



After a winter rest petrol will certainly not be in the same state as when you put it in there. I have spent the last month trying to salvage the carburettors from my 40 year old Kawasaki Z900 which have been ravaged by stale petrol. The green furry residue that remains is very difficult to remove and there are corrosion craters within the carburettor bodies too.

#### In summary;

1. Various companies sell fuel preservers and/or stabilisers as an additive, Millers and Silkolene seem to be a good choice for these additives. (Other

additives are available)

2. If you have cause to replace your rubber fuel pipes make sure the replacements are ethanol tolerant, natural rubber can perish in under six months.

3. Shop wisely for your petrol and use Super Unleaded where you can due to its better octane rating. Below is a list of what I could collate from some of the petrol suppliers, they are not very obliging when it comes to parting with their information! BP ethanol is added at 5% to unleaded petrol at all its sites in the UK. BP Ultimate (super unleaded) does not have ethanol added, except in the South West of England where it is at 5%.

Esso ethanol is added at 5% to all petrol at "most sites" in the UK.

Shell V-Power has 0.1% ethanol, no figures are available for their other fuels so it would be logical to expect to find 5% added. (data supplied is dated 2009.)

Tesco Tesco Momentum is a leaded fuel but does contain 5% ethanol. Their standard petrol has 3% methanol and 5% ethanol <http://www.tescopfs.com/momentum99/specifications> (Eds note - Tesco website now says this is unleaded!)

Total ethanol is not added to any Total fuel (including standard unleaded petrol). Except in the North West and South East of England.

Texaco ethanol is added at 5% to standard fuel but not to super unleaded.

Here is link to download a list of petrol stations selling ethanol free fuel, it is a bit out of date but the newest I could find, TOTAL EO Fuel Sites.xls

I hope that is useful and has answered some questions and myths about modern petrol. ■

mixture. Modern cars do this adjustment automatically this via information collected from sensors in the exhaust system. In hot conditions the fuel can vaporise too, this also leads to a weaker mixture. Even modern engines can suffer from this but the engine management system overcomes it so we don't normally notice it.

Another issue that has occurred in certain conditions is carburettor icing; air temperature needs to be under -3 Celsius for this to occur too. One slight oddity is that aviation fuel uses alcohol to reduce carburettor icing issues, tests conducted in Australia and in the USA concluded that the opposite was more likely to occur.

Ethanol has a higher volatility than petrol and therefore it vaporises more readily. A hot engine that is switched off will pass heat into fuel and can cause starting problems if the engine is restarted whilst still hot, this is the result of vapour lock caused by the heat. Some vehicles can suffer from vapour lock whilst running, especially on hot days or long periods in traffic, leading to uneven running and even cutting out.

Since March 2013, a revised British Standard for petrol (EN228) has allowed oil companies to supply petrol containing up to 10% ethanol, no company has yet added that level across its range, and it's probable that E5 will be the norm until 2017. To give some clarity to the fuel and its intended vehicles, you may have seen "E5" or "E10" on the garages pumps; the number refers to the percentage of ethanol included in the petrol. In the UK there is no legal requirement to display

the content of ethanol in petrol though, so much of the time you don't know what you are buying.

Most volume vehicle manufacturers are now making cars with a ten year/125,000 mile expected life cycle, factor in a five year good luck factor and they expect most of what they build today to be recycled within a maximum of 15 years! The changing fuel regulations mean vehicle manufacturers will have time to react without having to be overly concerned about what they built only a few years previously. The EEC have also noted that; "Consideration should be given to maintaining a specification for EO fuel for historic and vintage vehicles." This will no doubt come at a price but at least they have noted that historic vehicles are a part of our culture. I guess this leads us to the point of what we can do to help our bikes run on modern fuels without having to wonder what it is doing to our fuel systems and/or engines. Fuel companies have different approaches to how they add ethanol; however generally speaking super unleaded fuel is much less likely to have an ethanol content added compared to normal unleaded, and is also likely to be a very much lower percentage if it is there. The main reason is that it is more difficult to obtain the fuel quality required for super unleaded if ethanol is added. But this will almost certainly change as regulations force the fuel companies to increase the amount of bio fuel they sell.

Another big point to consider is that modern fuels have around a month long shelf life, after this time the volatile elements within it start to evaporate off and the fuel will start to degenerate.