

## Ethanol in petrol

At the moment, most petrol contains a maximum of 5% Ethanol and it seems that only Super Unleaded might continue below this figure, although even this is not guaranteed. The bad news is that there are rumours of a move to allow Ethanol levels up to 10% in all petrol in the near future.

Numerous articles have been published on the problems that may be caused by Ethanol in petrol for older cars and a number of solutions have been described. There are also several FBHVC approved petrol additives that can be used but I cannot comment on these because I have never used them.

One problem that never seems to be mentioned is the failure of the petrol gauge sender unit due to the float pivot shaft seizing in the alloy body of the sender. Since Ethanol was introduced some ten years ago, my petrol tank sender failed three times and on a Ruby, the tank has to be removed to access the sender unit – not an easy job. On each occasion the float pivot needed to be freed using gentle heat and penetrating oil.

Let's now look at a possible cause of the pivot pin seizure. I have a theory that the fumes above the petrol might contain a percentage of ethanol and this perhaps encourages a chemical or electrolytic reaction between the dissimilar metals of the pivot pin and its alloy housing.

Someone in the A7 scene suggested adding engine oil to the petrol to counter the effects of Ethanol, so I was interested to experiment. Well, much to my surprise, this appears to have cured the problem with the tank gauge. Maybe there is still some Ethanol in the fumes above the petrol but this might now also contain some oil particles? Interestingly, the oil additive also seems to have eliminated a problem I was previously experiencing with the 'Slush' sealant in my fuel tank, that seemed to be degrading and leaving debris in the carburettor float chamber. I have been adding oil to my petrol for six years now (surely a reasonable test period) and during this time I have had no further problems with either the gauge or the tank lining.

So, next we come to the quantity of oil that might be added and I have based this on the old recommended Redex Upper Cylinder Lubricant dose of one 10 ml 'shot' per gallon. This translates to just under 1/8<sup>th</sup> pint per five-gallon tankful of petrol or just over half a tablespoon per gallon. The dose is not critical but if too much oil is added you will leave a trail of blue smoke, in which case the dose obviously needs to be reduced.

I will offer some further thoughts on the effects of Ethanol in the next edition of *Crankhandle* in March when you might be surprised to hear - they are not all bad!

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