

**MARCH 2010**

## **Changing the Miata Manual Tranny & Differential Fluids**

Last month I suggested changing the Miata manual tranny & differential fluids to a synthetic lubricant, so this month will give a brief description of how to do it. The pictures and some of the tips are from the “Garage” section of Miata.net. The 5 spd and 6 spd are very similar. Here is a link if you want to read their entire “how to” article:

[http://www.miata.net/garage/6mt\\_fluid/index.html](http://www.miata.net/garage/6mt_fluid/index.html).

After you bought the replacement fluids, you need a hand pump, or a funnel & hose (Slowest way) to get the new fluids into the drivetrain cases. I use a Harbor Freight Suction pump I modified to do both suction and pump.

Safety is important here. You need to get the car up off of the ground so you can get under it. Plus it must be as level as possible. On a level area, carefully use 4 jack stands, or a lift to get the car in the air.



The fill plug in all of the manual trannies (89 to present) is always on the driver’s side of the tranny. (See attached picture) It is a square head pipe plug, just like you would use in home plumbing. DO NOT remove any bolts on the passenger’s side of the tranny. These hold internal parts in place. Always be sure to remove the fill plug first, especially if it has been many years since it has been changed as it

could be froze in place. You do not want to drain out the tranny fluid until you are sure you can put fresh fluids into it. Then drain the fluid out of the tranny into a pan for recycling. Use a new washer under the drain plug, or at least turn the old one around to have different surfaces to seal. Then fill the tranny until oil runs out of the fill opening. Tighten the fill plug until it is tight.

Just note if you switched from “Dino” oil to “Synthetics”, it can take a couple hundred miles for the synthetic to clean off the parts and make the tranny shift smoother. This is normal.

There are two bolts on the rear face of the rear differential. (see attached picture) Remove the top fill bolt first, then remove the bottom drain bolt, draining the oil into a pan for recycling. I always like to look at the magnet which is in some drain plug bolts. A small accumulation of fine metal particles are sometimes found on the drain plug magnet. I only worry about particles large enough to feel individually.



Big chunks mean a problem. Install the drain plug and fill the Diff until oil runs out the fill plug, Then secure the fill plug. Carefully lower the car to the ground, and enjoy.

Next month we will check the shifter boots. These regularly dry out and tear.