

1948-1956 Ford Truck Chassis

Pro Touring IFS & Torque Arm

Install Instructions

Tech Line: 1-855-693-1259 - 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**

Installing the Pro Touring IFS



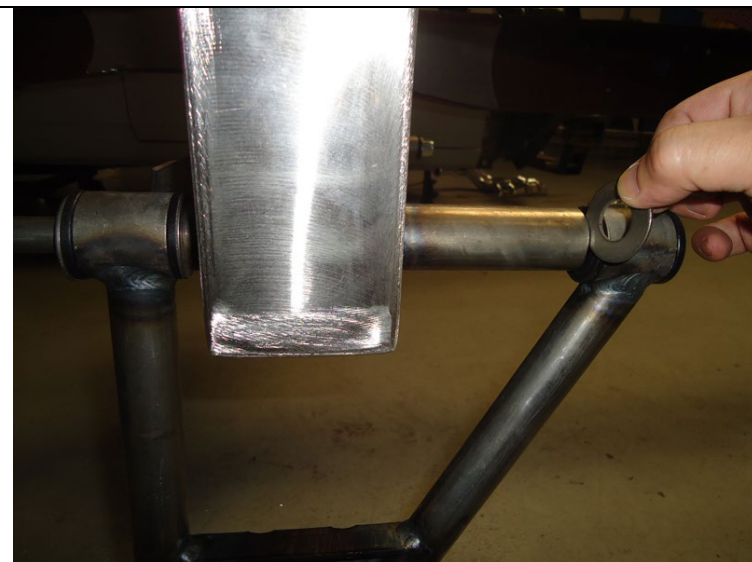
Installing the lower control arms:

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

Place one washer onto the 5/8" control arm shaft and push it through the front bushing of the control arm. Place a 2nd washer behind the bushing and push the 5/8" shaft into the front of the cross member.

NOTE Driver side control arm is pictured





Place the 3rd washer in between the bushing and the pin as shown.

Push the 5/8" shaft all the way through the pin and bushing. You may need a little elbow grease to get the shaft all the way through.



The 4th and final washer can now be placed on the 5/8" shaft and the Nylock can be installed.

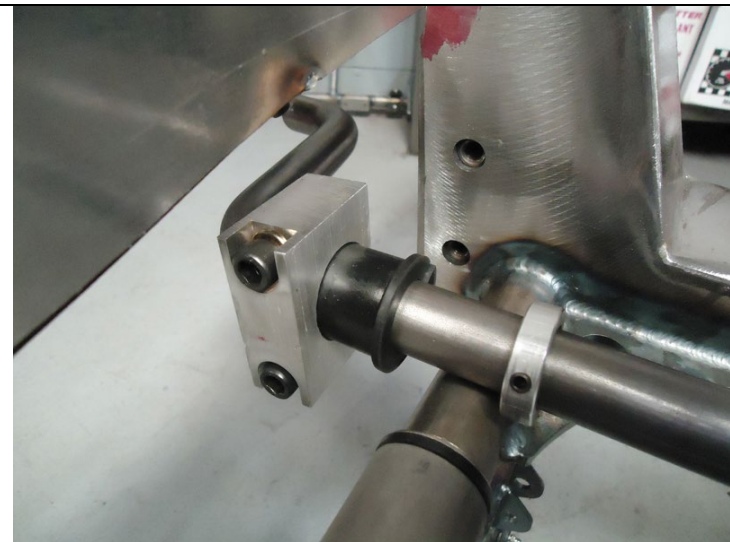
Torque to 75 ft lbs



Installing the upper control arms:

The upper A-arm is installed using the 9/16 x 2.5 inch hex head bolts. Three of the thick washers are installed as shown between the cross shaft and the mounting plate. Leave excess thick washers on the Nylock side. Use gold washers directly under the Nylock and bolt head. Center the bolts in the caster slots as a starting point for the alignment. Torque to 90 ft/lbs. Final alignment will be done after the project is complete.

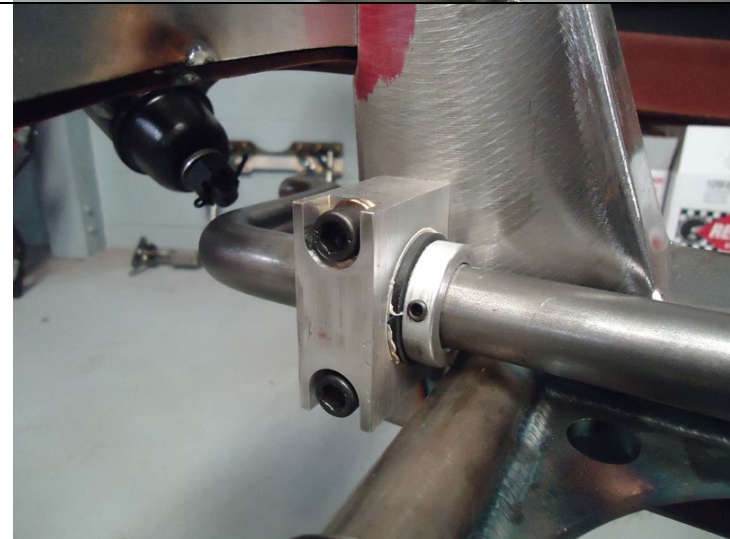
Note: The bolt kit also includes 9/16 x 3" bolts. Depending on camber settings you may choose to use the shorter bolts.



