

Volkswagen Cabriolet DIY Guide

Replacing the Rear Suspension

Tools:

- Jack & jack stands
- Wheel chock
- 17mm offset box wrench
- 17mm crescent wrench
- 17mm socket (deep version preferred) & socket wrench
- Adjustable crescent wrench
- Lug bolt wrench
- Torque wrench
- Vise Grips
- PB Blaster
- Punch, or similar tool
- Flat-head screwdriver
- Hammer (dead-blow type preferred)
- Cleaning products
- Wire brush
- Gloves & safety glasses

Parts (stock equipment listed):

- New shocks
 - OEM: Boge/Sachs #101616A
- New mounting kit
 - KYB #SM5070
 - Moog #VO-SB-10061 (or K9632)
 - MasterPro #FM1054
- Loctite 242, if desired
- Lower shock mount bolt and nut (optional, but recommended if yours are corroded)
 - Hex head bolt: M10x70 (#N0104707)
 - Self-locking hex nut: M10 (#N10209005)

This guide shows how to install new [stock](#) shocks and mounting kits. If you are installing aftermarket suspension, follow the installation procedures for your specific suspension.

Before beginning:

- 1) Empty out the trunk of any miscellaneous stuff (top boot, tool bag, stereo equipment, etc.). Remove stuff from the rear seat, if need be, and fold the seat back forward. Put the top down, or, leave it up and remove the parcel shelf.
- 2) Remove the rear strut caps. They are rubber and simply pull off. You may need to nudge the bottom cap groove up off the lip of the perch.
- 3) Replace one rear strut assembly at a time!
- 4) Use jack stands!!
- 5) This guide is for 1979-1993 Volkswagen Cabriolets (and other A1 chassis Volkswagens) **only!**
- 6) **This guide for REAR SUSPENSION only! Absolutely, positively, do NOT, under any circumstance, attempt the following removal/installation procedures on the front suspension!! Serious injury or death can occur otherwise. You have been warned!!**
- 7) When working with springs under compression, serious injury can occur if you are not careful – **attempt this procedure at your own risk.** If you are not comfortable with this job, please have a professional do it for you.
- 8) Loosen = break the nut/bolt loose, but do not remove until told to do so.

