

TANDEM NEWS

A PUBLICATION BY STRONG ENTERPRISES FOR TANDEM INFORMATION

CURRENCY REQUIREMENTS

Spring has arrived, and, although many tandem instructors have been busy in the south, many more are gearing up for a busy student year—"Point Break" was the most popular home video rented last month. Don't forget! The difference in equipment, techniques and the added responsibility of student safety requires tandem instructors to be current at what they're doing.

If a tandem instructor has not made at least three tandem jumps in the last ninety days (at least one in the last thirty days), he is not current, therefore, he must satisfy that three tandem jump requirement with an experienced jumper, before jumping with a student. An experienced jumper is one that has at least 100 freefalls. In addition, on all recurrency jumps, the safety handles must be in place for use by the passenger, and he must understand how to deploy the drogue.

If the tandem instructor has gone six months without making a tandem jump, he must make at least two of his three recurrency jumps with a current tandem instructor.

If one year has passed since making a tandem jump, the idle instructor must attend a refresher course with a designated Strong Enterprises Tandem Examiner.

A tandem jump is not just another skydive!

CANCER PATIENT MAKES TANDEM JUMP

For every rule, there's an exception. Although the FAA exemption that allows tandem jumping specifically limits participants to 18 years or older, Strong Enterprises received a special request earlier this year to deviate from the rule.

Fifteen-year old Nick Wilson was diagnosed in November 1991 as having terminal cancer with a prognosis of only two months to live. Through his pediatric counselor, Christine Sternberg, young Nicky "made a last wish" to skydive and he had the full support of his physician and mother. Sternberg contacted Doug Boyd, an active tandem instructor at Skydive Suffolk, Inc. in Suffolk, Virginia, with the request.

Boyd knew the provisions of the FAA exemption and contacted Bill Morrissey at Strong Enterprises for his assistance and advice. After several phone calls and a letter to FAA Headquarters in Washington, DC, Thomas Accardi, Director of Flight Standards Services, granted official approval for the "one-time tandem parachute jump with Nick Wilson for humanitarian purposes."

On January 11, 1991, a very excited Nicky Wilson, four feet ten inches and a

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frail sixty pounds, left the Cessna high over the Virginia countryside for his wish of a lifetime parachute jump. Boyd had to pad Nick's body with towels so the student harness would fit and the freefall camera-man couldn't keep up with the slow-falling duo.

But Channel 10 News was on hand for the event and provided a full report for their viewers. The smile on Nicky's face said it all.

CYPRES AAD'S

"If it's not going to work, I want to be the first to know it," said Ted Strong when he ordered testing of the **CY**bernetic **P**arachute **R**elease **S**ystem—**CYPRES**—automatic activating device on the Strong Dual Hawk Tandem Rig. Four jumps were made at the Air Adventures Parachute Center in Clewiston, Florida, in December 1991 with positive and very reassuring results.

With Marty Jones and Bill Morrissey filming, both stills and video, two test jumps were made without the drogue deployed. The AAD fired almost precisely at the preset altitude. Then, the test jumper and his 130 pound passenger—a box of sand—deployed the drogue after exiting at 9,500 feet AGL and waited for the AAD to fire into the drogue. On two successive jumps the reserve deployed past the drogue without incident and convinced Strong Enterprises to change company policy.

Effective 1 February 1992, all new Dual Hawk Tandem rigs were manufactured with pockets to accommodate the CYPRES AAD. SE believes that if a tandem instructor wants to jump with an AAD, a CYPRES unit is an acceptable choice. In addition, anyone who wants their tandem rig retrofitted for the CYPRES, SE will do the modification for \$100—expect a down-time of about three weeks with shipping.

SE INSTALLS CYPRES ON TRAINING DUAL HAWKS

The equipment that is used by SE in the certification of Tandem Instructors now have CYPRES AADs installed. We are confident enough in this product to authorize it's use on the Dual Hawk for Tandem Jumping with students, therefore it makes sense to use it in the training of Tandem Instructors. The candidates in these courses are learning new procedures and the use of new equipment, and this seems to be an excellent scenario for the use of an AAD.

