

BALE OUT!



G Dale's glider wedged in a tree after a mid-air collision

Could you safely escape from a mid-air collision? G Dale explains why you must be prepared – in case it happens to you

IN 2012 I became one of the select number of pilots who've performed fewer landings than launches. Yes, I jumped out. I was lucky to survive the experience with a written-off glider, a slightly damaged leg, whiplash and an interesting case of PTSD. Oh and I came last in the 2012 Club Class Nationals – well, second to last.

Given that I'm working as a soaring coach it seems only reasonable that I should share what I learned from this with the community, so here goes...

Dangerous flying

So what did I do wrong? The DG-100 has a big fat wing section (not for nothing was it nicknamed "the fat bird") and it would fly very slowly indeed. So there I was, floating around in this crowded weak blue thermal at low level, waiting for a better idea, looking back at an LS7 just behind me in the turn. Why dangerous flying? Because slow and flat in a crowded thermal is hazardous for the guy behind. Especially if he's flying a sharp fast machine and you're flying a paper bag. Sorry mate, I should have thought a bit harder. Anyway, I was given a big clue:

"This is rubbish, I'll open the turn to search around, so look out and underneath...whoah! There's a glider 10 feet below coming up at me... twitch it up a bit, but only 40kt, shudder, shudder, shut my eyes... BANG!"

What should you do after a mid-air?

You need to understand right from the beginning that if you are unlucky enough to be involved in a mid-air your "fight or flight" reflexes will kick in hard. The brain secretes a load of cortisol in a real hurry, you'll get what we call "an adrenaline rush", your perception of time changes, your self-awareness goes away and, if you're lucky, you'll move fast and with incredible strength. If you're unlucky, you'll freeze. I was lucky.

When you're deep into the fight or flight response the brain doesn't process information in the way you would hope. You have to know what to do already without having to work it out.

"BANG! The nose goes down... BRAKES! BACK STICK!"

It might take a damaged wing right off, but I'd always open the brakes after a mid-air or any kind of airframe failure: it reduces the speed build-up, stabilises the glider, helping to prevent an accelerating spiral dive and, by limiting the speed, increases the time available before the glider hits the ground.

"Brakes open, stick back, nose comes up a bit, I might get away with this... and then... wham, a hard negative bunt into the vertical and straight down. GET OUT! GET OUT! GET OUT! GET OUT!"

Frankly, absolutely terrifying. Beyond that, really, no words to describe the sensation of having the stick dead in your hand and accelerating straight down though 1,500ft. I just missed taking out Claudia Hill, and I scared my team mate Ian MacArthur half to death as he watched the glider going down like a stone dropped into a well.

"CANOPY JETTISON... PULL! PULL HARDER! PULL WITH BOTH HANDS! PULL! PULL!"

The first thing to do is to get rid of the canopy. Beware. It may or may not come off. It helps if you maintain the glider correctly: I'd made a crucial mistake on my DG, having not removed the canopy to grease the emergency release mechanism at the previous annual. It's an AD as well. D'oh. Both hands on the release, pulling as hard as I can, feet braced on the rudder pedals, all my strength and it still wouldn't go... for quite a long time. With the ground coming up fast it seemed to take forever.

"IT'S RELEASED, KICK IT OFF, YES, IT'S GOING... WHACK!"

And the lights go out. Damn thing hit me on the way past. Actually it was the headrest, which on my glider was fixed to the back of the canopy. As the lid hinged upward, the headrest hit me incredibly hard on the back of the head; 150kt of airflow gave it quite a bit of push. So I miss much of the next seven or eight seconds. Luckily for me, just after I got whacked in the head the fuselage broke clean in half, which slowed the airframe considerably. Without a tailplane the glider then bunted through an outside loop at around 80kt and -3g finishing inverted at about 800ft. My first outside loop and I missed it.

"HUH? IN THE DARK... ARMS HANGING ABOVE ME... WE'RE UPSIDE DOWN! HELL, GROUND COMING UP, RELEASE THE STRAPS, GO GO GO... TWIST, WON'T MOVE, BOTH HANDS SHOVE, SHOVE... I'M OUT."

I wake up, realise what's happening,

struggle to get the straps undone. Eventually (again, it seemed to take forever) I fall out of the cockpit. There's something like 800ft left underneath.

"SKY GROUND SKY GROUND - I'M TUMBLING, MAYBE I'D BETTER TRY TO STOP IT? NO, IDIOT, OPEN THE CHUTE!"

