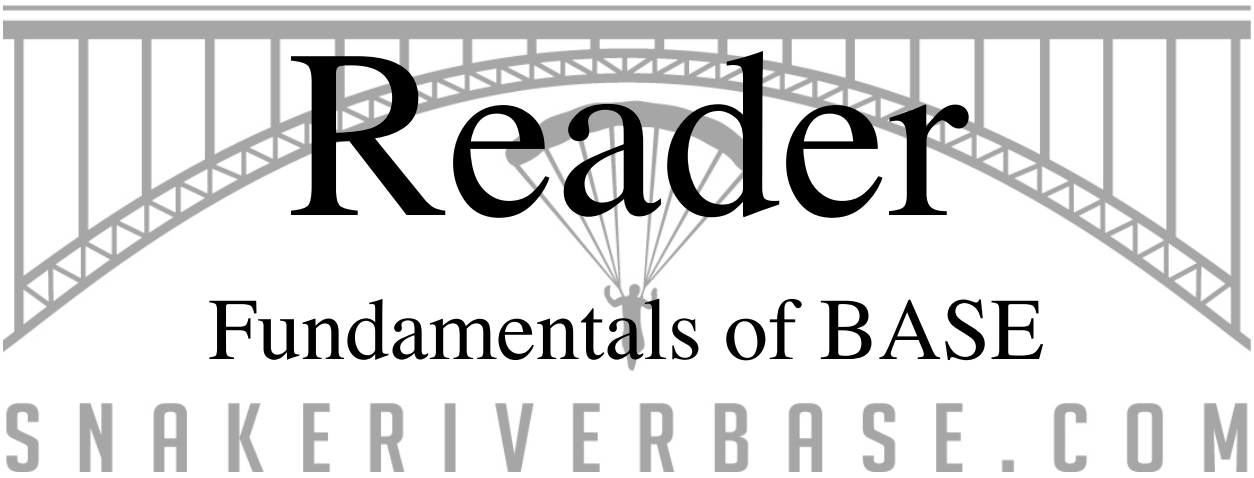

# Reader

## Fundamentals of BASE

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*Revision 2.4, February 2016*


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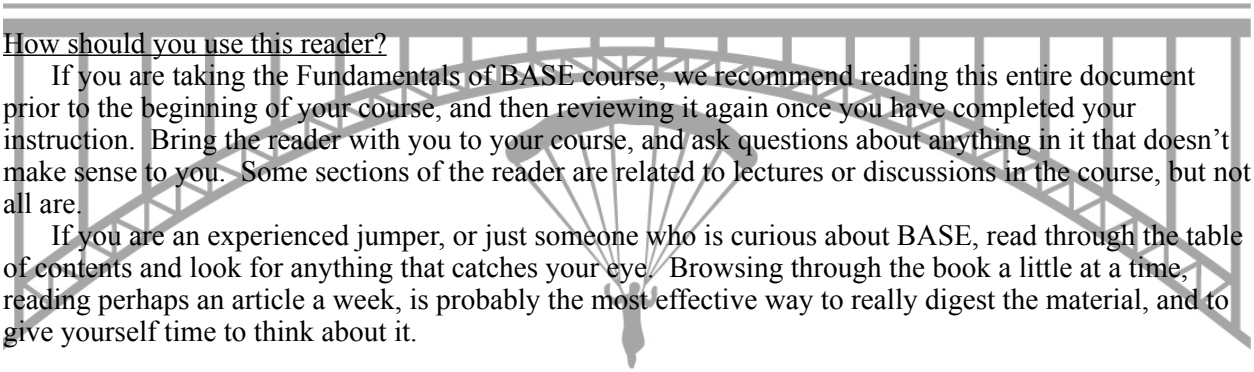
Welcome to the Snake River BASE Academy's Reader.

What is this reader?

This is a collection of general writings about BASE jumping. It contains various articles, written by a diverse set of jumpers, reproduced here with the authors' permission. It provides background, historical and community information about BASE jumping. It does not provide any technical information about the mechanics of BASE jumping itself. The reader contains information for those interested in learning about BASE jumping, those wanting to become BASE jumpers, and experienced BASE jumpers of all levels.

These materials are supplements to the actual instruction provided by the qualified instructors of the Snake River BASE Academy, and as reference for students who have completed a full instructional program. **No one should ever attempt to learn BASE from any set of written materials, no matter how comprehensive.**



How should you use this reader?

If you are taking the Fundamentals of BASE course, we recommend reading this entire document prior to the beginning of your course, and then reviewing it again once you have completed your instruction. Bring the reader with you to your course, and ask questions about anything in it that doesn't make sense to you. Some sections of the reader are related to lectures or discussions in the course, but not all are.

If you are an experienced jumper, or just someone who is curious about BASE, read through the table of contents and look for anything that catches your eye. Browsing through the book a little at a time, reading perhaps an article a week, is probably the most effective way to really digest the material, and to give yourself time to think about it.



What if I disagree?

BASE jumping is a complex activity, with participants of varying knowledge, experience and skill. It is inevitable that there will be disagreements about ethics, technique and approach. This reader is not the final word on BASE—in fact, there is no final word. You should develop your own views on any BASE related topics. Use this Reader as a starting place to ask questions and think about your own views. Never accept that anything (here, or anywhere else) is absolute Truth regarding BASE. You must be comfortable with your own views, your own techniques, and your own approach to BASE, because in the end you alone are responsible for your actions and their consequences.

What if I see an obvious error?

If you spot an obvious error, we'd appreciate knowing about it. To report errors, please contact Tom Aiello either via email (*tom@SnakeRiverBASE.com*) or telephone (+1.208.420.2602).

What if I wrote one of these articles, and would like to update or change the version here?

If you are the author of any of these materials, and would like to see anything in this version changed, please contact Tom Aiello either via email (*tom@SnakeRiverBASE.com*) or telephone (+1.208.420.2602).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## Table of Contents


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### About the Snake River BASE Academy

Thank you for your interest in BASE training with the Snake River BASE Academy. The Snake River BASE Academy offers the most thorough BASE instruction available in the world today. Some of the outstanding features of the instruction include:

- **More jumping skills than any other course.** The Fundamentals of BASE course covers pilot chute assist, hand held, stowed, static line, slider up and slider down jumps.
- **More packed jumps per day than any other course.** Students typically make 4-8 jumps per day, and average around 14 jumps per course.
- **Complete Training in Packing.** Every student learns to pack slider up and slider down. Students finish training able to pack without supervision.
- **4 Full days of instruction.** Class days average around 12 hours of instruction.
- **Dedicated classroom facility** with video screen and white board. Every course includes 12-15 hours of classroom instruction on a wide variety of topics.
- **Indoor packing area** with heat and air conditioning.
- **Pendulator launch simulator**. The pendulator is an extremely effective still air exit training system created by the Stavanger BASE Klubb. Students train repeated exits with immediate instructor feedback, rather than waiting an hour or more between jumps.
- **Gear use during the course is included--no extra rental fees.** Students are also welcome to use school gear after a course, for the duration of their stay in Twin Falls, to establish currency and practice other skills.
- **Packing tools, a course reader,** a copy of Matt Gerdes **"The Great Book of BASE," a t-shirt** and a **BASE logbook** are given to every student. There are no additional charges for any of these materials.
- **Video of every jump**. This helps to correct mistakes, and students are given copies of all the video.
- **Multiple rigs** for each student, allowing us to make more back to back jumps. Immediate repetition helps students progress faster and correct mistakes immediately. By eliminating the need to re-pack before the next jump, the time between jumps is reduced by about 2 hours. Students become familiar with a wide range of gear and are better educated when it comes to buying their own gear. Using multiple rigs also lets us take advantage of (faster) instructor pack jobs to move more quickly through the learning progression, which can be especially important if we experience weather delays (and limited jumping windows during windy periods).

**Twin Falls, Idaho**

Twin Falls is the world's most BASE-friendly city. The Chamber of Commerce uses BASE to promote tourism for the area, and numerous local merchants and hotels offer BASE discounts.

**Airport Information:** The nearest major airports to Twin Falls are Salt Lake City (SLC, 3.5 hours drive) and Boise (BOI, 1.75 hours drive). The Twin Falls airport (TWF) is incredibly convenient (there is only one gate, so there are zero security or check in lines, and parking is both free and within 50 yards of the terminal), and flying into it is usually not too much more expensive than flying into Salt Lake City (all flights to and from TWF route through SLC) if you book sufficiently in advance. The only airline flying into Twin Falls is SkyWest (the regional Delta subsidiary). Car rentals are available from several agencies at the Twin Falls Airport, and there is also taxi service into town.

**Lodging Information:** Most students will spend very limited time at their hotel. Courses are very intensive and it's rare that students do much more than sleep at their hotel.

Twin Falls has a fairly good selection of traditional hotels. The following are chain hotels within easy distance of the bridge, listed in order of their proximity to the bridge:

Quality Inn: +1 (208) 735-9428, 1910 Fillmore Street North
Hampton Inn: +1 (208) 734-2233, 1658 Fillmore Street
Holiday Inn Express: +1 (208) 732-6001, 1554 Fillmore Street
Shiloh Inn: +1 (208) 733-7545, 1586 Blue Lakes Boulevard North
La Quinta: +1 (208) 736-9600, 539 Pole Line Road
Motel 6: +1 (208) 734-3993, 1472 Blue Lakes Boulevard North
Best Western: +1 (208) 736-8000, 1377 Blue Lakes Boulevard North
Hilton Garden Inn: +1 (208) 733-8500, 1741 Harrison Street North
Red Lion: +1 (208) 734-5000, 1357 Blue Lakes Boulevard North
Super 8: +1 (208) 734-5801, 1260 Blue Lakes Boulevard North



The first 4 are within American walking distance; by European standards, all of them are. Motel 6 is the cheapest, and the Red Lion is favored by many jumpers as the best combination of cheap and nice, and lets jumper pack indoors in the hotel conference rooms. All of these hotels can be booked on line, so check their web sites for current pricing. Be aware that some of them have weekly rates, and several have discounts available for BASE jumpers, if you ask.

There are also some cheaper small hotels in Twin Falls, some of which are closer to the school.

Old Towne Lodge: +1 (208) 733-5630, 248 2nd Avenue West
Apollo Motor Inn: +1 (208) 733-2010, 296 Addison Avenue West
Capri Hotel: +1 (208) 733-6452, 1341 Kimberly Road
El Rancho Motel: +1 (208) 733-4021, 380 Addison Avenue West
Holiday Motel: +1 (208) 733-4330, 615 Addison Avenue West

Snake River BASE cannot vouch for the quality of any lodging.

**Weather:** Temperatures in Twin Falls can vary widely, with summer temperatures as high as 110F (43C) and winter temperatures as low as -15F (-26C). It can snow as early as October and as late as May. We recommend bringing clothes for a wide range of temperatures, as well as a solid pair of hiking boots (for the hike out of the canyon, which can be wet or icy).

### Preparing for the Fundamentals of BASE Course

To prepare for the Snake River BASE Academy's Fundamentals of BASE course, we recommend doing the following:

- Perform all of the canopy drills in the canopy drill set. Do each drill as many times as necessary to feel totally comfortable with the skill.
- Be able to pack a skydiving rig with no supervision.
- Practice crosswind and downwind landings. Be certain to notify other jumpers of your intentions, and land at a different time, or in different area, from jumpers making standard landings. Make landings both cross and downwind until you are totally comfortable landing in these directions.
- Practice landing accuracy so that you are comfortable landing in a designated area not larger than a 30-foot diameter circle on every attempt. Practice making stand up landings on these accuracy jumps, trying to both make the intended target and to land softly.
- Make some introductory CRW jumps with an experienced CRW jumper. Become comfortable maneuvering your canopy in close proximity to other canopies (to simulate maneuvers in close proximity to obstacles, which are common in BASE).
- Watch the packing video to familiarize yourself with the pack job we will use in the course. It is highly recommended that you practice packing as well. The more familiar you can be with the equipment and pack job prior to the course, the more smoothly and easily the course will flow, and the more material that can be covered during course time. All of the tools required for the pack job are included.
- Review this reader, which includes a short syllabus of the course. The reader is broken into sections, some corresponding to various lecture topics in the course, with additional sections for reference articles and additional materials. It is strongly recommended that you read the entire reader prior to the course.
- Practice tracking for maximum glide (not just slowest fall rate). While this skill is not necessary in a First Jump Course, it is essential to many BASE jumps, and will be critical from a fairly early point in your BASE career.
- Reading *The Great Book of BASE* is highly recommended as general preparation for BASE (not specifically for the course). While any BASE jumper will find particulars in the book that he disagrees with, it is by far the most comprehensive BASE reference assembled to date.
- Be familiar with the construction of ram air canopies, including the terminology describing the line and riser groups. Know the difference between A, B, C and D lines and also between front risers, rear risers, and toggles.

We strongly recommend practicing canopy skills on a BASE specific canopy. Rental gear is available to practice these skills, and some rental fees can be credited toward new gear purchase. Snake River BASE is a dealer for every major manufacturer.

As a new jumper, it is usually best to purchase gear *after* a BASE training course, so that you can familiarize yourself with the options available on the market during your course. You can then order gear when the course concludes, and then return to Twin Falls when your new gear is ready to take the Object Avoidance course, customizing it and learning it's features in a safer environment. Rental gear is available to students who follow this path, so that they do not lose currency while waiting for their gear to be built.

In some cases, students may wish to purchase gear before attending the Fundamentals of BASE course. Students who should consider purchasing gear before a course are those who: 1) intend to jump solid, slider down objects early in their BASE career, and; 2) will be unable to return to Twin Falls in the foreseeable future for Object Avoidance training. In this case, a student may want to enroll in the Fundamentals of BASE and Object Avoidance courses back to back. Students should own their own gear to enroll in the Object Avoidance Course (because customizing the Deep Brake Setting to the jumper's body weight is part of the course).

We have Fundamentals of BASE and Safety Skills courses scheduled most months. The schedule changes as students enroll, so it's best to contact us for the current schedule.



We can add courses on most dates; so if you are looking for a course on any specific dates, don't hesitate to contact us to arrange that. We try to confirm dates for each course about two months in advance, to give some flexibility for people whose plans are changing.

If you have any questions or would like to schedule a course, please don't hesitate to contact Tom Aiello at +1.208.420.2602 or *Tom@SnakeRiverBASE.com*.

## Equipment to Bring

The Snake River BASE Academy can provide all jumping gear needed for Fundamentals of BASE Courses.

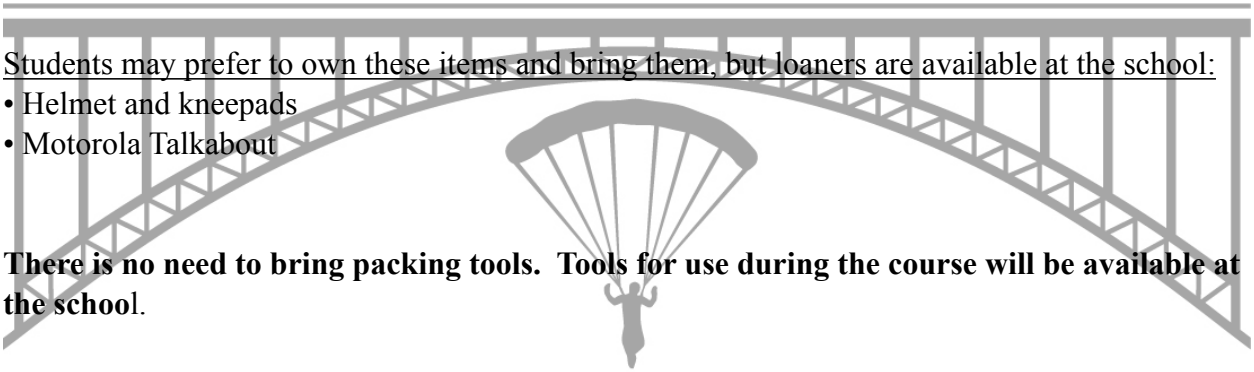
Students should bring the following personal items:

- Good hiking shoes or boots
- Swimsuit or clothing you can swim in (for Fundamentals courses in warm weather and all Object Avoidance Courses)
- Warm layers appropriate to the weather conditions
- Any BASE gear that you own
- SD Card or Flash Drive for copying video

Students may prefer to own these items and bring them, but loaners are available at the school:

- Helmet and kneepads
- Motorola Talkabout

**There is no need to bring packing tools. Tools for use during the course will be available at the schoo**l.



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## BASE Canopy Drills

This drill set is intended to provide a starting point for practicing canopy skills that will be necessary in BASE jumping. These drills should be practiced with a BASE canopy, or other large 7 cell F-111 canopy, on a skydive (not a BASE jump) with plenty of altitude and awareness of other canopies. All of these skills may not be necessary for completing the Fundamentals of BASE Course, but they will quickly become survival skills as you progress into BASE jumping and move to more technical objects. Rental gear is available to practice these skills, and some rental fees can be credited toward new gear purchase. Snake River BASE is a dealer for every major manufacturer.

**Canopy Heading Awareness and Correction Drill:**
Prior to opening, identify the desired canopy heading. Immediately after the canopy opening, use riser input to turn the canopy onto the desired heading. Practice using hard riser input to make a stall correction, which uses less forward space to turn. Be aware that this will consume a lot of altitude, so be sure you are high enough to finish the turn. Practice turning to different headings--don't always choose a desired heading that is in line with your body position at deployment.

**Stall Recovery Drill:**
Practicing stalling your canopy with both riser and toggle input. Find the stall point both with brakes stowed and from full flight (with brakes unstowed). Practice passing the stall point and recovering from a stall, becoming aware of how the canopy behaves as it dives to recover, and also of how much altitude is used to recover from the stall.

**Line Twist Recovery and Control Drill:**
Make a full height skydive and deploy as high as possible to get lots of canopy flight time. After opening, kick yourself *up* into line twists and practice kicking out as fast as possible. Next, kick up into twists and practice climbing the twists and controlling canopy heading by pulling on lines directly, above the twists. Try these drills with the twists both in front of your chest (easier) and behind your neck (harder).



**Asymmetric Heading Control Drill:**
After opening, unstow only one toggle. Practice correcting heading using one riser (with the other toggle stowed) so that the canopy flies straight. From this configuration, practice turns in both directions, learn to stall the canopy, and practice stall recovery. Be sure to try this drill with either toggle set, so that you are comfortable with both sides.

**Braked Turns:**
Practice making turns from half brakes. Carefully move one toggle up from a halfway position and the other down until you can initiate a turn that keeps the wing level over your head. Braked turns use less altitude and keep the wing level for landing. If possible, practice landing while still in a flat, braked turn.

**Deep Brake Approaches With and Without Full Flight for Flare:**
Deep brake approaches are necessary for many BASE landings, because the canopy must approach steeply through obstacles such as trees or power lines. Practice sinking the canopy in steeply. Try landing both in a steep sink (without letting the toggles up) and by letting the toggles up on final approach. You may not always be able to let the toggles up to full flight, so practice bringing the toggles up in a slow, controlled motion, to allow a flare from any point. Bringing the toggles up quickly can cause the canopy to dive quickly (and possibly into the ground), so be sure you practice stall recovery before trying this drill.


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**Front Riser Landings:**
Practice building airspeed with the front risers prior to landing, by holding down both front risers on final approach, then switching to toggles to flare the landing. This will give a stronger flare, which can be useful at high altitude or in rough landing areas. Be sure to keep the toggles in your hands while pulling on the front risers, so that you always have them ready to flare. Be sure to practice this dive and recovery several times at higher altitudes before landing this way.

**Rear Riser Landings:**
Practice landing your canopy using rear riser input only. Keep the toggles in your hands while you land, but prepare yourself to land on only rear risers. Once you have mastered this skill, try landing on one toggle and the other rear riser, learning to flare and land straight in with two different inputs (one on each side). Be sure to switch sides and practice with the opposite toggle/riser combinations so you can do this on either side.

**Parachute Landing Fall:**
Practice making PLF landings by keeping your feet and knees together, knees bent and rolling through the impact of landing. It's easiest to practice this by jumping from a table or chair onto the ground before trying to during a real landing. Try to dissipate the impact of a hard landing by rolling through your feet, calves, thighs, shoulders and back. Be sure to keep your hands and elbows tucked into your sides during this roll.

**Downwind and Crosswind landings:**
Being sure to alert other jumpers, practice landing in crosswind and downwind directions, using both toggles and risers.

**Accuracy:**
Practice landing your canopy accurately on a designated spot. Have a friend move the accuracy target between jumps so that you do not know where it is until you are under canopy. Practice accuracy using a steep, deeply braked straight in approach, rather than sashaying your canopy back and forth in turns. Try to keep the wing level throughout your approach. Be sure to practice accuracy from crosswind and downwind approaches also. Try to land as softly as possible, both from full flight and part brakes.

**Fundamentals of BASE**

Fundamentals of BASE is the Snake River BASE Academy's introductory course. Lasting a full four days, Fundamentals of BASE is much more than just a first jump course. Students should have experience with parachute basics, typically gained from skydiving. The course is physically and mentally demanding and course days can be very long (often 12 hours or more, and sometimes exceeding 16 hours) Students are not required to own BASE gear, and use of student gear is included in the course fee. Students will jump gear from a variety of manufacturers in order to help familiarize them with different systems, and so they can make more educated decisions should they choose to purchase their own gear.

**Prerequisites**: Basic canopy flight skills, familiarity with parachute terminology and basics, ability to pack a skydiving canopy

Day 1: Ground School, Exit Practice

**Course Outline and Philosophy of Learning BASE**, 20 minutes

**Risks of BASE:** Lecture, 1 hour

Exercise: Letter to family, 30 minutes

**Packing Practice**, 2 hours

Students are expected to review video and practice before the course, but not to have a fully jumpable pack job. Students arriving early can arrange for access to the school facilities to practice packing before the course begins.

**PC Selection, Evaluation and Attachment**: Lecture, 1 hour

Review of various PC construction methods and vent arrangements on the market

**Riser/Toggle Systems**: Lecture, 20 minutes

Demonstration of various line release toggles

**Exit Theory**: Discussion and video, 1 hour

**Exit Practice**: Exit practice with pendulator launch simulator, 2 hours

Time includes set up, and varies depending on student aptitude

**Post Opening Priorities**: Lecture, 1 hour

Lecture on decision making process for canopy opening and flight. Discussion of riser v. toggle turns and advantages of each. Discussion of canopy flight strategies for BASE.

Additional packing practice (as necessary and as time allows)

Day 2: PCA and Hand Held Jumps (5 jumps)

**Gear Check**

Process for gear checking all modern BASE rigs (velcro, 2 pin and 1 pin)

**PCA Technique**

Proper PCA technique and alternative PCA methods. Practice climb over with PCA.

**Flight Pattern and Landing Area Review**

**PCA Jumps** (2 or more), 2 hours

**Wind Effect on Jumps**: Lecture, 30 minutes

Wind effect on exit, PC deployment, canopy inflation, flight and landing, difference between groundspeed and airspeed

**Turbulence**: Lecture, 30 minutes

Mechanical turbulence, convective turbulence, strategies for dealing with turbulence

Packing (as necessary)

**Hand Held Deployment**: Lecture, discussion and practice

Different folding methods, practice climb overs with PC in hand, 1 hour

**Hand Held Jumps** (approximately 4), Go and throw, short delay, 2 second delay, 4 hours

**Wind Considerations for Objects**: Lecture, 30 minutes
General wind effets on Span, Antenna, Building, and Earth
Packing (as necessary)

Day 3: Stowed Jumps (5 Jumps)
Warm up Jump (repeat last jump from previous day)
**Stowed Deployment**: Lecture and practice pitches, 30 minutes
Discussion of pitch technique, differences from skydiving pitch, and possible hazards of poor pitch. Practice of good PC throw.
**Stowed Jumps** (approximately 4): Go and throw, short delay, 2 second delay, 4 hours.
Packing (as necessary)
**BASE Ethics**: Lecture and video, 40 minutes
'Contact the locals' and site access issues
**Slider Up Packing and rigging**: Lecture and packing practice, 90 minutes.
**Fingertrapping, Tailgate Construction, Static Line carry on rigging**: Lecture and practice, 90 minutes
**Night Jump**

Day 4: Slider Up, Static Line and Solo Jumps (3-5 jumps)
**Slider Up Jump**
**Static Line Jump**
**Unsupervised Packing**: 90 minutes
Students need an unsupervised pack job for the solo jump
**Solo Jump**
Students walk out and jump alone, emphasis on letting the student make their own jump plan and decisions
**Accident Review**: Video and discussion, 90 minutes
**Progression**: Lecture, 90 minutes
Discussion of BASE skills progression, learning by doing one new thing at a time and focusing on development of safety skills
**Gear Selection**: Lecture, 90 minutes (for students who want to purchase gear, discussion of options and placing orders)
Additional packing and jumps as time allows



*Topics are frequently presented in other orders, especially when responding to weather conditions to take advantage of jumping windows.*

**Safety Skills Training: Object Avoidance**

The leading cause of fatal and critical injury BASE accidents is object strike. Object strike is most likely to occur during an off heading opening from a solid, slider down object. This course offers training in the critical safety skills for jumping solid (generally cliffs and buildings), slider down (lower than 600') objects. This is excellent preparation for many legal cliff jumps in the Western USA.

**Prerequisite:** Fundamentals of BASE

**Day 1: Deep Brake Settings Customization**
**Introduction:** 20 minutes
**BASE Skills Progression:** Lecture, 30 minutes
**Unpacked Jumps**: Lecture and discussion, 30 minutes
To allow back to back loads on the student's own canopy for DBS customization
**Unpacked jumps**: As appropriate to conditions, Rollover, TARD and TARD over.
**Deep Brake Settings:** Lecture, 30 minutes
Reasons for customizing DBS, process for finding custom settings
**DBS Customization**: Repeated unpacked jumps, adjusting the DBS between loads. Student performs brakes-set flight and riser turn drill to evaluate brakes and stall point. This usually takes around 5 jumps.
**DBS Installation:** 1 hour
Installation and bar tacking of custom DBS (as a third setting on the control line).
**DBS Use**: Lecture and discussion, 30 minutes
When to use which brake setting

**Day 2: Object Avoidance Techniques**
**Post Opening Priorities Review:** Lecture, 40 minutes
**Object Avoidance Techniques:** Lecture, 40 minutes
Riser stall, toggle turn, double and single riser techniques
**Object Avoidance Drills**
Intentional 180° offheadings (packed) with correction, repeated until perfect
Students are encouraged to experiment with different techniques



**Day 3: Running Exits**
**Running Exit Practice:** 1 hour
Pool session, running exits from board until students can exit stable at a full sprint
**Running Exits**: Handheld go and throw, stowed with delay
Running exits from launch plank on bridge, usually around 5-10 jumps to perfect

**Day 4: Cliff Jumps**
**Cliff Jumps:** Cliff jumps from a variety of legal cliff exit points

**Safety Skills Training: Object Evaluation**

Approaching a new site is the biggest challenge a BASE jumper can face. Many complex factors confront jumpers who want to jump unfamiliar sites. Opening new sites can be an even bigger challenge. This course teaches jumpers the fundamentals of Object Evaluation, exposing the students to new sites and guiding them through the evaluation of unfamiliar jumps.

**Prerequisites:** Fundamentals of BASE, Object Avoidance

Day 1: Evaluation Basics
**Introduction:** 20 minutes
**BASE Skills Progression:** Lecture, 30 minutes
**Site Evaluation:** Lecture and discussion, 30 minutes
**Considerations for Illegal Jumps:** Lecture, 30 minutes
**Site Evaluation Tools**: Lecture, 1 hour
Comparison and use of site evaluation tools such as laser rangefinders and anenometers
**On Site Evaluation:** 3 hours
Drive to site, evaluate altitude, exit point and landing area, instructor led
**Jump Planning**: 1 hour
Plan jump of site, instructor led
**Jump:** 1.5 hours
Execute jump plan and jump site
**Debrief and video review**,:30 minutes



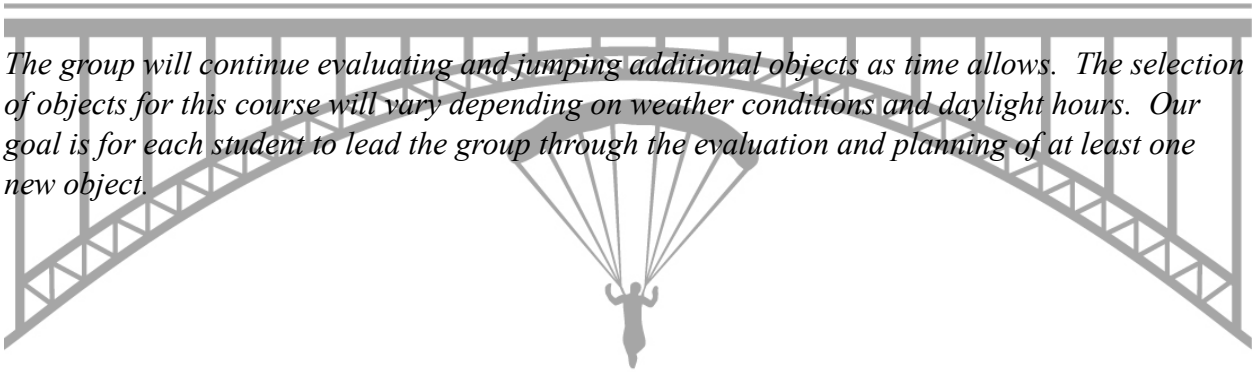
Day 2: Instructor Guided Evaluation
**Identifying BASE Sites**: Lecture, 90 minutes
**On Site Evaluation:** 3 hours
Drive to site, evaluate altitude, exit point and landing area, with instructor guidance
**Jump Planning**: 1 hour
Plan jump of site, with instructor guidance
**Jump:** 1.5 hours
Execute jump plan and jump site
**Debrief and video review**: 30 minutes

Day 3: Student Led Evaluation
**Site Identification**: Exercise, 60 minutes
**On Site Evaluation:** 3 hours
Drive to site, evaluate altitude, exit point and landing area, student led
**Jump Planning**: 1 hour

Plan jump of site, student led
**Jump:** 1.5 hours
Execute jump plan and jump site
**Debrief and video review**: 30 minutes

Day 4: Student Led Evaluation
**On Site Evaluation:** 3 hours
Drive to site, evaluate altitude, exit point and landing area, student led
**Jump Planning**: 1 hour
Plan jump of site, student led
**Jump:** 1.5 hours
Execute jump plan and jump site
**Debrief and video review**: 30 minutes

*The group will continue evaluating and jumping additional objects as time allows. The selection of objects for this course will vary depending on weather conditions and daylight hours. Our goal is for each student to lead the group through the evaluation and planning of at least one new object.*



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Roads to Nowhere
*By Rob McMillan*

It seems that in today's jumping community there are a number of different paths that jumpers appear to be on. What is important to remember, and what some don't realise, is that we are all on the same road, though some seem to be heading the wrong way. There are those who enjoy the sport and wish to pace themselves, learning from their peers and choose not to jump to conclusions. Those who start running at an early stage, skip school and consequently miss out on a lot of lessons. They often update their gear, buying newer, often smaller equipment, and seem to be in a hurry to be the best. Finally there are those who start skydiving purely with the intention of becoming a BASE jumper.

BASE Jumping

As much as skydiving and BASE jumping involve parachutes and jumping, it is essential to recognise that they are worlds apart. The jumpers that choose to become BASE jumpers may do so for a number of reasons. The cost of skydiving may be too much. Waiting to get on a load and the politics at drop zones might all contribute to an individual's decision. Regardless of their motivation, it is essential that skydiving doesn't take a back seat to BASE jumping. Some individuals may give up skydiving completely; refusing to use the skills that skydiving offers to help them in their BASE jumps.

Among the BASE jumping community it is recommended amongst other things that before you start lobbing off a fixed object, you should have as little as 200 skydives. If this is the case then you should have considerable experience flying a lage seven-cell parachute, including deep-braked approaches and have excellent accuracy skills amongst many other requirements. This is an ABSOLUTE BARE MINIMUM and perhaps only pertinent if you are going to jump off a large object with a large landing area that you would find in places like Norway or the U.S. Learning to BASE jump in Australia is like learning to swim in a small pool with a great white shark circling its perimeter. You'll either get lucky and learn very quickly and manage to dodge its jaws or you'll be swallowed in an instant. Think very carefully before deciding to jump in. If you were only a novice skydiver, why would you take a step sideways and become a novice BASE jumper?



It is absolutely astonishing that some people choose to push the envelope for that extra bit of a rush. The old school BASE jumpers will tell you that stepping off and doing a short track face ot earth is exciting enough. Yet some new school jumpers aren't satisfied and choose to add extra elements at sites which more often than not don't allow for any inkling of extra risk. The objects that you are jumping off have more than likely existed for many years and will still be there in years to come, even after you've gone.

It will take your whole life to master the art of staying alive. Some jumpers including skydivers do not solely try to survive; they attempt to live more by pushing the boundaries. In the process of trying to get more out of their jump they put their lives at even greater risk and don't

survive. If it isn't completely obvious that you will survive the simply say NO. Sometimes the answer is very obvious and right in front of your face, though for what ever reason, some choose to ignore it. Walk away, smile at life and look forward to tomorrow, where life will present another opportunity to survive (Cheers Sooty).

Saying NO

One of the hardest, yet simplest things to do in skydiving and BASE jumping is to say NO. You might of been hanging out to go jumping for weeks or trekked miles to get to the edge. When you get there all you want to do is jump. However if you have any doubt about your safety the simply say NO.

Consider a situation where you are planning to attempt something new or different. Your first pilot chute stowed jump from a low object, or skydiving when it is blowing 20+ knots in the middle of a hot thermic day and the most you've ever jumped in is 15 kts. I'll be fine, I'll try front risering close to the ground, that will give me an advantage. You should be 200% confidnt that you will pull it off otherwisw wait for another opportunity that allows you a greater margin for error. Why not just say NO when it matters most. The next time someone injures themselves at your DZ, take the time to go and visit them in hospital and query their choice to say 'Yes'. Think about how the situation could have been totally different if they chose to say 'NO' instead. If in doubt, don't get out.

Mentors

One of the best steps that you can make as a skydiver or BASE jumper is to adopt a mentor. Someone that has been around the traps, knows a few tricks of the trade and most importantly is a person that you can trust. A mentor doesn't necessarily need to be an instructor though should still be a highly experienced jumper. A mentor may help you to plot your road map to success, offer quality tuition or act as a voice reminder in your head to stop running with a pocket full of kyptonite and scissors in your hands.



In the old school days when you were interested in buying gear you would ask the CI what should be most appropriate. He/she would even place the order for you and ensure that you would get a good deal. Today, you can ring any manufacturer and order almost anything that you want with few questions asked. A mentor in this situation is a vital ingredient. They will be able to advise you about what will meet your needs, rather than satisfying your wants.

Gear

I commented to Dave Smith that there appears to be more and more jumpers that get a packer, even though the jumper may have time to pack their rig. In the process they would have less opportunity to learn about their gear. Dave remarked that when riggers were introduced into the APF system the common perception was that jumpers would learn less about their gear, because they would not be doing their own repairs any longer. Regardless of whether you pack

for yourself or not, you should learn to understand your gear. Buying new gear before you are ready to change is a recipe for disaster. How anyone could possibly say they are ready to downsize after just a few hundred jumps is kidding themselves. Understanding how your gear functions and flies is paramount to your survival. Take every opportunity to learn more about it. What you need is gear that will aid your survival, what you want may be completely different. I want a smaller rig, I want a different colour, I want to keep up with the Jones'....

Find a mentor to help you draw a map so you know what lies ahead. They will show you the best places to slow down so that you may enjoy the journey. Walk, do not run. Don't try to reinvent the wheel to get you there quicker... Many have tried and failed.

Understanding is one-dimensional.
Realisation is three.

*Robert McMillan has been skydiving for more than 16 years, and in that time has made more than 10,000 skydives. He is a Skydiving Instructor A (the highest instructor certification available from the Australian Parachute Federation). Rob has made around 30 BASE jumps.*

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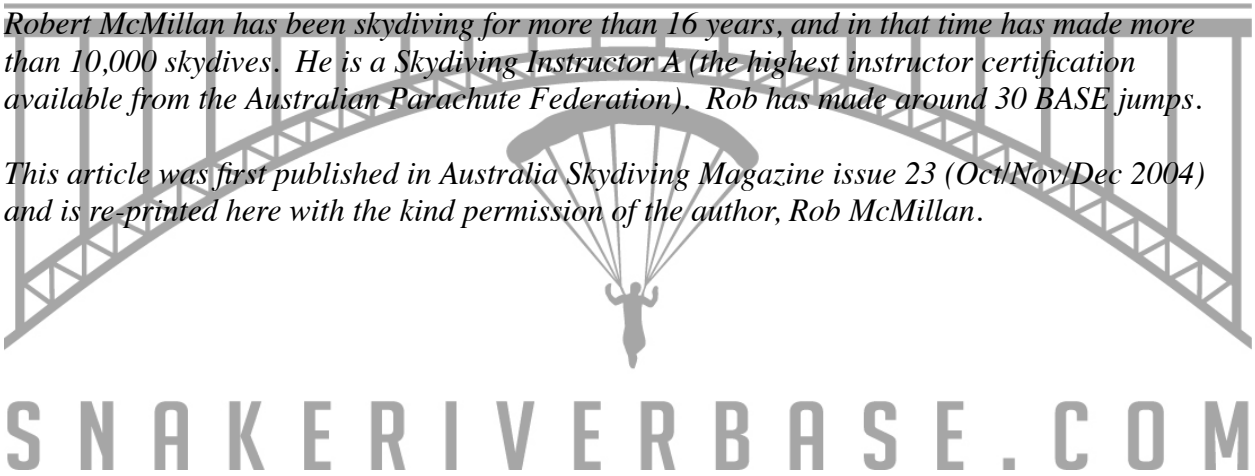


SNAKERIVERBASE.COM

Getting Into BASE

*By Tom Aiello*

Virtually every time I tell someone that I'm a BASE jumper, their first question is "how could I get into that?" After answering that question dozens of times, I decided to write it all down

There are as many different ways of getting started BASE jumping as there are jumpers. But, after some soul-searching, some discussion with friends, and some internet research, I've decided that the course I wish I had followed, and the one I've tried to set people on, goes something like this.

