CHOOSING THE RIGHT ENGINE OIL

It is tempting to think that modern engine oils must be better for your car than the old ones because technological progress must have made them better. In fact, the reverse is true. The following article has kindly been provided by Castrol to the Federation of British Historic Vehicle Clubs for dissemination throughout the classic car movement. It explains why engines from different eras have very different needs when it comes to lubricant. Engine oil formulas have had to change because of the introduction of catalytic converters, which can be damaged by anti-wear additives essential for older engines. So you need to be sure your oil still has the right additives and characteristics to suit your engine.

Established in 1899, originally as C. C. Wakefield, Castrol launched their first lubricant for cars in 1906 and have been at the leading edge of lubrication technology ever since. With the introduction of low-viscosity engine oils and changes to anti-wear additives in modern oils in recent years, owners of veteran, vintage and classics are asking whether modern oils are suitable for their cars.

Choosing the correct lubricant for your veteran, vintage or classic vehicle is essential to ensure peak running and maximum wear protection. The technology of older vehicle engines is very different from that of today's modern cars, so to assist owners, Castrol reintroduced their older brands with their Classic Range in the early 1990s. These classic oils are produced to original viscosities and, importantly, have retained the necessary levels of additives including anti-wear additive "ZDDP" (zinc dialkyldithiophosphate) appropriate for the technology of the engines they are designed for and to provide overall protection. The ZDDP levels are appropriate for engines that are in use or running in, including those with new or reconditioned components, where care should always be taken to follow the manufacturer's recommendations when breaking in new components such as camshafts.

ZDDP additive provides a high level of anti-wear protection but its phosphorous content is harmful to catalytic converters and other emission equipment fitted to many modern vehicles. It has therefore been reduced in the latest specification oils designed for engines using the latest surface-hardening technology and meeting the latest emission requirements for modern vehicles. These requirements also necessitate the use of other new emission-equipment-friendly additives not designed for use in veteran, vintage or classic car engines.

The formulations required for today's modern vehicles are very different from those needed for older vehicles, having thinner viscosity and alternative additive technology. Oils for modern engines comply with the latest API ratings of SG and SH and are ideal for the design of a modern engine. A classic car engine has the opposite characteristics with cork/graphite/rope seals, low pressure cog driven oil pumps, wider oil ways with greater dependence on "splash" and "cling" lubrication, lower revving with lesser machine tolerances. Such a widely different specification demands a totally different lubricant. Oils of even the same viscosity supplied by different oil companies can have radically different formulations and thus have significantly different performance characteristics. Oil classifications are designated "S" (for spark ignition petrol engines) and "C" (for compression ignition diesel engines). Oil classifications for older vehicles range from SA for vehicles from the turn of the last century to SH for the 1980s and early 1990s.

- Inadequate anti-wear additive allows the oil film between moving parts to break down prematurely, causing metal-to-metal contact and damage to reground or new engine components, especially during run-in.

- Inadequate detergent will result in gum and lacquer clinging to the hotter engine components - too much detergent can cause a build up of metallic ash in the combustion chambers of older engines. In older engines with traditionally high oil consumption, this will cause detonation and pinking.

- In older engines where the carbon has built up over a number of years the detergents can also have a scouring effect causing the carbon to flake off, blocking up oil galleries and spray jets. High levels of detergent will "wash" traces of carbon from seals and gaskets, revealing oil leaks.

- Inadequate anti-oxidant and the oil will permanently thicken during high temperature motoring, with large amounts of gum and varnish clogging filters and piston rings.

- Inadequate corrosion inhibitors and engine internals become pitted with corrosion and rust from acids and water formed during combustion.

- Inadequate dispersing results in soot, wear metals and the by-products of combustion settling out in the sump to form a thick sludge, that will block filters and oil ways. Inadequate pour point depressant and the oil ceases to flow at low temperatures, with excessive strain on the oil pump or in certain cases, oil starvation on start-up causing complete failure of the lubrication system.

Castrol Classic Oils are formulated in the style of the original products but using the most appropriate additive technology to provide the best protection for your classic engine. The range offers formulations for older vehicles that have been specially blended for the work they have to do. It is available nationally from over 600 of the country's leading marque specialists.

For details of Castrol Classic Oils stockists, please call us on 01954 231668

Note: The correct choice of oil for the MG Z Magnette is Classic XL 20w-50. For other lubricant recommendations see www.castrol.com/uk/classic