

BASELINE



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**PARACHUTING'S
UNFORGETTABLE
JUMPS III**

By HOWARD GREGORY

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PARA-PRINT MAGAZINE

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PARACHUTING'S UNFORGETTABLE JUMPS

Jumping off of the top of El Capitan, a 3,000 foot cliff in the Yosemite Valley in California was legal—for a short time in 1980. Then they banned it.

The following was reported in a front page article in (would you believe) "The Wall Street Journal" (Friday, June 27, 1986):

Sometimes the frustrated rangers stake out a jump site. One morning they caught Robin Heid, the Denver BASE jumper, atop El Capitan. "Out from behind the rocks pop 10 rangers," Mr. Heid recalls. "One of them said, 'All right boys, the game is over. You're coming with us.'"

Mr. Heid says, "I bowed to them, said, 'Gentlemen, have a nice day' and I jumped off." He was arrested by the rangers in a meadow at the base of the cliff.

The above is only one of the legion of jump stories in the NEW "Parachuting's Unforgettable Jumps III" (A New Completely Revised Third Edition) A regular Who's Who of the celebrities of the parachuting world; professionals and sport champions are interviewed for their funniest, most unusual and most memorable jump stories.

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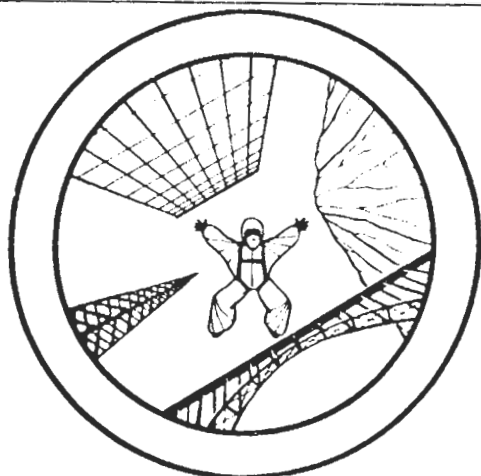
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BASELINE is looking for jump stories, news articles, pictures, cartoons, anecdotes, letters, incident/accident reports, and editorials or opinions/commentaries. All due credit will be given, and all requests for anonymity will be honored.

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United Kingdom: *Nigel Slee*
Australia & New Zealand: *Nick Feteris*
U.S. BASE Association: *Jean Boenish*

Disclaimer: Any time a person leaves the ground, he is risking the threat of injury and even death. BASE jumping, like skydiving, brings along a set of inherent dangers. **BASELINE** is interested in accurately reporting all news and information pertaining to BASE jumping, controversial or not, in as free and unlimited a manner as possible.

BASELINE Magazine, it's editors and staff do not advocate that anyone should BASE jump, nor that anyone should break the law in an attempt to make a BASE jump. Furthermore, we do not endorse or approve any BASE site or specific BASE jump. Any ideas, information, or concepts gleaned from this magazine should not be attempted by any reader, except at his own risk and sole responsibility. Beyond this, the ground's the limit!

BASELINE Magazine

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FALL 1987

Features

Gimme a B, Gimme an A	9
<i>by Phil Smith</i>	
Line Release Comments	12
<i>by Mark Hewitt</i>	
Comment: "Whuffo They Jump Off Buildings?"	14
<i>by Andy Calistrat</i>	
A Bridge Too Far: The Royal Gorge Parachute Jump .	19
<i>by Don Boyles</i>	
BASE Meets MENSA	22
<i>by Al Warsh</i>	

Departments

Accident Reports	27
At Presstime	30
Back to Basics	18
BASE Bits	4
BASELINE Update	25
Baselines	32
Book, Video, & Equipment Review	23
Letters	6
Photo Finish	31
Point/Counterpoint	8/24
USBA Update	16

Cover Photo: Randy Harrison's rear-mounted camera catches his jump partner exiting a 47-story building.

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BASE BITS

BASE In The News

George Washington Jumps

New Jersey jumper Bill Legg made national headlines in August by jumping from New York City's George Washington Bridge. A friend of Legg's leaked information about the jump to the press, and when Bill arrived at the site, he was surrounded by newspaper and television crews. Deciding to jump anyway, Legg strolled to the center of the 212' span, did a short freefall, and landed safely in the Hudson River. His waiting boat crew scooped him out of the water and sped away.

A retired police officer, who happened to be boating nearby, reported the jump to the authorities and the manhunt began. Officers from the New York Port Authority traveled to Legg's home DZ, his workplace, and his home. To avoid hassles, Legg turned himself in, and will face charges on September 15 for disorderly conduct and reckless endangerment.

The Good, the Bad, and the Ugly

A recent issue of the Houston Post ran an article called "Your Buildings Are Ugly and Your Mother Dresses You Funny." The piece deals with Paul Goldberger, architecture critic of The New York Times. According to the article: "On July 12, Goldberger took on Heritage Plaza, the new 53-story skyscraper in downtown Houston. He doesn't like it. According to Goldberger, Heritage Plaza 'sums up in a single structure virtually everything wrong with American skyscraper architecture today.'"

With 134 jumps off it, Heritage Plaza is the world's most-jumped building.

Places

Kentucky Fried Building

Kentuckians Mark Bailey and Leroy Gallenstein were surprised when they arrived to jump from the Lexington

Financial Center recently. Their Sunday morning plans were jeopardized by a parade forming in the street next to the 415' building. Since they had been thwarted on four previous attempts and the structure was nearing completion, they decided to "go for it."