Check the Fit

BASE jumping is *not for everyone*. Give yourself a long hard, look, and decide if BASE really fits you. It's virtually impossible to objectively evaluate yourself, so it might be helpful to have a (close and tactful) friend help you with this step.

Does BASE jumping fit your physical abilities? BASE is not really about personal fitness (although it helps) or athleticism (which only comes into play in advanced sub-disciplines). In BASE, the important physical abilities are reaction time, coordination and balance. Evaluate yours. It may be helpful to ask some of the following questions: If you are sitting at a desk, and knock a pencil off, do you pick it up off the ground, or did you catch it in mid-air? When you spill a bottle of beer, do you have to get up and get a new one, or do you right it before you've lost most of it? Are you clumsy at all, or are you constantly sure-footed and graceful? How comfortable are you with heights?

Does BASE jumping fit your mindset? The best BASE jumpers are organized to the point of anal retentive. They also have an intellectual curiosity about almost everything. Have you ever wondered how the reserve system on a skydiving rig works? How many times did you trust your life to it before you starting wondering? Are you always trying to find a pull-up cord to close, or do other people ask you for them?

Do you make correct decisions in pressure situations? BASE jumpers need to react quickly, and *correctly*, in life threatening situations. Have you ever been confronted with an oncoming car in your lane? How did you react? Did you have to think about it, or did it just happen for you?



BASE will best fit a person who is intellectually curious, has good reactions, responds quickly and correctly (without having to think *during* the emergency), has excellent coordination and is highly organized and detail oriented. You can definitely still be a BASE jumper who has trouble with one or two of these things, but if you are weak in most of these areas, BASE is not a good sport to take up.

Make the Decision

Make absolutely certain BASE is really what you want. This sport is dangerous, sometimes illegal and very addictive. It will take over your life. I would never advise someone to get into it (and I have found it to be the most rewarding experience of my life). In my time in this sport I've seen a lot of life flight helicopters from the outside, two from the inside, the back of two different police cars, several broken bones and the funerals of some good friends. I've also spent three weeks in Intensive Care and 18 hours in neurosurgery. Are you sure you really want to do this?

There are lots of different reasons to get into BASE, and I have given up trying to decide which are the "right" ones. The important thing is that your reasons are important enough to you to outweigh the potentially enormous costs of BASE jumping. Unless you are a race car driver, BASE is probably the most dangerous thing you will ever do. Any time you gather 20 experienced, active BASE jumpers together, one of them will probably die BASE jumping at some point in the future. Further, BASE jumpers are virtually guaranteed some serious injury (think hospital time) from the sport. There are very few BASE jumpers with more than 1000 jumps who have not

spent serious time (more than a day or two) in the hospital due to BASE accidents. Most agree that it is just a matter of time until they are seriously injured. If you are not ready to die BASE jumping, you are not ready to go BASE jumping.

But the greatest cost of BASE jumping is not your own life. In this sport, you will meet, and come to care for, some of the most amazing people in the world. Then they will die. Everyone who BASE jumps for any length of time will lose a close friend. Think about the ten people who are closest to you in the world. Imagine how it would feel to lose one of them every year. This is the kind of price you must be prepared to pay.

Read the entire text of The List. Seriously.

Still want to be a BASE jumper? Then read on…

Do Your Homework

Next you need to find out *everything* that you can about BASE jumping. Talk to every BASE jumper you can. Read every article you can find about BASE, rigging or weather. Get on the internet and find everything you can about BASE (there is a whole lot more than you'd think). I have included several of my favorite references at the end of this article, but there are many, many more.

Get Your Head Straight

Now that you've made the decision to jump, make sure that you have the right mentality. There are two important pieces to that mentality that will help keep you alive in this sport.

**Never do anything that doesn't feel right to you**. If you're not ready for something, don't do it. We all determine our own learning speeds, and there is no way to know in advance what you'll be comfortable with. Don't be pushed into doing things you're not ready for by overeager partners or teachers.

**Never be afraid to back down**. It takes far more courage to walk away from the exit point than to jump. There are definitely times when it is right to back off, and knowing when to heed that little voice in your head is critical to your survival. This sport is very, very serious, and taking it lightly will hurt, maim, or kill you in short order.

The rest of your mentality you'll develop as you go, learning from other jumpers, from experience (both positive and negative) and from the rest of your life.



Tell Your Family

It is the responsibility of every BASE jumper to tell their family that they are involved in BASE, that they understand the risks, and that they have chosen to take those risks.

Sit down with your family and talk to them about BASE. This is obviously an extremely difficult proposition. Facing your family with your decision to engage in a life-threatening activity cannot be easy. However this discussion is important both for you and for the sport of BASE jumping.

An honest, open discussion with your loved ones will make them feel more included in your decisions. They will generally be more impressed with the maturity and thought that has gone into your decision to jump. This can help avoid the arguments, tantrums, and guilt trips that might otherwise be thrown at you by family and friends who don't understand your activities.

An explanation, by you, that you understand and accept the risks involved, will help prevent your family from attacking other members of the BASE community in the event of your injury or death. There have been far too many cases of the families of dead jumpers accusing, confronting, suing and even prosecuting other jumpers as a result of fatalities. Don't let this happen to your friends.

Get Your Papers in Order

Write a letter to your friends and family, to be opened in the event that you die BASE jumping. In the letter, explain why you have chosen to take up BASE, what you hope to get from BASE jumping, and why you are willing to risk death for it. Also be certain to state that you understand the risks inherent in BASE jumping, and have made an educated decision to take those risks. Give sealed copies to (at the very least) your family and your BASE mentor. Do this to defuse any conflicts that might arise from your death.

Check your health insurance. One of the biggest arguments that non-jumpers make against BASE is that they (through state funded programs) will be stuck with costs of caring for injured jumpers. Call your insurance company and confirm that they will cover a BASE injury. If your current coverage doesn't cover parachuting, find out how to purchase an additional rider. The added cost will be more than worth it if you are injured.

Be certain that your immediate family (and especially your dependents) will be cared for in the event of your death. While it can be difficult to find life insurance that will pay out for a BASE fatality, it is not impossible. The extra cost you'll pay is extremely worthwhile. Every responsible BASE jumper should, at a minimum, carry accident and disability insurance to care for their children.

Consider additional insurance policies. Several companies offer comprehensive liability policies that will cover you for damage to other people's property. Most even cover intentional damage, and some even cover criminal acts. Investigate purchasing a policy that covers you, and your intended jumping style. These policies are relatively inexpensive (my coverage for US $1 million runs me around US $100 per year). Not only will they give you peace of mind, but they will also help to show people that you (and BASE jumpers in general) are considerate of others, are willing to be responsible for the consequences of your actions, and are responsible, mature adults.

Also consider obtaining rescue insurance, to cover you in the event you require rescue after an accident. One of the biggest complaints about legal BASE voiced by citizens is expense to local search and rescue operations. With appropriate insurance coverage, these concerns can be avoided. Many outdoors organizations (such as the American Alpine Club, or the Swiss REGA) offer inexpensive policies that cover search and rescue costs for any outdoor activity (including BASE jumping).

Availability of insurance will vary greatly depending on where you live. When seeking insurance coverage, an insurance broker in your area will be a good first stop.



Make the Skydives

First, make at least 200 skydives. You need this experience to practice accuracy, tracking and canopy control skills. You also need to establish a general comfort level with parachutes, free fall, and split second decisions. The skydivers who are best prepared for BASE generally jump large, 7 cell, F-111 canopies, have had a number of malfunctions and responded correctly, and are comfortable with multiple skydiving disciplines. If your only focus is BASE jumping, don't succumb to the temptation to become canopy swooping freeflyer. Instead, focus on CRW and Accuracy as your skydiving disciplines.

To practice tracking make entire skydives in max track. Don't count on the limited tracking on break off, or on the balanced tracking of a tracking jump. Make the whole dive tracking as hard as you can, with camera and coaching if possible, and work on getting the most lift, and the most drive out of your track.

For accuracy practice, it's best to use the canopy that you intend to BASE jump with. Try to set up low (under 500 feet), to simulate the BASE environment. Don't forget to make approaches cross- and down-wind as well, since you will often have to do this while BASE jumping.

For canopy practice, you should make some CRW jumps (on a CRW canopy) and then do some canopy drills on your intended BASE canopy. CRW is a great way to learn canopy flight characteristics in tight spaces *before* you get into the BASE environment (and CRW with your BASE canopy is an excellent drill—after you've learned some CRW skills).

Be sure you've made several night jumps during your skydiving career. In many places, BASE jumps are made almost exclusively at night (to avoid arrest, incarceration, and gear confiscation), and comfort with flying and landing your canopy at night is essential to survive these jumps.

Make some jumps on your BASE canopy to learn its performance envelope. Pay particular attention to riser input, practicing riser turns and riser flares. Make sure you practice your riser turns *before* popping your toggles—that's the way you'll have to do it to avoid smacking the side of a cliff one day. Obviously, you'll want to practice them after grabbing the toggles, as well. It's also important to learn to land your canopy with a rear riser flare. Be careful to practice this with a good headwind, first, and with proper coaching.

Understand BASE Ethics

BASE jumping has it's own peculiar set of ethical guidelines. Try to research and understand these (often unspoken) rules *before* you start into BASE. A thorough understanding will help to avoid misunderstandings that can haunt your entire BASE career.

The nuances of BASE ethics vary from place to place, and especially vary depending on the legal status of a site. If there are established guidelines for a site (true at an increasing number of popular sites), always find out what they are, and follow them. The guidelines have been established for good reasons, and often in conjunction with local authorities. Jumpers breaking these rules (through ignorance or otherwise) undermine the legalization efforts of the entire BASE community.

Site specific guidelines aside, there are three basic points of BASE ethics:

**Respect:** Show respect for the sport, the sites, and other jumpers. Failing to respect the serious nature of BASE will quickly alienate many experienced jumpers, who have learned to respect BASE through hard personal experiences. Failing to respect sites, and the guidelines for jumping them (formal or otherwise) will almost certainly anger the older jumpers who established, and continue to jump, those sites. Respecting other people is a basic guideline of human interaction we all learned in kindergarten. Don't forget that the basic forms of human interaction apply on the exit point, just as well as in "normal" life.

**Leave No Trace:** The old backpackers credo, "Leave only footprints, take only pictures" is even more true in BASE (except that in our case, it's more often "take only video"). Leaving evidence that you have been jumping an object is not only poor behavior from an environmental standpoint. It also lets the authorities know that BASE jumpers lack respect for the area, or (on less than legal sites) that they have been there at all. Things as small as being seen by a drunk at 3am have been used to arrest and prosecute BASE jumpers. To avoid drawing unwanted attention to yourself, other jumpers, or the objects we share, try to make jumps with no witnesses, and without leaving physical evidence. While this ethic obviously evolved in the context of illegal jumps, with land managers examining BASE in wilderness areas today, minimizing our impact there is equally important.

**Contact the Locals:** Whether you are a new jumper just getting into the sport in your area, or a more experienced jumper who is traveling, the original rule of BASE ethics still applies. Always make genuine efforts to locate jumpers local to any object you want to jump from. Not only will this help you to meet some wonderful, interesting people, but it will help to show respect for the hard work of those who opened (and maintain) site access. Further, the locals may have worked out ways to make jumps that you would have to spend years to duplicate. Local jumpers often have contacts, access, and schedules that allow jumps to be made with minimum risk or trouble.

Find a Mentor

While you are learning to skydive, you will doubtless meet skydivers at the drop zone. Try to find and meet the local BASE jumpers as well. Your goal should be to find someone with 200 or more BASE jumps from at least 25 different objects, who has experience evaluating and opening new sites, who you think will be a good teacher, and whom you get along with. You also have to trust them with your life (that is what you will be doing, after all).

Remember that the people you meet at the dropzone may not be the best BASE mentors. Experience (and skill) skydiving does not necessarily translate into BASE. The people who taught you to skydive may not be the right people to teach you BASE. Check out the background and credentials of a prospective mentor. There are several easy ways to do this, including calling gear manufacturers to ask if they know a jumper, talking to other BASE jumpers, and even just posting on an internet forum asking for feedback on a jumper (be certain to get permission from the jumper in question before posting their name in a public forum).

You will also want to research the BASE culture and politics in your area. In some places, local BASE communities have become polarized enough that being identified with a particular crew is sufficient to get you shunned by other locals. As a beginner, your goal should be to steer clear of those politics, and become friends with as many local jumpers as possible. While it's important to understand the root of the disagreements (and know how to avoid getting involved in them), getting along with all your local BASE jumpers is extremely beneficial, especially as you start.

Get a BASE Rig

Now, with proper canopy skills and an instructor, you need to find a BASE rig. Your best bet is to buy a new, Velcro closed, BASE specific rig from a major manufacturer, and put a real BASE canopy in it. You can also find good used gear (check the classified ads on BASEjumper.com: http://www.basejumper.com/classifieds/). The key is to get actual BASE specific gear. Lots of people will try to sell you converted skydiving gear (Ravens, Cruiselites, Pegasus's, etc). Avoid this and get real BASE gear. Everyone has different preferences in gear, but the key is to find actual, purpose built, BASE gear.

Take a Good Training Course

So, now you have the pre-requisite skydiving skills, an appropriate rig, and you've found an instructor. Time to go jumping, right?

Wrong. Now it's time to get to work. Before you can make your first jump, you still have to learn basic rigging and packing, still air exits skills, and simple ethics. Which means you need to take a BASE training course.

BASE courses are available from various BASE organizations around the world. Every "First Jump Course" has a different curriculum and coverage. When selecting a course, be sure to compare the course curriculum to see what skills are practiced, what classroom sessions take place, and what facilities are used. Many "First Jump Courses" are nothing more than a day of supervised packing and a handful of jumps, while others are full featured courses with permanent facilities and a broad curriculum that will prepare you to jump independently. Be sure to critically evaluate courses as you decide on which to take.

If you have the money, your first choice should be to take your course in Twin Falls, Idaho (USA), as that teaching object (a 486' bridge over water, with a huge grassy landing area) is generally the safest for a first time jumper.

Lots of people try to save some money by getting their friends to "teach" them. This is a bad idea for several reasons. First, you don't know that your friend really has the qualifications to teach. Second, you don't know that he's really motivated to do a thorough job teaching. Sure, he can get you off for that first jump, but what did he teach you about dealing with your unstable launch on jump number 12? Third, there is some value in being exposed to various jumpers' knowledge after your first jump course. Since you will already have access to your friend's knowledge, adding another source of information will greatly benefit your education. Finally, these "informal" first jump courses can drag on for weeks, months, even years. If you contract with a good organization, you know the exact dates of your course, and you can plan for it.

After you finish your course, try to have your BASE mentor meet you at the object where you took the course. Make as many jumps as possible over the next few days, having your mentor critique (and film, if possible)

your jumps. This will help you establish currency in a relatively safe environment, and will give you more practice than the relatively limited jumping (usually around 5 jumps) during your First Jump Course.

Watch Some Video

Now that you have an idea of what a BASE jump ought to look like, get your hands on some BASE video. The best video for this is the "Lemmings Exits" series from Bridge Day. This video is now sold by Vertical Visions, and can be purchased from their web site. Try to get several years of "Lemmings Exits", and whatever other BASE video you can find (if you have trouble finding instructional video, contact the author of this article). Watch the video, preferably with your BASE mentor. Evaluate each jump. The more errors you can see, the more likely you are to avoid making them yourself.

Get Started

Now you're ready to start jumping. After your training course, you should have a solid knowledge of gear, rigging and packing, some theoretical knowledge of malfunctions and solutions, and a practical set of launches to work from.

The next step is to make as many jumps (in as short a time) as possible with your BASE mentor. Ask questions constantly. Try to learn as much as you can. Once you feel comfortable (and so does your mentor), start branching out and jumping with other people. Ask them the same questions (they may have different answers). Watch different people pack. Watch different people jump. Always ask why things are done a certain way.

Keep Learning and Progress Safely

Now that you have 20-30 jumps, and can hang with the local crew, you can consider yourself a solid beginner. There is still a lot more to learn, see and do. Never stop learning. In addition to being a good way to stay alive, it's one of the most rewarding things about the sport.

The next step is to start learning intermediate BASE skills in a logical order. You'll want to focus the next parts of your BASE development on learning object avoidance skills, followed closely by canopy flight and landing. Then, learn to exit running (work up from a few simple steps to a full sprint). Next, learn to exit from unusual positions, or odd balance, into a stable freefall. After that, you'll need to start learning object evaluation.

Along the way, you'll also want to learn deep brake setting, unpacked jumps (very useful in some emergency situations) static line and PCA deployments, and object evaluation.

BASE Ethics Articles:

*Ethics in a Self Regulating Group*, by Adam Filipino
*Understanding BASE Ethics*, by Tom Aiello

BASE Progression Articles:

*Progressing in BASE*, by Dwain Weston
*Advice for Starting Wingsuit BASE Jumping*, by James Boole, et al.
*BASE Skills Progression*, by Tom Aiello

Books:

Understanding the Sky. Dennis Pagen. Sport Aviation Publications; ISBN: 0936310103; (February 1992): Buy this book. Read it, then keep it. You'll want to read it again when you have around 100 BASE jumps, and then again around 500 jumps. Each time, it will become more useful.

Groundrush. Simon Jakeman. Jonathan Cape; ISBN: 0099232618; (July 1993): The first book ever published about BASE jumping.

BASE 66. Jevto Dedijer. IUniverse; ISBN: 0-595-33510-1 (October 2004); Originally published in Swedish, this book has only recently been released in English. It is an excellent first hand account of one man's BASE experience, in the early days of the sport.

Album of Fluid Motion. Milton Van Dyke. Parabolic Press, Inc.; ISBN: 0915760037; (May 1982): The most valuable picture book I've read. You may not understand why it matters at first, but once you start jumping cliffs and buildings in wind, the basic concepts in this book become invaluable. Don't worry about the technical jargon—just look at the pictures.

The Great Book of BASE. Matt Gerdes. Birdbrain; ISBN: 978-0984555611; (2010); The most comprehensive BASE reference assembled to date.

Confessions of an Idiot. Chris MacDougall and Jeremey Samson. BASEdreams.com; ASIN: B009S3WP7Q (October 2010): A great series of stories from one of the world's most accomplished long time BASE jumpers.



*This article was written entirely by Tom Aiello, BASE 579. Tom has made more than 1000 BASE jumps from over 200 objects, and is the head instructor at the Snake River BASE Academy (www.SnakeRiverBASE.com), in Twin Falls, Idaho, United States. All opinions are those of the author only. By making any fixed object parachute jump, you are taking your life in your own hands, and accepting responsibility for any possible outcome. Copyright 2012. Permission to reproduce and distribute in this* ***exact form only*** *is hereby granted.*

*Please address any questions, comments or corrections to the author at Tom@SnakeRiverBASE.com.*

World BASE Fatality List

*- This list is not 100% accurate.*

*- These reports change as new information becomes available.*

*- There is a section at the end to include hybrid accidents that nonetheless deliver a lesson. These are not counted as BASE fatalities and are included here only for the record. There is also a section that covers BASE jumpers who died outside the sport.*

*The List began in raw form after Nick Di Giovanni created the first BASE jumping bulletin board on the internet. This is early in 1985 and the board is hosted by GEnie. Slowly, as the very first computer savvy BASE jumpers began to appear online, they started to exchanged information about sites, accidents, and fatalities. There'd been only six BASE jumping deaths to that point, (since the modern form of the sport began in 1978) but there are many serious accidents. Almost no jumper of the time made it to one-hundred BASE jumps without a major plaster drama.*

*Nick stopped updating the list at that point in trying to focus on the sport's more positive aspects while spending a summer contemplating his two broken legs. Later Nigel Slee, a longtime British BASE jumper, mailed him a story for the Fixed Object Journal about the death of a friend. Nigel brought up some tough questions regarding BASE fatalities that couldn't be readily answered because no one is actually keeping track. The BASE Fatality List is then up-dated and re-published mainly so newer jumpers wouldn't keep making the same mistakes over and over. Nick continued maintaining the list on the internet until around 2007, when pressure from jumpers concerned about public image mounted, and Nick took his site down. At that time, several different jumpers took up the list, and maintained separate versions. This is one of those.*

**William E. Harmon**, April 11, 1981, Object Strike
*Antenna, Suffolk, VA, USA*
William is doing a 5-second delay from a 1000-foot antenna tower. He is wearing a harness with only a round reserve canopy and an empty main container. After a good opening strong winds blew him into one of the tower's guy wires whereupon the canopy collapsed at 300-feet. The canopy did not re-inflate prior to impact. This is the first fatality in the modern age of BASE jumping.



**Larry Jackson**, October, 1981, Object Strike
*Earth, Black Canyon, Colorado, USA*
Larry hit the wall after opening and it's reported by others on the load that he came to rest in an inaccessible position.

**Frank Donnellan**, BASE 12, June 2, 1982 , Total Malfunction
*Building, Residential Tower Block, Notting Hill Gate, London, England*
This is the first death of a BASE number holder. Frank had a total malfunction while static lining from 330-feet. A pull-up cord is later found left in the closing loop of his container. Frank, who for the times is an experienced BASE jumper, made everyone realize even the "experts" required a pin check prior to launch.

**Jimmy Tyler**, BASE 13, 1982, Object Strike
*Earth, Half Dome, Yosemite National Park, California, USA*
This is the first Yosemite BASE fatality and the second death of a BASE number holder. The jump is a short delay in gusty mid-day conditions and an off heading opening put Jimmy into the wall. He is an Internal Revenue Service Agent under investigation, right before he died, for various malfeasance's, including drug dealing, misappropriation

of funds, and tax fraud. He is the first person to BASE jump from a moving vehicle when he launched from a pick-up truck crossing the Pine Valley Bridge using a round parachute (Piglet) in San Diego, California. This jump can be seen in some of Carl Boenish's early films.

**Michael Glenn Williams**, October 15, 1983 (Bridge Day), Drowning
*Span, New River Gorge Bridge, West Virginia, USA*
This is the first Bridge Day fatality. Michael had a slow main opening and deployed his reserve too quickly. With two canopies out he landed in the river and signaled he is all right. He made no attempt to get out of his gear and his reserve canopy caught the swift current and pulled him under the surface. There is only one rescue boat that year, and it's busy pulling another jumper from the water. Since this fatality Bridge Day Jumpmasters don't release jumpers until the boats are free and standing by.

**Pauli Belik**, March 7, 1983, Total Malfunction
*Antenna, Kaknas Tower, Stockholm, Sweden*
Pauli, along with several other jumpers, had been jumping the day prior and landing into very deep snow. The jumpers shook the dry snow out of the canopies prior to packing, but evidently Pauli didn't remove it all. What's left melts inside the packed rig while it sat in a warm room. The jumpers deposit the rigs into the trunk of an old Saab and drive to Stockholm. The temperatures are well below freezing. On deployment Pauli's canopy went to line stretch but is basically a solid block of ice that never inflates.

**Carl Boenish**, "The Father of Modern BASE Jumping", BASE 4, June 7, 1984, Freefall Object Strike
*Earth, Stabben, Romsdalen, Norway*
In 1978 Carl Boenish organized the first expeditions to Yosemite National Park's El Capitan were using ram-air canopies and the ability to track ushered in the modern era of the sport he later named BASE jumping. Through his wonderful films and boundless enthusiasm he showed the world that fixed object jumping is a repeatable act available to any reasonably experienced parachutist. He published the world's first BASE information with BASE Magazine and also began issuing (in 1981) the sequential BASE Number Award (BASE #### ) we still use today. Carl Boenish, and his wife Jean, are in Norway jumping for the cameras of an American TV show called, "That's Incredible." After the shoot is finished Carl decides to make one more jump. He jumps from a new launch point, not the one they had been using all week, and the result is his not clearing an outcropping in freefall. Carl Boenish is the first Trollveggen area fatality. The following is newer (2002) information reported by a local Norwegian BASE jumper. "I knew a man who went up to Stabben with Mr. Boenish the day of his fatality. He is a very skilled climber, and knew every rock up there. He helped Mr. Boenish to the top of Stabben (it's a little difficult to get up there) and found himself a good spot to photograph the jump. After Carl's fatality, he threw the camera down the cliff and later said, "I didn't want anyone to see pictures of that jump. He then ran down and contacted police." This same climber is later killed in an avalanche not far from the Troll Wall in the early 1990s. When Carl Boenish becomes involved in fixed object jumping he's already considered the premier skydiving photographer of his day. He photographed the early days of RW in Southern California, filmed the aerial portions of the MGM movie, The Gypsy Moths, and left us what still are some of the most breathtaking skydiving movies (he called them Film Poems) ever made. With a friendly and inquisitive personality, including an infectious goof ball laugh that heard once is never forgotten, Carl is loved and respected throughout the skydiving world. Now, however, as fixed object jumping begins to make headlines, usually for spectacular mishaps, Carl begins hearing, "You are hurting skydiving," from longtime friends. "Carl lost many friends," Jean Boenish later said, "because of fixed object jumping, and he never got over that." In 1987 (three years after his death) the skydiving community posthumously forgave Carl Boenish and bestowed their highest honor on him, the USPA Achievement award.

**Jørgen Håkonson**, August 18, 1985, Freefall Object Strike
*Earth, Bruraskaret, Trollveggen, Norway*
Jørgen (a Swede) jumped head first from Bruraskaret, went into a spin, lost control and hit the cliff face. This is the second Trollveggen area fatality.

**Jari Mynttinen**, August 24, 1985, Freefall Object Strike
*Earth, Bruraskaret, Trollveggen, Norway*
The third fatal Trollveggen accident. Jari (Finnish) jumped, lost control, and hit the cliff face.

**Jeb Williams**, 1986, Total Malfunction
*Antenna, Dallas, Texas, USA*
Jeb jumped from a free standing 500-foot antenna tower with skydiving gear and five or six previous BASE jumps. He impacted with nothing out. This jump cemented the cause for dedicated BASE jumping equipment in the BASE community.

**Marilyn Ettema**, BASE 154, 1986 , Object Strike
*Earth, Wollomombi Falls, NSW, Australia*
Marilyn's last jump is from a technically difficult waterfall. Apparently she went off unstable, caught her feet in her lines during deployment, had an off heading opening, and then experienced a wall strike. She was very much loved and respected by the community of jumpers in Brisbane and elsewhere.

**John Raymond "Fossie Bear" Foster**, June 20, 1986, Object Strike
*Earth, Trollspiret, Trollveggen, Norway*
Ray (Australian) is an experienced skydiver (2,700 jumps) making his first BASE jump. He launched head down, lost control, deployed unstable and hit the wall. This is Trollveggen's fourth BASE fatality.



**Rick Stanley**, 1986
*Span, New River Gorge Bridge, West Virginia, USA, Drowning*
This is the second New River Gorge Bridge fatality, however, this did not occur during a Bridge Day. Rick is jumping skydiving gear, sail slider up, with a BASE pilot chute. He is low man on a two way and had a slow opening and a 180. After a very short canopy ride he landed in the rapids (the "Zipper") directly below the bridge and is drowned.

**Michael Gibbard**, 1987, Static Line Rigging Failure
*Earth, Cheddar Gorge, England*
Mike packed his parachute at the base of Clifton Gorge in Bristol. It was Mike's first solo pack job, and he was checked by an experienced BASE jumper, as he packed. Mike had 200 jumps with three previous BASE jumps. The static line parted prior to extracting the canopy. Another report from this same site included the following warning: "Cheddar Gorge is an experienced BASE jumper's site as you need quick reactions for the canopy control side. You need to open, look down, and know instantly how you are going to approach the landing area. There have been at least five lucky escapes from this site.

**Antonio Vanone**, August 23, 1987, Object Strike
*Earth, Tre Cime di Lavaredo, North Wall, Italy*
This jumper had one previous BASE jump, an unstable head down launch from the same site, with the same gear, a week prior to his fatality. His second, and last BASE jump, is in clear WX conditions and light winds. Antonio is

wearing a skydiving rig with a Pegasus canopy and a large hand held pilot chute. However, he elected to tie his slider down for a planned six-second delay. The canopy opened with a half line twist and hit the wall whereupon it began a series of wall strikes and collapses. This report was supplied by friends of Antonio who wanted to make sure he was remembered. Antonio left a wife behind).

**Steve Gyrsting**, October 17 (Bridge Day), 1987, PC/Bridle Entanglement
*Span, New River Gorge Bridge, West Virginia, USA*
This is the third New River Gorge Bridge fatality and the second to occur during a Bridge Day. Steve is making his 3rd jump of the day using a skydiving pilot chute and skydiving bridle. When told by the Bridge Day Jumpmasters this isn't the hot set up Steve replied, "It's always worked before." He then launched cleanly for the planned 3-second delay. He released the hand held pilot and the bridle fully extended. However the pilot chute did not inflate (in the video it "appears" inverted mesh side out.) To his credit Steve pulled his reserve ripcord handle in the bottom of his fifth second of freefall. but only received line stretch prior to impact. This jump began the process whereby larger BASE pilot chutes and longer BASE bridles became mandatory at Bridge Day.

**Marlen Buford**, 1988, Landing Error
*Building, The Palace Hotel, Myrtle Beach, South Carolina, USA*
Marlen hit a seawall flying downwind on final approach under canopy. High winds are reported in the area at the time. Marlen is not wearing a helmet.

**Mitch Reno**, 1988, Overdelay
*Earth, Half Dome, Yosemite Valley, California, USA*
Mitch over-delayed and impacted the talus just as he is getting line stretch. This is the second Yosemite Valley fatality with both being off Half Dome.



**David Dunblazier**, 1989, Object Strike
*Span, Royal Gorge Bridge, Cañon City, Colorado, USA*
There are two credible versions of this story. The former I heard right after the fatality and the latter is 2003 information. In the first one it is said David hit the steep cliffs of the narrow Royal Gorge with multiple line twists after he is instructed to hold his large hand held pilot chute by its base instead of folding it for the planned 3 second delay. The upper half of the pilot chute inflated during the freefall and pulled David over on his back. This caused the line twists on deployment he couldn't clear before hitting the cliff walls. The second version is simpler in that it states David is very inexperienced and panic hooked himself into the wall after seeing the wires in the tight landing area. The Royal Gorge Bridge is first jumped by Don Boyles, using gut gear, in 1975.

**Richard (Dick) Pedley**, BASE 263, 1989, Object Strike
*Building, Century City, California, USA*
Dick is an experienced skydiver (6000+ jumps) and a respected early freefall photographer in Southern California. He took up BASE jumping late in life after making one legal El Capitan jump back in the early days. He is the oldest person to receive a BASE number (at the time) and had 26 BASE jumps when he is killed. Dick's last jump is via buddy assist (someone holding his pilot chute) that resulted in line twists. Dick first struck a steel cable hanging by the side of the building before suffering a very hard building strike. In looking at the gear later it appeared one toggle, which Dick had wrapped in tape to form big open loops, had released in the initial strike with the cable adding to the speed of the second impact. Dick isn't wearing a helmet. This fatality brought to light the need for BASE body armor, i.e. helmets, and pads and the necessity for a secure toggle system. Dick's fatality is also the first

one on BASE specific gear. Dick is wearing a Velcro closed BASE rig and all previous BASE fatalities have been on skydiving rigs, either pure or modified for BASE.

**Jean-Marc Boivin**, February 17, 1989 , Object Strike
*Earth, Angel Falls, Venezuela*
This report is from a witness. "I was there at Salto Angel, and I can say nobody saw the entire jump. Considering the trauma Jean-Marc experienced (he died from wounds in his legs and the loss of a lot of blood) I can tell you he hit the wall, for sure. Jean-Marc is jumping a very small canopy, a skydiving reserve canopy with a attachment point, called the Vega 180. The canopy is packed in a deployment bag. Speculation is he had severe line twists after opening, hit the wall, and then experienced a hard out of control landing in the trees. Previous to Jean-Marc's leap another jumper, named Catherine, had jumped and also hit the wall. The helicopter (there to ferry jumpers up to the top) mistook Jean-Marc's waves for help as a sign he was all right and went off to rescue Catherine. When it returned Jean-Marc is dead." Jean-Marc, was a modern day adventurer who excelled at many disciplines. In 1988, he is the first to Parapente (Paraglide) from the summit of Mt. Everest.

**Mike Heron**, 1990, Bridle/Container Entanglement
*Span, Germany*
Mr. Heron's associates believe part of his bridle became lodged under the lower right hand corner of his BASE rig and the result is a pilot chute in tow. This fatality caused BASE gear manufactures to better address the problem of bridle routing during hand held pilot chute jumps.

**Robert Morris, Jr.**, BASE 275, June 10, 1990, Total Malfunction
*Building (Mellon Bank Building, 792-feet), Philadelphia, Pennsylvania, USA*
Robert is jumping a skydiving rig (Wonderhog) with a belly band and an empty reserve container. His curved pin is primed half way and he's using a 52-inch BASE pilot chute. After landing, a previous jumper said he watched Robert go somewhat head down and throw his pilot chute early. Robert then towed his inflated pilot chute to impact. The speculation is he tightened his belly band down (after a final gear check by the jumper who went first) and this put too much tension on the main closing pin. Combined with an early pilot chute throw and the associated lack of snatch force this may have caused the pilot chute in tow. The irony here, according to the first jumper, is they had both recently discussed purchasing Velcro closed BASE containers but that the cost was an issue.



**Darren Newton**, Object Strike
*Building, Hilton Hotel, London, England*
Darren is doing a direct bag jump and the bag holder dropped the bag. The resulting 180 deployment put Darren into the building. He is jumping a sponsored canopy and carrying a box of "Milk Tray" chocolates in an attempt to emulate an advert running at the time where a mysterious bloke did extreme things to deliver the chocolates. The object height was approximately 300', and Darren, a newer jumper, went without his mentor to guide him. He took along a group of spectators from the dropzone. He was using a mdified Pursuit 230 in a skydiving rig, which he had borrowed. The jump was a Pilot Chute Assist. He had a badly head down exit and a 180 degree off heading opening. The opening surge caused him to strike the building. The canopy surged and stalled repeatedly. From video review, it appeared that Darren was dead or unconscious after the initial impact. He was declared dead at the scene. He had head low exits on all of his previous 3 jumps, and had been advised to fix his exits before trying a more advanced object such as this building.

**Jonathan Bowlin**, BASE 76, 1993, Canopy Wrap
*Earth, Little Colorado Canyon, Grand Canyon, Arizona, USA*

Jonathan entangled with another jumper's canopy after a premature opening during a 2-way. It's reported his new ZP pilot chute slid from its pouch. This is the first time Jonathan used the setup and the report indicated the pouch may have been too big for the pilot chute.

**Marita Schneider**, 1993, Object Strike
*Earth, Angel Falls, Venezuela*
Until I received a report in October of 2004 this female jumper was always listed here as unknown. "I used to know her a little from the time she started skydiving in the late sixties. For some reason it was kept secret that she was killed during a BASE jump at Angel Falls and things were altered in order to fake the cause of her death."

**Jason Rooney**, 1993, Unknown
*Building, Blues Point Tower, Sydney, Australia*
I'm getting conflicting reports regarding this fatality. However, the bottom line is Jason had BASE jumped this building several times before and is found dead in the street below it. No witness reports or gear reports are available. Various stories tell that Jason was drunk and went to the building alone, or that he was a showboat who was dislike by other jumpers, and there were other jumpers present when he died. One of his shoes was reportedly found at the exit point.

**Joe Shaw**, 1993, Object Strike
*Earth, Bungonia Gorge, Australia*
The third Australian BASE fatality. Joe is so nervous about the jump that friends later remarked about it. Apparently he had an off heading opening and failed to adequately respond. He hit the wall several times and lay injured at the bottom. It is reported with some speculation that if someone on the load had some basic first aid skills, Joe might have survived.



**Susan Oatly**, 1993, Freefall Object Strike
*Earth, El Capitan, Yosemite National Park, California, USA*
Susan is the first El Capitan fatality and Yosemite's third BASE fatality overall. She held a head high attitude for too long, lost altitude awareness, and backed into the wall in her 15th second of freefall. This jump began the process of insisting people who begin BASE jumping have at least 150 previous parachutes jumps. There is also a side issue involving people without much experience being handed BASE jumps beyond their abilities. Load organizer Keith Jones is arrested by the Park Service (after staying behind to lead recovery efforts) and charged with manslaughter. The charges are later reduced to aerial delivery.

**Paul Thompson**, 1994, Object Strike
*Earth, Lake Powell, Arizona, USA*
This is an experienced skydiver who went along on a week long BASE trip as ground crew. Later in the week he expressed an interest in making a BASE jump himself. His jump resulted in a wall strike. He is pulled from the water and later he died. This jump resulted in manslaughter charges and law suits between jumpers and Park Service officials. The jumper's contention is Lake Powell is legal for sea-plane landings so should be legal for parachute landings as well.

**Xaver Bongard**, April 15, 1994. Object Strike
*Staubbach, Lauterbrunnen, Switzerland*

Xaver cutaway a spinning malfunction using a two canopy BASE container. The reserve opened with line twists that did not clear prior to impact. Xaver is well known, even legendary, in the climbing community for his big wall solo accents.

**Andre Jewett**, April 3, 1994, Inappropriate Gear
*Antenna (WLBT-TV Tower), Jackson, Mississippi, USA*
Andre is an expired USPA "A" license holder and an Army officer. There are three observers on the load, one is a buddy of his and the other two are girlfriends. Andre's skydiving gear sniveled to impact. There is nothing to suggest any pervious BASE experience or training.

