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## Car Care Articles

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### High-tech fluids help to keep vehicles healthy

A vehicle relies on the effectiveness of its vital fluids to keep its moving parts operating efficiently, reliably and safely and you ignore them at your peril.

The list of liquids includes gasoline, motor oil, anti-freeze, windshield wiper fluid, brake fluid, automatic transmission fluid, specific lubricants for manual gearboxes, the transfer cases in four-wheel-drive vehicles and the differential in rear-drive vehicles, plus power steering fluid.

All are specially formulated high-tech chemical cocktails, so the correct type and grade must always be used and, because they can break down with time and usage, they need replacement at the intervals specified in a vehicle's owner's manual, says Car Care Canada.

Fuel chemistry is something we don't think much about, but the correct octane rating is important to engine operation and poor quality fuel may not contain the additives required to meet seasonal requirements and keep fuel injection systems functioning properly.



Motor oil is your engine's life blood. It not only lubricates, reducing wear, but performs the task of keeping combustion contaminants, metal fragments and dirt etc. in suspension to be carried to the filter or removed when the oil is changed. Another reason not to ignore oil changes is that its chemical structure and the ingredients added to it begin to break down with time, and it loses effectiveness. Oil life monitoring devices are becoming more common these days, but unless you have one, stick to the manufacturer's recommended oil change intervals.

Transmission fluid performs a number of functions. It lubricates, transmits drive in the torque converter, acts as a hydraulic pressure medium and as a coolant. Most older vehicles should have it changed at 30,000-50,000 km intervals but new semi-synthetic fluids have stretched this to 80,000-100,000 km or more on some new cars. Its level should be checked after a short warm-up drive with the engine idling in park. The fluid on the dipstick should be red. If it is brown and has a burnt smell, this indicates a problem. If you do need to add fluid make

sure you use the correct type.

A number of oils with unique properties have been developed to lubricate manual transmissions, the differentials and 4x4 transfer cases. Use only the correct product and while change intervals are often lengthy they shouldn't be overlooked.



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Anti-freeze not only acts as a coolant, allowing today's engines to run at higher temperatures than ever before, but it has lubricating and anti-corrosion properties that help water pumps and radiators live longer more productive lives. Because these additives can weaken with time anti-freeze should be replaced every two years.

Brake fluid is something we rarely think about, but it too is a complex product that transmits hydraulic pressure to and also lubricates brake components. It also has to deal with extremely high temperatures and resist contamination by moisture. It must be checked regularly (if it needs topping up leak should be suspected and dealt with) and changed as required.

Power steering fluid levels should also be looked at frequently and changed according to manufacturers recommendations.

Windshield washer fluid needs to be of a good quality and meet temperature requirements in your area. Keep the reservoir full so it's always available when required.