

Wagonmeister

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Volvo 240
Trailing Arm Rear Bushings
Installation Instructions



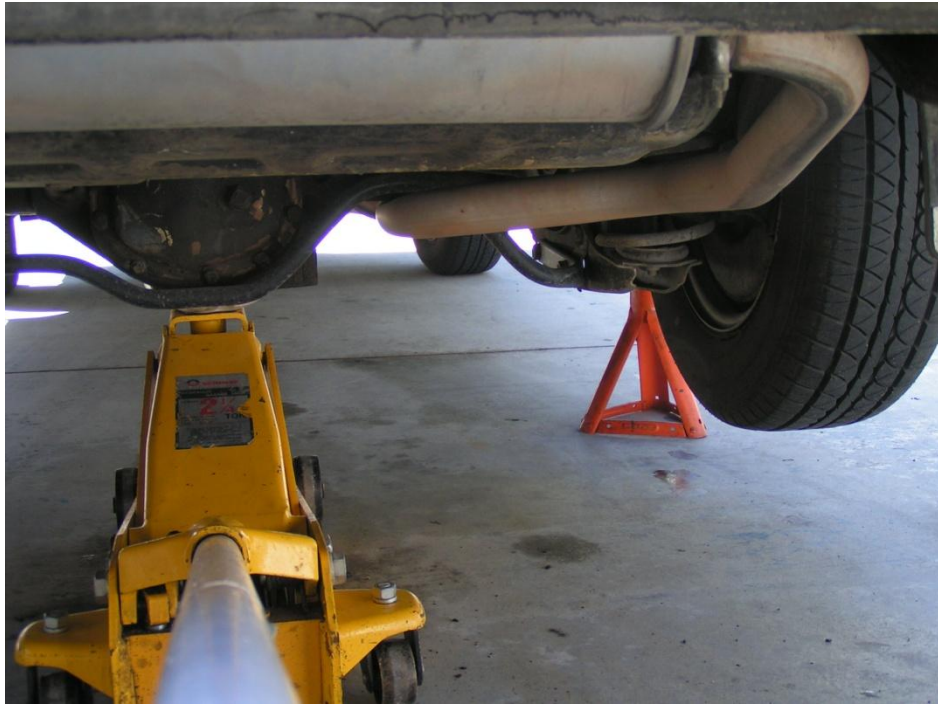
Thank you for purchasing a set of polyurethane, rear trailing arm bushings for your Volvo 240. These bushings will fit all 240s and replace the stock, rubber bushings that locate the trailing arms to the vehicle's solid rear axle. Please note that the term "trailing arm bushing" is a bit misleading. The bushings are located in the mounting ears of the axle housing, not in the arms themselves.

Disclaimer

Installation of the bushings requires that the rear of the car be lifted off the ground. Any time work is performed that requires an individual to work under a vehicle, proper safety precautions must be observed. The vehicle should be solidly supported on jack stands with a weight rating sufficient for the vehicle, per the instructions. A floor jack will be required for this operation. It must be capable of initially lifting the weight of the vehicle and later supporting the weight of the rear axle. Safety glasses, protective gloves and a fire extinguisher are highly recommended. Neither Wagonmeister or its owner and/or employees assume any responsibility for injuries or damages that occur as a result of this repair or these instructions. The bushings are warranted for the life of the car unless the vehicle is involved in an accident or used for competition. No other warranty(ies) on associated parts, labor or any other cost is expressed or implied.

Step 1, position the vehicle for the repair.

If you are working on a lift, much of this portion does not apply. These instructions assume you are working in your driveway or garage. A flat surface is much preferred whenever the vehicle is to be raised from one end only. Block the front wheels with appropriate wheel chocks. Position a floor jack under the differential and raise the car. Position jack stands under the rear jacking points of the vehicle. You will need enough height to be able to lower the floor jack completely and still leave several inches between the tires and the ground. This is a minimum clearance. Raise the jackstands to a height that leaves comfortable work clearance under the car.



Step 2, Lower the exhaust

With a pry bar, remove the rear muffler's locating pins from the rubber hangers on the rear subframe. If you are thinking of replacing your exhaust, this is the time! The entire process will be easier with the rear connector pipe and rear muffler removed. You can disconnect them at the rear of the center resonator, but rust may prevent this.



Note how this allows clearance under the axle. Don't leave the muffler dangling without support, you will strain and possibly damage the pipes, and you need to be able to maneuver under the assembly. A bungee cord works well to support the muffler.

Step 3, disconnect the trailing arms from the axle.