Fortunately, the winds favored jumping the side of the building opposite the main activity. As the pair geared up on the exit floor, several construction workers shouted at them over the din of machinery, but none were bold enough to approach the edge. After a quick check with their ground crew, Bailey exited, followed closely by Gallenstein. The two landed safely, hastily gathered their gear, and sped away from the scene, leaving behind a small crowd of gaping spectators.

BASE Capitol

California jumper Alan Heatherington recently brought BASE jumping to the Nation's capitol, when he static-lined from a 200-foot free-standing antenna in Washington, D.C.

Close Encounters of the Unkind

"They Fell Out of the Sky!"

Florida jumper Brian Scott called in to report a Close Encounter which wasn't all that unkind. In his own words:

"There were three of us on a night building jump, and I was the first to go. My jump went without incident and I had just set up a landing approach into a deserted parking lot, when I noticed someone standing at the far corner. Figuring him to be some whuffo or street wino, I set up to land next to him.

"But when I got within 50 feet and he heard the canopy and turned around to look, I was dismayed to clearly see his gun, badge, and police uniform. I landed not 10 feet away from him, and fully expected to be arrested. Instead, the wide-eyed cop looked at me and asked in complete

amazement: 'Where'd you come from?' Realizing that he hadn't caught anything, he looked straight up and waved towards the sky.

"The mystified cop turned his head skyward to search the heavens. Suddenly we heard the second canopy crack open loudly behind us. The cop whirled around, his parachute not more than 50 feet from the building, and said, 'I don't understand, asked me, 'Where'd you come from?'' I just shrugged and smiled, as the cop watched with open eyes and mouth as the third jumper flew his canopy overhead, turned in and stood next to us.

"Now the officer, finally looking back up at the roof of the building. His jaw dropped. He saw the third jumper, silhouetted against the sky, folding his pilot chute, stretching out his body, and watched as he exited, deployed, and landed in our midst.

"The cop, shaking his head, said, 'I'm quite sure what to say now. I'm settled for: 'You three are more balls than anyone I know. Get out of here quick before we start working down the street and arrest you!''"

Gratefully Dead

California jumper "Deadeye" Morrel recently qualified for BASE 174 by jumping from a building in Arlington, Virginia. He had an exciting eventful process. A security guard saw him and partner Tim Addison notified the police, who responded. Morrel and Addison skulked in the shadows of the carloads of cops surrounding the getaway van, scattered their belongings in the street, and were towed away and impounded the van.

Alan Heatherington, awaiting his turn to jump, saw police arrived, slinked down the stairway to the third floor, and climbed the elevator scaffolding.

ground crew escaped, but at press time the van and two rigs were still in police custody.

Events

Bridge Day Plans Behind Schedule

Jean Boenish reported that plans for this year's New River Gorge Bridge Day jumping activities are running as much as two weeks behind schedule, but jumpers should not be alarmed: the first 250 applicants will soon be receiving confirmation of their slots, along with a payment request for the \$20 non-refundable "donation." The Fayette County Chamber of Commerce has confirmed that the Bridge will be open on Saturday, October 10 between 10 A.M. and 4 P.M., and that BASE jumping will be allowed during that time.

People

"Freeze!"

After having made a night jump from a 280-foot free-standing antenna, Californian Rich Stein was spotted by a police officer who happened to be cruising by the antenna at the time. Stein eluded the lawman temporarily, but the cop soon called for reinforcements, and corraled Rich in a nearby yard.

Stein was preparing to scale a fence when he heard the unmistakable sound of a revolver cocking, and the cop yelled: "Freeze right there or I'll blow your head off!" Rich was arrested at the scene, charged with trespass, and not released until the next morning.

Jumpers Sentenced

Texas jumpers Andy Smith, Kevin Vennel, Phil Smith, and Andy Calistrat were sentenced on July 10th in Val Verde County Criminal Court to six months' probation (with a thirty-day suspended jail term) and a \$600 fine each. The four had attempted a day jump from Southern Pacific Railroad's Pecos River High Bridge, 300 feet above the river in Comstock, Texas, but were arrested as soon as they walked onto the bridge.

The Judge agreed to probate half of each jumper's fine if Smith and Calistrat placed an ad in BASELINE, warning others to stay away from the

The Three Musketeers

Californians Alan Heatherington, George Roso, and John Hoover, the "three musketeers," called in to report that they have been receiving their share of fun and excitement recently on the California BASE circuit. The three began by climbing a 500-foot free-standing antenna in Sacramento. Upon reaching the top, the radiation being emitted from the antenna started to give the three small electric shocks, and quickly heated up the metal hardware on their rigs. The jumpers hurriedly made the jump without further incident (Note: A similar case resulted in a jumper's heated three-ring burning through his release loop, causing a one-riser streamer upon deployment. His incident report is included in this issue).

Heatherington, Roso and Hoover next experimented with some ultra-low jumps using the "direct bag" static-line deployment method. Roso exited the eleventh floor of a hotel near Costa Mesa, California, and landed his canopy in a small lake 30 feet from the building's edge. Moments later Hoover exited the 10th floor, followed by Heatherington, who jumped from the ninth floor (thus establishing a new record for single-digit floor number as an exit point). All three jumpers received fully inflated canopies prior to landing, even though Heatherington's exit was only 100 feet A.G.L.!

