

## FROM THE PUBLISHER

BY JOHN GOODMAN, AERA PRESIDENT

# New shop opportunities in an ever-changing world

This issue of *Engine Professional* (EP) will cover alternative fuels and any unique machining / rebuilding problems that they may create. It would be easy to get caught up in a political quagmire of which alternative fuel is best but this would stray far from our focus. We will leave the politics to politicians and deal primarily with issues these fuels present to AERA engine shops attempting to build them correctly.

Those of us a bit long in the tooth remembers hearing about alternative automotive fuel but never quite understood why the concept didn't take hold. As David Emanuel points out in his article on the history of alternative fuel, one of the first automotive fuels was ethanol. Ethanol was a logical choice as agricultural products were plentiful and crude oil was not. Ethanol was re-introduced for domestic use during WWII and again when crude became tight in the early 1970s. So here we are again, up against that familiar wall and looking at alternatives to bail us out. As mentioned previously, the political issues of why we are presently no closer to an alternative fuel solution is best left to politicians and lobbyists but engine shops will very likely have to deal with the fallout of these political decisions. Given the economics of continuing with hydrocarbon as engine fuel, alternative fuels will eventually begin to replace it. No way of knowing how long this will take but engine shops

should be well informed ahead of the need and know about what to do when these engines arrive in their shops.

Some engines will require little in terms of component modification while others need much more. But don't let small changes fool you because they can be massively important. Most non-hydrocarbon fuels do not contain much if any lubricity. This lack of lubrication can be devastating to valves (among other components). Many engine shops have already rebuilt engines using LPG as fuel and know that these engines use sodium filled exhaust valves to manage increased heat. Staying with sodium filled exhaust valves is a good beginning but if core heads are used to replace damaged ones, don't forget to install hard seat rings. Failure to do so could eventually place bits of those expensive sodium filled valves in piston crowns. Knowing and understanding pitfalls before they land on your shop counter is our main concern.

While on the subject of alternate fuel engines, word from engine remans overseas say those small bore, common rail diesels headed our direction have a few problems. Apparently, these little diesels are not as long-lived as we are led to believe. They represent a growing business for engine rebuilders abroad and will likely do the same for us. If these engines have heat and

fuel enrichment problems in cooler climates of the UK, they are in for real trouble here. We will keep you posted.

AERA attempts to cover as much information in each issue of *Engine Professional* as possible but if you don't see something you think should have been included or just want to know more, give AERA tech a call and ask away. If you are not a member, join. Answering these and many other engine related questions is what AERA is all about. ■



Prior to becoming president of AERA, John Goodman was director of the Advanced Technology Center (ATC) for Micromatic-Textron. The ATC focused on manufacturing honing solutions and studies for OEM engine manufacturers. Testing of traditional and unique honing abrasive systems, coolants, fixtures, tools and software were primary responsibilities of the ATC lab.