

# Australian Ultralight Federation Inc

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Amended 9 February 2001 (last para 912 changed to Skyfox)

## LEAD REPLACEMENT PETROL (LRP)

No doubt all members are aware that the use of lead is being phased out of automotive fuels and that it is being replaced by a different product to suit engines now requiring leaded fuel. This fuel is called Lead Replacement Petrol (LRP).

LRP is being gradually introduced into the consumer market across the country and some of its side effects are really yet to become known.

All fuel companies recommend against using motor fuel (mogas) in aeroplanes and their objection to it is no doubt loud enough to clear them from liability associated with any problems in aircraft. They produce special, certificated fuel for aeroplanes: AVGAS.

Most of the aeroplanes in the AUF are fitted with engines whose manufacturers recommend against the use of leaded fuels which means that unleaded MOGAS is used although in some cases, because of suspicion over octane ratings of unleaded fuel, availability etc, leaded mogas is sometimes used in ultralight aircraft. The introduction of LRP presents many unknowns and the AUF advises caution in its use.

Advice has been received today from Mobil that LRP has a problem if it is exposed to light in that manganese oxide can precipitate out of solution. This has the potential to block fuel filters as well as causing engine damage and power loss through the loss of octane created by the fall out. A copy of the Mobil letter is attached. Please read it.

On another note, a report has been received by CASA advising of severe fuel leaks in the Repco fuel pump of Skyfox (aircraft, not engine fuel system) thought to be caused by the effects of Shell Optimax on the seals inside the pump. This is being investigated by CASA and the membership will be advised as information comes to hand.

A handwritten signature in black ink, appearing to read 'RHC', is positioned above the name of the signatory.

R Hewitt-Cook  
Technical Manager

Attachment: Letter from the ExxonMobil Area Manager, Aviation Operations - South Pacific

## **LEAD REPLACEMENT PETROL (LRP)**

Mobil have recently introduced a new grade of gasoline called Lead Replacement Petrol (LRP). Although LRP is marketed explicitly and solely as a ground fuel, we have been advised that a number of Gyrocopters, Ultralight and some fixed wing aircraft are using LRP.

We have identified that there is an issue in storing LRP in clear or semi opaque containers, either on the ground, or as aircraft fuel tanks. Where aviation users are storing LRP in these containers, where the fuel is visible and there is significant light contact, a manganese oxide precipitate can be created by the photosensitivity effect on the fuel.

If the light contact is significant then the fall out of the precipitate can potentially block the aircraft fuel filters as well as causing engine damage and power loss through the loss of octane created by the fall out.

While Mobil does not, and has never, endorsed the use of motor gasolines as aircraft fuel we felt it prudent to advise the Ultralight Association of this potential problem so that all appropriate precautions are taken to ensure that there are no safety issues.

Please be reassured that there are no quality issues with Mobil LRP. The problem results from the inherent properties of the fuel. As such, there is no "solution" or additive which can address the problem.

We have alerted our fuel distributors and aviation agents to this potential problem and have requested they advise their customers accordingly, reaffirming Mobil's policy with respect to aviation use of motor gasolines.