

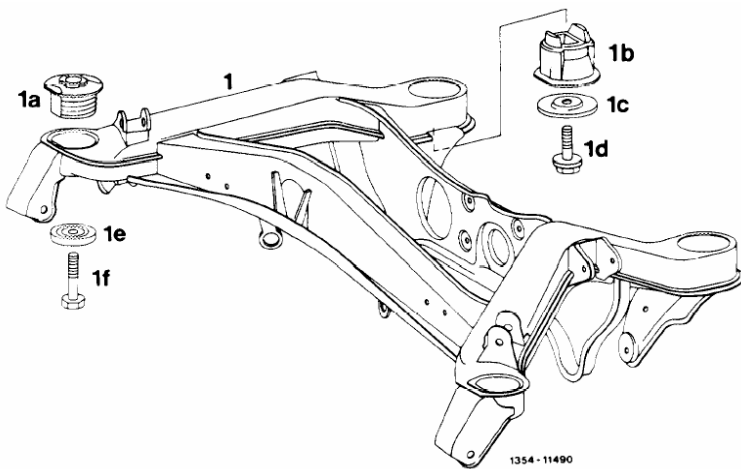
Mercedes 190D-2.2 (W201)

Rear Axle Carrier Mount (Rear Subframe Mount) Replacement Instructions

Matt Cervi – 11 Oct 2003

I'm curious to know how many people make use these instructions, so if you try them out, then please e-mail me at mattcervi<at>shaw<dot>ca and let me know! If people find them to be helpful, I might make more instructions the next time I fix the car.

These instructions show you how to replace your rear axle carrier mount bushings (also known as rear subframe mounts). These are parts 1a, 1e and 1f in the image below. They are located just in front of the rear wheels.



How do you know if they need replacing? Jack up the car, and take a look at them. In the images below, you can see that the one on the left is somewhat worn out (note the cracks) but still intact. The one on the right is obviously torn, so it must be replaced.



Things you need

- ◆ 3 jacks (I used a floor jack, a bottle jack and a scissor jack) and bricks / wood blocks
- ◆ Jack stands
- ◆ 19mm socket and extension
- ◆ Long-handled torque wrench capable of ~60 ft-lbs

- ◆ Some sort of silicone-based lubricant (not petroleum-based!)
- ◆ Wooden tidbits & sliding miter saw (or table saw, or chisel, or...)
- ◆ Scrap metal (I used 1/16" aluminum) and a means of cutting it (can be crude).
- ◆ Subframe mount repair kit. This kit contains enough parts to do the subframe mounts on the front of the rear axle, on both sides of the car – Mercedes part 124-350-03-41. Included are 2 bushings, 2 washers and 2 bolts. Note that the bushings included in this kit are part 124-351-19-42 while the ones installed on the car were 201-351-27-42. That's OK – the new ones fit fine.
- ◆ Patience. Removing the old parts probably won't go as planned.
- ◆ A cute, nice wife to bring you parts and crackers while you are under the car.

Without instructions, I started at 5:30PM and finished by 10:00PM, including doing it wrong once, taking pictures as I went (for this document), and test driving the vehicle. This was to do the passenger side only (the other side should be faster since I now know the procedure).

The dealer wanted \$479.32 to do ONE SIDE only, so you save a lot by doing it yourself! The total cost (to do BOTH sides) was \$157.75 Canadian (\$116 US) for parts at the Mercedes dealership, with next day pick-up. You could probably get them cheaper over the internet, but I wanted to get them right away, and I wanted to be able to exchange them easily if they didn't fit.

I looked at the official Mercedes W201 repair manual for this procedure, and it was really wacky (they want you to remove the brakes and the propeller shaft!?) and it relied on a lot of special tools, so I decided to mostly ignore it...

Here's what I did – it worked for me, but it may not work for you. I didn't think it was very difficult, however I am not responsible for what happens to you or your car if you make the choice to attempt this job yourself using these instructions. Please use good judgment and common sense when working on your car (it's dangerous!).

