# Stale Glow Fuel - Fact Or Fiction?

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Fuel might be the single biggest moneymaker in the model business. So there's a natural incentive for fuel people to encourage us not only to use lots of it, but to throw lots of it away. And cautious magazine columnists fall in line with the advice to toss out last year's fuel supply and start fresh during the spring tune-up. Is this wasteful practice really necessary?

Being naturally conservative, I've discarded very little fuel over the past fifty plus years, and haven't seen any ill effects. I often use fuel and fuel ingredients that are over twenty years old, and which comparison tests show no performance losses over a fresh batch.

But before you change any habits, you need to know where I'm coming from. I'm an absolute nut about not leaving fuel open to the air. I close fuel cans immediately after use and have gone to syringes as opposed to fuel bulbs to eliminate air exposure during the transfer process. Always empty the tank after flying and check the seal on the can by inverting and squeezing to make sure there's no leakage.

I believe our fuel ingredients are so stable that if well sealed in a stable temperature their shelf life would be indefinite. Maybe they'll unearth usable glow fuel in the pyramids. Yes I've had castor oil separate into those little globules during cold weather. Not all castor does that, but filtering cures the problem and the fuel suffers no ill effects.

I see lots of fliers leaving their fuel jugs open for long periods while flying. They should consider the "throwaway" advice. The idea is that part of the fuel can evaporate, changing the mixture. This is particularly true of diesel fuel. But the non-critical diesel mixture can be "brought back" by just adding a little shot of ether. And because methanol so readily absorbs water from the air, that's the bigger concern.

I follow the advice about air exposure, even though a simple test on 1/2A fuel a few years back failed to confirm that as being a big problem. I progressively injected more distilled water into each tank of fuel, ran the 1/2A and tached the RPM. It wasn't until I reached almost 15% water that speed started to drop a couple hundred RPM. Obviously that steady state, wide open test isn't the same as trying to get a carbureted engine to idle reliably, but it does show that some water in fuel can be tolerated.

I keep most of my fuel cans and bottles stored outdoors in large closed plastic containers buried about 3/4 of the way in the ground in a permanently shaded area. This is both for safety and for temperature stabilization.

I've read where you should break down gallon jugs of fuel into separate quart cans, and as it's used, maybe even to pint cans to minimize air exposure. I don't usually bother, because I'm not sure that's the way to go. If the can seal isn't extremely tight, a near full can is going to inhale and

exhale with every temperature change between day and night. This is because fluid is practically incompressible. But with a well sealed, partially empty can, the compressible vapor might shrink and expand without causing the can to take in fresh air