Borrowing a web picture here. Lower the floor jack and leave the suspension hanging by the rear shocks—don't remove them. On early cars, the bolts and nuts are 22mm and your impact wrench may not do the trick, depending on the tool and your compressor. Later cars use a combination of 18mm and 19mm. Remove the bolts. Taking off your wheels/tires is optional. Once the bolts are out, raise the jack again. The axle will rise up out of the trailing arms exposing the bushing location. Borrowing someone else's web image again here. You can see the axle's ears in the arm.





Up a little more...

Step 4, removing the old bushings from inside the shells, part 1.

Some preparation before starting this step: First, take a water-soaked rag and drape it over the plastic tube where the emergency brake cable enters the brake back plate. Not just damp, SOAKED. Next, get a fire extinguisher and a spray bottle full of water.

Unless the bushing is already completely disintegrated to the point where you can pull parts out with a pliers, like this



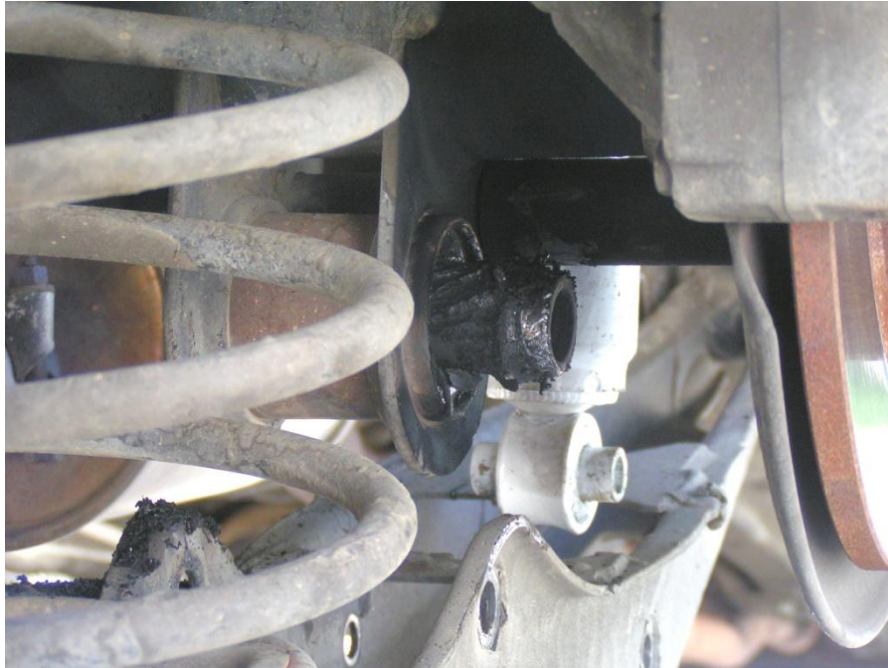
You will need to heat up the center tube to remove it. Most look more like this:



difficult to get the bits and pieces out.

There is just enough meat attached to make it

Use a propane or MAPP gas torch for this step. Put the tip of the torch into the inside end of the center tube and point it up (or down) against the inside of the tube. Watch carefully. Flame may want to shoot out the other side, which is why the wet rag is on the emergency brake tube. You don't want to melt anything. In fact you don't want to catch anything on fire. You don't need to use a huge flame, just moderate. Use the spray bottle to stop any flare ups. Five or ten minutes is usually enough to break the tube free. Grab hold with a big ChannelLock pliers and lever it out. I usually put newspaper or cardboard down under the work area as this entire process creates a terrible mess. A small container of water is a good thing to drop the tube into once you have it out. This is an early operation where I had disconnected the shocks.



I have, on a couple of occasions, heated the outside shell, driven a screwdriver into the bushing between the inner wall of the shell and the rubber, and delaminated the entire bushing this way. This only works if the bushing is really a mess already. Better method:

Step 5, removing the old bushings, part 2

After removing the tube, pull out any loose junk that you can. There are metal reinforcements inside that need to be out of the way. Sometimes you can pull out lots of the disintegrated rubber too. Once there is nothing left in the tube but rubber remnants, it's time to remove them as well. Buy yourself a 2" tubular steel hole saw at your local hardware store. These can be purchased with or without the arbor that mounts the tool in your drill. If you don't buy the arbor, which centers the hole saw, you will need to create something for that purpose. It's very important that the hole saw rotate evenly, not out of center. You are going to be working inside the shell and you don't want to damage or gouge the shell.

Note: If the shell of the bushing is already badly damaged, STOP. It will have to be removed and replaced. Minor rust can be cleaned up. However if the shell is rusted

through anyplace, badly deformed etc, it will have to be replaced. You will need a TAB removal jig to do this, and that's a different job completely. Contact Wagonmeister for details.

Here's a shot of the hole saw jig I use. I have welded the arbor setup permanently to



the saw to keep it from vibrating loose.