Finally, the three musketeers checked into a room on the 25th floor of a hotel in San Diego, near Coronado Bay. After waiting until 4:30 A.M. for the partying to die down and most of the city to go to sleep, the trio moved a table out

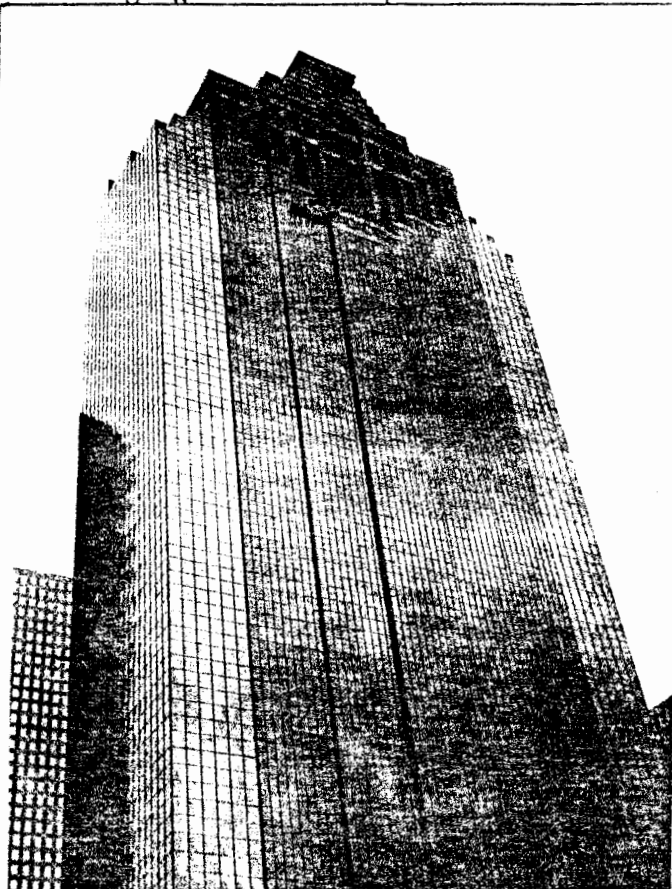
direct bag deployment. After landing safely and without attracting any attention, the jumpers stashed their gear and soaked in the hotel jacuzzi sipping champagne until sunrise!

Equipment

Line Release Improvement

Andy Calistrat and Phil Smith are working on a modification which will allow a jumper to release his steering lines (thereby clearing a line-over malfunction), yet keep the line passing through the toggle keeper. The line release system developed by Mark Hewitt (BASELINE #1) has been used successfully, but routing the brake lines outside of the keepers introduces a host of problems which should be solved by the new modification.

Calistrat and Smith hope to have working models available for demonstration by Bridge Day, and will have a full report in a future issue.



Resembling the building from the movie "Ghostbusters," Heritage Plaza in Houston was recently attacked by New York Times architecture critic Paul Goldberger. Heritage Plaza is the world's most-jumped building.

Letters

The Problems With Publicity

After a friend and I made our first antenna tower jumps, I wrote a short letter to Skydiving Magazine. I not only named the tower and its location, but also detailed how my friend and I had managed to catch an elevator ride to the top.

In hindsight, I can see several things wrong with such publicity. Jean Boenish pointed out that identifying in such a large publication both a site's name and location could have adverse results: for example, a flood of people might flock to the site. At the very least, the owners of the object may somehow come across the news item, and then take measures to insure that future jumps do not occur from their structure!

Jean also pointed out that riding the elevator on an antenna might not always be a good idea. For one, the elevator might be alarmed, or could easily attract attention. Also, if the elevator gets left at the top, it will be a sure sign that there was unauthorized tampering with it. At least, if you ride the elevator up, be sure to send it back down before jumping!

Amy Baylie
Upland, California

I think one of the most prominent problems facing BASE is the increasing number of people who are publishing stories or photographs with the local papers and newscasts. Already, because of a highly publicized motorcycle leap, BASE jumping from the Auburn Bridge in California is now specifically against the law. It is very tough on those who jump there regularly (there are many). Burro Creek bridge is hot after some yo-yos from L.A. smart-assed a cop who then arrested all of them (two have outstanding bench warrants on them).

I think that an article is due on

the subject, and if you agree, I'd be happy to write one. This is a problem which has been around and is only getting worse. Please let me know if you are interested.

J.D. Walker,
Chandler, Arizona

***"In hindsight, I can see
several things wrong with
such publicity."***

The issue of publicizing BASE jumps is often a confusing one. Whereas certain types of publicity can be very helpful for our sport, other types could easily be disastrous. The problem is further complicated by the fact that there are no hard and fast rules. We'd very much like an article on the subject, J.D.!

--Ed.

Dumb Broads?

I would like to make a correction or so to a "Base Bits" item in the Spring 1987 issue of Baseline, regarding a foiled antenna jump.

It was stated that we three Atlanta females walked right past a security guard's booth, rigs on, in broad daylight. WRONG! Broad daylight: yes. Security guard's booth: NO!

This particular station is small and remote. On weekends, there is normally one person in the building, who just happened to look out a door at the right (or wrong) time. The antenna had been jumped some weeks prior by Todd Pittman and Jon Roberts, in broad daylight! So we were not just three women being stupid.

And to return a favor to my best friend, "anonymous," the third female involved was Jill Weaver.

Thanks for equal time.

Pat Valley, GDDW#1
Atlanta, Georgia

The Spring 1987 BASELINE listed second jumper's name as Deb Thomas. Her name is actually Beve Koehler. The third jumper was indeed Jill Weaver, who happily agreed to let BASELINE use her name.

