

[This is a reformatted version of the original lost Volvo 850 strut replacement guide that was posted at <http://members.shaw.ca/heeeeeee/strut/>]

So, you want to change your struts but don't want to pay expensive labor? You've come to the right place! Why throw away your hard earned money when you can do it yourself!

This vehicle in the guide is a Volvo 850, but any cars with MacPherson Struts will have similar setups.

Equipment you need:

Socket set - It depends on your car, if you can get your hands on a set for both SAE and metric that would be great!

Socket wrench

Torque Wrench - you need one to properly torque the nuts back to specs. Borrow one or buy one on eBay, I got one for \$30 USD, not expensive considering all the things you can do with it.

Pipe Wrench or Volvo strut nut tool - to grab hold of the struts and take off the cross shaped strut retaining nut.

WD-40/Liquid Wrench - Some of the bolts will be on very tight or rusted.

Floor Jack and 2 Jack Stands - Never work on the car not supported by jack stands, you're just looking for trouble if you do!

Quality Strut Spring Compressors - Very Important! The springs contain enough energy to kill you. You can usually rent them at you local auto stores for a few days. With good strong compressors this job is not as dangerous as it seems.

Repair manual - get a manual for you car, Haynes is a good source for quality manuals.

New strut mounts (2, Volvo part # 3546189)

Updated: The strut mounts I bought off FCP Groton failed in another 50000kms.

However, I do push the car into corners much faster than most of the sane Volvo drivers would do, so your mileage will probably be slightly better.

spring seats (2, 8646713)

strut-to-steering knuckle nuts and bolts (4 ea. Nuts # 948645 Bolts # 965194)

suspension strut upper mounting nuts (6, 971099)

Updated: According to FCP Groton the part numbers are as follows:

948645 Strut Mount Lock Nut (6 req) \$1.25 OEM

965194 Bolts (4 req) \$1.50 Genuine Volvo

971099 Lock Nut for above bolt (4 req) \$2.00

6 hours - if it's your first time, it will take that long (or even longer, if the bolts are rusted)

First, jack the front up and support it on jack stands (1 on each side). The jack stands are positioned on the sub frame of the Volvo (check your manual to see where it is safe to put jacks under the car). The sub frame runs around the front end of the car. Block the rear wheels and remove the front wheels.



Use your WD-40 or Liquid Wrench and spray on the 2 strut-to-steering-knuckle-nuts, ABS bracket screws and Sway Bar connecting link. They are commonly rusted and you will need to spray lots and be patient when taking these nuts out. Be really, really patient....



What you see in this picture is the sway bar link bolt, look closely, you see that it's not a complete circle behind the bolt. That's where you grab with a wrench.

There is supposed to be a Torx hole that you can hold on to in the front of the sway bar link nut and undo the nut. But sometimes the hole is rusted and cannot be used. You can reach behind the nut and use a wrench to hold onto sway bar link bolt to undo the nut. This is the part that took 40% of my total time because it was so hard to grab onto and so rusted.



Undo the bottom 2 strut-to-steering-knuckle-nuts and the 3 nuts holding the strut in place inside the engine compartment. It is also a good idea to break the Strut mounting nut (the big one in the middle of the strut) free before you take the strut off the car.



Use the floor jack the support the suspension by jacking up the A-arm.

Updated: It was suggested that using a torque wrench as a breaker bar is not a good idea if you like to keep your torque wrench accurate and serviceable for a long time.

Once you have all the nuts off, maneuver the strut out from the bottom (be careful NOT to break the ABS cable, it will get in the way and you're better off to have help from someone.) The strut assembly is quite heavy (about 30 lbs) but if I can do it myself, so can you.



Do NOT unscrew the top retaining nut or the cross shaped retaining nut. Or else, the spring will fly right out and cause some serious damage. Mount the spring compressor according to its instructions and compress the spring. For spring compressors like the ones shown, put them 180 degrees across and turn both sides evenly. Compress until the spring can wiggle between the spring seat and the bottom of the strut.



Mark the spring so you won't put them back in upside down.

Once you can wiggle the spring, it is now safe to undo the strut retaining nut, take out the special washer, undo the cross shaped retaining nut with a pipe wrench, and take out the strut bearing mount and spring seat.

