

Engine Oil

The oil in the engines of automobiles can be subjected to a wide range of temperatures, from extreme cold to extreme heat, the viscosity (thickness) of the oil will be high (thick) when cold and low (thin) when hot. Extremely thin oil cannot protect an engine from damage as the thin oil will allow the metal parts to rub against each other causing heat and wear. This will result in massive engine failure. Oil that is too thick cannot be adequately distributed throughout the engine to protect it. The oil must be thin enough so it can be pumped throughout the engine and yet thick enough to keep the metal engine parts from rubbing against each other, or some type of additive must keep the parts from rubbing together. A single viscosity oil cannot adequately protect your engine from this wide temperature range - NEVER - NEVER use it in your car.

Multi-grade motor oil

To resolve this problem, special polymer additives called "viscosity index improvers" are added to the petroleum based oil. These additives make the oil stay within a closer range of viscosity whether hot or cold. Multi-Grade oils are designed to maintain the viscosity of the lower number when cold and the higher number when very hot, providing much better engine protection than single viscosity oils.. The polymer additives do break down from thermal and mechanical degradation as the oil ages and wears out. This results in increasing the carbon build-up (sludge) in your engine and oil changes must be frequent enough to flush this sludge out of your engine before it builds up. Frequent oil changes are critical to the health of your engine if you use these oils.

Common Multi-Grade Designations

- 0W-20
- 5W-20
- 0W-30
- 5W-30
- 10W-30
- 0W-40
- 5W-40
- 10W-40
- 15W-40
- 20W-40
- 5W-50
- 10W-50
- 15W-50
- 20W-50

Synthetic oil and synthetic blends

Synthetic oils were first formulated in the mid-1970's for automotive engines. They had been originally developed for gas turbine jet engines that were subjected to extremely high temperatures. Synthetic oils have a broad viscosity temperature range of polymer-enhanced oils but the polymers are not actually present so there is no break-down. The viscosity still decreases somewhat as the temperature rises but not as severe as regular oil. Synthetic oils do not degrade as soon as regular oils so the oil can stay in the engine longer. Particulate matter (dirt, carbon and metal particles) still builds up in the engine so the oil must still be changed periodically to flush these out of your engine. Some producers claim their synthetic oil can take over 12,000 miles between changes.

True synthetic oil is reportedly superior to conventional oil in many respects, providing better engine protection, performance, better flow in cold starts and better metal separation when hot.

NOTE: No matter what any body tells you, synthetic oils will not “break loose” old sludge any faster than clean regular oil. I have changed many old cars over to synthetic oil with no problem whatsoever. Synthetic oil will give your engine better protection under all circumstances - - so, use it!

- Kaiser Bill

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