Pat Valley, who is well known in skydiving circles, is holder "Girl's Double Diamond Wings #1" she is the first female to reach 4,000-jump level.

Pat began her BASE career with a rather unusual jump: after landing her round reserve atop an 85-ft light tower at a football stadium during a demo jump into a game, she decided to take the "easy" way down. Her canopy was draped down the light pole, with the lines running clear and the panels apparently still unflaked, so Pat jumped from her perch.

She passed her reserve, stretched the lines and ultimately reinflated the parachute. After a second or so under canopy, she made an uneventful touchdown, much to the thrill of the crowd.

Fortunately Pat has now turned to more conventional BASE jumps, as she made two leaps from the New River Gorge Bridge at last year's Bridge Day fest.

--Ed.

Sergio Comments

Let he who is without sin cast the first stone. Three cheers for Michael Sergio! I thoroughly enjoy Phil Smith's commentary, "The Price of Silence," in the last BASELINE. If we had more Sergios and fewer Ottleys, Johnstons, and Bagleys, we might get a fresh breath of life back in this sport. I dare say that everyone in Shea Stadium enjoys Mike's dive, illegal or not...

It is sad that the National League has banned demo jumps into the games, but if you think about it, the overall scheme of things,

doesn't matter very much. I must admit I did enjoy reading Mike Giamatti's letter in a recent

Parachutist, which effectively told Ottley and Bagley to kiss off.

I love the way the leaders of our organization came to the aid of a fellow skydiver who got into trouble. What compassion, what humanity, "what a bunch of jerks!"

Fred Greeson
Signal Mountain, TN.

Thank you for sending me a copy of BASELINE. Enclosed is a check for a year's subscription. Although we may have philosophical differences, I find your publication to be of utmost interest.

As you know, USPA represents 17,000 skydivers, not a few hundred BASE jumpers. I am sure that our obvious obligation to the skydiving community is the source of our differences.

I hope to see you at the New River Gorge Bridge in October. Blue Skies!

Ed Cummings
Manhasset, NY

Mr. Cummings is director of the Eastern Conference, of which Michael Sergio is a member. The Eastern Conference has considered initiating proceedings to expel Mike from the USPA as a result of his world-famous jump.

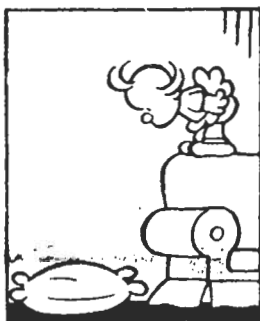
--Ed.

BASE Jumper Study

The first phase of my psychological study on BASE jumpers is now complete. I want to thank everyone who took the time a while back to complete the BASE jump questionnaire. As a group, BASE jumpers have been exceptionally candid, outspoken and free with their opinions, and extremely interested in the process and results of this study.

The project is now moving into its second phase, and the more people who

Hi & Lois



complete the second set of questionnaires, the more accurate and meaningful the results of the study will be. Ideally, we would like to expand the survey group by including BASE jumpers who may not have participated in the 1986 New River Gorge Bridge jumps, or who may not have previously read of the study in BASELINE. If this applies to any of your readers, please have them

**"As you know, U.S.P.A.
represents 17,000 skydivers,
not a few hundred BASE
jumpers."**

contact me at 1-406-721-0522 so I can send them the survey forms. Or, if you know of anyone who may not have received the follow-up questionnaire, please write their name and address on a postcard, and mail it to me at the address shown below.

It has been our intention from the start of this project to have the results published in BASELINE by Christmas 1987. We cannot overstate the fact that the more BASE jumpers who are surveyed, the more meaningful the results will be.

Joseph E. Biron,
Missoula, MT.

Mr. Biron is the coordinator of Sport Psychology Services at the University of Montana. He can be reached at the following address: Joseph E. Biron, Coordinator - Sport Psychology Services, Department of Psychology, University of Montana, Missoula, Montana 59801.

--Ed.

Left Out

I just read the most recent issue of BASELINE, and I noticed that BASE#84 was conspicuously absent. Please include me in your next list.

Also, I want to congratulate you on a great piece — the Sears Tower article. I confess ... you got me!

Charles Conable
N. Hollywood, CA

Fatality Correction

I was present when Rick Stanley drowned after making a jump from the New River Gorge Bridge in August 1986. His accident report in BASELINE was not entirely accurate.

Rick had packed in a bag with the slider up, and was low person in a two man. The other jumper had free packed slider up, and Rick didn't dump until the first jumper had been "pulled out" (about 3.5 to 4.5 seconds). Rick then had a horrendous snivel, and to the best of my calculation was under canopy only 150 feet above the rapids directly below the Bridge.

Rick DID NOT have a malfunction. But he probably had only just fired the brakes, pumped down the slider, and started to steer when he landed in the river. We later learned he couldn't even swim!! He wasn't wearing flotation gear and consequently drowned. I now advise all first-timers to free pack slider down and to re-route their steering lines. Surely that's the way to go?

Lukas Knutsson
Lidingo, Sweden

Lukas' letter brings up several noteworthy points. Prudent safety

practices dictate that: (1) When a water landing is possible, flotation gear should be worn; (2) Jumps over water should always be done with appropriate boat support; (3) The safest way of performing most jumps below 1,000 feet is with the slider down, especially for slow-opening canopies; (4) The line release modification is a good idea for slider-down jumps, but should be used with appropriate toggle keepers such as those currently being developed by your BASELINE editors and others -- see BASE BITS section (for more information). It is also

worthy to mention that Rick Stanley's bandit jump from one of the few legal BASE sites in the country almost shut down Bridge Day jumping for everyone.