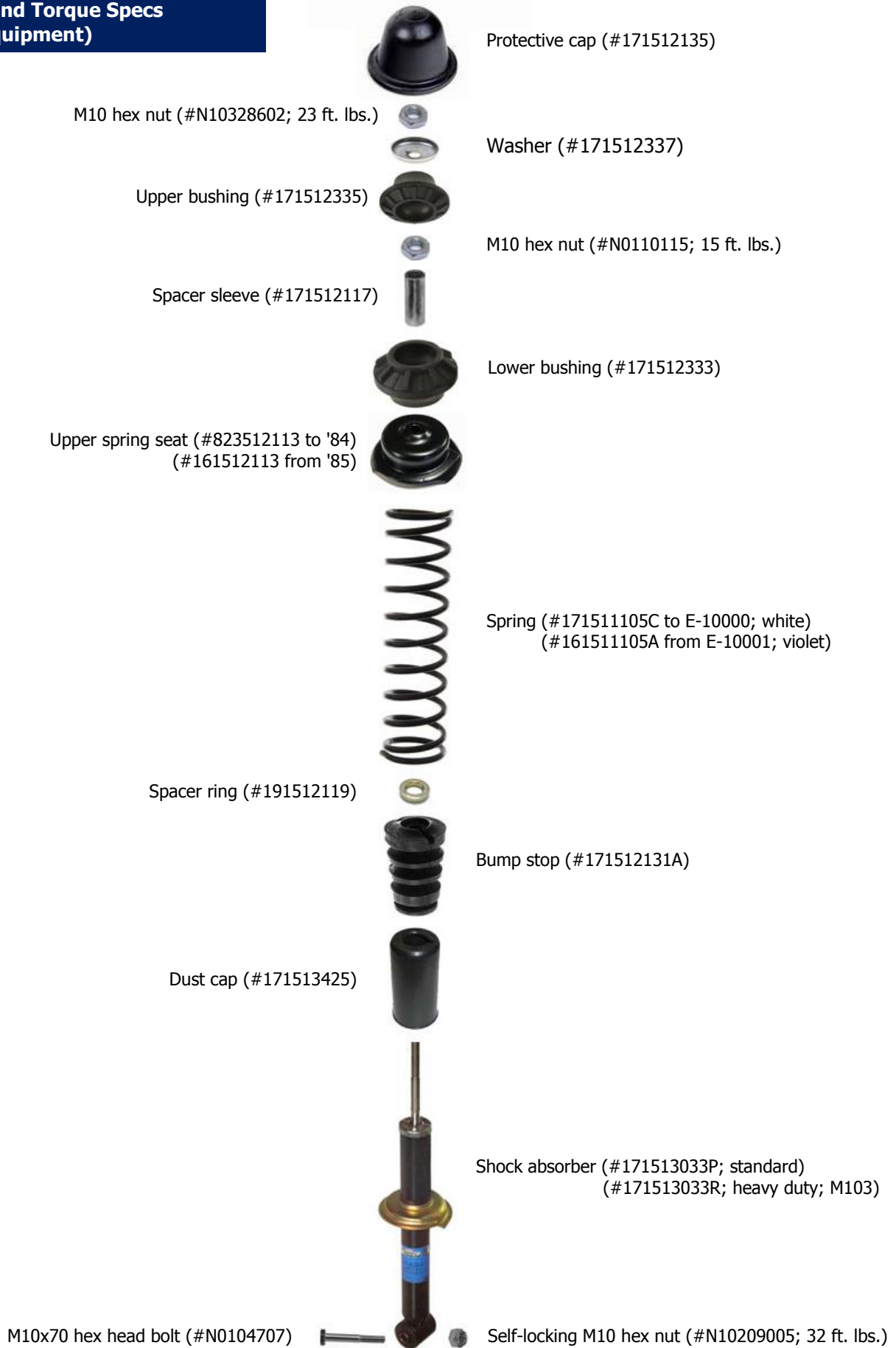


Example of what needs replacing: Original, 29-year-old rear shocks with busted spring seats



Original, 29-year-old parts on top; new on bottom

Rear Strut Assembly Diagram, Part Numbers, and Torque Specs (original equipment)



Removal

Step 1



Put your gloves and safety glasses on. Loosen the rear wheel lug bolts, both sides.

Step 2



Jack up one side of the car at the pinch weld and place a jack stand under the pinch weld at the indicated spot on the rocker panel. Repeat on the other side.

Step 3



For safety, place a wheel chock in front of one front tire (or both). Remove lug bolts and wheels. Give the car a good shake to ensure it is stable on the stands.

Step 4



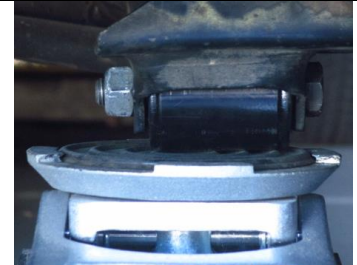
Spray a liberal amount of PB Blaster on the lower shock bolts and nuts; let sit for 30-60 minutes. If your car's bolts/nuts are badly corroded, let the PB Blaster soak for 24 hours (reapply once or twice during that time).

Step 5



Using a socket wrench and a crescent (or box, or air) wrench, loosen the right rear lower shock bolt nut*. Once loosened, ensure that the bolt turns freely. If it doesn't, use a punch and hammer and tap the nut-end of the bolt until it breaks free. *If the nut doesn't budge and you're starting to round off the head and/or nut, or if the bolt seems to be "welded" to the shock sleeve, stop; time to head for a shop.

Step 6



Place a jack under the rear shock mount and compress the strut assembly. Stop when the car begins lifting (lower it back down onto the stand, if it has lifted up off it).

Step 7



Inside the trunk, using an offset box wrench, remove the right rear upper strut mount nut, followed by the washer and rubber bushing. (If the piston rod turns with the nut, clamp Vise Grips or adjustable wrench onto the top of the shaft to hold it in place. If the shaft and/or nut are corroded, use a wire brush to clean them up, followed by some PB Blaster.)

Step 8



While still in the trunk, remove the spring retaining nut. (Again, if the piston rod turns with the nut, clamp Vise Grips or adjustable wrench onto the top of the shaft to hold it in place.)

Step 9



Slowly lower the jack and strut assembly. When the assembly begins to drop out of the upper body perch, put one hand up at the top of the assembly to catch (and remove) the spacer, rubber bushing, and upper spring seat.

