



RZR SwayLOC™

Installation Document

OffRoadOnly

ph 651.644.2323

www.offroadonly.com

info@offroadonly.com

Polaris RXR 1000 Dual Rate, Manual

SwayLOC™ is a dual rate Anti-Sway bar system that allows the operator an easy method of changing from a firm on-road rate to soft off-road rate. The on-road rate is similar to the OEM Anti-sway bar and the off-road rate will allow full range of articulation. The transition is simply a matter of flipping the rocker switch from one position to the other and the electronic actuator will move the latch.

The package contains the parts as seen in the picture below, plus the short inner arm not shown.

Please INSPECT PACKAGES before starting installation.



SwayLOC™ kit components

MECHANICAL INSTALLATION

1. Remove factory swaybar and links. There is some hardware that is to be re-used in this process. The carriage bolts and nuts that mount the factory bar to the factory mounts are reused and the two 10mm bolts and nuts that mount the linkage to the rear radius arm. IF you do not have the factory bar installed, you will need to source these pieces of hardware as they are not included in the kit. Carriage bolts to fit the square of the factory bracket necessary as these also locate the SwayLOC brackets.

Possible RZR modifications to watch for during installation:

We have determined that the RZR Turbo models have a perforated foil heat shield on the passenger side firewall, opposite side of the firewall from the passenger seat. This foil is very close to the vertical chassis tube that the top clamp of the SwayLOC bracket mounts to. You will likely have to form this foil out of the way to clear, simply roll the outside edge, closest to the vertical tube, away from the tube, and towards the center of the RZR.



2. First, we install the mounting brackets. These are the silver steel parts. These will bolt to the factory mounting area and re-use the factory sway bar mounting bolts and nuts. Note that these brackets will have clamps that will clamp to the chassis tubing to spread the load. The lower clamp you will need to put in place before the two factory mounting bolts are tight, or you won't be able to slip it in between the tube and the bracket. On the right is an image of this bracket with the clamps for the left side of the RZR. Note the relationship between the brackets and the clamps.



3. With the 2 carriage bolts installed in the original mounting bracket holes, place the steel SwayLOC bracket over these 2 bolts, and start the nuts. Leave them loose for now. Note that the squares of the carriage bolts fit nicely into the SwayLOC brackets, this is to locate them to the chassis during assembly.
4. Locate the lower clamp (has 2 bolts total) and the 2" long hex head cap screws and nylock nuts. Place the flat half of the clamp between the tube and the SwayLOC bracket. Put the 2 hex head cap screws into the openings on the opposite clamp half and work it into position on the forward side of the chassis tube. The bolts should pass thru the flattened half clamp and thru the 2 slotted holes on the steel bracket. Rotate the hex bolts so the heads engage in the forward clamp, start the nylock nuts on the bolts.



5. The Top clamp is next, **what you find in the kit may be slightly different than what is shown in the next image.**

There are 2 holes that are threaded, and 2 that are clear thru. The clear thru holes on the larger half of the clamp have a notch machined into the outside of the hole area. This notch is to accept the top of the steel bracket. Assemble the clamp so that the thicker flange area (black pointer in image to right) is used on the side with the thru bolts as shown.

With one of the 2" long socket head cap screws, pass this thru the smaller half clamp for this clear thru hole, position the larger half of the clamp so that the thru holes line up with the 2 slotted holes in the bracket, then position the smaller half into place, and pass the 1 bolt thru the larger half clamp and then thru the steel bracket. Start a nylock nut on this bolt. Finish assembly by placing the remaining bolts in place, the shorter ones will thread into the clamp itself.

Once all of these mounting bolts are in position, it is time to tighten things up. The first bolts to tighten are the carriage bolts in the original bracket mounts, as the square of the head will protrude slightly into the holes of the SwayLOC bracket, and you may need to adjust the bracket position to get both bolts in the proper spot. Once these are in place and tight, then simply tighten the rest. You may need to tighten the short bolts first on the upper clamp to get it to all slide into place nicely.

Once complete, do the same on the opposite side.



6. With the mounts in place, next step is to position the torsion bars

The Outer bar is symmetrical, and can be placed in either direction, the Inner bar IS directional however.

The inner bar has a small (1/8" diameter) hole that is drilled cross ways thru the fatter area approx 2" from the end on one side. Make sure that this side of this bar ends up on the LEFT side of the vehicle, same side as the latching arm.

Place the inner bar inside of the outer bar, and then to get it into position, you will need to pass it from one side, thru to the mount on the opposite side (We found it easiest to start from the right side and place it in the left side mount) and then push it far enough thru the mount to pass the right side into the mounting bracket from the inside.

7. With the torsion bars sitting in the opening of the mounts, and the inner bar installed with the cross drilled grease port on the LEFT side, next install the bushings.

The outer bar has 2 flats on it and the flats come together in a point. Rotate the bar so that the point is towards the rear. This is the direction it will be once installed. The inner bar will have the flat edge towards the rear as well.