**Theresa Tran**, December 20, 1995, Static Line Rigging Error
*Earth, Rubidoux, Riverside County, California, USA*
Theresa is doing a static line jump from a low cliff. At the last moment, instead of leaving the tied off pilot chute on the ground next to her launch point, she decided to place the pilot chute into the BOC pouch of her BASE container. When the static line became taught, it applied forces to the pilot chute at a right angle and the break cord prematurely parted before extracting the pilot chute and bridle from the pouch. Theresa is a live wire to all who knew her. She is a local radio personality under the name of "Gina Davis" and is responsible for the first ever corporately sponsored BASE jumps she organized for one of Magic Mountain's opening days in California. Theresa and I are room-mates and she is missed by all who knew her.

**Don Sampson**, 1996, Landing Error
*Span, Royal Gorge Bridge, Cañon City, Colorado, USA*
Don had 30 skydives and an unknown amount of BASE jumps when he had another person pack his parachute for this jump. The report included the line, "Don is an idiot when it came to assessing risks." On a pervious occasion he decided to "teach" a climbing buddy of his to BASE jump. He correctly figured some skydiving experience would be helpful so he forged a logbook to make his buddy look USPA "B" license qualified. The report stated, "Don took this two-way out of a plane that almost killed them both." He later took this same friend off a tower. Don flew himself into a corner, after this bridge jump, and panic hooked himself into the canyon wall. He died from severe head trauma. This and the only previous fatality from this bridge both involve canopy control problems in the tight landing area.



**Sebastian Dectot**, August 16, 1996, Freefall Object Strike
*Earth, Kjerag, Lysebotn, Norway*
Sebastian over delayed in a back to earth position while filming other jumpers.

**Jeff "Maggilla" Christman**, Object Strike
*Earth El Capitan, Yosemite Valley, California, USA*
This is the second El Capitan fatality and Yosemite's fourth BASE fatality overall. He is called "Maggilla" after the cartoon character Maggilla Gorilla and is one of those warm and fuzzy people who are a joy to be around. I knew him from working at his DZ for a time in Buckeye, Arizona. One night he asked if I'd like to see a video of his one and only BASE jump. The jump is from El Capitan, and from looking at the video, and from what he told me later, the jump spooked him so bad he swore, "he'd stick to the DZ and never go BASE jumping again!" So it is with some surprise, I learned a few months later, he did indeed return to El Capitan for another jump. Witness accounts differ with some saying he did a short, out of control delay, deployed unstable, and hit the wall. Others thought his parachute is hooked up to his harness backwards. A timely rigger's investigation into the state of the gear is prevented by Park Service officials.

**Alexander Haseke**, BASE 429, October 28, 1996
*Earth, Magland, France*
Alex had 30 BASE jumps and is a very experienced skydiver. This jump took place from a launch point well known to him, at night, with no wind and under a full moon. Witness reports state he did a short delay considering the altitude available and then lost sight of him. Alex is found dead hours later by a rescue team. The rig is reported to be packed slider up (single canopy container, but an old skydiving canopy more or less adapted for BASE). The report went on to say the canopy seems to have been perfectly deployed.

**Gary Dawson**, December 25, 1996, Object Strike
*Earth, New Zealand*
Gary is a popular Southern California camera jumper who went to work in New Zealand for a season to film skydiving tandems. During a BASE jump Gary hit a wall under canopy and fell the rest of the way. I worked at a DZ with Gary in California and he was a great fellow and a heads up jumper. Gary's family is actively trying to track down more information on Gary's fatality. They are especially looking to contact his girlfriend who witnessed the jump.

**Stina-Ulla Ostberg**, July 29, 1997, Overdelay
*Earth, Kjerag, Lysbotn, Norway*
This jump began with an unstable launch and it took the jumper 12 seconds to recover stability and deploy her main pilot chute. However, impact occurred at 12.7 seconds. It is reported this jumper is offered instruction prior to the jump and that she refused it.

**Torben Petersen**, August 4, 1997, Object Strike
*Earth, Bungonia Gorge, Australia*
Peter died from exposure after spending several hours/the night on the wall where he struck the cliff and became trapped. He had been repeatedly told,by other jumpers to be more responsive during the canopy opening sequence. He had also been repeatedly advised to apply deeper brake settings to his non-BASE specific canopy in order to avoid its excessive surge and drive. Eyewitnesses disagreed on the amount of time after opening before impact, with some saying he should have been able to turn away, and others saying there wasn't enough time. Some also believe that the canopy had line twists. There is an inference that the Police/National Parks authorities would not initiate their own rescue effort or let several reasonably equipped jumpers abseil to Torben and extricate him from the cliff. Authorities say it's because the rescue is too dangerous, jumpers say they are motivated by other reasons.



**Christopher Kennedy**, December 2,1997, Inappropriate Gear
*Antenna, Tucson, Arizona USA*
Christopher is dead when his feet leave the tower is what other jumpers said after this fatality. Using a skydiving rig not modified for BASE, and without any prior BASE training or experience, he climbed 364-feet up a 450-foot tower and jumped only to find his bungee controlled collapsible pilot chute didn't work well at slow airspeeds. A passer-by found Kennedy's body near the tower the next morning. He had pulled his reserve handle at some point prior to impact. Alcohol may have been a contributing factor in this fatality.

**Bob "Bromo" Neely**, May 14, 1998, Overdelay
*Antenna, Florida, USA*
Bob is alone and jumped from a 1249-foot broadcast tower. He is found dead underneath his parachute the next afternoon by two of his friends. The suspect cause here is an over-delay.

**Thor Alex Kappfjell**, July 7, 1999, Object Strike
*Earth, Kjerag, Lysebotn, Norway*
Thor is reported to have jumped into a fog bank and may have lost his bearings once under canopy and hit the wall. Thor is a popular BASE jumper and is one of six known people to jump from the World Trade Center Towers in New York City. (The others are Owen Quinn, Van Refuse, Nick Feteris, John Vincent, and one who prefers to remain anonymous.)

**Daniel Twomey**, August 4, 1999, Freefall Object Strike
*Earth, Trollspiret, Trollveggen, Norway*
Daniel (Australian) had an unstable head down launch. He then tried out tracking the ledge and hit the wall at eight seconds. His canopy deployed, it hit the wall, and deflated. Daniel tumbled down and came to rest under the ice at the top of the talus. It took 45 days to recover Daniel's body. This is Trollveggen's fifth BASE fatality.

**Joshua Michael McVay**, August 8, 1999, Object Strike
*Earth, Crown Point, Columbia River Gorge, Portland, Oregon, USA*
Joshua is BASE jumping alone when friends reported him overdue to return. They found his car at Crown Point and called in search & rescue teams. Searchers found his body about 450 feet from the top. He appears to have died after hitting the wall under canopy.

**Kirill Goretov**, August, 15 1999, Object Strike
*Earth, Kjerag, Lysebotn, Norway*
It's reported this jumper made no control inputs after canopy deployment and hit the wall coming to rest on a ledge. He appears to have died from severe head injuries in the initial impact with the wall. He is not wearing a helmet.

**Jan Davis**, October 22, 1999, No Pull
*Earth, El Capitan, Yosemite National Park, California*
This is El Capitan's 3rd BASE fatality and Yosemite's 5th BASE fatality overall. This occurred during a planned protest jump in front of Park Rangers and the media. By prior arrangement Park Service officials agreed not to prevent the jumps but insisted jumpers would be arrested upon landing and their gear would be confiscated. This caused some jumpers to switch to their "B" gear. Jan jumped a system with an older style leg mounted pilot chute pouch when she is used to jumping a pilot chute stowed in a BOC pouch. After a normal delay she instinctively reached for the bottom of the container and after failing to find the pilot chute handle ran out of time before figuring things out. I helped spread Jan's ashes over Lake Elsinore and over 400 jumpers and friends attended her memorial. She's missed by all who knew her.

**Roger Butler**, February 2000, Drowning
*Span, Hansen Bridge, Twin Falls, Idaho, USA*
Friends said it is too dark, the wind isn't right, and the water is too high. However, Roger elected to jump. He launched from the west side of the bridge and opened normally. It isn't immediately clear what happened, but shortly after landing in the water Roger and his gear disappeared below the surface. His body is found a month later by passing boaters. Roger is the first Twin Falls area BASE fatality.

**Andrea Quarisa**, May 7, 2000, Overdelay
*Earth, Monte Brento, Arco, Italy*

Andrea over delayed in a back to earth position while filming other jumpers and impacted on the talus as his canopy is opening. He's the second BASE fatality involving flying back to earth with camera.

**Terry Forrestal**, Juen 10, 2000, Object Strike
*Earth, Kjerag, Lysebotn, Norway*
This is Terry's 8th BASE jump. A videotape shows him having trouble with directional control and tracking. He deploys with a 180 whereupon he hits the wall very hard. Terry comes to rest on a narrow ledge and later probably sees a rescue helicopter approach and then turn back because of fog developing in the immediate area. The full extent of Terry's injuries are unknown at this time but speculation suggests both his legs are broken. At this point, but unknown to Terry, a foot launched rescue effort is advancing on his position. When they arrived, 10 hours later, Terry is gone from the ledge. No one knows if Terry tried to self rescue himself by jumping from the ledge using his reserve canopy (this is done by another jumper several years earlier) or if sometime during the night he simply fell. Friends say he probably thought rescue was not in the immediate future. And the 52 year old former member of England's SAS is the type to take matters into his own hands. Terry is a movie actor and stuntman. Some of the movies Terry worked on are Moonraker, Octopussy, A View To A Kill, Robin Hood: Prince of Thieves and Titanic where he played the doomed ship's Chief Engineer. The following is 2005 information. There is a short film, now making the rounds called "Last Stunt" concerning Terry's accident that was made in 2002. The film is currently touring with the Banf Film festival and was recently screened in California. Here's the text of the promo from the film. "British stuntman Terry Forrestal arrives in Kjerag in Lysefjorden, one of Norway's greatest fjords. He is going to relax - away from his hectic film work - by BASE jumping from the top of the 1000-metre-high mountain. But one of the jumps goes wrong and a difficult rescue begins. Terry's sister accuses Norway of bad rescue planning and of running "death" tourism. This is the story of Terry's last stunt."

**Valentino Ventori**, August 5, 2000
*Earth, Kjerag, Lysebotn, Norway*
This jumper launched unstable and remained so all the way to impact. It is reported this jumper is offered instruction prior to the jump and that he refused it. This fatality and the Ostberg are eerily similar down to the same impact point.



**Jerge Juan Domench**, November 2, 2000, Object Strike
*Earth, Monte Brento, Arco, Italy*
Jerge is an experienced skydiver and had made a couple of previous cliff BASE jumps from Kjerag. Here's the story from someone on the load. "We are a pretty big group at the launch point, I'd just met Jerge and his friends that day and this is the first jump we planned on doing together. The conditions are pretty bad: It is raining and the wind is strong and gusty. We stayed in a cave near the launch for a pretty long time and waited. When we had about 30 minutes to an hour of daylight left we went down to the launch point to make a decision. The conditions are better, but not good. I think if anybody had said, let's go down, everybody would have gone. But we decided to jump. The wind is coming from the right, so we agreed on going low enough to be in the wind shadow of the wall, below the turbulence, but high enough to deal with any heading problems. Jerge jumped last and deployed his canopy very high, higher than all the others. After opening he flew parallel to the wall until he hit in the big corner. His canopy collapsed and he slid down several hundred meters on the almost vertical wall dragging the canopy behind him.

**Fred**, 2000, Freefall Object Strike
*Earth, Verdon, France*
Reports describe Fred, from Nice, France, as having no previous BASE jumps, no training, no experienced jumper with him, etc. He purchased BASE gear, picked an under-hung location to launch from (not one of Verdon's regular

launch points), pivoted off the launch, went on his back, and struck the cliff in freefall. This fatality caused BASE gear manufacturers to start better screening their customers prior to the sale of BASE equipment.

**Trevor Yates**, 2000, Overdelay
*Earth, Big Glassy, Wollemi National Park, Australia*
Trevor is a much loved and respected skydiver and the first Australian BASE jumper to die jumping in his home country. He is the first to jump the cable car in the Blue Mountains. Trevor is found dead at the impact site with his canopy at line stretch and its slider at the top of the lines. Jumpers report that while Trevor had been around the sport for a long time he is caught in a time warp as far as BASE equipment is concerned. Trevor was jumping a Fury 220, with a sail slider packed into a deployment bag. His older style Racer container had a pull out 30-inch F-111 pilot chute and a short 4-foot bridle.

**Michael "Schelfy" Schafer**, March 2001, Object Strike/Rigging Error
*Earth. Courthouse, Arizona, USA*
Michael had packed for a slider down jump. At the last minute he decided to go slider up. He opened his already packed rig, stretched out the lines and pulled the slider up. However, he neglected to put the steering lines back through the slider grommets. The canopy opened in a turn and hit the wall hard before being fully inflated. He died a short time later from internal injuries.

**Thierry Van Roy**, April 2, 2001, Overdelay
*Earth, Lauterbrunnen, "La Mousse", Switzerland*
Thierry had 100 plus skydives and about 240 BASE jumps (fifty jumps are from cliffs.) He is doing a 3 way, launching first, on his back (video person above him filmed the whole jump). Thierry took too much time to come back to a good position facing away from the wall. He attempted to make a quick quarter turn and deploy, but impacted before complete deployment of his canopy. Two days prior to his death, he did ten jumps in the valley, and witnesses attested to the fact that he is really very tired. He is passionate for the sport and loved the people who -like him- jumped for their own, and not for the show. His many friends miss him deeply. The report also included the following: "Just a few words about this site La Mousse. It is high and you can fly 9 to 10 seconds if you track like hell. But the pure vertical is not more than 6 seconds."



**Erin Aimee Engle**, July 22, 2001, Object Strike
*Earth, Monte Brento, Arco, Italy*
Erin is making only her second or third BASE jump. She is in Italy jumping with her boyfriend. Reports indicate an unstable short delay and a wall strike under canopy. She was an experienced skydiver, with several hundred jumps and was on a very competent 4-way team.

**Massimo Mazzeo**, September 27, 2001, Unknown
*Earth, Monte Brento, Arco, Italy*
The following is from a report translated from Italian. "A 25 year old boy from Firenze, (Florence) has deceased after a parachute launch off the peak of Monte Brento. The young man had reached Thursday evening the top of the mountain and launched himself into the empty space. But the parachute did not open and the boy has smashed himself onto the ground after a flight of 800 meters. The body has been found this morning by alpine rescue team and firemen, alerted during the previous night by young man's relatives, worried by the fact that his mobile phone was not answering."

**Name Withheld** (Male), 2001, Overdelay

*Earth, Puerto Rico*
This is a first cliff jump after 15 tower jumps. On the load are his mentor and another jumper. His previous tower jumps are from different altitudes, with varying deployment methods, and all of them went well. The cliff is 700-feet with an outcropping full of trees jutting out about halfway down. The jumpers built a wooden launch ramp on the top and on the morning of the jump it had been raining. The three discussed the wet conditions and remarked on the need for caution on the wet ramp. The deceased asked to go first, and while his mentor said it would be better to watch one first, he did indeed go first. On launch he slipped on the wet ramp and lost control of the freefall. He deployed on his back and hit the tree filled outcropping feet first with a partially inflated canopy. The other two jumped and as they flew past his position he yelled out that he was seriously hurt. There was no way to reach his position so a rescue was called in. However, it took many hours and by that time he had passed away from blood loss.

**Unknown** (Male) April 2002, Inappropriate Gear Selection
*Other (Smoke Stack), St. Petersburg, Russia*
This is a solo first BASE jump using modified skydiving gear. This is also the first BASE fatality reported from the former Soviet Union. There are no witnesses. The body is found three days later on a rooftop. The main canopy is an early Russian PO-9, the first Russian accuracy square, and known in the Russian BASE community as a canopy with a reputation for not being suitable for BASE jumping.

**Andrei Grunberg**, May 2002, Freefall Object Strike
Earth, *Krym (Crimea), Ukraine*
Andrei went head down on the launch, tumbled, and hit the wall. His canopy deployed (somewhat) from the impact with the wall. Andrei had extensive climbing experience, about 200 skydives, and 2 prior BASE jumps. This is the first BASE fatality in the Ukraine.



**Lee "Skypunk" Werling**, May 29, 2002, Overdelay
*Antenna, Florida, USA*
Reported by a jumper on the load as a three way with two people facing away from the antenna, and Lee doing a floater launch facing inwards. Jumper #1 is to do a 6 second delay, jumper #2 an 8 second delay, and Lee, with camera, is going ten seconds. Everything went as planned until jumper #2 deployed at 8 seconds. Lee continued filming on his back for an additional 3 full seconds before going face to earth. One second later he disappeared into the fog. Three seconds later jumper #2 heard the beginnings of Lee's deployment and then a thump. Lee died under a partially inflated canopy. The weather conditions initially are a layer of fog about 300 feet off the ground. However, when jumper #2 lands the fog has extended almost all the way to the ground. He believes Lee is expecting to come out of the fog before deploying. Lee is very current on this particular tower.

**Brian Stout**, June 15, 2002, Packing Error (restrictive device on pilot chute)
*Span, Perrine Bridge, Twin Falls, Idaho, USA*
This is the first Perrine Bridge BASE fatality and the second to occur in the Twin Falls area. Video and still photos shows that the pilot chute was constricted, and although it was pitched at approximately 1.5 seconds and reached bridle stretch shortly thereafter, it never inflated, remaining in a tight wad at bridle extension until impact. The following is from a letter from Brian's father, as he wrote it. "There is speculation on your list about a rubber band packing error. I must tell you that there were two official investigations concerning Brian's death. Neither one mentioned a rubber band error theory or even came close to speculating about it. In fact, Brian gave his mother the rubber band that he was using for the packing of the pilot chute just moments before he jumped. He jokingly made a comment to her that leaving the rubber band in the pack job could very well ruin a good day. What we have are the

facts: Brian was using a 38" pilot chute, a 6 ft 9 in bridle; went stowed for the very first time on his fatal jump; was assigned a 1 and 1/2 second delay, was on his 12th BASE jump, and was on a big 8 way coordinated jump at the Perrine when he was killed. His pilot chute was in tow and opened just point four (.4) seconds before he hit the water. His canopy was not extracted from his container. He was killed on impact. The people who have made the speculation comments are people who are feeling guilty about Brian's death and are trying real hard to find a reason for his death that makes them feel less guilty. Bottom line: Brian should not have been on that load with his obvious inexperience going stowed with a 1 and 1/2 second delay with the gear configuration that he was using. The people on that load and Brian's friends who brought him into BASE jumping are the ones who let him down and allowed him to use equipment that was not right for that jump (considering all the complexities of the jump that I have mentioned). I don't guess you would allow my speculation just presented above to be on your list. Therefore, I am asking that you remove the speculation comments about the rubber band packing error from the list as well. The family is very sensitive about this issue. And it is just totally wrong."

**Lori Barr**, July 23, 2002, Freefall Object Strike
*Earth, Kjerag, Lysebotn, Norway*
Lori launched and lost stability on her first cliff jump. With five previous Perrine bridge jumps and the required amount of skydives Lori is on an organized BASE expedition to Norway. The trip included a site specific BASE jumping course taught by very competent instructors. However, Lori hit the cliff wall in freefall at about 11 seconds. What makes this fatality a little more chilling is the fact Lori did everything right as far as following the current advise on how to get into BASE jumping.

**Dr. Nikolas (Nik) Hartshorne**, August 6, 2002 , Object Strike
*Earth, Murren, Lauterbrunnen, Switzerland*
Nik had 501 BASE jumps when he launched for this planned 9-10 second delay. Most of Nik's previous BASE jumps had been low ones and he's actively working on his tracking skills. According to the one witness who saw the entire jump Nik launched head down, but looked as if he would recover. However, he deployed before complete stability is achieved. The canopy opened facing the cliff and Nik is turning it away (using rear risers as the brakes are still set when the canopy is inspected) when he landed on a ledge. At that point he had already turned the canopy 90 degrees away from the wall. The canopy collapsed and Nik fell backwards from the ledge. He impacted a second ledge with his head (this is the fatal injury) and the canopy then re-inflated and flew into the wall a third time and hung there a moment. The canopy then dropped beneath him and he fell into it. He fell down the remaining part of the wall (several hundred feet) wrapped in the canopy and hitting the wall 6-8 more times. CPR is performed to no avail. Nik is a very popular BASE jumper and will be missed. He is also a Medical Examiner who, not only lent his expertise to previous BASE fatality investigations, he also performed the autopsy on singer Curt Cobain. Nik's death has caused his name to be included into the conspiracy, fans say, surrounds Cobain's suicide.

**Wolfgang "Wolle" Bäumer**, August 13, 2002, Overdelay
*Earth, Staubbach, Lauterbrunnen, Switzerland*
Local rescue workers say the jump is a two-way and Wolfgang is doing camera. Reports indicate that he overdelayed while filming on his back. As this is the second BASE fatality here in two weeks the Swiss BASE Association is asking all BASE jumpers to refrain from visiting the area as they iron out problems with authorities and the media.

**Christophe**, August 15, 2002, Overdelay
*Earth, France*

Christophe is doing a two-way and filming at an launch point just recently opened. The wall is slightly under hung, but both jumpers successfully out track the wall/talus. After opening the second jumper said he heard a terrible sound and looked back to see Christophe with his canopy out but not pressurized. Christophe became stuck 80 meters up and isn't answering his friend calls. He is found dead when a helicopter reaches him. Jumpers who knew Christophe said his enthusiasm for the sport is infectious. He is always smiling, laughing and offering help and advice.

**Tore Lillebostad**, August 25, 2002, Freefall Object Strike
*Earth, Hårstadnebba, Sunndalsøra, Norway*
This is a four way jump composed of all Norwegians. Tore had 2000 skydives and 16 BASE jumps. It is said he never gained control all the way to impact. While this wall is seven seconds to impact it does have a sketchy launch point. A wing suited jumper earlier the same week achieved a flight of 89 seconds here.

**Kirill Kiselev**, September, 2002, Overdelay (wingsuit)
*Earth, Vikesaxa, Eiksdalen, Norway*
I received this report from a close friend of Kirill who witnessed or heard most of the jump. Kirill has 500 skydives with 20 being with a wing suit, and 30 BASE jumps, with 2 being with a wing suit. This fatality began with an inadvertent low pull from a man who didn't do low pulls. His friend believes Kirill encountered a stability problem late in the flight. The friend, along with authorities, inspected Kirill's body and gear at the hospital. Kirill had opened his canopy, the slider is at the links. Both toggles are still stowed. The wing zippers are closed and the swoop cords are still over his fingers. The wing fabric between his legs is torn. His broken neck and one broken leg suggest opening and impact occurred at about the same time. The report intimates failure of the wingsuit material between Kirill's legs caused a stability problem at pull time. By the time Kirill stopped trying to overcome the situation and deploy, it is too late. Kirill is the first BASE jumper to die flying a wingsuit on a BASE jump.

**Rob Tompkins**, September 12, 2002 , Freefall Object Strike (wingsuit)
*Earth, Kjerag, Lysebotn, Norway*

This is the second wing suit BASE fatality. Rob has 247 BASE jumps with 92 being with a wing suit on the day he died. A report states: "For the last month, Rob had his eye on a particular jump between launch points 4 and 5. We looked at it, doing rock jumps and basically studying the jump. There are two launch points next to this particular jump, one with a 7-second drop and the other with an 8-second drop. Rob jumped the 7-second launch point 10 times always doing a reverse gainer. The place he's looking at now, he dubbed the, "RT Hjørner," and has a rock drop time of 5-seconds. We analyzed this site on video and with other wing suit pilots. In my opinion, the jump is not achievable - and I repeated this to Rob. Other wing suit pilots said the same thing. Rob is convinced he can do it including a reverse gainer. After 7 seconds of freefall Rob impacted the talus ledge. He never tried to deploy his pilot chute, knowing that this would not save him. Rob believed he could out fly the ledge right up until he died. Rob is remembered as a good man, full of respect, and kind to everyone."

**Lukas Knutsson**, October 11, 2002, Pilot Chute/Bridle Entanglement (wingsuit)
*Earth, Cold Steel, Engelberg, Switzerland*
Lukas has a good launch and good flight with his wingsuit and pulled high over the landing area. This is the third BASE wing suit fatality. Despite a powerful pull the pilot chute ended up in the turbulence behind him. In the burble the pilot chute spun around very fast. Lukas notices the deployment is hesitating and collapsed his wings and rolled to one side to clear the pilot chute. At this point the pilot chute achieved bridle stretch but the bridle had entangled with the pilot chute so badly the pilot chute is almost totally collapsed. Lukas did rollover to the other side and struggled hard to get the canopy out of the container. However, the container remained closed to impact. Lukas is a

very experienced long time BASE jumper (this site is now called "Cold Steel" in his honor) and he will be missed by the entire BASE community.

**Robert Hinden**, January 11, 2003, Object Strike
*Earth, Cold Steel, Engelberg, Switzerland*
This is the first BASE fatality of 2003 and occurred 3 months after the last one and from the same launch point. Robert did a 4-5 second delay and his body position seemed good. He opened with a 90 degree left off heading opening. A few seconds later the canopy turned further left and impacted the wall. Robert slid down the wall until stopped by the highest point of the talus. This area is not reachable by foot and a helicopter is called. The helicopter arrived with two doctors on board who pronounced Robert dead from severe head trauma. Friends say Robert usually wore a Bonehead helmet, with knee and elbow pads, but did not wear them on this jump. The gear is destroyed by the rescue, but is inspected by a jumper on-site. He said both toggles are released. Everything else on the rig appeared to be in working order.

**Bill Frogge**, January 27, 2003, Rigging Error
*Earth, Echo Canyon, Moab, Utah, USA*
Bill is doing a two way and is hand holding his BASE pilot chute. After a normal freefall Bill threw out the pilot chute. The pilot chute inflated, went to the end of its bridle and peeled the shrivel flap from the rig. However, the shrivel flap is not connected to the canopy. Speculation is Bill is distracted while putting his rig together and may have passed the Type-12 bridle through the attachment ring on the top of canopy but didn't complete the lark's head knot that would have secured it in place. The bridle had a bar tack on it that could catch in the ring and give the appearance the bridle is correctly attached to the canopy. Parachute Riggers have known for a long time that when you start any job you finish it. If you are distracted, and need to leave the work, you start the procedure over on your return. Not having a pilot chute connected to the canopy on a single canopy system has always been a nightmare scenario for BASE jumpers, however, this is the first time it has actually happened.



**Alexi Kosarev**, April 5, 2003, Object Strike
*Earth, Monte Brento, Arco, Italy*
Alexi experienced an off heading opening and a wall strike after a 5 to 6 second delay. He is hung up for a short period of time before falling the remaining distance to the talus. An Alpine rescue is immediately launched only to find Alexi dead. There are questions surfacing now concerning the experience and preparation level of this jumper. Locals are saying high winds and the short delay (they recommend at least 8-9 seconds) put Alexi too close to the wall on opening. This is the fifth Brento BASE fatality and concerned local jumpers have placed a plaque at the launch point, not so much to memorialize the dead, but to forewarn the living that Brento is an advanced skills level BASE jump.

**Linus Rains**, July 23, 2003, Object Strike
*Earth, Labben (Stabbeskaret), Trollveggen, Norway*
This is a report from Linus' fiancee, "Linus launched from Labben during the evening of July 23th. The weather is clear and there's no wind. As usual he started to track from the wall face and out over the talus. Linus is a highly skilled tracker and his previous jump from Labben in June, this year, he made a 38 seconds delay sans wing suit. No one knows exactly what went wrong, but this is what I saw from the landing area. The canopy started to deploy at the lower point of the talus, but he impacted on the talus before the main canopy is fully inflated. He hit the wall twice in his fall and eventually came to rest at a ledge, approximately 150 meters up the talus. Within an hour, the rescue team had located him, dis-entangled his parachute, and declared him dead. Technical examination of the canopy revealed one toggle is released. Linus' injuries and the fact only one toggle is released indicates a possible

180 degree off heading opening and a cliff strike. Linus is a very experienced and skilled big wall jumper. He found his passion for BASE jumping in Romsdal, Norway, where he made his first BASE jump with an American friend in the summer of 1997. His love for BASE jumping drove him to the big walls of Europe where Linus and had some of the best moments of his BASE jumping career. He found comfort in the mountains and Linus is fascinated by the dramatic landscapes of Norway, and especially Trollveggen. He spent a lot of time in Romsdal where he and his Norwegian friends opened up many new launch points. Linus has many good friends in the BASE community. His first years of BASE jumping he shared with his good friend Thor-Alex Kappfjell, whose memory he always kept close to his heart. In June this year Linus had spread the last of the ashes of his friend John Hoover at that very same site on the Trollveggen. Linus was a very loving and caring person and he leaves a great emptiness behind."

**Fabrice Parent**, August 10, 2003, Object Strike
*Earth, Murren, Lauterbrunnen, Switzerland*
Fabrice had 500 skydives and 53 BASE jumps when he launched for this planned 9-second delay. On deployment he experienced a 180 with a full line twist and impacted the wall.

**Gabi Dematte**, August 13, 2003, Freefall Object Strike (wingsuit)
*Earth, Gasterntal, Switzerland*
The following report is from one of Gabi's many friends. "Gabi went to jump alone, like she did very often. Getting away from the crowds in Lauterbrunnen she went to another valley known by only a very few jumpers. She couldn't outfly a ledge with her wings. Which is awkward, because she kicked ass with those wings. She did not attempt to pull. Gabi was a very good jumper, and a super nice person. I was lucky to get to know her and I will treasure her contribution to my existence. For me, it was nice to jump with another woman. It was special and it did not last long enough. Lauterbrunnen valley is empty and quiet now." Gabi is the fourth BASE wing suit fatality.



**Jason Corcoran**, October 9, 2003, Overdelay
*Span, Perrine Bridge, Twin Falls, Idaho, USA*
Jason is the second Perrine Bridge fatality and Twin Fall's third BASE fatality overall. With around 2000 skydives and 100 BASE jumps Jason is performing aerials and either over-delayed, or had some type of pilot chute or bridle hang up. While his pilot chute did deploy his canopy did not inflate prior to impact.

**Unknown**, November 23, 2003, Improper Bridle Routing
*Span, France*
This student jumper apparently left a loop of slack in the bridle, which was long enough to catch the bottom corner of the container and lodge between the container and the jumper's back. The jumper exited head high and pitched almost immediately. The bridle hung around the bottom corner of the container and the jumper towed the pilot chute to impact.

**Unknown**, May 3, 2004
*Antenna, Saratov, Russia*
This appears to be a deployment problem either by starting the sequence too late, or experiencing some sort of pilot chute hesitation. This is the third reported BASE fatality from Russia.

**Andi K**, June 18, 2004, Object Strike
*Earth, Murren, Lauterbrunnen, Switzerland*
This is a from a report. Andi had 300 plane and 30 BASE jumps. It was his 2nd jump that day and his 2nd jump from the Nose. He jumped straight, tracked, opened at around 200 meters off the ground (half-way down the face),

had a 180 and hit the cliff 3-seconds later. There was zero wind. From what I've been told it was his first off-heading opening. He died immediately on impact.

**Jeff Barker**, July 5, 2004, Freefall Object Strike (wingsuit)
*Earth, Mount Baring, Snoqualmie National Forest, Washington, USA*
Jeff is jumping with a wingsuit and he failed to clear a ledge in freefall. This is the fifth BASE wingsuit fatality.

**Duane Thomas**, August 21, 2004, Overdelay
*Earth, Lauterbrunnen, Switzerland*
Duane, a Kiwi with a quick smile, is a well known and experienced BASE jumper. The following is from an eye witness. "The jump is witnessed by two British jumpers and two Swiss jumpers. One Brit watching, and videoing, from the exit point, the other three watching from the LZ. This is Duane's first wingsuit BASE jump, and his first jump ever with a leg mounted pilot chute pouch. Prior to this jump Duane prepared by making 50 aircraft and 2 hot air balloon wingsuit skydives. Duane had a good exit and a good flight. Everybody saw him reach for and locate the pilot chute at what the witnesses said is a reasonable altitude. He then kept his hand there and continued in freefall. The speculation is the lack of normal groundrush (like the type he is used to when not wearing a wingsuit) might have fooled him. The Swiss are yelling at him to pull and he finally did so, at what they said is about 30-feet above the ground. The canopy lifted out of the pack tray but is no where near line stretch when he impacted in a full flight position. According to the Swiss there is no fumbling around, or looking for the pilot chute handle - all the witnesses agree on this. He reached and located the pilot chute, but just took to long to deploy it. A hard pull cannot be fully discounted at this time, but all the witnesses believe he just waited too long." This is the sixth BASE wingsuit fatality since the first one occurred in September of 2002.

**Roland (Slim) Simpson**, October 22, 2004, Object Strike
*Building, Jinmao Tower, Shanghai, China*
Slim is an experienced and well known BASE jumper with over 1200 jumps when he launched for this wingsuit flight at a major BASE event in China. After a good flight he deployed into line twists and is unable to avoid a hard rooftop strike on an adjacent structure. Slim is a major influence on an entire generation of BASE jumpers and this is a major blow, not only in his home country of Australia, but to the entire BASE world. There is much to be said of this man including this sentiment from one of his good friends. I am awed by his courage, determination, and perseverance in coming back to a sport that had battered and broke him once before. He faced down the demon of fear after his recovery and re-entered the sport with humor and panache. "And cripples can fly," he said at exit. What an inspiration he was . . .

**Jason Fitz-Herbert**, October 29, 2004, Overdelay
*Earth, Slot Canyon, Bungonia Gorge, NSW, Australia*
Jason is a very experienced BASE jumper (800 jumps) and he's instrumental in training many of Australia's first time BASE jumpers. The following is from an eyewitness report. "Jason was traveling to the funeral of Roland (Slim) Simpson , who died BASE jumping nine days earlier. While Slim is a dear friend of Jason's this is not a memorial jump. Jason is attempting a very difficult jump he had been working towards for some time. This site requires a good track to achieve adequate separation from the wall and to clear an under hung section. Jason is wearing tracking pants. He performed a single front somersault that over rotated and delayed the start of his track. He pitched his pilot chute but impacted the under hung section prior to full deployment. Jason touched many lives and will be sorely missed. His motivation in recent times is improving the safety of the sport and he's recently appointed the Director of Safety and Training for the Australian BASE Association. It is sure his many friends, and

students he's mentored, will forever keep his memory alive." Jason leaves behind his partner Livia, and his former partner Melissa, and their six year old son Blake.

**Erich Wagar**, BASE 598, November 17, 2004, Overdelay
*Antenna, Somerset, Wisconsin, USA*
One of the "good" guys is how this jumper is being remembered. This is a daytime 2-way tower jump (940-feet) in foggy conditions. According to his friends, Erich is well known for his aerials and is fast earning recognition for his ability and friendly bearing. Here's a report from the other jumper on the load. "We did a 2-way and we left stable and immediately began to track away from the tower. We planned for him to be the low man and he was to signal me to pull by reaching for his pilot chute and delaying one second. I deployed my canopy as soon as his hand moved toward his pilot chute. My canopy deployed normally and on heading. After I established that I had a good canopy I witnessed Erich with a partially open canopy impact the ground. The spot where he impacted was on a hill about thirty to fifty feet above the base of the tower and 250-ft horizontally away. I landed safely and immediately cutaway my canopy and ran toward him. I found him unconscious and unresponsive. I tried CPR but he did not respond. I then called 911 and emergency services were sent to the scene. The EMTs hooked him up to a monitor and there were no vital signs. I believe he was killed immediately on impact. Eric was one of my best friends and was a friend to many people around the world. Please think of his wife Gretchen and his son Max because they need our love. I will miss him and all that know him will as well. The world is a lesser place due to his passing." This is the third BASE fatality that is fog related.

**J.T.**, March 24, 2005, Overdelay
*Earth, Monte Brento, Arco, Italy*
J.T. (a Norwegian) is doing aerials. After completing those aerials he encountered stability problems that led to a late deployment and a wall strike. Here is a rough translation from the Italian press. "Desire to fly in the vacuum at one hundred km/h for 500 meters and to open the parachute in extremis has costed the life to J. T., 31 years, of Oslo that yesterday morning launched from Italian terminal wall exit. To betray the Scandinavian jumper it has been probably the insufficient acquaintance of the particular local climatic conditions. In fact, it has been a squall of local wind to make to lose the control of the parachute to the young person that has ended to crash against cliffs dying on the blow. It is the sixth victim on the walls of of Italy in five years."



**Olov Axel Kappfjell**, May 16, 2005, Freefall Object Strike
*Antenna, Eiffel Tower, Paris, France*
Olov is a cousin of Thor Axel Kappfjell who himself died BASE jumping in 1999. Olov, with another jumper and a small crew, is endeavoring to jump in honor of Norway's Independence Day. Earlier that day they had been discovered while preparing to launch from the 56-story Montparnasse tower, the only real skyscraper in Paris. It is then decided to attempt a jump from the Eiffel Tower. Initially the plan called for jumping from the top of tower which is 930-feet. However, tight security made them abort that idea. A decision is then made to attempt the jump from a lower level. The second level (or platform) of the tower is 370-feet and at this point the second jumper elected not to jump. Olov launched and impacted the first level of the tower. This level is 200-feet AGL and 170-feet below where he launched. In modern BASE terms the Eiffel Tower is first jumped by two BASE jumpers in 1984. The following year stuntman/skydiver B.J. Worth made a legal jump for the James Bond film , "A View to a Kill." Sadly, Olov and his cousin Thor are the first two relatives to appear on this List.

**Wolfgang Siller**,May 21, 2005, Freefall Object Strike (wingsuit)
*Earth, Drachenwand, Austria*

This jumper had about 100 BASE jumps and is flying a BM S3 wingsuit for the first time. It's reported he had 10 previous wingsuit BASE jumps all with a BM GTI. It is being said that winds may have been a factor in his having stability problems. A rescue team found him with his pilot chute still stowed in his leg strap pouch. Locals are asking BASE jumpers to refrain from jumping this site for at least a month.

**Jurij Graciov**, July 3, 2005, Object Strike
*Earth, Chartreuse, France*
Jurij was an experienced jumper. This appears to be an offheading opening resulting in object strike.

