

Main Lift Cylinders

Level of difficulty: Not very hard, only a number of steps involved – requires some patience, but is very rewarding!

Tools needed:

- Stubby Phillips screwdriver, or ratchet with Phillips bit
- Ratchet with 10-mm and 14-mm socket
- Electrical or packaging tape
- Flat screwdriver or needle nose pliers or small hooked tool for removal of hydraulic line clips
- Rag or paper towels
- (recommended: magnetic parts tray to hold screws and clips)



For inspection only:

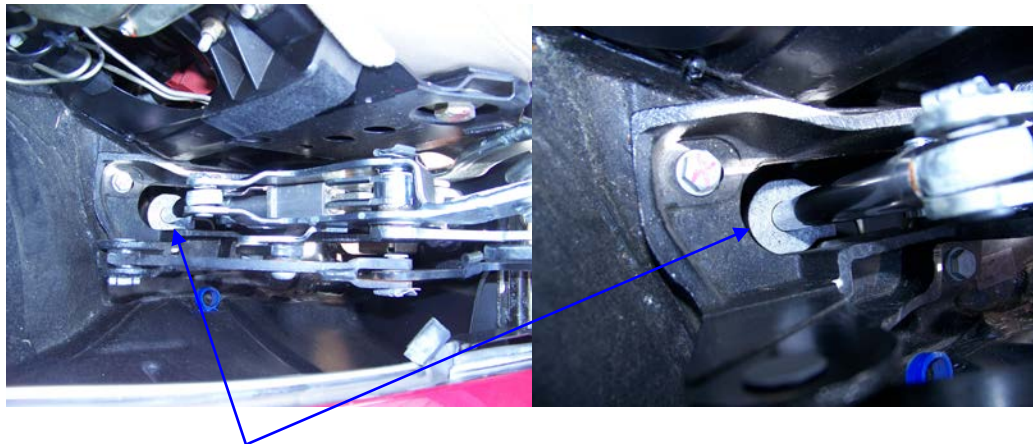
- No tools required, and only a few minutes to open the tonneau cover and look at the cylinders...

Use as a guideline only – apply common sense, be careful, and wear protective gear!
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1. Open the tonneau cover, raise the soft top, and keep the rear of the soft top raised. (If your tonneau cover should not open or unlock automatically, you can unlock it with the MB supplied tool with the 5-mm Allen wrench at one end. The tonneau cover unlocking bolt is hiding between the roll bar and the rear seat side panel...)



2. Inspection for leaks:



The main lift cylinders are located at the bottom of the soft top storage well. They are mounted upright, and would be leaking where the piston comes out of the cylinder. If you are not sure whether the top surface of the cylinder body is oily, wipe it off, cycle the roof a few times, and re-inspect. When these cylinders leak heavily, the oil will drain in front of your rear tires. Starting in the mid 90's, these cylinders were not made with a flat top, but have a groove on the top (easy to spot the leaking oil in it!).

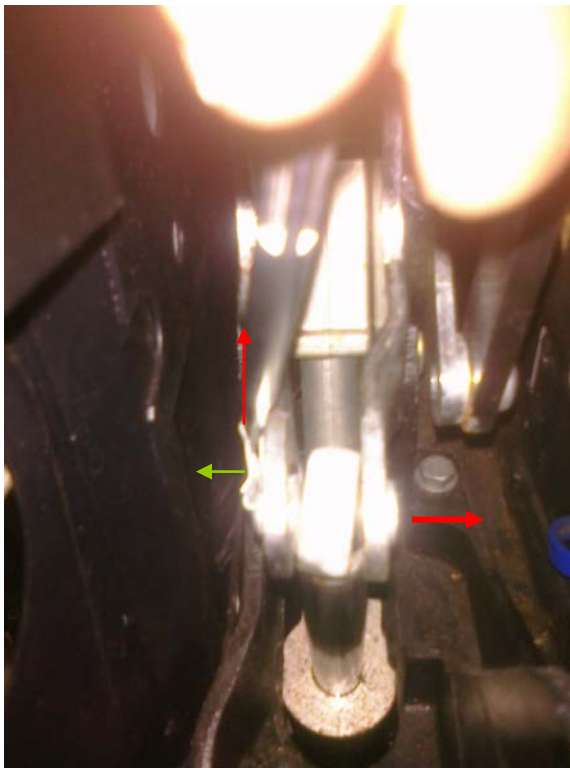
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Your hydraulic system may eventually not work properly when the hydraulic fluid level gets too low, and the cylinders cannot develop enough pressure. Your hydraulic pump may suffer damage.