Installing the anti-sway bar:

There are 2 sway bar versions. This section covers the rear mounted sway bar used with most engines. See the next section for Coyote applications.

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 above the lower control arm pins. Use the supplied hardware to install the aluminum blocks onto the cross member. Torque to 35 ft lbs.

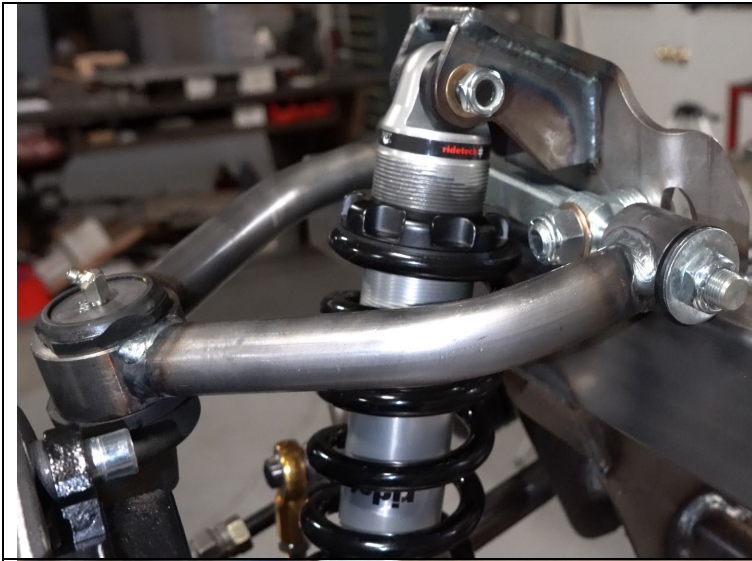
Center the anti-sway bar and lock down the set screws against the bushings.



Coyote sway bar install:

Assemble the sway bar as pictured. Slide the locking collars onto the bar, slide the bushings on with the flange facing inward and slide the blocks onto the bushings.

The bar attaches to the bottom of the frame at the front of the notches. There are 4 weld nuts on the frame. Use the supplies hardware to bolt the bar assembly to the frame.



Installing the Coil-overs:

Place the top of the shock into the top mount on the cross member. The large spanner ring faces up and adjustment knob should be facing the spindle.

Use the ½" button head bolt and thin nylock nut to attach the shock.

NOTE Threaded side of the shock body faces up.



The bottom bolt has a modified head that needs to be installed from the back to the front.

Extend the shock through the cutout in the lower arm and install with the bolt, washers, spacers and ½ Nylock nut. Tighten securely.



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 steering arm)

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**

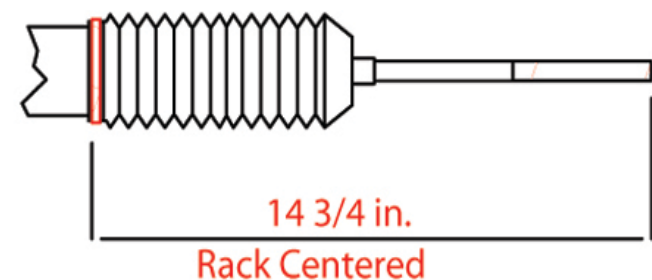
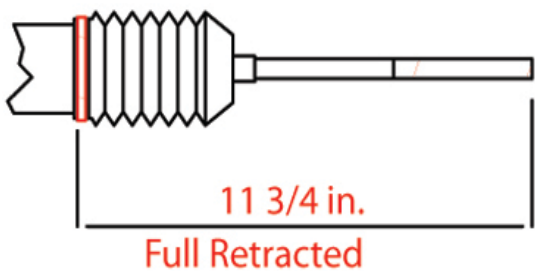
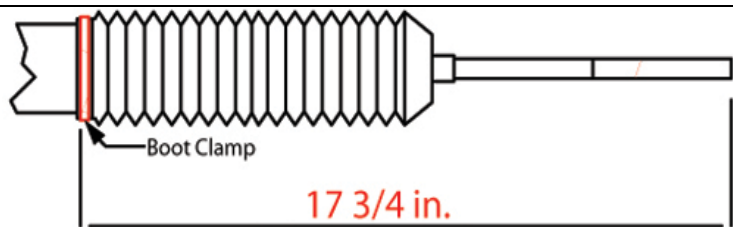
NOTE Caliper Fittings:

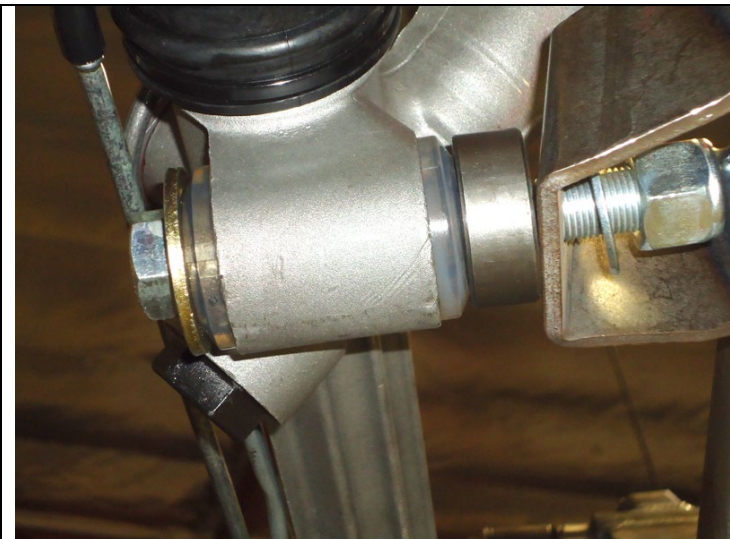
GM Calipers = 10mm x 1.5

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 ³/₄ minus 11 ³/₄ = 6. Divided by 2 = 3 Add that number to the smallest measurement (11 ³/₄" + 3" = 14 ³/₄") and turn the pinion back till you get that measurement and your rack is centered.

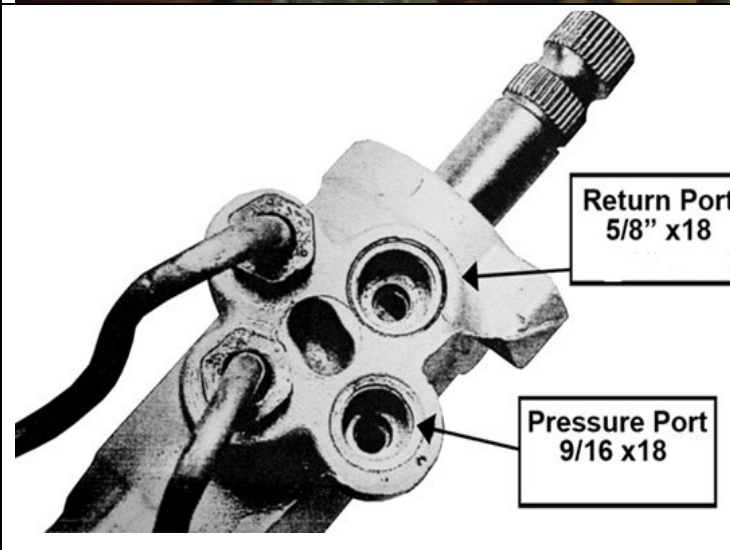




Installing the rack and pinion:

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. TCI 312-3030-00 fitting kit.

NOTE Rack & Pinion output shaft:

Manual rack = 9/16"-26 spline

Power rack = 3/4"-36 Spline or after April 2021 3/4" Ford V



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 ends to 60 ft. lbs. and install the cotter pin.

NOTE Rack & Pinion output shaft:

Manual rack = 9/16"-26 spline

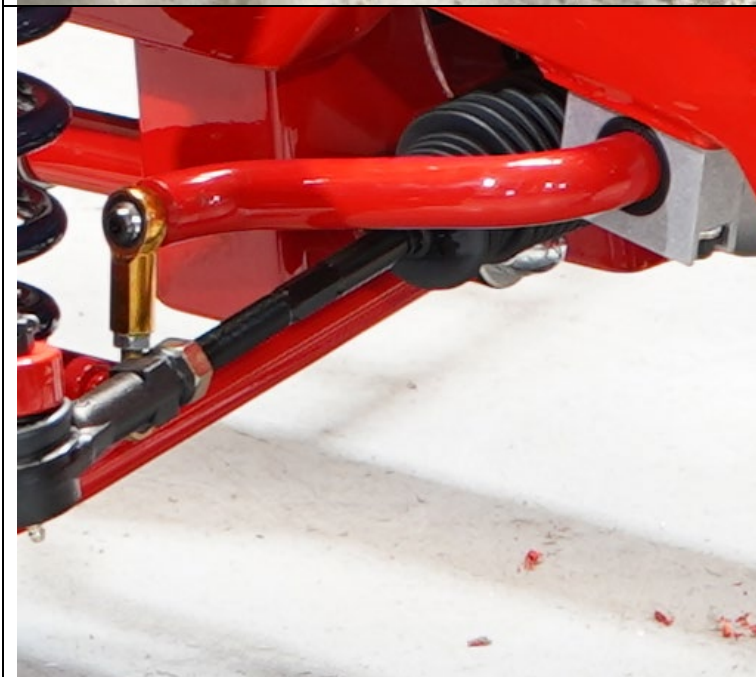
Power rack = 3/4"-36 Spline thru 4/2021
After 4/2021 3/4" Ford V



Installing the sway bar links:

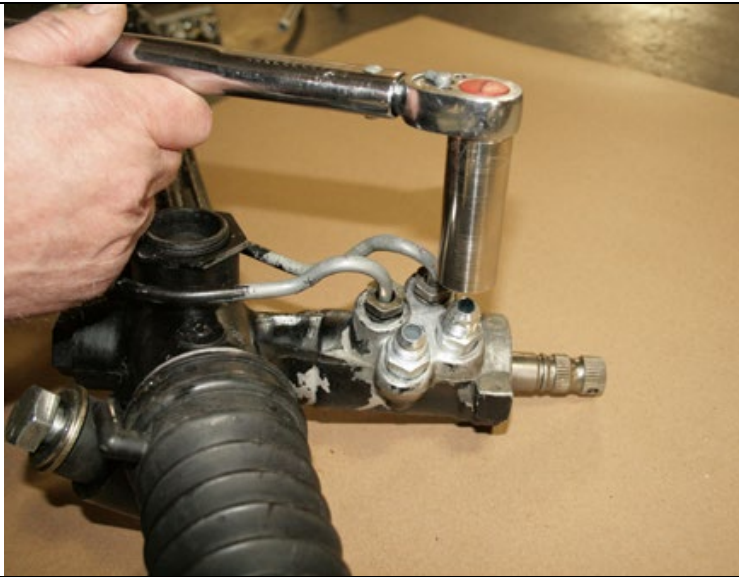
The standard sway bar routes from behind the cross member above the lower control arms and connects to the front of the control arms. Use the supplied hardware to install the rod ends with the male heim on the bottom.

NOTE You can adjust the preload (or lack thereof) once the vehicle is ready to be driven. To do this, disconnect one bolt on any heim, place driver in the driver's seat, adjust the loose heim until the bolt goes onto the anti-sway bar with zero load.



Coyote Sway bar links

For coyote engine applications the sway bar links attach to upward facing tabs on the lower control arms.

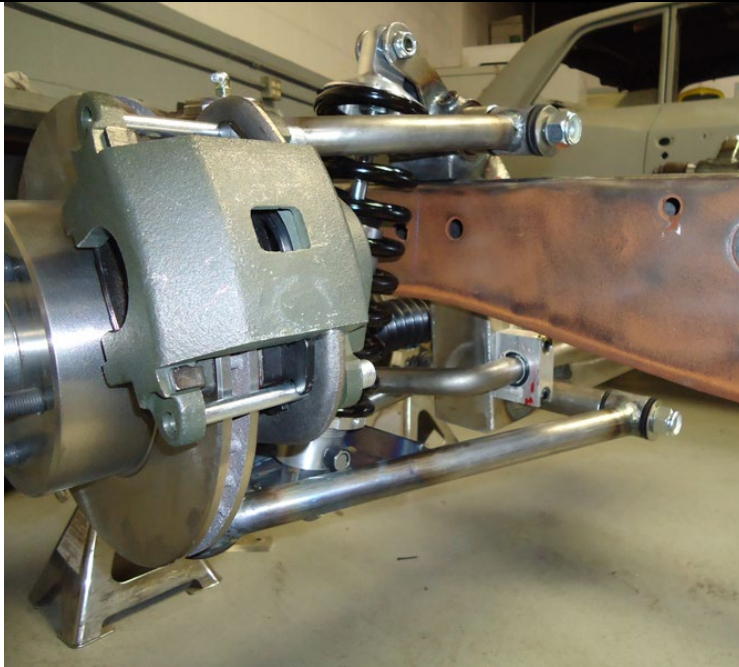


Setting up power steering

The rack ports are 9/16"-18 Pressure side & 5/8"-18 Return side.

TCI 312-3030-00 and Unisteer 8026070 are recommended fitting kits.

The recommended pump output is 800-1000psi and 2.0 gallons per minute. Exceeding this can cause the steering to feel "twitchy" and excess pressure can damage the rack.



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

The lower control arms should be level to the ground or within a degree or two once the vehicle is at full weight. You can then perform the final alignment.

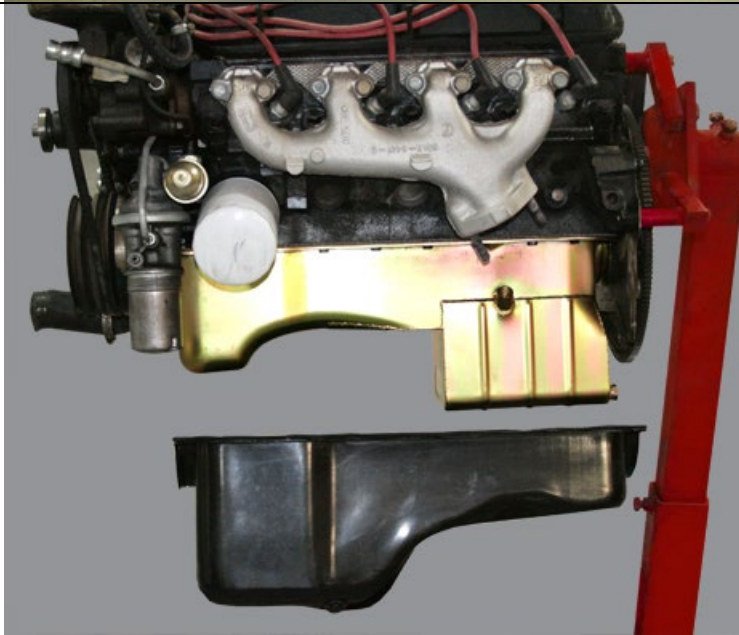
AXLE STUD SIZES:

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



OIL PANS

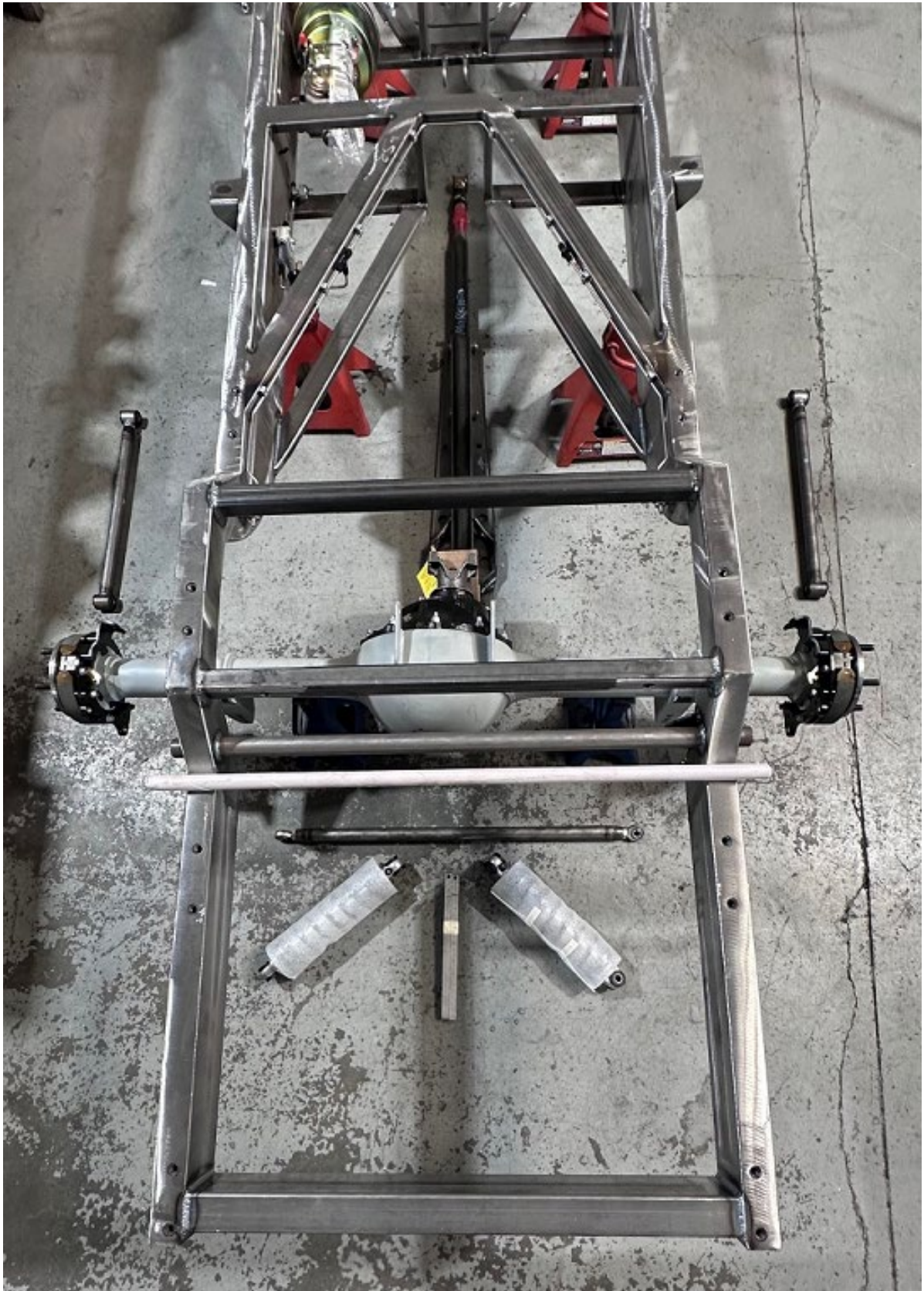
289-302 Small Block Ford Motor = fox body rear sump oil pan or Milodon rear sump pan holds 7 quarts plus the filter, Oil pan # 31125, Oil pump pickup #18380, CNC stainless dip stick #22040

352-428 FE Canton Racing Products
Road Race 7 Quart Part#: 15-874 / Oil Pump Pickup # 15-875

351 WINDSOR = MILODON OIL PAN # 31126, PICK-UP (OIL PUMP) 18385, OIL PUMP SHAFT 22560, GASKET 41004, WINDAGE TRAY 32217, TRAY INSTALLATION KIT 81167, DIP STICK COVER 22030, stainless dip stick 22040

429-460 = Ford Racing # FMS-M-6675-A460

Installing the Torque Arm Rear Suspension





Install the torque arm slider

Apply anti-seize to the torque arm slider and install into the torque arm. These are very fine threads, be careful not to cross thread.

Tighten the slider with a large crescent wrench.

