



**2017-2020 Polaris RZR XP Turbo 2/4 Seat  
Tie Rod Kit for long travel and stock width  
SKU#s: 360-90116 and 360-90117**

**Introduction**

- Installation requires a qualified mechanic.
  - Read instructions carefully and study the pictures (if included) before attempting installation.
  - Check the parts and hardware packages against the parts list to assure that your kit is complete.
  - Always wear safety glasses when using power tools.
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- ❖ There are 2 options to consider when you are going to install the inner boot.
  - ❖ **Option 1** will be for the competitive racer because it will have you cut the tie rod boot as shown in figure #3; to provide quick and easy access to the inner tie rod, it is for a user who will be removing/installing/tinkering with the tie rods frequently.
  - ❖ **Option 2** will be for the recreational user that does not need frequent access to the inner tie rod end because it will show you how to install the tie rod boot leaving it looking like the stock tie rod. This will protect the tie rod end from dirt/mud/rocks/etc. but it will be slightly more difficult to remove/install/tinker with.

**Requirements**

- Clevis clocking is very critical, pay close attention to instructions.
- 14mm allen wrench is needed, you can purchase from SEARS online item #00951040000P



**Parts List: 360-90116 (long travel)**

- (2) 6050, clevis
- (2) 5701, outer tie rod spindle stud
- (2) 5702, spherical washer
- (2) 8375, black tie rod adjuster tube
- (2) Rodend-JMX10T, right hand thread rod end
- (2) Rodend-RSML8T, left hand thread rod end
- (2) 5/8-18 right hand thread jam nut
- (2) 5/8-18 left hand thread jam nut
- (2) ½-20 nylock flange nut
- (2) ½-20 flanged shoulder bolt, 1.1/4" long
- (2) 3/8-16 nylock flange nut
- (4) ½" i.d spacer washer
- (2) M16-1.5x25mm long socket head cap screw
- (2) 3/8-24 12 point flange bolt, ¾" long
- (2) 3/8" lock washer
- (1) thread locker tube

**Parts List: 360-90117 (stock replacement)**

- (2) 6050, clevis
- (2) 5701, outer tie rod spindle stud
- (2) 5702, spherical washer
- (2) 8369, black tie rod adjuster tube
- (2) Rodend-JMX10T, right hand thread rod end
- (2) Rodend-RSML8T, left hand thread rod end
- (2) 5/8-18 right hand thread jam nut
- (2) 5/8-18 left hand thread jam nut
- (2) ½-20 nylock flange nut
- (2) ½-20 flanged shoulder bolt, 1.1/4" long
- (2) 3/8-16 nylock flange nut
- (4) ½" i.d spacer washer
- (2) M16-1.5x25mm long socket head cap screw
- (2) 3/8-24 12 point flange bolt, ¾" long
- (2) 3/8" lock washer
- (1) thread locker tube

### **Installation Instructions**

1. Raise the front of your RZR up and support by the frame so that the suspension droops out and tires are off the ground by at least an inch. Remove front tires.
2. Remove the outer tie rod from the spindle by loosening the nut holding the outer tie rod to the spindle. Don't remove the nut, just a loosen by a couple threads then use a hammer to tap on the nut upward to knock the tapered stud of the outer tie rod loose from the tapered hole of the spindle. Then remove the tie rod from the spindle.
3. Remove the inner tie rod dust boot by cutting the zip tie holding the dust boot to the steering box, and by prying off the outer dust boot clip using a flat head screwdriver. Pull the dust boot back and using a pipe wrench, unscrew the tie rod from the steering box as seen in figure 1. Once the inner tie rod is free from the steering rack bar, there is a plastic spacer on both sides of the steering rack bar, they need to stay there.



Figure 1: pull dust boot back, remove inner tie rod from rack bar.

