

## ***aFe Control Front & Rear End Link Set 15-21 BMW F8X M2/M3/M4***

**Product Number:** 442-502001-L, 442-502001FL, 442-502001RL

**Install Time:** 2 hrs. (Full Kit), 1 hr. (Front Kit), 1 hr. (Rear Kit)



### **Recommended Tools:**

Sockets: 15mm, 16mm, 17mm

Special Sockets: T30

Wrenches: 16mm, 17mm, 3/4", 11/16"

Torque Wrench

### **Preferred Equipment:**

Alignment rack or 4-post rack

Aluminum adjustable wrench (Needs to fit 3/4")

The first portion of these instructions will show how to install aFe Control end links without adjustment. If you want to take full advantage of your adjustable end links, head over to the last section to learn more. Installation and adjustment should be performed by a professional.

## Front End Link Installation:

(Left front will be depicted in this section)

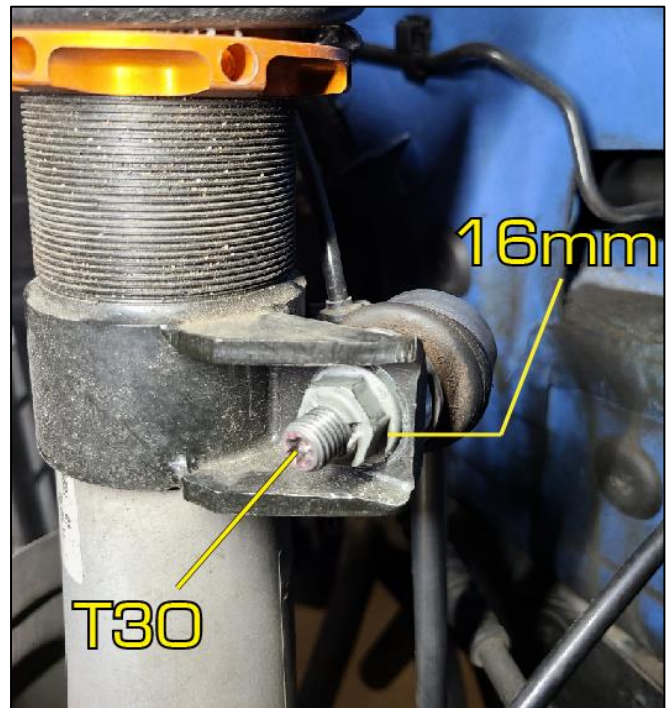
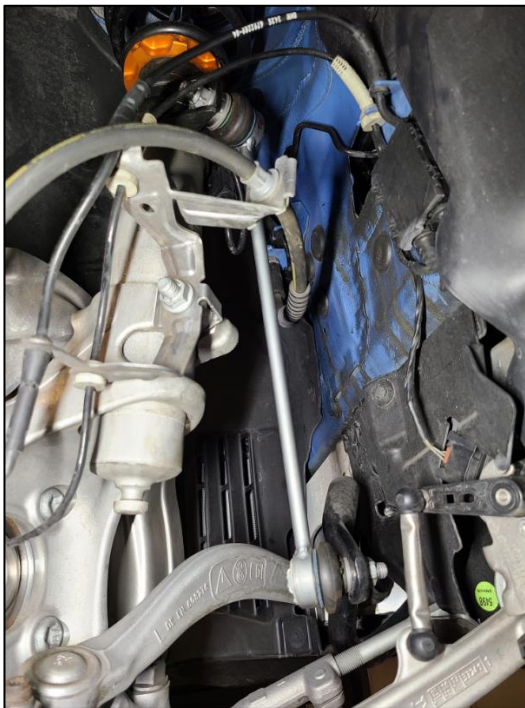
1F Raise the vehicle at the factory lift points.



