I get asked all the time "why do you advise against the use of 10w-60?".

Let's get one thing clear, I supply 10w-60 and recommend it where it is appropriate for the engine or the application but conversly I caution against it's misuse!

I have debated this many times on many car forums and I know there are some that do not agree with me however I have never had a reasonable technical explanation why 10w-60 is in fact suitable, it's certainly not mentioned in the handbooks of many modern highly tuned performance cars, with the exception of some Alfa Romeos for "spirited driving" whatever that is meant supposed mean.

Explaining this is diffucult so there may be questions but I'll try my best to explain it in plain English!

Lets look at what **oil** specs actually mean and particularly the higher number which is in fact the oils SAE number (the "w" number is in fact the cold crank viscosity and measured in a different way) The SAE number is measured by the oils viscosity at 100degC.

Your cars require according to the manufacturers specs, sae 30, 40 and in some cases sae 50.

To attain the relevent sae number the **oil** has to be at 100degC (no thinner than)

SAE 30 11cst approx
SAE 40 14cst approx
SAE 50 18cst approx

Centistokes (cst) is the measure of a fluid's resistance to flow (viscosity). It is calculated in terms of the time required for a standard quantity of fluid at a certain temperature to flow through a standard orifice. The higher the value, the more viscous the fluid.

As viscosity varies with temperature, the value is meaningless unless accompanied by the temperature at which it is measured. In the case of oils, viscosity is generally reported in centistokes (cst) and usually measured at 40degC and 100degC.

SAE 60 is in fact 24cst viscosity at 100degC!

This is 33% thicker than an sae 50, 70% thicker than an sae 40 and over 100% thicker than an sae 30!

So, what's the problem with this thickness?

Well, this is measured at 100degC and at lower temps (70-90degC) all oils are thicker than at 100degC so the problem is compounded to some extent.

The downsides of such a thick **oil** (when not specified) are as follows:

Additional friction, heat and wear.
A reduction of BHP at the wheels
Lower fuel consumption

The thicker the **oil** is the more friction and drag and the more power the engine needs to move it around the engine which inevitably translates to less at the wheels.

So, when do we spec a thicker **oil**?

Well, you will probably have seen us on occassions recommending a 10w-50 but only in these

circumstances.

1. If the car is heavily modded and heat/oil temperatures are excessive.
2. If the car is used on track and heat/oil temperatures are excessive.
3. If it's required by the handbook.

Our criteria for this is based on **oil** temps as an sae 40 semi-synthetic can handle around 110degC for limited periods whereas a proper synthetic sae 40 can hande 120-130degC for prolonged periods due to its thermal stability.

Once you see more than say 120degC for prolonged periods an sae 50 is adviseable as it is 18cst at 100degC and still 11cst at 130degC! This is in fact the same as an sae 30 at 100degC.

More importantly at 90degC an sae 40 is 15cst, an sae 50 is 20cst and an sae 60 is 30cst!

In a worst case scenario with thick oils (when not required) is that you will experience air entrainment and cavitation inside the bearings at high RPM. Not clever stuff!

I know this is technical stuff but **oil** is a combination of science and engineering and few people know enough about it to make an informed choice. Just because your mates use it and have had no problems is not a good enough reason to use it, your engine would prefer and benefit from the correct **oil**.

Cheers
Simon