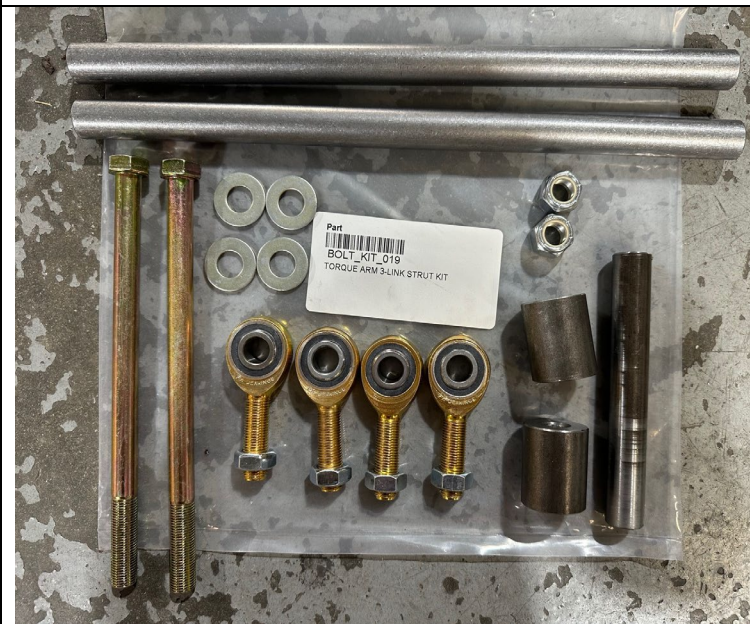
Note: Be sure to plug the hole in the torque arm before painting or powder coating.





Install the torque arm

Using Bolt Kit 020, install the rear of the torque arm onto the rear end housing. Use the full height nylock nut here. Don't tighten the bolt at this time.



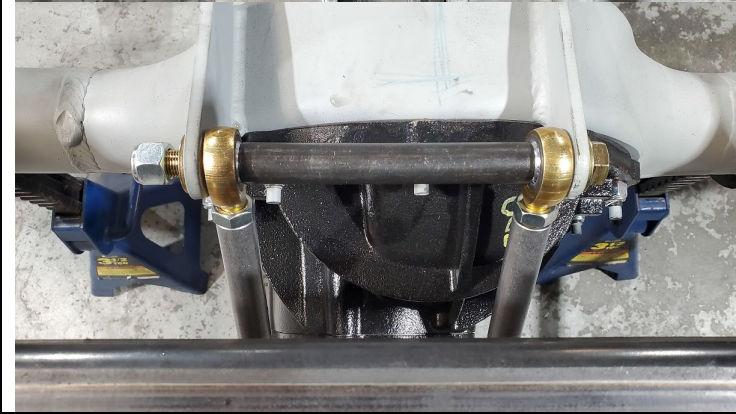
Assemble the pinion support tubes

Using Bolt Kit 019, assemble the pinion support tubes. Each tube has a right and left hand thread and matching hiem joints & jam nuts. Use ant-seize on all the threads when assembling.



Again, using Bolt Kit 019, assemble the pinion support tubes onto the torque arm and rear end housing as shown.

Note: These pinion support tubes will be used later to set pinion angle.

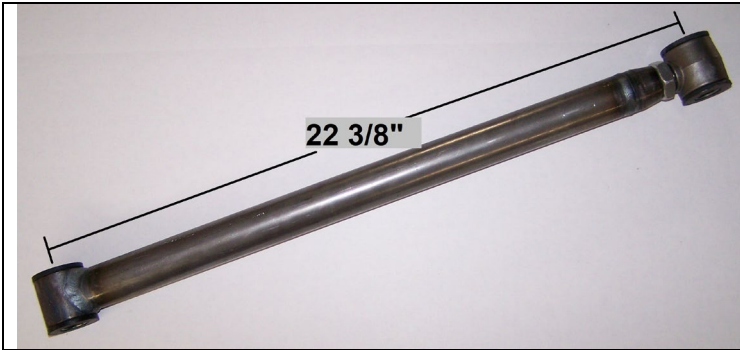


Place the rear end assembly with the torque arm onto a floor jack and roll it under the chassis.



Using Bolt Kit 020, install the front of the torque arm onto the chassis. Use the thin nylock nut here. Don't tighten the bolt at this time.

Note: When the build is complete with ride height, wheelbase and pinion angle set the slider will be set to 6 1/4" from the end of the torque arm to the center or the bolt hole. Tighten the bolt at that point.



Install the link bars

Adjust all the 2-link bars to 22 3/8" center to center and tighten the jam nuts.

NOTE It might be necessary to adjust the 2-link bars later to center the tires in the wheel wells.



Using Bolt Kit 108, install the 2-link bars with the adjuster side onto the frame using the provided 5/8" hardware. The bolts go in from the outside of the frame which will place the nylock on the inboard side.



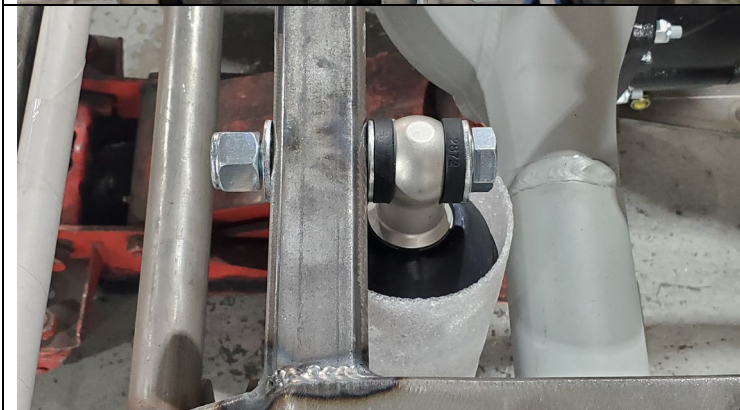
Align the axle assembly under the chassis and install the rear of the link bars.

