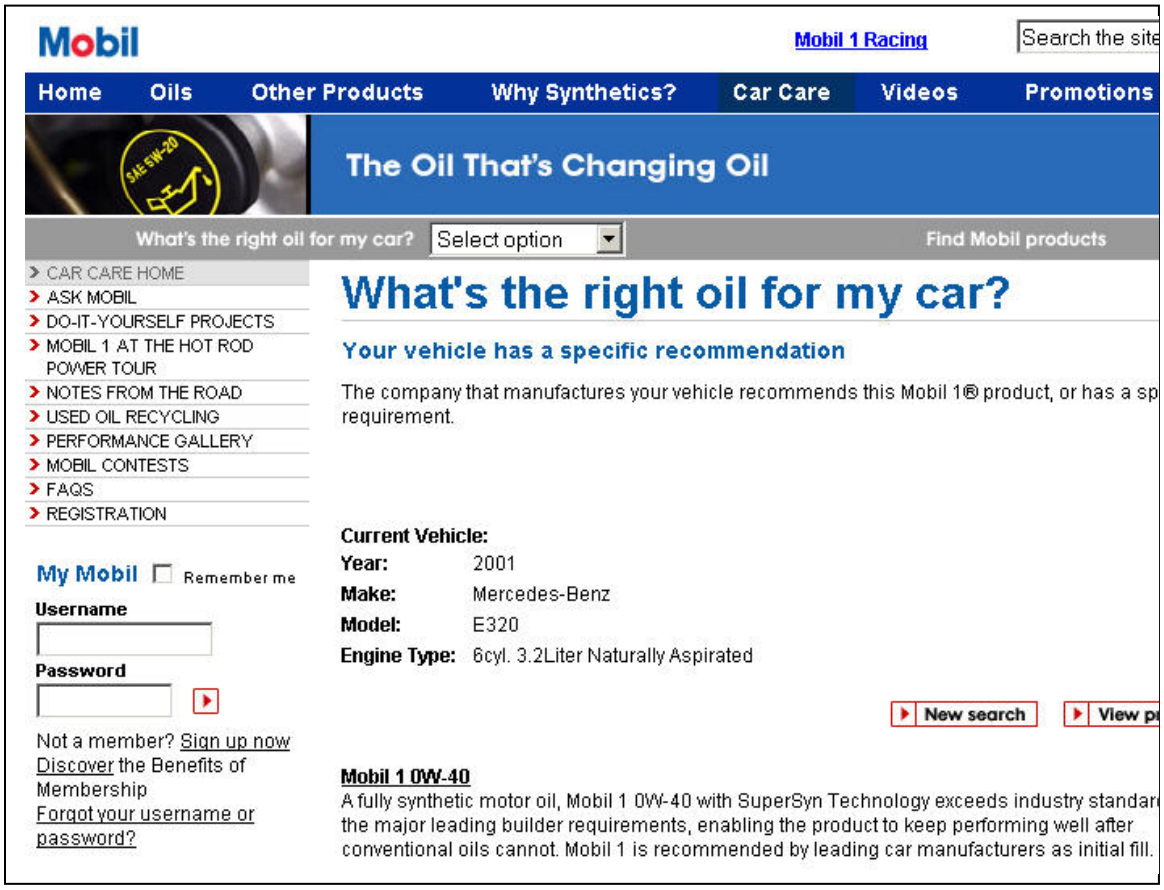
Well, as promised, here's the revised DIY oil-change pictorial. I prefer to drain oil, so that's what this thread entails. If you prefer to pump it out, I won't disagree with you – so long as you make sure the car is level. If not, you won't be getting all of the oil out of the pan, no matter which method you use.

Which Oil?

