

THE AUTO DEALER'S ORIGINAL FIXED OPERATIONS RESOURCE

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# FIXED OPS

## HOW DO THE PIECES COME TOGETHER?

IS YOUR DEALERSHIP A SITTING DUCK?

REPAIR ORDER 101

HIRE THE HEROES

SHOULD 'LIFETIME FLUIDS' BE TRUSTED?



# SHOULD ‘LIFETIME FLUIDS’ BE TRUSTED?

## ANALYSIS IS THE ONLY CERTAIN WAY TO ENSURE VEHICLE LONGEVITY

BY RON MCELROY

As poets, songwriters and authors often remind us, “nothing lasts forever.” This is especially relevant in the automotive world. However, some Original Equipment Manufacturers have been suggesting that “nothing lasts forever” is up for debate.

This is what the term “lifetime fluids” implies. Whose lifetime are OEMs talking about? Our lifetime? The lifetime of the car? The lifetime of the component? Or the lifetime of the fluid?

Is it subject to warranty terms? If so, what’s the drivetrain warranty and what about fluid preventive maintenance Service requirements? Do they refer to normal or severe operating conditions as a determining factor?

What first appeared to be an exciting new fluid engineering discovery has raised a multitude of important, yet unanswered, questions. The most important of which is: “Are “lifetime fluids” a product of technology or a marketing strategy?”

### Technology Improvements and Fluids

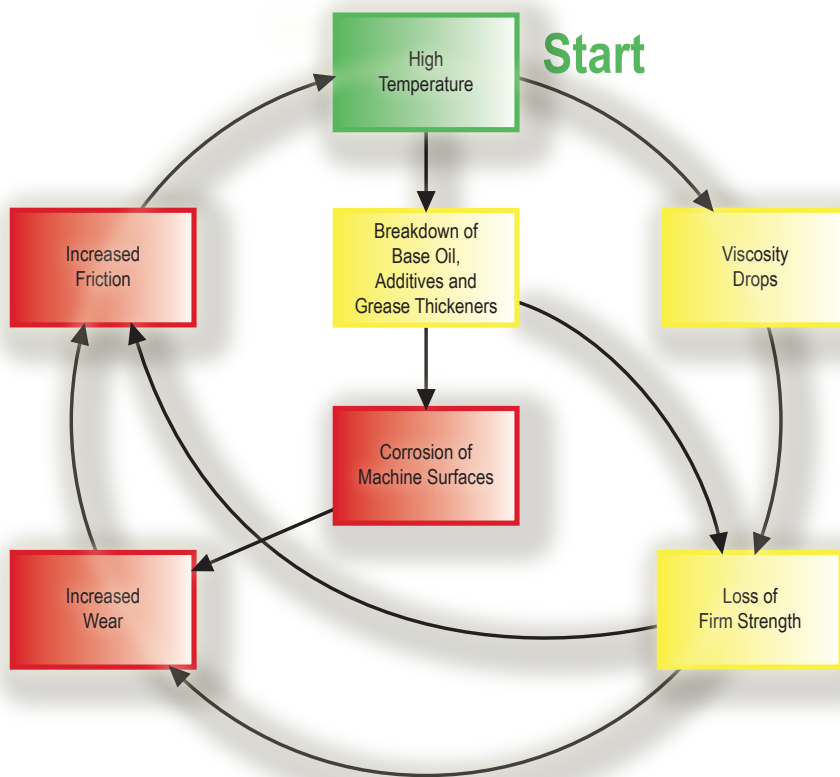
All modern lubricants contain additives that inhibit fluid breakdown. As these additives deplete, the fluid degrades and is no longer able to perform its intended function. Therefore, vital fluids must be monitored and tested to

ensure that preventive maintenance services are performed before they become overdue.

Over past decades, there have been major improvements to internal combustion engines and vehicle drivetrains. These technological innovations have increased fuel-efficiency and extended Service intervals, as well as improved performance and reliability.

