O-ring Kit Installation Instructions for Mercedes R129 Chassis

Disclaimer: These are only the most basic of instructions. For more information, please see the very informative *Ultimate R129 Soft Top Hydraulic System Thread* at http://www.benzworld.org/forums/r129-sl-class/1307426-r129-soft-top-hydraulic-system-ultimate.html#post2262978

Identification of Parts

This kit includes a total of 20 o-rings for rebuilding all 12 of the hydraulic cylinders that raise, lower, and lock your softtop in position. You will find:

- 2 very large o-rings: 2 main top drive actuators (129-800-0272)
- 2 thicker, very large o-rings: 2 main top drive actuators (alternates on some years)
- 6 large o-rings: 2 windshield top lock actuators (129-800-1672), 2 rear top lock actuators (129-800-2172 on some years), 2 tonneau lock actuators (129-800-2172 on some years)
- 8 medium o-rings: 2 tonneau actuators (129-800-2072), 2 rear top lock actuators (129-800-0072 on some years), 2 tonneau lock actuators (129-800-0072 on some years); **if your factory seals in these actuators are particularly thick (very rare), you may want to double up these o-rings to ensure a tight seal**
- 2 small o-rings: Left (129-800-1772) and right (129-800-1872) top-folding actuators

Rebuilding the Cylinders

Rebuilding the cylinders is not really difficult. Most of your time will be spent getting the cylinders out of the car—and then mounting them back in. Actually replacing the deteriorated seals should only take a few minutes each. Like the cylinders above the windshield, those are quite easy to get to and quite easy to rebuild.

Removing the Cylinders

Once you've identified a leaking hydraulic cylinder, you need to get it out of the car, so you can work on it. Most cylinders are attached to the car with one or two bolts, and a circlip or two. Remove these. Take special care when removing circlips—they like to go zinging off into oblivion. Sometimes it's also necessary to unscrew the cylinder's actuator rod from its yoke in order to remove it from the vehicle. Open-end wrenches are your friends of choice here.

Opening Up the Cylinders

There will often be a snap ring that's keeping a "top plug" in place where the actuator rod exits the cylinder. Use a small screwdriver to pry this snap ring out of position and out of the cylinder. Sometimes a dental pick works wonders here. As a final resort, you may need to drill a small (1/8" dia.) hole in the body of the actuator, behind the snap ring, so you can get a punch or small screwdriver behind the snap ring and push it out of place.

With the snap ring removed, you can pull the actuator rod free of the cylinder body.

Some of the actuators will have a top that's screw onto the body of the actuator. With these, you'll often see two holes in the top. A pair of snapring pliers is sometimes helpful spinning these tops out. Old Park bicycle tools for bottom brackets can often be used here as well.

The Rebuild Itself

Note: You are not replacing the o-ring that's on the piston. These factory o-rings are made of the correct material and shouldn't need replacing—in this century, anyway. Unlike the seals, the factory o-rings on the pistons don't usually deteriorate.

First step is to get the "top plug" off the actuator rod. Usually, there will be a clevis on the end that's opposite of the "piston" end. These clevises are threaded into the actuator rod. Wrap a shop rag around the actuator rod. And then sandwich that between a couple of pieces of scrap wood. Chuck this up in a vice. Use an adjustable wrench to spin off the clevis. If it doesn't want to spin freely, there might be thread-sealing compound on the threads. 20 seconds of heat from a butane torch usually liquefies that compound, so you can then spin off the clevis.

Note: DO NOT nick the actuator rod in any way. It must remain absolutely pristine—or you will have a leak that this set of spiffy new o-rings can't fix.

Remove the "top plug" and look inside it. You'll see the deteriorated seal inside. Pry it out with something made of plastic or wood. An old chopstick with a sharpened end works well here.

Clean everything spotless.

Now the fun part. For each actuator, there is a thick o-ring. The o-ring takes the place of the factory seal. (It's made of a material that is compatible with Mercedes' hydraulic fluid and should last a lifetime.) **Note that the o-rings are slightly thicker than the factory seals they replace. That is so they will compress when installed in the actuator body and provide a leakproof seal.**

Insert the thick o-ring in place of the bad seal.

Reassemble in the reverse order.

Reinstall

Reattach the cylinder to your car.

You're done. Go enjoy a nice cold beverage at this point. You deserve it. :)

Pump Reservoir Refilling

If your pump reservoir is low due to fluid leaking out of the bad actuators, you can purchase Mercedes ZH-M hydraulic fluid from your local Mercedes dealer. It should cost about $15/liter.