We will be using the equipment on unusual attitude exits as well as high speed no-drogue freefalls, so it should be getting a good workout. If any problems develop you will be sure to read about it in the TANDEM NEWS.

ARTY PATTON MAKES 2,000 th TANDEM JUMP

Perris Valley Parachute Center's Chief Tandem Instructor, Art Paton, has reached the lofty plateau of having made 2000 Tandem Jumps. Arty is one of less than a handful of persons to have achieved this goal.

Arty, who is one of those persons that everyone likes, has been jumping at Perris Valley for over 10 years, and has made over 4000 freefalls. An AFF Instructor, he earned his Tandem rating in 1985, and in 1987, he was asked to represent Strong Enterprises as a Tandem Examiner.

Since 1987, Arty has trained 63 other skydivers as Tandem Instructors, has conducted seminars for those Tandem Instructors who live in southern California, and has insured that the Tandem Exemption has been adhered to, for the benefit of all of us.

CONGRATULATIONS ARTY! We're proud of you.

SPINNING "EXPERIENCE "

I recently had a "Tandem Experience" that apparently very few other Tandem Instructors have been exposed to. In fact, until I started this article, we knew of only two other documented cases, one on a Tandem Vector and one other on a Dual Hawk, where this has occurred.

If there have been other jumps like these, we would like to know the details, because this is a situation where it can truly be said "...it was out of control." Anytime that a jump situation cannot be corrected, or more to the point, "controlled," then the circumstances exist where a fatality could occur if the correct decision is not made and acted upon.

Unfortunately, after nine years of Tandem Jumping experience, we are still faced with occurrences that are unique to Tandem Jumping, and for which, having never happened before, we are totally unprepared. Therefore it is impossible to train Tandem Instructors to be prepared for those situations, or how to handle them when they do occur. We are still learning! We have to start believing that we are dealing with some unknowns, and that some of the old rules may not apply.

This "uniqueness" is at the heart of the issue. We would like to talk about this type of "experience" not only because of it's apparent rare occurrence, but also because it is the type of incident that a Tandem Instructor may very well blame on his performance, or may feel that it would be a black mark on him, and therefore may not discuss it with anyone else. Thanks to video, even I can't hide!

I have always believed that given the fact that a Tandem Jump is made up of two

distinct bodies, each with it's own mind, which may not be working in harmony, and that these bodies have two heads, four arms, and four legs, and if these ten extremities are not working in harmony with one and other, we could then have forces develop which could contribute to an unstable, if not out of control, situation.

The extremities of the Tandem Instructor are very often working within the turbulence created by the Passenger and therefore will not be as effective as if he were jumping alone (flying at diminished capacity perhaps!). In addition to that, his range of motion is restricted because of the fact of being harnessed to someone else. I'm talking about his ability to reach, as well as his ability to force his body to move as far as he would like it to, or to move in the direction he wants it to go, or at the speed that he needs it to move in order to recover from the position that he is in at this very instant, not the position that he is going to be in when he is finally able to get this load to move (Wow! That's a mouthful).

During my "experience" I continually felt that I was 180 degrees behind the action, because no matter what I tried to do, by the time I accomplished a maneuver that I felt would get me stable face to earth I was beyond the point where it would have helped, it was no longer the appropriate maneuver.

Generally it could be said that the same rules that cover solo jumping, such as recovering from unplanned barrel rolls, spins, or loops, would also apply to Tandem jumps. In most cases these general skydiving rules do work, but we have learned from experience that sometimes they absolutely do not. If we are to learn more about this subject it will not only require more jumps, involving more bizarre incidents that the participants are anxious to share with us, but it will also require very open minds on the

part of the persons experiencing these new occurrences, and on the part of those trying to analyze these incidents.