To some extent that's a personal choice and has been discussed *ad nauseum* on various threads both on this and other forums. And as you might expect, there's lots of misinformation out there as well. However, no matter which brand you use, the oil MUST meet the spec for your car, and since 1998 until recent models the Mobil1 specified by MBZ is 0W40. Some folks say that Mobil1's 15W40 is okay, but Mobil1 themselves recognize and reinforce MBZ's pick; if you want to use Mobil1 and visit their site, you can input your car's info and you'll get a screen like this one:



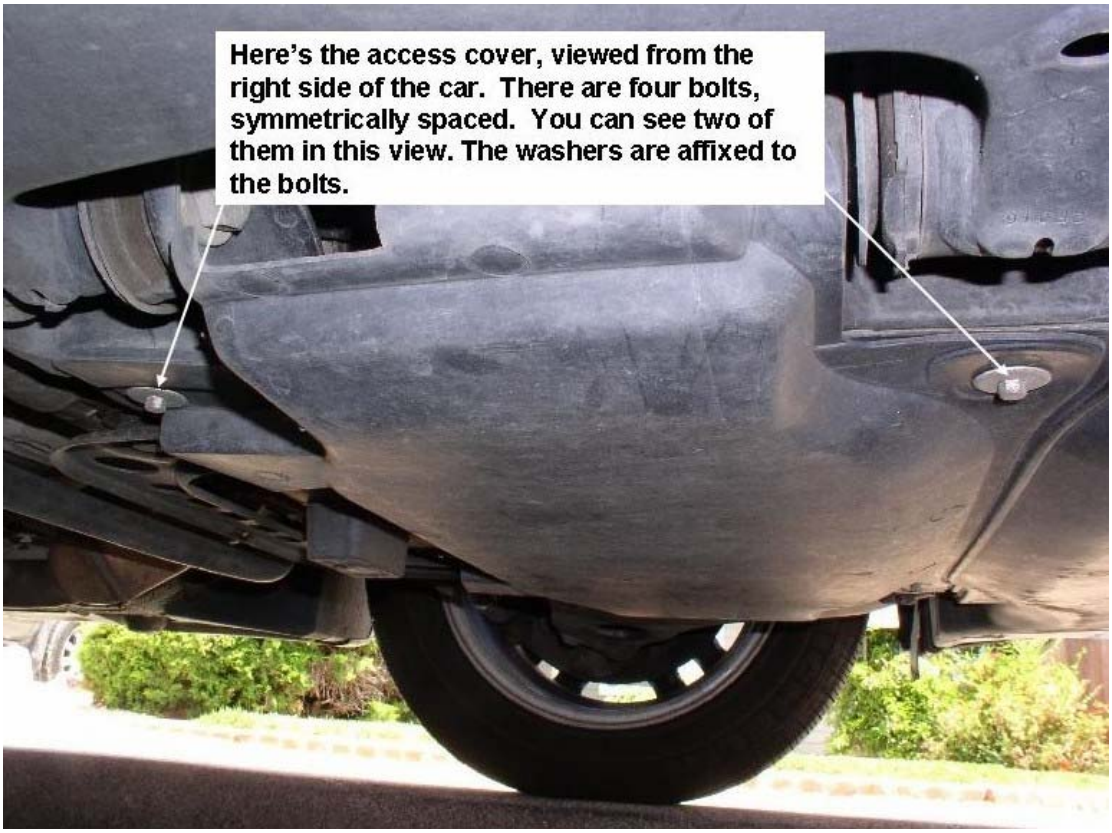
In any event, the key is to look for the note that the oil meets MBZ's 229.5 spec, as is visible on this bottle of 0W40. You WON'T find that spec on their other popular weights.

Okay, enough introduction, let's get into it.

Here's what you'll need. Note the o-rings to the left of center and the pair of drain plug gaskets (you only need one, I had two on hand) to their right. I also set my composite filter wrench into the picture. Unless you are a professional mechanic doing lots of oil changes each day, I recommend composite for three reasons. One, it's much cheaper, two, it should still outlast your car and three, if you get heavy-handed, you're more likely to break the wrench than the housing assembly.

Raise the left side of car: when you see the drain plug location you'll understand why you don't simply raise the front of the car. If you don't have a handy curb as pictured, you can raise the left side with a pair of jackstands, and remember: NEVER WORK UNDER A CAR THAT IS SUPPORTED BY A JACK.

Remove the access cover. This shot is from the right side, the bolts are 8mm head. 1/4" drive is more than enough for these little bolts. There are two on each side, four fasteners total.