For example, the advent of fuel injection over carburetors has doubled oil change intervals. Hence, the old adage “you can pay me now or pay me later” message of a 3,000-mile oil change has been replaced with OEM intervals extending up to 12,000 miles.

However, not all improvements have gone as planned.





### A Look at Oil Change Systems

One such example is GM's Oil Life Monitor (OLM) system. This system relies on a computer-based software algorithm that estimates when to change oil based on operating conditions, not actual fluid condition. With the introduction of the 2013 model year, GM recalibrated its OLM system to include a mileage parameter activated at 5,000 miles and recalled vehicles equipped with the original OLM.

GM did not get specific as to why the change was made, but it can be inferred that the company determined that the longer oil change intervals might have had a negative impact on long-term engine performance and customer satisfaction.

Could it be that the algorithm was not aggressive enough to prevent lubrication failure resulting in damage to engines within the warranty period? This is a good example of what most have learned by experience; if we change oil before the additives are depleted (regardless of what the owner's manual suggests) we can expect the engine to last well over 200,000 miles.

### Automatic Transmission Fluids

Technology has also transformed transmissions, improving efficiency and performance. But what about reliability?

It's estimated that over 13 million automatic transmissions fail every year. Most of these failures occur in vehicles with perfectly good running engines. So why do transmissions give out before engines?

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There are several basic reasons that cause so many modern transmissions to fail.

These complex units have morphed from four-speed to six-, eight- and even 10-speed capabilities. They are smaller and lighter (despite increases in engine horsepower), subjected to more torque and most importantly, subjected to higher operating temperatures.

The Automatic Transmission Rebuilders Association (ATRA) estimates that 90 percent of all transmission failures are due to fluid breakdown. With this fact, why do OEMs promote automatic transmission fluid as a "lifetime fluid"?

Of all lubricants, automatic transmission fluid (ATF) is the most complex — and it's often transmission-specific.

ATF requires unique fluid technologies to meet very specific performance requirements. The fluid reduces friction to prevent wear, yet must allow levels of adhesion so clutch materials can properly engage.

The fluid also contains a wide variety of chemical compounds including anti-wear additives, rust and corrosion inhibitors, detergents, dispersants and surfactants, kinematic viscosity and viscosity index improvers and modifiers, seal-swell additives and agents, anti-foaming additives and anti-oxidation compounds to inhibit oxidation and boil-off, cold-flow improvers, high temperature thickeners, gasket conditioners, pour point depressant and petroleum dye.





Friction and heat drive the oxidation rate of fluids. The normal operating temperature for transmission fluids is 175°-195° Fahrenheit (F). At this temperature, the fluid's service life under normal driving conditions should reach or exceed 100,000 miles.

However, under severe driving conditions (such as towing, hauling heavy loads or spinning wheels in snow or mud) the operating temperatures of transmissions rise. For every 20°F-25°F

increase in the fluid's temperature, the rate of oxidation can double, cutting the fluid's service life in half.

The operating temperature limit of ATF is just one reason why transmission fluids require testing and why shorter fluid maintenance intervals must be recommended for vehicles operated under severe driving conditions. That means most vehicles.

Chemists and lubrication engineers have utilized Radial Planar Chromatographic Analysis (RPC) since the 1930s

to monitor the condition of in-service lubricants and to determine if the fluids are acceptable or should be condemned.

