

# UNDERSTANDING VETERAN, VINTAGE & CLASSIC OIL USES

## ENGINE INFORMATION

### Why do our hobby cars need a special engine oil rather than the latest products on the market?

Modern engine oils are formulated to meet the requirements of the latest designs and also the fuel consumption and emission targets laid down by the legislators in many parts of the world. To meet these targets the latest engine oils are very light viscosity multigrades which whilst being suitable for modern engine designs, are not suitable in earlier veteran and historic engines.

These cars were originally built with different technologies and tolerances to late model vehicle. They also spend the vast majority of their time idle. Whilst a non-working engine is not wearing itself out, unprotected surfaces such as cylinder walls, camshafts, etc can be subject to corrosion. Modern thin oils designed to circulate quickly through an engine will drain away from the internal surfaces back to the sump leaving little protection to the parts above the oil level and therefore prone to corrosive attack.

### Penrite Heritage, Shelsley and Classic oils are specially formulated to overcome this problem in two ways:

**1.** Incorporation of a tacky additive which makes the oil remain on the surface of the hot metal which not only provides an oil film to protect the surface from corrosion but overcomes the dry "start-up" problem.

**2.** Making sure that the residual oil film has exceptional corrosion protection by means of special anti-corrosion additives in the oil formulation.

The engine is thus protected whether it is running or laid up.

### What are the roles of detergents and dispersants in engine oils?

Detergents are incorporated into all modern motor oil formulations and have been since the 1940s. Their function, as the name suggests, is to maintain internal engine cleanliness particularly in areas of high temperatures such as piston skirts, ring lands (the slots in which the rings sit) and other components. They are also useful in combating the effect of acid contamination of the crankcase oil caused by the by-products of combustion. Dispersants keep all the soot particles and other solid contaminants in a "dispersed" condition and stops these collecting together-agglomerating-into larger molecules and forming engine sludge and other harmful deposits.

These two additives are mainly instrumental in giving marked improvement in engine lubrication when comparing today's formulations with those of the vintage and classic period.

### These improvements are:

**1.** All the contaminants that caused sludging in engines is now neutralised and removed during oil change. This is why modern oils discolour with use but the engine stays clean where as in the past oils stayed

eliminated and engine life extended. Corrosion of bearings etc, are now a thing of the past. In cars with restored engines, the use of an engine oil containing detergents and dispersants will not cause any problems.

### **DO Modern Oils affect rubber seals?**

Many years ago an inferior supply of synthetic rubber seals which gave no end of trouble causing significant leaking problems. Rubber seals today are made from viton and polyacrylate and if properly fitted will certainly do their intended job. Prior to the use of rubber, seals were either made of cork or felt, and before that leather, and trying to make them leakproof was nearly an art in itself! Modern oils will not harm these seals.

Cars still fitted with original type seals may encounter leakage past the seal due to hardening. In such cases the seal should be replaced.

### **Penrite produces a range of engine oils called "Heritage", "Shelsley" & "Classic". What are these oils?**

These oils have been designed specifically to cater for veteran, vintage and classic vehicles based around the characteristics of engine design of the period.

**Heritage:** Comprises two grades and caters for vehicles up to 1920. The oil for these engines has been designed around the lubrication system incorporated in these early vehicles; namely total loss, wick feed, mechanical and the early forms of pressurised lubrication.

**Shelsley:** Comprises of three oils and relates to the manufacturing period of 1920-1950. The oils in this range have been formulated to cover a wide span of ambient temperatures, which is more beneficial in

these types of vehicles than the more modern oils used in vehicles of today.

**Classic:** Comprises of three oils and covers the period from 1950-1989. The additive package used in these oils differs from the Shelsley and Heritage range in that these oils have been designed specifically for vehicles of this period, but with far superior performance levels than those used at the time.

### **My car is 1920's vintage and I've been told that I must use a monograde oil because that is what was used**

#### **when new. Is this correct?**

There is no problem using 1920s technology if you are prepared to put up with the problems associated with these types of oils. One of the problems encountered in the '20s was that prior to moving off from cold, the engine had to be warmed up to reduce the viscosity to enable the oil to "flow" and depending on the thickness of the oil probably determined the time it took to warm up.

Another problem encountered with monograde oils was how rapidly the viscosity fell away once the oil was hot leaving little oil pressure, and consequently little in the way of engine protection. The Shelsley range of engine oils has been developed to offer good low temperature flowability, the necessity to "warm up" being reduced.

Coupled to that, the rate of viscosity loss with increasing oil temperature is far superior than the original oils used thus maintaining better oil pressure, oil consumption and general overall protection.

### **This is a serialized extract of a much larger article, Next edition " Why can't I use a modern 05W-40 grade oil in my vintage vehicle?"**