During these experiences we must not allow our pride, defense mechanism, fear, etc., to block our powers of observation. We must have the confidence that comes with knowing our equipment, our own capabilities, where we are in time and space in relation to the ground, and we must be considering all our options as we are trying to correct our situation. At the same time we must be observing exactly what we are experiencing, if we are to avoid repeat performances for ourselves or others.

If we watch videos of a variety of Tandem exits made by a variety of Tandem Instructors we will see that a stable attitude is not always achieved immediately, similar to what you might see during mass exits of solo jumpers. With solo jumpers we can pretty much conclude why an exit went the way it did and what the solo jumper will do to sort things out as he moves away from the plane. On the Tandem exits all we know is what we see, since we do not have the history necessary to understand all that could happen, and what to do to correct some of these circumstances. Because of all the parts that must be working together it is more difficult to understand what is going wrong even when you are sitting down watching videos and you have the advantage of multiple reruns. When you are actually in the middle of that exit, and you are acutely aware that things are not going exactly as planned, chances are very good that you are not immediately aware of the cause of the problem, or what, based on solo jumping experience, may work to correct that problem.

When considering those ten extremities we discussed above, we also must consider what forces were input into the exit during push off from the airplane, or the forces

being generated by the relative wind as it hits the Tandem from any position other than the front. A very common example would be the relative wind getting behind the passenger's legs, lifting him into a sitting position while the Tandem Instructor is trying to maintain his face to earth attitude.

With hundreds of thousands of Tandem Jumps being made it seems reasonable that the Tandem community will get to experience every situation imaginable, but perhaps only in limited numbers. It is imperative that we share our experiences with one and other so that we can learn from each others mistakes, and avoid as many repeated situations as possible.

I had the opportunity to see a video of a Tandem tailgate exit that went into a forward loop then rolled onto it's side. Once on it's side, with the relative wind directed between the two bodies, the Tandem started to spin, setting up it's own forces. I'll refer to these spins on it's side as "donuts". It was obvious that these donuts were spinning at what I thought were terrifically fast speeds, and the centrifugal force was very high. What was not so obvious was what caused the situation to develop in the first place and what was causing it to continue or get worse, and exactly what the Tandem Instructor was doing, or attempting to do to correct the situation. We certainly had no guide as to what he ought to be doing since this was the first time that we had ever seen anything like this. To observe the Tandem Instructor continuing with the freefall as he attempted corrective action seemed normal because in order to reduce the chances of a Tandem Instructor compounding his situation, he is taught that he should attempt, for as long as time and space allow, to achieve a face to ground attitude before attempting to deploy the drogue, and that he should not worry about how fast he is going because his equipment is built for that purpose (I didn't

mention it but the drogue had still not been deployed).

A subtle observation during the video was that the Tandem was not moving away from the cameraman, as a Tandem usually does in a no-drogue situation. Apparently the spinning donut creates enough drag to considerably reduce the no-drogue terminal speed of the Tandem pair.

After exit at 14,000 ft., and over 80 revolutions, the Tandem Instructor opted to activate the reserve at 2,500 ft. AGL. They had been subjected to great centrifugal force which reddened the whites of their eyes, and swelled their lower legs with pooled blood. Overlooking the fact that this circumstance was allowed to continue for 12,000 ft., we can't argue with the choice of solutions. With his right (drogue deployment) side towards the ground, the only person capable of making a choice, chose the reserve. He wasn't the only one with the right side down who chose to deploy the reserve, rather than risk using the drogue, as the solution. In both cases, things went according to the advertisement, they worked.

During my "experience", I was cognizant of the 82 donuts jump that I had seen on video, and that in my case the right (drogue) side was up. I knew that at any time I could deploy the drogue if in fact I could not get control of the jump (I know, I know, we are not supposed to use the drogue to get stable, but we are not supposed to bounce either. Life(?) is a series of choices, this was an educated one.).