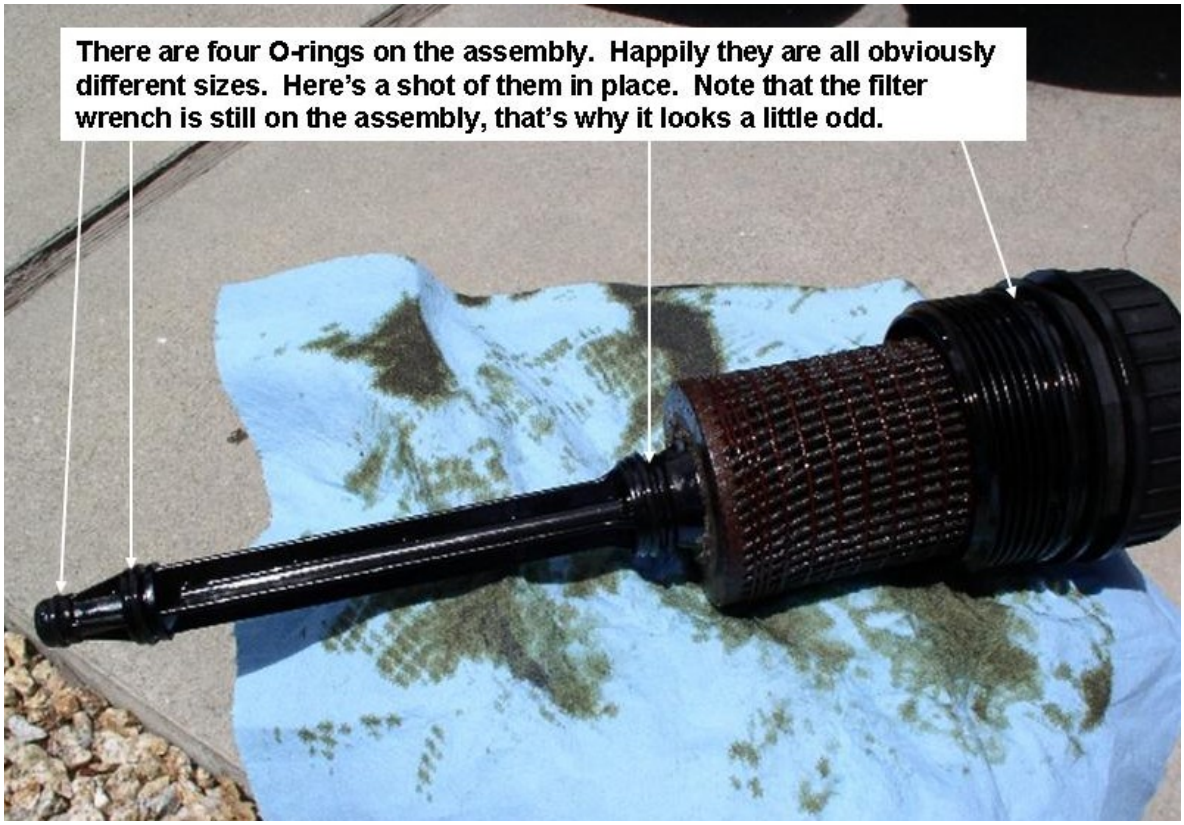


When you remove the cover…you'll find that drain plug. You'll need a 13mm wrench or socket to remove it. Have a LARGE drain pan handy, you'll get more than 2 gallons of oil out. Note that the placement of the plug towards the middle of the side means if you lift the front of the car, oil will pool in the back of the pan and you're not really changing the oil, just diluting it.

While we let the engine drain, let's start to work on the filter assembly. Here's the engine, and a tighter shot with the filter housing wrench atop the housing cover. You'll note that the engine cover is still in place; this process is easier if you remove it. I just did this shot to more clearly identify the filter location for any newbies out there.

This cap-style filter wrench has a 3/8" square drive, so connect a ratchet and short extension and just loosen it and keep loosening. The o-ring will usually make it feel pretty tight until it's almost completely unthreaded. Have two clean, lint-free rags handy before you lift it out, one to catch any drips and the other to cover the hole so no dirt (or tools or parts!) can accidentally fall in. The latter will definitely ruin your day and your wallet.