Repeat on the opposite side.

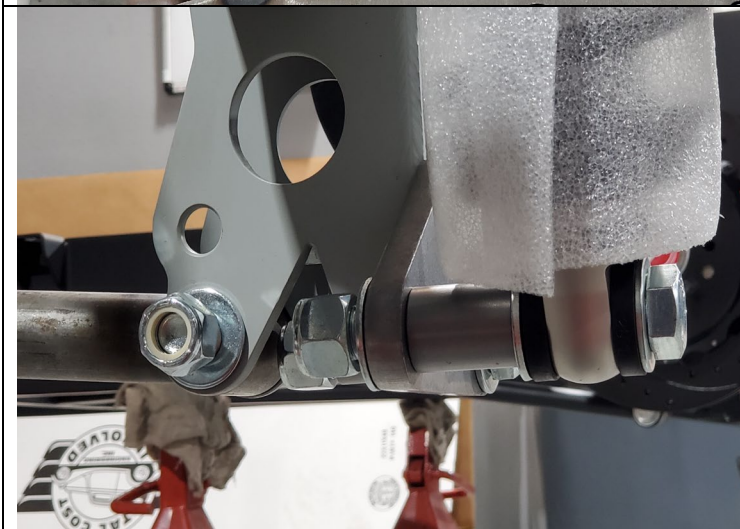


Install the shocks and relocation plates

Using Bolt Kit 061 install the shock relocation brackets on the rear end housing. The triangular end faces inward.



Install the top of the shock as shown.



Install the bottom of the shock with spacer as shown.



Install the panhard bar

Using Bolt Kit 110, install the panhard bar.



Install bar into the chassis bracket and the opposite side into the rear end housing.

This bar has left/right hand threads is used to center and hold the rear end in place. Adjust the bar as needed to center the rear end during assembly.

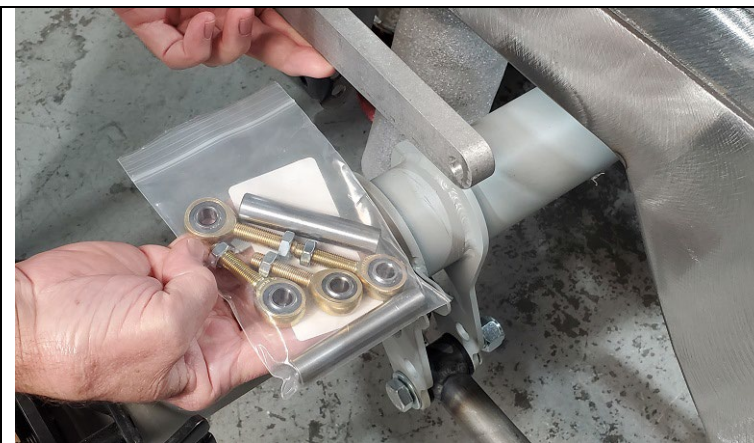
Note:

When the vehicle is completed with all the weight on the wheels, a final check/adjustment needs to be done to ensure the rear end is centered at ride height.

Installing the optional Anti-Sway bar:



Using the supplied hardware, install the rear sway bar.

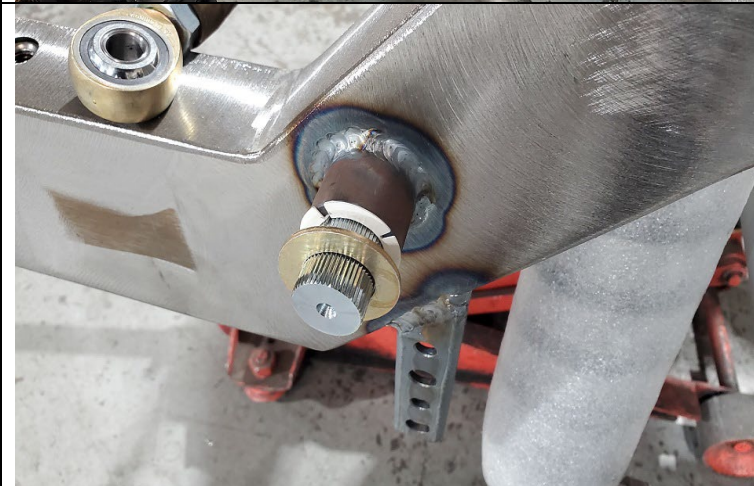


SEQUENCE OF INSTALLATION:

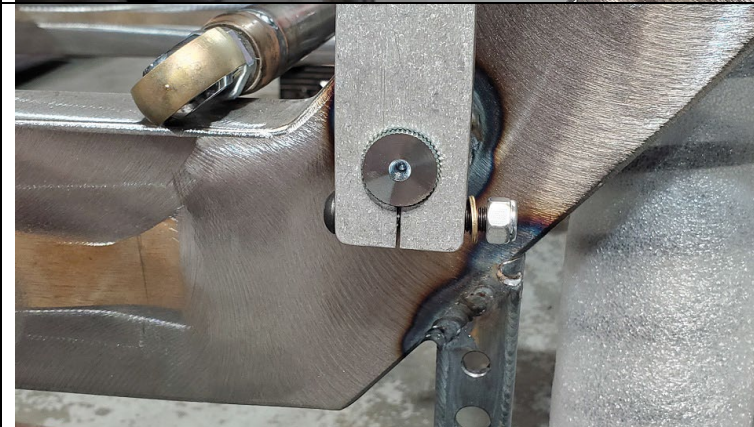
1. Sway bar
2. Nyliner
3. Washer
4. Aluminum arm

Duplicate steps 2, 3, 4 on the other side of the vehicle making sure the aluminum arms are clocked the same. Tighten down the pinch bolts on the splined end of the bar.