I'll be happy to show you the video, but for now let me describe my circumstance during this jump. It was a tailgate exit from a CASA 212 at 13,000 ft. (Incidentally, two out of the three jumps that I am referring to in this story, were tailgate exits). As we performed a diving exit we went forward into a slow forward loop. Half way through

the loop, when my back was facing the ground, I decided to roll off the loop and come face to earth heading in the direction of flight. As I rolled to my left, the passenger's arms and knees dropped in front of her, as if in a crawling position. Our recovery to the face to earth position stalled, so I went to one of those standard skydiving maneuvers that I referred to earlier, I arched hard, but because of this being a Tandem Jump, I grabbed my passenger's arms and pulled back her legs with an ankle lock. This did work for me on previous jumps where the passenger hit the pike position like an Olympic diver, but it didn't work for me now. In fact it got us started doing those donuts.

As a veteran of over 1000 Tandem Jumps as both Passenger and Tandem Instructor, I have managed to extricate myself, and sometimes the Tandem Instructor behind me, from some unusual situations. In each case I became more aware of the need for some fast decision making and decisive action, but I also became aware that there is indeed enough time to sort things out, at 12,000 ft. there is hardly any justification for worsening your situation with incorrect decision making. This situation was no different in this respect.

I started out by forcing my passenger into a hard arch, then went to attempting to fly it out by myself (a standard skydiving maneuver we teach as the way to recover from spins under a drogue) (I know, I know, we were not under a drogue, but a standard skydiving maneuver none the less). Getting nowhere fast, I again gripped my passenger's arms and legs and, pulling one arm in, I tried to roll us out of the donuts into that face to earth attitude I kept searching for. To no avail. After losing my grip on my passenger due to the increasing centrifugal force caused by the increase in the speed of the revolutions of the donuts, I decided to see if these forces might prevent me from finding

and deploying my drogue. The possibility of the safe deployment of the drogue was something I was monitoring throughout the jump because that was going to be my ace in the hole, my way out of this mess. The effect of the centrifugal forces during my attempt to reach the drogue, and the lack of any progress in my other attempts to get stable, helped me to decide to end this situation right then by deploying the drogue. Again, with my right side up towards the sky, I had ample opportunity to deploy the drogue into clean air.

Having done 16 revolutions without the drogue, we now did 5 more under the drogue before being able to hold a heading. How did the passenger react to all this? On my five-five hand signal she put her left hand on her head and pulled her drogue release ripcord to activate the main. Her comment after opening was "...there were a lot of forces pulling on us". This woman was as apprehensive as any first jumper, but she stayed alert throughout the experience, and then remembered to pull her ripcord. I have to give her high marks even though her body position did come into play in contributing to this circumstance. Her actions were normal for a first time jumper, and that is what we must learn to deal with.

A well known Instructor (with all the ratings) recently remarked that this situation wouldn't have happened if the passenger had been holding onto her harness. Well, on one of the three jumps I am referring to in this story (and several more that have just come to light), the passenger held onto her harness throughout the jump. It didn't make any difference, nor did it make a difference that she was on a Tandem Vector, while we were on a Dual Hawk. For anyone to make an offhand comment regarding the solution to any of the varied circumstances unique to Tandem is testimony to limited exposure. I would say to them what a famous writer once told his editor, "Where were you when

the page was blank?" We realize that we just don't have the experience we need to come up with perfect solutions, but we are working on it.

It seems that the more Tandem people that I talk with regarding this "experience," the more similar stories I hear. Once people find out that they are not alone, and that others are having similar "experiences," the less they blame themselves, and they are more willing to talk about it.

I spoke with another Tandem Instructor today regarding her Tandem "experience." I found that after 1 1/2 years, and after having other Tandem Instructors relate similar experiences to her, she was now quite comfortable speaking about it. You will notice certain similarities between her story and mine, which I wrote before speaking with her.

During an exit from a King Air at 9000 ft., the passenger, while still holding onto his harness, dropped his knees and put his feet out in front of him. This caused them to go onto their side. Considering their position, it is not difficult to accept the fact that they started spinning. What exactly caused the spin to start and then to develop to the point where it was not possible, due to centrifugal forces, for her to deploy her drogue, is the essence of what we need to gain more understanding of. When we understand what causes this then we may know how to prevent it from happening or how to correct it once it has started.