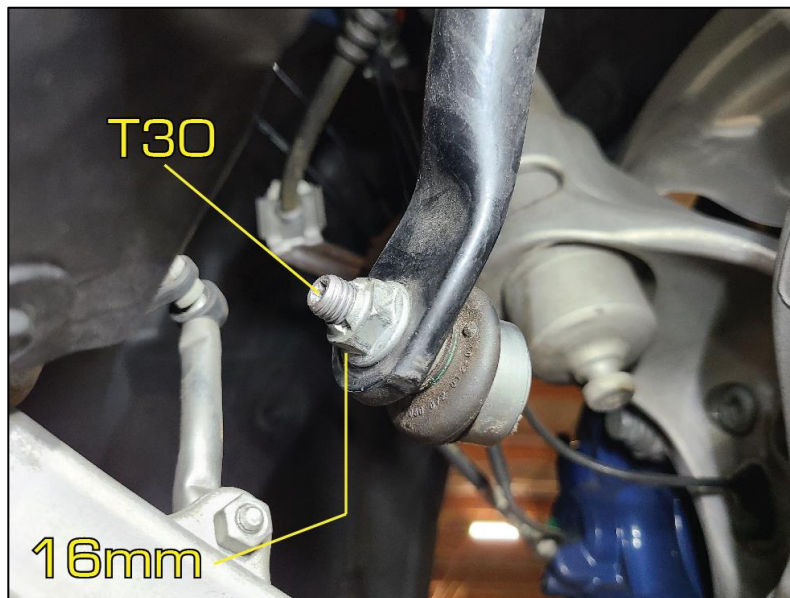
2F Remove the front wheels with a 17mm socket.



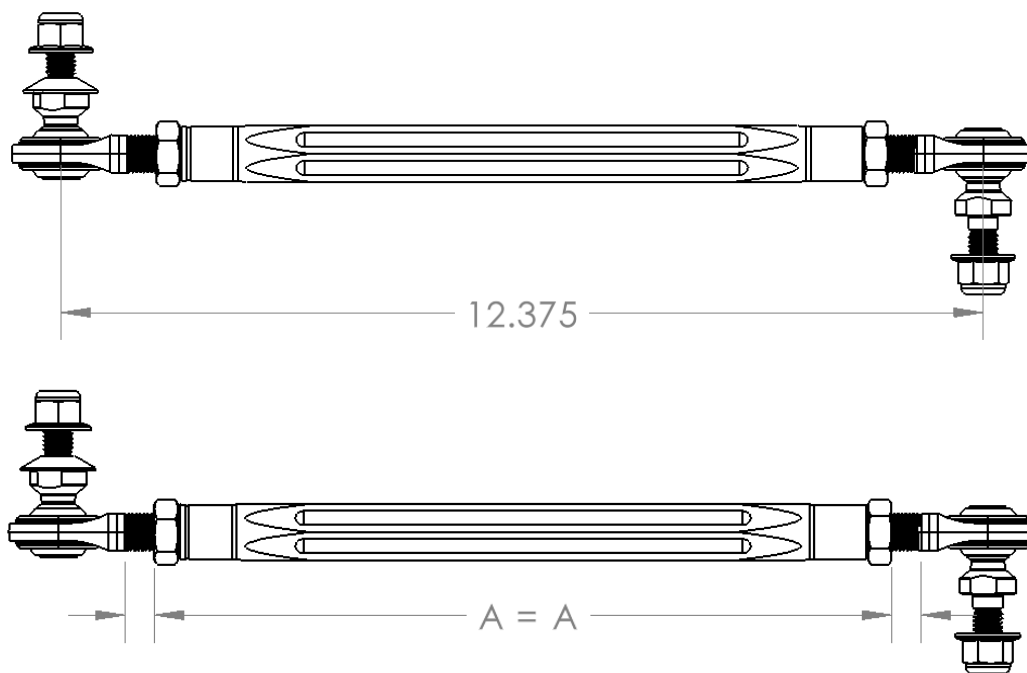
3F Unfasten the left end link from the strut using a T30 socket to hold the stud and a 16mm wrench to undo the nut.



- 4F Unbolt the end link from the sway bar using a T30 socket and 16mm as well. Remove the factory end link from the car. Mark "left" on the end link for reference.



