

Lubrication

Commercial
Diesel Engine
Oils
Fact Sheet

Lubrication

*An important message
for Fleet Operators
and Buyers*

CORRECT LUBRICATION -

- SAVES FUEL
- REDUCES MAINTENANCE
- EXTENDS ENGINE LIFE

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

BLF

BLF

Correct lubrication can save hauliers literally 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 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 Scammell truck. The low powered engines of that period also needed frequent servicing, with rebore required at least at every 10,000 miles, for example.

Compare that with today, where heavy duty diesel engines with many times more power will cover literally hundreds of thousands of miles without major overhaul, and with oil change intervals now extending up to 50,000 miles and more.

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 technology and the use of high quality West European basestocks or synthetic fluids. In addition, comprehensive oil condition monitoring programmes and wider viscosity bands will deliver the benefits of improved engine protection and extended drain intervals.

HOW DO I SELECT THE RIGHT OIL FOR MY VEHICLE?

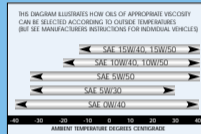
First check your vehicle manufacturer's advice in the workshop manual!



1. VISCOSITY REQUIREMENTS

Viscosity quite simply is the 'thickness' of an oil.

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.

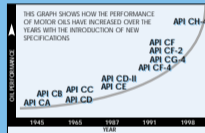
Multigrade viscosity motor oils are now universally used in the UK, probably the most typical being 10W/40. They were introduced in the late 1950s primarily to allow the same grade of oil to be used in summer and winter.

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 of 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 des Constructeurs Europeen d'Automobile (ACEA) system from Europe.



THE API SYSTEM

The API designation is based on an alphabetical system, with the letters API being followed by 'C' (Commercial) series for diesel engines.

For the example of diesel engine qualities, specifications have advanced over the years from the pre 1940s CA through to today. The 'CA' category mainly of mineral oil, with little in the way of any additives to provide extra performance. As oil technology improved, specifications moved upwards, being introduced in the years shown overleaf: