

# Coaching Corner...

# The majesty of winter flying...

**David Cockburn**, PCS Head of Training, notes some of the conditions particular to winter flying that we need to pay attention if we are to safely enjoy those wonderfully crisp, clear days...



**F**or many of us, December would normally be the time when we start routine maintenance and planning for next year's adventures. The Covid-19 restrictions in November have probably brought many of those activities forward, and we can only hope that next year brings better flying opportunities. However, I'd like to suggest that if you have a bit more time to yourselves over the winter period, you could use some of it to learn a bit more about your aircraft and how you can better operate them.

### An opportunity to learn

The LAA membership includes a growing number of owners who have not built their aircraft themselves, so these pilots are less likely to have that intimate

**Above** Fortunately, this RV has good covers which would make clearing the snow relatively easy. **Photo: Jerry Parr.**

knowledge of their aircraft and its systems that builders tend to accumulate.

My engineering colleagues produce a wealth of useful information, as do type clubs and Struts, and I encourage owners to take the opportunity to learn from it.

Nearly all of us today have electronic devices, either fitted in the aircraft or hand-held, and from my own experience I know how difficult it is to decipher the detailed instructions which come with these devices. I urge everyone to spend some time with the instructions and the devices, learning and practicing how to use the equipment. However, if you are fortunate enough to be able to fly, please do not experiment with the equipment in the air unless someone else is in control and looking out!



### Winter flying

Our Engineers and Inspectors also offer advice on taking care of your aircraft over the winter months, but winter can also provide superb flying opportunities, not only to remain current, but to enjoy views of the countryside in different light conditions, often over some spectacular scenery. However, if we are able to take advantage of these opportunities, we need to beware of the possible hazards. Let's face it, the weather in winter can be cold, cloudy, dark, foggy, wet, windy, and/or icy – and all these conditions present challenges.

### Cold temperatures

If we start with the cold, although the denser air in low temperatures will improve the performance of both airframe and engine, that engine will take longer to warm up to a safe temperature, as will the cockpit (if indeed you have a heater). We need warm clothing, which not only affects weight and balance, but also may restrict the pilot's movement. There is also a temptation to hurry the pre-flight checks, which can be dangerous because the aircraft is also affected by cold – for example, seals can crack and leaks appear. Cold also affects batteries, so starting may be difficult, and personal devices can lose power rapidly.

### Cloud and fog

Cloud problems don't restrict themselves to winter, of course, but low temperatures and wet ground are a recipe for low cloud, which can form rapidly and unexpectedly. Just because the forecast doesn't mention it, be ready to encounter that low cloud, especially when the temperatures reduce as sunset approaches. And of course, darkness falls much earlier than in summer, so take note of the local time of sunset.

Plan to get back home in plenty of time if you land away from base; we all know that something always turns up to delay us, and the engine may not want to

**Above** When you see the beginnings of fog like this, be very wary, it can expand very quickly as the temperature drops.

start first time in the cold and damp conditions. I expect we're all quite aware that reducing temperatures and moist air are likely to produce fog as well as low cloud. We need to study the forecast, but also watch out for indications that the air is more moist or cooler than the Met people expected. Clear, relatively calm conditions are a classic forerunner of radiation fog, and moisture forming on wings or cockpit canopies is a good indication that conditions are close to those for fog.

Even in windy conditions, warm air over cold moist ground can produce advection fog which struggles to clear. In any case, as we fly, we should be looking around; patches of fog on the ground are an indication that an early landing may be advisable. And 'fog' can form inside the cockpit if cold Perspex descends into warmer air, so we ought to have a means of clearing our windscreen from the inside.

### Precipitation

Water, in the form of rain or other precipitation, gets everywhere. It can reduce the wing's efficiency and thus reduce take-off performance, in some cases dramatically. Damp ignition can prevent starting, and even if our filler caps are properly sealed it can get into the fuel while refuelling, which itself can present hazards if we're trying to keep our footing on wet aircraft or ladder surfaces.

