

# Some (don't) like it hot!

By **Steve Slater**

**W**ith the arrival of the first warm weather of the summer, perhaps it's an appropriate time to remind ourselves that glorious as the warm weather may be, sometimes it can bring its own challenges.

We're hardly talking 'hot and high' operations here, but sometimes for both pilots and aeroplanes the term 'some like it hot', doesn't apply

Remember the heat wave we had in June and July last year? Well it was interesting to note that it coincided with a marked 'spike' in incidents among our fleet.

Even accounting for increased flying activity, the number of incidents showed an exceptional peak in June and July, accounting for 40% of the year's accidents in just two months.

Eighteen out of the 30 accidents in this period (60%) were as the result of a loss of control on landing or take-off, possibly due to hot, unstable air, dryer short grass surfaces and higher ground speeds. It was also noticeable that a lot of these occurred in relatively still wind conditions.

Again the lack of a headwind means that ground speeds will be higher and the take-off or landing roll will be longer or, if airspeed is allowed to get too low in an attempt to get the regular 'picture' of your apparent approach speed, directional control in particular will be compromised.

There's also another challenge on those hot, still days. Imagine, you've just had the perfect flight, a copybook stable approach and you're just settling into the flare, when all of a sudden the aircraft, for no apparent reason turns sharply. Of course your catlike reactions will add a big boot of rudder, maybe a burst of power and perhaps a hasty go-around will salvage the situation. Sadly for about

half a dozen pilots the result last summer was less positive, but luckily the damage was confined to aeroplanes and wallets, rather than people.

So what the heck happened then? Well anyone who has been gliding will know that thermals are created when localised patches or bubbles of warm air begin to rise faster than the cooler air around them, and often these thermals start right at ground level. Of course, nature abhors a vacuum so as the air begins to rise the cooler air then comes in to fill the gap.

That's why on a sunny, still day, you might suddenly see the windsock pick up, even in a completely different direction to that which you might expect. In extreme conditions you might even get little dust devils or mini vortices rolling across the ground. It's certainly worth thinking about and being ready for a surprise if you are landing in what you might think will be still conditions, which suddenly turn into a quartering tailwind.

## Dehydration

Of course, there are other things we can think about too. Don't forget the effects of dehydration, sunburn and even sun-stroke if you are spending all day on an airfield – wearing a hat makes a lot of sense. And don't forget your aeroplane, too.

You may recollect that in a *Safety Spot* article last summer, we commented on the risks of using Mogas on days when the fuel tank temperature gets higher than 21°C. It can in fact get significantly higher than ambient temperature as heat is absorbed by the aircraft's structure, particularly if it is painted in a dark colour. Mogas has a lower vapour pressure than Avgas, which means it can be more prone to vapour-locking at these higher temperatures.

Mogas-fuelled aircraft may also be more prone to carburettor ice on warm humid days too. I must admit on such days with my Continental-powered Currie Wot or Cub, the carburettor heat is my most used engine control!

Also if you have a wooden airframe or a wooden propeller, remember that wood is likely to shrink while metal expands. I'm sure everyone with a wooden propeller is aware of the need to check the propeller bolts for tightness as the seasons change, but what about control cable tensions? If your ailerons are drooping like a Bristol Boxkite, what might the effects be on control flutter if you start to fly a bit too quickly?

I hope I don't sound like a doom-sayer with all of this, but perhaps this quick aide-memoire might just be of help.

Anyway, I'm not saying any more – it's a perfect flying evening and I'm off to enjoy it in the Wot.

Happy landings! ■

## 2018 accidents by month