The seal material used in the OEM cylinders is usually rated for a shelf lifetime of 10 years (replacement cylinders at your dealer may have been on the shelf for awhile already...), and has been designed into the system at the latest in the 1980s. Top Hydraulics, Inc. uses enhanced, more modern seals that provide for extended use, while making an excellent seal.

3. To remove the main lift cylinders, you will need to remove the spring loaded, metal trim panel on top ("top case plate"), the welting inside the door jamb, and the trim panels around the rear compartment area. But first, remove the clip and upper mounting pin of the main cylinders and push the cylinders in all the way. Remember to move the soft top by hand from now on, until the cylinders are re-installed and re-connected.



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To remove the upper clip and mounting pin, push the clip open as shown (green arrow), and slide it off the pin. Pull out the pin, and push in the cylinder rod to the bottom so that it won't get scratched.

4. Remove the welting inside the door jamb. (May be glued in newer models.)



Release the rubber molding from the top case plate with a flat screwdriver. (May not be necessary in newer models.)



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Remove three Phillips screws to lift out the spring loaded top case plate assembly – use a stubby screwdriver, or a ratchet. There is one screw towards the inside, and two screws towards the outside (quarter panel). Theoretically, the outer screws only need to be loosened to lift out the plate assembly. The rubber drain hose pulls out easily.

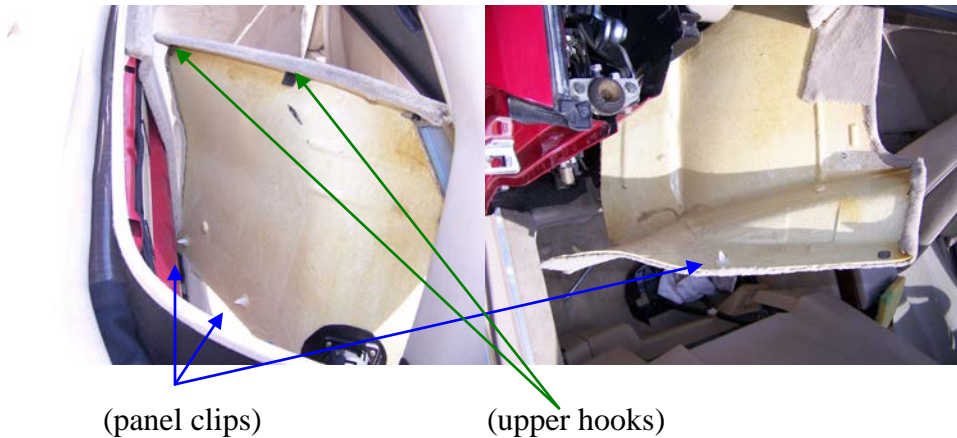


Remove the Phillips screw holding the rear compartment trim panel.



Remove the rear compartment side trim panel – take a look at the photo below first, showing how the panel is fastened. Start pulling from the upper outer corner, locate all the fasteners and pull near their position, then lift up the panel out of the hook in the rear top. It is best to have the roll bar in the raised position for this; removal of the windscreen is optional.

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On the driver side, the connector for the hardtop defroster needs to be slid out of the carpeted panel. The larger plastic housing is secured in the upholstered panel with a sliding tab on the top inside. Pry back both corners that hold the tab, and you can slide the tab down. After the tab is down, you can take out the whole plastic piece with the connector.



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TopHydraulics

Making OEM convertible top cylinders "better than new"

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Unplug the rear speaker, if equipped.



