SwayLOC (Manual Version) for Wrangler JL and Gladiator JT

This application may be pre-assembled on a table and then mounted to the Jeep. The pictures in this doc will show the assembly in that manner. The assembly is relatively heavy, and 2 persons will make the installation easier should you wish to do this. If this is a concern, you may assemble the arms to the bars while the torsion bars are bolted to the Jeep.

This SwayLOC will mount to the factory mounts for the factory swaybar. Remove the stock parts when you are ready to install this, the swaybar, linkages and all. IF your Jeep is a Rubicon, the factory disconnecting swaybar will have an electrical connector to remove as well. We recommend sealing/wrapping the electrical connector to prevent corrosion. Removing the lower stock skid plate, if equipped, will make it far easier. Also, the drop down mount for the rear support of the skid plate on at least one Gladiator has had an extra tab that will interfere with the torsion bar. We found that removing those brackets (one on each side) and installing the SwayLOC and then determining what needs to be done to clear that bracket. A quick trip to the vise, and a smack with the ball peen and the offending tab gets relocated off to the side and out of the way. More on that later.

Remove all the pieces from the packaging. The two torsion bars arrive together, one inside of the other. The outer bar is symmetrical and doesn't matter which side gets installed on either side. The inner bar, however, has 1 end that has been drilled thru to allow the ability to grease the area between the inner and outer bar while the SwayLOC is assembled. This installation will overview the installation with the latching arm, and therefore greaseable end of the inner bar, identified with the 2 small holes about 1 3/8" from the end, on the left side (Drive side) of the vehicle.

Open the white boxes, locate the gray aluminum mounts with the white bushings installed. Also locate the 2 piece steel collar clamps. The clamps are used to locate the torsion bars side to side and may be adjusted once in the Jeep, but are easiest to install first onto the bar, inside of the mounts.

In the image above, you can see how the torsion bar assembly should be put together on the table. The aluminum mounts have both a long bolt and a short bolt. The long bolt is to the front of the Jeep, short to the rear. Notice in this image the grease zerks are up, and that the white bushing flanges are to the inside of the mounts. In this image, the grease port for the inner bar is on the RIGHT side, same side as the latching arm is placed in the photo. Start by placing these parts in place as shown, leaving the collars loose.

Measuring from the end of the outer torsion bars, place the outside edge of the clamps between 5 ½" and 5 ¾" from the end of the torsion bar. This will allow you enough room to mount the mounts to the Jeep. Once you have the mounts bolted loosely to the Jeep, you will slide the clamps outward to keep the torsion bars from sliding side to side.

Now, with the mounts, bushings and clamps in place, if you are installing solo and have the stock parts removed, locate the package with the 4 washer head black mounting bolts, 2 shorter for the rears and 2 longer for the fronts. Position the torsion bars and mounts to the stock location on the Jeep, again longer bolts/holes to the front of the Jeep. Start the 4 mounting bolts in their respective locations. At this time, verify the inner bar to ensure that the grease ports are on the left (driver side) of the Jeep, where the latching arm will go. Note: The inner bar may be removed/installed while the outer bar is in place, so if you wish to remove the inner bar to mount and save the weight, feel free to do so.

Next, we will be installing the arms to the torsion bars. Before we start, lets locate the 2 ziplock bags with hardware in it. There is a bag with a appx 1" long chunk of the outer torsion bar, a 2" long 5/16 stud and a large heavy washer, small washer and 2, 5/16 nuts. This is the install kit, can be seen in the image to the left. You will use the stud, washers and nut to "pull" the arms onto the torsion bars. The chunk of torsion bar is used to make up the length of the inner bar over the outer to pull the short inner arm into place.

Starting with the arm that has 2 hubs, the non-latching arm and the non-grease port side of the torsion bar (both should be on the pass side of the Jeep when done) spin the stud into the end of the torsion bar at least ½" deep, or until the stud gets snug. DO not force it beyond snug. Slide the inner bar out of the outer bar a couple of inches as shown. Now, place the stud and torsion bar thru the large hub and up to the small hub. Slide the heavy washer, thin washer and then spin a nut on the stud, snug up to pull the torsion bar up to the hub. Now, you MAY need to rotate the bar slightly to index the torsion bar into the mating surface of the hub, the point of the V will be to the rear of the vehicle, or to the tapered end of the arm as you can see by looking at the hub. Once the bar is rotated correctly, and the nut is snug, turning the nut with a wrench will provide the force to pull the bar into the hub.

