

## From The Downwind Rigging Loft

#17

23August 2004

### Skills Camp

Last Sundays RW skills camp was a resounding success. We had 16 participants with video from Heather Kent and Karen Wood. Coaching and organizing was provided by Sparky Harding while Keith Allen filled in for myself having suffered a knee injury on Friday. I helped out as much as I could with video critiques, a short discussion of gear checks, malfunction procedures, incidents we can learn from and observing canopy patterns and landings. Scott Weiner provided his input when available.

All participants showed very noticeable progress, Sparky, Keith and I were very impressed with the results. Keith, Heather and Karen were all last minute additions with very short notice to help keep the camp a success. I was especially impressed with the excellent canopy patterns exhibited by all participants. Karen loaned me an extra video camera to shoot landings with and once I remembered to remove the lens cap, was very helpful. The quality of pre-jump preparation, and post jump video de-brief and question/answere periods were very encouraging.

The next camp is scheduled for Sunday 26 September, 2004. Please reserve your slot by return email.

### Important Questions

Below are our responses to two emailed questions, one from Janice Turner, and the second from Scott Mebust.

#### First, from Janice.

*I don't know if this question will make any sense but here goes: Let's say a jumper goes to deploy his main and he ends up with a PC in tow. So, he decides to cutaway and deploy the reserve. Releasing the reserve causes the main pin to come out causing the closing flaps for the main to open. It seems to me that since he already pulled the cutaway handle that the bag would just drop with the main still inside. Thinking about how my main opens (granted, I have never really timed it) it just seems like I am vertical in no time and waiting for my slider to come down. So I guess my question is how much force of air would it take to get the main out of the bag and inflated? Let me know if this does not make sense and we can talk about it next time I am out there.*

*By the way I had a great time with the skills camp.*

#### Our Response:

Very good question. Releasing the main risers should allow the main bag to fall away and the weight to remove the 3 rings. You may have to reach up to your 3 rings and "help them along" however, especially if the canopy is still in the bag and not inflated. If the canopy is inflated that should be enough to remove the 3 rings however.

The opening of the reserve would not necessarily cause the main pin to come out, however, in the case of a pilot chute in tow. I have read of incidents where the PC was thrown, removing the pin, but the main bag was held in because of a very tightly packed main and reserve container. After the jumper deployed the reserve in response to this PC in tow, the lack of pressure on the main container allowed the bag to come out. In the instance, I would anticipate just such an occurrence and pull the cutaway handle after reserve deployment, then reach to my 3 rings and riser covers and make sure they are released with my hands. That way if the bag falls out it can fall clear. You must make sure you do not entangle your legs with the lines. If prior to pulling the cutaway handle, the main comes out and begins to deploy, I would follow my 2 canopy out procedure as dictated by the PIA dual square report. Links to this can be found on our website [www.downwindnc.com](http://www.downwindnc.com) and at [www.performancedesigns.com](http://www.performancedesigns.com)

The question of how much force to get the canopy out of the bag is an open ended one. Basically, if the pilot chute is functioning, and the bag is out, it doesn't need much to come out. Just stow your lines in the rubber bands like you normally do, then pull them out, that's how much force it takes. Refer to our previous newsletters on the website for more on Pilot Chutes in tow.

### **Next, From Scott Mebust**

*John & Dawn,*

*This is not the first incident that I've heard of involving a PISA Tempo reserve not working so well. Makes me wonder since I've got a Tempo 210. (Someone on DZ.com said, specifically about Tempos (I think), "you get what you pay for.")*

*Other than the shock on my body from a hard (very!?) opening at terminal, is there any reason to be concerned?*

<http://www.cnn.com/2004/WORLD/africa/08/23/safrica.freefall.reut/index.html>

Scott

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*Here's some info from Dropzone:*

*Hi There,*

*I was at the DZ, but I never saw the incident or went to the scene. I did get a look at the gear afterwards, and have spoken to the jumper since the incident.*