Obviously that all worked out fine. Parachute opens, I look up, see the canopy, punch the air and shout a few obscenities about not dying yet. Then I calm down, try to work out how to land.

"Where's the sun? So the wind is there, I'm drifting that way, forest, motorway and railway line in that order; wires and cars, best track into wind then. Grab the back risers to steer... WHAT? THE GLIDER IS COMING AT ME! Well that missed, now how do I land this thing?"

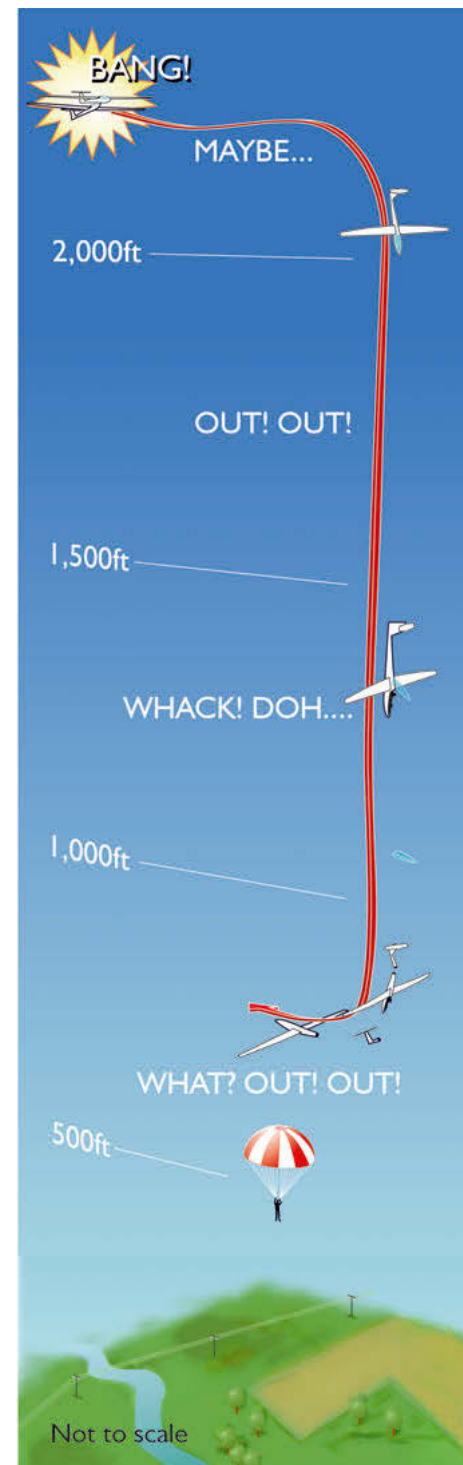
And I pass out again. Gill Spreckley lands, finds me face down in a field snoring, sorts it out. Sarah Harland calls D&D (distress and diversion service for pilot emergencies). Helicopters, fire engines, ambulance, head strapped to a board, oxygen mask, dee daw dee daw to the hospital. Head in the scanner. All OK - no worse than before anyway. Thanks everyone for the help. Thanks to NHS for the stunning service. And my team mates see the chute open, see the other glider land safely, get on with the task. I'd have done the same in their place, no need to stop now.

So after the dramatics, let's be rational. If we can.

The biggest lesson I learned was that dealing with a mid-air collision and subsequent loss of control isn't going to be a calm and rational experience unless, maybe, you're a Chuck Yeager (US Air Force flying ace, first to exceed speed of sound in level flight). When the fight or flight response kicks in, when the amygdala hijack takes over (look it up) then you're not going to be the same person. If you don't know what to do beforehand, you're not going to work it out at the time. Hence the nature of this article; I wanted to give you a flavour of the experience. Here's some suggestions that you might use to pre-programme yourself:

- 1)** If the nose goes down after an airframe failure then open the brakes. It's a gamble, but it could buy you some time. *Do not confuse this situation with stalling/spinning from mishandling the glider!*
- 2)** Get rid of the canopy first. Protect your face and head as it goes.
- 3)** Then undo the straps. In that order, not the other way around. It might be hard, ✈

SEQUENCE OF EVENTS AND HEIGHTS DURING G DALE'S BALE OUT



Being involved in a mid-air collision is more common than you might believe. Having mentally prepared to face such an eventuality, G Dale acted instinctively when involved in a mid-air during the 2012 Club Class Nationals at Gransden Lodge (Illustration Steve Longland)