4. Clean the internal threads with contact cleaner to remove any grease to prepare the threads for Loctite. Also clean the supplied M16-1.5x25mm long socket head cap screw threads with the cleaner. Add a drop of the provided thread locker to the allen head bolt threads, insert the bolt into the Cognito clevis and screw the Cognito inner tie rod clevis into the steering box. The clocking is very important, Figure 2 shows the clocking, the bolt holes will need to be in line with the upper control arm bolts. So the driver side clevis, if you put a bolt through the holes then the bolt would be pointing at 4 o'clock and 10 o'clock. The passenger side the bolt would be pointing at 2 o'clock and 8 o'clock. Tighten using a crescent wrench and 14mm allen as seen in figure 2, torque would be 90 ft.lbs.

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5. **(If using option 1 please proceed with this step.) (If using option 2 instructions please skip to step A on page #7.)** Using a razor, cut off the small end of the inner tie rod dust boot at the first raised edge. As seen in figure 3. Slide dust boot over the tie rod clevis and steering box. Use zip ties to secure the dust boot to the steering box groove in the clevis, and the other end to the steering box just like stock was.

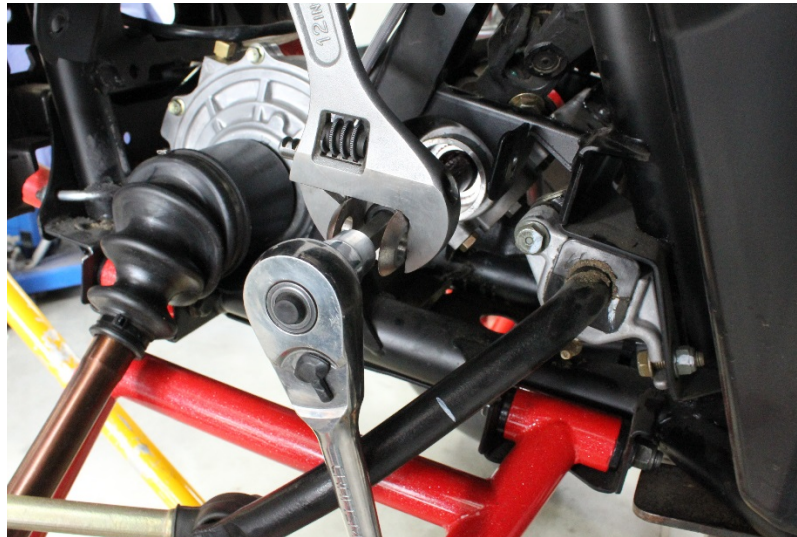


Figure 2: installing clevis to the steering rack bar



Figure 3: trim the small end off the dust boots, so it can be attached to the clevis groove.

6. Thread the appropriate jam nuts all the way onto the appropriate rod ends, then thread the rod ends all the way into the adjuster tubes. Remember one end is right hand thread and the other is left hand thread.

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7. Bolt the rod end that has the  $\frac{1}{2}$ " hole to the clevis with a spacer on both sides of the rod end, using the shoulder bolts and flange nuts included. Tighten hardware using a  $\frac{1}{4}$ " allen wrench and 9/16 wrench, to 30 ft.lbs. see figure 4
8. Before installing the outer tie rod into the spindle you must drill out the spindle tie rod hole using a 1/2" drill bit as seen in figure 5. It will only cut a small amount of the small end of the tapered hole, this is because we upsize the nut from 12mm to  $\frac{1}{2}$ ". Get some help if needed, as you need to make sure the hole is drilled out straight with the original hole. You don't want it wallowed out or crooked. Remove any burrs.
9. Now bolt the included tapered stud to the spindle using the included  $\frac{1}{2}$ " flange nut with some anti seize lubricant on the threads, and torque to 60 ft.lbs.



Figure 4: inner rod end attached to clevis, and dust boot tied to clevis groove.



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Figure 5: Drill the tie rod hole in the spindle, out to ½"

10. The outer rod end can now install onto the stud, and it gets fastened with a spherical washer, then lock washer, then the 12 point flange bolt with anti seize lubricant on the threads. Tighten the 12 point bolt to 35 ft.lbs. Use a drop of red threadlocker on the threads at the end of the bolt (farthest from the bolt head) to ensure the threadlocker covers the threads which engage with the spindle pin. See Figure 6