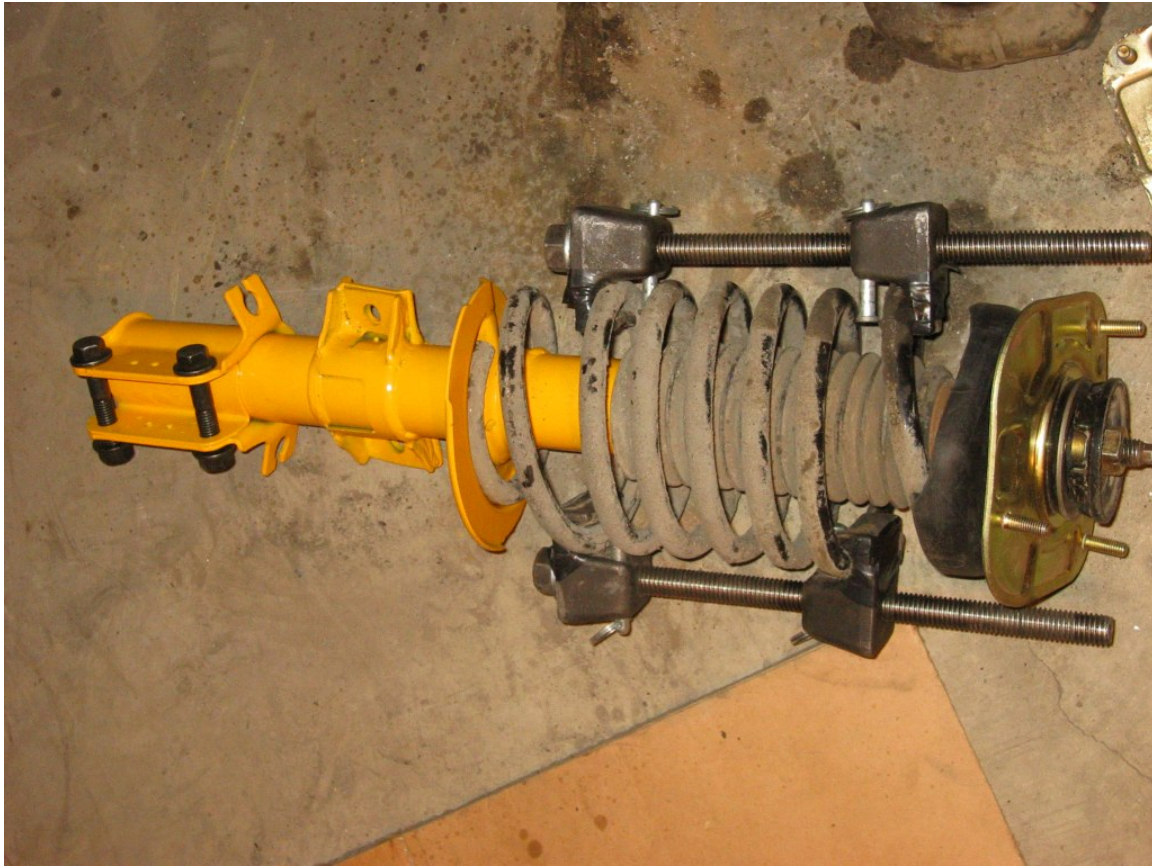
The manual said inspect for damage and replace as needed. But I say, if your car have more than 60000 miles, just replace them, they're gonna die soon anyway. Also the dust boot and cap might be cracked, replace those if you need to. Mine are fine, so I just reused them.



Compress the spring to 11.81 inches long from top to bottom (this is for a Volvo 850, refer to your own manual to see your specs) and put it on your new strut.

I replaced mine with Koni Sports Adjustable Struts. I can tell you they're firm and comfortable, and being adjustable is just so much fun!

Put back the spring seat, the cross shaped retaining nut (to 50 ft/lbs, or just as tight as you can with your pipe wrench, you don't want this to fall off) Put in the strut bearing mount and the washer, then put on the strut retaining nut (buy a new one) and tighten to 50 ft/lbs with your torque wrench.



Make sure your spring isn't upside down. Make sure the spring is sitting in the groove at the bottom and seated properly in the spring seat. When everything is in place, start uncompressing the spring.



Maneuver the strut back into where it belongs from under the wheel well. (is it just me or is the rust growing on the brake disc? It took me so long to get to this part!) Put in the lower retaining nuts and bolts (use new ones) and tighten the sway bar link nut (pain in the a\$\$). Don't forget the ABS cable.



Jack the suspension up and tighten the 3 upper mounting nuts (21 ft/lbs) to secure the suspension in place. Use new nuts for that too. When you're done it should look like this and everything should be secured in place. Hopefully....

You're all DONE!! YAY! Except that you have 1 more side to do you're all done! Hehe.

Take a short drive after you're ALL done. Drive around the block to see if there is anything wrong. Remember to take the car in for alignment as soon as possible. You HAVE to do this because the alignment is now wrong. Don't forget about this!

Now you can go brag about this to your friends and tell them "I changed the struts on my car, piece of cake!" Don't forget to return whatever you have rented!