Finally, Lukas' letter sums up a notice which was printed in the Accident Reports section of the Spring 1987 BASELINE: "After hearing rumors of an incident or injury, we would then spend extensive time making long distance phone calls, in an attempt to locate sources and interview witnesses. This process is sometimes inaccurate, often incomplete, and always expensive..." This is illustrated all too well in

Stanley's fatality, since his original report indicated a deceased had packed slides, experienced a line-over malfunction, and made an uncontrolled landing in the river.

We cannot over-stress the importance of communication: if you are involved in a BASE mishap, or are witness to a BASE-related fatality, please contact us immediately with the pertinent details. This will insure the most accurate incident/accident reports and the most reliable possible.

-- Ed.

POINT-COUNTERPOINT

In response to last issue's Point-Counterpoint, we received the following reply from Phil Mayfield, BASE

Regarding Carl Boenish's unfortunate demise bringing unwelcome attention to Norway, I believe Mr. Lyng may have misinterpreted the essence of Carl's philosophy and ambitions.

Carl believed passionately in the idea of pursuing seemingly unattainable goals. He exhilarated in pushing himself to and beyond his limits. This was his way of celebrating his "joie de vivre," and he was an inspiration to many who shared his excitement. Because of his pioneer spirit, he did not concern himself with taking the easy way out or restrict himself to following existing rules. For that reason, many of the rules that he helped establish were later changed as a result of Carl's further experimentation. He remained to the end the main catalyst for the ongoing evolution of this still young sport.

Boenish's camera work was a vehicle for spreading his message of what is possible. His films also helped pay the bills, although this seemed to be of secondary importance. I question whether this can be appropriately described as merely "showing off on TV."

According to Lyng's statistics, two serious injuries occurred out of fifty jumps. This 96% success rate does not necessarily constitute proof that BASE jumping is too dangerous to practice as a sport, as Lyng suggests. The injuries can be reduced, if not eliminated, through education and research such as that offered by Carl Boenish, not through sticking one's head in the sand and hoping that BASE jumping will simply go away.

One lesson we can learn from Boenish's last jump is that we should do our homework as thoroughly as possible and be willing, at some point, to say "No, this jump is too risky." Carl Boenish did not have to die any more than the rest of us had to do our own crazy stunts, like jumping from airplanes, BASE objects, or just going off the high board for the first time. Carl could still be alive if he had taken the easy way out, rested on his laurels and left the trail blazing to others. But that would not be Carl. For him, the risks were worth it. That

Gimme a "B", Gimme an "A"...

By Phil Smith

"The whole world is jumpable!"

-- Carl Boenish

When Carl Boenish introduced the concept of BASE, he intended to be able to classify any fixed object under one of the four BASE categories: Buildings, Antennas, Spans, and Earth formations. The letters which form the acronym BASE were convenient, and coincidentally had a double-entendre: most fixed objects have a platform or "base" from which we jump. However, some objects seem to defy classification.

The jumper who has all the "traditional" objects (skyscraper, television antenna, bridge, and cliff) available will earn his BASE award with no problem. But unless he lives in California, Colorado, Texas, or Arizona (states which boast all four BASE categories), he may have to travel some distance to do it. That is, unless he "breaks tradition" and takes advantage of the sites in his area.

When we classify an object we must mainly consider its geometrical shape. Hence a bridge support tower, such as the type on the Golden Gate, would be considered an "A" since it is most similar physically to a television mast. Following is a guide to help jumpers categorize any BASE site they may encounter:

BUILDINGS

For the purposes of BASE classification, a building is a vertical plane and is usually higher than it is wide. The plane (wall) is wide enough that the jumper must take it into consideration because of the wind turbulence it causes. Some examples of "B"s are:

Cranes. If the jump is made from a crane atop a building (not next to it), the jump is still considered a "B".

World Records lists the highest tank — 275 feet — in Vienna, Austria.

Ferris wheels. The highest in the world is 279 feet. Even though a ferris wheel resembles an antenna in the way it allows wind to blow through it, the geometry determines it to be a "B".

Columns and Statues. There are several columns such as the 550 foot high Washington Monument, and statues like the Statue of Liberty (305'). The 'Lady' was jumped last year (BASELINE #3).

Airship Hangars. A blimp hangar needs to have its doors closed to qualify as a "building" (with the doors open, it turns into a span). England claims the highest airship hangar at 400 feet.

ANTENNAS

The easiest way to earn an "A" is to jump from a television tower. However, any structure which is skinny enough to offer negligible wind resistance is classified as an antenna. Some examples include:

Trees. The world's tallest living tree is a Coast Redwood in Humboldt County, California, which stands 368 feet high. Its lowest branch is about 200 feet from the ground.