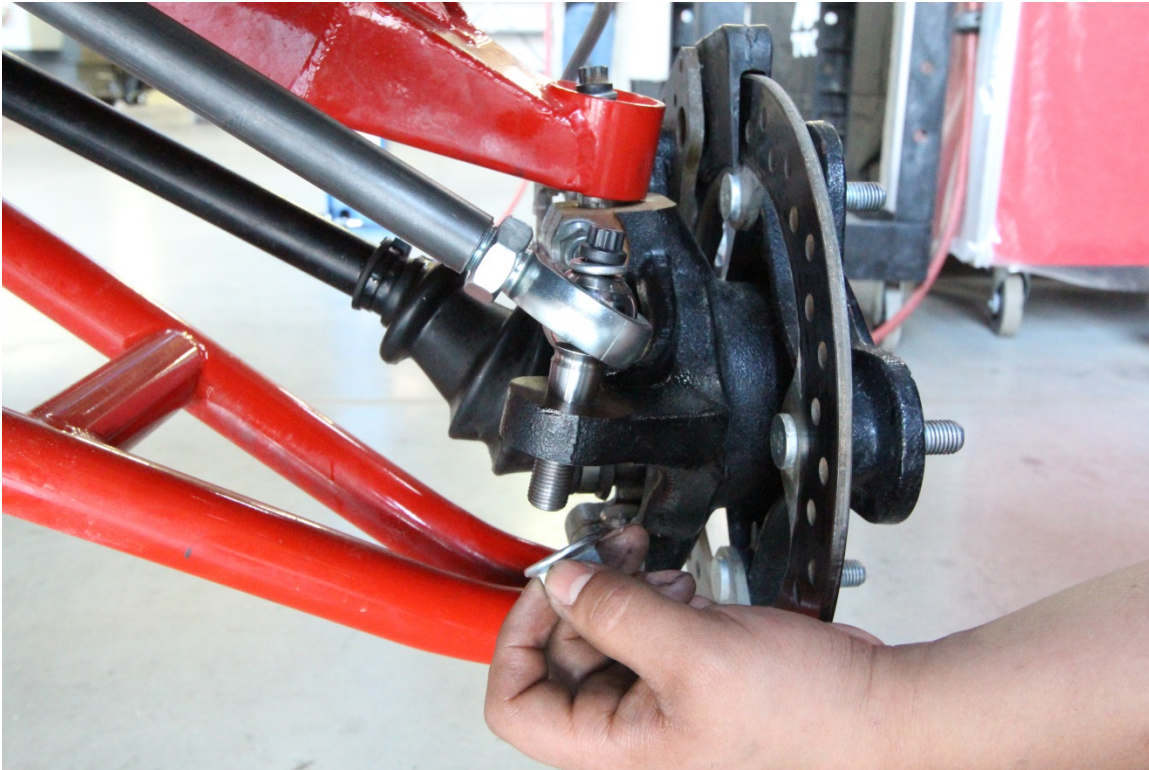


Figure 6: Shows the stud in the spindle, rod end on the stud, then spherical washer on the rod end held in place by lock washer and 12 point bolt.

11. Now you can turn the adjuster tube and the tie rod length will change. Once the toe is set, then tighten the jam nuts against the adjuster tube to lock it in place, make sure the inner and outer rod ends are clocked appropriately for articulation, this takes a little patience since while tightening the jam nuts, the rod ends want to turn, just get a small crescent wrench to hold the rod end while tightening the jam nut but also need to keep the adjuster tube from turning while tightening the jam nut. Get some help if needed. This is important so that there is no binding.
12. Toe adjusting should be done at proper ride height, and setting is 0-1/8" toe in.

## Inner Tie Rod Boot Option 2 Installation

### \*Instructions\*

#### Installation Steps

- A. Now that the stock tie rod has been removed, grab the Cognito tie rod and remove the tie rod end that is circled in red in figure #1A. Once rod end is removed apply lubricant similar to WD-40 on Cognito Adjuster Tube and slide dust boot on as shown in figures #2B and #3C.



Figure 1A: Remove this tie rod end and install dust boot from here.



Figure 2B: Install boot

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**Figure 3C: Pull boot down**

- B.** Now that the dust boot is on, it should look similar to how it did when you first removed it. Please continue to step #6 on page #4.



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