In case you are wondering what this Tandem Instructor did after being unable to reach the drogue, I'll tell you after we first understand that:

[1] she was very aware of what was happening and where she was in time and space.

[2] she said to herself "...I'm doing everything that I know to do. I can't stop this..."

[3] centrifugal force prevented her from grabbing the passenger in order to force him into a hard arch (the hard arch didn't do me much good anyway).

[4] she tried to fly it out herself. (similar to myself) (Are we getting the picture that the solo skydiving rules do not always apply to Tandem?)

Anyway, she was able to reach her reserve ripcord, but, alas, she could not deploy it (Centrifugal force again?). Those of you that think that you cannot reach the reserve handle with your right hand, because of your passenger, will be glad to know that if you are unable to pull the reserve ripcord with your left hand, you will have no trouble at all reaching it with your right hand. She did it! After 30 revolutions, and 5000 ft. and 25 seconds of freefall, this Tandem Instructor was under a reserve at 4000 ft. AGL.

If it is difficult to understand that the centrifugal force caused the blood vessels on her feet to rupture and her arches to fall, remember the Tandem Instructor in the first story, whose legs swelled with blood, and whose whites of his eyes turned red from burst blood vessels.

It's serious business, but it is the environment in which we Tandem Instructors work. We have a lot more to learn about this environment, so let's stay alert and not be shy about sharing information.

Things to consider:

1. In most reported cases the passenger was smaller than the Tandem Instructor.
2. It doesn't matter:
If you are a male or a female.
If you have 10 Tandem Jumps or 1000.

If you jump on the West coast or the East.

If you jump a Dual Hawk or a Tandem Vector.

If you exit from the side door or the tailgate.

If you are taller than your passenger.

If your passenger is skydiving or holding onto his harness.

3. Don't get nervous and pull that reserve if you suddenly wind up doing a few turns on your side.
4. Remember where you are in time and space. You probably have plenty of altitude to attempt to sort things out.
5. There is no guarantee that the reserve will not entangle with one of those legs, arms or heads hanging out there.
6. If your right side is down towards the ground you may not want to deploy the drogue, but we have to let circumstances dictate that, and only you can make that decision.
7. Don't think that it can't happen to you!
8. Strong Enterprises now approves the CYPRES AAD on the Dual Hawk Tandem System.

Suggestions on how to avoid it:

1. Use a vigorous exit.
2. Stress training the passenger in exits and freefall body position.
3. Use a READY! SET! ARCH! count when exiting. Several DZ's use it effectively.

I think that it would be appropriate quote Don Balch one more time, "A Tandem Jump is not just another skydive."

Normally I do not sign anything that I write for this newsletter, but because it might have a positive impact, I will this time.

Bill Morrissey, Chief Tandem Examiner for Strong Enterprises.

EXEMPTION OR RULE

The question that is in the back of all of our minds is, will there be a rule change or will the exemption continue?

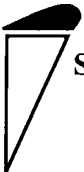
Earlier this year Strong Enterprises and Relative Workshop submitted documentation to the FAA through our attorney, Scott Hamilton requesting..”that Exemption No. 4943 be renewed for an additional period of two (2) years or until our pending Petition for Rule Making be granted (whichever occurs first), to allow continued uninterrupted use and improvement of these valuable training devices and the conditions imposed by that exemption”

The FAA’s answer on April 16th, in part,.”We will consider and will make every effort to process it within the time frame requested or as prescribed in Part 11...

So it looks like there will not be a rule change before the exemption expires. Hence; the exemption will most likely continue for another two years or until the rule changes. Ted Strong 5/11/92

DUAL HAWK DELIVERY TIMES

With the influx of spring orders for Dual Hawk Tandem Systems we are currently running 12 to 14 weeks for deliveries on new systems. Sometimes we have ‘shop’ orders going through that are not spoken for and may be available in less than that time. It definitely pays to plan ahead.



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