



# Getting The Lead Out

## Dealing with 100LL issues

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*Jim Rickey took his first small airplane ride at the age of 5. Not long after, he was getting into dad's toolbox while dad was at work. At age 7 he put his hands on the controls during the family's annual flight to Kansas and became an airport bum by age 12 when his parents opened a flight school. Jim did tune-ups and a brake job on mom's '59 VW before he could legally drive it but didn't solo until his 24th birthday. With solo cross country flights done, Jim put flying away to enter the teacher-prep program at Cal Poly Pomona. A move to Hanford CA to start a career teaching kindergarten through fifth grades settled him down enough to buy a house, etc. That essential stuff taken care of, he obtained his private pilot certificate in his father's Cessna T210, driving 4 hours each way to fly it. When dad gave up being PIC, but had no luck selling the plane, Jim took over the 210 instead of buying his own. Dad got to enjoy the 210 an extra 16 years.*

*Shortly after moving to Hanford, Jim met Debby, also a teacher, and the rest is history. The 25-34 students they had each day were their kids, and they never had any of their own. Debby enjoys riding in the plane and has soloed a 172. Now retired and done with care-taking for family, they hope to use the plane more often.*

*In the 23 years the 210 has been Jim's, he has done the majority of the work on it, and still rolls along on a creeper to clean a plane's bottom and up on a ladder to get the top. Jim is the newsletter editor for the Hanford EAA Chapter 1138 and in a recent issue, he published the following article that he wrote.*

After the March meeting I heard a couple of members griping about the push to ban leaded avgas, and then about the cost of 100 Low Lead. This article is not to explore the politics of getting the lead out of 100LL--you guys can do that quite well on your own! It is well past the time to get the lead out of avgas-- not just for environmental reasons.

This article is directed more to those of us in the certified aircraft world, as you with experimental aircraft are free to experiment to your hearts' content, burning any fuel, even choosing any means of propulsion you want.

Lead-free avgas has been talked about since the mid-1980s, and talked about again...and again. Nothing has happened. Arguments against removing the lead all remind me of the arguments I heard in the 1970s against removing lead from automotive fuel. Valves were going to wear out, performance was going to go down the tubes; etc. Automobile performance did get pretty poor around 1980, but it wasn't just due to the removal of lead. I don't think any of us would want to go back to carburetors in our autos after experiencing oxygen sensors, electronic fuel injection, and catalytic converters.

Lycoming and Continental have both been putting hardened valve seats in their engines for a while. Yes, our aircraft engines have substantially different operating parameters than auto engines, but by now there are enough aviators who have run exclusively with unleaded avgas for enough years, that fears of premature valve wear should be put to rest.

Cleaning the spark plugs on my plane over the years I have rarely observed more than the very lightest of carbon deposits. Lead deposits are a different story. While lead deposits have never come close to fouling a spark plug in my engine, it has been a problem for some cool-running motors. I see lead when I scrub the belly of my plane. I see lead when I change the oil; it settles in the recess of the drain plug and in the grooves of the filter. When I removed the prop for overhaul I saw a coating of lead inside the crankshaft, and I have never run synthetic oil which caused so many problems for some operators with lead-plugged oil galleries a few years back, or even a semi-synthetic oil. Lead is detrimental enough to engines that a lead scavenger is added to avgas, and this lead scavenger is corrosive to our engines and some consider it worse for the environment than the lead that is getting all the attention.

Removing lead from avgas may produce some short-term pain for some aircraft, which can be worked around, but in the long run it will be beneficial to all. I personally think the boat was missed back in the late 1990s when a specification for 82UL avgas had been approved. If, upon approval, there had been the guts to say something like, "We'll give you 15-20 years to get your engines 82UL compliant, then there will be no more 100LL," we would not be worrying about getting the lead out today. But nothing changed. It is time to bite the bullet and move on!