**Darcy Zoitsas**, July 19, 2005, Overdelay
*Earth, Kjerag, Lysebotn, Norway*
This jumper has 550 BASE jumps and is current and familiar with this site. Reports indicate an intentional long delay and planned low opening ended in a problem deploying his pilot chute.

**Vadim "Vertz" Vertzgaizer**, November 11, 2005, Object Strike
*Antenna, Angarsk, Irkutsk, Russia*
According to a Russian crew this tower has more guy wires attached to the top than the bottom and Vadim had approximately 30 previous BASE jumps. He had a slight stability problem during the launch and this caused him to deploy sooner than planned. The opening resulted in an off heading deployment. At this point the canopy collided with one of the tower's guy wires and hung there for a moment before it began sliding down the wire. In just a few seconds the heat generated by this movement sawed through a riser and at least one front riser line group. Vadim fell the rest of the way, about 300-feet, and is killed on impact. Vadim is in an area without too many other BASE jumpers to get advice from and most jumpable sites here haven't been opened yet.

**Julian "Tom" Manship**, BASE 652, December 31, 2005, 12:32 AM, Overdelay
*Antenna, North Carolina, USA*
Weather conditions at the time were reported to be clear skies with light winds on a new moon, launch altitude was approximately 1500-feet. Witnesses, approximately 350' away on the ground, report hearing the beginning stages of deployment for about 1 second followed by impact with the ground. Ground crew arrived at Tom immediately and checked for vital signs. 911 was called at approximately 12:33 AM, and authorities arrived on the scene within minutes. Ground crew noticed that both brakes were still stowed and the slider was only 1/4 to 1/3 of the way down the lines. The autopsy report confirmed Tom died on impact from multiple fatal injuries. Death was attributed to a low pull but no clear conclusions can be made as to why. A gear check was performed after removal and nothing was found to be wrong with his equipment. His gear was configured appropriately for this jump and he was wearing a Tracking Suit. Tom was an extremely well liked and experienced BASE jumper with 1869 BASE jumps from more than 40 objects. Tom, who spent his summers in Twin Falls, Idaho making 4 jumps a day, was known and loved by many jumpers around the world.

**Paul Smith-Crallan**, BASE 1066, March 15, 2006, Packing Error (restrictive device on PC)
*Antenna (600-ft electricity pylon), Swanscombe, Kent, Great Briton*
Paul, who was under the supervision of a mentor, is jumping this pylon for the first time. His mentor is known to teach his charges to use a packing aid when folding pilot chutes for stowed jumps. Apparently Paul did not remove the packing aid, which was a pull up cord, prior to jumping and on deployment the pilot chute failed to extract the canopy in time for full inflation. Nicknamed, "BaseMonkey" Paul was well liked and very enthusiastic about the sport. The lesson here is obvious for both mentors and students.

**Stephan Grossman**, April 15, 2006, Object Strike
*Earth, Lauterbrunnen, Switzerland*
Stephan had approximately 40 previous BASE jumps, with one being from this same cliff. The jump is stowed and slider up and he did a conservative delay and tracked before opening high over the talus. He then experienced an off heading opening and wall strike. Witness reports from the top say he should have had enough time to turn but maybe had line twists, or some other problem, not apparent from the top. Stephan, a well respected rigger, was in the process of setting up a BASE school when this accident occurred. He leaves behind a wife and two children.

**Stephane Lonide**, April 16, 2006, Object Strike
*Earth, Lauterbrunnen, Switzerland*
This jumper had one previous BASE jump when he over rotated head down before pitching his pilot chute. He then experienced an off heading opening facing the cliff and is on his risers trying to turn, but he did not clear the wall in time. He continued to impact the wall until coming to rest in the talus.

**Alexey Sayutin**, May 06, 2006, Object Strike
*Earth, Engelsk, Crimea, Ukraine*
This is a hand held slider up short delay from a cliff. After 2 to 3 seconds of freefall this jumper experienced an off heading opening. He hit the wall and slid down the rest of the way to the talus. He was still alive at that point and resuscitation efforts were quickly begun but Alexey died an hour and half later. The above three BASE fatalities are similar and all occurred in a span of three weeks. As our sport becomes ever more popular, and we approach our hundredth BASE fatality, it may be time to reflect on the obvious dangers and to instill in people that BASE is not the sport for everyone. BASE jumping is like a Rose, it is beautiful, and it can hurt you, and it all depends on how you grab for it.

**Tony "Coombesy" Coombes**, May 27, 2006, Object Strike
*Earth, Trollveggen, Norway*
Witness reports say Coombesy was hung up on the wall with his canopy out at about 300 meters from the bottom. The jump was reported as a five way and Coombesy is known for flying close to the wall. Coombesy was a well known Australian BASE jumper and a "Bloke's Bloke" who had friends throughout the world. This is the seventh Trollveggen area fatality.



**Shannon Carmel Dean**, May 29, 2006, Deployment Issue
*Span, Perrine Bridge, Twin Falls, Idaho, USA*
This was Shannon's 4th jump at an annual Memorial weekend event in Twin Falls. She did a good launch and a stable face to earth delay before encountering a problem in deploying her stowed pilot chute. Witness reports state she reached for the pilot chute and either missed it or lost her grip - while extracting it from the BOC. One witness stated her last attempt to deploy the pilot chute resulted in it (the pilot chute) getting on her back and hesitating. The final result was an impact with essentially nothing out. Shannon, as evidenced by the outpouring from within the BASE community, was a special person whose zest for life influenced all who came in contact with her. It must also be mentioned that this year's event in Twin Falls saw marginal weather conditions and less jumps made than in previous years, yet there was a serious up-tick in the amount of injuries sustained by jumpers in general. There are some saying this bridge is a cakewalk as far as BASE jumps go - but all well thinking BASE jumpers know better than to apply the word "cakewalk" to any BASE jump.

**Mario Massato**, Jun 18, 2006, Rigging Error (static line)
*Antenna, Marilia, Brazil*

Before his own jump Mario had assisted two other jumpers using the pilot chute assist (PCA) method from this 225-foot cellular phone tower. Alone on the tower now Mario climbed outside into a launch position. He then pivoted 180-degrees in order to face the tower and hook up his pilot chute. Then he turned again to face away. However, he turned the wrong way and effectively wrapped the bridle around his lower body and he didn't notice the problem prior to launching. The dynamic shock load of his full body weight hitting the bridle as he fell caused the cordage holding the bridle and pilot chute to the tower to separate prior to opening the container or giving him line stretch. He reacted quickly and fought to clear the bridle, but while the pilot chute did inflate, and did open the container, the parachute itself is fouled around his body and he died immediately on impact. The very first "static line" fatality occurred in 1987 and the second followed in 1995 and Mario is now the third - and all three are caused when the "break cord" failed prematurely. Note: Mario has become the 100th BASE jumping fatality since the first one occurred twenty five years ago in 1981.

**Bernd St**, Sep 09, 2006, Freefall Object Strike
*Earth, Dachstein Southwall, Austria*
The following is from an internet translation: Bernd is with a colleague from Salzburg when they rode the cablecar to the top of Dachstein, with the intent to hurl themselves into the deep over the southwall. The jumper from Salzburg jumped first, then the jumper from the Steirmark region. At about 2000 Meters high (assuming ASL) the 27-year old experienced some problems, the cause of which is unknown, and went too close to the wall. He bounced against the cliff, his parachute opened and got caught and Bernd St. stayed there hanging from the lines without his life.

**Adam Gibson**, September 15, 2006, Object Strike (During Deployment)
*Earth, Mexico*
From a report: "Adam over rotated his front loop and went fully head down for almost the entire freefall trying to correct it. At the last second he obviously realized he couldnn??t make it and threw his pilot chute, but did not have time to extract anything else as he hit the ledge. He died instantly as was confirmed by the autopsy report." A word about aerials: There was another jumper with Adam who has since penned a heartfelt awakening concerning aerials after they both agreed to do aerials on this jump. "The gainer. The truth of it is, at some point this summer, the gainer became my 'crutch' move. I can finally be honest about that. I had always heard about people that struggled to do a flat and stable exit because all they ever did were aerials, I hadn't realized that I had moved in that direction. I was scared and gainers made me feel confident, so that's probably why I saw what I wanted to see when I looked over that ledge. Beyond that, I really thought that I could pull it off. Of course, the true test of a successful jump is not whether you can 'pull it off,' but rather if you can repeat it."

**Brian Lee Schubert,** October 21, 2006 (Bridge Day), Overdelay
*Span, New River Gorge Bridge, Fayetteville, West Virginia, USA*
Brian, who along with Mike Pelkey, were the first two persons to parachute from Yosemite's El Capitan in 1966. Those jumps became the catalyst for the sport later to become BASE jumping. Last year they both came to Bridge Day (2005) and spoke to the assembled jumpers. The recounting of their El Cap experience had us laughing, clapping, and yes, crying a bit too. It was the closing of circle in the history of BASE and I consider myself very lucky to have had the chance to become friends with both men. Up until that Bridge Day neither man had kept up their BASE jumping or skydiving, but that year (2005) Mike Pelkey made a successful jump from the bridge. Brian deferred saying he wasn't ready, and he spent the following year getting ready and dreaming of next year's Bridge Day. Prior to his jump Brian received refresher training from several qualified people. Here is an eyewitness report: "The jumper had his pilot chute in his right hand at launch. Jumper had an unstable launch, rotating him backward. Jumper brought both of his hands together and transferred the pilot chute into his left hand. He tumbled in this

position for approximately 8-seconds, after which the pilot chute deployed and inflated. It is unclear if he threw the pilot chute, or if it was extracted from his hands by the relative wind. The container opened, and the canopy reached line stretch but did not achieve inflation. High speed impact occurred at 8.5 seconds." I would be remiss in not mentioning what kind of man Brian was ?? he was generous to a fault and as big hearted as they come. Mike Pelkey lost his best friend at Bridge Day 2006 and we lost a gentle man who unconditionally and genuinely loved us all . . .

**Joe Lathrop**, November 3, 2006, Packing Error (Restrictive Device on Pilot Chute)
*Span, Perrine Bridge, Twin Falls, Idaho, USA*
Reports state Joe used a packing aid, a pull up cord, while folding and stowing his pilot chute on the bridge. It is not known for sure if he removed the pull up cord prior to jumping. He then did a floater launch that went slightly head low and he pitched at 2.5 seconds. Witnesses on the bridge report his pilot chute "looked too small" the inference being the pull up cord is still on the pilot chute. Another witness, in the LZ, said the pilot chute was inflated just prior to impact. The bridle was found to be tightly wound around one of Joe's ankles. The container remained closed (although one witness said it opened at the last moment) and when examined the pilot chute was free of any packing aids. Another witness on the bridge, who was not part of Joe's group, said he watched Joe use the pull up cord to stow his pilot chute, but couldn't say if it was left in place as he never saw the pull up cord again. This witness also mentioned he pointed out that Joe had twisted a leg strap while donning his rig and that Joe fixed the twist prior to launching. Joe is the fourth Perrine Bridge fatality and the eleventh BASE fatality of 2006.

**Csaba Zsiros**, November 18, 2006, Object Strike (During Deployment)
*Earth, La Mousse, Lauterbrunnen, Switzerland*
Csaba had close to 500 BASE jumps and jumping along with two other experienced BASE jumpers. One of the other two is doing a short delay, with camera, to film the others. Csaba launched back to earth and did not start tracking until he was very close to the outcropping of the wall. When he did start his track he realized he wasn't going to make it past the outcropping and deployed his canopy, but he impacted the cliff as his canopy was opening. The canopy did fly out over the LZ, giving the other jumpers some hope, but Csaba is already dead when help reached him. Most likely he was killed instantly in the cliff strike.



**Edgar Kraus**, December 27, 2006, Freefall Object Strike
*Earth, Monte Brento, Arco, Italy*
A jumper on the load has reported this as a two-way with Edgar launching on his back and filming the upper jumper. The second jumper tracked out and over Edgar after about three seconds, and watched as he attempted to turn face to earth which he says was done while very unstable. The witness also mentioned Edgar wasn't wearing a jumpsuit or tracking clothes. The second jumper opened and when he looked back he saw that Edgar's canopy had hit the wall and it and Edgar were now falling the rest of the way. This is the fifth fatality to involving flying back to earth with camera. Edgar was a well liked and experienced BASE jumper who's death, I hope, will unfortunately yet mercifully, end the single most disastrous year in BASE jumping's 27-year history. We lost thirteen brothers and sisters to 2006 and that should give us all pause to ponder what we are doing. The true consequences, of course, are visited onto the families of those jumpers, but it should reinforce in all of us to be as careful as possible. I don't know what the true answer is, or how we go about making the sport safer, but I do know we could all slow down a little bit, and we can, and should, temper our bravado around each other and especially around newer and would-be BASE jumpers.

**René Duriaux**, January 4, 2007, Unknown
*Earth, Benevise, France*

Details here are few, but it's being reported René was found in his car deceased at a remote cliff site by French Police. One of his legs were severely injured and his cause of death, it was determined, was heart failure. At the time he was found no gear was in evidence and it wasn't known if Renn was injured on his approach to the launch point or during a jump. Since the time of the discovery of his body his gear has been found at the bottom of the cliff. It appears now René was somehow injured during the jump but had managed to get back to his car where he died.

**Alexander Chavdar**, January 28, 2007, Overdelay
*Antenna, Russia*
Alexander is with friends and jumping from a 1000-ft antenna tower in the daylight. The conditions are good. It's reported Alexander made 70 previous BASE jumps over the course of seven months and also had prior experience on this object. His associates are saying this was a low pull.

**Sean Richards**, February 10, 2007, Object Strike
*Dam, Spain*
Sean was a long time and well known British BASE jumper and not much is know at this point except early reports are saying Sean hit the dam at some point during the jump. While dams have been popular BASE objects for a long time Sean has become the first BASE jumping fatality to occur from one.

**Mikhail Panchenko**, March 21, 2007, Drowning
*Antenna, Vladivostok, Russia*
Reports indicate Mikhail, who began skydiving at age 14, was also a paraglider pilot and had about 20 prior BASE jumps. He'd contacted another jumper before this jump and they discussed various issues including any possible static electricity problems. He'd just taken delivery of a brand new BASE container that had separate cutaway handles for each riser although the reporting jumper says it's not known if this had any bearing on the fatality. The jump was planned for a dry landing but once open Mikhail apparently realized he couldn't make the LZ and he went into the water about a 100-feet (30 meters) from shore. He was then seen struggling for about twenty minutes before being overcome by hypothermia. The water temperature was reported to be 39.2 F (+4 C). Ground crew tried to get to him but could not do so in time. His body was recovered and taken to the hospital where emergency care was provided.



**Yegor Drozdov**, Apr 10, 2007, *Bridle Entanglement*
*Span, Perrine Bridge, Twin Falls, Idaho, USA*
This report is from a local and very experienced BASE jumper. "Unfortunately, we had a fatality here yesterday. Reports are thin, because the jumper was alone. We do have some tourist reports from the overlook. Conditions were very bad, so bad that none of the locals believed this was really a BASE fatality at first, as we all thought it impossible that anyone would have decided to jump in the very strong and extremely turbulent winds. From my initial conversation with the coroner, it appears (I have not examined the gear, so this is going off what the non-jumping medical examiner was able to relay over the phone from my questions) that impact occurred at high speed with a closed container, but with the PC fully deployed. My best guess is that the jump took place in a very high tailwind (weather history shows 32-39 mph winds at the time of the accident) and that the jumper experienced a wind induced bridle entanglement (possible from pitching early with a high tailwind, and getting the PC blown back under the arm/body). Sheriff dispatch reported a call from a jumper just before the jump [as per local protocols] followed within 10 minutes by a call from a spectator who had observed the impact. No jumpers observed the accident, so all my information is 4th hand at this point. I'm hoping to have a look at the gear sometime in the next few days." A report issued by local authorites on 4/12/07 is now saying Yegor was found with the bridle still wrapped around his hand. This is the fifth Perrine Bridge fatality and Twin Falls' sixth BASE fatality overall (the

former being from another area bridge). The five Perrine fatalities all appear to be from pilot chute problems that led to late, or no canopy deployments at all.

**Jimmy Hall**, May 9, 2007, Freefall Object Strike (Wingsuit)
*Earth, Sam Ford Fjord, Baffin Islands, Nunavut, Canada*
Adventurer Jimmy Hall was killed in a tragic accident north of the Arctic Circle. Jimmy was in a very remote area near Sam Fjord on Baffin Island in Canada filming a documentary on the region that included base jumping from the incredibly harsh mountains. Jimmy died during one of those base jumps while performing a wingsuit jump. It appears that this was an attempt to outfly a short delay ledge. Reports indicate that there was some "boogie mentality" in this group, and that some of the jumpers may have been exercising less caution than normal. A tribute to Jimmy can be found here http://www.mediastars.tv/jimmyhall/.

**Jean-Marc Mouligné**, June 30, 2007, Drowning
*Earth Verdon Gorge, France*
Base jumping specialist Jean-Marc Mouligne died by drowning Saturday in the Verdon gorges after a jump in La-Palud-sur-Verdon (in Alpes-de-Haute-Provence), according to police reports. Base jump is a dangerous sport which involves throwing oneself off a cliff with a parachute. Jean-March Mouligne, 57 years old, was known as the human catapult since he learned how to catapult himself more than 100 metres from the ground before opening his parachute. According to the police, he had made a jump, and it was on landing that his parachute, falling into the water, pulled him to the bottom. His body was found at the end of the morning by practioners of white-water sports. He was removed by helicopter at the end of the afternoon. Jean-Marc Mouligne was originally from Romainville in Seine-Saint-Denis.

**Nikolai Ens**, July 07, 2007, Object Strike
*Earth, Nalchik, Russia*
Nikolai had 65 jumps, 3 from the same cliff. the rest were from 60 and 80 meter antennas. to get to LZ you have to fly over a river, so most people jump slider down. The load was held up for over 3 hours by a very strong headwind, and afterwards the wind was around 4-5mph. The jumper took 1-2 seconds, people saw the pitch, did not hear the openings, but heard the rocks rollings.He was found 230 meters below the exit hung up with toggles in his hands.



**Stephen "Stevo" Richard Anderton**, August 14, 2007, Freefall Object Strike (Wingsuit)
*Earth, Langrappiken, Norway*
This report came from Simon Plum, a friend of Stevo's who was also on the load: It was our 2nd jump for the day in the Litldahlen area. The first was from the 3rd valley, this jump was from the 2nd valley. The visibility was excellent, there was a small breeze at the exit point but nil wind down below. The jump is about 4550 feet from exit to landing. It was a 5 way, wingsuit jump. But due to the nature of the exit point, only about 2 jumpers can exit simultaneously. Stevo exited first, followed by another jumper and then myself with 2 others following. He was in a V1. We flew the left wall out into the valley and then turned a sharp left to follow the wall along to where the 3rd valley comes out (We have flown out of this 3rd valley on 2 other occasions - one being earlier that day). At this point, I was about 80m behind and slightly above. Stevo had planned to fly up into the 3rd valley briefly before coming back out. We were flying close to 90% max flight. Stevo turned left into the 3rd valley briefly, before straightening again and then he started to turn right back out of the 3rd valley. I did not go into the 3rd valley but continued to fly straight. Due to his turn I was now only 40-50m behind and still above. As he continued his right turn it became a hard bank (most likely because he realised he was too far in) to the point that his right arm wing folded under, similiar to when you initiate a barrel roll. With the speed he carried into the turn he most likely would have been getting alot of side-slip as well. Stevo corrected but lost stability whilst trying to maintain his sharp turn.

He remained unstable and impacted the far side of the gorge after another 2 sec. At this point I was about 30-40m above and 10m behind. I flew away from the valley, opened, landed and we called a helicopter. Stevo's body was retrieved within 2.5hrs.

**Bert Brooks**, Sep 7, 2007, Object Strike
*Earth, Mürren, Lauterbrunnen, Switzerland*
Bert was with his girlfriend Michelle on a BASE vacation in Lauterbrunnen, Switzerland. Conditions were good, and this particular jump occurred a bit after 2pm local time. Michelle jumped first, landed, and turned to watch Bert's jump. He was using a 34" pilot chute expecting to get full terminal airspeed but had to pitch between 5 and 7 seconds. It is unclear why, but he was too close to the wall to continue freefall. Bert pitched and opened with a 180 facing the wall. Bert struck the wall multiple times and was reported to be unresponsive after the first strike. Bert made it a point to never wear a helmet. Had he chose otherwise it could have given him a chance to fight and turn after that first strike.

**Marcelo Dutra**, September 13, 2007, Static Line Rigging Error
*Antenna, Encantado City, Brazil*
Marcelo was an outdoor enthusiast known as a climber, a rafting guide, a skydiver, and an well experienced paraglider pilot. He was new to BASE with around 30 jumps. Marcelo climbed a 180 foot antenna this evening. It was to be a static line jump and Marcelo chose to remove his pilot chute. He tied rope to the tower, and then his bridle to the rope using break-cord. The rope's knot to the tower came undone when he jumped and trailed behind him him even popping the pins of his container. Marcelo died from impact.

**Oleg Kudria**, September 30, 2007, Bridle/PC Entanglement
*Earth, Lauterbrunnen, Switzerland*
This report comes from a jumping mate of Oleg's: Oleg was an experienced skydiver and had 64 BASE jumps. He came to Lautebrunnen as a part of the Ukrainian team. Oleg jumped 2-way (Oleg was lower) from Yellow Ocean. On the video we can see that he was in good tracking position and prepare to throw pilot chute on the 7-8 seconds (his hand moves to the pc). After pitching he goes into boxman and was waiting for the opening. In this position he fell down into the trees. The container remains closed until impact. He dies immediately. On the next day we checked his base gear and found that the pilot chute was collapsed. The bridle had made a knot around the pilot chute.



**Alexander Bogoroditskiy**, October 9, 2007, Misrouted Bridle
*Earth, La Mousse, Lauterbrunnen, Switzerland*
This report comes from a post made by 'Victor Chik'. It is the only report I have seen or received. : “The jump was to be a 9-way: 4 jumpers in Vampires, 4 in tracking gear, 1 in Prodigy. Exit order: first the trackers, followed by the wingsuits Alexander was jumping in a tracksuit. He was the jumper on the far left. On the video we have a good close-up shot of his rig just before the jump. There is nothing visibly wrong with the gear at this point. The launch went well, each jumper in his assigned sector. Many video POVs reveal no collisions or bumps of any kind. There were 5 cameras + 1 from the ground. We can see Alexander's jump from two video POVs. He appears to have an efficient and stable track all the way down until deployment. He pitches at around 200m, the first of his group. Immediately after pitching he goes into boxman. The pilot chute tows after him inflated at about 1m (3-4ft), i.e. the pilot chute does not reach full bridle stretch. Quickly realizing something is wrong, Alexander moves both arms back. The first video POV ends here. The other video POV shows him falling with his legs tucked in and his arms behind his back. He is not stable at this point as he is fighting to clear the malfunction. The pilot chute is still towing after him inflated at about 1m from his back. He impacts still fighting and towing the pilot chute at forest line (the

closest to the field). The container remains closed until impact, there is no part of the canopy out. He dies immediately at impact." Subsequent investigation of the accident and gear inspection suggests that the bridle was misrouted. The investigator reports "ever since we started using pin rigs, we knew it was only a matter of time before someone misrouted a bridle and died."

**Jeferson Bitencourt**, October 13, 2007, Fall from height after tree landing
*Building, Curitiba City, Brazil*
This report comes from a friend in Brazil who first learned to pack from Jeferson. Unfortunately this is the second fatality in Brazil within a month. "Jeferson Bitencourt (Base # 848) jumped a 105 meters B in Curitiba city, Brazil. it was his 7th jump in this object. He jumped alone, a non jumper witness said he had a 180, cleared the building and crashed in a tall tree. Maybe he was just afraid of getting caught or maybe he was hurt on the tree; We don't know the reasons, but he cutaway his canopy, and fell 40 feet. He had multiple injures on his back and head. Jeferson stayed in coma at the hospital for a week and passed away on October 20th." He started jumping in 2001, lived in Moab for 6 months, had 240 jumps and was considered to be well experienced by the Brazilian crew.

**Emanuele Amadori**, May 25, 2008, Unknown
*Earth, Monte Brento, Arco, Italy*
Under inspection

**Gus Hutchison-Brown**, May 25, 2008, Overdelay (Wingsuit)
*Earth, Mereingen, Switzerland*
This report came from the a witness and fellow jumper:
I was the only jumper who witnessed Gus' last jump from exit to impact so i thought I'd tell all to clear up and questions you have about the incident, We all met in the morning at 6am like we all had been that week, Gus had only arrived a couple of days earlier, we were all off to an exit point approx an hour out of the Valley that most of us hadn't jumped before, during the drive Gus revealed to me that this would be his third attempt at the this jump, winds thwarting his previous attempts. At the exit point we all looked over, deciding on our landing areas etc, winds were gonna be no problem thankfully this morning so we all went ahead and kitted up. I do recall thinking at the time that the powerlines were at a slightly awkward distance for a wingsuit, but had no desire to point out this fact as Gus being an experienced wingsuit pilot and what with me having none and i just had confidence that Gus would make it over them no problem as this was his plan, so who was it for me to offer advice or even make my opinion heard. We decided on an exit plan, all solos and i went last as i wanted to film everyone's exit, the first 4 jumps went fine, all 4-5 secs delays and made it back to the planned landing areas, then Gus launched himself off, from my perspective it looked like a great flight, although i was watching it on my LCD screen, not with my eye, i can't say how long he was in flight for, but as he starting getting nearer to the powerlines i did think to myself damn he's low, then i saw him deploy just he had made it over the lines, from my viewpoint his canopy came out behind the powerlines, but no sooner had his canopy deployed it collapsed on the ground, my camera was fully zoomed in at this point as it was hard to tell if there was movement from his white wingsuit, I turned the cam off and was squinting to see if there was any movement, there wasn't, and i knew he was at least hurt bad. As you can imagine, i didn't wanna jump, but not having the car keys i was stuck at the top, the others all landed far away from Gus, and i decided that i could be first on scene if i just jumped now, I don't even remember the jump, it was just a means to get down quick, i landed next to Gus, but Rich had made it before me as its a long canopy flight. Looking back on the jump, it would seem to me that Gus obviously realised in the last few seconds of his flight that he wasn't gonna make it over the powerlines, but rather than pulling and deploying into the lines, he tried to make it over them eye witness on the ground said his flight was very "flat" compared to usual body position, which sez to me he was trying his best to clear the lines, PC was thrown out the same height as the lines, approx 120-150ft, but as we all know, that

simply isn't enough... The paramedics were on scene within 15 mins, but there was nothing they could do. I hope you all take comfort in the fact that it was instant, Gus did not suffer and he did die doing something he loved, in a place he loved.

**Yoann Lizeroux**, July 1, 2008, Freefall Object Strike (Wingsuit)
*Earth, Interlaken, Switzerland*
This appears to be a failed proximity flying attempt. This fatality occurred during a high profile public event (a boogie and competition held from a cable car).

**Tommy "Tigerb: Hjertø**, September 9, 2008, Freefall Object Strike (Wingsuit)
*Earth, Stabben, Romsdalen, Norway*
This experienced local jumper struck the wall during a wingsuit proximity flight. He had both the experience and local knowledge for the jump, which reinforces the fact that proximity flying is an extremely demanding activity in which even the slightest error can be fatal.

**Ben Cannon**, August 21, 2008, Freefall Object Strike
*Earth, Mürrenfluh, Lauterbrunnen, Switzerland*
This appears to be simple overdelay on a standard jump.

**Simon Skovgaard Jensen**, September 11, 2008, Impact During Deployment
*Earth, Ultimate, Lauterbrunnen, Switzerland*
This jumper had difficulty with the exit point, which is not entirely secure. He exited unstable, and either deployed unstable and became entangled with the parachute, or impacted prior to deployment, causing the container to burst. In either event, he became entangled in the parachute and tumbled the rest of the way down the wall to the talus. It is theorized that his relatively low experience level and nervousness on this jump contributed to his poor exit.



**Igor "Anis" Anisenko**, October 16, 2008, Freefall Object Strike (Wingsuit)
Earth, *Forotsky Kant, Crimea, Ukraine*
This is a wingsuit exit with a rock drop impact 100 meters below the overhanging exit point. The jumper apparently had a bad exit, became unstable, and failed to recover stability prior to impact.

**Daniel "Papy" Jacquemin**, December 29, 2008, Overdelay
*Span, Remouchamps, Belgium*
This jumper had a reputation for pushing the limits, and was known to have jumped this object, which is normally static lined, with a stowed PC on a previous occasion. On this occasion there is no video or eye witness account, but the body is recovered with an open pack tray and injuries consistent with high speed impact. The best guess is that he jumped stowed and failed to achieve full inflation prior to impact.

**Chad Suppa**, February 15, 2009, Object Strike
Earth, *Saguaro, Phoenix, Arizona, USA*
Chad experienced a fast 180 degree off heading opening, and struck the cliff shortly after opening. He was critically injured in the impact, and suffered severe head trauma through his light skydiving helmet. He was extricated by local search and rescue alive, but died later, at the hospital.

**Roar (Norwegian)**, February 28, 2009, Freefall Object Strike (Wingsuit)
*Earth, Yellow Ocean, Lauterbrunnen, Switzerland*

This jumper was flying a wingsuit with which he had little experience. According to a jumper on the ground, he made little forward progress and disappeared behind the tree line with no deployment.

**Aleksei Irzhembickij**, February 28, 2009, Bridle Entanglement
*Antenna, Minsk, Belarus*
On a handheld jump from a 246 foot antenna, this jumper held the PC by the mesh only, allowing to to pre-inflate prior to pitching. The wind conditions (~20 mph and gusty) were bad, and the wind blew the PC and bridle underneath the jumper, causing an entanglement. The jumper successfully cleared the entanglement, but was too low, and impacted prior to reaching linestretch.

**Shane McConkey**, March 26, 2009, Freefall Object Strike (Wingsuit)
*Earth, Dolomites, Italy*
Shane was attempting a wingsuit ski BASE jump, with subterminal aerials prior to wingsuit flight. The ski launch and aerial appeared to go as planned, but Shane was unable to release his skis from their bindings. This put him into an unstable freefall, He spent the last seconds of his life fighting to release the skis, and was eventually successful, transitioning to a flying position immediately prior to impact (at about 12 seconds).

**Gorm Irgens Østlie**, April 8, 2009, Freefall Object Strike (Wingsuit)
*Earth, Karlskråtind, Romsdalen, Norway*
There is no firsthand report of this incident. The only other jumper on the load had already landed at the time of Gorms jump. Gorm was flying a wingsuit and his body was recovered from a point high on the cliff. It is theorized that this was a failed attempt at proximity flight, perhaps due to turbulence near the cliff face.

**Thibaux**, June 4, 2009, Freefall Object Strike
*Earth, Murrenfluh, Lauterbrunnen, Switzerland*
This jumper had an unstable launch, and was never seen to recover stability. His body was recovered near the bottom of the cliff with an apparently burst container.



**Mike Warren**, August 10 2009, Impact During Deployment (Wingsuit)
*Earth, Bispen, Romsdalen, Norway*
Mike had approximately 8 wingsuit BASE jumps. He was jumping with a wingsuit with two others also wearing wingsuits and all three went off one after the other with Mike going first. It was foggy at the exit point and the fog cleared before the road. One of the other jumpers was flying over the road very high and looked down and saw Mike flying past the road switchback and Mike was far below him and it looked like Mike was close to the rock feature that the switchback is built upon. Mike also looked to be flying slow. Then Mike went out of view. There were no spectators on the road and no one saw Mike's impact. From the way Mike?s body and gear was damaged it appeared as though he had done an emergency pull while still over the rock, impacting on his back at linestretch. (on a wingsuit BASE jump, initial linestretch will usually put you on your back).

**Stefan Drenchev-Tsafa**, September 7, 2009, Object Strike
*Earth, High Nose, Lauterbrunnen, Switzerland*
Stephan was the 5th of 7 jumpers on this load. His exit was good, but is track was poor and resulted in inadequate separation from the cliff. He pulled stable but low and had a 180 off heading opening. He cleared line twists before correcting heading and was unable to avoid the object. He continued to slide down the cliff behind the tree line. The canopy was fully inflated when he first impacted and the strike did not seem very hard, so no one thought that he would die because of the injuries. Air Glacier Helicopter Rescue was called whom arrived promptly and airlifted

him to Bern. The high nose is known to be a more technical jump requiring BASE-specific tracking skill to separate yourself from the object.

**Leroy Buckley**, September 9, 2009, Freefall Object Strike (Wingsuit)
*Earth, Notch Peak, Utah, United States*
Leroy was on a trip to make his first wingsuit-BASE jump at notch peak with one friend. Upon checking with the locals to join the load they were told it's too hot (temperature not bust factor) to go at that point in the year and they recommend not going at all. The two decided to go anyway. Instead of taking a marked trail, Leroy decided (against his friend's better judgement) that they should blaze their own trail as it looked to be shorter to just follow his GPS straight up. After feeling lost for quite some time Leroy's friend decided to stop and turn back. Leroy did not agree and marched away. Leroy did eventually make it to the top. There are three exit points on Notch and the South wall is the only exit point with enough altitude to the talus not to be considered a technical wingsuit jump. The North wall is positive, and the West wall is only 600ft to the talus. Unfortunately, the South exit is not obvious to find and Leroy ended up deciding to jump the West wall. His body was found after many days of searching with clear indications of high speed impact on the talus. This exit point is a technical wingsuit jump and not suited in the least for a first wingsuit-BASE jump.

**Jimmy Freeman**, October 31, 2009, Impact During Deployment (Wingsuit)
*Earth, New South Wales, Australia*
This was Jimmy's 3rd attempt at a very technical wingsuit jump in Australia. Most jumpers would not even call it a wingsuit jump. He had just returned from a trip overseas and felt current enough to attempt the jump again. It is roughly a 220m (730ft) wall until the talus begins and total height to his planned landing roughly 450m (1500ft). He needed a good exit and extra good flight to make it to over the landing area. He was the first jumper off on the load and had a good exit. According to the others on the load, he did not appear to have much forward speed for the wingsuit he was using and towards the end of the flight he looked like he was flying close to the stall point. He deployed low, maybe 100m short of the planned opening area, and impacted with trees shortly after with his canopy only partially inflated. From the exit point there appeared to be no movement and the decision was made to jump down and see if he needed help. One jumper landed very close and got to him within 10 minutes. He was unable to reach Jimmy as he was high in the tree. There was no movement and no response from him. It is believed Jimmy died on impact from severe spinal damage.



**Ueli Gegenshchatz**, November 13, 2009, Object Strike
*Building, Zurich, Switzerland*
Ueli was jumping an L shaped building, the 88m tall Sunrise Tower, during a promotional event. He jumped the side of the building facing the bottom of the L handheld. The glidepath he was on put him very close to the edge of the building. He tucked his legs up and tried to clear it but clipped the building edge with his legs. The impact flipped him up and unloaded the canopy. When his weight reloaded the canopy it appeared to be asymmetric and turns into the ground. He died in the hospital two days later.

**Scott "Moose" Doyle**, November 19, 2009, Object Strike
*Earth, Jawbone, Twin Falls, Idaho, United States*
Scott was third to jump the cliff known as Jawbone. He looked exceptionally nervous and made several countdowns before actually jumping. Scott had a weak launch a got very little separation from the wall. The canopy opened about 120 right with a half line twist. There was no attempt to correct the heading and Scott impacted the wall after 3 to 4 seconds of flight, bounced off, impacted a second time (probably the fatal blow), and then descended straight down coming to rest on a grassy spot between small boulders. He never regained consciousness. Scott's helmet was

still on but once removed by medics it was obvious that it had been knocked out of place and then back into place as evidenced by the huge gash under the helmet. Scott was jumping a skateboard style (Miller Bowl Cut) helmet that did not extend down to cover the ears or back of the head. This helmet style has become quite popular in BASE because they are light, comfortable, and cool, but as this incident illustrates they provide little real protection when you really need it. Had Scott had a real helmet, especially a full face, I have little doubt that he would have survived.

**Bernd Strehle**, November 28, 2009, Freefall Object Strike
*Earth, Via Ferrata, Lauterbrunnen, Switzerland*
Bernd was a very experienced skydiver (over 2000 jumps) and also an experienced BASE jumper (over 250 jumps in during the last 5 years). Bernd was wearing tracking pants but was not able to outtrack the last ledge and impacted with nothing out at terminal speed. The canopy came out of the container on impact, the top loop was broken and the container was ripped open totally on one side. This exit is generally considered a Wingsuit only jump, for experienced Wingsuiters only.

**Darrell Dunafon**, December 4, 2009, Electrocution
*Antenna, Casa Grande, Arizona, United States*
Darrell was jumping a 276ft free standing antenna. He had jumped from this antenna before and knew that the only major hazard was a powerline running to the building at the base of the antenna. This powerline ran N to S from the SE corner of the compound. Darrell exited from the SW corner of the antenna in a light crosswind. He went handheld, taking a one second delay, and opened with a 90 left facing the lines. It was impossible to know if he had line twists or if he thought he could fly over the powerlines but approximately 4 seconds after opening, he impacted the lines and grounded out. He was suspended in the lines approximately 10 feet off the ground, and unresponsive. Emergency crews were immediately called but they were unable to do anything for him. Darrell's accident is a surprise to many who knew him.

