{2}$ "-20 Nylock Nut and tighten all the way down. Do the same for the top in the upper shock mount, using the  $\frac{1}{2}$ "-20 x  $2\frac{1}{2}$ " Hex Bolts and another  $\frac{1}{2}$ "-20 Nylock Nut. **See Figure 38**. Do the same for the passenger side.



**Figure 38 A**

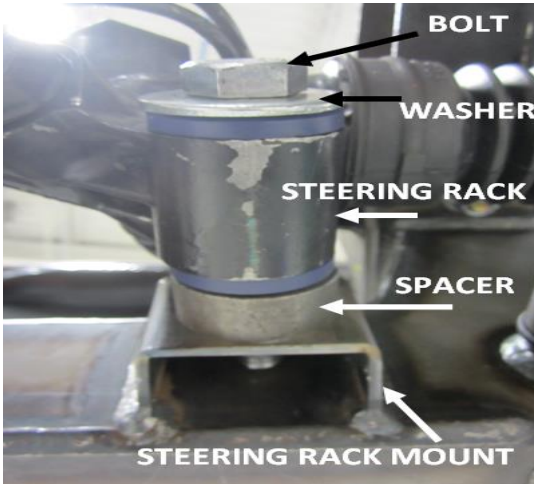


**Figure 38 B**

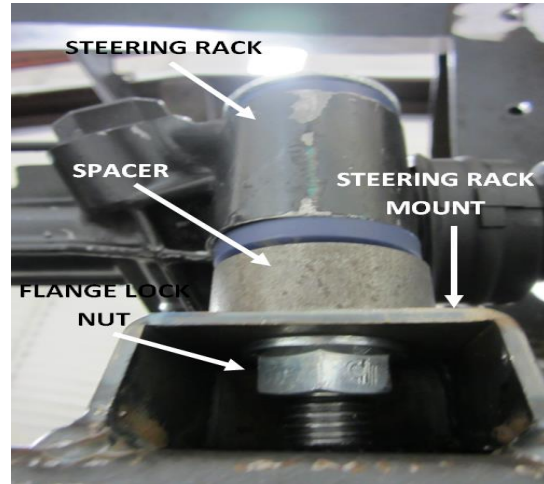
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18) Now you are ready to install the steering rack. To do so, use the hardware package that came with the steering rack. Use the  $\frac{5}{8}$ -11 x 4- $\frac{1}{2}$ " Hex Head Bolts,  $\frac{5}{8}$  Flat Washer, Spacer, and  $\frac{5}{8}$  x 11 Flange Locknut. The input to the steering rack should be positioned on the drivers side. The order of the hardware is as follows:  $\frac{5}{8}$ -11 x 4- $\frac{1}{2}$ " Hex Head Bolt,  $\frac{5}{8}$  Flat Washer, Steering Rack, Spacer, Steering Rack Mount on the Crossmember, and lastly the  $\frac{5}{8}$  x 11 Flange Locknut. **See Figure 15.**



**Bottom View of Steering Rack**



**Rear View of Steering Rack**



**Figure 15**

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19) The last step to installing the steering rack is bolting on the tie rod ends. Using two crescent wrenches, tighten up the nut and the tie rod end, (you'll adjust them later when setting the alignment of your vehicle), slide the tie rod end through the steering arm of the spindle. DO NOT tighten. Tie rod needs to be removed for sway bar installation.(See Figure 16).



**Figure 16**

Lastly, you are ready to set the alignment of your vehicle. Be sure to do so with the arms and shocks set at ride height (the lower control arms should be level). The caster and camber settings are done with the adjusters in the upper control arms. Both adjusters are screwed in or out an equal amount to change the camber, and they are adjusted opposite each other to change caster. Approximately 3° of caster is built into the crossmember already, so not much change is required there. The interesting thing about the caster setting is that you can experiment with different settings and actually "tune" the characteristics of the handling of your truck to your driving style. 3° of caster will give a nice road feel and good low speed drive-ability. 4° or 5° will yield better high speed stability and tracking, putting a better self-centering characteristic in the steering wheel, but will tend to start to make parking slightly more difficult. Have fun with this one, as it truly makes your truck your own truck. Just be sure that both sides have equal caster settings, or the truck will tend to pull to one side.

**Alignment Specifications:**

**Caster: 3° - 4° Positive**

**Camber: 0° - .5° Negative**

**Toe: 0 - 1/16 Toe-In**

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**Since you are now to the point where you have a finished, running truck (we hope!) it is time to test drive it. After a few hundred miles, double check the ride height and the alignment. The springs may have settled, which would change the ride height and the camber setting. Readjust the ride height before changing the alignment. After this initial setting period, the springs and bushings should have pretty much taken their final set, so you should be on your way to many miles of cruising in style.**

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