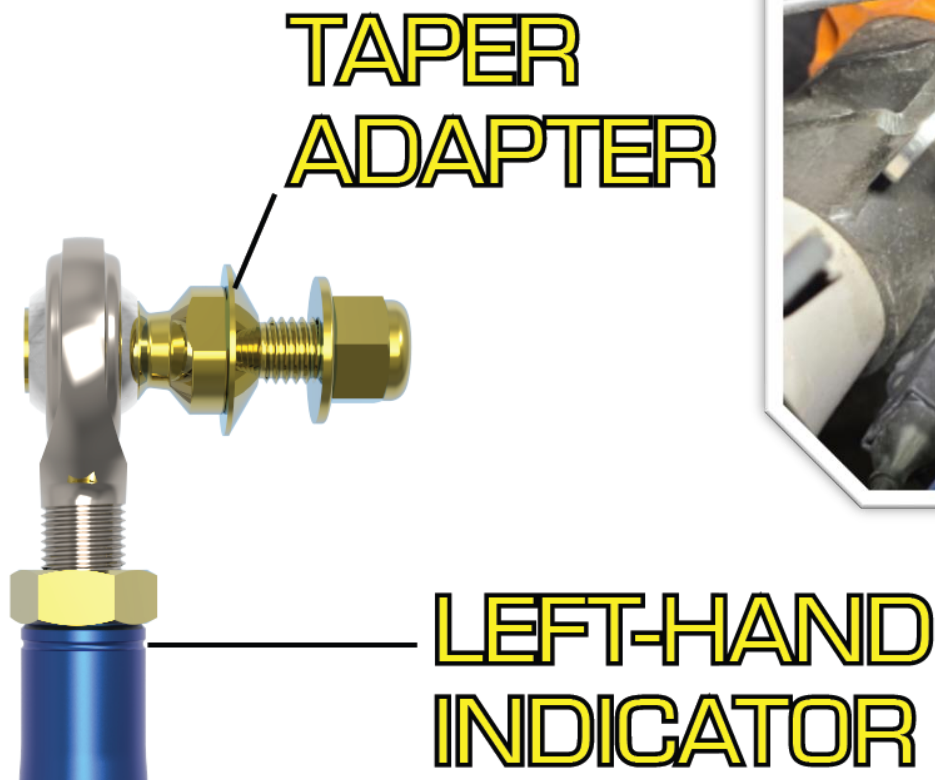
- 5F Set the aFe Control end link to 12.375" center to center. Make sure to have equal thread engagement for each rod end when adjusting.



For cosmetic purposes, to avoid scratching the blue anodizing, we suggest using an aluminum adjustable wrench or applying masking tape to a normal wrench. The sleeve size is 3/4" and the jam nuts are 11/16".



- 6F Tighten the left-hand jam nut only for now. The left-hand side is indicated by the machined groove. We will install the left-hand (tightened) end to the strut and right-hand end on the sway bar end. Install the **taper adapter** before inserting it into the strut. Lower attachment does not use a taper adapter.

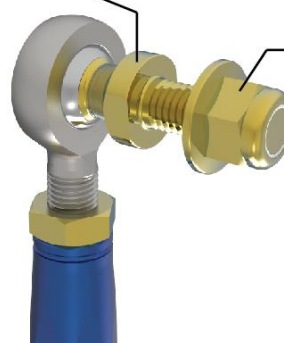


**\*IMPORTANT: USE A TORQUE WRENCH AND TIGHTEN THE END LINK NUTS TO 35 FT · LBS. DO NOT USE AN IMPACT GUN ON THE END LINK NUTS.** OVERTORQUING THE NUTS CAN LEAD TO STUD FAILURE.

Use a 17mm open end wrench to hold the stud from spinning and a 15mm socket to tighten the nut.