BY THINKING IT THROUGH AND BEING MENTALLY PREPARED FOR THE WORST YOU WILL IMPROVE THE ODDS THAT YOU WILL BE ONE OF THE SURVIVORS



The fuselage broke in half, with the wreckage landing in trees



Gerrard Dale - "G" to his friends - is a member of the British Club Class team and won a Silver medal in the 2019 Europeans. He currently coaches for Narrornine GC in New South Wales, for Lasham in the summer, and at Serres in the French Alps. G is the author of *The Soaring Engine Volume One; Ridge Thermal Flatland and Mountain* and *The Soaring Engine Volume Two; Wave and Convergence*. He's hard at work on Volume Three of the series; high performance flying and competition flying. These can be purchased from www.navboys.com or www.bgashop.co.uk

↪ really hard to undo the buckle if there is a negative g load on the straps. If it's positive g then throw the shoulder straps up and back so they don't snag you as you get out.

4) Get out of there, any way you can.
5) Don't wait, open the chute straight away. You're probably clear of the aircraft, and the ground is coming up fast. The longer you leave it, the more likely you are to start spinning up. To open the 'chute, "Look/reach/pull/arch"... more on that in the next article.

6) Practise this routine as best you can, until you can't get it wrong.

Difficulties may arise

Now we're into speculation. From what I've learned over the years, there are a quite a few possible outcomes of a mid-air collision.

If the glider flies normally: where is the damage? If there is any chance that the back end is damaged then it's probably wise to get out, before you are too low. The tailplane might come off, the

fuselage might break in half and then where will you be?

If you are certain that the damage is insignificant and where you can see it, then staying with the aircraft may be a reasonable thing to do. I'd have the brakes open by then and be on the way into the biggest, flattest and clearest surface available, landing into the wind without having to turn. No soaring, no flying faster than minimum speeds, no manoeuvring.

If the roll control has gone: losing aileron control will give you a spiral dive. Speed will increase, g will increase, you won't be able to get out after a few seconds. The canopy may not come off under these conditions. If this is happening, remember the glider cannot pitch up and produce g without having a tailplane attached. If there is a tailplane you might be able to unload by shoving the stick forward. It's worth a go, and there are many tales of pilots ejecting themselves from gliders by mistake by pushing on the stick with their straps undone. I'd pull the canopy release, undo the straps, protect my head and shove, hoping to go straight through the canopy or take it with me. It sounds desperate, but what else are you going to do?

If the tailplane is damaged or gone, the glider will likely bunt hard: in which case it's easy to get out. Just pray there is enough airspace underneath and time to do it. Move *fast!*

Flying the parachute and landing it

This is outside of my skill set. All I can say is that I got away with it, including landing having passed out in the air. I'd rather be lucky than good any day. We'll tackle this in the next article.

Post traumatic stress disorder

So, being a ruffy tufty old geezer, instructor, coach, mountain pilot and competition pilot with a lot of flying experience over many years - it never occurred to me that I might suffer from PTSD. It turns out that I'm just like anyone else.

I wasn't frightened to fly again, or any more scared of gaggle flying than before. Which was "already quite scared enough, and for good reason." I was, however, far too aggressive and driven for the next year whilst I tried to get my competition career going again. Get my aircraft out of the trees, sort the insurance, buy another glider, sort it out, qualify... no time for anything or anyone else apart from getting back into the team. And I managed it, but eventually a good friend took me on one side and pointed out the problem. Just in time really as I was driving my partner completely nuts. It's a more common issue than you might realise. Since becoming aware of it I've looked around and seen other pilots suffering from PTSD in various guises. Keep an eye out for this, especially if you're managing a club, if you're a CFI or an instructor.

In conclusion

I didn't die, neither did the other guy. Gliders broken, but nobody cried. But think about this: when I'm doing a safety-oriented lecture to a fair-sized audience I'll often ask how many people in the room have had a mid-air collision. There's often several in the audience. I've seen one from the ground, I've had one myself, my partner Annie has had one, my friends Frank, Alex, Jane, David, Kim, Dave, Mike, Alan, the other Mike, Ted, the other Alan, Harry... I could go on. It's more common than you would like to believe. By thinking it through and being mentally prepared for the worst you will improve the odds that you will be one of the survivors. It is a numbers game, there are no guarantees, but every little helps. Best to avoid the whole issue by looking out properly, but this is hard to accomplish.

■ In the next issue we'll look at the second part of the story: how do you care for and use a parachute?