**Darren Bull**, December 21, 2009, Object Strike under Canopy
*Earth, Via Ferrata, Lauterbrunnen, Switzerland*
Darren was ready for a wingsuit jump from the Pro BASE Race ramp. It was wintertime and therefore very icy on the exit point. He had a solid stance as he was wearing crampons which is typical there in the winter. As he intended to leap off he bent forward shifting his weight forward but the crampons were only attached to the center of the shoe sole. As he pushed off, all his weight was on the leather bootie portion of the wingsuit and his left leg slipped backwards. The slip resulted in a left banked head-down exit which led into over-rotation into an uncontrolled drop. After about 4 seconds Darren did an emergency pull inside the overhung section of the cliff but the opening ended unlucky in an off-heading facing the wall. It is unknown if he had line twists. Immediately after canopy opening Darren had a cliff strike from which he never recovered. He slipped along the icy cliff face another 400m until he reached the talus. The canopy was ripped into pieces no longer able to suspend a person. Darren had unfortunately left his helmet in his hotel so his head had been unprotected during the cliff strike. This may have caused an instant unconsciousness which kept him from fighting to clear the off heading. Second he was wearing a tight wingsuit and the cliff strike appeared 1-2 seconds after canopy inflation. Obviously this was not enough time to clear the arms completely to react adequate on the canopy's bad heading. It's not know if he released his arm wings by the emergency handles during the rotating drop. The margin for error on a wingsuit exit can be very small, and result in an emergency situation very quickly. Footwear is important for both landing as well as approach. Different crampons may have kept this unfortunate accident from occurring.

**Mark Mosley**, January 16, 2010, Impact
*Other (Earth Mover), West Mineral, Kansas, United States*

Mark was found just below the exit point of a 160' decommissioned earth mover. This jump is normally a static line, and it's likely that Mark slipped and fell while trying to rig his static line system before the jump.

**Geoffrey Robson**, April 12, 2012, Freefall Object Strike (Wingsuit)
*Earth, Stellenbosch, South Africa*
Geo was an experienced wingsuit pilot and set out this day to fly over the saddle at Stellenbosch. Geo was confident he could fly over the saddle and clear it by 50-100m. At 9:08 Geo lept from his exit point and began his flight. The other jumpers noticed at one point in his flight Geo's legs fold back a bit to lower his altitude but it is uncertain why he did this or if it was a conscious decision at all. Soon after Geo left the view of the jumpers up top they heard the sound of his impact with the saddle.

**Michele Avanzi**, April 25, 2010, Freefall Object Strike (Wingsuit)
*Earth, Alto Adige, Italy*
Michele was jumping with a friend from a high exit in the Alto Adige region. Michele jumped second but no part of his jump was witnessed. He was found amongst trees with the canopy and PC out but still packed, probably as a result of impact. The jump in question offers an extra 500m of elevation if you out fly a large plateau, we can only guess but from the position his body was found he seems to have tried to pass the plateau without sufficient margin.

**Jim Mitchell**, May 9, 2010, Freefall Object Strike (Wingsuit)
*Earth, Baffin Island, Canada*
Jim was an experienced wingsuit base jumper and had jumped this particular wall 5-10 times before. It is not a beginner jump but also is not an excessively positive exit, it is possible to track. Weather and gear were not factors. He had given his ice axe to the photographer to carry down. He was not wearing crampons and there was no ice on the exit, it was solid rock. He was wearing expedition grade boots he had jumped over 20 times before. He was exiting second on a 2-way with the intention of filming. He did not appear to slip as he exited. Photos of the exit taken back from the edge indicate that the exit was too steep and went passed vertical. Contact with the wall occured approx 4 secs after exit. No-one witnessed the jump itself.



**Daryl Noris**, May 23, 2010, Impact (No Pull)
*Earth, Wallaman Falls, Queensland, Australia*
Daryl had a nice launch and then struggled to put his hand onto the pilot chute.He continued to attempt to grasp it and deploy but went unstable onto his left side every time an attempt was made. After the fifth attempt he dissapeared into the tree shadow and impacted about 1/2 a second later onto rocks. Watched in disbelief as I had witnessed him touch and check the pilot chute a thousand times before exit like we all do. Being a bit rounder than average with big solid shoulders, I think his rig has moved far enough up his back when he went into freefall position from standing to put the boc just far enough up his back to be out of reach. He wasnt the most flexible of blokes either. This was his first stowed jump on that rig after two successful hand helds. The rig was not custom made for his dimensions(ie. his roundness/girth).. I think this was a contributing factor .He had over 6000 skydives,very current, and this was to be his 6th BASE jump. I'm wondering if he had his legstraps fully tightened, as this would cause the rig to move upwards with his shoulders when flying a boxed arch and legs spread more so than when standing. Things to learn from this would be. 1.. If doing stowed jumps,be sure the gear is made for your dimensions. 2.. If coming back to the sport after a long break,treat yourself like a student and wear the rig all night and day and practice laying flat and in a flying position deploying your pilot chute. In fact make sure you can get to your pilot chute in ANY position you may find yourself in,but most importantly in the full arch position when the rig has the most likelihood of moving on your body. 3... If any doubt exists,go hand held. He was an excellent skydiver who jumped small rigs and canopies.

**Jeremy François**, July 8, 2010, Freefall Object Strike (Wingsuit)
*Earth, Magland, France*
Jeremy was jumping with a group of people in the Magland area. He was an unexperienced wingsuit pilot when the group decided to go to a somewhat technical WS jump. There is a good rockdrop there but if you dont fly out quickly you get confined in a narrowing gully. He has been reported to have an bad exit (sideways) then disappeared. His body was later found in the forest under the cliff face.

**Tyler Stimson**, July 17, 2010, Impact
*Antenna, Virginia Beach, Virginia, USA*
Tyler was the second jumper on this load, and was mentoring the first jumper. After the first jumper landed successfully, Tyler impacted with his canopy entangled with his body. This was most likely either a mis-rigged static line or a slip and fall during the static line rigging, with an unstable attempted deployment.

**Allisyn Anne Beisner-Martinez**, July 22, 2010, Object Strike
*Earth, Monte Brento, Italy*
Allisyn took a 10 second delay on this 2 way jump, had a 180 degree offheading opening, and struck the wall. Allisyn originally became interested in BASE after her childhood friend, Rob Tompkins, was killed in a BASE accident (wingsuit freefall object strike at Kjerag, Norway).

**Anton Knestyapin**, July 24, 2010, Impact during deployment
*Earth, Kjerag, Lysefjord, Norway*
Anton and another jumper were on exit point 6 in kjerag norway a third jumper was going to do a solo behind after they landed. Anton set up on the diving board and good friend behind him for the two way...the count begins and Anton goes off doing a triple pike into a few front flips. At this stage he is at 7-8 secs still in rotation on a 12 sec to impact rock drop. He comes out at 9-10 secs still facing the wall, turns at about the 11 second mark (this is when the second jumper starts tracking away and we lose sight in video). He knows he has to pitch to not impact at 12 second mark, he pitches and gets a 180 turning to right...no time to turn away impacts hard the first time, the canopy turns around a little but is grabbed by either a branch or the rock ledge and this then smashes him in even harder, this is the blow that killed him instantly. Had Anton survived the impact, he was still hung up on wall for 7 hours as an alpine team tried to rescue him. Anton either chose to ignore, or did not think of the consequences of leaving very little separation on a big wall.



**Aude-Marianne Beretucchi**, July 25, 2010, Object Strike
*Earth, Mt Baring, Washington, United States*
Marianne was making her first Earth jump, and from what has been reported this was her first BASE object other than the Perrine Bridge. There were no witnesses to the incident as the exit point is small and sloping down making it impossible to see what is going on for the any of the other jumpers ready to go. She went slider up and her body was recovered above Jeff's Knob (See BFL #82). Very rarely do non-wingsuiters make it past this outcropping. Marianne opened and probably had an offheading resulting in cliff strike.

**Herbert Weissmann**, August 4, 2010, Object Strike
*Earth, Yellow Ocean, Lauterbrunnen, Switzerland*
Herbert was an experienced skydiver with 1000+ jumps and a BASE beginner. This was Herbert's 19th BASE jump and the first jump that day. He chose the Yellow Ocean exit because he still had slightly unstable exits and Yellow Ocean is the best spot to improve the basic skills. When he jumped he went a bit head down but was able to stabilize

his position after 3 or 4 seconds. Then he made an obviously unintentional move like a beginning barrel roll to his right hand side. Eye witnesses from the Air Glacier Heli base saw him open very low and close to the wall and experience two cliff strikes immediately after opening. They didn't see any action under the canopy so he must have been knocked unconscious by the first strike. When rescued he was still alive but died in the Interlaken hospital from the severe head injuries and loss of blood. He had not been wearing a helmet and the medic said with a helmet he might have survived.

**Clément Borrel**, August 4, 2010, Object Strike
*Earth, Dent de Crolles, France*
There was no direct witness of the accident. This report comes from another jumper whom inspected Clement and the gear. 60m to 80m below the exit of the Dent de Crolles, there is a steep ledge (6m width) one needs to clear with a serious launch. Clément was seen by a basejumper under open canopy flying high near the cliff around 10:30 on Wednesday. He didn't reappear in the evening and the rescue teams started searching by night. Due to rain and mist, he was found 2 days later dead with severe head and neck injuries, on Friday morning around 7:30. He was in a very steep gorge where no one would normally land, far from the cliff bottom where his camera was found only at 10m of the steep cliff bottom 350 m below the classical exit. The helmet with the chinstrap broken was found a little farther than the camera. A review of the camera memory card showed that no release of video occurred whereas he used to film his jumps. The toggles had not been touched: he either was unable to unstow the toggles, or was unconscious or dead under canopy. A 36" pilot chute was found connected to the canopy. Whether he slipped approaching the exit due to unstable slope with disintegrated rocks or he had unstable exit without the force necessary to jump safely from this exit, is unknown. He lost his helmet with the camera on the impact and was seen under opened canopy, he landed farther to the south in a steep gorge where he was found two days later.

**William Heidelbrecht**, September 14, 2010, Impact (Low Pull)
*Earth, High Nose, Lauterbrunnen, Switzerland*
Will, a Canadian firefighter and experienced BASE jumper, went to the valley and made a jump from the high nose with his Vampire 3. He opened with multiple line twists and ripped his zipper clean off getting free in a hurry but landed safely. With his V3 unusable he went to his Phantom 1. His flight was fine but at pull time muscle memory had him reaching for a leg pouch as he always did when flying his V3. After 2-3 feels he then remembered its a BOC when using the Phantom and finally pitches. As the lines came out he impacted the ground killing him instantly.



**Kylie "Buffy" Tanti**, September 27, 2010, Bridle Entanglement
*Building, Alor Setar, Malaysia*
Kylie was wearing a 'Go Pro' Camera mounted on her helmet. The clip on the camera had broke before and she was seen gluing it on before the jump. This would be her 3rd jump of the day, the first 2 being PCA's, and this would be her first handheld. She launched well and pitched after half a second. It appeared the bridle did one complete wrap around the camera maybe 2 feet from the pilot chute. She eventually got it free but it was too late. The slight crosswind that existed, combined with a weak pitch forward, were the contributing factors allowing the bridle to wrap around the Gopro mount.

**Yngve Føsker Fjeldstad**, October 8, 2010, Freefall Object Strike
*Earth, Karlskråtind, Romsdalen, Norway*
Yngve is an experienced jumper who impacted a ledge in freefall. The container was closed at impact. This was most likely a failed attempt to out track the ledge.

**Mike Marko**, December 30, 2010, Freefall Object Strike (Wingsuit)
*Earth, High Ultimate, Lauternrunnen, Switzerland*
There were 7 previous jumpers on this load. Mike exited last and solo. He apparently got a poor exit and was never able to regain stability. He impacted the cliff in freefall, and either burst the container at impact or made an emergency pull attempt at the last second. He drifted under an open canopy into the tree below the exit, but he was already dead.

**Gary Harbird**, January 24, 2011, Freefall Object Strike (Wingsuit)
*Earth, High Ultimate, Lauternrunnen, Switzerland*
Gary "Muppet" Harbird was a very experienced skydiver and base jumper with about 8000 and 400 jumps respectively. He was very current on his V1 wingsuit at the time of the accident. Gary had jumped the High Ultimate once before but this was the first time with a wingsuit. Many of the locals were divided over whether this was a safe wingsuit exit or not but Gary decided to attempt it, understanding the risks. Gary pushed off hard and out with both feet from a standing position at the end of the platform. As he disappeared out of view, he appeared to be rotating head down with more than usual speed. Topskin of his fully inflated canopy was visible only 500 or 600 feet below the exit. The canopy made a slow righthand turn with no signs of human input and disappeared back out of view while flying towards the cliff. Gary and his canopy became entangled with a shrub about halfway down the cliff where his body remained until being recovered by longline about 45 minutes later. Gary had severely impacted his head at some stage hard enough to make his Protec helmet and GoPro come off. He also had severe trauma to at least one leg. It is likely that Gary struck the big outcrop after exit. He likely pitched immediately before impacting and struck as his canopy inflated. Both closing loops were reported to be intact. Gary was still completely zipped up in his suit when he was recovered.

**Lucas Oliver**, January 30, 2011, Bridle Entanglement
*Antenna, Western Australia, Australia*
At the time of the incident Lucas had around 370 skydives and around 70-80 BASE jumps. The BASE jumps were all within the last 8 months. Winds that afternoon were around 15-20kts slightly cross wind from right to left of the exit point. This was not the first jump that day, Lucas was on the ground observing the first jumps deciding if he was comfortable jumping in the conditions. He had done a few gainers from this object in the past, all very controlled and well executed. The tower in question has 2 exit points where the guyed wires attach, one at 340ish ft and the lower one at 270ft approx. The attachment points overhang the tower around 1.5-2m and provide a nice platform to exit. The jump was a 2 way, Lucas was exiting from the lower platform performing a stowed gainer, the jumper on the higher platform was doing a go & throw. On this jump he had a good exit and the rotation of his gainer was perfect. On this attempt though he began his deployment sequence too early, a bit past a horizontal back to earth position. At this point rather than deploy the PC he extracted it from the BOC but held onto it. He only held onto the PC for a split second but within this time the bridle extracted from the BOC/PC to full stretch behind him, it was at this point with the rotation of the gainer that his foot rotated through the bridle. He released the PC but it was already entangled around his foot. He went for the risers but quickly realized that the PC was snagged and tried to free it. Either the kicking or PC drag extracted the canopy but it became entangled around his leg. He impacted with no canopy inflation and died instantly.



**Max Moret**, April 30, 2011, Freefall Object Strike (Wingsuit)
*Earth, Vercors, Molaire, France*
Max had around 120 BASE jumps, including 50 wingsuit jumps. This was a 2-way from an exit he knew well. The exit is a 1050 fott vertical cliff with another 750 feet of talus and a large grassy landing area. The weather is good. THis flight was perfect until the opening. Max was higher at pull time. During opening the other jumper saw Max

passing by, arms on his back, apparently falling fast and trying to reach his PC in his leg pouch. Max impacted the talus at full speed with his PC in.

**Evgeny Chernatskiy**, May 3, 2011, Object Strike
*Earth, Monte Brento, Arco, Italy*
Evgeny had a poor exit, followed by instability and freefall and an inadequate track. He deployed low and struck the wall immediately after opening.

**Mirko Schmidt**, May 6, 2011, Freefall Object Strike (Wingsuit)
*Earth, Brevent, Chamonix, France*
Mirko attempted an alternate proximity flight line on this popular exit. He appeared to start the flight properly, but for some reason impacted a saddle which must be crossed during the flight. It's likely that his flight was not efficient and he was unable to fly the required line. There were no eyewitnesses to this accident, but the state of the gear indicates an attempted emergency pull at a low altitude, with object strike during the deployment sequence.

**Michel Gaillardou**, June 3, 2011, Object Strike
*Earth, Monte Brento, Arco, Italy*
Michel jumped from Brento and after few seconds of free fall, he tracked more toward the right side of the cliff, where the height is lower because some pilars are over there. He pulled his PC close to the wall, his canopy opened normally but had probably some line twists driving him directly toward the wall. He hit the wall and slid very violently all along the wall down to the talus 1300 ft lower. The rescue helicopter was quickly there but found Michel already dead.

**Bryan Hirn**, June 6, 2011, Freefall Object Strike (Wingsuit)
*Earth, Dévoluy, Chateau de Cartes, France*
After a Weekend on the spot with other wingsuiters, Bryan decided to enjoy the place alone for the whole week, living in his truck, saying that place was a wingsuit paradise. His body was recovered the next Saturday. According to forensics death occurred 5 days earlier. No witness. He was found at the bottom of the 1st "card" (in that line you fly proximity around peaks named "cards"), entangled in his lines, PC out. He seems to have pulled low in an emergency situation.



**Ted Rudd**, June 13, 2011, Freefall Object Strike (Tracking Suit)
*Earth, Sunndalssra (Hårstadnebba), Norway*
Jumping alone, tracking, fog on the upper part of the face. Was seen under canopy coming out of the upper valley without applying any inputs, spiraled into the next lower valley where he was found. Closing loop intact, Ted was found with the brakes still stowed. It is likely he attempted an emergency pull and impacted during the deployment sequence.

**Rodolphe Climent**, June 26, 2011, Pilot Chute/Bridle Entanglement
*Earth, La Mousse, Lauterbrunnen, Switzerland*
Rodolphe, 31 years old, was an experienced jumper. On this jump he was wearing a tracking suit. From the landing area, his 2 friends who had jumped before saw this: Normal launch, he fell and tracked a short 6 seconds then pulled, high. But we saw no Pilot Chute coming out. We then supposed his PC was in tow and waited for deployment. Rodolphe began to wait too in boxing position, then he started to worry. He looked behind him, did a slight rollover, saw his PC collapsed and struggled hard to open it, modifying his body position in many ways. He impacted trees on his back with nothing out. The bridle had entangled with the pilot chute, making a perfect knot.

**Dave "Cable Dave" Karaffa**, July 7, 2011, Freefall Object Strike (Wingsuit)
*Earth, Via Ferrata, Lauterbrunnen, Switzerland*
This was a 2-way wingsuit jump from the Via Ferrata exit Dave was flying an X-bird. He had a good exit and after like 2 seconds he started to turn into the wall. He impacted the ledge under the exit, and the container burst on impact. There seem to be a potential problem with asymmetric arm wing inflation on the early X-Birds versions. Many jumpers experienced unexpected turns just after exit. The size and location of the air inlet seem to be the major factor involved.

**Jeremy Graczyk** July 12, 2011, Equipment Failure
*Earth, Mushroom, Eiger, Kleine Scheide, Switzerland*
Jeremy's canopy suffered from multiple line failure on opening. This resulted in a total structural failure of the canopy. Multiple factor seems to be involved : lines made of 400 lb dacron, heavy jumper, full-speed-track pull. We have been pushing the limits, asking for lighter and lighter gear. BASE gear has been overbuilt from the beginning, and as users we tend to neglect gear maintenance and structural limitations. We rely on a single canopy system which has historically had a very low failure rate. The new trend of lightweight and low volume gear has re-introduced equipment failure into BASE jumping.

**Aarne Aarset**, July 18, 2011, Freefall Object Strike (Wingsuit)
*Earth, Romsdalshorn, Romsdalen, Norway*
Aarne reported that his fingers were cold prior to exit, and appeared to fumble his very low (possibly emergency) deployment. He impacted just after line stretch.

**Olivier 'Keud' LaBauve**, August 14, 2011, Freefall Object Strike (Wingsuit)
*Earth, St Julien Montdenis, France*
Olivier was an experienced wingsuit pilot and BASE jumper, and apparently was unable to make his intended proximity line wearing a Prodigy (low performance) wingsuit.



**Pete Certain**, September 3, 2011, Bridle Entanglement
*Span, Perrine Bridge, Twin Falls, Idaho, United States*
There were no eye witnesses to this fatality. Pete was practicing multiple gainer aerials, and wearing a GoPro camera. His container was open at impact, but his canopy never reached line stretch. It's likely that his bridle entangled his GoPro mount.

**Fabrice Rieu**, September 9, 2011, Freefall Object Strike (Wingsuit)
*Earth, Varan, Sallanches, France*
Fabrice was an experienced wingsuit pilot and BASE jumper. He was attempting a new proximity line, and apparently couldn't complete the flight. He attempted an emergency deployment, but impacted during the opening sequence.

**Nico Müller**, September 15, 2011, Freefall Object Strike (Wingsuit)
*Earth, Fisistock, Switzerland*
This jumper was found amongst the trees on a ledge halfway down the flight line, with the PC still in place.

**Valentina Rotar**, September 16, 2011, Freefall Object Strike (Tracking Suit)

Valentina jumped the high nose in her tracking suit. She had a good exit, but her track was ineffective. She attempted an emergency deployment above the first ledge, but impacted the ledge during the opening.

**Rob Kelly**, October 15, 2011, Freefall Object Strike (Wingsuit)
*Earth, Sixt-Fer-a-Cheval, France*
Rob was unable to fly his intended line, and attempted an emergency deployment. He impacted during the opening sequence.

**Antoine Montant**, October 21, 2011, Bridle Entanglement
*Earth, Sixt, Haute Savoie, France*
Antoine went for his 3rd wingsuit cliff jump to a very technical jump in the Sixt area involving flying a long turn and passing under power lines. His body was found dead on a ledge under the power lines, entangled in his bridle. He was flying a S-Bird.

**Holly Brittsan**, November 15, 2011, Late Deployment
*Earth, Rock Canyon, Lower Exit, Utah, United States*
Holly was jumping alone, so the only reports we have are from a non-jumping witness to the accident: "I was hiking in the canyon and saw her fall. I heard the sound of her parachute opening. Her parachute appeared to open all the way but unfortunately not in time to avoid a fairly hard landing. She rolled and slid about 20 feet down a steep slope before coming to a stop. There was no movement for a few minutes but then I saw her sit up and then lay back down again. Rescuers arrived in the canyon in just a few minutes and it took another 15 minutes or so to hike to where she was. A biker had already hiked up to her while I directed the rescue crew to the right spot. When the biker came back down, he said she was breathing but couldn't get a response from her. The rescue crew performed CPR but were unsuccessful. The most frustrating part was that she came so close to making a good jump. Her chute was open but she was about 3/4 of the way down when it did. She needed just a few more feet. It did seem to me to be a rather short cliff to make such a jump but I have no experience. The margin for error seemed to be very small."



**Alexander Shpank Vtyurin**, February 26, 2012, No Pull
*Antenna, Beliy Gorodok, Tverska, Russia*
Alex was not well rested for this jump. He was wearing heavy winter clothing (appropriate to the conditions in Russia in February). He had a good exit and was stable. He made 4 attempts to find the PC, but failed to do so, likely because of the bulky clothing he was wearing. He never panicked, but continued trying to find the PC, and impacted flat and stable with a closed container. The PC was found beside him, either because he got it out at the last moment or because the force of impact dislodged it.

**Sergio de Oliveira Costa**, February 26, 2012, Impact During Deployment
*Earth, Aeri, Montserrat, Spain*
This is a slider up tracking jump. There is a ledge at 8 seconds which cannot be cleared with normal tracking. Sergio had a slightly unstable exit and turned to the right in freefall. It took several seconds for him to recover a normal body position and begin to track away from the cliff. He deployed his canopy at 7 seconds and impacted during the deployment process.

**Carlos de la Fuente**, March 30, 2012, Object Strike
*Earth, High Nose, Lauterbrunnen, Switzerland*

Carlos had between 20 and 50 BASE jumps. He was unable to track far enough away, and opened close to the wall. His canopy opened off heading and he impacted before correcting his heading. This exit point is normally only a wingsuit flight.

**Markus Wyler**, May 19, 2012, No Pull
*Earth, Via Ferrata, Lauterbrunnen, Switzerland*
Markus jumped the Via Ferrata alone in late afternoon and in calm conditions, no turbulence. He was flying his Apache that he had been using for quite a while already. A credible eye witness saw Markus flying left after the exit along the wall towards Lauterbrunnen. He was flying stable and with a very impressive glide. At about two thirds of the way to the waterfall and still very high up he initiated a right turn to separate from the wall. After about 70-80 degrees and while still turning he suddenly went steep and nosedived, which resulted in an abrupt "frontflip". The exact kind of flip/rotation and in which position he came out of it cannot be said with enough certainty. After this flip he could have recovered easily as he was still very high. Instead he was tumbling towards the ground as if he was unconscious: not trying to recover, no struggling, no flat-spin, nothing, just falling like a stone with flapping fabric on it. This tumbling part of the flight was also seen be another witness. Moreover, the coroner mentioned that the body was "unusually relaxed" and not stiff like other bodies of basejumpers that he had treated, supporting the presumption that Markus was unconscious. Markus impacted the field west of the bridge near the waterfall with nothing out and died instantly. On gear inspection, the pilot chute was still in the BOC. Everything on the gear was functional, including the wingsuit. The possible causes of this accident are: 1) Markus suffered a sudden health problem, be it a heart attack, a stroke or just a momentary black out, or; 2) The wingsuit stalled during the turn, went into an aggressive nosedive and with a resulting negative AoA flipped Markus abruptly, rendering him unconscious. This theory could be backed by the fact that Markus' flightpath was considered "very high", meaning he must have been close to stall speed on the polar curve, invariably leading to the danger of a dynamic stall while turning. A large wingsuit such as the Apache is more prone to radical stall behavior.

**Jake Simkins**, June 11, 2012, Fall After Object Strike Under Canopy
*Earth, Zakynthos, Greece*
Jake was jumping alone, and apparently experienced an offheading opening resulting in object strike. He was conscious after the strike and hanging from the wall in his harness. He reportedly shouted down to non-jumpers on the beach below that he was injured but alive. Approximately 30 minutes later his canopy dislodged from the wall and he fell to his death.

**Herve Le Gallou**, June 23, 2012, Freefall Object Strike (Wingsuit)
*Earth, Obiou, France*
From this exit you can pass a ridge on your right, then depending on performance you can either fly to the left in two different valleys, or keep flying to the right and try to pass a grassy, flat and long plateau further away and join another valley. If performance is finally not good enough to pass this plateau, you have time to pull and land there. According to jumpers at the exit, Hervé's flight was very good, he was high above the first ridge on the right. Consequently he was in a good position to try to clear the plateau. It is likely that his performance dropped in the second part of his flight and that he failed to clear the plateau. His canopy was retrieved with slider still attached and brakes stowed, due to lack of eye witness we don't know if the impact made the canopy come out of container or if the impact occurred at the beginning of opening sequence. This was either a closed container impact or an attempted emergency pull with impact during the deployment sequence.

**Alan Malcom McCandlish**, July 7, 2012, Freefall Object Strike (Wingsuit)
Earth, Kandersteg, Switzerland

Alan was an experienced wingsuit pilot and proximity flyer, but he had recently bought a new, higher performance suit. He was flying close to the terrain and may have misjudged his ability to turn his new suit. When he attempted a turn to avoid a large ledge, he was unable to complete the maneuver and impacted with a closed container.

**Andre G Sementile**, July 18, 2012, Freefall Object Strike (Wingsuit)
*Earth, Labben, Trollveggnen, Romsdalen, Norway*
This jumper appeared to get a bad launch, and never flew away from the cliff. He impacted approximately 4 seconds down with no noticeable flight.

**Jon Inge Hovda**, July 23, 2012, Freefall Object Strike (Wingsuit)
*Earth, Brevent, Chamonix, France*
Jon Inge was a well liked and very experienced Norwegian jumper. He was flying a popular proximity line in Chamonix, and impacted during the flight. This was one of several accidents in the Chamonix area that caused the local government to ban wingsuit flight from the cliffs there.

**Shane Murphy**, August 7, 2012, Freefall Object Strike (Wingsuit)
*Earth, Arve, Magland, France*
This was a two way wingsuit flight, with Shane (the more experienced jumper) flying a tighter proximity line. There was no visual of the accident (the other jumper flew an easier line), but this was apparently a failed proximity flight attempt.

**Marcus Stiglits**, August 11, 2012, Object Strike
*Earth, Kandersteg, Switzerland*
Marcus was an experienced jumper and wingsuit pilot. This was a wingsuit proximity flight, and the flight was uneventful. At opening, Marcus had several line twists and an offheading opening. He was unable to correct his canopy heading and impacted the cliff under canopy.



**Hans Ullaeus**, August 24, 2012, Gear Malfunction
*Earth, Kjerag, Lysefjord, Norway*
This was a tracking jump from exit #6. Hans had an effective track and pulled at a normal altitude. His canopy partially extracted into a streamer that was not at full line stretch. Gear was recovered by search and rescue personnel, so there was no on site gear inspection. There are several possible causes, including a misrouted bridle, packing tools left on the rig, or a bridle entanglement, but no positive answers.

**Wioletta Roslan**, September 9, 2012, No Pull
*Via Ferrata, Stechelberg, Switzerland*
Wioletta was an experienced BASE jumper and wingsuit pilot. She was flying a wingsuit which she had purchased second hand. She had told other jumpers she wasn't comfortable with the suit because it did not fit her well. She was unable to throw her PC on this jump, and impacted with nothing out.

**George Allan State**, September 10, 2012, Freefall Object Strike (Wingsuit)
*Earth, Monte Brento, Arco, Italy*
This was apparently a failed proximity flight attempt, resulting in high speed impact on the cliff wall with a closed container.

**Sean Bullington**, October 6, 2012, Freefall Object Strike (Wingsuit)

*Earth, Notch Peak, Utah, United States*
Sean had a good launch and started his flight well, but appeared to sink out and lose performance in the second half of this terrain flight. He initiated emergency deployment when he realized he was too low, and impacted during the inflations sequence.

**Frank Agier**, October 20, 2012, Freefall Object Strike (Wingsuit)
*Earth, High Ultimate, Lauterbrunnen, Switzerland*
Frank was an experienced BASE jumper and wingsuit pilot. He apparently had a bad launch and was never able to recover stability. He impacted the cliff below the exit point without ever starting his flight down the intended proximity line.

**Eiliv Ruud**, December 5, 2012, Freefall Object Strike (Wingsuit)
*Earth, Little Colorado, Arizona, United States*
Eiliv was jumping a wingsuit doing a two way with another jumper. He exited well and flew a proximity line along the cliff. He clipped a ledge around 9 seconds and was killed on impact. The body was recovered the following day due to fading daylight.

**Carl Guichon**, December 26, 2012, Freefall Object Strike (Wingsuit)
*Earth, Molaire, Vercors, France*
Carl was a new BASE jumper (70 jumps), who had very limited wingsuit experience (10 jumps). He attempted a proximity flight line and was unable to fly well enough. He impacted during an attempted deployment, which was probably an emergency deployment attempt when he realized he could not finish the flight line.

**Frank Hubbell**, December 29, 2012, Low Pull
*Antenna, Matfield Green, Kansas, United States*
Frank was jumping alone, and had told his brother his location and jump plans. When he didn't make it home, a search started and he was found at the bottom of the antenna. His canopy was out but had not reached line stretch. The possibilities include a low pull, a slip and fall from the (ice covered) exit point followed by a failure to gain stability in time, or some sort of pilot chute hesitation.



**Pierre Grazon**, February 6, 2013, Freefall Object Strike (Wingsuit)
*Earth, High Nose, Lauterbrunnen, Switzerland*
Pierre, and experienced wingsuit BASE jumper, was making his second wingsuit jump of the day. He slipped on the exit, and as a result got a bad launch. He did not regain stability before striking the cliff below the exit point, and never attempted to deploy his canopy.

**Stel Moix**, February 9, 2013, Freefall Object Strike (Wingsuit)
*Earth, Pedra da Onça, Brazil*
Stel had a bad exit and was unstable in freefall. She struck a bush growing from the cliff and was unstable from that point until impact with cliff. She was likely killed by the initial impact and was unable to deploy her parachute.

**Paul Kupsa**, March 3, 2013, Freefall Object Strike (Wingsuit)
*Earth, Sputnik, Chaserrugg, Switzerland*
This jump was a 2 way wingsuit flight. Paul had a good start and uneventful flight until he reached the entrance of the crack. He was rather high and began to dive. During the dive he started oscillating, losing both speed and altitude. He then became unstable. He appeared to recover stability just before the other jumper lost sight of him.

Paul's body was found on April 26th and was recovered by a team of rescue climbers because it was unreachable by helicopter.

**Tron K Torsen**, March 6, 2013, Freefall Object Strike (Wingsuit)
*Earth, High Ultimate, Lauterbrunnen, Switzerland*
Tron was a very experienced jumper and leading member of the Stavanger BASE Klubb. He was attempting a wingsuit flight from this exit, which is normally done in tracking suits with a running exit. The underhung nature of the exit point makes a strong launch critical. Tron pushed off poised and went head down immediately. He did not recover in time to avoid the ledge system below the exit.

**Fernando Motta,** April 28, 2013, Freefall Object Strike (Wingsuit)
*Earth, Notch Peak, Utah, United States*
This was a three way wingsuit flight. Exit was about 11:30am and wind at the exit was quite strong. Fernando impacted a flat part of the ridge line after about 30 seconds of flight. Another jumper reported that the strong headwind made it difficult to make progress down the flight line. Fernando had only 10 total jumps (skydive and BASE) on this particular suit. He had also hiked to this exit three times in the preceding day and half, and was probably fatigued.

**Maksim Malanchuck**, May 30, 2013, Freefall Object Strike (Wingsuit)
*Earth, Cei-Loam, Ingushetia, Caucasus, Russia*
This was a two way wingsuit flight. Max had a good start and attempted a left hand flight over a nearby ridge line. As he approached the ridge he was substantially lower than the other jumper flying the same line. He impacted about 30 seconds into the flight. Other jumpers were able to identify his body with a partially deployed canopy. He likely impacted during an emergency deployment attempt when he realized he would be unable to out fly the terrain.



**Luke Chappell**, June 21, 2013, Bridle Entanglement
*Dirty Devil, Moab, Utah, United States*
Luke was a very aggressive jumper and was well known for pushing things past his limits. On this jump he attempted a double gainer and failed to complete the second rotation. He pitched on his back, and the bridle snagged his chest mount camera. The canopy began to extract and also became entangled with the camera. He was killed on impact.

**David Thomasson**, July 12, 2013, Misrouted Bridle
*Earth, Nazare, Lisbon, Portugal*
David was jumping PCA from a cliff by the beach in Nazare. He geared up with the pilot chute out of the BOC, and the bridle passed through the lateral of his harness. Neither the jumper nor the PCA holder noticed the mis routed bridle. When he jumped, the pilot chute was torn out of the assistants hand and he impacted with a closed container.

**Paddy Frenchman**, July 16, 2013, Freefall Object Strike (Wingsuit)
*Earth, Kandersteg, Switzerland*
Paddy got a bad exit and never regained stability. He impacted a few seconds below the exit point with a closed container.

**Jonas Svardal**, July 21, 2013, Freefall Object Strike (Wingsuit)
*Earth, Aurland, Norway*

Jonas was a new jumper who wanted to fly close to the terrain. He had limited wingsuit experience and no previous terrain flight experience. He was killed in a ground impact with a closed container attempting his first proximity line.

**Steffen Strobel**, July 25, 2013, Freefall Object Strike (Wingsuit)
Earth, *Brevent, Chamonix, France*
Steffen was making his fourth jump of the day. This exit point is an advanced wingsuit flight, and he flew too low to the ground, and was unable to outfly the terrain. He made an emergency deployment attempt but impacted before the container opened.

**Florian Pays**, August 13, 2013, Freefall Object Strike (Wingsuit)
*Earth, Devoulouy, France*
Florian was the first jumper in a 3 way wingsuit flight. He was attempting to fly across a ridge line but had insufficient altitude and impacted a ledge with a closed container.

**Mikolaj Twin**, August 16, 2013, Freefall Object Strike (Wingsuit)
*Earth, Samoans, Sixt-Fer-a-Cheval, France*
This was a failed terrain flight. Mikolaj was too close to the terrain and impacted in flight with no attempt to deploy.

**Harold Perotte**, August 17, 2013, Freefall Object Strike (Wingsuit)
*Earth, Dent de l'Arclusaz, France*
Harold was an experienced jumper who had flown this line before. He lost awarenesss of altitude over a grassy section of the terrain and impacted with nothing out.

**Mario Richard**, August 19, 2013, Freefall Object Strike (Wingsuit)
*Earth, Sass Pordoi, Dolomites, Italy*
This was a proximity flight fatality. There were no witnesses or video, but Mario apparently impacted with a closed container in the middle of the flight line. Mario was a very experienced long time jumper based in Moab, Utah, who was transitioning into wingsuit proximity flight.



**Alvaro Bulte**, August 23, 2013, 2013, Freefall Object Strike (Wingsuit)
*Earth, Dumpster, Lauterbrunnen, Switzerland*
Alvaro had flown this line before, but on this attempt found himself too close to the wall. He tried to turn away, but lost too much altitude in the turn and impacted with a closed container.

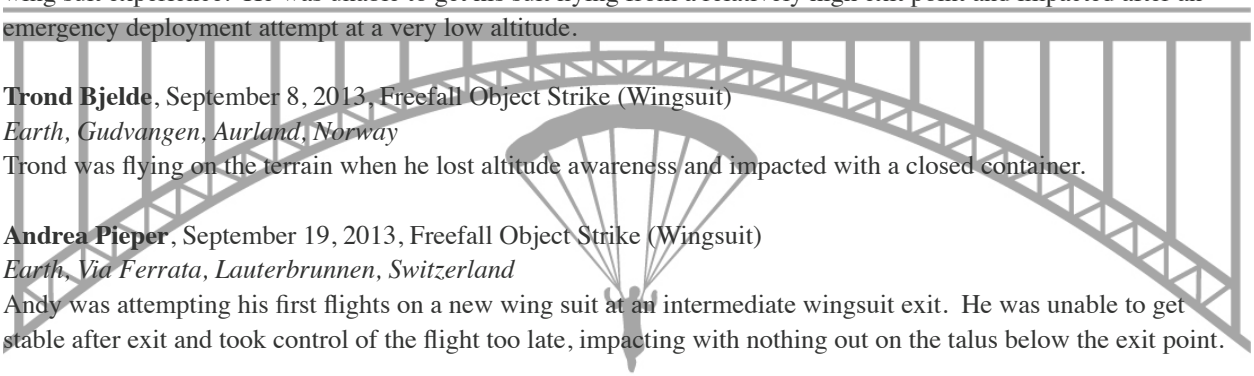
**Dan Johnsen**, August 25, 2013, Freefall Object Strike (Wingsuit)
*Earth, Fetanipa, Gudvangen, Norway*
Dan was an experienced BASE jumper but only a beginner at proximity flight. He failed to make the line he was attempting, impacted a stand of trees with nothing out and was killed.

