

03 September 2021

Re: Senate Inquiry Submission

At some stage in 2014 I was noticing a significant decline in the life of the cylinders fitted to our fleet of R22 and R44 helicopters. At about the same time, I also noticed a change of colour in the fuel as well as a difference in smell. When I asked the local supplier, I was informed that the 100/130 was being discontinued and that the fuel company, VIVA, was mixing 100LL with remnant stocks of 100/130. Eventually all that was available was 100LL in its' current form.

The life of our engines continued to decline at an alarming rate from then on.

My experience prior to this avgas change saw all my engines reach their overhaul life, without any repairs or failures.

After the avgas change we were getting at worst 70 hours and at best 300 hours out of the cylinders instead of 2200 hours. Spark plug failure was also becoming a problem. We should have been getting up to 700 hours from a plug, now they were failing at the same rate as the cylinders. Considering the cost of these items, \$250 per spark plug and \$2500 per cylinder, our operational expenses have risen dramatically. In relation to the engine failures - I have had an engine failure whilst mustering, 6 out of the 8 spark plugs failed at once.

Up to late December 2018 we had tried a number of changes in cylinder componentry using non genuine valve and guide replacements, with no change in reliability. This confirmed that the problem was indeed the fuel we were being supplied. At about the same period, with wide consultation with in the industry, the AHAI conducted member funded research into the 100LL being supplied with alarming results. The response from CASA, while being disappointing, was predictable. No action, no interest.

We were able to obtain an alternate fuel supplier at this stage, Bella Petro, who were able to provide AVGAS 100/130 in its' original form. During August 2019, I received my first shipment of 100/130 and have used it exclusively ever since. We were fortunate to be able to bring all our clients to the table and present the facts and as a result all are using this fuel. We have had no cylinder failures from this date at all.

The rubbish that CASA has published about this problem suggesting the maintenance is being conducted incorrectly, using incorrect filters, bad warm up and cool down techniques is frankly an insult.

Let us for a moment consider aviation fuel a COMPONENT. Every part of an aircraft is made of components. Each one of these has had to undergo rigorous testing. If we were to introduce an alternate component as a substitute, it would have to through the same process to be certified as an alternate component to be used in replacement of the original. My question to CASA is- How has this fuel (COMPONENT) which is NOT FIT FOR USE, without extensive testing and field trials been able to enter the market?

This period has caused insurmountable stress and financial hardship to my family and business.

Best regards,