

## **Automatic transmission oils are not for life!**

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After the engine, the most expensive repair for a vehicle is the transmission. With absolutely no care or maintenance, an automatic transmission can last as little as 50,000 miles. With very little maintenance, the transmission should last well over 100,000 miles. Transmissions carry the job of shifting gears when the onboard computer tells it to. Mileage on a transmission can vary depending on how the owner drives the car. A lead foot can destroy an automatic transmission. It is always good to keep the engine's RPMs as low as possible.

The automatic transmission fluid flows through the delicate Mechatronics' device which is involved in the total control while lubricating the gears and torque converter. Therefore, mechatronics need to be working without any debris and with the right oil viscosity.

Most people are aware that their engine oil needs changing on a regular basis. When it comes to the transmission, however, they may leave the fluid unchanged until things start going wrong. In other words: until it's too late!

The following notes are simply a further example of ideas to counter what is supported in many countries by official car dealers, namely that the oil for automatic gearboxes must not be replaced for the whole car life. For sure they mean for the warranty period of life which is, however, too much, as widely demonstrated throughout the world.

To cite an example, from the website of one of the leading transmission manufacturers ZF itself according to which the concept "Oil for life" has never been officially recognized:

"ZF's automatic transmissions in general have a long service life and are filled with fully or partly synthetic ZF-LIFEGUARDFLUID oil. However, due to a sporty driving style or frequent towing of trailers, or typical uses of vans, or much more simply, because you live in a hilly or mountainous area, **the oil might age prematurely. Gearshift problems might be an indicator for aged oil.** Thus, ZF Services experts recommend changing transmission oil after 100,000 kilometers or after eight years at the latest."

But attention: the indication of 100,000 km is directed only to the 8 and 9 gears transmission! (Currently the world's circulating cars park consists of 5-6-7 gears). The greater the number of gears, the lower is the mechanical stress. For the previous models the indication ranges from 40,000km up to 60,000km. We may consider that it is already a giant step compared to their recommendation to replace the oil at 40,000 - 60.000 km.

With regard to the 8 and 9-speed ZF transmissions, some additional information not known to the public is useful. Despite the increase in the number of solenoid valves, their activity is extremely greater in city traffic compared to the previous transmission with 5-6-7 gears. The larger the number of gears, the busier are shifts then, and hence the more stress is on the mechatronics. Inside the body valve there is a labyrinth, also in aluminum casting. But in this generation of transmissions where the speed and the absence of the friction to the oil passage are so important (imagine therefore the maintenance of the correct viscosity of the oil and the cleanliness!), ZF could not be satisfied with the typical aspect of the surfaces of the channels that even excellent aluminum casting achieves. Thus, the labyrinth channels and curves are lapped and polished with a processing of that fineness that is usually used in the field of jewelry. That is the reason why ZF decided to "extend" recommendations related to ZF 8/9 HP automatic gearboxes, which are of higher quality than average. However, even for these, I would recommend a 60,000 km interval if the car is mostly driven in a city.

The BIZOL ATF range of products is developed with the best raw materials and takes advantage of German engineering skills. BIZOL has approvals from all major European car makers. The wide selection of synthetics lubricants containing special additives provides excellent safety against wear, corrosion, foaming and formation of lacquers and deposits provides superior transmission life exceeding the specifications required by the most famous manufacturers of gearboxes and cars as well.

Moreover, the technical product data sheet of "**ZF-EcoFluid A**" lists the benefits of this special oil, and in the first entry you will find the following phrase: "Fewer downtime periods: thanks to extended oil change intervals enabled by optimum thermal and oxidative stability". As you can see, the ZF (official supplier of most automatic transmission for BMW and many other car brands) never talks about oil that lasts forever (for life), which on the contrary is marketed by many major car manufacturers simply for sales reasons. Another example comes from the famous Japanese AISIN

with the following question: “Have you ever changed transmission fluid for your car? Change it every two years or 20.000 km!!!” They are talking about ATF oils...

**It is here and now, that BIZOL technology can collect a large number of concrete results** using the ATF Intelligence 2000 equipment and concept. The BIZOL method starts with a higher quality of oil formulations, an optimized maintenance system and reaches the highest outstanding shifting comfort result, fuel saving, re-powering the full torque transmission from the engine to the wheels and comes down to avoiding very high cost of repair.

**Ask your trusted mechanic for a BIZOL ATF solution. Do it between 60 000 – 80 000 km.**

**Jan Berg**