*This is what I have.*

*Number of jumps 112.*

*Own gear.*

*Main Canopy, Pilot 150. (or Aerodyne equ size, 148?)*

*Reserve Canopy, Tempo 150.*

*Wing loading 1.1.*

*Jumper is current.*

*Description of incident.*

*Jumper had a pilot chute in tow malfunction. She chose to fire her reserve without cutting away. (Please search the safety and training forum for more on this subject) This was an informed decision on her part after consulting with several senior jumpers.*

*She did not lose stability during the pull sequence of either the main or the reserve.*

*The reserve opened "Very hard." She thought her "legs had broken" as a result of the deployment. The main began to deploy and she successfully released it. The reserve began to spin immediately after deployment. The jumper elected (Wisely, in my opinion) NOT to unstow the brakes.*

*The canopy apparently spiralled to impact despite her attempts to counter the turn. The jumper's body hit one powerline, (11kVA) and then impacted the ground. Club members (Thanks Dave) were on the scene within a minute, and the jumper was choppered out shortly thereafter with suspected pelvis damage. X ray's revealed a hairline pelvis fracture.*

*I had the opportunity to examine the gear after the incident.*

*There is no damage to the main risers, lines, canopy, bridal or pilot chute which I could find.*

*The reserve front left linegroup is severed as a result of a friction burn about 6 inches above the reserve front left riser. (Spectra has a very low melting point - about 400C.)*

*The reserve rear left linegroup had corresponding damage about 6 inches above the reserve rear left riser with only the brakeline and one other line not being*

*compromised. (I can't recall which line right now.) I suspect this one line was sheilded by the brakeline.*

*There is burn damage to the reserve slider to the fabric from the grommets towards the centre and to the reinforcing tape around the edge.*

*The DZ CI currently has the gear. I'll see if I can get some pics of the damage, and would appreciate feedback from riggers as to what could cause this type of failure.*

*Also, anyone know any reserve manufacturers that offer a dacron line option on reserves?*

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D515*

### **Our Response:**

Assuming that the information regarding the loading, stability etc of the jumper is correct then the reason for the hard opening and damage is mysterious. I myself have used a Tempo 120 with an exit weight of about 200 pounds and had a very pleasant opening and landing. I packed the reserve by the way.

Any parachute can open hard and can fail, nothing is foolproof. The friction burns may be the result of the hard opening. The opening may have been due to going head down while reaching for the reserve handle. However the report states that she was stable. How do they know that for sure. Reserves are tested, designed and packed to open in 3 seconds and 500 feet while at subterminal, which is how most are deployed (at least in my experience). Spectra line melts at a low temperature but is VERY strong and lasts a long time, as well as has a lot less pack volume which is important in todays very small rigs. Dacron is excellent line, very strong and very elastic but very, very bulky.

Personally, I think a combination of factors is at play here. The jumpers position at pull time, the method of packing, and lots of others we may not know about. I would not condemn one parachute from a second hand incident report. We have know way of determining its accuracy as of yet. Previous "rumors" I have heard about Tempos failing have never been proven true to me by reliable incident reports.

Additionally I must add this. Anything I read on dropzone.com is taken with a lot of salt. Much of what you read is gossip and third hand, uninformed innuendo. It's not much better (in many cases) than the drivle heard from the "drunken fat guy around the bonfire". If equipment was grounded based on this kind of judgment we would all be bowling.

Finally, I personally recommend Performance Designs mains and reserves. However, in my dealings with PISA (Parachute Industries of South Africa) I have had no complaints. (side note: PISA was recently purchased by Aerodyne Research of Tampa Florida. )

Hopefully this helps.

Finally, thanks for all those who have helped with advice and concern about my knee injury. I am seeing an Orthopedic Surgeon on Friday and hope to know more soon.

John Lyman and Dawn Larsen  
Downwind Rigging and Gear Sales