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## **E10 fuel and other fuels in your Land Rover**

Despite industry and government assurances about the harmless effect of Ethanol/petrol blends, there are several compelling reasons not to do so in your Land Rover Discovery, Range Rover or Freelander.

In earlier models, the fuel lines, filters etc were never engineered to withstand the adverse chemical effects of Ethanol and ongoing use can cause serious degradation of these components, leading to failure. Any vehicle with a steel fuel tank may also have potential problems caused by separation of the Ethanol from the petrol, leading to internal rusting of the steel.

While the same problem can affect some later models, the more likely source of grief is the effect on how the electronics controlling the engine performance cope with the octane rating. In particular, knock sensors will detect an incorrect setting and attempt to correct it automatically. With the engine subsequently trying to run at the modified setting, a further correction will be made, the net result being that the engine almost never operates as designed, with adverse effect on power, economy or both.

Depending on the exact type of engine and whether it was made as high or low compression, the selection of standard unleaded or premium (98 Octane) fuel may also have unwanted effects. If the octane rating is too low, the engine will “ping” and/or the knock sensors will try to adjust the settings in the same way as noted above. In fact, by using the cheaper standard fuel, money may not be saved at all, because the 98-octane fuel will deliver better performance and fuel economy. If, conversely, the engine is a low compression model, then the higher-octane fuel is an unnecessary expense.

The solution is to have a professional workshop check your engine and advise on the best fuel to use.

An even better solution is to have your engine fitted with a HALTECH engine management system. This allows adjustment to get the optimum performance from your specific engine, taking into account its individual tolerances and any modifications that may have been made..

More details are available on the website at <http://www.graemecooper.com.au/performance.htm>.

Of course, the Graeme Cooper Automotive team will advise what is most appropriate and cost effective for your personal requirements.