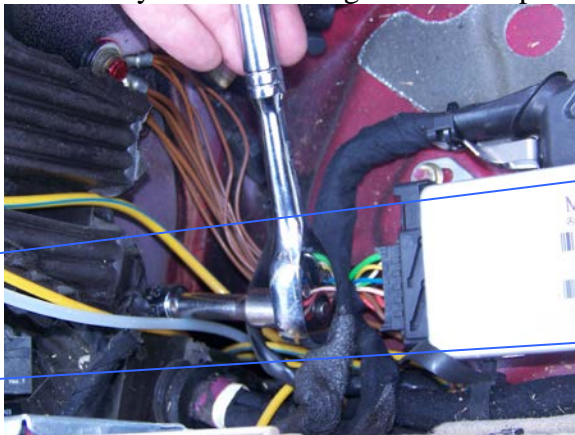
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Remove the Bose system in the driver side rear compartment, if equipped. It is fastened with three bolts that can be reached with a long extension on a ratchet, and it is glued down with putty. The putty's bond can be quite strong – best pull from the rear of the assembly, where you have the most leverage. Apply even, ever increasing force, until the putty type glue on the bottom releases. Many R129 owners have ended up using crow bars to lift up and break the glue bond, and we haven't heard of a single Bose unit getting damaged that way.

Remove the passenger side compartment floor panel with a 10-mm wrench or socket.



Find the 14-mm hex head for the main cylinder's bottom bolt. It is below (not behind) a bunch of wires and foam rubber. Start on the passenger side and try to gain the same perspective as shown in the photo below – roughly follow the front edge of the controller module all the way to the outer edge of the compartment.

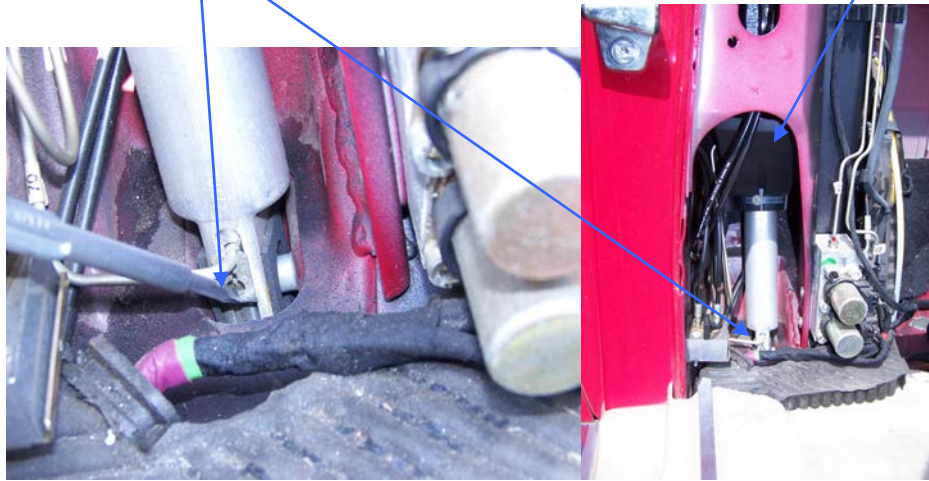


To be on the safe side, you can tape the 14-mm hex bolt to your socket once it has been almost unscrewed, and tape the socket to the ratchet's extension. **or better yet, stick rags into all holes that you could accidentally drop the bolt into while pulling it out.** This would be a safeguard against the bolt accidentally falling into the rocker panel,

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where it is very difficult to retrieve. Sometimes, these bolts require a good amount of torque to be removed. Use a ½" ratchet if you have one...

Push down the lower clip for the hydraulic line, then pull down the rubber boot and push up the upper clip



Put a rag under the lower hydraulic line, pull out the hydraulic lines and pull out the cylinder. The cylinder has a rubber boot attached to it. It is tied on with a tie wrap. Either cut the tie wrap, or gently slide the cylinder out of the boot with the tie wrap in place. If you want to take out the boot with the cylinder, pull the drain hose upward out of the chassis and maneuver the hydraulic line through the cutout in the boot first. Wrap the cylinder in a rag.

Empty the cylinder of hydraulic oil by cycling it with the oil discharging into the rag or a waste oil container. Be careful, the oil could squirt all over you if you don't cover the exit holes!

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Replace in reverse order. Remember all electrical connections and the clips on the hydraulic lines... The air will eventually be vented from the system, after you have cycled it a number of times.

On the old style cylinders (through '94/'95), the lower receiver ball for the mounting bolt sometimes moves around fairly easily. It may require some patience and simultaneous rattling of cylinder and mounting bolt against each other to push the bolt into place.

Remember to wrap the assemblies carefully when shipping to us, so that the pistons do not get scratched during transport.

For repair and/or seal replacement, ship cylinders to:

Top Hydraulics, Inc.
90730 Southview Lane
Florence, OR 97439
USA

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