**Bernhard Szabados**, September 6, 2013, Freefall Object Strike (Wingsuit)
*Earth, Stangenwand, Austria*
Bernhard was the last jumper to exit on a load with four others. No one saw his flight and he exited several minutes after the other jumpers. It's possible that he attempted to fly a new line and failed, or that he simply failed to outfly the terrain on the same line taken by the other jumpers. He flew down a crack that had no exit, either by mistake or thinking he could outfly it. He was killed on impact when he reached a dead end in his terrain line.

**Trond Bjelde**, September 8, 2013, Freefall Object Strike (Wingsuit)
*Earth, Gudvangen, Aurland, Norway*
Trond was flying on the terrain when he lost altitude awareness and impacted with a closed container.

**Jerad Garnett**, September 14, 2013, Freefall Object Strike (Wingsuit)
*Earth, Brevent, Chamonix, France*
Jerad's exit was too steep and he was not able to get his wing suit flying in the available altitude. He impacted with a closed container. Jared was an experienced BASE jumper and wingsuit pilot but was new to wing suit BASE and was attempting a very short start, advanced, exit point.

**Maxwell Bond**, September 19, 2013, Freefall Object Strike (Wingsuit)
*Earth, Yellow Ocean, Lauterbrunnen, Switzerland*
Max was a very experienced skydiver who was attempting his first BASE jumps without instruction. He had limited wing suit experience. He was unable to get his suit flying from a relatively high exit point and impacted after an emergency deployment attempt at a very low altitude.




**Trond Bjelde**, September 8, 2013, Freefall Object Strike (Wingsuit)
*Earth, Gudvangen, Aurland, Norway*
Trond was flying on the terrain when he lost altitude awareness and impacted with a closed container.


**Andrea Pieper**, September 19, 2013, Freefall Object Strike (Wingsuit)
*Earth, Via Ferrata, Lauterbrunnen, Switzerland*
Andy was attempting his first flights on a new wing suit at an intermediate wingsuit exit. He was unable to get stable after exit and took control of the flight too late, impacting with nothing out on the talus below the exit point.



**Daniel Moore**, September 19, 2013, Low Pull (Missed Pitch)
*Earth, G Spot, Moab, Utah, United States*
Daniel missed his first pitch attempt and was too low by the time he managed to find and throw the PC. He impacted with a partially deployed canopy.

**Viktor Kovats**, October 8, 2013, Freefall Object Strike (Wingsuit)
*Earth, Black Dragon Wall, Zhangjiajie, China*
This was a terrain flight fatality during a high profile wing suit event (World Wingsuit League) in China. Viktor was an experienced jumper and wing suit pilot who momentarily lost control making a turn at high speed close to the ground.

**David Stather**, January 25, 2014, Freefall Object Strike (Wingsuit)
*Earth, Little Colorado, Grand Canyon, Arizona, United States*
Dave was attempting a wing suit terrain flight which he had successfully flown on each of the previous two days. He impacted during the terrain flight about 15-20 seconds after exit with no deployment attempt. The other jumpers stayed on site and coordinated the National Park Service rescue and recovery efforts, helping the NPS to recover the body and investigate the accident. As a result, they were prosecuted in Federal Court and sentenced to supervised parole, monetary fines, and banning from National Parks.

**Ash Cosgriff**, January 25, 2014, Impact (Low Pull)

*Antenna, Omega Tower, Victoria, Australia*
Ash was filming another jumper on a 2 way. He took too long to get stable after tracking on his back, and impacted with a partially deployed canopy.

**Amber Bellows**, February 8, 2014, Freefall Object Strike (Wingsuit)
*Earth, Carne Asada, Mt Kinesava, Zion National Park, Utah, United States*
Amber had limited skydiving experience, and was being taught to BASE jump by her husband. She was attempting to fly a very large wing suit (Squirrel Aura) with very limited experience in either wingsuit flight of BASE jumping. She never got the suit flying and impacted on the Talus below this relatively easy exit point.

**Sean Stanley Leary**, March 13, 2014, Freefall Object Strike (Wingsuit)
*Earth, Carne Asada, Mt Kinesava, Zion National Park, Utah, United States*
Stanley was jumping alone and attempting a relatively advanced line from an exit point with an easy start. He was a very experienced and current jumper. The position of his body indicates that he lost stability during a high speed low turn and impacted with nothing out in the middle of a terrain flight.

**Kevin Morroun**, March 21, 2014, Impact (Low Pull)
*Earth, Sweet Spot, Moab, Utah, United States*
Kevin was attempting a double gainer and stalled out during the second rotation. He had trouble getting back into a stable, belly to earth position and deployed too low. He impacted before line stretch.

**Rick Wust**, March 30, 2014, Object Strike
*Earth, Nose 3, Lauterbrunnen, Switzerland*
Ricki had an uneventful freefall and opening. She failed to take control of her canopy and flew forward for a good distance before impacting. Her failure to take control after opening has led to some speculation that this fatality may have resulted from some in flight medical complication.



**Name Withheld**, May 24, 2014, Freefall Object Strike (Wingsuit)
*Earth, Brienz, Switzerland*
This was a two way wing suit flight. The deceased made an overly aggressive turn and lost critical altitude, but instead of aborting when an out was available, he continued flying the terrain line. With insufficient altitude, he did not clear the terrain and impacted with a closed container.

**Zachary Sommer**, July 17, 2014, Impact (No Pull)
*Antenna, Silverton, Oregon, United States*
Zack was a newer jumper but with sufficient experience for this sight. He was pushing his progression and began doing aerials very early in his BASE career. This jump was an attempted gainer, but he apparently stalled on his back. It's possible that baggy clothing or a loosely stowed stash bag also contributed to his failure to pull. He impacted with a closed container.

**Adam Rubin**, August 1, 2014, Object Strike
*Earth, Rigby's, Twin Falls, Idaho, United States*
Adam had an offloading opening and corrected heading on a rear riser. He was able to avoid the cliff, but when he released the riser, the canopy surged to recover, and dove forward (away from the cliff) into an underhung ledge system below him. The canopy collapsed and he slid the rest of the way to the ground. First aid and CPR were

rendered by other jumpers at the scene, but Adam was pronounced dead by emergency responders shortly thereafter (still at the scene).

**Arnaud Dumasdelage**, August 6, 2014, Freefall Object Strike (Wingsuit)
*Earth, Pic du Midi d'Ossau, Pyrenees, Ossau, France*
Arnaud was an experienced jumper who was not current. He had a poor but stable exit, and was flying lower than would be idea. He continued to fly the terrain line, but was flying poorly and could not achieve the glide angle necessary for this flight. He had several opportunities to abort the flight, but continued to fly the line. He finally made an emergency deployment attempt over a talus high on the flight line and impacted during the deployment.

**Julien Fourgeaud**, August 8, 2014, Freefall Object Strike
*Earth, Deviator, Magland, France*
Julien had a bad exit and never regained stability. He impacted the cliff only a few seconds below the exit point.

**Maria Shipilova**, August 11, 2014, Object Strike
*Earth, Monte Brento, Italy*
This jumper was making the first jump of her trip. She performed a front flip but had trouble getting stable and initiating her track. Once she had begun to track, the track itself was inefficient and she did not create much separation. She deployed with poor body position, had line twists and an off heading opening, and did not correct the opening heading before impacting the side of this terminal cliff.

**Abraham Cubo Lopez**, August 16, 2014, Freefall Object Strike (Wingsuit)
*Earth, Monte Brento, Italy*
Abraham was making a solo wing suit flight from a terminal cliff exit. He apparently had trouble maintaining control of his large, high performance wing suit (Phoenix Fly Vampire 4), and veered toward the wall. He made an emergency deployment attempt but impacted prior to reaching line stretch.



**Eric Plassard**, August 17, 2014, Impact (Low Pull)
*Earth, Mt Grainier, France*
Eric was jumping without any tracking suit, and pulled very low. He impacted a ledge system at the bottom of the cliff during the deployment and was killed on impact.

**Shaun Otto**, August 17, 2014, Freefall Object Strike (Wingsuit)
*Earth, Brevent, Chamonix, France*
Shaun was nearing the end of a three month BASE trip in Europe. he was extremely current to BASE and to the wing suit he was flying. He was attempting a aggressive terrain flight, and initiated a hard dive to get closer to the terrain. He was unable to pull out of his dive efficiently, and lost stability, impacting the terrain.

**Stephane Villelonge**, August 27, 2014, Freefall Object Strike (Wingsuit)
*Earth, Low Ultimate, Lauterbrunnen, Switzerland*
Stephane apparently slipped on exit and remained unstable until impact.

**Jens Ekjord**, August 31, 2014, Impact
*Building, Holmenkollen, Oslo, Norway*

This jumper exited the side of the building which had no extra altitude and was attempting a free fall deployment from under 100 meters. He impacted with a closed container. There are no eye witness accounts, so it is not clear if he simply pulled too low, or if there was some sort of bridle entanglement or other malfunction.

**Ralph Greenaway**, September 1, 2014, Freefall Object Strike (Wingsuit)
*Earth, Banff, Canada*
Ralph went to make a solo flight down a wing suit terrain line. His friends began looking for him after they realized no one had seen him after that day. His body has never been located, but it is presumed that he impacted somewhere in the back country.

**Alex Duncan**, September 2, 2014, Freefall Object Strike (Wingsuit)
*Earth, Croix de Fer, France*
Alex got a poor exit on this jump. He had a strong push, but he was too head low and rolling to his left. He impacted before he could get his suit flying. This exit point has a very short start, and like all short starts is unforgiving of even very small errors in exit technique.

**Nikolay Vilekghanin**, September 7, 2014, Object Strike
*Earth, Aguille du Varan, France*
Beau hiked up to the summit exit on Mt Siyeh, Glacier National Park in Montana. Conditions at the top of the mountain are only speculation as Beau was by himself and because of it's location and height, Siyeh is often effected variably. He hiked in the afternoon, designating a "turn around time" with his girlfriend and his parents, who were hiking to the landing area. When Beau didn't arrive, they hiked out to presumably meet him. He never arrived. Rescue was called the following day and Beau was discovered approximately 1000-1200' below the summit, on the lower slabs, wrapped up in is parachute with head and facial trauma. He was wearing a new tracking suit and I know this was his first jump on it. Beau was an accomplished tracker and although not current, was a hyper current BASE jumper, jumping technical objects often with skill and good judgement. The most likely scenario is that Beau had a problem with his exit resulting in an off heading opening and cliff strike. That is of course total speculation but is really the only scenario that makes sense based on the object, the height (4,100' overall), his intention to track it slider up and where he ended up coming to rest.

**Gabriel Ruiz**, September 20, 2014, Freefall Object Strike (Wingsuit)
*Earth, Sputnik, Switzerland*
Gabriel was making his first jump on a new high performance suit (Phoenix Fly Vampire 5 Race). He had never flown the suit (skydive or BASE) before. He lost control in a turn and impacted the terrain with a closed container.

**Ramon Rojas**, September 14, 2014, Freefall Object Strike (Wingsuit)
*Earth, Swispen-Grindelwald, Switzerland*
Ramon was attempting a terrain flight which he had flown successfully before, and was current to both his suit and the exit point. He failed to make the terrain line and impacted during an emergency deployment attempt.

**Donald Zarda**, October 3, 2014, Freefall Object Strike (Wingsuit)
*Earth, Sex Rouge, Switzerland*
Don was attempting a technical terrain flight with a very short start. He was uncertain about the flight relative to his abilities, but decided to commit to it. He had a weak launch, and was unable to generate sufficient clearance to start his suit flying before reaching the first ledge, approximately 100 meters below the exit point. He impacted with a closed container.

**Leonardo Piatti**, October 3, 2014, Freefall Object Strike
*Earth, Monte Brento, Italy*
Leonardo was attempting a new tracking line at this very popular terminal cliff. He was tracking very close to the terrain when he realized he would not be able to make the new line, and attempted an emergency deployment. He impacted during deployment.

**Joshua Sheppard**, January 14, 2015 Impact (Wingsuit)
*Antenna, River Junction, Jackson, Michigan, United States*
Josh was flying his wingsuit from a slider up antenna in very cold conditions. He impacted with a closed container. There were no eye witnesses, but it is likely that his failure to pull resulted from either an unstable exit due to ice or a failure to locate the PC due to heavy gloves and numb hands. In either case, it is likely that the ice and cold played a substantial role in this accident.

**Channing Armstrong**, February 2, 2015, Impact (Static Line Rigging Error/Failure)
*Earth, Hollister, California, United States*
Channing and his jumping partner were attempting to open a new 140 foot cliff with a canopy flight over talus to the landing area below the hillside. Channing used an old piece of break cord that he had tied together. It was apparently in bad condition. He also made the critical error of removing his pilot chute so he had no back up safety system. His break cord failed prematurely and he impacted with a closed container.

**Bryan Turner**, March 9, 2015, Impact (Total Malfunction/Closed Container)
*Span, Perrine Bridge, Twin Falls, Idaho, United States*
Bryan deployed his PC normally after a 1.5 second delay, but his container failed to open. He changed body orientation repeatedly, and eventually grasped the bridle with his hands (behind his back) but was unable to open the container. He towed the pilot chute in this configuration until impact at 5.25 seconds. Bryan was using a floating pin bridle that he had built himself, which may have contributed to the malfunction. However, the cause of the container lock could not be determined with complete reliability.



**Niccolo Lettich**, May 4, 2015, Impact (Tracking Suit)
*Earth, High Ultimate, Lauterbrunnen, Switzerland*
This appears to be a simple low pull after a long track. Impact occurred after container opening, but before line stretch.

**Jim Hickey**, May 7, 2015, Impact (Low Cutaway)
*Span, Perrine Bridge, Twin Falls, Idaho, United States*
Jim was attempting a very complex stunt involving cutting away a burning parachute and deploying a second canopy. He had made multiple rehearsal jumps with successful cutaways, as well as multiple successful burning parachute cutaway skydives. On the fatal jump, he cut away from his burning canopy too low and impacted around the time that his second canopy reached line stretch.

**Sebastian Müller**, May 14, 2015, Impact (Tracking Suit)
*Earth, Monte Brento, Italy*
There were no eyewitnesses to this accident, but Sebastian was tracking and was found with a deployed canopy approximately 60 meters in front of the cliff. It appears that he successfully deployed his parachute, but impacted during the opening sequence.

**Sebastian Müller**, May 14, 2015, Impact (Tracking Suit)
*Earth, Monte Brento, Italy*
There were no eyewitnesses to this accident, but Sebastian was tracking and was found with a deployed canopy approximately 60 meters in front of the cliff. It appears that he successfully deployed his parachute, but impacted during the opening sequence.

**Graham Hunt**, May 16, 2015, Freefall Object Strike (Wingsuit)
*Earth, Taft Point, Yosemite, California, USA*
Graham and Dean were attempting a two way on a very technical proximity line requiring a nearly perfect exit and flight. There were no eyewitnesses, but both jumpers impacted without deploying canopies. There is some speculation that they may have interfered with each other's flights, or that the first accident may have distracted the second jumper enough to cause the second impact.

**Dean Potter**, May 16, 2015, Frefall Object Strike (Wingsuit)
*Earth, Taft Point, Yosemite, California, USA*
Graham and Dean were attempting a two way on a very technical proximity line requiring a nearly perfect exit and flight. There were no eyewitnesses, but both jumpers impacted without deploying canopies. There is some speculation that they may have interfered with each other's flights, or that the first accident may have distracted the second jumper enough to cause the second impact.

**Alexey Alekseev**, May 28, 2015, Freefall Object Strike (Wingsuit)
*Earth, Miat-Loam, Ingushetia, Russia*
Alexey was attempting a terrain flight wing suit jump, doing a two way with another jumper. The other jumper lost site of him during the flight, and Alexey never reached the landing area. He was found about halfway down the flight line. He never deployed his pilot chute, and appears to have impacted with a fully closed container.



**Kedley Olivetti**, June 4, 2015, Freefall Object Strike (Wingsuit)
*Earth, Pedra do Cabrito, Brazil*
Kelley was flying a wing suit terrain line, and had decided to jump an older wing suit that he was no longer current on. He flew inefficiently, and when he realized he was unable to fly the line, he attempted to pull. He made two failed pull attempts before locating the PC, but his eventual deployment was too low. He impacted at line stretch.

**Gabriel Hubert,** June 7, 2015, Freefall Object Strike (Wingsuit)
*Earth, Chinamans Peak, Alberta, Canada*
Gabe was flying a wing suit terrain line. His exit was not perfect, and he began flying a little late. He flew the entire line about 100 feet off the ground, and did not appear to have sufficient altitude to deploy at any time. He impacted with nothing out, having made no attempt to deploy. It is assumed that he had difficulty reaching the PC, or that he knew he had insufficient altitude and was trying to outfly the terrain to gain enough altitude for a safe deployment.

**Jhonathon Florez**, July 3 2015, Freefall Object Strike (Wingsuit)
*Earth, Engleberg, Switzerland*
Jhonny was attempting a wing suit terrain line with a short start. Although there is no direct video, jumpers on the load reported icy conditions, and it is thought that may have contributed to a less than perfect exit. He impacted immediately below the exit point, having failed to start flying in time to begin the line.

**Juerg Liniger**, July 4, 2015, Freefall Object Strike (Wingsuit)
*Earth, Grand Chevalard, Switzerland*
This was a failed wing suit terrain flight. Juerg appears to have impacted during an emergency deployment attempt part way down his intended flight line.

**Damian Hrdlicka**, July 10, 2015, Freefall Object Strike (Wingsuit)
*Earth, Glitschen, Switzerland*
This was a failed wing suit terrain flight. Damian was found with an open container, but a partially deployed canopy. It is assumed that he made an emergency deployment attempt low to the ground and impacted during the opening sequence.

**Avishai Schwartzberg**, July 21, 2015, Impact (Pilot Chute Entanglement)
*Earth, Eiger Mushroom, Grindelwald, Switzerland*
Avishai had a normal wing suit flight, but his PC entangled with the bridle. He tried to manually extract the pins, but failed and impacted with a closed container. He was seen to be using a skydiving style burrito pack for his pilot chute earlier in the week, but it is not clear how he packed the pilot chute on the fatal jump.

**Ian Flanders**, July 21, 2015, Impact (Bridle Entanglement)
*Span (Zip Line), Kemaliye, Turkey*
Ian was attempting a fairly complex aerial requiring fast rotations and appears to have misjudged his pitch timing. The bridle became entangled with his body, and although the container did open before impact the canopy never achieved full line stretch.

**Fernando Goncalves**, July 24, 2015, Freefall Object Strike (Wingsuit)
*Earth, Gavea, Rio de Janeiro, Brazil*
Fernando was attempting a new exit with a very short start. He failed to make the start, and impacted below the exit point. It is unlikely that anyone jumping any suit on the market could have made this start. No one has yet been able to start flying from this exit point.



**Magnus Nypan**,August 22, 2015, Freefall Object Strike (Wingsuit)
*Earth, Sputnik, Wahlenstadt, Switzerland*
Magnus was an experienced jumper flying a popular terrain line. There were no eye witnesses to his flight, but he was found to have impacted part way down the flight line with no deployment.

**Michele Giometti**,August 27, 2015, Freefall Object Strike (Tracking Suit)
*Earth, Kandersteg,Switzerland*
Michele was making a proximity tracking attempt and impacted a ledge along his flight line.

**Dave Buchanan**, July 24, 2015, Freefall Object Strike (Wingsuit)
*Earth, Aiguille du Midi, Chamonix, France*
Dave was an experienced and wing suit pilot and was current to this object. He was attempting a relatively new flight line, and impacted the terrain part way down the line during an emergency deployment attempt.

**Dennis Valdez**, September 10, 2015, Freefall Object Strike (Wingsuit)
*Earth, Middle Malchstuel, Switzerland*

Dennis was the second jumper on a two way. He was flying poorly and was seen to impact a ledge in flight, with no attempt to deploy. The container burst on impact and he was found under a partially open canopy lower down the wall, but he was undoubtedly dead on impact.

**Mehmet Susam**, September 12, 2015, Freefall Object Strike (Wingsuit)
*Earth, Brevent, Chamonix, France*
Mehmet had a weak push and a poor start, and impacted on the first ledge system, only a few seconds below the launch point.

**Johnny Strange**, October 1, 2015, Freefall Object Strike (Wingsuit)
*Earth, Glitchen, Switzerland*
Johnny was attempting a wing suit flight in very high winds. He was reportedly flipped over by the wind immediately after exit, and never regained stability.

**Bertrand Pasquier**, October 5, 2015, Freefall Object Strike (Wingsuit)
*Earth, Le Saint Eynard, Grenoble, France*
Bertrand was attempting a wing suit flight on a suit that he had only used twice before from aircraft. He was found dead almost immediately below the exit point, indicating that he failed to make the start and impacted imemdiately.

**Sebastien Coquillard**, October 26, 2015, Freefall Object Strike (Wingsuit)
*Earth, Puglia Orba, Corsica, France*
This is a demanding terrain line with a mandatory high glide ratio. Sebastien was found part way down the line with one pin extracted, after a high speed impact. The evidence suggests that this was an emergency deployment attempt resulting from a fairly to fly the intended line.

**Joel Harris**, October 29, 2015, Freefall Object Strike (Wingsuit)
*Earth, Low Ultimate, Lauterbrunnen, Switzerland*
Joel appears to have slipped on exit and never got his suit flying well. He was found on the talus below the exit point, and appears to have initiated an emergency deployment to low to save himself. It's likely that he slipped and then impacted the first ledge system below the exit, but remained conscious and was attempting to regain stability or deploy at the point of impact more than a thousand feet lower.



**Philippe Jean**, December 26, 2015, Freefall Object Strike (Wingsuit)
*Earth, Brevent, Chamonix, France*
Phillipe was attempting a very difficult line from this exit point. He attempted the flight when the airflow was challenging, and wind conditions were not ideal for this train line. He had only flown the line a few times before, and may not have been totally familiar with all of the terrain markers. He had an early opportunity to abort the attempt, but continued into the line and impacted on the terrain.

**Matt Kenney**, January 12, 2016, Freefall Object Strike (Wingsuit)
*Earth, Page, Arizona, United States of America*
Matt was flying a terrain line with two other jumpers, and impacted the rock part way down the flight line.

**Katie Connell**, January 20, 2016, Drowning
*Span, Bixby Creek Bridge, California, United States of America*

Katie apparently underestimated the wind, and landed in the surf line. The waves were very powerful at the time, and she was immediately pulled under. Her jumping partner, Rami Kajala, jumped, dropped his gear and dove into the surf in an attempt to rescue her. Both of them were drowned.

**Ulli Wambach**, January 20, 2016, Freefall Object Strike (Wingsuit)
*Earth, Monte La Roda, Paganella, Italy*
Ulli had a good flight, and then impacted after attempted pull near the landing area. It appears that he missed the pull. Contributing factors were probably the wings on his very large wing suit and his gloves. The pilot chute was still in the BOC at impact.

The following defy classification in the above and are mentioned here for the lessons involved.

**Kenny Swyers**, 1980
*St. Louis Arch, MO. USA*
Ken, a USPA Area Safety Officer, jumped from an aircraft to attempt a landing on the top of the St. Louis Arch. His plan was to then use his reserve parachute to BASE jump the rest of the way. Ken slipped down one of the Arch legs and is killed. He has no previous BASE jumps or training.

**Alf Humphries**, 1995, Suicide
Alf shot himself two years after a BASE jump left him severely disabled. Alf is doing a night tower jump and during deployment, he believes, his pilot chute caught and entangled with his still descending mesh slider. This jump taught us all that BASE bridles shouldn't be so long in length as to allow this to occur.



**Robert Overacker**, 1995, Impact/Drowning
*Horseshoe Falls, Canada (The Canadian side of Niagara Falls)*
Robert rode a jet ski over the falls and activated a ballistic deployed parachute. While the rocket fired and the parachute achieved line stretch the canopy separated from his body. Apparently Rob didn't rig the parachute himself, he had it done by someone else, since he had little or no experience with them himself.

**Frank Gambalie**, Drowning (BASE get-away)
*El Capitan, Yosemite National Park, California, United States*
Frank is being chased by Park Rangers after landing a routine jump from Yosemite's El Capitan. During the course of that chase he jumped into the Merced River where he is lost to the swift and cold current. I've received a report, but it hasn't been confirmed, that Frank talked to a climber who was camped atop El Cap and that climber informed the Park Rangers of the impending jump. Frank's death brings out (again) the ludicrous nature of the NPS policy toward BASE jumpers.

**Earl Redfern**, BASE 300, July 18, 2000, Airplane Crash (Object Strike)
*Moab, Utah, United States*
Earl is an experienced and well known BASE jumper as well as a commercial pilot. Along with another BASE jumper they are scouting for new jumpable sites in the Moab area in a Grumman Traveler. They are both killed after the Traveler's wing clipped a canyon wall. Earl was 43.

**Clint Ford**, July 18, 2000, Airplane Accident (Object Strike)
*Moab, Utah, United States*
Clint had just received his pilot's license when he is killed along with Earl Redfern in the above crash of Clint's Grumman Traveler. Clint was 21.

**Jurgen Ornburger**, February, 2002 , Impact (Hiking)
*La Mousse, Lauterbrunnen, Switzerland*
Jurgen is a German BASE jumper who slipped on the ice while approaching the launch point at La Mousse, in Lauterbrunnen, Switzerland. He fell over the edge with a packed BASE rig in a stash bag on his back.

**Dwain Weston**, October 7, 2003, Freefall Object Strike (Wingsuit Skydiving, BASE gear)
*Royal Gorge Bridge, Colorado, USA*
Dwain is a very popular BASE jumper who brought aerials to the forefront of BASE jumping. While front loops, back loops, and other gymnastic moves aren't new to BASE jumping, Dwain raised the skill level to a point that is unmatched right up until he died. Dwain is also a very skilled wingsuit BASE jumper and is known to "push it" when flying in close proximity to objects. The fatal jump is a exhibition type skydive over the Royal Gorge Bridge during an organized extreme sports event. Dwain, and another jumper, both in wingsuits, exit the A/C above the bridge. Dwain, who is using BASE equipment, is to fly over the top of the bridge and the other jumper is to fly under the bridge, both are to open in the canyon below the bridge. The second jumper completes his part of the fly-by of the bridge flawlessly and opens normally. Dwain impacts the bridge railing with his legs and falls to his death. There is much confusion concerning this fatality. Some believe Dwain is purposely trying to shoot the gap between the bridge railing and the support cables, a box about six foot square, and the witness reports tend to support that theory. However, others can't rationalize Dwain endangering spectators near the point of impact with such an un-announced maneuver. Some are saying this doesn't sound like Dwain while other's say it sounds just like Dwain. Dwain is one of the few BASE jumpers who left the sport better off than when he found it, and no matter what happened at the Royal Gorge, he will be remembered as one of the most influential BASE jumpers the sport has ever produced.



**Dave Flannell**, November 19, 2003, Rappelling Accident (on BASE expedition)
*Sotano De Las Golindrinas, Mexico (The Cave of the Swallows)*
The following is from a received report. "During an expedition to the Cave of the Swallows in Mexico, there was an accident. I was present during the accident and the rescue efforts that ensued. For many of us, it was our first time to the Cave, so all of us were rappelling to inspect the landing area. We were using a Petzl 5-bar Rack on static rope for the 1,200ft rappel. Dave is approximately 400-ft from the bottom of the cave when for reasons unknown to us, his brake hand came off the rope and he was unable to regain control of his descent. Three team members who are already at the bottom of the cave reached Dave within 30 seconds and resuscitation efforts began. At the top, we went into immediate action by lowering down another one of our team members who is an EMT with all of our emergency medical supplies. He reached the bottom at the 22 minute mark and took over from those who had been performing CPR. After 46 minutes, with no sign of recovery, CPR was stopped. The next 4 hours are spent carefully recovering Dave's body and extracting the remaining team members from the bottom of the cave. We were not allowed to move Dave from the top of the Cave until the Haustecan Indian's priest could bless him with a prayer ceremony. After the ceremony, the Haustecans burned a candle by Dave's side and we remained there in silence until the candle burned out late in the night. The Haustecan's genuine care and respect was very moving. As a group, all of us decided to call off the remainder of the expedition out of respect for Dave's family and friends as well as the Haustecan Indians that inhabit the area. The expedition organizers, along with one of Dave's close friends who is also on this trip, have been working around the clock with the US Embassy to ensure that Dave and all of his belongings reach home safely. Even though I only knew Dave for a few days, it only took 30 seconds to grow a

liking to his smiling face and bubbly personality. We are all saddened by this loss and send deep condolence to Dave's family and friends."

**Neil Queminet**, BASE 796, October 5, 2004, Climbing (BASE approach)
*Krabi Province,Thailand*
Described by friends as a lovely man who loved the color red and was always wearing it, Neil is an experienced and respected U.K. BASE jumper. He is killed in a fall while preparing for the technical portion of a climb to a cliff launch point. One friend said, "We all looked up to him. He shone. He was always hungry for knowledge and experience but was always safe."

**Richard Heaton**, Wednesday, February 6, 2008, Exposure
*Span, Perrine Bridge, Twin Falls, Idaho, United States*
Richard was making his 3rd BASE jump, and his first at this site. He had been travelling all day, and arrived in the evening, after dark. He jumped sometime after 11:17pm on the night of Wednesday, February 6th. Conditions were good early in the evening, although that night we got several inches of snow and had high winds. It's not clear what the jumping conditions were at the time of the jump, but that doesn't appear to be an issue, because he probably landed without incident. Temperatures were below freezing that night, and Richard was wearing jeans, sneakers and a relatively normal jacket. His new jumping boots were found in his hotel room, in a bag. His stash bag was also left in his hotel room, likely by accident. No flashlight was found, nor was any survival gear found. His telephone still has not been located (although the phone records were pulled by the Sheriff's office, which is how we know he made his last call to a friend at 11:17pm). Never having jumped this site, it is unlikely that Richard knew the trail to climb out. He apparently began hiking up the canyon wall well away from the normal exit trail, and became lost. He then likely became progressively disoriented, confused and hypothermic. He was found without his rig, coat, shirt and one shoe, all of which he had apparently removed and discarded at different points. It is likely that he wandered in the canyon for several hours before succumbing to the elements. His body was recovered in the mid afternoon today (Friday the 8th). At least one other jumper had made two jumps today without noticing any sign of him. The lessons here are clear. Bring a jumping partner, or at the very least a good method of communication to summon help. Know the trail out of your intended landing area. Be dressed appropriately for the weather conditions, and carry lights and survival gear as appropriate for the conditions. Check the weather forecast, and be prepared for any incoming weather, even if you plan to be back inside before it arrives.



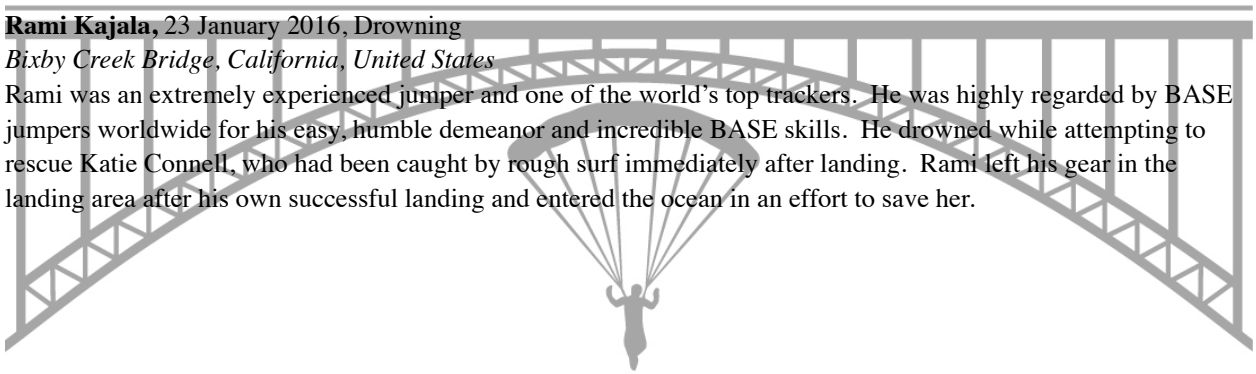
**TJ Bartlett**, Skydiving (BASE gear)
*Cincinnatti, Ohio, United States*
TJ was jumping a BASE rig with a wingsuit, from a helicopter, exiting about 2500' AGL. He apparently had a hard pull, and although he did initiate deployment, reportedly around 50', it was too late. He impacted at high speed with a partially deployed canopy. TJ was a young (21) and enthusiastic BASE jumper. He started pursuing the sport very early, packing to afford his skydives, and by the time of his death had made nearly 400 BASE jumps. He had a methodical approach, and did extensive training for his jumps. He was young and eager, but also very technically oriented, and always interested in advancing gear and technique.

**Yves Remond**, 28 Feb 2009, Skydiving (BASE gear)
*Verbier, Switzerland*
This is a jump from a tandem paraglider using BASE gear. Reports of this fatality are vague, and mostly drawn from the press, but it appears that the parachute either opened very low or made a turn very low, resulting in hard impact and fatality.

**Kurt Ruppert,** 3 January 2013, Freefall Object Strike (Wingsuit)
*Washington State, United States*
This is a jump from a helicopter using BASE gear and a wingsuit. The jump plan was to buzz a set of mountain peaks and valleys, approaching closely for passes but not staying too close to the terrain for most of the flight. Kurt exited the helicopter but never reached the landing area. Hundreds of search and rescue personnel and volunteers scoured the area for almost a week after the accident, but Kurt was never found.

**Brian Drake, Luodvic Woerth and Dan Vicary,** 29 March 2014, Ground Impact (Wingsuit)
*Berner Oberland, Switzerland*
This is a jump from a helicopter using BASE gear and wingsuits. The jumpers were filming for a television program, and flying long lines close to the ground. There were some changes in the jump plan to accommodate weather, and it appears that they attempted to fly a line which was simply beyond the glide path of their equipment. All three impacted within 10 meters of each other on gently sloping ground. Ludo and Dan died on the scene, and Brian died 5 days later in a hospital, never having regained consciousness.

**Rami Kajala,** 23 January 2016, Drowning
*Bixby Creek Bridge, California, United States*
Rami was an extremely experienced jumper and one of the world's top trackers. He was highly regarded by BASE jumpers worldwide for his easy, humble demeanor and incredible BASE skills. He drowned while attempting to rescue Katie Connell, who had been caught by rough surf immediately after landing. Rami left his gear in the landing area after his own successful landing and entered the ocean in an effort to save her.



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Differences Between B.A.S.E. Jumping and Skydiving
*by Tom Begic*

Everyone has seen pictures of the amazing 3000ft cliff in Norway, known as Kjerag. This inspires many skydivers to make the pilgrimage to what is perceived as a relatively safe B.A.S.E. jump. But is it really safe? And are skydivers adequately prepared for every scenario that they may encounter? As time goes by and the number of fatalities increases, it is being proven that skydivers are NOT adequately prepared.

How do you prepare for big wall B.A.S.E. jumping? What differences are there between high and low altitude jumps?

I use a technique called Potential Problem Analysis on each and every jump. To be able to use this technique effectively, you first need to be able to recognise and analyse all possible variables (scenarios) and then map out a plan of action prior to jumping.

For a skydiver wanting to attempt B.A.S.E. jumping, this means that they should:

- Know about all possible skydiving malfunctions and how to deal with them.
- Have an intimate knowledge of equipment.
- Have the right motivation for wanting to jump.
- Obtain the right training from the right people.
- Know about all possible B.A.S.E. malfunctions.
- Know the differences between skydiving and B.A.S.E. jumping.



The last point is especially relevant because many of the incidents in B.A.S.E. jumping involve skydivers who make the statement; "Its 3000ft, hence its just like doing a hop'n'pop on a skydive – how easy and safe is that!". This thought could not be further from the truth.

Let's split up a jump and analyse the differences between skydiving and B.A.S.E. jumping.

Site Access
On a skydive, you just hop on an aircraft and away you go. On a B.A.S.E. jump, you may have to do hours of difficult hiking, technical climbing, and mountaineering. There is also the issue of legality and trespassing – are you allowed to walk to the exit point and jump off it?

Exit
On a skydive, all you need to do is hop out of the aircraft. There is plenty of airspeed for you to be able to fly into the correct body position. You also have a lot of free space around you.

On a B.A.S.E. jump, quite often the exit point is difficult to access, slippery, unstable, secured (i.e. security, refer to legal access issues), radiated, electrified, etc. There is no airspeed as you

leave the object. This means that you have to put your body in the correct position. If you become unstable, you must use gymnastic &/or diving techniques to regain stability. You can't "arch" into a stable position for a number of seconds. The exit point is usually precise, if you jump a few metres either side of defined exit point you may introduce further dangers (such as a protruding ledge).

Freefall

Once you exit an aircraft, you have a lot of free space around you. It does not really matter what you do until you commence your deployment. On a B.A.S.E. jump, there is an object near you. Therefore you effectively lose half of your space. You must maintain separation from the object. Can you guarantee the you don't backslide a few feet on every skydive?? On an underhung object, backsliding a few feet would probably lead to an ugly death. Your freefall time is finite. On lower objects you must be precise in calculating you delay. On a skydive, a few seconds either side of the planned opening altitude does not matter. On a B.A.S.E. jump, a few fractions of a second could mean the difference between life and death. As in the exit, you must use gymnastic &/or diving techniques to regain stability in the first few seconds of a jump if you become unstable.

Deployment

Stability is critical on deployment. Your shoulders must be parallel with the ground and your back must point up to provide a clear space for your pilot chute and canopy to deploy. This is true in both skydiving and B.A.S.E. jumping. However, most B.A.S.E. jumpers use single parachute systems. Hence, you must guarantee each and every opening. You would usually get away with an unstable skydiving deployment and you have a reserve to deal with the consequences.



