

Clued^{up}

GA Update

December 2020

WINTER FLYING





WINTER — AND WHY NOT?

This year hasn't been the greatest for flying — true there was some great summer weather, but Lockdown 1.0 meant a fair old break for many, then getting current again and then along came Lockdown 2.0...

While the Spring flying pause ended in relatively benign spring/summer weather, conditions now are anything but though that shouldn't be a bar to flying — winter can have some beautiful days with fabulous views and flights. The flip side, of course, is wind, rain, poor visibility, fading daylight, cold, ice and snow, so here are a few things to think about to help get back into, and enjoy, some winter flying.

GETTING GOING AGAIN

Staying current for the changeable and sometimes challenging autumn/winter conditions hasn't been easy, so first off here's a question — just how current am I for this particular day; have I really got the experience/skills for it? The shrewd advice is to raise personal minimums – or be more restrictive – than the legal minimums initially, and decide on the day taking into account currency, competency and the conditions.

And here's another thought; one of the problems with flying being chopped around as it has been this year is how ready you are for 'in the unlikely event'... when



for example was the last time you practised (or thought about the vital actions for) an EFATO, a PFL or, for that matter, a low-level circuit for when the cloud isn't as high as expected? A 500ft circuit in marginal conditions can be a high workload experience.

Obviously, if you have any doubts you can always nip up with an instructor for a

quick refresher flight or simply discuss the day and its challenges with them. Most of us also have more experienced/competent friends who'll be only too happy to share their knowledge, and that's especially true if you're in a group or shared aircraft.

WEATHER

So you're good to go for the day, but is

the weather — *really?* You'll know the old saying 'expect the weather to be about 30% worse than forecast', it might be something of an old joke, but there's also quite some truth to it.

A quick check early in the day might say yes it's okay, but conditions can be so mobile at this time it's vital to track how they might have changed (and might still be evolving) during the time before take-off, and interpreting how that might affect the *whole* flight — especially if you've had to wait for overnight hoar frost or ice to melt from the wings, or for radiation fog to burn off, shortening the daylight hours.

Talking of ice, there can't be many who don't know that it needs to be removed before flight, but be wary, too, of leaving wings, control surfaces and hinges still wet because the freezing level during these months comes down to, or often below, normal GA flying altitudes and wet wings above the freezing level is one of the most dangerous places for light aircraft to be without de-icing equipment.

The same is true for flying through moisture above the freezing level, however light or 'see-through' any precipitation might be — don't, if you can possibly avoid it. The smaller the droplets, the more likely they are to be supercooled, just waiting for something to freeze onto extremely rapidly, and cold aircraft are rather good at becoming over-sized hailstones...

Checking the freezing level is pretty easy with a number of sources and, handily, the low-level synoptic forecast Metform 215 has a column for the day's freezing level.

You know what's coming next.... carb icing. Yes, it's not specifically a winter issue, but conditions now can make it even more likely. Take this scenario; you're taxiing over grass soon after the sun starts to warm the airfield a little, there's a heavy dew (or melted frost) so the wheels and propeller(s) throw minute droplets of water around. With this moisture-laden air at engine-intake height you can work out the rest, so don't rush the take-off and give the engine a burst of carb heat when lined up to check no ice has formed.

In the air deal with it in the traditional way, with extra hot air applications near cloud or on lower power settings; if you fly with a carburettor and aren't sure of the 'traditional way, have a look at [Safety Sense leaflet, Number 14, 'Piston Engine Icing'](#).

Apart from ice and rain, perhaps one of the biggest winter nuisances is wind.



Low cloud or fog can have real challenges



Thick hoar frost

Suppose it's forecast (including gusts) to be near the aircraft's (or your personal) crosswind limit and likely to increase? You might want to think twice before going or, if landing, perhaps ask for another runway if there's a more suitable more into-wind one; a few years ago a pilot didn't like the crosswind on the main runway and asked for a shorter but more into-wind one, which he was given and the landing went just fine; the following aircraft accepted the main runway and promptly wiped off its gear...

