

# Tech talk ...

## DIY Oil Change

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Past President and Club Captain - Motor Sport

Oil changes are a quick and easy job to perform. You only need a few basic tools: some ramps or axle stands, five litres of new oil and a new oil filter.

Oil can be purchased nearly anywhere, the filters bought from Mazda and then all you need is a spare 30 minutes and you can do your own oil change. The tools you'll need are a 17mm (for newer model MX-5s) spanner or a 19mm (for the old girls) spanner, some rags, a flat screwdriver, a container that will comfortably hold five litres of fluid and you may also need a filter wrench. The instructions below outline the basic procedure. Remember – safety first. If you're not confident doing this job, please turn to the professionals.

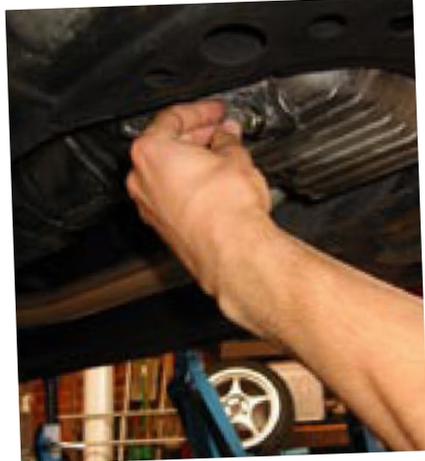


*These are my oil change tools. Note my expensive funnel!! Remember that rags are your friend ... you can't have enough of them.*

**1** Before you start working you'll need to go for a short drive to get the oil warm. This helps the oil drain out of the car. Don't drive for too long, you don't want to get the oil really hot because hot oil scalds.

When you get back from your drive, jack the car off the ground.

**Always, always** support the car on stands or sturdy ramps, and make sure that it's safe to get underneath - never get under a car supported only by a jack. You'll need your spanner, a rag and the container for collecting the oil.



*Unscrew the sump plug washer with your finger on the end to avoid any unnecessary drips.*

*If the sump or the plug are too hot to touch then wait a few minutes and let the motor cool to a safer working temperature.*

**2** If the sump or the plug are too hot to touch then wait a few minutes and let the motor cool to a safer working temperature. Loosen the sump plug (as pictured). Unscrew the sump plug with your finger on the end to avoid any unnecessary drips.

Position the container under the edge of the sump so it will catch the oil as it comes out of the sump. Make sure that you pull your hand away quickly once the plug comes out otherwise you will end up with a hand full of oil. It will flow out in an arc initially, so be ready to catch it! As the flow rate slows, reposition the container so that it will continue to collect the stream of oil.

**3** Open the bonnet and unscrew the oil filler cap on the top of the motor. This helps the old oil flow out and it also reminds you that you need to replace the oil later on. Now reach under the driver's side of the motor (in the NA and NB) and unscrew the oil filter. If you can't do it by hand then use the filter wrench. In the NC you will have to remove the small protection plate under the back of the motor on the passenger side and remove the filter through the gap. Once you unscrew the old filter, turn it on its back to stop the oil dripping out and leave it to drain into your oil container. Wipe up any spills.

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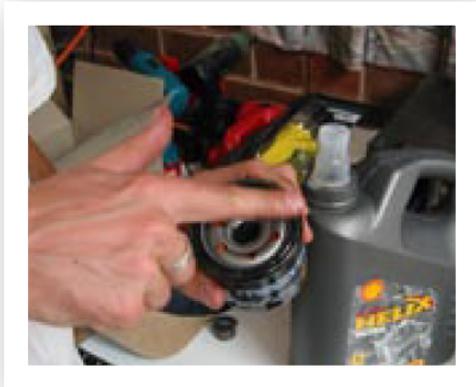
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**4** Get your new oil filter out of the box and remove the plastic covering. Then open your new container of oil and pour a little bit into the filter. Before all of the oil disappears into it get some on your finger and rub it into the rubber seal on the filter. Then clean it up and screw it onto the motor. I find that the easiest way to do it is to find the screw point on the side of the motor with my left hand and then move my right hand to that spot while holding the filter. Screw it on until it's hand tight; you don't need to use the wrench to make it super tight.

