

This extract supplied by Richard Homersham July 2019

The following is an extract from a response to two questions put to Malcolm Corbin of BP Australia, who gave a talk on fuels at the recent AOMC Restoration Seminar.

**Q:** Apparently any old rubbish fuel was put in Citroens in war time and I have been told that it is not worth putting high octane fuel in my Traction. I currently put BP 91 RON in it. Is there, in fact, any real added value, performance-wise, etc in putting BP 98 RON Ultimate in it?

**A:** Fuelling systems have changed a lot since this vehicle was built.

I may have mentioned during the presentation about the blending of butane into fuel for its good RON number and also volatility.

Pre-fuel injection, too much butane would cause vapour lock if the ambient temperature got too warm along with the fuel tank, piping and carburettors. Now with the vast majority of vehicles being fuel injected, blenders can now blend in more butane and vehicle owners with fuel injection don't experience vapour lock.

The Avant I assume has a compression ratio of around 6 to 7, so engine knock will not be an issue. 91RON fuel will be suitable for this.

Running a 98RON has positives and negatives.

The positive is you will see an improvement in fuel consumption due to some of the heavier components used in the blend.

The negative is the butane blended into fuel which can lead to vapour lock issues. Also the distillation curve for the current 98RON fuel in the market is very different to the distillation curves from the 50's to 80's. The 91RON distillation curve is more suitable.

After the meeting on Saturday I was discussing suitable fuel blends for more "1950" type distillation curves which involve blending kerosene with petrol. I would like to do more research on this and do some lab blends and present the results at a future AOMC meeting.

The Ultimate additive I talked on is great for cleaning fuel injectors and removing inlet valve deposits.

This is not really applicable to your vehicle as it has carburettors. Unsure of the state of the inlet valves and if they are clean. The 91RON will be fine to use as it contains a lower dose of the Ultimate additive and "keeps clean" i.e. the fuel system won't get any worse than what it currently is.

**Q:** It is my understanding that refined fuel shipped from (say) BP's Kwinana refinery may be bought by (say) Shell and vice versa when another company may buy Shell's refined product, due to the economics and logistics of distribution around Australia.

If all fuel is blended at the refinery, what then differentiates (say) BP Ultimate from (say) Shell Optimax?

**A:** Yes, there are some supply locations where BP will supply to Shell (Viva) or Mobil (7/11) or Caltex and vice versa.

The differentiation comes at the gantry when the fuel is loaded. During the loading, the BP Ultimate additive is injected into the fuel.

Whereas with Shell, the additive they use is injected into the base fuel and the same for Mobil and Caltex.

Someone chatting with me discussed my past with Castrol and the “Oil’s ain’t oils”. The same goes for the fuel additive. I mentioned briefly that BP’s Fuel R&D in Pangbourne UK design up the additive pack and then the engine engineers test it in Bochum Germany at the engine centre so the Ultimate additive is a propriety product. Some of the other oil majors do not have this capability and purchase a generic detergent from a major chemical manufacturer.

The 98RON fuel is given the full dosage and is branded “Ultimate” and the claims are made and advertised. 95, e10 (94RON) and 91 RON fuels are dosed at a lower rate. This is done to differentiate BP 95, e10 (94RON) and 91 RON in the market vs. competitors.