Buehler
AUTOMOTIVE & TRANSMISSION INC.
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Motor Oil Facts

It's no exaggeration to say that without oil, the world would come to a halt. Motor oil is essential for almost any engine. You have a big investment in your vehicle, so it's important to understand the terminology and what oil to use in your engine. We will address some of the reoccurring questions that we get asked from time to time.

Statement: If the oil turns dark or black quickly it's no good. You can tell the condition of oil by the look, smell or color of it. Dirty (black) motor oil means the oil is breaking down.
Fact: A common misconception is that high quality motor oil should come out of an engine looking clean at the time of an oil change. Nothing could be further from the truth. If the oil is doing its job of cleaning the engine, then it should be dirty when it is drained. High quality motor oil will start looking dirty a short time after it is put to use. In the case of diesel engines, the oil will look dirty within a few hours of operation. These are signs that the motor oil is doing its job of keeping soot, dirt, and other combustion contaminants in suspension to be carried to the filter or removed from the crankcase when the oil is changed. Quality motor oils are formulated to hold these contaminants in suspension until they can be removed with an oil and filter change

Statement: Using synthetic motor oil will void a manufacturer's warranty. You can't switch from synthetic oil to conventional oil or vice versa. Synthetic and conventional engine oils can't be mixed, or else they react and cause engine problems. Synthetic oil lasts longer than conventional oil or extends the oil drain interval
Fact: As long as the synthetic product meets the viscosity and performance requirements outlined in the vehicle's owners manual it is quite acceptable to use. You may interchange them with each other, however it is not recommended to mix them with non-synthetic oils. It is also, not recommended to keep switching from synthetic to non-synthetic. Auto manufacturers do not recommend extending oil change intervals beyond the "severe service" maintenance interval of three months or 5,000 kilometers whichever comes first.
The majority, of motor vehicles, are operated in "severe" driving conditions, defined as short trips (under 20 kilometers), dusty or sandy conditions, cold or hot weather, extended idling periods, trailer towing or other harsh conditions. Under ideal conditions, however, such as a dust-free climate, highway driving, light loads, perfect engine performance, etc., the oil change interval may be extended to the vehicle manufacturer's recommended "normal service" period (generally between 5,000 to 10,000 kilometers). Contamination by normal wear particles, water, fuel, and other combustion by-products, as well as additive depletion, are the main reasons for changing oils on a regular basis. Synthetic oils are equally susceptible to this problem. The only way to remove these contaminants is to change the oil and filter within manufacturers' recommended intervals.

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Statement: Heavier and thicker grades are better
Fact: There are two main reasons why vehicle manufacturers recommend thinner or lighter viscosity grades of motor oil. First, a gain in fuel economy can be achieved with lower viscosity oil. At cold temperatures and at start up, lower viscosity oil will reduce internal engine friction. About 10% of the engine's horsepower is lost to internal engine friction, resulting in a drop in fuel economy. Second, thinner motor oil is essential for easy starting, particularly in cold weather, and for proper lubrication once the engine starts. Today's smaller engines have smaller clearances and tighter tolerances between moving parts, and there have been some instances where serious engine damage has occurred because of inadequate lubrication with higher viscosity grades in colder weather. Thinner oils, such as 5W-20, will flow faster than heavier motor oils during start-up and initial engine operation and will help protect the engine from excessive wear. Multi-grade oil will also offer the same high temperature protection as single grade motor oil. Always check your vehicle owner's manual to select the proper viscosity grade based on the expected temperature range.
The viscosity grade(s) recommended by the vehicle manufacturer depend somewhat on engine design. Engine manufacturers have spent considerable time and expense experimenting with different viscosity grades and have indicated in the owner's manual the grades they feel will best protect the engine at specific temperatures. While one manufacturer's engine may require a 10W-30, another manufacturer's engine may require a 5W-20-viscosity grade. This is likely due to different tolerances within the engine or other engine design factors.

Statement: I don't drive under severe conditions.
Fact: Even with the best oil, after a while the additives are depleted and the oil becomes too dirty to function effectively. Although improvements in engines and oils and the use of unleaded gasoline have extended "normal-service" oil-change intervals to as long as 10,000 miles for some vehicles, the recommended interval for "severe-service" conditions is three months or 3,000 miles, whichever comes first. Because most drivers operate under severe-service conditions, the OEM's recommend three-month/3,000 mile oil change interval. The time limit may come before the mileage limit. Your vehicle owner's manual specifies the correct oil-change intervals for the car—under both normal and severe-service conditions.

The automobile manufacturers set their oil drain intervals based on laboratory engine test results, fleet test results, and used oil analysis results. They also base intervals on the assumption that the consumer will follow recommended preventative maintenance practices, and maintain proper oil levels. Engines that operate with oil levels lower than the full level by as little as one quart dramatically increase the severity of the conditions on the oil remaining in the sump.