*This is where you'll need to reach down to in order to find the oil filter. Wearing a rubber glove will help to grip the filter and placing a rag under your arm will stop you from getting cut by the hose connectors positioned right where you need to lean your arm.*

**5** Put the funnel into the oil filling point and pour a little of the new oil into the motor. You just want to use a small amount to help flush out the last of the old oil. Once this has drained out of the motor get back underneath the car, give the sump plug a clean and check to see if the sump plug washer



is on the plug. If it isn't then you'll need to prise it away from the sump with your screwdriver. This is an important step as having two or three or four washers there will greatly increase the likelihood of a leak occurring from the sump. Once it's all cleaned up, screw the sump plug back into the sump and tighten it with the spanner.

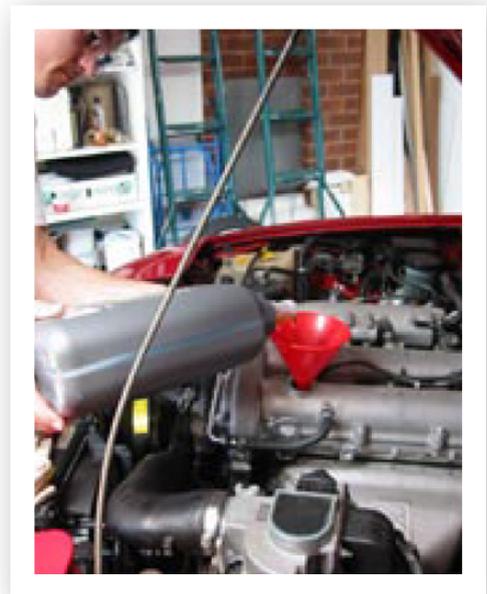
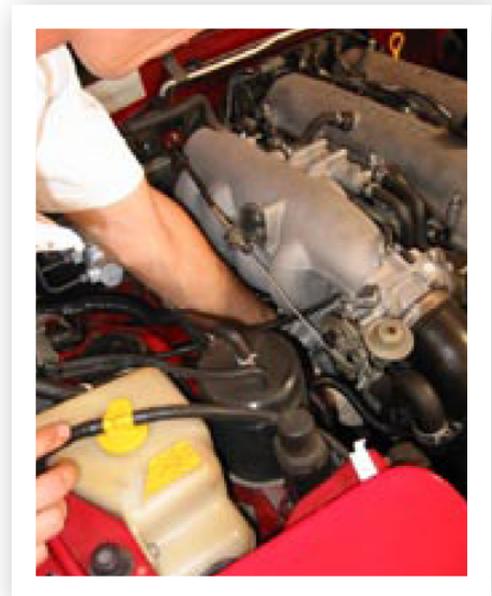
*Pour a little oil into the filter and then rub some of it on to the black rubber seal.*

**6** Get back out from under the car and start pouring the oil into the motor. When you have poured about three litres in there, check the oil level with the dipstick (remove the dipstick, wipe it, reinsert and pull it out to check). Continue filling as necessary, until the oil reaches the "Full" mark on the dipstick. Remember that it can take a few minutes for the oil to sink to the bottom of the motor, so don't be too quick to check the levels with the dipstick. When you have finished, replace the oil filler cap and also double check the filter and the sump plug.

*Pour the oil into the funnel slowly at first to avoid getting oil all over the motor. A good precautionary method is to drape a rag around the filter and over the side of the cam cover. You don't want to get oil on the exhaust!!*

**7** OK, the oil change is finished. Now for the clean up: Find an old container to pour the used oil into, and dispose of it safely (not in the rubbish. Part of the cost you pay a mechanic to do the job is disposal of the old fluids). Triple check the sump plug and if you're happy that nothing is leaking start the motor and let it run for a few minutes.

If you still can't see any leaks then go for a drive and when you get back check it again. If you still can't see any leaks then it's probably time for a celebratory beer.



*Next month: fitting an airhorn*

*If you have a handy hint to pass on to your fellow MX-5ers, or are doing some modifications to your car that others might find interesting, please send your report and photographs to [editor@mx5vic.org.au](mailto:editor@mx5vic.org.au) and share it with the rest of us through MX-TRA.*