TOGGLE TIMES
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Display jumps and the need for experience

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When I did my first display jump, I had exactly 102 jumps. I made it easily, but hurt my ankle. For no apparent reason, the landing was harder than usual. I did not expect it, and could for the life of me not understand why. My third display jump was done with only 155 jumps. This was slightly more difficult, but I was confident. I walked away from the landing (erm…, or rather limped away somewhat embarrassed) and the Audi with its bumper now lying next to it. I was on a straight and level approach in a clear area, and started flaring. For the life of me I could not understand what went wrong so suddenly, and why.

I did my first cricket stadium display jump on jump number 261, and my first rugby stadium display jump on 285 at night. Of course I did it well, and I accredited it to my experience, capability and skills.

Since then, of course, I have come to realize - and intensely understand - that I was lucky, extremely lucky.

To do display jumps predictably competently and safely, time after time, a jumper needs experience. Experience implies a lot of jumps, over time, in a variety of circumstances, using a variety of parachute types and sizes, and at a wide spectrum of landing areas.

The inherent nature of display jumps make the different from just any jump on a drop zone. In most cases the landing area is unknown, and there will always be the crowd-factor to contend with, with all its unpredictable aspects. Display jumps are often done in less than perfect weather conditions, with difficult wind and turbulence to deal with. There are always obstacles that add to the turbulence, and the obstacles sometimes even move! The size and shape of the DZ may change, and not be the same as when you visited. Sometimes the DZ is not seen until a few minutes before exit. The landing area may be much smaller than you are used to, and of course there is always more stress involved with a display jump.

Display jumps are also often done on equipment that you are not used to, usually when a jump is done at a sponsored event and branded parachutes are used. You may suddenly jump an unfamiliar deployment system (possibly a pull-out), and the make and size of the parachute may be something that you have not jumped before. And don't think that because the parachute is bigger and slower than what you are used to, it will automatically make the jump safer and easier. It may cause you to stay in the air longer, and overshoot your intended landing area, or not penetrate into wind as you expect it to, and cause you to land short.

Of course, you can take all these factors into consideration and plan accordingly. And yes, if you do and everything goes according to plan, it is another safe and good display jump. But it happens more often than not, that things do not always go according to plan. On display jumps, even a small thing can cause a big problem.

Try to consciously calculate and consider all of the following in 3 seconds: Bad spot, rate of descent, penetration/forward speed, wind-speed and changing direction, field elevation, obstacles, turbulence, extra drag of flag, conflicting traffic, running spectator, flood lights, rugby posts, smoke grenade.

If, at the DZ, the spot is too deep to make it back to the pro-rated landing area, or you are too low to make it back, or there is traffic, or someone is walking in the landing area, what do you do? You land slightly further out or land in the student landing area. Or you may land slightly crosswind or downwind, but not exactly where you want to. No problem. But on a display jump there rarely is another option. Alternative landing areas (zap areas, as we used to call them) are very scarce on display jumps. And if there are, you must have made your decision to use one above 1000 ft. Lower than that, and you are out of options.

But these are lessons that should have been learned on the dropzone, many jumps before a difficult display jump is attempted. And ask any “old dog” showjumper, there are very few really easy display jumps. Something, however small, always tends to happen.

And this is where experience comes into play. The experienced skydiver knows instinctively when he is too low for a turn, and corrects the mistake before it occurs without consciously thinking. The experienced skydiver will not go to his pre-planned set-up point for landing on a display jump when he finds himself out of position and slightly lower than expected, and might even decide to do a down-wind landing instead. Without even remembering afterwards that he decided this. All the canopy and related data is computed in milliseconds by a brain used to doing this.

We used to attribute these instinctive reactions to something called “muscle memory”. Now we know it is actually called involuntary automaticity. Yes, there is a word for it. And yes, it involves both your brain and muscles. It basically means that you brain and body reacts in a way it has been pre-programmed by way of repetition. And in the case of display jumps (or any parachute jump) its accuracy will be based on the sum total of all your canopy experience.

You can only programme your brain to make the correct calculation fast enough, for a safe landing, through experience. If you compare your brain to a computer, you will need to add as much data as possible (input) in order for your brain to do accurate “canopy computation”. Of course this applies to other issues relating to flying different parachutes as well, especially when downsizing. But even more so for display jumps. For every parachute jump you do, the brain records the data. Your brain will record the sight picture from 1000ft, 500ft, 200ft, etc, the push of the wind, the side-crawl, the penetration, the effect of turbulence, the altitude lost in a turn, the required toggle input, the recovery time of the parachute, and many more factors, for every jump, and every different parachute used. And the brain then uses all this data, and cross-references everything, for the current situation you find yourself in. If it has enough data, it makes the correct decision. If it needs data which is not there, well, then a calculation mistake is made. The more experience you have, the more data your brain has to work with. And this is where experience makes the difference.

If a formula has to be developed, some of the factors that would be included would be: Total number of jumps; Number of jumps last 30 days, last 90 days, last 360 days; Number of jumps on 200sq ft+, 170 -200 sq ft, 150 – 170sq ft, smaller than 150; Number of jumps in 0 wind, 0 -10 knots, 10-15 knots, 15+knots; Number of display jumps; Cross-wind landings; Down-wind landings; Previous flag and smoke jumps. Of course, this list can be endless with a myriad of factors playing a role.

However, the “canopy computer” in your brain must be fully uploaded with enough data to give the correct response at the right time. And that only happens through experience, which is gained by doing a lot of jumps, over time, in a variety of circumstances.

According to the PASA rules you need a minimum of 300 square jumps (an experience requirement), of which 50 were done during the last 12 months (a currency requirement), and a PRO-rating (a skills requirement) before you are allowed to do display jumps. Of course, these are the minimum requirements.

I wish I can remember how many times I have heard the following: “But I have done more than a hundred jumps on this parachute, and surely I will be able to land here with this parachute!” The question that should actually be answered before any display jump should be: “Will you be ably to do this jump, comfortably and safely, with ANY parachute, even one that you have never jumped before?” The reason? You may need to do this jump with your reserve, on which you have very little (if any) experience. Again, the experience factor becomes relevant: Your brain being able to do the “canopy computation”. Only experience will allow you to do it safely. (Although, it does not mean that it won’t still scare you!)

If your CI or any more senior jumper ever makes a comment like “I am not sure you should go on this demo” (or anything similar), don’t. Rather stand down, even if you have the PRO-rating and all the other requirements. The number of stories of display jumps that went wrong, where someone got hurt or something got damaged, after such comments are too many to list. Such a comment means that someone with more experience has doubt. It does not mean he does not like you, or would

like to have your slot (well, in most cases not). And when there is doubt, don't. There probably is a very good reason for the doubt, and it may have to do with you experience, or lack of it.

So why is it not ok to mess up on a display jump? Display jumps are not about you, the jumper. It is about the crowd. It is not done to impress the crowd with your skill, it is not done to scare the crowd, and it is definitely not a stunt. To come in landing at a screaming 100km/h, to miss the stadium roof by a metre, or to brush the posts with your parachute does not impress the crowd, it scares them. We want to show them how easy and safe it is to skydive, because we want them to get involved with our sport. Any incident or injury on a display jump does more damage to our sport than 100 demos done perfectly.

The bottom line: To do display jumps consistently safely you will need experience. Unless, of course, you are very, very lucky. And no one should bet their life on luck.

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