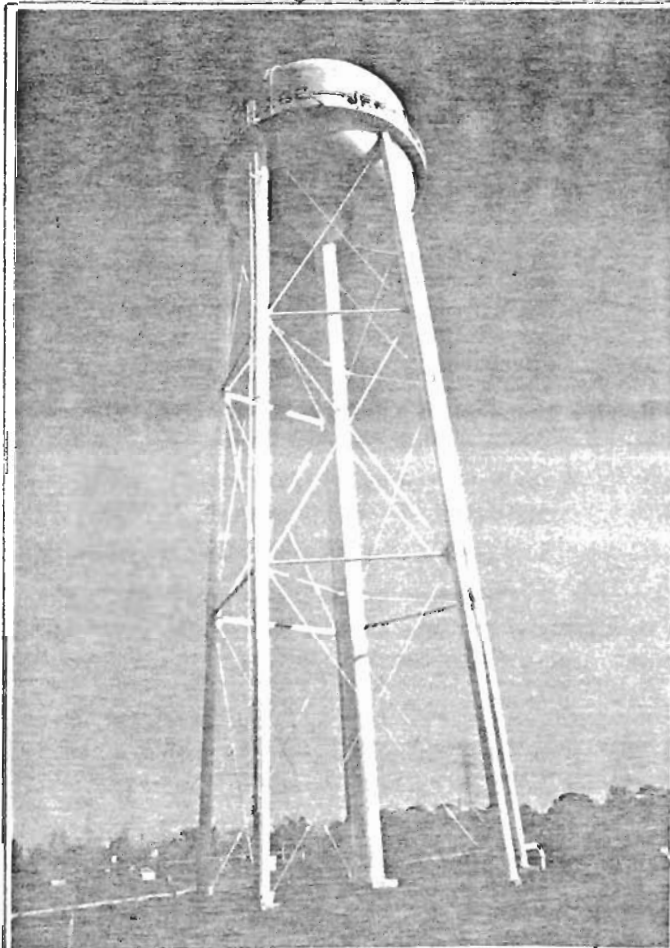
Totem Poles. A 173' totem pole in Alert Bay, British Columbia tells

Indians. Someday it may tell the story of a brave BASE jumper.

Flagpoles. The tallest flagpole stands 192 feet high in Chula Vista, California. A jump from it could lead to an interesting variation of flagpole sitting.

Chimneys. The International Nickel Company of Ontario owns a 1246' chimney. Several chimneys in the U.S. have been jumped recently.

Portable Oil Rigs (Jack-up). Rowan Drilling Company claims the world's



A water tower, because it offers negligible wind resistance, qualifies as an "Antenna." This 150' tower in Jersey Village, Texas, was BASE jumped by

allest offshore jack-up rig. Dubbed the "Gorilla III", each of its three legs extend 600' deep (or 600' high, in shallow water). The Gorilla was jumped last year while docked at Galveston, Texas (BASELINE #1).

Cranes. The T-shaped gantry cranes used to construct buildings frequently exceed the height of the edifice by 50 feet. They qualify as antennas if they are horizontally separated from the building. The tallest mobile crane, the Rosenkranz K10001, reaches 663' into the sky.

Cable Support Towers. The two highest transmission towers support cables across the Straits of Messina

(Italy). They are 675' and 735' high. Several Europeans report successfully jumping from towers in the 400 to 500 foot range.

SPANS

Many BASE jumpers get their "S" by jumping the New River Gorge or Auburn Bridges in the U.S., or the Clifton Suspension Bridge in the U.K. There are other possibilities for those who don't live near these spans:

Natural Bridges. Several sandstone arches in Utah exceed 100 feet. The tallest natural bridge is near K'ashih, Sinkiang, China and stands almost 1000 feet tall, spanning 150 feet.

Cable Cars. Trams, such as the one spanning the Royal Gorge, offer the same amenities as a bridge. Some ski lifts are high enough, but are often over rough terrain.

Domes. A jump from the ceiling of a domed stadium qualifies as a span jump. There are six domes in the United States, three of which have been jumped. Canada will soon have a domed stadium as well.

Hangars. NASA's Vehicle Assembly Building near Cape Canaveral, Florida, which is the site for final

rockets, is 525' high with four 460' doors. A jump from the ceiling, or over one of the open doors, would be a "span" jump.

St. Louis Arch. The yet unconquered Gateway Arch is highly coveted by BASE jumpers. At 630', it is the world's highest monument.