NOTE Make sure the countersunk side of the aluminum arm is facing the frame. ***SEE BELOW**



Assemble the sway bar links. Install the flathead bolt, spacer, sway bar link and nut as shown.



Install the button head bolt, washer & nut on the other end of the arm.



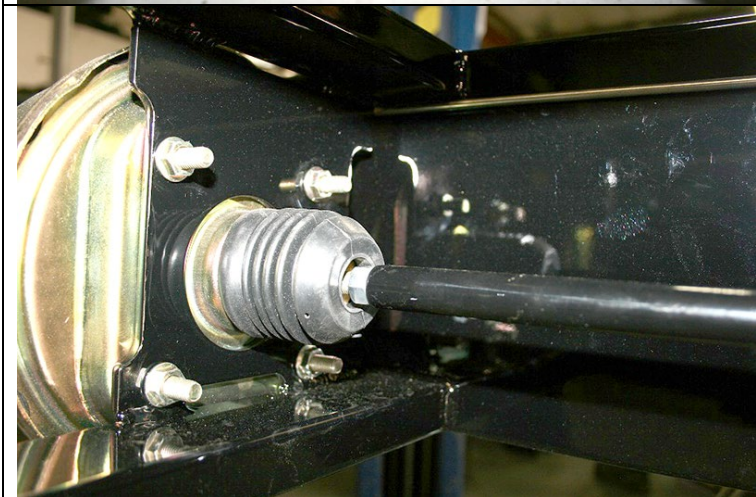
Using the supplied hardware, install the heim joint links onto the rear end housing. Adjust the links as needed to have zero preload.



Install the transmission cross member/plate.

Install the transmission plate with the 4 bolts as shown.

Your crossmember may be flat, stepped or sit closer or farther away from the chassis cross bar depending on the powertrain combination being used.



Installing the Pedal assembly:

Thread the R/H end of the pushrod into the back side of the booster.

Leave the jam nut loose.



Insert the pivot pin into the bottom of the brake pedal arm



Install the provided hardware into the frame mount and through the pivot pin of the pedal arm.

You can tighten this bolt at this time.



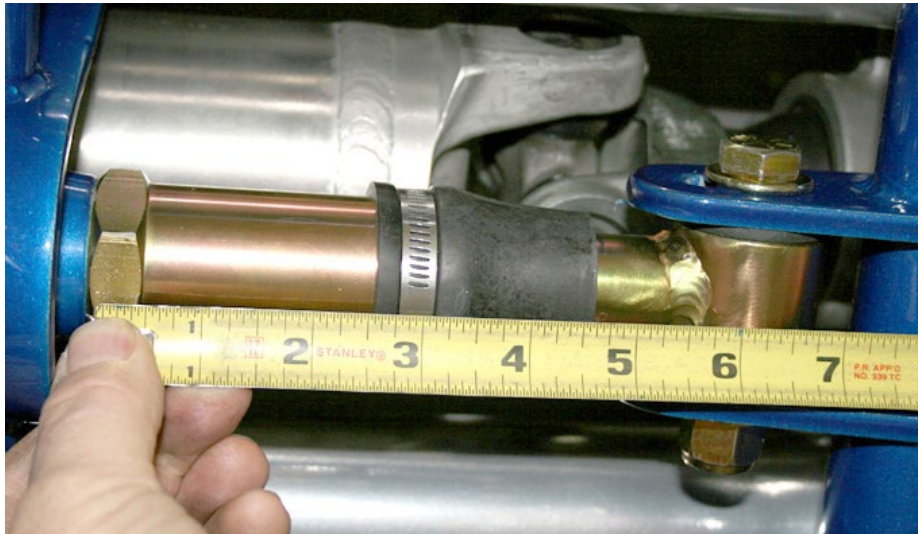
Install the left-handed heim and jam nut into the pushrod and install the assembly on the outboard side of the pedal arm.

Tighten the pushrod bolt but leave the jam nut loose. Final pushrod adjustment will be done once the cab is installed and carpet is in place.

Congratulations! You have finished your chassis assembly.

When you have the powertrain & body installed and set your ride height, use the 2 rear link bars to adjust wheelbase. Use the pinion support tubes to set the pinion angle. Use the Panhard bar to center the rear end in the chassis.

When these items are set, adjust the torque arm slider to 6 1/4" measured from the end of the torque arm to the center of the bolt hole. Tighten the bolt at this point.



WARNING!!!

The Currie 9" rear axle and master cylinder are void of fluids upon delivery. Make sure to install the provided fluids prior to usage.

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!

