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The Truth About Engine Oils and Oil Coolers

For years there has been a lot of controversy over engine oils and oil coolers. Harley-Davidson engines are probably the most misunderstood engines in the world on this subject.

First, everybody BUT EVERYBODY has an opinion on this subject. The opinions vary greatly.

Second, the subject of oil seems to be like a cult or religion to many people and by God you don't mess with their religion or they get real defensive. An example of this would be the guy with the older Harley (i.e. shovel, pan, etc) who was told 20 years ago to use straight 70 wt. oil while hanging an oil cooler out in the breeze to try to keep the engine from over heating. Not only is this not necessary but it can actually cause more harm than good.

Many old school shops sold people on these types of theories because the engines these shops were building were set up loose with poor machine work and low quality gaskets and seals and the use of super heavy oil helped to hide problems like noisy, smoking and leaky engines.

It is actually highly unlikely to over heat the oil in an H-D engine but its still a subject that should be addressed. The real problem is cylinder head temperature; and oil has little to do with this. Believe it or not, the new all aluminum twin cam engines have more oil heat issues than any of the old motors; cast iron or otherwise. That's a whole other subject.

When you're sitting on your bike idling at a stop light on a hot day it is understandable to think your engine is over heating and heavier oil is better. Keep in mind you are sitting directly over your engine. There is really nothing between you and your engine; of course it feels damn hot. In reality the engine of the car next to you is just as hot (**possibly hotter**) but the car driver doesn't know it because they are in the car, behind the firewall, in air conditioning, oblivious to all of this. If you were to lift the hood of the car and sit on top of the car engine you'd understand. The oil temperature in the car engine (not cylinder head temp) will most likely be the same as the bike (usually hotter) but you don't see anyone dumping 60 or 70 wt. oil in his or her car engines do you?

The component temps and load factors are different in our roller bearing air-cooled motorcycle engines than in liquid cooled plain bearing car engines and we do generally need higher viscosity oil in our bikes. For most people, most of the time, multi-viscosity 20W50 motorcycle oil takes care of your engines needs as well as anything. Exceptions may be if you ride in extreme cold or extreme heat. For extreme cold you may be better off with a little lighter viscosity oil or for extreme heat you might consider straight weight oil but keep it at 50 wt. or below. If you truly need anything heavier than 50 wt you've got other problems with your engine. Thicker is **NOT** always better; it may just be a cover-up.

Another common question is can I use car oil in my bike to save some money? The answer is yes. You can also eat fast food everyday but that doesn't mean it's good for you.

Motorcycle oils, or any air cooled engine oils cost more than regular car oils for a reason. Not only do they start from the higher end base stocks but their additive packages are designed for the extreme duty demands of air cooled engines. Many of the extreme duty additives, such as Zinc, have been removed from car oils to meet emission requirements. In general, cars can get away with this because a) They don't really ever have to work all that

hard, and b) being liquid cooled their operating temperatures are regulated by a thermostat that keeps them in the “normal” operating temperature range basically at all times.

Now for oil coolers. The answer to all the arguing about whether to install an oil cooler or not is so simple it's almost a no brainer.

- First> Obtain a good, reliable candy thermometer, not a dipstick thermometer because they are most always inaccurate.
 - Second> Ride your bike under all of your many normal riding conditions. Continually checking your oil temp in the tank. Take Notes!
 - Third> Do whatever it takes to keep your normal oil operating temperature in the range of 180 to 240 degrees Fahrenheit.
- That's it. The decision is yours!

Those of you who have questions or comments regarding the opinions stated in this article may send an email to mmchoppers@hotmail.com.

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