EARTH

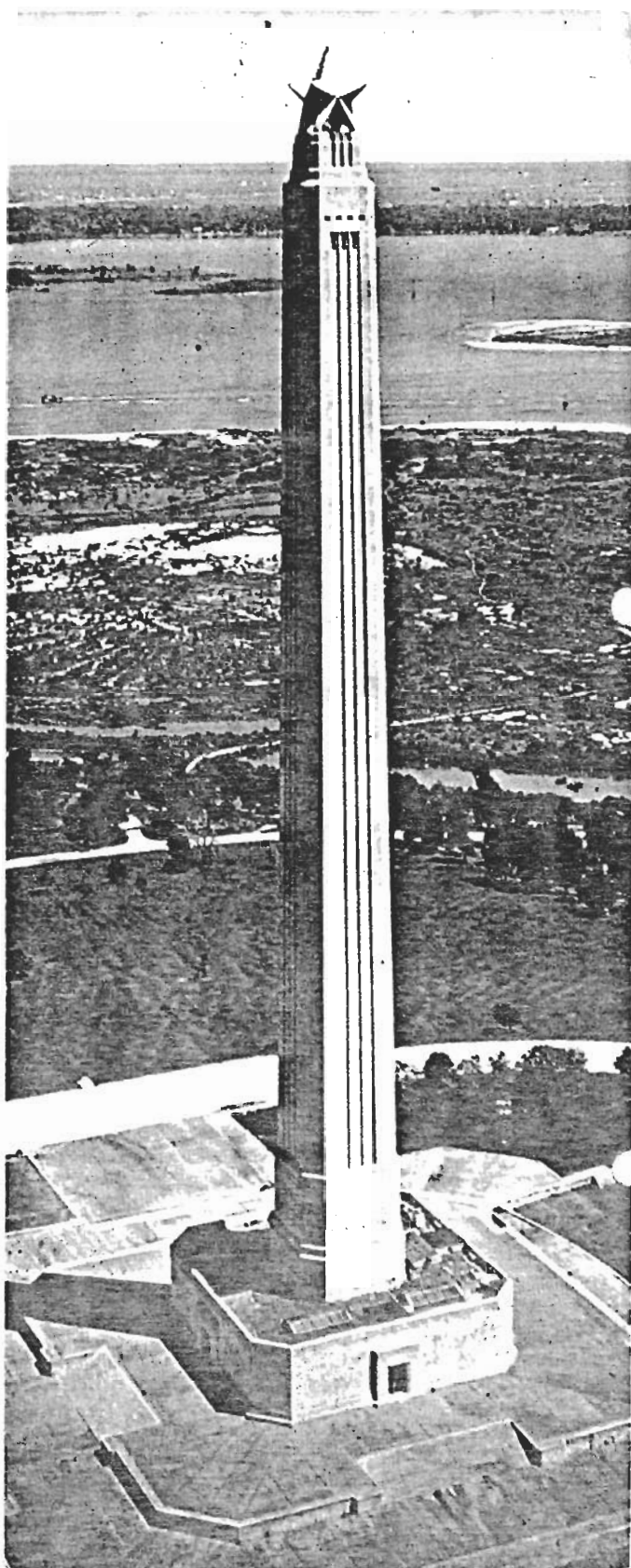
The easiest way to earn an "E" is to jump a cliff. Americans flock to El Capitan, while Europeans find Trollvegan accessible. There are several interesting alternatives:

Dams. A dam is nothing more than a concrete cliff. Although they are bowl shaped, most dams have a wide surface on top which overhangs enough to offer a 200-300 foot sheer drop. There are several dams in the U.S. around 500 feet high. The world's highest dam, the Grande Dixence in Switzerland, stands 935 feet tall.

Sink Holes. There are rumours of a 1000' deep sink hole in Venezuela, which is wide enough inside to land a balloon.

Icebergs. The tallest iceberg ever seen was sighted near Greenland in 1958. It measured 550 feet above the water.

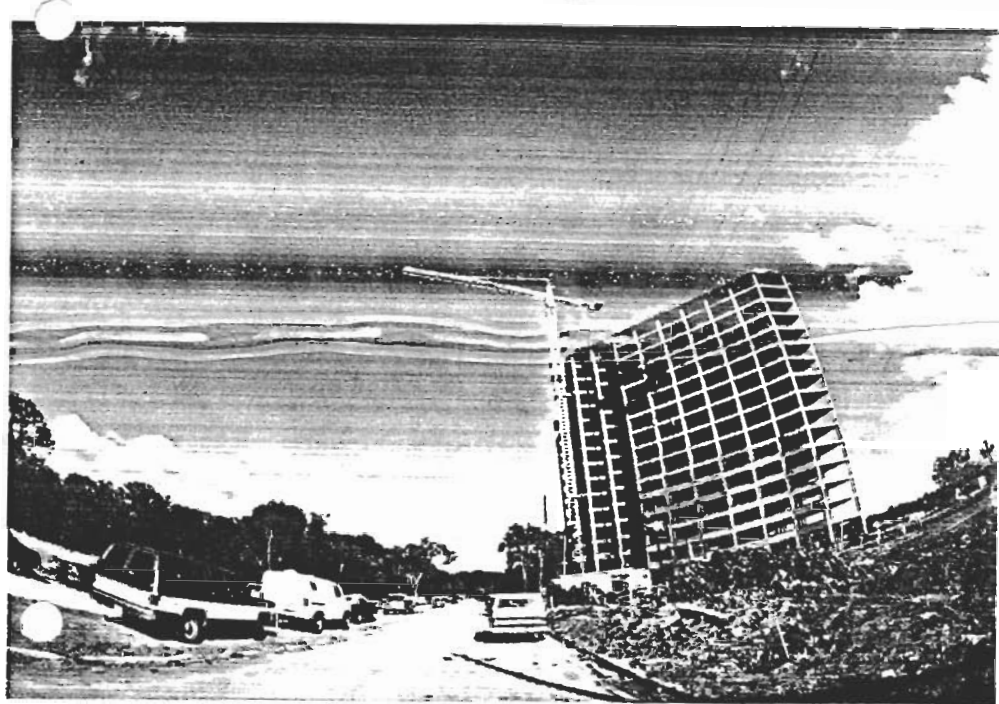
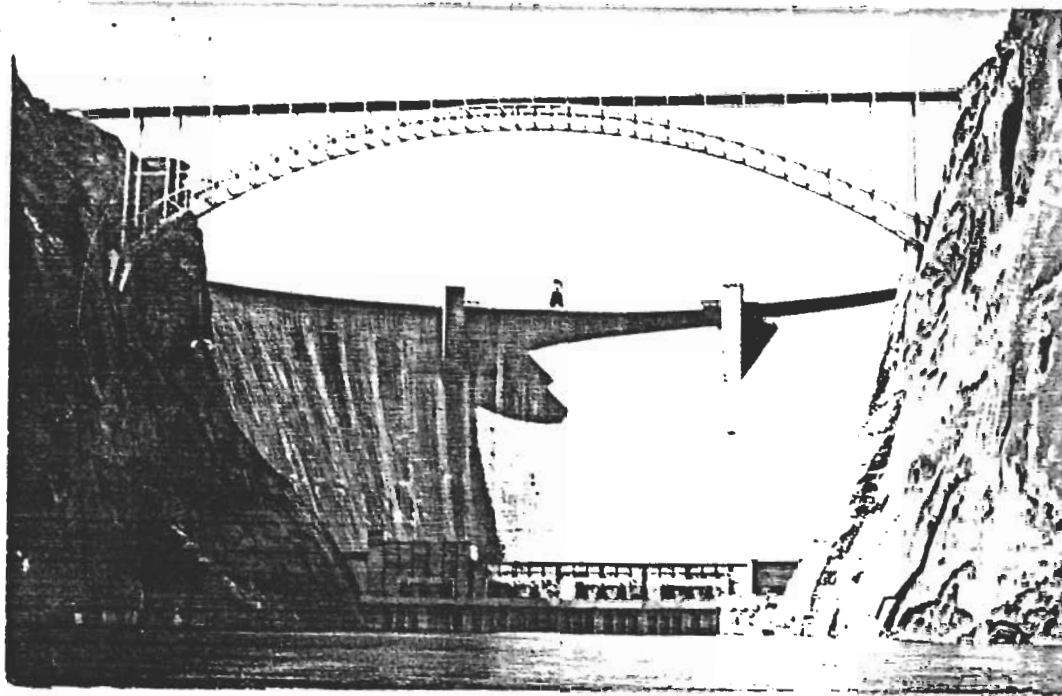
There are countless possibilities of BASE sites not mentioned here, but which can be classified if the jumper