Another critical factor is the height consumed during a deployment. It is very important that a B.A.S.E. jumper uses equipment that consistently consumes the same altitude with minimal variance on every jump. 100 feet here or there are not important on a skydive, yet on a B.A.S.E. jump, it could mean the difference between life and death.

The first part of the deployment (from throwing the pilot chute to line stretch) is the most important on a B.A.S.E. jump. The slightest pilot chute hesitation on a low or underhung object could mean the difference between life and death. As an example: you are on a low jump (250ft), and have a hesitation such that the distance consumed during deployment is greater than usual. Most jumpers will begin to panic and undermine their body position. This could lead to off headings or entanglements. The hesitation may mean that you could impact the ground prior to full canopy deployment. The hesitation may be caused by: incorrect pilot chute selection (material, geometry, size, construction, etc), incorrect bridle length, incorrect stowage or holding methods, incorrect usage technique, downward wind rotors, air density/pressure/ temperature, plus many other factors.

Would you consider any of these on a skydive? You have to on a B.A.S.E. jump.

Canopy Flight

You MUST pre-plan your flight path and allow for all deployment eventualities on most B.A.S.E. jumps. Most sites have obstructions from exit to landing and may have very tight landing areas. Often there are no out landing options. You have to use all your control inputs (front and rear risers, toggles) to control the flight of your canopy. Due to the greater time and space available on most skydives, this is not usually a problem.

Landing

Landing areas in Australia are often tight with no outs, steep, and covered in sharp rocks or other "injurious" objects. In case of injury, they are also not easily accessible to medical and rescue personnel. In contrast, most skydivers land in open fields. Hence your canopy choice, flight path planning, accuracy skills, personal protective equipment (ankle protecting and shock absorbing boots, knee pads, elbow pads, helmet, etc) must all be of a high standard.

Equipment

As long as your skydiving equipment is maintained, packed, and used correctly, you can use the same gear on every jump (notwithstanding the discipline specific equipment that is available nowadays such has CRW and accuracy gear).

In B.A.S.E. jumping every component of your gear and its configuration must be taken into account on each and every jump. This can best be explained using two contrasting examples.

Example 1: a 1500ft bridge onto a large grass landing area. You could use virtually any sort of B.A.S.E. equipment in any configuration.



Example 2: a 200ft cliff onto a tight, sloped, and rocky landing area.

You need the following specific equipment:

- Large reinforced pilot chute (> 45 in) for extra drag and faster extraction.
- Longer bridle (~ 9 ft long) with NO collapsing system to avoid the burble zone.
- Multiple bridle attachment point preferred to minimise centre cell stripping.
- Brakes set appropriately (this is dependant on wing loading and characteristics of the particular canopy you are jumping).
- Appropriate wing loading - 0.7 lbs per square foot preferred.
- Bottom skin vents or pac valves to enhance early pressurisation.
- A secure (but quick release) toggle system to prevent premature toggle release.
- Slider removed or down.
- Brake lines stowed outside the keeper ring.
- Unobstructed (i.e. cover flaps lifted) & primed pins or velcro.
- Pilot chute folded / stowed and used correctly (poor technique can lead to minor hesitations which at very low altitudes translates to higher potential for death).
- Good body position. At this altitude, head high position is preferred.

- Single parachute systems since there is no time for an alternate parachute.
- Appropriate PPE (personal protective equipment) such as shock absorbing ankle protecting boots, knee pads, elbow pads, helmet, etc. Other equipment such as back braces, abrasion resistant pants, etc could also be used.
- Knowledge of weather conditions & the affect wind has on deploying, flying, and landing canopies. Rotors, downdrafts, venturi affects, etc need to be considered.
- The ability to say NO to a jump and to reject, peer or ego pressure.
- Ability to determine what skills are required for a jump & whether or not you have the appropriate skill set to perform the jump safely.

As you can see, to maximise safety on a B.A.S.E. jump you have to take into account many complexities that most skydivers would not consider. This lack on consideration is the root cause of most of today's incidents and fatalities. Take a few moments to learn about an activity before you participate. This time could save you a lifetime.

*Tom Begic served as Safety Officer of the Australian BASE Association for 6 years. He has been an active BASE jumper for 11 years, logging approximately 700 BASE jumps, including multiple world record big way BASE jumps. Tom held the record for most BASE jumps in a single day from 1999 until 2002. He produced the pioneering BASE video Beyond Extreme, which won the first ever international BASE film festival. As one of the earliest BASE wingsuit pilots, he flew a wingsuit of his own design from terminal cliffs as early as 1999. He is also a top level CRW competitor, having represented Australia on several occasions at CRW World Championships, and winning several Australian CRW championships.*

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BASE Ethics

*By Tom Begic*

BASE is being made difficult mainly by uninformed authorities. However it is the irresponsible jumper that has had the greatest affect on giving BASE a negative image. Remember that El Capitan was once a legal site which was ruined by irresponsible jumpers and uninformed authorities.

There will never be a time when all potential BASE sites are legal. Therefore each jumper must minimise negative opinion / reaction to the sport by behaving in a professional manner. This means following a few simple principles:

• Only do jumps you are capable of. Thinking you are capable is not sufficient. Prove yourself by mastering one skill at a time under a controlled instructional situation. Learning too much at once and teaching yourself will invariably lead to accidents and death. If you're very keen to learn BASE jumping right now, then pay for proper intensive instruction. If you don't want to pay then be prepared to spend time learning with experienced jumpers.

• Minimise your visibility to the public by jumping at appropriate times (i.e bridges when there is no traffic, buildings at night). You minimise the chance of accidents, injury, and court cases if there are no other people around. For those jumpers who like public attention, remember that there is a good chance that the person you are trying to impress will have a mobile phone and they will call the police.

• Minimise noise by jumping in small groups. Don't invite crowds along.

• If you are planning a daytime jump for the purpose of selling footage, don't bother. The market is saturated with BASE jumping footage. You will only sell footage if it is extremely high quality and you are doing something that no one has done before. Getting a site shut down for a small amount of money is selfish.



• When visiting a new area, ask local jumpers about how to jump their sites discreetly and safely. If you want to deviate from their methods, give a logical reason as to why your method may be better. Be prepared to swallow your pride. They may come to jump in your area one day!!!

• Use BASE specific equipment. Standard skydiving gear will eventually fail in the BASE-jumping environment.

• Don't cause damage to persons, property, or the environment (vandalism / accidents). Repair any damage. Treat any natural, sacred, or religious site with respect. Use minimal impact bushwalking techniques and ask landowners if you can walk on their properties.

• Cooperate with authorities and accept their rulings. If you think the rulings are unjust, attempt to change them through legal means. Unless safety is in question (i.e urgent medical treatment is required) try not to associate jumping activities with any authority.

• Help promote the sport by being professional and teaching people the right things. Pass your knowledge and experience onto others. If you don't have experience and ability then don't teach.

• If any of your jumping colleagues are injured you should stay with them. There are a variety of injuries that if treated quickly will not have any long term or lasting affects. These same injuries can lead to death if not treated immediately.

If you burn a site (i.e close it down because you didn't follow these principles) you will get a bad reputation in the BASE jumping community which will severely limit the options you have in the sport. In some countries, BASE jumpers who burn sites are literally tarred and feathered and then blackbanned by experienced jumpers. Remember that experienced jumpers can give you contacts for other experienced jumpers around the world which invariably gives you easy access to sites you would otherwise not have access to.

Legally speaking, you can't BASE jump in many countries. But the jump itself is generally not the illegal part. It is trespassing, endangering people's safety (public menace), and a plethora of other charges that lead to court appearances. There are sites worldwide that specifically prohibit jumping and the fines can range from several hundred to many thousands of dollars. Throw in the cost of court appearances, gear confiscation, and possible jail terms and you could get into serious financial strife.

Nobody should condone breaking the law. But considering the fact that people will BASE jump regardless I have provided this information to limit the negative affects on society. For those law abiding citizens out there who would like to become BASE jumpers you can legally get training and gain access to sites in places like the USA and Europe. You should still follow BASE ethics if you jump legally.

<u>Conclusion</u>
BASE jumping is the most exciting activity known to mankind – protect its existence and promote your safety by following the BASE ethics.

To ensure the future of BASE jumping and its objects, jumpers should strive for:

- No injuries or accidents
- No damage to persons, property, or the environment (vandalism /accidents)
- No negative interaction with authorities and the public.



Although you can't rule out injuries and accidents you can minimise them through proper training and common sense. The last two points are simple.

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Understanding BASE Ethics

*By Tom Aiello*

BASE jumping has it's own peculiar set of ethical guidelines. These ethics have evolved (and continue to do so) over time. The underlying motivation for BASE ethics is our shared desire to jump, and to do so while avoiding arrest or injury. The bottom line aim of BASE ethics is to allow us all to continue making as many jumps as possible in the long run. It follows then, that actions which make it harder for others to jump are generally viewed as unethical, to some (varying) degree.

The nuances of BASE ethics vary from place to place, and especially vary depending on the legal status of a site. If there are established guidelines for a site (true at an increasing number of popular legal sites), always find out what they are, and follow them. The guidelines have been established for good reasons, and often in conjunction with local authorities. Jumpers breaking these rules (through ignorance or otherwise) undermine the legalization efforts of the entire BASE community.

***The guiding principle of BASE ethics is respect.***

**Respect:** Show respect for the **sport**, the **sites**, and other **people** (both jumpers and non-jumpers).

Failing to respect the serious nature of BASE will quickly alienate many experienced jumpers, who have learned to respect BASE through hard personal experiences. Lack of respect for the sport can be shown in many ways. Dismissing the inherent dangers of the sport is one. Putting unprepared people off for a "BASE thrill ride" is another. Instructing students who lack appropriate preparation is a third. The bottom line is that BASE can be a fun game--but it can also turn deadly serious in a heartbeat. Remembering this is one of the keys to a long, healthy life, and also to a long, healthy jumping career.

Failing to respect sites, and the guidelines for jumping them (formal or otherwise) will almost certainly anger the other jumpers who established, and continue to jump, those sites. Site guidelines and procedures vary from simple ("don't land by the farmhouse"), to Byzantine ("drive up the left side of the dirt road, park behind the loading dock, and keep your lights on until you reach the third door"), to downright bizarre.



Respecting other people is a basic guideline of human interaction we all learned in kindergarten. This nicety of human interaction is even more important in BASE. You depend on the jumpers around you for instruction, assistance and mutual aid. While this is most obvious in simple things, like carpooling to a jump site, it also applies to opening and maintaining site access, avoiding arrest, and providing medical assistance to injured jumpers. In the most extreme, we rely on each other for emotional support when tragedy occurs. While we sometimes like to think of ourselves as rugged individualists, in the end, BASE is a team sport.

Jumpers must also respect the non-jumping people who live or work around BASE sites. Many jumpers travel to jump, and it is important to understand and respect the culture (and wishes) of the local people. There are some popular cliffs in Europe, for example, where jumpers are asked to land in specific areas so as not to disrupt local agriculture. The popular legal span in the western US is located in a small, conservative, rural community, which has little tolerance for public nudity or profanity. Understanding and respecting the culture of local residents helps protect site access, as well as conveying a positive image of BASE jumpers to the general public.

Two principles which act as good guidelines for BASE Ethics are "**Leave No Trace**" and "**Contact the Locals**."

**Leave No Trace:** The old backpackers credo, "Leave only footprints, take only pictures" is even more true in BASE (except that in our case, it's more often "take only video"). Leaving evidence that you have been jumping an object is not only poor behavior from an environmental standpoint. It also lets the authorities know that BASE

jumpers lack respect for the area, or (on less than legal sites) that they have been there at all. Things as small as being seen by a drunk at 3am have been used to arrest and prosecute BASE jumpers. To avoid drawing unwanted attention to yourself, other jumpers, or the objects we share, try to make jumps with no witnesses, and without leaving physical evidence. While this ethic obviously evolved in the context of illegal jumps, with land managers examining BASE in wilderness areas today, minimizing our impact there is equally important.

Leave no trace applies to video, photographs, or other evidence of our jumps as well. Video of easily identifiable locations can find it's way back to site managers. This can lead to access problems with both legal and illegal sites. Obviously, video and photos of some legal sites, jumped in a respectful manner, won't create too many problems. But evidence of questionable jumps, disrespect of local rules, or illegal jumps can create problems for all of us.

**Contact the Locals:** Whether you are a new jumper just getting into the sport in your area, or a more experienced jumper who is traveling, the original rule of BASE ethics still applies. Always make genuine efforts to locate jumpers local to any object you want to jump from. Not only will this help you to meet some wonderful, interesting people, but it will help to show respect for the hard work of those who opened (and maintain) site access. Further, the locals may have worked out ways to make jumps that you would have to spend years to duplicate. Local jumpers often have contacts, access, and schedules that allow jumps to be made with minimum risk or trouble.

There is a flip side to the "Contact the Locals" rule. If you are the local, you have a responsibility to provide guidance, help, and access to other jumpers, especially new jumpers in your area. While protecting site access and keeping your guests (or new jumpers) uninjured can be a valid reason to keep them off of some sites for a time, many experienced jumpers appear to restrict access for no good reason. If a visitor (or new jumper) is qualified for a site, and has shown themselves to be responsible with their site knowledge, it is the duty of local (or more experienced) jumpers to guide them. When this duty is neglected, the system begins to break down. Note that this does not mean that locals ought to be expected to come out on a moment's notice to show you around. Nor does it mean that you are expected to take every new jumper out whenever they want. Few experienced jumpers have the energy to keep up with the seemingly insatiable thirst of a beginner to make numerous jumps off the "same old boring tower." We all have lives, and BASE has to fit into the framework of those lives.

There is a balance here, between the local guides and visitors, or the experienced jumpers and students. Maintaining it requires effort and understanding from both sides. Visitors and new jumpers must be patient and understanding. Locals must be willing to help visitors and new jumpers. When either side fails to live up to this tacit understanding, the system begins to break down, leading to political divisions, community bickering, and, eventually, less jumps for all of us.



**Site Burning:** In the lexicon of BASE, "Site Burning" is the most common, and to some the worst, of the deadly sins. The meaning of this term is not always clear, however. What do we BASE jumpers mean by "Site Burning," anyway?

***Site Burning is any action that makes it harder for other people to make jumps from a site.***

Site Burning comes in various degrees. You'll hear people talking about "heating up" a site, "torching" a site, and a variety of other colorful metaphors related to fire. In general, the more damage someone, or something, has done to site access, the more violent the fire parallel.

At an illegal site, burning, of one degree or another, can come from something as simple as being seen by random bystanders. It can also be the result of press coverage, injury (or fatality) accidents, or arrest. Any of these things can filter back to authorities, and that can result in increased police scrutiny of the object.

At a legal site, burning usually also consists of things that draw undesirable attention to jumping, disrupt non-jumpers around the site, or result in authorities regulating (or even banning) jumping of the object. These things can range from disrupting traffic across a bridge to public nudity, profanity or intoxication in view of non-

jumpers, to putting local kids off for static line thrill rides. Note that some of these things may be technically legal--but if they result in impaired access for other jumpers, they are still a form of site burning (this is one of many areas where BASE ethics do not move in step with public notions of legality--but this time on the stricter side). Obviously at legal sites, other actions, such as lawsuits, lobbying of public officials, or ignoring guidelines created by local authorities, can restrict site access, as well.

The very worst Site Burning offense is one that causes a legal object to be closed to jumping by the authorities. Our legal sites are few, and precious. The loss of jumping privileges at any one of them is a major blow for the entire BASE community.

**Legality**: BASE ethics are not necessarily related to legality. It is obviously possible to make an illegal jump, which is, by BASE standards, perfectly ethical. It is also possible to make a legal jump that is not, by BASE standards, ethical. The two systems (ethics and legality) operate independently. In some cases, ethical standards are stricter on illegal jumps (for example, leaving no evidence). In others, particularly access sensitive sites, higher ethical standards must be maintained on legal jumps (for example, respecting local culture in areas where local authorities might consider banning jumping).

Remember, the underlying goal of BASE ethics is to make it easier for everyone to make more jumps. A simple personal guide to the ethics of a jump can be had by asking yourself "am I making it harder for others to jump here?" on any particular jump. If your actions can harm other jumpers' ability to jump, ask yourself what you can do to reduce that impact. Being respectful of others will make your BASE career simpler, easier, and more fulfilling in the long run.

*This article was written entirely by Tom Aiello, BASE 579. Tom made his 1000th BASE jump in 2003, and has jumped from over 200 objects. He is the chief instructor at the Snake River BASE Academy (www.SnakeRiverBASE.com), in Twin Falls, Idaho, United States, where he is the world's only full time BASE jumping instructor.*

Ethics in a Self-Regulating Group
*by Adam Filippino*

Ethics is a broad and controversial subject. As BASE jumpers we exist under a stigma created by years of misunderstanding and misrepresentation. It is only recently that the general skydiving population has accepted BASE jumping as a positive thing. The general public and authorities are still uninformed and quick to draw conclusions and make judgments.

Adhering to a few simple principals will make the sport better for everyone. The following represents a simple set of rules to participate by. They are not necessarily intended as absolutes, but rather key points that can help shape our decisions about how we behave.

Respect our environment. Do not leave trash on trails, at exit points or in landing areas. Clean up after yourself. Remember first impressions last. If you garbage is what people find in the wake of a BASE jump we all appear to be litterbugs.

Adhere to local trail use guidelines. Don't be the one who forces restricted access to back country areas.

"Take only memories, leave only foot prints". Our activity should be transparent. It is not a spectator sport. Every uninvited spectator will increase awareness of our presence and this can eventually lead to reduced access.

**Every BASE jumper is an ambassador of the sport. Conduct yourself professionally**. Do not damage other's property in any way. Treat backcountry areas properly. If you are caught trespassing be polite and cooperative and be prepared to pay a fine based on local codes. Antagonize the authorities and they will come down HARD. Demonstrate that you are prepared and qualified at what you do and take responsibility for your actions and they will, at a minimum, have some respect for you. In a trespass situation the immediate assumption is that you are up to no good (usually stealing). Make it clear that your actions are not malicious.



Have a plan of action to contend with both injuries and deaths should they occur. During a crisis is not the time to make these types of decisions. Leaving the scene of an accident is not an option.

Treat BASE sites with respect. Flagrant or reckless exploitation of sites will only reduce the already limited number. Be careful with whom you share information.

Remember that it is not if you get caught but if you get seen.

When visiting an area, check with local jumpers to get the relevant information to safely and discretely jump at the local sites without causing problems. There are several public forums that can help you make contacts in new areas. Don't defy the local protocols unless you have an extremely good reason for doing so.

Promote the sport through education and professionalism, not self - promotion. Do not attempt to glorify yourself at the expense of the sport's image or the accessibility to an object.

The media is both our friend and our nemesis. Be cautious when dealing with them. Even if they empathize with your goals they will NEVER have the same goal as you when it comes to portraying the sport. Trash sells. Even the best- intentioned piece is forced to sensationalize to some degree if it is to sell in today's market.

When dealing with authorities demonstrate professionalism and a positive, responsible attitude. Remember, these are the people that have the single biggest influence on our access to sites.

Realize that BASE jumping is not for everyone. Certain people should not participate. More importantly, certain attitudes are not commensurate with safe and responsible jumping.

BASE jumping is not about cheating the reaper. BASE jumping is the science of low altitude parachute deployments and the art of self jump mastering. When we fail to treat it with forethought and respect - accidents result.

*Adam Filipino is president and founder of Consolidated Rigging, manufacturer of the Ace and Blackjack BASE canopies. Adam is the designer of the Mojo, Ace, Blackjack and Tektite canopies. He was also the initial designer of the Perigee series of harness and container systems.*

**Site Guidelines: Trento, Italy**

RULES FOR THE SAFE PRACTICE OF BASE JUMPING ON THE TERRITORY OF THE PROVINCE OF TRENTO

*These rules were developed by local authorities and jumpers, working together.*

**1) Be a Licensed Skydiver:** Jumpers must hold a sport skydiving license, and have completed a minimum of 300 skydives. If the jumper is a BASE student (less than 15 BASE jumps), at least 100 skydives should have been made in the last 12 months, and all BASE jumps should be made under the supervision of an experienced BASE instructor.

**2) Have 50 Skydives:** BASE sites in the Province of Trento should only be jumped by experienced jumpers with *at least 50 prior BASE jumps*. The main terminal wall is the only exception, and jumpers there should have a minimum of 15 prior BASE jumps.

**3) Use Only BASE Specific Gear:** Do not use skydiving gear of any kind, whether unmodified or converted for BASE use.

**4) Do Not Jump in Bad Weather:** Do not jump in case of adverse weather conditions, wind magnitude greater than 2 meters per second, or insufficient visibility.

**5) Communicate With Others:** Always check in and out with ground crew, or others, who can verify that you have finished jumping safely at the end of the day.



**6) Follow Any Established Procedures For Specific Sites:** Jump at appropriate times and using BASE specific gear.

7) **Jumps made at Monte Brento should follow the following guidelines:**

a) Not less than 7 and not more 8 seconds of vertical freefall in box position, or;
b) Not less than 7 seconds and not more than 12 seconds for the jumpers capable of doing an *effective* track (at least to pass over the talus)

**8) Do not jump after sunset**

**9) Do Not Drop Rocks:** Once on the exit, move with extreme caution so as not to dislodge rocks.

**10) For emergency rescue, call 118**.

**11) Follow Directions Given by Rescue Personnel:** In the event of a helicopter rescue, if possible, please cut away and fold or bag the canopy. A canopy that reinflates from the helicopter's rotor blast could be dangerous to both the jumper and the helicopter.

**Site Guidelines: Moab, Utah, United States**

**1) Prepare before visiting:** It is recommended that you have at least 50 previous BASE jumps before visiting the area. Be sure to practice object avoidance, and have a plan for avoiding object strike when (not if) you have your first 180.

**2) Do not underestimate the difficulty of these jumps:** Because of the popularity of the area, many jumpers assume that it is suitable for beginners. This is not the case. Most cliffs in Moab are vertical (not overhung) and slider down (below 400' in altitude). This means that avoiding object strike after an off heading opening requires skill, currency, and experience.

**3) Respect the environment:** Remember that this is a public wilderness area shared by many groups. Follow good wilderness ethics and minimize our impact and visibility in the area. The hard, dark spots in the ground around Moab are called "Cryptobiotic Soil." These pockets of life are the basis for all the higher life in this desert environment. They are fragile, and off-trail hiking easily destroys them. When hiking or walking in Moab, keep an eye on the ground, pack your trash out, and keep your feet off the crypto.

**4) Contact the Locals:** There are many local BASE jumpers in Moab. If you are new to Moab, guiding to local exit points is available for a daily fee. The locals know the area, and they also know the risks. Be sure to follow their lead when approaching new jumps in this area.



**5) Carry a cell phone:** In case of accident, it's important to be able to call help quickly. Carry a cell phone with you when jumping, and check that you get reception in the area. If you don't have service at a jump, know where the nearest place you have service is, and how long it will take you to get there in the event of an accident.

**6) Be prepared with appropriate equipment and training:** Be aware that much of the Moab area is remote wilderness, and that many jumps are in these areas. Carry extra water, first aid supplies, and rescue equipment when visiting remote sites. Training in rescue and first aid is highly recommended.

**Site Guidelines: Perrine Bridge, Twin Falls, Idaho, United States**

**1) Call the Sheriff dispatch before the start of every jumping day (+1 208 735-1911):** The Sheriff has asked that we call the dispatch at the beginning of any day when there are jumpers on the bridge. This is so that the dispatch operator can calm anyone who calls in the emergency number to report a suicide jumper, and explain that BASE is normal and accepted here. If we do not call, the Sheriff has to send a patrol car to investigate whenever jumpers are reported at the bridge.

**2) Please do not stand on top of the handrail:** The transportation department, which owns the bridge, has asked that jumpers not stand on top of the handrail because it distracts motorists, and they are concerned that it may cause motor vehicle accidents on the bridge. The bridge is the main entry to town from the interstate, and accidents on the bridge back traffic up all the way through town.

**3) When using planks/platforms, remove them when not jumping:** If you place a plank or exit platform, please remove it when your party is not physically present at the bridge (either packing at the visitor center or in the park at the bottom, or jumping, hiking, or riding out). If you leave the bridge for any reason (even to get lunch or to pack at a hotel), please remove launch platforms until you return. Always remove platforms at the end of every jumping day.

**4) Respect the local people:** Twin Falls is a small, rural, conservative, American community. Be aware that nudity, excessive profanity, drug use, or excessive drinking will give jumpers a bad reputation here. Beer in public is acceptable, so coolers in the park are no problem. Music, so long as it's not overly explicit, has also never been a problem.



**5) Don't climb onto the lower steel:** State law forbids members of the general public from climbing onto the lower steel and catwalk below the road deck of the bridge. Please respect this by staying on the sidewalk on the top of the bridge.

**6) Don't attach anything to the bridge:** State law prohibits attachments to the bridge, and the Transportation Department has put signs at both edges of the bridge asking that nothing be attached.

**Site Guidelines: Lauterbrunnen, Switzerland**

**1) Show respect and gratitude for local people:** Remember that BASE here is tolerated because of the goodwill of the local people, the farmers, and Air Glacier (the helicopter service based in the valley). Be polite and respectful of local rules, customs and request. Please show your appreciation and gratitude to the local people in any way possible. Bringing gifts from home for the local people, especially the farmers who own the landing areas, is a great way to show the gratitude of international visitors.

**2) Call Air Glacier before jumping:** Call Air Glacier (+41 (0)33 856 05 60) from the exit point before jumping. Tell them the exit point you are jumping from, and the number of jumpers, and ask permission to jump into their airspace.

**3) Do not land in the high grass:** Land only in areas with mown grass. Landing in high grass bends the grain, which jams the blades of the farmers' tractors. Check the landing areas before jumping. If you don't see any mown grass areas to land in, do not jump that exit without talking to the farmer who owns the fields before jumping.

**4) Do not "manufacture" exits:** Altering exit points in any way is bad ethics at this location. Please do not build up launches, cut trees, or make any other modifications to the exit points.

**5) Do not underestimate the difficulty of these jumps:** This is not an area appropriate for beginner jumpers. Do not be fooled by the videos and popularity of this area. A strong launch and good subterminal track is mandatory to move away from many exit points in the valley.



**6) Don't litter:** Trash at exit points is bad wilderness ethics, but it's also bad manners. Littering shows a disrespect of local people and customs, and generates bad feelings between locals and jumpers. Remember that your behavior here reflects on other jumpers, and directly impacts everyone's ability to continue jumping these sites.

**7) Check with the locals for current closures:** When visiting, ask at the Horner Pub and the Valley Hostel for current closures. Some exit points, particularly the waterfall in the middle of town, are closed seasonally, after accidents, or for other events. Be aware of current closures and respect them. Many closures are posted at www.Subterminal.ch, which is also a good place to check for other information about the area.


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**BASE Timeline**

**15th century:** In the 15th century, we find the most famous genius of all times, LEONARDO DA VINCI, painter, sculptor, mathematician, scientist, engineer, designer and builder of many devices. He studied birds and flight for several years and got basic conclusions in aeronautics. The parachute he designed was pyramidal-shaped, as can be appreciated in drawings included in his notebooks. His original idea was to build a device to rescue people from burning buildings. Although we don't know if he tried this parachute, many people consider LEONARDO DA VINCI the "Father of the Parachute".

**1616:** In 1616 we find a croatian guy, born as FAUST VRANCIC in sibenik, also known as FAUSTO DE VERANZIO, who published a book called "Machinae Nova", in which appeard a diagram titled "Homo Volans", showing a man jumping from a tower, with a square canvas parachute, attached to the jumper's harness with four lines, as can be seen in this picture. This drawing is very similar to the parachutes actually used for sport parachuting.

**1779:** In 1779, SEBASTIAN LE NORMAND, a french physicist, studied about parachutes throwing animals. Due to his many studies, we can consider him the first systematic parachute constructor.

**1785:** It was in 1785 that JEAN PIERRE BLANCHARD, a french balloonist, designed and built the first silk canopy parachute, which could be packed. Before that, parachutes were built with a rigid framework. In 1793, he did an emergency jump from a balloon and broke his legs.

**1906:** A British expatriate named Bobby Leach jumped from the Rainbow Bridge between Niagara Falls, Ontario and Niagara Falls, New York with a parachute in 1906, landing in the Niagara River. At that time the bridge was only about half the distance from the falls that it is now (original bridge was destroyed by ice in the '30′s). Leach was a daredevil, twice swimming across the Whirlpool rapids as a stunt. He later jumped from a plane over Canada but was blown back and landed in New York.



**1912:** Frederick Laws jumped from the torch of the statue of liberty in February, 1912. A photo of the jump appeared in one of Phil Smith's Baseline mags.

**1914:** Stefan Banic, a Slovak inventor, constructed and tested a prototype of a parachute in Washington, D.C. by jumping from a 41-floor building and subsequently from an airplane. His patented parachute became standard equipment for U.S. pilots during World War I.

**1917:** Major Orde-Lees and Lieutenant A. E. Bowen made jumps from Tower Bridge on Sunday, November 11, 1917 with Calthrop's 'Guardian Angel' s 150′ into the Thames to attempt to convince the Air Admiralty to buy parachutes for their pilots.

**1920s & 1930s:** In the 20s and 30s John Tranum did a jump from 154 foot Pasadena Bridge in California and rode a motorcycle off a 1000 foot cliff, parachuting down safely.

**1966:** Bryan Schubert and Mike Pelkey parachute from El Capitan, in California's Yosemite National Park. They use unmodified skydiving gear with round parachutes, and both sustain injuries from landing in wind.

**Feb. 15, 1976**: Don Boyles first to BASE jump the Royal Gorge Bridge

**Summer 1978:** Two week trial legal BASE Jumping period on El Capitan in Yosemite National Park in California.

**1981 BASE Magazine:** Published by Carl Boenish, BASE #4 Six issues were published all in the same year. This was the very first BASE magazine. The early issues covered cliff jumping mostly, the later ones covered all the BASEs and was instrumental in helping launch Carl's BASE numbering system we still use today.

**Jan. 18, 1981**: Phil Smith was awarded B.A.S.E. #1.

**Oct. 17, 1981:** First Bridge Day BASE Jumps made in West Virginia by Carl / Jean Boenish and 4 others.

**1984:** Carl Boenish, "Father" of BASE jumping, is killed on the Troll Wall, Norway.

**1986 - 1988:** BASELINE Magazine, Published by Phil Smith, BASE #1, The longest running of them all, this was probably the best known BASE magazine as well. In the last year or two, Andy Calistrate joined to help Phil. The early issues were informative and useful. The later issues weren't as helpful, but the were fun to read in a weird sort of way. Andy later steered the magazine toward the darker side of BASE jumping.

**1987:** JUMP Magazine, Published by Nigel Slee, BASE #? (see note below) This magazine was published in England. At the time the British Parachute Association is still banning folks for life when they are caught BASE jumping. Photos in the magazine sometimes sported blackouts over the jumpers eyes and faces just like something out of 1920s porno books.

**1989 - 1994:** The FIXED OBJECT JOURNAL, Published by Nick Di Giovanni, BASE #194. This was around longer than most but didn?t produce as many issues as some of the others, about 8 in all.

**Jan. 18, 1991:** Earl Redfern was awarded B.A.S.E. #300.



**Nov. 1, 1994:** Jamie Cardo recieves B.A.S.E. #400

**1997:** The BASE Newsletter, Published by Gerald Harendza, B.A.S.E. 75

**Oct. 9, 1999:** Dennis McGlynn begins 3 month jail term after being convicted of a class B misdemeanor for BASE Jumping in Lake Powel Recreational Area.

**Oct. 22, 1999:** Yosemite National Park Protest held to end NPS discrimination.

## BASE Jumping History

**Origins**

Using parachutes to descend from fixed objects is a pastime that evidence suggests has been practiced, though infrequently, for at least the last 900 years. Unlike most leaps that were practiced from the 12th century, today's BASE jumps emphasize launching without a previously inflated canopy. So, nearly anything that stands immobile and vertical or overhung could be considered jumpable.

From the late 1700s through the 19th century, the advent of manned balloons drew the development of parachuting largely away from fixed objects to jumping from aircraft. It was not until the 20th century that fixed-object jumping slowly began to pick up momentum again as an extension of sport parachuting from aircraft. The early 1900s saw the odd bridge jump and one stuntman's static line jump from the Statue of Liberty. The military's closest involvement to fixed-object jumping became represented by it's parachute training towers, built shortly before World War II. Otherwise, parachuting from fixed objects has had only civilian and sport applications.

By the 1960s sport parachuting from aircraft had developed to the point that experienced skydivers began to more seriously consider trying their wings from non-flying objects. At the increased frequency of about one per year, people made calculated leaps from cliffs in the Italian Dolomites, El Capitan in Yosemite National Park, oil well derricks, or still the odd bridge. Unfortunately, most of these early leaps were poorly recorded, so little is known of them except that they were all done with contemporary round canopies and with varying degrees of success.

Finally, in the next decade, BASE jumping began blossoming into a sport in it's own right. In 1970, parachutist Don Boyles, using a standard military surplus B-4 container and 28-foot military surplus round canopy, successfully freefall jumped from the 1,053-foot-high Royal Gorge Bridge in Colorado. Then, the following two years, Rick Sylvester made three more jumps from El Capitan, this time by skiing off with a triangular-shaped Thunderbow canopy. Sylvester was an expert skier and novice skydiver who would, in 1976, repeat the stunt for a James Bond movie, this time with a round canopy from 3,600-foot Mt. Asgard on Baffin Island in Canada. Though newer, better performing square-style parachutes were being developed at the time, in 1975, Owen Quinn made a highly publicized jump from the 110-story New York World Trade Center using a round canopy. But it was really the El Capitan ski jumps that proved to be an important catalyst in the popularization of fixed-object jumping a few years later.



By 1977, a small group of very experienced skydivers (some of whom were also expert hang glider pilots, and all pioneers) had realized that with the new, modern, high-glide-ratio square canopies, the overhanging El Capitan now could be repeatedly jumped with consistency in reaching the meadow landing are instead of landing in the rocks or trees directly below. These jumpers made plans to jump El Capitan the following year. The time was finally right for the concept of powerless self-flight to branch off from aircraft launches and return to it's pure roots of using objects for altitude, as had been done until the 18th century.

**Popularization**

On August 8, 1978, after putting a year of thoughtful research into the concept, Carl Boenish and three other expert skydivers made the first modern leaps from El Capitan, and popular BASE jumping was born. The jumpers used their regular aircraft skydiving gear: a state-of-the-art piggyback dual container system with a round reserve and a square main, Cape-well or three-ring riser quick-releases, leg straps with B-12 snaps or thread-through closures, and standard 36-inch pocket-stowed pull-out pilot chutes.

Unfortunately, El Capitan is located in Yosemite National Park, where an administrative regulation was in effect which called for a "responsible sanctioning organization" for the activity, and this requirement unexpectedly proved to be a major bureaucratic hurdle to cliff jumping there for years to come. When initially contacted by the

National Park Service, the United States Parachute Association neither had knowledge of the activity nor could sanction it due the fact that cliff jumps originated below the minimum opening altitude of the USPA's Basic Safety Regulations, so they refused to become involved. Bureaucracies being generally unable to deal with the individual, the Park administrators consequently decided to take a stand against cliff jumping activities in their jurisdiction and began arresting and citing jumpers with violation of two ostensibly applicable sections of the Code of Federal Regulations, title36: 2.2 Air delivery, and 2.36 Powerless flight. The precedent was set, and the National Park Service became an unexpected source of ill-founded legal problems for cliff jumpers in Yosemite and everywhere else in the National Park system.

Nevertheless, the movie film and still photograph coverage of the recent pioneering jumps was shared throughout the general skydiving community and created a wave of jumper enthusiasm that swept over the Park as of the following May. Legal difficulties notwithstanding, over 50 more jumps were made by almost as many different jumpers by the end of 1979. The jumpers shared the necessary technical information by word of mouth, though dissemination was far from comprehensive, El Capitan is a very forgiving jump site and skydivers were able to get enough basic information to make the leap safely.

As the rate of jumping increased, it was apparent that both skydivers and spectators both loved and were inspired by cliff jumping and that it was bound to continue. So Yosemite chief ranger Bill Wendt made a sincere attempt to help cliff jumpers get organized sufficiently according to regulations for permits to be issued for the activity.

Then, in early 1980, the USPA decided that it could be involved after all, and cliff jumpers united in what they thought was a cooperative effort with the Park officials, and permits for jumping from El Capitan were first issued by the National Park Service on July 1, 1980. Over the next nine weeks, 372 jumps were made from El Capitan. However, a few major wrinkles had yet to be ironed out in overseeing of the activity: several accidents, conflicts and Park damage resulted from insufficient preparatory and technical information being available to the burgeoning number of jumpers. Moreover, the burdensome administrative requirements doomed the program to failure, an outcome then-Park superintendent Bob Binnewe is claimed publicly was his goal all along. With no other organization in existence at the time for fixed-object jumpers, and USPA eager to wash its hands of the problem, permits again became unavailable after September 9, 1980.



In halting it's issuance of permits though, NPS officials failed to discern that cliff jumping should have been allowed once again after a sufficient period had passed for making organizational and regulatory changes; otherwise, cliff jumping would not stop but only be driven underground and away from acceptable safety measures, which it was at Yosemite. But progress and development of the sport did not stop; cliff jumping did continue, there and elsewhere, and the focus turned to perfecting techniques and discovering other types of fixed objects that could be jumped.

**Expansion**

The years 1979 and 1980 were pioneering times in fixed-object jumping. It was a period of great excitement during which an ever-increasing number of skydivers began to expand their abilities beyond the use of aircraft. A complete foundation was laid for the future development of fixed-object jumping in which movie and still film coverage played an invaluable role.

