

Lubrication

Automotive
Engine
Oils
Fact Sheet

Lubrication

*An important message
for motorists*

CORRECT LUBRICATION -

- SAVES FUEL
- REDUCES MAINTENANCE
- EXTENDS ENGINE LIFE

*The purpose of this leaflet is to
help you select the correct oil
for your car!*

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Correct lubrication can save motorists the price of many gallons of fuel a year in addition to prolonging the engine life in their vehicles.

Too often, the phrase "oil is just oil isn't it?", is heard. In reality, oil is not just oil but is (or should be!) a highly sophisticated mixture of components, designed expressly to reduce friction and wear in the engine.

THE DAWN OF THE MOTORING AGE

In the early days of motoring, an oil, refined from crude oil - and known as mineral oil, was the only component of an engine oil. Oil changes were frequent due to the rapid breakdown of the oil e.g. every 250 miles for a 1921 "Bullnose" Morris Oxford. The low powered engines of that period also needed frequent servicing, with rebore at 10,000 miles being the norm.

Compare that with today, where engines with at least some ten times the power will cover 150,000 miles or more without major overhaul, and with oil change intervals of up to 15,000 miles. The stress on the lubricant, in terms of operating conditions and life expectancy, has increased enormously, and the performance of today's lubricants has only been made possible through improvements in additive and refining technology.



The use of high quality Western European basestocks or synthetic fluids, modern additive packs, comprehensive oil condition monitoring programmes and wider viscosity bands in the right combination will deliver the benefits of improved engine protection and quality products, it is necessary to invoke some form of testing and then to devise specification limits which will differentiate between oils of different qualities.

HOW DO I SELECT THE RIGHT OIL FOR MY CAR?
First Check Your Vehicle Handbook!

1. VISCOSITY REQUIREMENTS

Viscosity quite simply is the "thickness" of an oil, most typical being 10W/40 or 15W/40.

If the viscosity of the oil is too high (thick), the engine will be difficult to start, particularly in cold weather. Also, because the oil is more difficult to pump, the oil will not reach all parts of the engine quickly enough after startup to prevent wear taking place.

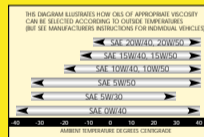
If the viscosity of an oil is too low (thin), there is a danger that the lubricant film will break down in bearings, allowing metal-to-metal contact to take place, which will produce rapid wear.

Multigrade viscosity motor oils are now universally used in the UK, probably the most typical being 10W/40. They were

introduced in the late 1950s primarily to allow the same grade of oil to be used in summer and winter.

It is important that an oil of the correct viscosity is used. A vehicle manufacturer will normally stipulate a range of viscosities in the vehicle handbook, which depend on typical local ambient temperatures in the region in which the vehicle is normally used.

However, the viscosity rating of an oil is no guarantee of the 'quality' of an oil NOR its ability to protect the engine over long periods of time.



2. PERFORMANCE REQUIREMENTS

Unfortunately, the terminology used to differentiate oils in terms of performance is complex. The two most commonly used specification systems are known as the American Petroleum Institute (API) system from North America, and the Association