There is a small clear tube of silicone grease included in the kit, using this grease, coat the outside and inside of the bushings evenly with a thin layer of grease. Whatever grease you have left, wipe it onto each end of the outer torsion bar. Now, holding the torsion bars, slide one of the bushings into place, from the outside of the mount. Then go to the opposite side and holding the bar again, slide the second bushing into place. The outer bar can be centered from side to side, and should end up with the flat cut areas exposed on each side.

8. Next, install the dual hub arm, the one without the latch, on the right side. We find this is the easiest to do if you slide the inner bar out so you can hold/spin the bar easier.

You will likely need to use the "install kit" which is the 1" long piece of the 1.5" tube, a 2" long 5/16 stud, a couple of nuts and washers. You will thread the stud into the opening on the end of the torsion bar, make sure it goes in appx 1/2" or so. Then place the arm over the stud and against the torsion bar. Place the large washer, small washer and finally the nut on the stud. Now, while keeping the arm perpendicular to the torsion bar, so that it starts squarely, rotate the torsion bar slightly until you can feel the bar start to engage the hub, then snug up the nut, and slowly tighten the nut to draw the bar into the hub. There will be resistance, but it should slide in with little effort. IF it doesn't feel like its sliding, back up and double check before you damage the install tool pieces or the edge of the torsion bar.



Once the inner bar is drawn all the way into the hub, the bar should nearly be flush with the outside of the hub. With the install tool holding the bar in place, insert the 3/8" cross bolt into the hub, install the friction nut and tighten to hold the arm onto the bar. Appx 35 ft lbs of torque, or what you can muster with a 3/8" ratchet and 9/16" wrench.

9. The rod end spacers insert into the rod end as shown, this allows the rod end to fit into the lower mount on the radius arm. (there is a greaseable rod end shown, kits that have rod ends without zerks have been upgraded to Teflon rod ends)





10. With the inner bar in place, we find it easiest to loosely install the linkage as this will hold the arm from falling down as you finish the assembly.

Screw the jam nuts onto each rod end leaving only appx $\frac{1}{4}$ " thread showing and place the aluminum grey round link piece between them. Insert the 2 rod end spacers shown above into the lower rod end to mount it to the radius arm, with the 10 mm factory bolt and nut.

Then the $\frac{1}{2}$ " x 2 black flanged head bolt, thru the hole in the arm, thru the rod end and use the friction lock nut with the machined chamfer to tighten against the rod end. The nut should be to the outside of the chassis. The image shown has the bolt from the outside, this can be done for holding the arm in place, but final assembly needs to have the chamfered edge of the lock nut against the rod end.



11. With the passenger arm supported, we need to now get the outer bar fully inserted on the passenger side.

This will be done by using the install tool spacer and hardware as shown to the right. Once you have it assembled and snug, you will rotate the outer bar slightly, to get a feel of the bar inserting into the arm. Remember, the V should be pointing towards the rear to align properly.

When you are confident the rotation is correct, tighten the nut and the bar should slide into the opening on the passenger side. You can remove the tool/spacer to determine how far you have to go by inspecting how much of the inner bar is protruding past the outer. There should be about $\frac{1}{16}$ " of bar exposed BEYOND the flat machined area. You SHOULD double check that it is fully seated by inspecting on the passenger side. Slide a zip tie or something like that thru the slot in the outer hub, and go to make contact on the end of the outer bar. IF that contact is the same depth as the thickness of the hub, then you have it fully seated. Insert the $\frac{3}{8}$ " clamping bolt and locknut and torque to 35 ft lbs. This passenger side gets the thick washer and the $\frac{1}{2}$ " long bolt in the center of the torsion bar to cap the hub.





12. Next, install the inner arm, the "paddle".

Again, using the install tool if necessary, place the inner arm hub over the torsion bar, place the spacer over the torsion bar, washers and nut, then turn the nut to push the inner arm hub over the outer bar. Rotate the arm up or down to ensure it is engaging properly and turn the nut until it is full seated.

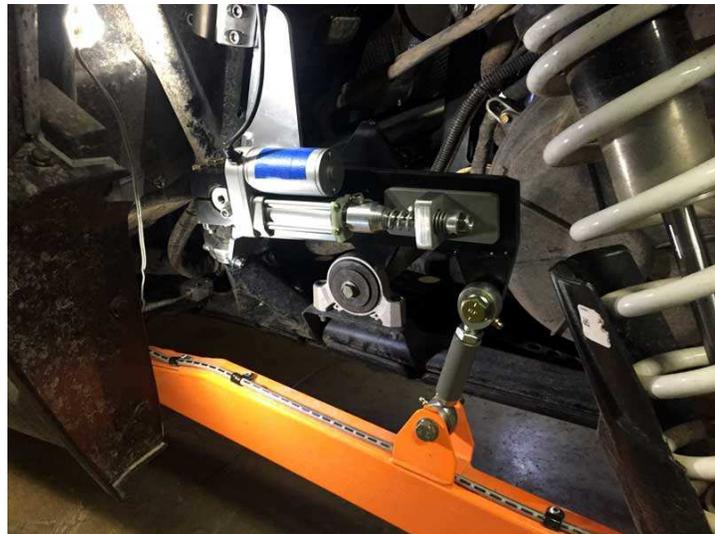
Once seated, it should look like the image to the right. Notice the small amount of inner bar where the flat part stops, outside of the outer bar. This gap will ensure that there is a gap between the hubs of the inner arm and the latching arm, so they don't rub and squeak. IF there is no gap, then you have something not fully seated. Insert the 3/8" clamping bolt and nut and torque to 35 ft lbs.



