

GET THE LEAD OUT

Do Not Use Lead Fuel Substitutes In Alfas

By John Hoard

Alfas built after WW II have valve seat inserts made of hard steel. They do NOT need lead or lead substitutes.



When lead is removed, the only problems mentioned in technical literature regarding the topic are:

- 1. Knock due to low octane.** Your Alfa needs premium fuel. 93 or 94 pump octane is adequate unless the engine is highly modified. Knock occurs most at high load, low engine speed. If you own a highly modified engine that knocks on lead free premium, then you need racing fuel. Since these are very high in aromatics, they can cause early failure of fuel lines and increase emissions of air toxics (carcinogens and things you really don't want to breathe), so use racing fuel if only you really need it.
- 2. Valve seat recession.** It occurs ONLY in some cars with cast iron heads and native valve seats (i.e., no inserts) AND valve rotators. Oldsmobile was the poster child for this scenario. All post-1971 US cast-iron head engines have induction hardened valve seats, and all aluminum heads have inserts, so valve seat recession is not a problem.

On the other hand, lead causes many problems:

1. It is poisonous, and the lead in the fuel can end up inside you or in your child's bloodstream.
2. Lead destroys all automotive catalysts and thus increases emissions of air toxics by more than a factor of ten.
3. Lead forms deposits on combustion chambers; these increase octane requirement and can lead to pre-ignition engine damage
4. Lead deposits on spark plug insulators can turn conductive at about 700 degrees celsius (a typical high-load plug temperature), resulting in high speed misfires and early death of spark plugs
5. Lead contributes to chemical corrosion of many metals. It reduces spark plug electrode life, makes holes in exhaust pipes and mufflers, etc.

So, removing lead is an absolute benefit. Unless you own one of a very small number of vehicles with cast iron heads and native (unhardened) valve seats, there is no downside and lead substitutes are not needed.

I have run only lead-free premium in my GTA 1300 Junior and 1750 Spider Veloce since it came on the market in the early '70s with no problems at all.