MAKE SURE that the hub is perpendicular to the torsion bar. Notice the square in the image to the left. The RED edge is perpendicular to the yellow.

IN the event that the arm doesn't go on straight, it will likely carve a burr into the hub and you will need to remove the bar and then fine the burr out to get the bar to go into the hub properly.

Keep turning that nut, the bar should continue sliding into the hub until firm resistance is felt. This means that the flats should be fully engaged in the hub.

The second bag of hardware is the bolts and locking nuts to clamp the arms to the torsion bars, as well as the bolts and washers to cover the end of the torsion bars, the latching side will get the bolt with the zerk in the end.

Place 1 of the 3/8" x 2.5" bolts thru the clamping hole in the hub, and place a locking nut on the bolt, with the smaller, tapered side away from the hub. Once ensuring that the torsion bar is in as far as it will go (should be just short of flush under the heavy washer used to pull it in place) With the bar pulled all the way in, torque the 3/8" bolt to 50 ft lbs. you may just tighten it now, and torque later, as it will be easier to torque once bolted in place.

Next, we need to install the large torsion bar into the Non-latching arm.

Remove the nut, washers and stud from the end of the torsion bar. We will move it, and the chunk of the outer torsion bar to the opposite side of the setup.

First, start by rotating the bar to get it to key into the hub, with the point of the V to the rear.

Install the stud on the opposite end of the torsion bar. Again, spin it in 1/2” at least, or until resistance is felt. With the outer bar placed against the hub on the far side, there should be just a little bit of the inner bar sticking out, as shown in the image to the left. Slide the install tool chunck over the inner bar and the large washer, small washer and then nut.

Snug up the nut and after verifying that the bar is rotated to engage the hub properly, turn the nut and as it is turned, the outer bar should be sliding into the hub on the other end.

Again, when additional resistance is felt, then the bar should be fully engaged. You can verify this by looking into the slot of the hub and see if the end of the outer torsion bar is at the seam between the 2 hubs. Once you are satisfied that the bar is as far in as it will go, install another 3/8” bolt and lock nut and tighten to keep the hub in place.

With the dual hub side having both bolts in place, tightened enough to keep the torsion bars from sliding. Then it is time to install the shorter, inner arm.

Place this arm so that the 3/8” thick ‘paddle’ is offset to the outside, as shown.

Then place the chunk of the install tool over the stud again, heavy washer, light washer and nut. Then snug it up, while rotating to key the hub with the torsion bar. Once you are confident it is keyed properly, turn the nut to get the hub to slide in place.

Again, be careful, especially with this particular arm, to keep the arm perpendicular to the torsion bars. The tool will only pull on the flats of the hub, and it will want to kick off at an angle. If it does angle a bit, we find a gentle tap from a rubber mallet on the end of the paddle will provide enough force to straighten it out. Keep tightening until the install tool bottoms out on the outer torsion bar. Then install the 3/8” bolt and locking nut. Remove the nut and washers and chunck of install tool, you will only need the heavy and small washer and nut to install the latching arm next.

Next, locate the latching arm. Before you place it up to the torsion bar, flip the lever to the tapered end of the arm, this will move the latch to the open position. This will remove the latch from interfering with the inner arm during assembly.

Place the arm with the hub over the stud, with the arm angling away from the inner arm.

Install the heavy washer, small washer and nut and snug up the nut while rotating the arm to allow the hub to key into the torsion bar. With the rotation correct, tighten the nut and pull the arm into place. Once additional resistance is felt, install and tighten the 3/8” bolt and locking nut.

IF you assembled the arms and bars on the table, as we showed in the images, then it is time to get the assembly under the Jeep. As noted earlier in this document. The mounts should be placed with the longer mounting bolts to the front of the Jeep, and the grease zerks down. With the mounts in this position and the latching arm on the left side, again with the help from a friend, lift the assembly into place with the arms above the tie rod/drag link and start the black washer head bolts to mount it.

TORQUE the 3/8" clamping bolts to 50 ft lbs, and check the torque again after 100 miles as well as after the first offroad outing.