**17MM**



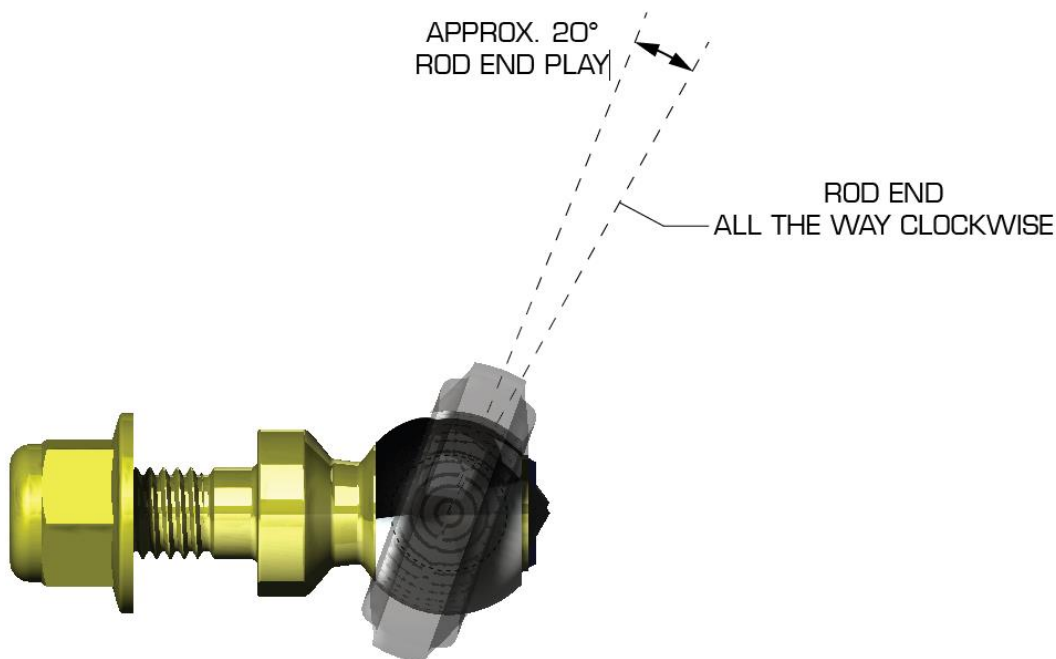
**15MM**

7F You should now have the end links installed with only the right-hand jam nut loose to clock the rod end angle.

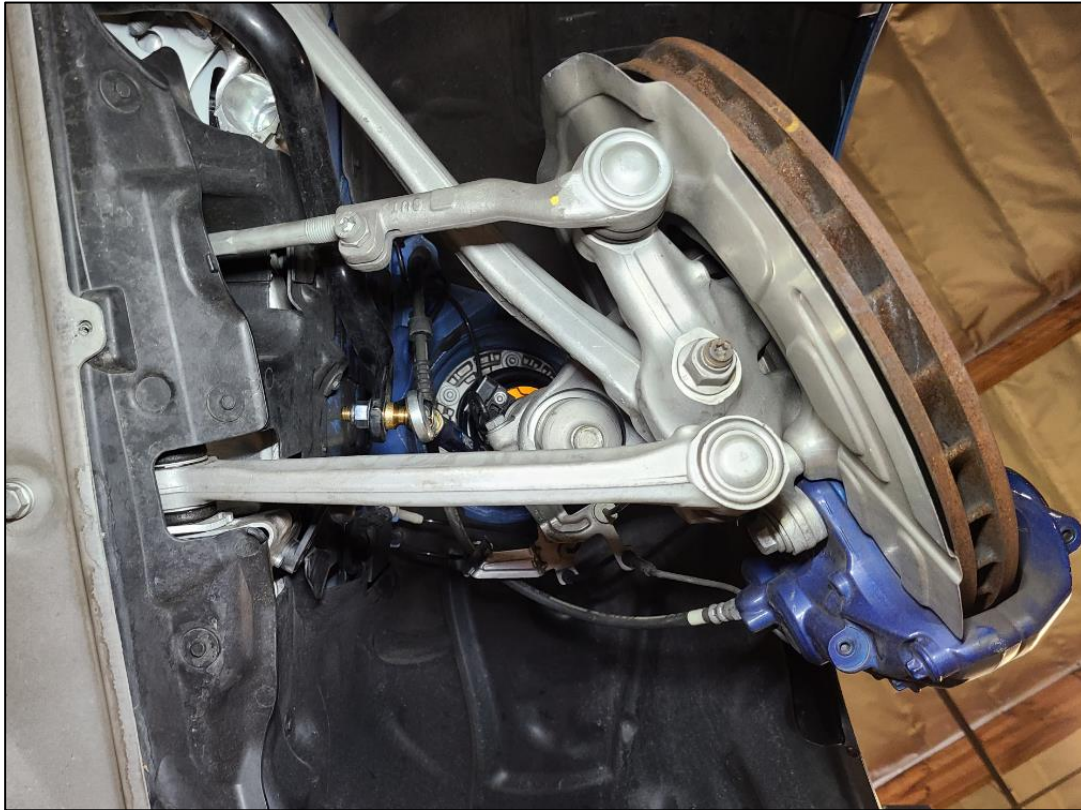
Turn the steering wheel all the way to the left. (Left Front Shown)



Rotate the entire end link **counterclockwise** while rotating the bottom rod end **clockwise**. Now, back off the bottom rod end from full clockwise and leaving about 20° of rod end play as a buffer. Tighten the jam nut. Rotate the end link back and forth to make sure there is still about 20° of rod end play.



Next, turn the wheel all the way to the right and make sure the end link has the same amount of rod end play. This will ensure your rod ends will never run out of articulation when steering.



- 8F Repeat for the passenger side. Clocking and positioning will be a mirror image of the left. Reinstall wheels and torque lug bolts to 105 ft·lbs.

