

I learned about flying from that //

WHEN PURE, CLEAR, WATER ISN'T A GOOD THING

This pilot had always thought water in a fuel sample would be easy to detect. But when it happened to him he was astounded how difficult it was to identify.

The Chipmunk had been picketed at Classic Fighters 2019 on Easter Sunday, with its canopy cover secured, and with virtually full fuel.

But we didn't have any additional means of covering the fuel cap. Those at Omaka over Easter will recall that it rained long and hard, from about midday. Trying to return to Nelson that day was not sensible, so we secured the aircraft in a hangar and returned by road.

The following Wednesday, in 'Air Marshal' weather, I flew across the Richmond Range in a Motueka Aero Club 172 with another club member, to recover our Chippy.

Given that the aircraft had been unattended for a few days, an amped-up preflight seemed like a good idea.

When I took my first fuel sample, using the standard 15 cm long fuel drain tester, I wondered if I might see a little water in the bottom of the sample. What I did see was a few bubbles at the *top*.

I was puzzled for a few moments, but then had the dawning thought that the sample might be all water.

Naaah...

Raising the sample to the now clear blue sky, I still couldn't be sure. I gave it the sniff test and still wasn't absolutely convinced.

So I poured a little onto my hand.

There was no evaporation and consequent cooling, no smell and no oily feel.

That clinched it. My fuel sample was 100 percent water.

I'd read about it, and always thought it would be easy to identify. But it wasn't at all that obvious.

It was too good an experience not to share. I called over the Mot club pilot who'd flown the 172 over with me.

While retired from full time flying, this chap has decades of flying in a wide range of aircraft types. He'd heard of this phenomenon but had never seen it.

We continued draining both tanks until there was no further evidence of water. We ran the engine for an extended period before flight, to verify there was no water affecting the performance of the engine.

The flight back to Mot was uneventful – but my mind was fair *leapfrogging* from one forced landing area to the next. Call me paranoid!

So, what you learn in theory class really can happen in practice.

All water. 

// This story and the photos are about about avgas. Jet A-1 can be more difficult because it has an appearance similar to water, and water mixes more easily with it. Testing with water testing capsules or paste is recommended.

For a free copy of the Good Aviation Practice booklet *Fuel Management*, email info@caa.govt.nz.



Water



Fuel



Mix of water and fuel