Chuck your saw into a heavy duty drill. I use a ½" drill for this operation, and sorry, I don't have pictures of this. The inside of the bushing is the only side accessible. Aim your drill carefully and start drilling away at the remaining rubber in the shell. Safety glasses are a must. Keep a can of WD-40 around. Don't apply too much pressure or the heat will build so quickly that the rubber will turn to mush and then it won't cut. You can lube with WD-40 or wet things down with your spray bottle. Clean out the inside of the saw as necessary. Keep the drill straight! Remember, you want to save the shell.

Most hole saws are just slightly shorter than the depth of the shell. You may have to stop, pull out some pieces of the rubber and start again to reach all the way through. There are carbide tipped hole saws that are as deep or deeper than the shell, but the carbide cutters extend outside the body of the saw and I find that they gouge the shell interior—not good! A plain, saw-toothed hole saw is best, even if it doesn't quite reach all the way through. At the end, you can always knock through the last 1/8" with a screwdriver.

Step 5, removing the old bushing, part 3

Once all the big pieces of rubber are out of the shell, you will still have rubber bonded to the shell interior. There are two ways to remove it. First, you can put a wire brush on a die grinder and have at it.



I have another method I prefer. I use an electric drill and a 2" wire brush. I buy the wire brushes from Harbor Freight. A couple of bucks, and I often use up one per side. No loss. The reason for the drill is because the lower speed is critical, in comparison to the die grinder. The die grinder must be moved carefully inside the shell, working all around a bit at a time until you remove all the rubber. It's tedious, and of course you can't see what's going on, so you must stop every few seconds to check progress. The drill, at its lower speed, creates an interesting situation. The brush will catch constantly on the rubber detritus causing the drill to shake violently. This throws the brush against the inside of the tube. Not uncontrollable, but you will want to wear heavy gloves, as the friction on your hands is significant and can cause blisters. Move the drill in and out of the shell, end to end, taking care not to run out the other end. You will be amazed at how quickly and efficiently the rubber is cleaned out of the shell.

CAUTION! The load on the drill is very heavy during this operation. Either use a heavy duty drill that can stand the vibration, or use a cheap one you don't care about destroying. In about thirty sets of bushings I've completely destroyed two ten dollar drills I bought at garage sales---and I don't care. Currently I have about four sets on a \$19.99 drill I bought on sale. If I can do another half dozen sets before the drill burns out, I'm good.

Once the inside of the shell is completely clean you are ready to proceed.

Step 6, installing the bushings.

Your Wagonmeister bushings are marked with which side goes into which end of the shells. The stepped bushing is the inner. Both bushings will start without too much trouble. Using the lubricant supplied, coat the interior of the shell. Use as much as you like, and if you don't have enough, silicone brake pad grease works well. Do not use any petroleum based lubricants on any part of the shells, tubes or bushings.

The durability and silence of the bushings is based on the tight pre-load that results from the sizing of the polyurethane parts. You will be able to start the bushings into the shells just by pushing. However you will need a jack screw to seat them. A piece of threaded rod with some washers and nuts will do the trick.



You can also use a big C-clamp, though with grease all over, it may be difficult to control. One customer told me he seated the bushings with a very large slip-joint pliers! Regardless, the bushings must come in completely flush, with their shoulders seated against the rim of the shell on both sides. Once the bushings are in place, coat the new center tube and push it into the bushings. The jack screw is a must for this too. Wipe away any excess lube that squeezes out and put it on the faces of the bushings where they will meet the trailing arms. You can also put it into the center tubes.



Step 7, reassembly

Lower the floor jack, guiding the axle's ears back into the trailing arms. Getting things into place again will require some prying, a rubber hammer, some grunting and groaning no doubt. Once the ears are down into the arms, you can use an alignment bar or a large screwdriver to get the center tubes lined up with the holes in the trailing arms. Once you do, put the large bolts back in and torque them to 80 lbs. Grease the inside of the tubes if you haven't done so. Great rust preventative etc. Adjusting the location of the axle, or the arms for angle and load is not necessary; the whole assembly is going to rotate around the tubes anyway. No need to torque things with the vehicle's weight on the ground.

The rest of the reassembly is, as the Haynes folks say, "...the reverse of disassembly".

Here are the installed bushings.



Here in the desert, where rust is not found, even in the dictionary, a few scratches don't matter much. You will undoubtedly have done some damage to the undercoating and paint of the suspension during this process. I highly recommend cleaning up and re-spraying any exposed metal with paint or undercoating spray, including the fasteners. Try and keep paint off the edges of the bushings.

Done! Enjoy your quiet rear suspension—that doesn't try to steer the front of the car. If you have found that your torque rod bushings are also cracked, broken, failing, Wagonmeister carries those too.

See our entire line of 240 parts and accessories on the website at <http://wagonmeister.com>