## Rear End Link Installation:

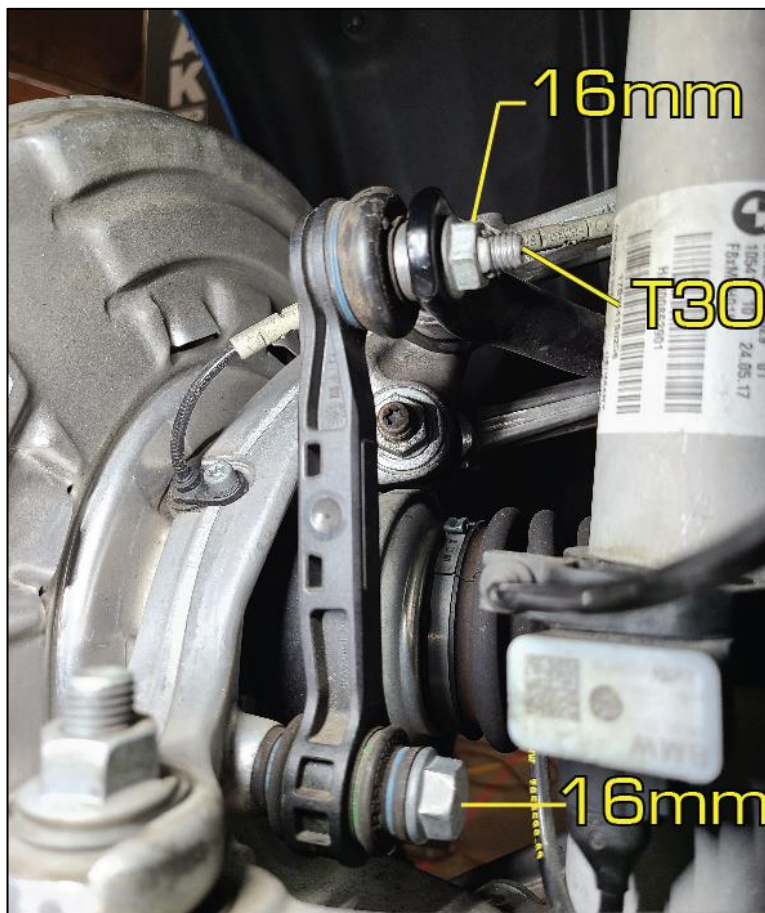
1R Raise the vehicle at the factory lift points.



2R Remove the rear wheels with a 17mm socket.

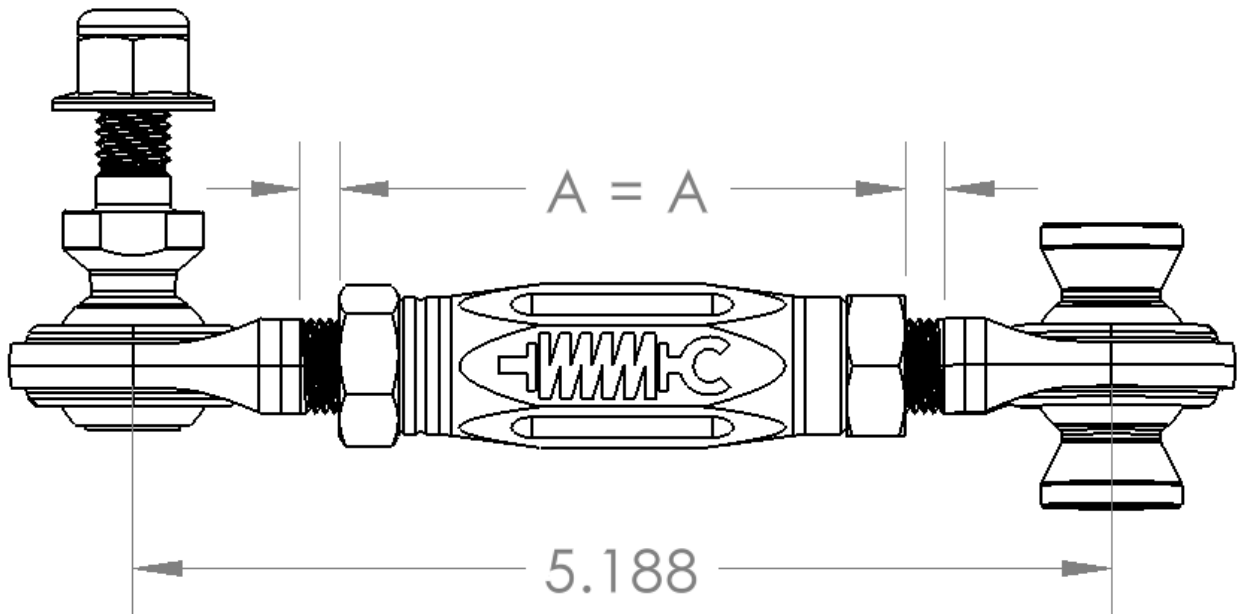


3R Unfasten the left end link from the car using a T30 socket to hold the stud and a 16mm wrench to undo the nut at the top. Use a 16mm socket or wrench for the lower bolt.