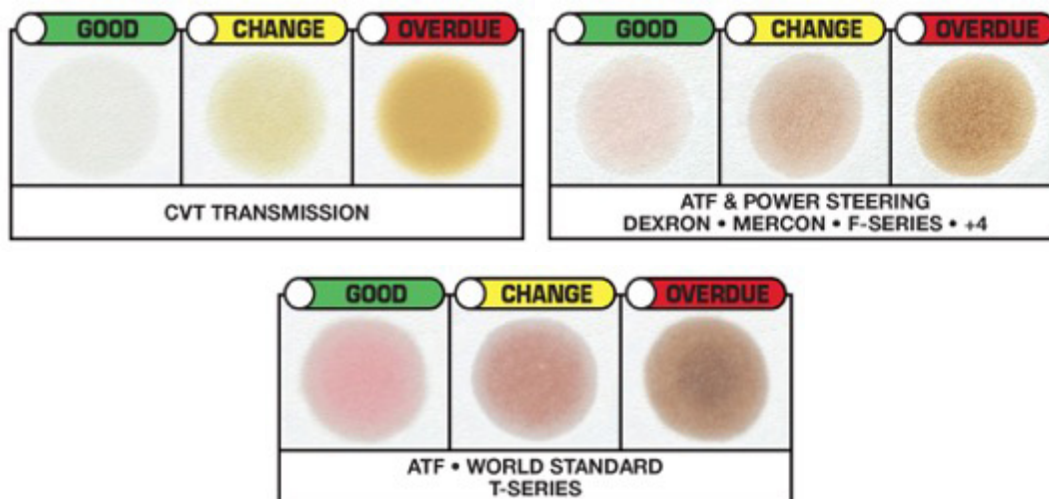
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The RPC process provides a comprehensive evaluation of a fluid's actual condition, including a measurement of additive depletion, the fluid's dispersant properties and the level of sludge or debris in a lubricant.

The process is quick and simple. As a drop of sample fluid is placed on the unique substrate, it percolates through the filter paper, creating bands and / or zones of different hues and densities (and even unwanted wear materials and debris) that form a chromatogram.

Changes in the appearance of these zones or bands are a clear indication that something in the lubricant has changed. A closer look at the zones, their unique formation and the debris fields contained therein reveal high particle counts that can be correlated to International Organization for Standardization (ISO) code.

The chromatograms in each fluid diagnostics chart (pictures of fluid at various stages of depletion) were correlated to laboratory analysis by SGS Herguth Laboratories of Vallejo, Calif. Simply compare each fluid sample chromatogram to the diagnostics chart to verify the fluid's actual condition and to determine when to recommend fluid preventive maintenance.



Despite these requirements and intense demands, many OEMs insist that their transmissions (as well as power steering and brake systems) are equipped with “lifetime fluids.”

As with the overextended oil change scenario, these marketing schemes do not always achieve their desired outcome. A class action lawsuit against one OEM alleges that it misrepresented certain models with automatic transmissions that are equipped with “lifetime fluids” that do not need ATF fluid replaced during the life of the vehicle.

According to the lawsuit, the key selling feature of these vehicles was its Service and Warranty Program, which promised to “maximize vehicle safety, reliability and resale value by minimizing breakdowns resulting from wear and minimizing cost and inconvenience.”

It was further alleged that failure to replace the transmission fluid leads to sudden and premature catastrophic failure of the transmission and that owners were forced to shell out the cost of repair or replacement despite express instruction that replacing the fluid was not necessary.

Has “just gas up and go” become the OEM paradigm for shaping new car

sales regardless of whether these practices are stranding drivers on the side of the road?

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With overwhelming statistics showing that all vital fluids require servicing, why are OEMs shifting from fluid preventive maintenance schedules to promoting sealed transmissions and “lifetime fluids”?

Perhaps it has something to do with “free maintenance services” during the warranty period. Touting “lifetime fluids” is another way to reduce cost and bolster J.D. Power Consumer Satisfaction Surveys, where “cost of ownership” is a factor.

It’s well documented that fluid preventive maintenance helps maintain performance and reliability, and prolongs the service life of a vehicle. Therefore, “lifetime fluids” are a device of marketing rather than engineering.

Herein lies the dilemma for you, the Service provider: Are you responsible for maintaining your customer’s vehicle and generating Service profits that are necessary to keeping the dealership viable? Or are you buying into the OEM’s argument that these fluids no longer require servicing or replacement?



*Ron McElroy is CEO and Founder of Fluid Rx Diagnostics by Magna-Guard, Inc. He has received two “Best New Product Awards” and four “Product Innovation Awards” for creating and bringing to the automotive market innovative new products. These products have revolutionized the way we integrate aftermarket electronics into OEM systems and have changed the dynamics of performing fluid preventive maintenance.*