Instructions

1. Locate any bolts that you intend to remove, and blast them with penetrating oil a few days before doing any repair. Take care not to get it on rubber parts...
2. Loosen the bolts on the wheel on the side of the car that you are going to repair.
3. Block the front wheels, then place a floor jack under the rear of the differential and jack up the car.



4. Place jack stands underneath the two rear jacking points of the car (just in front of the rear tires).

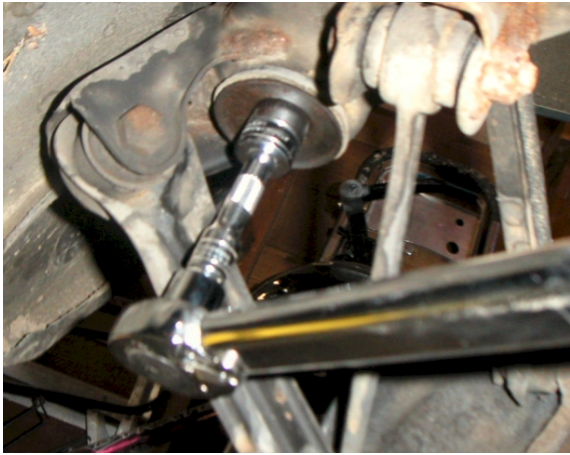
5. Lower the car onto the jack stands, check that they are stable, and remove the jack from under the differential.
6. Finish removing the wheel. Set it aside.
7. Gently support the suspension using a jack. Just apply a tiny bit of tension – enough that you move the suspension up by 1”.



8. Get under the car, and use another jack to apply upward pressure on the front part of the rear subframe, near the rear subframe mount that you want to replace. Don't put the jack too close, because you need to have enough access to take out the bolt that goes through the rubber bushing. Here, you want to apply enough pressure so that you just see the subframe move up a bit.



9. Now, use a 19mm socket and a long handled ratchet and remove the bolt that goes through the subframe mount bushing. The bolt is held in with a blue locking compound, so it might be tough to break it loose. Remove the bolt and the washer below it.



10. In order to get enough access to remove the bushing itself, the entire subframe must be dropped down (on this side of the car). Therefore, the bolt through the rear subframe mount bushing (1d in the diagram at the start of this document) must be removed too. To do this, use another jack (don't remove the one from the front of the subframe) to tension the rear of the subframe, and remove its bolt too.

