

Each week, we run a sampling of the letters received to our editorial inbox here in AVmail. One letter that's particularly relevant, informative, or otherwise compelling will headline this section as our "Letter of the Week," and we'll send the author an official AVweb baseball cap as a "thank you" for interacting with us (and the rest of our readership). Send us your comments and questions using [this form](#). Please include your mailing address in your e-mail (just in case your letter is our "Letter of the Week"); by the same token, please let us know if your message is **not** intended for publication.



Letter of the Week: The No-Lead Threat

Finding a viable replacement fuel for leaded avgas looms as a catastrophic threat to high-performance piston aircraft owners, and PA-46 aircraft in particular. The threat is two-fold:

1. The lead additive to avgas which boosts its octane from ~93 to over 100 is tetraethyl lead (TEL). There is only one remaining supplier worldwide for this additive. Were TEL to become unavailable from this source for any reason, our fleet would be immediately grounded. Given the relatively small market that avgas represents in the worldwide petroleum industry and the eco-political status of leaded fuels, it is doubtful that that another supplier for TEL would materialize.
2. Political cover for general aviation to continue using leaded avgas is quickly disappearing. The EPA is being pressured by ecological groups to immediately eliminate lead from all aviation fuels and has released a pre-publication version of an Advanced Notice of Proposed Rulemaking (ANRPM) on lead in avgas. The ANRPM signals the agency's intent to investigate lead emissions from general aviation aircraft further under the regulatory processes of the Clean Air Act.

On May 13, Teledyne-Continental Motors (TCM) announced that it is backing 94UL as the replacement for 100LL avgas. 94UL is the same as 100LL but without the tetraethyl lead octane enhancer. TCM claims that all of its engines already certified to run on 80/87 octane will still provide rated power with 94UL and that its turbocharged low-compression engines will also experience no drop-off in performance. Others knowledgeable in this technical area strongly disagree with TCM's claims on turbocharged engines such as those in the Malibu.

On June 6, [from AVweb](#), we learn that Lycoming has taken an opposing view, insisting that only a 100-octane solution should be considered. According to Lycoming's GM, Michael Kraft, "If people really understood what's going on today, they would understand that we need to set the objective at 100 octane fuel."

There are currently at least two 100-octane fuel alternatives, and maybe more in development. What is clear is that while lower-performance engines will run fine on 94UL, higher performance engines such as those used in the PA46 Malibu, Matrix, and Mirage will not. Reducing the detonation margin in the engines would necessitate reduced output with corresponding degradation in performance, resulting in dramatic reductions in utility for our aircraft. In most cases, this would, at a minimum, require a significant reduction in gross weight due to reduced climb gradients from lower horsepower engine output.

Of greatest concern is that we run the risk of this decision being primarily influenced by the engine manufacturers with limited input from current avgas users — that is, us, owners of high performance piston aircraft. Unfortunately, individual aircraft owners seem unaware of the threat this issue represents and, to this point, have been mostly silent.

As President of the Malibu Mirage Owners and Pilots Association (MMOPA), I consider this issue to be both important and urgent. The certification of a fuel of less than 100 octane would instantly and adversely impact our membership in a dramatic way. I will be writing letters to the engine manufacturers, ASTM, FAA, DOT, EPA, and AOPA to state our concerns. I will also be looking for opportunities to network and partner with other type groups who share our stake in the matter.

What can you do? Look for opportunities to awaken general aviation pilots to the critical nature of this threat. Write your own letters. Express your concerns to those groups with political access and influence, such as AOPA and EAA. This is not just a PA46 issue.

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