Step 10



With the trailing arm lowered all the way, but keeping just a bit of pressure on the lower shock mount with the jack, remove the lower shock mount nut and bolt. (You may need to use a punch and hammer to tap the bolt all the way out.)

Step 11



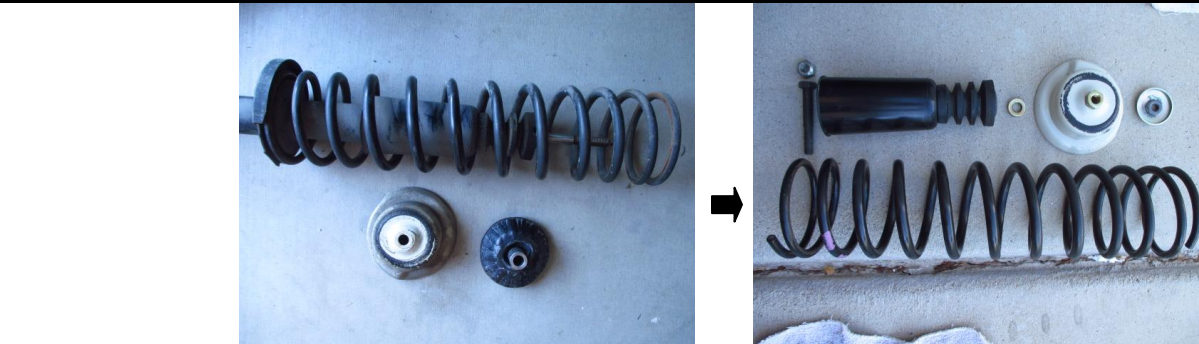
Rotate the shock 90°, so that the mounting hole is facing front-to-back. Lift the assembly out of the trailing arm. (You may need to push down a bit on the trailing arm.)

Step 12



Remove the spring from the shock. Pull the small spacer up and off the piston (use a flat screwdriver, if need be, to pry it up; there is a notch in the rubber bump stop for access). Remove the rubber bump stop and cover (hold the piston while pulling up the bump stop; lube the top of the bump stop with WD40 or the like, if need be). Properly dispose of old shock.

Step 13



Optional, but highly recommended: Clean all components you are reusing, including the body mounts. Condition the rubber components with some 303, or similar product.

Installation

Step 1



Remove nut from new shock (use this nut in Step 6, or reuse the original).

If need be, install the lower spring seat (follow shock manufacturer's instructions).

Step 2



Extend the new shock's piston and place rubber bump stop and cover onto the new shock. (Bump stop must be pushed past the circlip and is attached to the cover.) Place the short spacer, groove side down, onto the piston until it seats onto the circlip. Bring the bump stop up until the spacer rests inside it.

Step 3



Install the spring onto the lower seat, followed by the upper spring seat, ensuring the spring ends are lined up with their "stop" positions in the seats as shown. Ensure that the shock piston remains fully extended and install the new long spacer sleeve.

Step 4



Insert the assembly into the lower shock mount hole. (Remember: To remove/install, the shock needs to be 90° from how it bolts to the lower mount.) Holding the upper spring seat in its proper position on the spring and under the upper body perch, slowly jack the assembly up, ensuring that the shock piston and spacer sleeve are lined up with and centered in the upper mounting hole.

Step 5



Continue jacking the assembly, ensuring that the upper spring seat rests in its perch, until the spring is compressed enough that the shock's piston threads are accessible via the trunk.

Step 6



In the trunk, install and tighten the retaining nut until it can no longer be turned. (Use an adjustable crescent wrench on the top of the piston to keep the piston rod from turning.)

Step 7



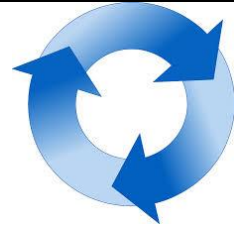
Lower the jack, rotate the shock 90° (the long "notch" in the upper spring cap points towards the fender flare), and install the larger rubber bushing onto the spacer until it is seated on the upper spring seat (ribs go up).

Step 8



This will require some dexterity: With one hand, lift the assembly up (forefingers) and push the trailing arm down (thumb); with the other hand, insert the lower shock mounting bolt from the outside in (i.e. the nut should be on the inside of the trailer arm mount). Install the nut (apply Loctite, if desired), but don't tighten all the way yet.