In August 1979, John Noak, Dave Blattel, Robin Heid and Carl Boenish jumped from the Royal Gorge Bridge in Colorado. Boenish, responsible for having organized, filmed, and taken part in the previous year's historic jumps from El Capitan, filmed this event too and he was destined to take part in and film nearly every major fixed-object jumping development until his death on July 7, 1984. On this trip to the Royal Gorge, all of the jumpers were using equipment similar to the state-of-the-art equipment used at El Capitan. However, due to the lower altitude-1,053 feet agl- and the tighter landing area, two jumpers freefell, but two used pilot chute assists. This worked very well in contrast to the jumpers who free fell from the bridge. After this experience, one of the jumpers

suggested accelerating the square canopy openings by removing the slider. Not quite a year later, this method had been tried, proven, and accepted as the primary equipment alteration.

In 1980, some direct experimentation was done with airspeed on exit. Fixed-object jumpers theorized that a build-up in momentum could aid both stability on launch and better clearance from the object, much as the acceleration of previous ski jumps had carried the jumper off the edge and away in a condition more closely related to familiar aircraft skydiving. One jumper tested a launch over the railing of a 450-foot-high bridge from the bed of a truck traveling at 70 mph. He exited less than half way across the bridge so that the forward throw of the launch would carry him to the deepest part of the ravine for deployment. The jumper used a pilot chute deployed round canopy freely packed in a piggyback container, which he insisted on tacking closed with only a strand of home sewing thread. The canopy came out 45 degrees to horizontal and opened at an unimpressive altitude as the jumper, who had slipped on push-off, was head down and terribly unstable during deployment to the point where a smoke canister he was wearing on his foot burned part of the canopy during extraction. Some months later, better stability data was obtained at El Capitan during the permitted jumping season: observation of running launches, standing launches, and two exits made while riding skateboards off of the edge, revealed that extra momentum magnified, but did not improve, the quality of stability on exit, but extra momentum always increased the distance that could be attained from the object.

In the latter half of 1980, the cliff jumpers' repertoire expanded to include television and radio antenna towers, the second highest bridge in the US- West Virginia's New River Gorge- and two new major cliff sites at opposite ends of the spectrum- Norway's mile high Trollveggen, and Arizona's 580-foot-high Canyon de Chelly. The same equipment was still being used, but technique was being perfected. All of these sites, plus others, afforded jumpers places to test and expand the limits of the new sport with regards to multiple-jumper launches, exit techniques, canopy and equipment specifications, static line versus free fall, and effects of wind conditions. Generally, fixed-object jumping remained similar to aircraft skydiving in nearly all respects except for the still-air launch, the on-heading opening requirement, and the stricter time constraints. However, a multiple-jumper exit, also called relative work, presented a new set of challenges.



At El Capitan, it was quickly discovered that skydiving techniques of simply holding on to one another as a means to exit together as a unit did not work. The formation would immediately fall apart upon launch due to the differences in acceleration of the jumpers. Even when just one jumper would exit right behind, and within reach of another, though there was less than one-half second difference in launch times, a 10-foot separation would result. Ideally, the jumpers would exit side-by-side, as they could at other sites, and then accelerate together at the same rate. Other than side-by-side formations, true relative work had yet to be perfected in fixed-object jumping.

The first jumps from the 580-foot-high wall at Canyon de Chelly in Arizona, exhibit the striking progression of the sport of fixed-object jumping when compared to later jumps made at the same site. On October 3, 1980, the standard pin-closed skydiving piggyback main and reserve set-up with a normal sized pilot chute was still being used for all fixed-object jumping. On that day, the first four jumps were made from Canyon de Chelly using static-lined 23-foot Piglet round canopies for solo exits. Square canopies were not used due to insufficient wall clearance in case of an off-heading opening. Free fall was not considered because of the insufficient margin for reserve deployment altitude in case of an emergency.

In contrast, almost two years later, and at a different site, lighter F-111 26-foot R4-2 round canopies with large pilot chutes had been free fallen for three seconds from a 400-foot cliff over water, and openings were found to be just about halfway down. Armed with the new information and equipment, by 1983 the Canyon de Chelly site was being visited consistently by jumpers doing two-person exits, one behind the other, taking two and four second respective freefall delays. Even one modified three-person exit was done with the third jumper launching as soon as the first person's canopy open. The very end of 1980 marked the end of the pioneering era of fixed-object jumping and the beginning of a continuing era of development. The legwork had been completed for the first sport building

jumps to be history in less than one month and periodic media coverage was being given to fixed-object jumping as a spectacular thrill seeking activity, but far-sighted jumpers could see their new pastime becoming an accepted sport before the turn of the century. Already, improved equipment was being designed and tested, and there were about 500 fixed-object jumpers worldwide.

**Development**

*The United States BASE Association*

In January of 1981 the acronym BASE was coined to denote fixed-object jumping by the four possible categories of jumpable objects: Building, Antenna, Span and Earth. That same month the first sport building jumps were done, and with those, four jumpers had completed jumps from each object category and were designated the first four sequential BASE Jumper numbers. Concurrently, the United States BASE Association was founded by Carl Boenish and dedicated to the safety, advancement, and positive public image of BASE jumpers and BASE jumping throughout the world. BASE jumping was designated a sport, not a stunt, and the publication, BASE Magazine, was initiated to share observations and inspiration with anyone interested in the concept of BASE jumping. The Association became a multimedia information and data center supplying both the jumpers and the public with whom it interfaces.

*Equipment*

Though aircraft skydiving gear had been used through 1980, in 1981, to ensure "equal opportunity deployment", more appropriate equipment was developed for lower altitude objects, particularly since most BASE jumps were then being made from sites much more challenging than El Capitan. Fast, on-heading parachute deployment is one of the most important needs of the fixed-object jumper, so Jim Handbury created a harness and Velcro-closed container system from a normal skydiving harness with a modified container arrangement.

**El Cap 1966**
*By Mike Pelkey*

The year was 1966. BASE jumping didn't have a name yet and there were no FJC instructors around, so we had to play it by ear. The square Ram-air parachute technology hadn't been invented yet, so we had to make do with the round state-of-the-art modified military parachutes which were widely used those days. The Cap had never been jumped. In fact, the only "BASE" jump in the 1900′s was from the Statue of Liberty by Frederick Law. We were not aware of that jump at the time.

Our mission was quite simple. We wanted to be the very first parachutists to conquer the Cap. The hike to the top was extremely arduous. Brian Schubert, Jim Cleary and I made the tiring trip to the top in approximately 8 1/2 hours. The gear was much heavier back then. We did our utmost to appear as backpackers in the event we might be seen by anyone in authority on the way up. We had no idea whether the park rangers would stop us if they happened to recognize that we were parachutists, but we didn't want to take any chances.

When we reached the top we came to the most perfect launching pad we could ask for. It was as close to perfectly horizontal as it gets and hung out over the edge at least 6 to 8 feet. Jim Cleary was not there to jump. He was with us to do his best to record the event with a still camera.

As I was finishing getting geared up (we both wore full jump suits, paratrooper boots, helmets, 28 foot TU-7 mains and 24 foot reserves), Brian beat me to the punch and exited without so much as a warning. I followed right behind him. We knew nothing about still air jumps and we both apparently exited in the same haphazard manner. Two hundred feet below me, to my amazement, Brian began executing a front loop. As I was wondering why he would be performing ariel maneuvers while he was still within ten feet or so of the face, I started my own unintentional front loop, perfectly identical to his.

We had no reason to be real concerned about off-heading openings. That was one redeeming characteristic of the good old round parachute. They were made more to float you safely down to earth than to fly you where you might want to go. There was no chance of clearing the trees and making it all the way to the clearing so our only choice was to land on the rocky talus right below the face.



Once open, the winds were incredibly erratic. At one point I was considerably higher in my open canopy than I was when I opened. I encountered some extreme updrafts and sidedrafts. The wind blew in every direction except directly away from the face. At one point, coming out of a tricky side draft, I made an unfortunate decision to turn my canopy around to face the mountain so I could see when I hit it and kick myself away. Striking the cliff fractured a bone in my ankle. I knew I would somehow have to be able to land on it at the bottom and I could be in trouble.

Brian had worse problems. His canopy collapsed from the erratic winds as he rode the last 50 feet or so down the face of the mountain. Landing on the rocks below with a collapsed canopy cost him some very severe injuries to both his feet. I was very fortunate to end up landing like a feather with my broken ankle.

We both spent some time in the hospital. I was released the same day but Brian was confined a bit longer with his injuries.

We did, however, accomplish exactly what we came for.

**August 8th 1978**
*By Nick DiGiovanni, BASE 194*

No one can say who made the first successful fixed object jump using a parachute because it's lost in a blur of history and misunderstanding. However, there's a more recent date we can and should observe.

On August 8th 1978 a small group of jumpers stood atop Yosemite's El Capitan. Several reconnoiters to the top, hours spent looking over the edge, calculations and reckoning all say it's possible. There's nothing left to do, but to do it.

Kent Lane stands and tightens his leg straps. He glances back at second off (to be) Tom Start, third off Mike Sherrin and fourth off Ken Gosselin, friends he's known all his jumping life. And they are looking at him in a way he's never seen before. Quietly, "rolling," is heard in the morning air as Carl Boenish's cameras whirl into action and Kent takes a deep breath and a few steps, and disappears over the edge. And then, one by one, so do Tom, Mike and Ken. They all four track away from the big wall going ten to eleven seconds before using ram air canopies to land smoothly, no fuss, no muss, in the meadow below.

This is the day fixed object jumping became repeatable and the day it became a sport. Kent later said it is the most memorable jump of his career. He says he's, "dosed by pure velocity." Carl's films of that morning bowled jumpers over when he first showed them later at the drop zone. His films not only conveyed the magic and beauty of the whole thing, it also made it look rather easy and fun. Guys in the sport for thirty years are walking around saying, "Man, I never even thought of that."

So I suppose as we credit Carl for giving us all a path to follow we must also acknowledge he's also the first site blower, in fact he blew the whole frigging sport! Be, I think, more concerned with saving lives rather than sites, places that in the long run never really go anywhere anyway. Happy Birthday!



*About Nick Di Giovanni*

*My four year tour with the United States Marine Corps is winding down and I happily find myself stationed at Kaneohe Bay in Hawaii as a combat photographer. The year is 1975 and there isn't much combat to photograph in Hawaii so I spend most of my time surfing. Pyramid Rock is a beach just off the departure end of K-Bay's single runway and I had it all to myself. The waves here are rolling six foot walls of glass and it's the best surfing of my life until one day, out of the blue, another surfer shows up. Sitting on the beach pondering this sad state of affairs I looked up at a passing helicopter and saw a lone jumper exit, free fall for about ten seconds, and open his round parachute. "Gee," I quickly realized, "that guy has the whole friggin sky to himself."*

*The next evening I presented myself at the Kaneohe Marine Sport Parachute Club and they quickly relieved me of thirty five dollars for a week long first jump course to begin the following night. Since the club's gear and helicopter support is supplied by the Marine Corps, my thirty five dollars, I noticed, went right into the club's beer kitty. I sat that night and listened to the very first jump stories I ever hear, got drunk, and knew I wanted nothing else but to be like these guys. I hadn't even seen a parachute yet.*

*After the Marine Corps and with a hundred jumps I migrated to Lake Elsinore, California where I met many of the people who would later become instrumental in the birth of BASE jumping. On a magical summer night in 1978 Carl Boenish, without much fanfare, showed his El Capitan footage for the very first time. I dropped my beer. Years later, Carl's wife Jean, says, "Carl, at that time, is just the jolly film maker going around showing his latest stuff. He really isn't there suggesting anyone else take up cliff jumping."*

*Inadvertent, or not, Carl Boenish, through his films that made their way around the world from dropzone to dropzone passed along the message to all parachute jumpers that said, HEY, YOU CAN DO THIS TOO!*

*I later became a Jumpmaster, an Instructor and AFF rated in one of the first courses held in California. I made my first BASE jump in the early 1980's and in 1990 went to work for Basic Research, a world known BASE gear manufacturer. I also edited and published, along with Ralph Mittman, The Fixed Object Journal, a magazine for BASE jumpers. I'm presently living aboard my sailboat, Julia Bell, on San Diego Bay.*

**The Acronym**

*By Nick Di Giovanni*

Around the kitchen table at Phil Smith's house in Houston, Texas, Carl and Jean Boenish, along with Phil and a few others are planning something special. Something none of them had done before, something they had never even considered before. They are going to jump from the top of building under construction, the Texas Commerce Tower. The year is 1981.

At this point in fixed object jumping's young life bridges, towers, and cliffs have already been jumped and they, especially Phil Smith, thought tall building are the next logical step. Phil Smith should be credited for opening the world to low objects after a return from his first El Cap jump.

El Cap is considered doable by most skydivers because there is time for a reserve deployment if needed. Phil Smith is about to change all that. He says, "After returning from California I was driving to work and I saw something. It was something I drove past daily, but never took much notice. Now it's like I'm seeing it for the very first time. It's an eleven hundred foot radio tower and Phil jumped it the very next morning. He is the first to realize that if jumpers are willing to forgo the reserve option it would open a whole class of new jumpable objects.

While Phil is excitingly talking about the downtown building jump Carl Boenish gets an idea and begins scribbling on a notepad. Jean then mentions a building jump wouldn't be a first and talks about Owen Quinn who jumped from New York's World Trade Center towers in 1975. That jump is remembered as more of a stunt, and Owen is somewhat unfairly branded a nut job. "The world," Jean said, "wasn't ready for this sort of thing in 1975."

Carl Boenish is only half listening to the rest until he says, "Hey, look at this."

He passed the notepad around the table and there is a large word all in caps and circled.

The word is BEST.

"Well," they all said?

"Don't you see it. It's an acronym for the objects that are being jumped. B is for Buildings, E is for Earth or cliffs, S is for Span or bridges, and the T stands for Towers.

"BEST Jumping?" Phil said.

"I like it," Jean said.

Carl, had by that time, realized what they and others were doing wasn't skydiving anymore. It was a new sport and it deserved a new name. When the word BEST wasn't really accepted by the group, Carl picked up a small dictionary knowing now what he was looking for, an acronym, and it wasn't long before he found it.

How about this one, "BASE?"

Phil Smith is the very first one to say it out loud, "BASE jumping."

They all just looked at each other for a little while.

"I don't like it," Jean says. "Not all towers are Antennas and the second definition of BASE," she says picking up the dictionary, "is evil and vile."

But it's too late.

It was too cool and Phil later says he felt chills just saying the word. The boys are repeating it over and over. "A BASE jump, BASE jumping, a person doing this would be . . . a BASE jumper!"

A few weeks later Carl Boenish announces the new name along with the sequential BASE number award program in SKYDIVING Magazine. Phil Smith, who did indeed jump the building in Texas becomes BASE number 1. BASE number 2 went to Phil Mayfield and Jean and Carl became BASE 3 and 4 respectively.

**The Tool**
*By Nick Di Giovanni*

The road to Todd Shoebotham's house and the birth place of TNT Rigging is a windy two laner and Southern California this night is warm, smells of oranges and violet, and is perfect for BASE jumping. I see it for the first time across his living floor. Leaning against a chair. It's the third one. "You can keep it, but never sell it." Todd says.

It sat there, packed, black, and all wicked looking.

The Tool…

Velcro closed containers are first used in skydiving in the form of front mounted Jerry Bird Rip-Off Reserve Containers (aptly named for this thread) in about 1977.

In 1982 Carl Boenish is thinking of launching a tethered hot air balloon to 300 feet over Lake Elsinore and jumping small rounds into the water. He looks down at his Handbury skydiving rig and thinks, gee, metal ripcords, springs, hard housings, and a last hope rope, this isn't the right tool for the job at hand. He approaches Master Rigger Jim Handbury and before he could finish explaining, Jim holds up his hand and says, "I know exactly what you need."

The next morning Jim Handbury hands Carl Boenish two brand new rigs. They are novel as both are single container systems. They are held closed by their own bridles which are covered with a very narrow strip of Velcro. "Don't jostle the rigs around too much," Jim said, "once you have them on," and almost as an afterthought he added, "hold the pilot chutes in your hand and jump."

On June 7, 1984, in a small trailer in a dusty Arizona desert the phone rang. Rich Stein, BASE 74, picked it up and heard the awful truth of it. Phones began lighting up all over the smallish BASE community. It spread from jumper to jumper, and one by one, they all heard the news that Carl Boenish was dead.

Prior to Carl's death a cottage industry of BASE gear manufactures began to spring up from nowhere out of garage lofts across the country. The best of them survived and are the BASE gear manufacturers of today.



In those days you could send a skydiving harness to one the earliest outfits (none of them capable of building a harness at the time) so you'd spend a weekend picking the stitches out of an old skydiving rig and a few weeks later they would send it back, shrivel flap equipped, with a new container, and it was, for the times, a for-real BASE rig. The ultimate airworthiness of the harness was your own look out. They sold for as low as 70 bucks and became the model-T of BASE rigs. They came in any color, as long as you wanted black.

Like the idea for the first airplane, how BASE equipment should be manufactured came to a lot of good people at about the same time, but only fully to those who could recognize the new technology, and more importantly, knew how to implement it. They were free to dream something up in the loft one afternoon, and had the courage to try it, off a building downtown, that night. We are fortunate to have these wizard class riggers among us.

When I came to BASE most people are still jumping skydiving gear. The only consolation to BASE is a larger pilot chute and longer bridle nonetheless plugged into a bag deployed Wonderhog or Racer, or something like that, topped off with a 7-cell like a Cruislite, Fury, Pegasus, or Unit. The hot setup.

None of us, I think, can fully take credit for too much, except for this:

We truly are the very first generation of human beings who can fly…

**The Flatbed Ten**

*By Nick DiGiovanni, BASE 194*

The Flatbed Ten was a diverse group and "asshole" certainly applied to some of them, but not all. (I wouldn't call Ray Cottingham that, where it might apply to Dennis Murphy). And a few of them are dead now anyway.

The jumpers didn't really push the USPA into the El Cap program. The USPA is firmly behind the idea after a legal demonstration jump (that went better than the one done 25 later) where many on the demo are USPA officials. There is a meeting held at Perris Valley in the spring of that year attended by Joe Svec and others from the USPA, and a bunch of local jumpers like Dick Pedly, and Bob Blanchard. I was there because someday I wanted to jump El Cap too. The meeting is called to hammer out the rules . . .

The first rule that didn't go down well is (jump) boots. This is a time when only students wore boots and a pair of ratty sneakers are badges denoting an experienced jumper. Amusing now that we are all wearing boots again.

The gear requirements are simple and reflect the level of skill possessed at the time. Remember, these people aren't BASE jumping; they are skydiving off a cliff. A square main and round reserve are required. The thinking is a cutaway would be a low one and a round would be safer to land on the boulder strewn talus than a square. This isn't as weird as it sounds when you consider many jumpers are still using square/round combinations at the drop zone.

No jumps after 8:30 or 9:00 in the morning. This is one that should have raised a red flag, but we didn't know any better at the time. Jumps should always be dictated by conditions and not by time. This rule would come back to haunt us. The jumps are by individual permit issued by the Park Service. That one didn't work out too well either. If you are a Frog, Brit or Aussie whose visa has expired you tended to skip this portion of the rules. No Night Jumps . . . Little did we know, that sometimes at night, under a full moon, might just be the safest time to jump. (Especially if you are Frog, Brit, or Aussie whose visa has expired). Hard helmet, jumpsuit, eye protection, and an altimeter rounded out the rules. Oh, and no group exits or RW.

The USPA printed a couple of "how-to" articles in PARACHUTIST and the show was on. It lasted eight weeks. The Flatbed Ten is just the last straw. There are numerous night jumps, un-permitted day jumps, lots of RW attempts including a four-way diamond that almost didn't funnel. And like newer BASE jumpers today, these skydivers are at the top of their game and no one is going to tell them what to do. There is some inference the Park Service allowed the program in the first place in order to log enough rule breaking to close the park to jumping forever. And we gave them rule breaking in spades.

The USPA went to a position that fixed object jumping and skydiving are two different things and washed their hands of it. There is much grumbling about this after all the guys at Headquarters made their jumps (including Bill Ottly, who had a picture of his El Cap jump the size of the Mona Lisa hanging on his USPA office wall until the day he retired) that the rest of us could just swing in the wind.



Every time we go into some agreement to jump that involves rules we have this same problem. Rail jumping has been a no-no for over twenty years. It's the rule at Greenie; it's the rule in the Arizona desert. It should be taught in all first BASE jump courses, along with history of the sport in general. (I hate hearing, this course is just site specific so we skip all that.")

We have two choices. Either we do a better job educating newer BASE jumpers, or we tell the "Man" that human flight is our birthright and they can shove the rules up their ARSES. If all BASE jumpers followed artificial rules we'd never be where we are. BASE technologies exploded because there were no rules, no permission to beg, in order to try new things.

Nowadays, we must tread more lightly, because we are leaving a bigger footprint. We should protect newer jumpers from themselves and what they can do to the sport. How you do that is another thing.

**BASE jumping in Yosemite**

***By Q. Tuan Luong for the Yosemite Rock page.*** *This is a history of base jumping in Yosemite, from how it came to be illegal, to some recent events. Please note that this is from the perspective of a non-base jumper*

The first time I had heard of El Capitan, more than fifteen years ago, was not from another climber, but from a French army officer of the Air Force *Fusilliers Commandos*. He was traveling to California and couldn't pass up on the opportunity. He hiked by himself in the afternoon to the top of the mountain, waited a few hours into the night, and jumped and landed in the dark without any fear. Aftewards, he had a custom T-shirt made, and was amused to see how some American skydivers seemed outraged.

BASE jumping refers to the four general types of structures from which people jump: Buildings, Antennas, Spans (bridges) and Earth (cliffs). It is the most extreme form of skydiving because altitudes can be ridiculously low, the objects themselves represent a hazard, and landing areas can be quite small. Of course, the more extreme it is, the more it attracts some people. At one point, I looked seriously into it, but fortunately I was distracted by other pursuits. The sport really begin in earnest in 1978, when freefall photographer Carl Boenish led a group of jumpers to El Capitan's summit and produced a spectacular short film of their skydives. The film inspired jumpers to visit Yosemite Valley and NPS, not knowing how to respond to this new activity, eventually banned it.

People still seem to jump there all the time. I have seen many articles in climbing magazines with interviews of someone who mentioned (often with a lot of details) that he had jumped. I've heard that the late Xavier Bongard (who, by the way died BASE jumping in Switzerland) had jumped more than 10 times. Almost everyone who has spend time on El Cap or at its base has seen someone jump. I have heard a few people (on the net or live) reporting that they saw someone die. Jumps happen usually before sunrise, but I have seen two people jump at 8pm in June and apparently get away with that.



After climbing the Nose, Frank and I bivied at the top. At sunrise, we were surprised to see two French guys walking around. They happened to be somewhat well known climbers. They had hiked up the day before, and planned to jump, but decided not to because of some wind, and ended up descending the East Ledges route with us. The most favored exit point seems to be an overhanging triangular piece of rock at the top of Mescalito aptly named the "diving board".

The only problems is not to be killed and not to be caught. There has been a few reported fatalities. I think the NPS tries to avoid publicity about this sort of thing, so the actual number might be higher, maybe a few per year. It doesn't look like a very dangerous jump (by BASE standards, I mean. BASE is a extremely dangerous sport). The upper two-thirds of the wall is overhanging, and I have seen videos of people jumping in tandems, on bikes, etc., something you would not do on a risky jump.

If caught, you'd go to jail, be fined $2000, and have your gear confiscated. A pretty stiff punishment, in my opinion, for a legally rather minor violation. Paragliding, a very different, and considerably safer sport, which consists of taking off a slope or cliff with an *open* canopy is banned mostly because the Park rangers assimilate everybody with a parachute to a BASE jumper. However, some windows are open for hang-gliding, despite the more obstrusive nature of the sport. If your car has bumper stickers which mention skydiving, the rangers might even hassle you, like searching it or showing you pictures of the dismembered bodies. They really hate that. They have to do a lot of paperwork and clean up the mess.

When commenting on why BASE jumping is illegal in Yosemite, Eugene Miya wrote: "*The problem with BASE jumping (and hang gliding in Yosemite) isn't the hazard to the jumper (pilot), the problem is that tourists do two things not in keeping with the Park: 1) they drive into meadows and park for better views, and 2) they drive in the trees and rocks on the side of the road because of the distraction. So it's scooping up the remains of the spectators which causes big Park problems.*"

**Some history**

Kenn Osborne gave me the following details:

The FAA is the only organization that sets actual laws related to skydiving. They have FAR's for jump aircraft and riggers(reserve manufacture and repack) and a small section on skydiving that is rather brief. These are the only real laws about skydiving specifically . The FAA lets skydivers be 'self-regulating' through the USPA. The USPA has manual with BSR's which are supposed to be followed strictly and the rest of the manual is guidelines which are meant to be flexible. If you as an individual or a drop zone violate the BSR's the USPA can take action, which means kicking you or the drop zone out of the USPA. This has no legal weight though. Many drop zones are not USPA Group members and you can run a drop zone and/or skydive legally without being affiliated with the USPA. The reasons some are not is partly because they might disagree with some of the BSR's but primarily because of the attitude that many people have of 'fuck the goverment, I don't want anyone regulating me." In my opinion dealing with the USPA is much easier than the FAA. I think you should understand this situation to fully understand the situation.

Back to El Cap, in 1980 the park experimented with allowing skydiving. Some people who wanted to legalize and promote jumping off of EL Cap convinced the USPA to establish legal jumping with the NPS. Reasonable guidlines were set up like permits, liscense requirements, time of jumping, probably similar to what is happening now with hanggliding. This lasted about 2 or 3 months. There were a lot of problems such as people leaving trash and damaging the environment and not following the requirments.In general many people were not behaving responsibly. There were a few rescues and minor landing injuries but no fatalities of major injuries. While all this was happening 'the assholes' decided that they didn't want to hike all the way to El Cap so they drove there truck up an old logging road as far as they could. This must have been from Big Oak Flat. The Park may have arrested or cited them, but the USPA thought It would help our image if they took action against them and expelled the people involved. Then these people sued the USPA claiming they had no business regualating base jumping. The USPA decided to drop the whole thing. The NPS outlawed base jumping in national parks. Skydivers and base jumpers did not make a very good impression with the NPS and base jumpers alienated the USPA. Now back to the present. In 1993 a base jumping organization tried to convince the park to allow base jumping and was not succesful. I think that it would take an organization such as the USPA to convince the NPS to allow base jumping. There is little chance of this happening because of the past incident in yosemite and the liability it would place on the USPA.



More details are given in this posting, which Kenn helped me trace.

From: Tom Lance Kirwin (tlkirwin@iprolink.co.nz)
Newsgroups: rec.skydiving
Subject: Re: Fixed Object Jumping (BASE)
Date: 13 Apr 1995 11:54:59 GMT

bonitz@ocelot.ece.ucdavis.edu (Robert Bonitz) wrote:

*The Park Service wasn't looking for any organization. USPA took it upon themselves to set up an El Cap jump program and convince the Park Sevice that it was acceptalbe. I remember when Carl Boesnish came to a BOD meeting and showed some footage of jumping off the rock. It was truly awesome and the BOD was wowed to say the least. Joe Svec (director from the SW conference) took it upon himself to get involved and helped establish the program. There were somes rules - e.g., no RW, limited jump hours and days, etc. The Park Sevice eventually agreed. I think they had a pretty good idea that we would hang ourselves eventually.*

*The authority to permit El Cap jumping lies totally with the Park Service. USPA has no authority whatsoever in permitting or banning El Cap jumping. The Park Service banned El Cap jumping after a short period of legal jumping (we're talking months) due to the high injury rate, breaking of the rules (the Flatbed Ten the most notable), etc. The BOD suspended the Flatbed Ten to show the Park Service that the rules were going to be enforced, but that didn't impress them.*



Bob, thanks for setting the record straight. As a new skydiver in the late 70's, I too watched Carl's films of El Cap in total awe and scrambled to complete my D License requirements so that I could apply for a slot off of the rock. One of the great fears of the Park service was a lack of coordinated and controlled activity off of El Cap. Lots of meek tourists have to be rescued off of the many cliff faces inYosemite each year, so the idea of contending with hordes of bandit jumpers (their perception of skydivers) must have inspired great anxiety.

Consequently, one of their requirements was to establish minimum safety requirements in the hope that this activity would not unduely disturb the enjoyment of the park by the MILLIONS of non-skydiving visitors, or demand a disproportionate share of their very limited safety and management resources. As I recall, they were pretty reasonable, given that they were under no obligation to let us jump, and all of their previous encounters with skydivers had them believing that we rere all outlaw jumpers with no concern for our own safety, or anyone else's for that matter. They also felt that we had no appreciation for their swarn duty to ensure the safe enjoyment of the park by all visitors, which they took very seriously.

Their requirements likely seemed like common sense to them. They set things like experience (D minimum), equipment (squares only - round jumpers had already been seriously injured on the boulders below), no

RW or Night jumps, jumper responsibility for the equipment and trash they brought with them (do not throw anything off the rock but yourself), and hours for jumping, to minimize impact on the vast majority of visitors who came to enjoy the view. To get an exit slot required an application in advance to allow resource planning and ensure their control of the situation. In essence, they required the same responsibilities they asked of participants of other activities (like hang-gliders who were delegated to the back of Half Dome) and let us do it on the center showcase of the entire park.

Against the Park Rangers' instincts and fears, USPA was finally able to secure permission to jump. With much trepedation, the Park Service opened their doors to jumping, convinced that we were not to be trusted. Unfortunately, it took less than 90 days for the selfish and irresponsible behavior of scores of skydivers to break or ignore virtually EVERY requirement

set. The Park Service had never encountered a group that so quickly, consistantly, and blatantly broke every rule in their book. The behavior of our fellow skydivers cast us all as irresponsible, criminal, and a general threat to safety and peace in Yosemite.

The USPA valiantly attempted to hold on to this newly won priveledge by "coming down hard" on the misfits, but folks like the "Flatbed 10" were not content to be merely irresponsible and rather than acknowledge their misconduct, became defiant and belligerent. They sued the USPA and showed that they had no real power to control skydivers conduct in a BASE environment and confirmed the fears that skydivers (or at least BASE jumpers) are impossible to manage as a group. In the midst of this circus, and having the Park Rangers' worst fears confirmed, the door to legal jumps off of El Cap was slammed shut.

Eventually, USPA elected to stop consuming membership resources in the legal quagmire asserted by the Flatbed 10, and abandoned their efforts to provide legitamacy to BASE issues. In the meantime, the Rangers were hard at work in their swarn task of defending the peace and order of Yosemite, and came up with a more powerful deterrent to BASE jumper misconduct off El Cap. It seems there is an endangered species of bird that nests in the rock of El Cap, so now it is a federal crime to jump in the area.

I long fantasized about jumping off that rock (legally), so I will concede my obvious bias (I qualified for my D as the door closed). I suspect that many of those whose conduct resulted in the loss of this opportunity may show pride in their performance as they allude to "freedom" and "personal rights." Speaking as a Midwest jumper who would have happily accepted the requirements given ( and more for that matter), I think you ruined an incredible opportunity for the rest of us.

I was not on the USPA board when this happened, but I can imagine that those who put their heart, soul and reputation on the line to make El Cap legal may well have strong opinions about the downside of being associated with BASE activities. I personally do not care about BASE ads, but I support the board, if their counsel believes that membership monies would be at risk if they allow the ads or show an association with BASE activities. I believe the majority of skydivers are flexible on BASE issues, but may be hard pressed to risk their own money and membership dues to help legitimize a group who primarily operate illegally.



**A few accidents**

In 1993, a pair jumped from El Cap. The guy made it, but his girlfriend hit El Capitan Tower and died. Then a heated debate on rec.climbing followed, with many people claiming that it is an irresponsible attitude to jump because "other people will have to risk their lives to scoop your remains".

From the *San Francisco Examiner*, Tue, 22 Oct 1996:

Parachutist dies at Yosemite

Yosemite National Park -- An Arizona man died while illegally parachuting off El Capitan in Yosemite National Park, park officials said. At the time of the accident Monday, Jeff Christman was performing a sport that involves leaping from a fixed point and then deploying a parachute. "We think that his parachute was loaded backwards, and when he deployed his chute he was spun around and sent into the side of the wall," Yosemite

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spokesman Scott Gediman said. Gediman added that
Christman narrowly missed hitting two rock climbers
sleeping on a ledge of the 7,569 foot granite monolith.
Christman, 42, was one of seven people from Buckeye,
Ariz., a Phoenix suburb, who rented a motor home to drive
to Yosemite, Gediman said. Two of Christman's friends
successfully jumped off El Capitan just prior to his
death.  The US Park Service arrested the group's members
- four men and two women - and charged them with
misdemeanor illegal air delivery and recovery. Other
charges were pending. Gediman said Yosemite officials
allowed the sport on a trial basis in 1980 but
discontinued the activity because of the high number of
injuries and damage to the surroundings.
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This report has an accuracy which is quite typical. First, it suggests that El Cap is 7,569 feet high, while this is the elevation above sea level (it is really more like 3000 feet high). Second, the mention of climbers "sleeping on a ledge" made sense at first but does not match well with the facts. This would suggest a dawn jump (as usual), but my friend Scott who was on the East Buttress the same day reports that the jump occured at mid-day. He saw the two first jumpers land in the Meadows. The last chute deployed, but didn't seem to be headed towards any "landable" spot.

In June 1998, Frank Gambalie successfully jumped from El Cap, but rangers were waiting for him at El Cap meadows using an informant's tip. He tried to escape by swimming across the runoff-swollen Merced River, but eventually drowned. The BASE community worldwide felt that the death was caused directly by the NPS BASE prohibition policy, created in large part 20 years ago by NPS prosecutor M. Scott Connelly (who incidentally was drummed out of the NPS after being convicted of having sex with young boys whom he'd plied with drugs, alcohol and money).



In the fall, BASE jumpers held a day of civil disobedience protest in Yosemite. A deal was worked out with the NPS. Instead of trying to sneak as usual, they would jump in full view of the media, and voluntarily surrender to rangers. The NPS would only cite them for "air delivery without a permit", instead of jailing them as usually done (and charging a $2000 fine). One woman who participated in this campaign, Jan Davis, a veteran with more than 70 jumps in the past 16 years, was using a borrowed parachute and gear that had a cord on the leg, unlike her usual gear where the cord was on her back. She used borrowed gear because she didn't want hers to be confiscated by rangers. Unfortunately, she couldn't deploy the parachute, and her death actually worked against the BASE cause, as it supported the view that BASE was dangerous. Some images of the event are here.

**BASE Jumping Regulations Ruling**

Following arrests in Lake Powell, BASE jumpers fought back against the NPS, with the interesting argument that they should be considered like planes, which were not prohibited there. Details are of this legal battle are here. In Aug 2000, Christian Caslin sent me the following update:

The Ninth Circuit has upheld several important regulations that are employed against BASE jumpers who illegally jump from heights within NPS areas. The court agreed with the Tenth Circuit in holding that the rectangular shaped ram-air aeroplastic wings employed by BASE jumpers are "parachutes," in spite of the sophistication of the device and its ability to operate like a hang glider. The defendant BASE jumpers had argued that the device qualified as powerless flight and accordingly could

not be prohibited by 36 C.F.R. section 2.17(a)(3). The court also agreed with the Tenth Circuit that the term "delivery" used in section 2.17(a)(3) includes self-delivery, or "moving oneself from one area to another," which would apply to a single individual who BASE jumps. The court also noted that the NPS has authority to enforce these regulations. Although the Federal Aviation Administration has jurisdiction to "develop plans and policy for the use of the navigable airspace and assign by regulation or order the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace," the FAA does not have exclusive jurisdiction in NPS areas and nothing precludes the NPS from regulating landings within NPS areas. Most important, the court also affirmed the conviction of a defendant for disorderly conduct under section 2.34(a)(4) for recklessly creating a risk of harm to himself, other BASE jumpers and to members of the public by "creating or maintaining a hazardous or physically offensive condition." "The safety threat implicated in BASE jumping is most often the potential harm to the jumper due to the fatalities and injuries characterizing the extreme sport. We do not, however, discount the safety risks in BASE jumping to members of the public, particularly in areas where people are likely to congregate... We therefore affirm the district court's determination that BASE jumping can create a risk of harm to the public and defer to the courts' evidentiary findings." United States v. Albers, No. 99-10071 (9th Cir. 7/17/00). See also earlier appellate case relating to seizures by rangers on houseboat in United States v. Albers, 136 F.3d 670 (9th Cir. 1998). For more information on this case or other court decisions, contact NPS legal instructor Don Usher at FLETC via cc:Mail at NP-WASO.

*Source:* *http://www.terragalleria.com/mountain/info/yosemite/base.html#history*


SNAKERIVERBASE.COM

**How to Apply for a BASE Number**

Hello BASE Jumpers:

Rick & I issue the original World BASE Numbers and Night BASE Numbers which were started by Carl and Jean Boenish in January 1981 when the first BASE # was earned. Carl always believed that BASE jumping would catch on, and he was right. Your BASE number is your link back to the beginning of our sport.

To apply for a BASE Number, we need the following information:

1. Name and address, or a self-addressed envelope. Phone number is optional.
2. Name and/or location and altitude of each of the four objects.
3. Date of each object, especially the date and TIME of your qualifying jump. The time of your qualifying jump is important in case someone else in the world qualified on the same day.
4. Any descriptions of the jumps or jump stories will be appreciated and will remain strictly confidential.
5. On the subject of donations, we ask for $10 to issue a number to help cover our costs for postage and supplies, totally voluntary. If you want the plastic card with your number and qualifying date and Carl Boenish's signature embossed, there is a $5 fee.

In respect for privacy of individuals and integrity of the BASE Numbers, we will not be issuing them by email. Our original BASE Constitution requires confidentiality. We will take the information about your jumps by email and lock in your qualifying date until we receive your letter.



We wait thirty days after the date of your qualifying jump to issue your number and make sure the rest of the worlds mail has time to get here.

KEEP HAVING FUN, ALWAYS PAY ATTENTION TO DETAIL!!!

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