While we're on the subject, another good reason for thinking about different runways for landing (and even take-off in some circumstances) is visibility and glare, particularly on the approach and flare late in the day. With the sun around 15 degrees above the horizon right now and setting in the predominant westerly runway direction, glare can be a swine just at the wrong moment, so if conditions (and the airfield) permit it, a different runway

orientation or even landing down-sun can be a good consideration.

Talking of low sun and visibility issues, here's another thought, especially if you don't have a moving map; plan routes so that any nav features are 'down sun' making them much more visible. Likewise, you can plan to arrive at your destination 'up sun' which makes seeing both it, and aircraft in and around the circuit, much more straightforward.

FLIGHTS AND PLANNING

While everyone's careful about ensuring there's enough in the tanks to keep things turning up front, this time of year makes that decision much more critical. Suppose, for example, the destination weather is unexpectedly socked in, is there a comfortable amount to reach any alternate airfields or even to return home? Or maybe the flight turns out to be much longer than expected thanks to strong headwinds, will there be enough?



Snow doesn't have to stop you



It's there somewhere...

◀ One of the many good things about the colder days is that aircraft performance is inevitably enhanced (good for carrying more fuel...) but ground conditions can be variable, especially if flying to and from grass strips, short strips and sloping ones. So a check of the performance data and weight and balance is even more essential, as is checking take-off and landing distances for the day's conditions; it's a bit obvious, but as many hedges and field boundaries will attest, tricky winds, wet runways, mud, slush and wet snow can seriously lengthen the take-off or landing run.

So, the weather looks nice, you're fine for the day, the aircraft's good, the airfield(s) are okay (give someone at the destination a call if you can, it's a far better way to find out about conditions than simply using the internet), but is the upcoming flight really going to meet expectations? You only have to look at each year's accident stats to realise that's not always the case — 'The pilot suddenly found himself in cloud over high ground...'; it occurs too frequently.

With that in mind, it's worth thinking not only about the en route conditions just now, but what are they likely to be? Have a think too about the effects weather, and any diversion, might have on en route airspace; just because it's winter when things are generally quieter there might well be a Notam somewhere that you really

should know about... There was a case not so long ago when an unfortunate pilot was doing the right thing, talking to ATC and had a clearance, but while avoiding some bad weather he inadvertently bust another piece of airspace — it happens.

Some quiet time with your electronic aids and charts looking at the route, and the route to any alternatives due to weather, is all part of Threat & Error Management and gives you a chance to recognise any potential hazards (high ground, obstructions, poor visibility, etc) and have a contingency plan — as a wise man once said, 'good decision-making in flight starts with a solid brief on the ground!'

While weather is a good part of 'Threat' at anytime but especially so right now, how about the Error bit? That's where friends come in; if we're honest we all make mistakes, a wrong digit here, a plus rather than a minus there, the cat walked across the keyboard while you were loading data — you know the sort of thing — it never hurts to get someone to sense-check your plans (and the data that's been input); perhaps the nearby instructor or simply the experienced, competent friend over a cup of tea beforehand; how many times have you thought, 'how did I miss that? Think of them as your 'gross error check' — have I missed something critical or so obvious,

weather, fuel, route, that my eyes glazed right over it?

'Thinking it through' is one of the most important aspects of flight planning, and most know the old flying saying, 'If in doubt, don't do it...'

And, as we said earlier, there's some great flying to be had over the autumn and winter, but above all, and it hardly needs saying in these shorter, potentially tricky days, don't fall for press-on-itis, there's no shame in turning back, asking for help or even making a precautionary landing somewhere if things get really sticky.

So, consider the threats of winter flying properly, manage them, and enjoy it. ■

There's more good in-depth advice on winter flying in [Safety Sense Leaflet No.3, Winter Flying and Safety Sense leaflet, Number 14, 'Piston Engine Icing'](#).

For more thoughts about getting back in the air again and Threat & Error Management have a listen to the [Safety Advice and Tips for Pilots returning to GA flying post COVID-19 podcast](#).