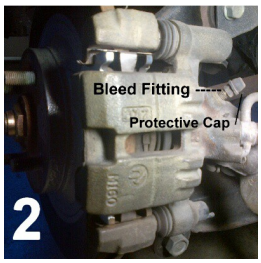
Miata Brake & Clutch Maintenance

Both the Brake and Clutch systems in the Miata are operated by Hydraulics. They are pretty much self adjusting and need very little service. But please note than anything mechanical does need a little occasional care to keep it operating at maximum efficiency.

When replacing brake pads, the recommendation is to either machine the Rotor surfaces smooth or replace the Rotor. It is important to have a flat new machined surface for the new pads to seat themselves properly. In picture # 1, you will see an example of a rusty front Mazda OEM Rotor, and an aftermarket replacement rotor made by “Centric”. The aftermarket Rotor has the center “top hat” section painted and the vanes between the sides are painted. This is a baked on paint that is stated to be very durable. In my mind the improved look is worth paying a few extra dollars to get the painted Rotors over surfacing the old ones. Centric Rotors are available at Brady’s, “Tire Rack” on-line, or at your better NAPA auto parts stores.

Brake fluid is very Hydroscopic. This means it absorbs moisture over time. As the fluid absorbs moisture, it loses its ability to properly transmit the force applied to it. When the brake fluid absorbs moisture, the brakes start to feel spongy. This is a gradual change so it is hard to notice. But the more spongy the pedal feels, the less effective the brakes are. I have read it is wise to replace the brake fluid every 5-6 years. I recently replaced my brake fluid as it was over 8 years old and it made a very noticeable difference, so much so I did my wife’s car also.



The easiest way to flush new fluid is to remove one wheel at a time to gain access to the bleed fitting on each caliper as in picture # 2. Remove the rubber cap, put a small wrench on the fitting and attach a hose to the fitting as in picture # 3. Put the other end of the hose into a bottle as in picture #4.

The next step is to suction the old fluid out of the brake Master Cylinder under the hood. Then refill it with new DOT 3 brake fluid. The flush/bleed process is a repeated cycle as follows. Have someone sit in the car, push on the brake pedal, and hold pressure against it. While the person in the car is holding pressure against the pedal, you then open the fitting with the wrench to allow the old fluid to come out of the caliper. As soon as the fluid stops coming out, quickly close the fitting. Only then should the person inside release the pedal so it will come back up.

Keep repeating this cycle until the fluid comes out clear. Do not allow the person inside to release the pedal until you close the fitting each time they push, or this will draw air into the hose. Air is not good in the brake hose. Note it takes more to flush the rear brakes as they are farther away from the master cylinder. Repeat this flush operation to all 4 wheels. You will be glad you did.

The clutch system in the Miata is also Hydraulic. In the models up to 2005, the Miata has a separate Clutch Master Cylinder and Brake Master Cylinder Reservoirs as you can see in picture #5. Starting in 2006, Mazda combined them into one Master Cylinder Reservoir as you can see in picture #6. So keep them full to avoid clutch or brake problems.

It is just as important to bleed/flush the clutch system as it is the brakes. The clutch feel will get spongy and the engagement point will be less precise as the fluid gets old. This is also done in the same

manner as the brakes. But the clutch Slave Cylinder is under the car on the Bell Housing. You need to get the car up on ramps, or up on a lift.

First suction and refill the clutch master with fresh DOT 3 Brake fluid. Have someone push down the clutch pedal and open the clutch bleed fitting to allow the old fluid to come out. Close the fitting as soon as the fluid stops. Note the person will need to pull the clutch pedal up each time. Repeat this cycle until the fluid is clear and fresh is coming out. Picture #5 is the clutch slave and master cylinder for all Miatas up to 2005. The clutch slave is similar for the 2006 and newer, and again, picture #6 is the combined clutch and brake fluid Reservoir for 2006 and newer.

So as our Miatas age, a little preventative maintenance like I outlined above can greatly enhance the enjoyment, and SAFETY of driving our Miatas. Don't pass this over lightly, as starting the car in motion may be optional. But once moving, stopping is eventually mandatory.

Zoom-Zoom! Bill Latsha