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OK. We've covered the functions of engine oil in Engine Oil 101 and set out the differences between mineral based, synthetic and synthetic blend engine oils in Engine Oil 201 (both available on www.seekins.com by clicking on the Column Archive tab). Now, let's talk about what type of engine oil you should consider using in your vehicle.

First, you should check your vehicle manufacturer's owner's manual. It will specify that oil with a certain American Petroleum Institute (API) rating must be used. The manufacturer has developed a specification that defines the minimum acceptable performance requirements and physical/chemical properties of engine oils to be used in its engines.

For example, the owner's manual for a current model Ford Focus requires that the owner use 5W-20 engine oil in all temperature ranges and further requires that it meet the current engine and emission system protection standards of the International Lubricant Standardization and Approval Committee (ILSAC comprised of U.S. and Japanese automobile manufacturers). And, how do you know if the oil meets those standards? Quite simply, it will have an American Petroleum Institute trademark symbol on the oil bottle certifying it meets API requirements "For Gasoline Engines." If it doesn't

ENGINE OIL 301

have the trademark symbol, don't use it.

A diesel engine probably will be different. The manual for my current model diesel truck requires that I use API service category CJ-4 or CJ-4/SM engine oils and recommends using SAE 5W-40 in outside temperatures of 20°F and above and either 0W-30 or 0W-40 at temperatures below 20°F.

Using the required specification motor oil provides the greatest degree of protection for the engine. It provides the proper friction reducing additives. It provides the greatest probability that oil will get to the engine's lubricated parts in the shortest possible timeframe. And, it assures that the oil will not thin out to unacceptable levels at high operating temperatures. By the way, most manufacturers tell the owner not to use supplemental engine oil additives, cleaners or other engine treatments as they are unnecessary and could lead to engine damage that is not covered by the manufacturer's warranty.

So, now that we have determined what weight and specification oil to use, let's discuss what type we recommend for operation in our Interior Alaska environment.

We absolutely do not recommend a straight mineral oil ever be used. Frankly, we generally recommend using synthetic blend motor oil for operations in Interior Alaska. There are a couple reasons why.

First, we probably have the most divergent weather systems in the United States with highs in the 90s and lows in the minus 60s on a recurring 6 month cycle. As a result, our vehicle engines experience a much higher level of contaminants (particularly moisture from condensation) than would be found in more moderate climates. Hence, because we are a "severe duty" locality, we should be changing oil and filters in shorter intervals than most other places. Now, don't get me wrong, full synthetics do a great job up here. They pour better at low temperatures and they thin out less at hot temperatures than do synthetic blends. But they get contaminated just as soon as do the synthetic blends and they cost significantly more. And, since we recommend oil and filters be changed at least four times a year, using a full synthetic increases the annual cost of an oil change by somewhere around \$50.

Here's what I do. From September through March I use one of the modern full synthetics. From April through August, I use a synthetic blend. I know my truck's engine will be protected better and run more efficiently with that schedule. That, frankly, is what I recommend for anyone who wants their engine to last longer and perform better. I'll bet you're in that same category.

Meanwhile, have a merry Christmas and a happy holiday season.

Ralph Seekins has more than 40 years' experience in the automotive industry. He started as a mechanic, worked in sales, and for the past 33 years, has been the owner of Seekins Ford Lincoln Mercury. If you have an automotive question you'd like answered, forward it to ralphs@seekins.com.