Pull the entire filter assembly out, keeping it straight until the last of it clears; it extends down into the engine more than a foot. It's pretty durable, but it's composite, so don't manhandle it: I can't imagine it's inexpensive to replace. Plus fishing pieces back out of there would definitely NOT be fun. If you wish you can wipe some of the old dirty oil out of the inside of the filter hole before you cover the hole up. Once the assembly is out, here's what it looks like.



Remove the old filter by pulling it straight down the shaft of the assembly. You can twist it a little to get it started if that helps. Next, remove the four O-rings and wipe the threads, shaft and O-ring grooves with a clean, lint-free cloth. Since you'll be installing new O-rings, you can grab the old ones with a pair of small needle-nose pliers to make it easier to get them off. In this shot the filter and O-rings have been removed and the assembly wiped down. I've left the wrench in place, since you'll be using it to tighten the assembly back in.

Now we're in a waiting period until the drips from the drain hole slow enough that we can re-install the drain plug. The drain plug gasket is actually a copper crush washer, so you should always use a new one. They're stunningly cheap, probably the least expensive thing on the car. Here's a shot of the old and new gaskets; if you look closely you can see the difference as well as a slight deformity in the old one.

When the drips have slowed sufficiently, fit a new gasket and reinstall the drain plug, tightening securely. Since you should have your torque-wrench handy anyway for the filter housing, you may as well torque it. 20 lb/ft is sufficient.

While we're back down here, let's reinstall the access cover. I've found it's easier to start the two rear bolts first, and then pivot the cover forward to start the front two bolts. Don't tighten any of them until all four are started, then position the cover with one hand and tighten them with the other, one at a time. You don't need to overpower these, I'd actually recommend using a nut-driver.

Okay! We're done crawling around; let's wash our hands so we don't introduce any dirt to the process. At this stage we can go ahead and fill the crankcase with fresh oil. If you've been lucky enough to find the 5-quart container, you'll have to be careful as you pour it in as you can pour it in faster than it will run through to the crankcase. Quart bottles are no problem -- just remove the cap and pour 8 of them in. Retain one cap and set it aside.

And here's the coolest tip: see this cavernous hole where we removed the filter assembly? Let's just pour the oil right down that. You're much less likely to spill when your target is this big. :)

When you get to the last quart pour half of the quart into the filter assembly hole (there's a little translucent window on the edge of the oil bottle that is marked with gradation lines) and then pour some oil in the cap you set aside until the cap is about 1/2 full. Re-cap the 1/2 bottle so it stays clean. At some point and certainly by a few thousand miles you'll need it to top off the oil.

Returning to the filter assembly, with your nice clean hands, slide the new filter onto the housing. It will be tight going on, you can use a little fresh oil from the cap on the inner edge of each end of the filter to make it a little easier. Make sure it fully seats, here's a shot of it fully seated. Note the spacing by the arrow.

Toss the three smaller O-rings in the cap of oil, and then dip your (clean!) fingers in to get some oil and use it to lube the largest O-ring. Slide it up the assembly and seat it in the groove above the threads. Now install each of the other O-rings, in size order, with the next largest down to the smallest.

Slide the filter assembly back down the hole until the threads touch. Turn it until it seats; the O-ring will make it feel pretty firm all the way, I always have to use a 3/8" ratchet just to snug it up. As firm as it is, you'll still feel it when it seats. Back it off just a tiny bit and use a torque wrench to secure it to 18 lb/ft. Since it's composite, you definitely don't want to overtighten it.

Here's another nifty trick I picked up from *Benzworld*. Now that you know the filter housing is the proper tightness, use some white-out to mark the edge of it and the block where the two align. In the future you can just tighten it until the marks line up again. (If you do your oil changes by the suction method, you'll not the torque wrench for this job again.)

Check the oil on the dipstick (no real reason, it's just nice to see it). If you weren't counting your oil empties, it's also a nice check to ensure you got all 8.5 quarts in there.

Start the engine and check for leaks around the filter housing if you're particularly concerned. If there are any, turn off the engine, find the large O-ring you left off and find someone to dope-slap you. :) For the rest of you, reinstall the engine cover, close the hood and turn off the engine. If you're at a service point and are completing the rest of the checklist, then reset the service interval (check your manual).

Congratulations! You're all done.