





**The beautiful Scottish Highlands. It doesn't take a lot of imagination to realise that coming down here could leave you in a real quandary if you were not prepared. There are many similarly remote places all over the UK.** Photo: Wiki Commons.

may be bleeding. You may have to survive at least one very cold night. The list is endless. You may recall the case in the media a few months ago of a motorist who went off the A9 in Scotland and became trapped in his car – it was a few days before he was noticed, and he was just yards from a busy main road. So, if you prang in the middle of a wood, are you likely to be found immediately? Maybe not, so does it not make sense to be prepared?

If you are an aviation buff you may have read Richard Hillary's book *The Last Enemy* where that enemy is death itself. The book was written after Richard was shot down during the Battle of Britain and suffered incredibly severe burns. He later died, partly because of his burns. Richard had chosen to fly without the standard issue leather gloves and when his Spitfire caught fire, his hands became so burnt that he had considerable difficulty getting out of the aeroplane. That time delay significantly contributed to his burns and ultimately his early demise.

Hopefully we are not going to be shot down, but there is a slight possibility that you may suffer an engine failure and thus a forced landing that doesn't go to textbook. Egress from the aircraft will be critical, especially if it is

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**(Left) The contents of the Transair survival bottle: a carabiner, multi-function tool, whistle, compass, flashlight with batteries, survival blanket, candle, waterproof matches, poncho, two chemical hand warmers and a reusable zipper-lock bag. The one litre reusable dishwasher-safe bottle is suitable for drinking water.**

on fire. Consequently, plastic flip-flops, shorts and t-shirts, and especially a lack of gloves, will provide no protection at all. Worse still, if you are wearing nylon, any subsequent skin grafts will be almost impossible.

You've probably noticed that test pilots, law enforcement officers, emergency response pilots, and indeed pilots flying military aircraft, generally wear flight suits. Some of you may be aware that these pilots don't wear these garments just to fit into some kind of fraternity or to look cool – flight suits serve a purpose.

They were first introduced to protect pilots in open cockpits from cold temperatures and to provide a place to put loose articles. Flying suits are now available in various thicknesses, depending on the mission, but one common thread (excuse the pun) in decent flight suits is that most are made from fire retardant materials, such as Nomex.

Perhaps Nomex flying suits on a hot summer's day may not be sensible in our non-air conditioned cockpits, but I still wear those all-important cape leather gloves. They are your most important item of clothing. I even cut off the fingertips so I can operate an iPad!

Now, even if a flying suit is not your thing, you can still minimise your injuries in >

# SURVIVAL

case of a post-crash or in-flight fire by wearing clothing with low flammability. You should stay away from materials such as polar fleece, silk, cotton and materials that melt, such as nylon. While cotton clothing is generally highly flammable, jeans are actually great because they are made with a tight weave. Wool and leather clothing also provide great protection because the material resists flames and has a slow burn rate, although it may be a bit too warm to wear in the summer. Many, but not all, synthetic materials are also fire resistant.

## DIFFICULT TO IGNITE

It is not only the type of material that makes up the clothing that matters, how they fit makes a difference as well. Tight-fitting clothes are more difficult to ignite than flowing, loose garments. Loose items of clothing could also interfere with control movements, so they should be avoided in the cockpit. Additionally, nylon hi-viz jackets are possibly highly inflammable and being loose may well impede your egress in an emergency so if wearing one at a particular airfield is necessary, best stow it away whilst in the aircraft.

And do remember that you are responsible under the Air Navigation Order for your passengers. Is that attractive young lady going to be able to get out and run away from a burning aeroplane dressed in high heels and a miniskirt? Probably not.

Hopefully you will never encounter a fire in the cockpit but, if you ever do, you will be glad you thought ahead and you and your passenger(s) wore materials that won't make a bad situation even worse.

Of course, flying is all about risk. We take risks every time we fly, or for that matter whenever we drive a car. You need to weigh up these risks.

For example, what is the risk of a forced landing against the risk of heat exhaustion and dehydration in a hot climate? Having operated in the desert with the military, we had a rule that if you did not get airborne within 15 minutes from start, you cancelled the sortie as you had almost certainly become too dehydrated to fly.

“Remember too that unlike the racetrack driver spinning off and hitting the armco, track marshals and an ambulance crew will not be immediately on hand to help”

Also in the desert, where cockpit temperatures on the ground can exceed 70 degrees centigrade, we wore less protective clothing to minimise heat exhaustion. However, flying over the North Sea in winter meant that we wore immersion suits and acrylan pile underwear (despite the fact that the combination was bloody hot on the ground). Evaluate the risks and dress for the situation.

## HEAD PROTECTION

Now most of us wear headsets, they are light and relatively unobtrusive. However, you might consider some form of head protection because if you're going to fly a small GA aircraft and you have an accident, a head injury is highly probable. I've seen a badly cracked helmet that saved the life of a GA pilot who crashed in Alaska... it's make you think. Remember too that unlike the racetrack driver spinning off and hitting the armco, track marshals and an ambulance crew will not be immediately on hand to help.

OK, so most of the UK is pretty close to civilisation, unlike wildest Alaska, but there are surprisingly remote spots even in areas we consider to be well populated. Around

ten years ago, a microlight pilot crashed on marshland in Kent and was not found until the following day, sadly having died from what were potentially survivable injuries had he been found earlier. He had attempted to make a mobile phone call to no avail.

If you are bleeding or have broken bones, you need assistance, but you cannot rely on your mobile; you may not have a signal. If you have time to put out a Mayday (and it was received) all well and good, but perhaps think about carrying a handheld transceiver and an Electronic Locator Beacon (ELT) or a Personal Locator Beacon (PLB). The latter is only about the cost of a tank of fuel. I carry a Fast Find 220 PLB, which is registered with the UK search and rescue services so they know exactly what to look for if it is activated. An ELT or PLB will not only communicate with satellites, but also tell D&D where you are.

## HYPOTHERMIC

Other minor survival aids such as a poncho are useful, even on a warm day you may become hypothermic if you are suffering from shock. And a tourniquet may just save your life while you await rescue.

I found the neat survival kit in a bottle shown at Transair. It contains many of the essentials in a compact one-litre bottle for just under £35. And don't forget a first aid kit with some decent sized bandages; again they are low cost and take up very little space but could well be a life-saver.

So, in summary, think before flying and plan accordingly. It doesn't cost a lot to plan for the worst and hope for the best, and don't worry what others may think. I have heard sniggers when I walk to my aeroplane dressed in a Nomex flight suit but each to his own. I just hope they won't ever rue the day should they ever be involved in an unfortunate incident.

What you carry and what you wear is very subjective. I don't have all the answers, but after 50 years of flying and my military survival instructor's orders still ringing in my ears, maybe I have a few. It's your life, you pay your money and you make your choice. ■



(Above) A handheld transceiver, a Personal Locator Beacon and a survival flask, three basics to which you could add some first aid materials, warm clothing, a bottle of water and some snack bars. When you think about worst case scenarios, does this sort of low cost, easy to do precaution really sound so OTT?.