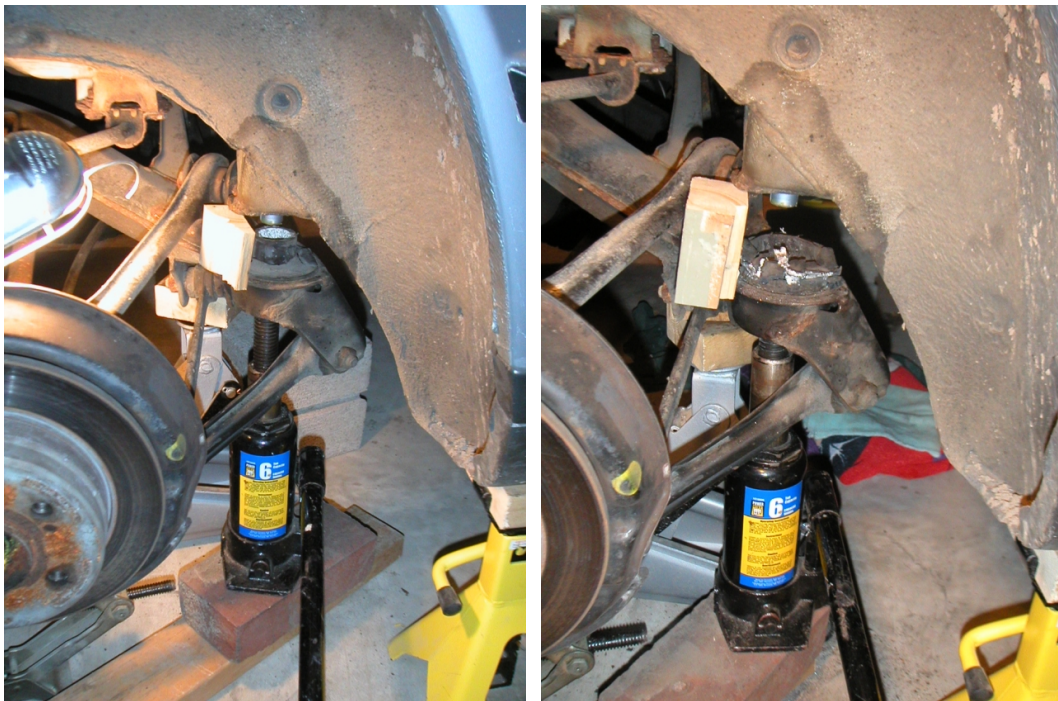


11. Release the jack from the rear part of the rear subframe. It will drop a bit.
12. **SLOWLY** release the jack from the front part of the rear subframe. Now, the whole rear subframe will drop. The jack that you installed in step 7 should keep the subframe from falling too much (or that's my theory, anyway...)

13. Now, the front rear subframe mount should be accessible. The picture below shows what you will see when looking into the wheel well while standing beside the car. A threaded tube extends down from the body of the car – this part stays there, don't try to remove it. It is the part that the subframe mount bolt screws into.



14. Here is the hard part: Removing the rubber bushing. It has to come up and out of the subframe. My plan was to brace the subframe against the body of the car using a block of wood, and then put a jack under the bottom of the bushing and push up on it until it pops out of the subframe. I used a 6-ton bottle jack (which fit perfectly on to the bottom of the bushing) and applied pressure while I pried on the bushing with a small pry bar. This almost started to work, but the bushing was so damaged and torn that its core broke free and fell out ☹️ (see right photo below). Then I got mad and pried really hard around the top of the bushing, but that just mangled the flange at the top of the bushing without moving it the slightest bit.

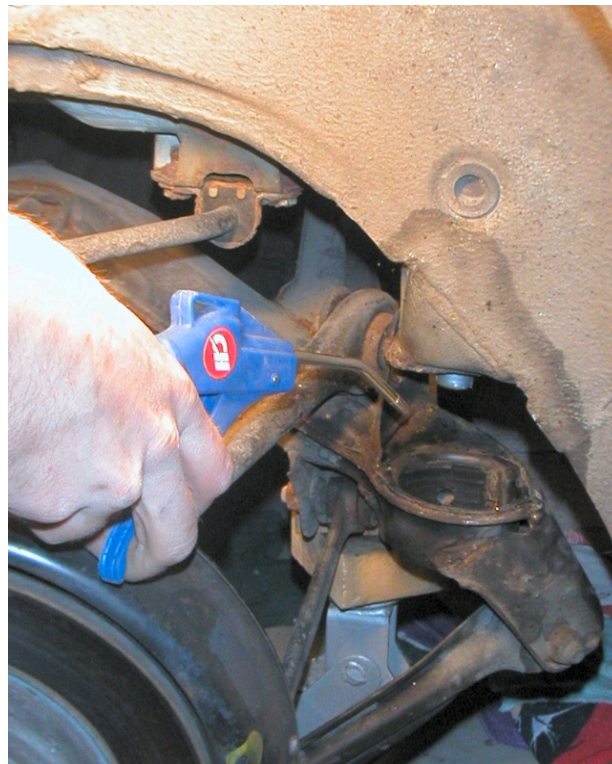


15. With the core of the bushing gone, there was no obvious point to press against to remove the bushing. However, I removed the jack and looked up at the bushing from below, and I saw a small gap between the bottom of the subframe mount 'pocket', and the bottom of the bushing. The bottom outer edge of the bushing was made of a metal ring, so this seemed like a good point to push on, but the outer edge of the bottom of the bushing wasn't directly accessible because of the smaller opening in the base of the subframe mount pocket.

