



## FAQs Sheet: Engine Oils - General

### 1. What does the “viscosity” of an oil mean?

Viscosity is a measure of the thickness of an oil. The viscosity (thickness) of the oil at low and high temperatures is measured on a scale determined by the Society of Automotive Engineers and given a number known as the SAE number. Therefore SAE 30 oil will be thinner than an SAE 40.

### 2. What is meant by multigrade?

Multigrade oils were developed in the 1960's and have a designation in the format 20w50. Prior to this, all oils were monogrades. This was made possible by the invention of polymers. Polymers are clever molecules that expand as they get hotter. Therefore a multigrade oil can have the viscosity of an SAE20 when it is cold and the viscosity of an SAE50 when hot. This removes the necessity to change from a thin oil in the winter to a thicker oil in the summer. The 20w number is the cold viscosity and the 50 number is the viscosity at 100 centigrade.

### 3. What is the difference between a mineral and synthetic oil?

Both types begin with crude oil. Mineral oil is obtained directly from the refining process, whereas synthetic oils are subjected to chemical processing which alters and improves its chemical structure. Synthetic oils therefore have better performance than mineral oils at higher and lower temperatures, but are inherently more expensive.

### 4. What are the specific characteristics and advantages of synthetic oils?

As with mineral oils, there are differing levels of quality within the definition of synthetic oils, but the general advantages are: Better flow at low temperatures enabling thinner oils to be manufactured. Thinner oils are required by modern engine designers to help reduce fuel consumption and emissions. Higher film strength thereby reducing wear. More stable and less volatile at high temperatures, reducing oil consumption (Note; for a detailed explanation, refer to the article from Race Engine Technology magazine in the Motorsport downloads section.)

### 5. What is a semi synthetic oil?

As the name suggests, a semi synthetic is a blend of mineral and synthetic base oils. The performance (and price) therefore falls roughly mid-way between a mineral and a full synthetic oil.

### 6. Do I need a different oil for a diesel and petrol engine?

Generally the answer is yes for older vehicles, as diesel engine oils have higher detergency levels. It is important to refer to the vehicle manufacturer's handbook to establish exactly which specification of oil is required. This is vital if your car has extended service intervals and you are still within the warranty period. However the latest trend on new vehicles is to use the same formulation on petrol and diesel versions.

### 7. Why are synthetic oils more expensive than mineral oils?

It is all about quality and performance. A synthetic oil is subjected to much more sophisticated manufacturing techniques and this means it is more expensive to manufacture. However, it has many performance advantages (see Q4) which justify the additional cost. For example, it enables longer service intervals, reduces oil consumption and contributes to improved fuel consumption. It follows that a semi synthetic oil will cost more than a mineral, but less than a full synthetic.





## FAQs Sheet: Engine Oils - Classic Products

### 1. Are modern engine oils suitable for older vehicles?

No. Modern engines are designed to run on very low viscosity (thin) oils. 5w is common and 0w oils are starting to appear. These are much too thin for older engines, which were designed to run on 20w in the winter and 30 or 40 grades in summer.

### 2. Which oil should I use in my vintage car or bike engine?

Vintage, i.e. pre WW2 cars had very primitive oil filtration systems and used non-detergent oils, such as our Millerol range. The Millerol range contains anti-wear and anti-corrosion additives, but does not contain detergents. A lower viscosity oil would be needed in the winter, such as Millerol 30 and a higher viscosity in the summer, such as Millerol 40. The gearboxes also use the same type of oil, usually a higher viscosity than the engine, e.g. Millerol 50. The oil needs to be changed regularly due to the lack of detergent content.

### 3. Is it possible to use a more modern type of oil in these very old engines?

Yes. Our later formulations, Pistoneeze and all our multigrades are detergent oils. Detergents keep the oil clean by holding the products of combustion in suspension in the oil and prevent the formation of sludge in the sump. It is possible to use these types of oil (of the correct viscosity) providing you are sure that the engine is clean inside and does not have any build up of sludge. This will be the case if it has been freshly rebuilt or is already running on a detergent oil.

### 4. Which engines would use your Classic 20w50?

Classic 20w50 is a mineral multigrade and is typical of the viscosity of oil specified for the majority of engines from 1960 to 1980. As mentioned above, it can be used in older engines providing they are clean inside. Being a multigrade, there is no necessity to change the oil between winter and summer.

### 5. Why do you also sell Classic Sport 20w50?

Classic Sport 20w50 is a semi synthetic version of Classic 20w50. Being a semi synthetic, it has a higher performance capability than Classic 20w50. It has been developed for high performance classics such as Jaguar, Aston Martin, MG, Triumph, Porsche, Alfa Romeo etc. It is perfect for tuned engines and /or high speed running

### 6. Did I hear that you do a special oil for the original Mini and other applications where the engine and gearbox share the same oil?

Yes, Classic Transverse M 20w50. Again it is a version of Classic 20w50, but it contains additives that protect the gearbox. It is also perfect for gearboxes that specify a 20w50 engine oil (e.g. MG and motorcycles), as it will give additional protection to the gears and the overdrive.

### 7. I have just rebuilt my engine, how do I run it in?

Millers make a special Classic Running In Oil, which should be used for the first 500 miles. After this, you should change the oil filter and replace the running in oil with the engine oil of your choice.