With the mounts in place, mounting bolts snug, verify that the side to side placement is correct by swinging the arms upward and ensure that they don't hit anything in the track bar bracket/spring bucket area. Once that is verified, you can slide the locking collars out to the flanges of the white bushings and tighten the clamping bolts as well as the mount bolts.

With all of that in place, its time to install the linkages. There is multiple lengths of the gray anodized aluminum link material. The idea is to screw these together using the ½-20 studs included to generate the length needed to get the SwayLOC arms to angle upward slightly to the rear. Install a jam nut on the shank of each rod end and insert into the ends of the links as shown in the image. There is 2 things to watch for, to ensure the adjustment is correct. On full droop, the linkages need to be long enough to prevent the linkage from pulling tight on the SwayLOC. This is easy to verify if you are doing the install on a lift, when the axle is hanging, but if you are installing on the ground, much more difficult. Place a jack under the lower control arm mount at the frame and jack up the frame until the tire is about to leave the ground, then assemble the linkage to fit between the linkage mounting point on the axle and the end of the arm, while not allowing the SwayLOC to be down so far that it could possibly rotate forward. You only need to assemble/adjust the one side. Then lower the jack and return the Jeep to siting on the ground, give it a good shake back and forth a bit to settle the suspension.

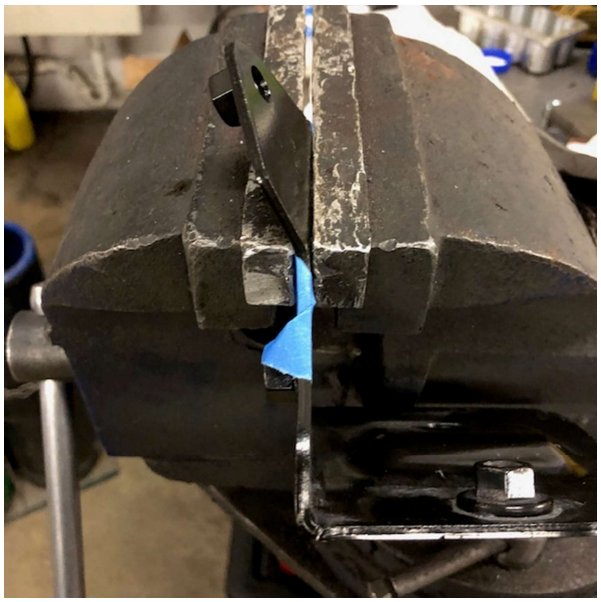
Top photo is left side, place 3/8" long black spacer on the bolt in the arm, bolt goes from the frame side out. Then install the rod end and the lock nut. Note that the lock nut has a chamfered edge to allow some more misalignment for the rod end. On the lower, pass the bolt thru the tab on the axle, thru the long spacer and then thru the rod end and again, chamfered lock nut.

Return the latch to the forward position, wiggle the arm up/down to get the latch to engage, and then adjust the linkage so that the length is just right to bolt in place. Tighten the chamfered locknuts, and once done with that, tighten the jam nuts on each end of the links. IF you used more than 1 aluminum link between the rod ends, then make sure that the two or three links are all screwed together tightly. You can use the ¾" jam nut on each end to tighten the links, by tightening both of them. Worst case, place the links in a vise and ensure they are tight. NOTE: Failure to tighten the threads on the links will likely cause the aluminum to pull the threads out with use.

Now, back to those brackets that may have been removed for the rear attachment of the skid plate. On the left image you can see the interference with the SwayLOC and the upper right tab. That tab didn't have anything attached to it, so we decided to simply bend it out of the way.

The tape shows the edge that we wished to bend the tab on.

A quick clamp in the vise along the tape line and a good smack and the tab is bent out of the way, no longer interfering with the SwayLOC



Final thoughts.

- Torque 3/8” clamping bolts to 50 ft lbs.
- Grease zerk bolt in latching torsion bar end, grease upon assembly and regularly first couple hundred miles, to get plenty of grease worked in there.
- Grease bushings, again, grease multiple times in first couple hundred miles to get the grease in and worked around.
- Torque chamfered lock nuts to 80 ft lbs, check again every couple hundred miles.
- Latch operation, the latch is designed to be run clean and dry. DO not lube with oil or petroleum based lube. In the event that the latch gets dirty and doesn’t slide freely, loosen and remove the 2 button head cap screws to remove the cover and then you can slide the latch out and clean the dirt from the latch. Reassemble when clean.