Sodden ground, which without summer temperatures often becomes, and stays, boggy but if you are fortunate that your strip is still usable, have you thought about soft-field techniques? Even if you don't get completely bogged down, you don't want to leave scars which might eventually dry into ruts. It's worth knowing where the hard patches are on the field and make sure you don't allow the aircraft to come to a stop anywhere else. If you do sink in, it may be better to switch off and push the aircraft manually rather than try to drag it out of a hole with power and risk making matters worse. ►

And if you have wheel spats, mud can quickly build up inside them and cause drag as we try to take off – you need to check them as part of your pre-flight.

### Wind

Wind in the UK is not merely a winter phenomenon, but the surface winds tend to be stronger in the colder weather. Although gusts associated with thermals are unlikely, lee waves can affect the air at low altitudes some distance downwind of relatively low hills.

Even in strong gradient winds, the surface wind under a wave crest can be quite light and from a different direction from the area forecast. If we are in these light wind conditions, we should not allow ourselves to believe that a forecast of strong winds is wrong – a slight change in upper wind direction or strength can alter the wave pattern and cause a sudden increase in wind strength as the wave trough affects our landing field.

### Frost, ice and snow

Much has been written about the hazards of ice. Since airframe icing is generally experienced in cloud, we are most likely to be affected by ice on the ground where aircraft parked outside may be affected by snow or frozen rain on the upper surfaces, which obviously has to be cleared before attempting to fly. However, frost can form even after bringing the aircraft out from the hangar and is equally hazardous. Although a clear morning may tempt us to cut corners, all frost and ice should be removed from at least every lifting surface and cockpit window. There is no such thing as 'a little ice'!

Snow is a child's delight and flying over snow-covered ground can be a delightful experience. However, flying through falling snow is a quick way of destroying most light aircraft's wing efficiency and several fatal accidents have been attributed to flying through snow. It is worth giving all precipitation in winter a wide berth.

Fallen snow also changes the appearance of ground features, so navigation can be challenging, and a

**Below** The low sun in winter can be severely exacerbated by a dirty and crazed windscreen.

satnav device can be very useful to prevent becoming 'temporarily unsure of your position'. Satnav devices are also very useful in the haze, which often goes with otherwise clear days. Inside such a haze layer our visibility is likely to be quite poor, especially towards the sun, which is lower in the sky, even at midday. If we can climb above the haze while avoiding controlled airspace, we should be able to see for extended distances, providing easier flying and much safer lookout conditions. However, haze below doesn't usually make navigation much easier, and we still need to watch out for areas of thicker haze below us... which might be patches of fog.

### Low sun

That sun can also cause us problems when approaching to land. The prevailing wind over most of the UK is south-westerly, so the sun is likely to be in our eyes in late afternoon as we try to land. The effect of course, is worse if the windscreen is dirty or crazed. On a clear day, we might consider perhaps landing just after sunset, or landing with a slight tailwind if the aircraft is able to stop on what is probably a wet surface.

**Please** don't let this list of possible hazards discourage you from taking advantage of the opportunities to enjoy your flying over the winter.

If you consider the possible hazards and are ready for any which might affect your particular flight, it can be very rewarding! ■

## Beware your moving map!

**One** very minor advantage of the Covid-19 restrictions, which we may have been able to benefit from, is that several pieces of Controlled Airspace have been deactivated at quiet times. Unfortunately, the CAA has identified, in an Airspace Safety Initiative (ASI) Update, that some moving map displays which include Notam information may have been misleading pilots about the status of the Airspace. They report that some Moving Map applications depict the airspace boundaries in rarely seen colours, and may visually show airspace being deactivated throughout the Notam period, when in fact the airspace is only classified as Class G for certain periods of time (the schedule) within the Notam period. This is a feature of the Notam system, in that the first timings written in the Notam (sections B and C) only indicate the general period during which the information applies. In order to identify the exact timings, one has to read the later section, E, which provides all the details of the events notified. It seems that this can catch not only us pilots, but also our navigation equipment!

It's a shame that these marvellous aids on which (although we shouldn't) we often rely to keep us out of trouble, may be encouraging the very problem that they are intended to avoid. It means that we must be more careful than usual in reading the actual Notam themselves, whether displayed on an application or listed on the AIS website. The ASI Update explains how to read the published Notam, but if you aren't sure, or can't remember, whether a piece of airspace is deactivated or not, you should treat it as still being active at all times.

