

Supercharger oil level

Should I change the oil in my supercharger?

If yes, how often should I change it, how much oil does it take, and what kind of oil should I use?

Your Jackson Racing / Moss Motors supercharger has permanently lubricated bearings at the non-driven end. These are generally fine for the life of the blower. At the belt-driven end there is a snout with two bearings in it and two gears. These depend on oil, a special oil formulated for superchargers. Supercharger oil is very fine because it has to get into some very small spaces to do its job.

In most parts of your car that need oil, the oil is pumped or slung to where it needs to be. For those applications, that's fine. The supercharger snout is different. We can't maintain the oil level up in the area of the seals on the rotor shafts because they can leak into the housing and the rotor group. So the correct oil level is about $\frac{3}{4}$ " to 1" below the center of the lowest rotor shaft. That means the oil will sit lower than the lowest seal and bearing when the blower is not in operation. When the engine starts and the supercharger rotors begin to spin, the gears start slinging oil. Unfortunately, they cannot sling oil to the front of the snout. A simple slinging arrangement won't be enough. That's where supercharger oil comes in.

Supercharger oil is unique in that when it is stirred and slung it atomizes. The area inside the snout becomes filled with an oily fog that permeates all the way to the bearing at the front of the snout. So the answer to the question of what kind of oil to use is supercharger oil. You can get it from Jackson Racing / Moss Motors under part numbers 999-006 (100 ml) and 999-020 (150 ml). You can also usually get it as a Ford, GM, Mercedes, or Mini dealer because some of their cars have factory superchargers.

How often should you change your oil?

Magnuson products is our partner in supercharger maintenance and development. When you visit their website and look under the question of how often to change the supercharger oil they say, "Eaton Superchargers are factory sealed and tested to ensure durable, reliable performance for the lifetime of the vehicle and engine."

At the same time, at least one supercharger parts supplier says you should change your supercharger oil every 36,000 miles. What's with that? The answer is in the severity of your driving. Even though the supercharger oil that comes in your supercharger is designed to last the life of your car, a person who drives his car severely or who takes it to the track is putting the supercharger under stresses that the average person does not put his supercharger under. If you are a severe driver all your maintenance routines should reflect the additional wear-and-tear you are creating. This includes how often you change your supercharger oil.

How much oil does your supercharger need?

Remember the oil level when the supercharger is off should be $\frac{3}{4}$ " to 1" below the center of the lowest rotor shaft.

Photo 001 shows a supercharger with the snout in place. You can't see the end of the rotor shafts. (Note: the bottom of the drain/fill plug is about 2 1/4" above the desk. We'll talk about that in a moment.)

Photo 002 shows what's inside.
Photo 003 shows a ruler measuring down about 1" from the center of a rotor shaft. (Note: in this configuration, there is no lower shaft. Both shafts are at the same elevation.) A common error is to think you need to remove the drain/fill plug and fill to the threshold like you would in a differential or a transmission. That's wrong. As photos 001 and 003 help us to see, the correct oil level in this specific case would be 3/4" below the threshold of the drain/fill plug. Filling to the threshold of the filler plug could lead to oil seepage when the unit is turned off.

The superchargers we sell are all very happy to be filled with 100 ml to 110 ml of supercharger oil. If you do that, you can know it's to the right level even if you can't see inside. To do the job correctly, you need to remove the supercharger from the car, remove the drain/fill plug, and tip the supercharger up on its nose for an hour or more. Let all the oil drain out. Then refill it with 100 ml to 110 ml of supercharger oil and replace the filler plug.

Enjoy your supercharged car!