Step 9



Repeat removal and installation process on other side of the car up to this point. Once the other side is done, continue to Step 10.

Step 10



Reinstall the wheels and lug bolts; lower the car off the jack stands. Install the larger of the two new cupped washers onto the shock piston, dish side down.

Step 11





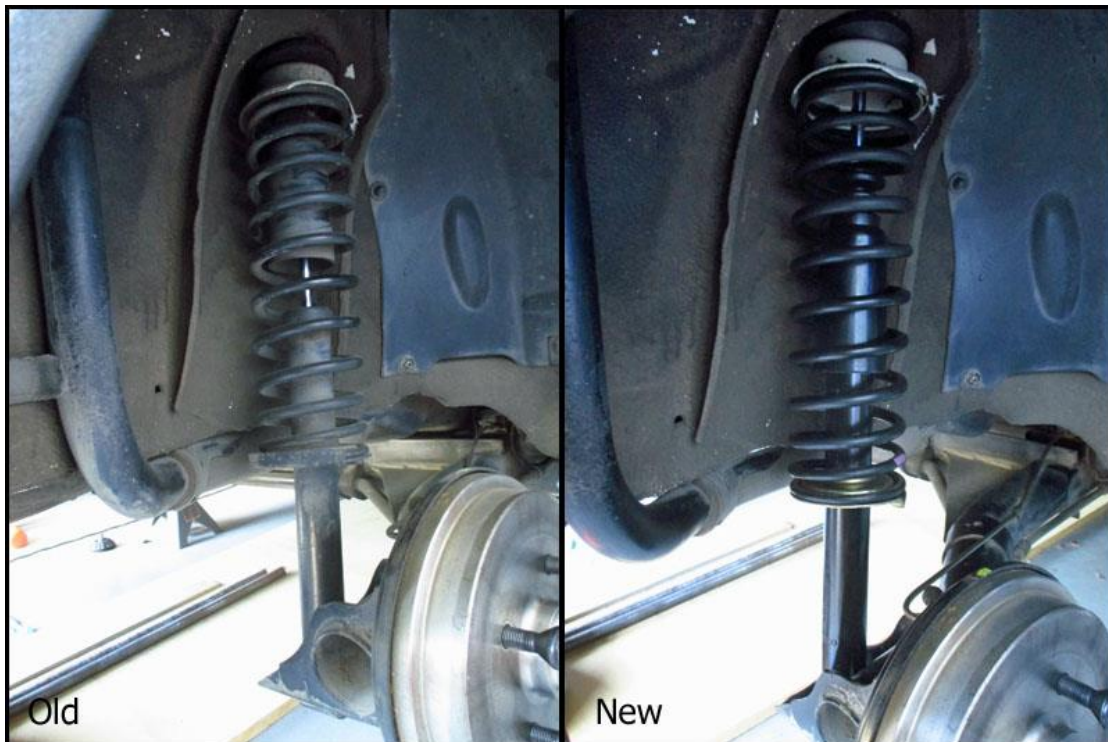
Install the smaller rubber bushing, ribs down, onto the shock piston and washer. Install the smaller of the two cupped washers, dish side up, onto the piston rod so that it is seated onto the bushing.

Step 12



Install the large washer from the mounting kit, dished side up. Install the original retaining nut and tighten until it can no longer be turned. (Use an adjustable crescent wrench on the top of the piston to keep the rod from turning.)

Step 13	Step 14	Step 15
 <p>Install the rubber cap. You may need to massage it into place around the edges.</p>	 <p>Using a wrench on the lower mounting bolt head, and a torque wrench on the lower mounting bolt nut, tighten the nut to 32 ft. lbs.</p>	<p>Double-check your work: Ensure everything is seated/installed correctly and tightened to specs.</p> <p>If everything is kosher, reinstall the wheels, lug bolts, lower the car off the jack stands, torque the lug bolts to 81 ft. lbs., and test the rear suspension by pushing down on the rear bumper a few times.</p> <p>If all seems to be good, go for a test drive... top down, of course.</p>



**** Remember, *you* are responsible for working on *your* car; Cabby-Info.com, KamzKreationz, VAG, VVoA, or anyone else are not responsible if *anything* goes wrong while *you* are working on, in and under *your* car! Use this information at your own risk!****