

Be Cool!

Flush & Replace Your Engine's Coolant/Antifreeze

One of the fluids in our Miatas that we take for granted is the engine coolant (also called anti-freeze). Mazda and most auto manufacturers recommend *flushing* and replacement on older cars *every two years or 30,000 miles*, whichever comes first. (Consultant your owner's manual for interval replacement.)

If coolant is not flushed regularly, especially in older Miatas, or any older vehicle for that matter, one of these symptoms may appear:

- Engine overheating
- Coolant loss through leaks
- A sweet odor inside the vehicle
- No heat from the heater

Old coolant or a faulty coolant system can result in overheating of the engine, cylinder head gasket failure (\$\$), engine block failure (\$\$\$) or cylinder head warping (\$\$\$\$).

If you haven't flushed or replaced your coolant in some time or have no idea when this was done, consider making an appointment with your mechanic or D.I.Y. as soon as possible.

A little background info from *The Wench*:

WHAT IS ENGINE COOLANT?

Engine coolant, also known as antifreeze, is a heat transfer fluid designed to remove excess heat from your engine and contains additives that will keep the water from freezing in cold winter weather, as well as overheating in any temperature. It's made up of a combination of ethylene glycol, water and inhibitor or glycol and water normally in a 50/50 ratio. Engine coolants come in many different types. When it comes to picking the right engine coolant for your car, consult your owner's manual recommendation, don't just use anything you may have on the shelf in your garage. Aluminum blocks and aluminum radiators in modern cars need specialized coolant and not just plain water.

WHAT DOES IT DO?

The engine creates a lot of energy and heat while the car is moving. It's the job of the exhaust and cooling system to make sure the engine stays cool. The coolant absorbs the heat from the engine and stops the engine water from boiling in the summer. In addition, it also ensures metal parts don't rust and rubber or plastic parts don't corrode.

WHY IS ENGINE COOLANT SO IMPORTANT?

Without the coolant, the heat produced during constant internal combustion would ruin the engine very quickly. Although coolant is mixed with water, the water alone isn't able to keep the engine cool. The heat of the engine would eventually start boiling the water or the summer heat would evaporate it.

Coolant can deteriorate over time and should be tested to see if it's still good as it can be hard to tell just by appearances. Even if the coolant reservoir shows a sufficient coolant level and testing shows the cooling protection is still adequate, a coolant drain and flush may be needed.

THE IMPORTANCE OF GETTING A COOLANT FLUSH:

Coolant flushes provide many benefits to your cooling system. It is important to maintain your cooling system to keep it working efficiently.

What are the Benefits of a Coolant flush?

Coolant flushes remove rust and scale deposits that build up over time. It's important to get rid of these deposits because they can cause overheating and damage your entire cooling system.

Over time, old coolant loses its anti-corrosive properties allowing for contaminants to build up in the cooling system. Getting a coolant flush will completely clean these particles from the system. Fresh coolant contains additives that work to lubricate the water pump, help extend its life and also help prevent rust from building up in it allowing the cooling system to operate more efficiently.

When you get a coolant flush or coolant replacement it is also common to receive an inspection of your entire cooling system including the thermostat, radiator, plastic coolant reservoir in an NC Miata (2006-2015) and all hoses and belts. If not, ask for one. This is beneficial because a thorough inspection checks for leaks and other potential problems. Preventative automotive medicine is a good thing! 😊

And finally, getting a coolant flush will prevent the old coolant from becoming acidic, important because once engine coolant begins to become acidic with age, it will break down and damage the water pump, rubber hoses and the aluminum components of the engine.

DO IT YOURSELF OR HAVE “BUBBA” DO IT?

If you're at all mechanically inclined, flushing and replacement is not difficult, just time consuming: jacking 'er up, getting down underneath to drain, flushing, filling and checking and disposing of old coolant responsibly. There's lots of good videos on the Internet/YouTube that explain step-by-step. I've done it; it's not hard.

If you have a repair shop or dealer do this for you, expect to pay between \$100.00 - \$200.00 for a flush and replacement with new coolant. If you take what I have written above to heart, it is certainly money well-spent, considering possible catastrophic repairs.

And by the way, if you are an NC Miata owner (2006-2015), please read my archived article on our Miata Club website about replacing your plastic coolant tank with an aluminum one. If the pressurized plastic coolant tank leaks or ruptures with age, coolant is lost and so is your engine! ☹ (See www.midstatemiata.net and then click on “TECH”).

I hope this has been interesting and useful info.
Take care of your Miata and it will take care of you!

Zoom Zoom Safely!

Gail

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