- 4R Set the aFe Control end link to 5.188" center to center. Make sure to have equal thread engagement for each rod end when adjusting.



Optional: For cosmetic purposes, to avoid scratching the blue anodizing on the sleeve, we suggest using an aluminum adjustable wrench or applying masking tape to a normal wrench. The sleeve size is 3/4" and the jam nuts are 11/16".

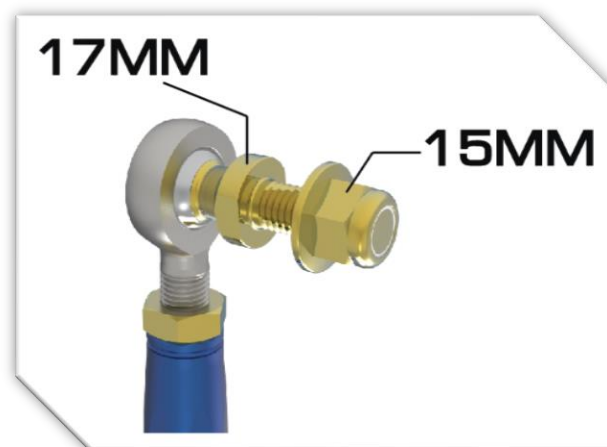
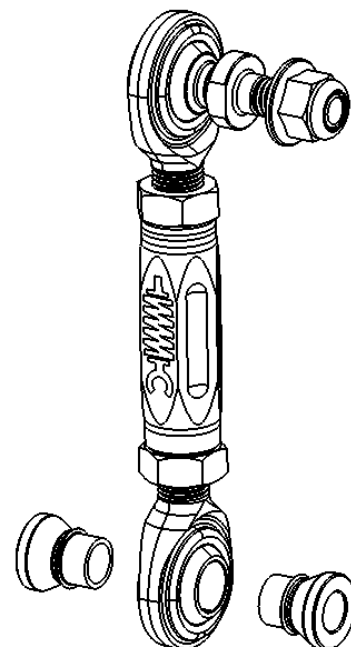


5R Install the end link in the same manner as stock removal. (tip: Install lower mount first)

**\*IMPORTANT: USE A TORQUE WRENCH AND TIGHTEN THE END LINK NUTS TO 35 FT · LBS. DO NOT USE AN IMPACT GUN ON THE END LINK NUTS.** OVERTORQUING THE NUTS CAN LEAD TO STUD FAILURE.

Use a 16mm socket or wrench to tighten the lower bolt.

Use a 17mm open end wrench to hold the stud from spinning and a 15mm socket to tighten the nut.



6R Repeat for the passenger side. Reinstall wheels and torque lug bolts to 105 ft · lbs.

## End Link Adjustment:

Preface: The main benefit of adjustable end links is to allow the user to eliminate sway bar preload at static ride height. Cars are not perfect. Some can sit uneven left to right causing the sway bars to be in tension when using equal length OE end links. This can cause the car to handle inconsistently when turning left versus right. This can be amplified further if you are trying to corner balance the vehicle for the track. Normal and track wheel alignments will benefit from the lack of sway bar preload.

### Steps for adjustment

- 1) Drive the vehicle on an alignment rack or 4-post lift. (Basically, you need the car at ride height and be able to access the end links.)
- 2) Unbolt (1) end link in the front and (1) in the rear. One end of the end link will do.
- 3) \* If corner balancing, put vehicle on scales and make corner height adjustments to get the desired cross weights.
- 4) \* If performing a wheel alignment, complete now before moving forward.
- 5) Roll the vehicle to ensure the vehicle ride height is in its relaxed state.
- 6) Check to see if the unbolted end links are at the proper length to easily install onto the sway bar and/or car.
- 7) If not, loosen both jam nuts and adjust the sleeve until the end link length allows the end link stud to easily insert into the sway bar/car.
- 8) Tighten The jam nuts in accordance with the above installation procedure to ensure proper rod end clocking.
- 9) Tighten rod end stud nuts to **35 FT · LBS.**



*232 Granite St.  
Corona, CA 92879  
aFepower.com*