13. At this point, we are ready to install the latching arm.

The production models will not have the actuator assembled during shipping. Slide the latch mechanism toward the rear to allow room to rotate the arm and align it to the torsion bar.

Leave the install tool stud in the torsion bar, you will only need the flat washers and nut for this process. Place the hub over the stud, against the torsion bar, snug the nut and rotate the arm to align with the torsion bar. Once engaged, tighten the nut to slide the hub until it is fully seated. When it is fully seated, install the 3/8" clamping bolt and locking nut, torque to 35 ft lbs. The latching side will use the thin flat washer and will be held in place with the grease zerk. Pump some grease into this fitting, you will notice if squishing between the arms when there is enough. Grease regularly, just a pump or two.





14. Assemble the second linkage, insert the spacers for the lower joint and assemble to the radius arm using the 10mm bolt.

To adjust the linkage, you will want to move the latch assembly forward fully to the latched position, and move the arm to ensure it has latched. Then rock the RZR side to side, to get it to settle in its normal state. Then adjust the linkage/rod ends to get the linkage length so the rod end lines up with the hole in the arm. Insert the bolt, thru the arm, rod end and then place the nut on the outside, with the chamfer towards the rod end. Tighten this bolt, as well as the jam nuts on the linkage to ensure that all is tight.

15. Next install the actuator. Here's how it will look after installing the spring tab into the latch assembly, and the black socket head cap screw to mount the actuator to the arm.



16. The flat tab in the middle of the springs is designed to slip into the openings inside of the latch assembly as shown to the right.

There is a small bag that has a square cover for this latch assembly, as well as a black socket head screw and a small grey aluminum thick washer. The black screw will be used to mount the actuator to the hole in the hub that is threaded for it. The grey washer is a spacer between the actuator and the hub.



17. The black screw will be used to mount the actuator to the hole in the hub that is threaded for it. The grey washer is a spacer between the actuator and the hub.

NOTE: When tightening the black socket head cap screw, there is a loctite compound on the threads. This bolt should be drawn up nearly tight, but do not torque it to clamp the actuator to the arm. Leave it just a touch loose so that the actuator is able to float as needed to move. Check this fastener periodically to ensure it is not backing out. If you need to remove it, apply more loctite to the threads before reinstallation.





18. Lastly, place the square cover, (engraved ORO) on top of the latch assembly, and use the 4 small screws to tighten it up. Ensure that as you do this, the actuator rod/spring assembly is able to “float” inside of the latch assembly. There is Loctite on these screws as well, and we have noticed with the anodizing that they do go in quite tight. Be gentle, and they will screw in. You will need a 5/64” allen wrench for these.
19. The wiring is relatively simple. There is a switch that has 6 terminals on it.

The image on the right is while looking at the back of the switch, with 3 terminals on the right and left.

There is a length of black sheathed wire with a connector on the end that will plug into the actuator. Start at the actuator, work your way to where you intend to mount the switch. Cut the wire harness, strip the sheathing back and strip and crimp a red connector to each wire.

Take the remaining wire, and remove about 6” of the sheathing. Then cut approx 3-4” off the ends of both the black and white wires. Using 4 of the red connectors you will assemble what you see in the image to the right. The two connectors on the left have 2 wires of each color going into them, and then a connector on the end of the single length. Once you have them crimped together, connect the 2 on the left and then the 2 on the right. Notice that the black and white criss cross sides from left to right.

The two remaining terminals are to connect to the harness going to the actuator. As a test, slide them on only a little ways. Determine which way you will have the switch mounted (match the ones on the dash most likely) and then its completely up to you how you want the switch position to match the actuator position, we recommend when the switch it pressed up, the latch is pulled into the forward/engaged position. The down would be the rearward dis-engaged position. The logic? UP to go fast, DOWN to go slow. With the remaining end of the harness, place the white wire to power and black to ground. The actuator may move, depending on switch position. Now, if the switch is up and your latch is toward the rear, then switch the black and white wires on the switch, that go to the actuator, and the position will be reversed. Once it moves the direction you want it to, then simply seat the connectors fully, finish mounting the switch and tie up the harness.

The actuator will draw at most 1-2 amps during it process. We do recommend it be on a fused circuit, but no reason to be anything larger than a 10 amp circuit.