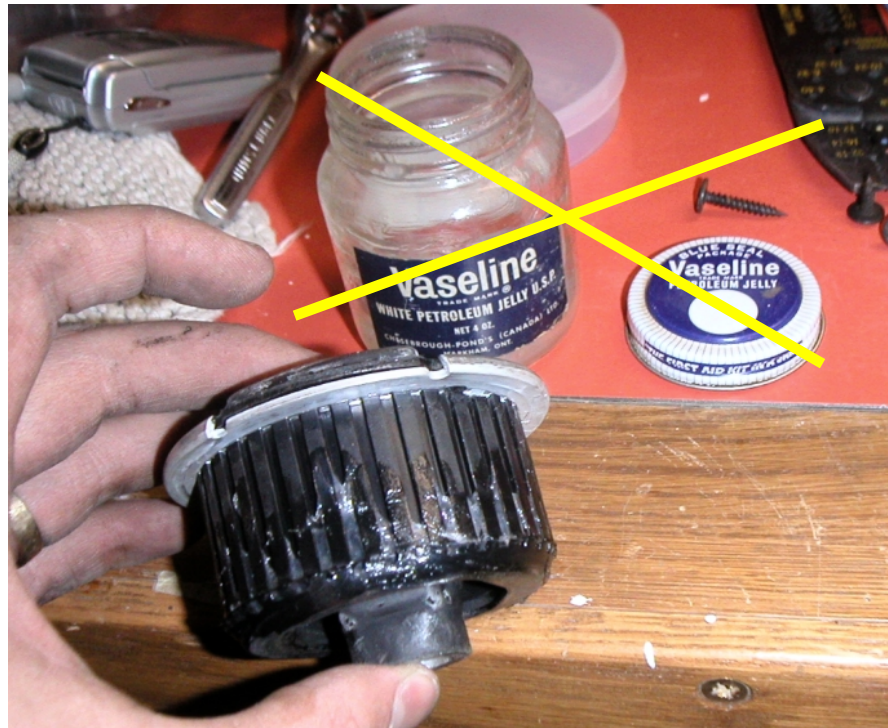
In order to be able to press on the outer edge of the base of the bushing, I then cut a piece of scrap aluminum to a size of 1.8" x 0.3", and inserted this up into the 'pocket' beneath the bushing. This spanned the base of the bushing reasonably well. I put the jack back underneath the bushing and the wood block between the subframe and the car, and applied pressure using the jack. It worked! The jack popped the bushing out! Below, you can see the old mangled bushing beside a new one.



16. Now it's time to install the new bushing. First, blast all of the moldy crud out of the pocket using compressed air.

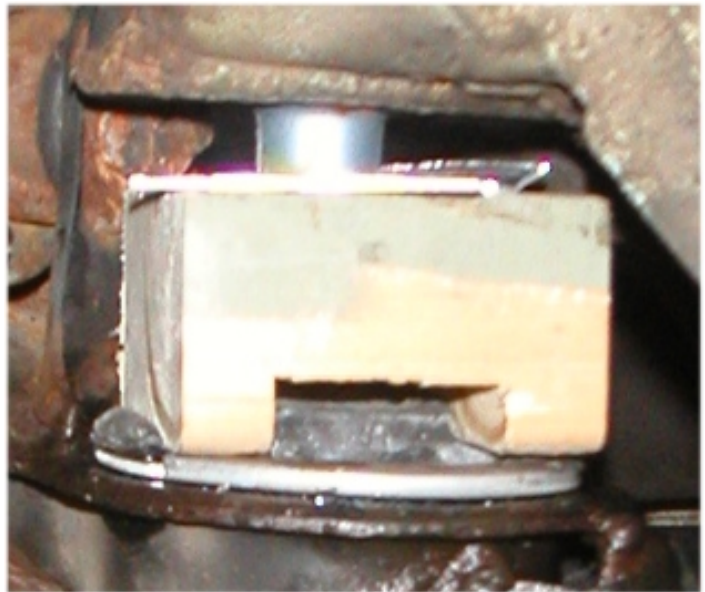


17. Get the new bushing, and grease it up with some sort of lubricant. Mercedes recommends the always popular 'slide paste 0009890860' (good luck finding that!), but any silicone-based lubricant should do. In hindsight, I didn't use nearly enough. Put lots and lots and lots of it on. Note that I used Vaseline, which I later discovered is not the best choice as it is petroleum-based and may degrade the rubber over time (maybe it's good that I didn't use enough of it after all, then...) Thanks to <http://www.mercedeshop.com/shopforum/> member Haasman for this tip!



18. Set the bushing in its pocket in the subframe. The flat edge faces the front of the car. You will notice how it doesn't even come close to sliding down into the pocket.
19. Cut a $2\frac{1}{2}$ " x $2\frac{1}{2}$ " x $1\frac{1}{2}$ " piece of wood (a $2\frac{1}{2}$ " section of 2x3) and make a nice even slot in it that is $1\frac{1}{2}$ " wide and $\frac{3}{8}$ " deep. The slot must run ACROSS the grain of the wood (rather than with the grain) to give this piece the strength it needs.
20. Locate a piece of sheet metal (I used a piece of $\frac{1}{16}$ " aluminum) that is the same size as the top of the wood block ($2\frac{1}{2}$ " x $2\frac{1}{2}$ ").

21. Now, the plan is to jack the subframe & bushing up against the car, using the pressure of the jack against the weight of the car in order to seat the bushing in its pocket. The wood block goes on top of the bushing. The slot in the wood ensures that force is applied against the outside of the bushing, rather than pressing down on the rubbery core of the bushing. The metal plate goes on top of the wood block, so that the force from the metal tube coming out of the car is distributed across the wood (otherwise it will just press into the wood and break it – I speak from experience). Jack up the subframe as close to the bushing as possible. Jack until the car comes off of the jackstands slightly (1") on that side of the car – this ensures that maximum pressure is on the bushing.



22. In my case, the bushing went almost all of the way in, but stopped about 3/8" from being fully seated. You have to get it fully seated before proceeding – it **won't** settle in after driving a bit (trust me!). To try to press it in further, my wife got in the back seat and I got in the trunk for added weight, which only moved it in an extra 1/4" (we need to eat more cakes and pies, I guess...). We put some lubricant on it and left it jacked up for a while, and it went down the rest of the way (as you see in the photos above).

23. Jack up the front part of the rear subframe again, in the position shown below. Watch the new bushing carefully to make sure that the threaded tube from the car properly engages with the bushing. In my case, the subframe had shifted to the front of the car, so I had to pry it back with a crowbar while jacking it up. The subframe should apply a visible amount of tension to the new bushing (have someone inspect it from outside as you jack it up from below). Install the new bolt and washer. The washer goes rubber-side UP, and the bolt is tightened to 70Nm (52 ft-lbs).



24. When the bolt is tight, remove the jack. Use it to jack up the rear of the subframe (near the back subframe mount) so that you can reinstall the bolt & washer in the back subframe mount. Again, the procedure is to use the jack to make the subframe apply pressure against the mount, install the bolt, and then release the jack. Torque is 70Nm (52 ft-lbs) here too.
25. Reinstall the wheel.
26. Jack the car up under the differential again, and remove the jack stands.
27. Lower the car down, and tighten the wheel bolts.
28. Inspect the new subframe mount. Note the superior quality and luxurious opulence. As you drive down the street, people are sure to comment on the magnificence of your car's subframe mount bushings.



29. You now have a happy Benz that will take you at least a dozen kilometers before it lets you know that it wants another new part...