The San Jacinto monument near Houston rises 570 feet above the battlefield where Texas won its freedom from Mexico. Although the structure seems in appearance to be an antenna, it actually qualifies as a building because its wall is wide

geometry. If anyone knows of an object which defies categorization, please let BASELINE hear about it. In the words of Carl Boenish: "The whole world is jumpable!"

A dam is nothing more than a concrete cliff. The Glen Canyon Dam (shown at the right) is 700 feet high, and impounds the water of Lake Powell, near Page, Arizona. A jumper leaping from a dam would earn an "E", for Earth formation.



If a construction crane stands separate from the building (such as pictured at left), it counts as its own object, and is therefore an Antenna. If the crane sits atop the building, then a jump from it still counts as a Building jump.

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Line Release Comments

The last issue of BASELINE contained David Craigmile's accident report. Craigmile experienced a line-over malfunction after using a "pro-pack," deployed his chest-mounted tertiary reserve, and received a fractured

left heel when he landed on a rocky river bank.

In response to our "conclusions" section, we received the following comments from California jumper Mark Hewitt:

The BASELINE editors state that there are "essentially three ways" of dealing with a line-over malfunction. The first method they mention is to cut the offending steering line. If you have time to grab a hook knife under a violently spinning square, and cut the correct steering line without slicing through your riser or other lines, then you probably had enough time to jump the object slider-up in the first place. When you jump with the slider up, you eliminate your chances of getting a line-over because your slider grommets keep the lines in their respective groups, and keep the steering lines from getting around the nose of the canopy.

The conclusion section then describes the line-release modification, and states: "although it is highly effective, no one has yet developed adequate toggle keepers for use in conjunction with this modification." Actually, the lines are stowed exactly the way they were designed at the factory. The only difference is that the steering lines don't pass through the riser keeper ring or the slider grommets.

We have been using this system on the West coast for hundreds of jumps without a single negative incident. Every line-over that did occur was cleared within two seconds, and the canopy completely and immediately reinflated. The jumper in every case then resumed complete control of his canopy, and managed a soft (if not stand-up) landing using the rear risers.

Finally, the editors' conclusion

states: "The final, most fool-proof method for dealing with a line-over, or ANY canopy trouble, is a tertiary reserve." My feeling toward tershes is that they should be used only as a last resort. If you can safely land a round parachute directly underneath the launch area, you might as well have jumped a round for a main, and then you wouldn't have had the violently spinning problem in the first place.

In my experience, perhaps only 20 percent of the objects have had clear landing areas below the exit point. In the other cases, buildings have had tractors, rebar, scaffolding, or other hazardous obstacles; antennas have fences around their perimeter and wires to their broadcasting building; bridges are generally over rocks, rough water or trees; and cliffs usually have a jagged boulder talus.

A tertiary reserve and crippled square out at the same time usually end up doing a bitchin' down plane, and your landing will be very hard directly beneath your launch point. But with a line-release modification, you stand an excellent chance of making your intended landing area. And with any skill, you should be able to stand up the landing, but don't forget your PLF, should you need it.

The line release carries yet another advantage: if you are making many jumps in one day, you can get packed up as fast as everyone else and not miss a load. Chances also are you won't have any scratches, bruises, broken bones, or costly

hospital bills. Craigmile received a fractured heel as a result of landing his tersh in the rocks. Granted, this is better than if he would have rode in the malfunction. On the other hand, if his gear had been set up for the line-release, he probably wouldn't have received any injuries in the first place.

I speak from experience, as I once spent a month in the hospital as the result of line-over malfunction. I decided then that there was a better way; if I thought it would happen to me again I would have taken up badminton.

Early last July, a jumper broke both his legs as the result of riding in a line-over. Although he must have been well aware of his options, this jumper elected not to use either the line-release modification or a tertiary reserve. No one should have to suffer the same bumps, bruises, and breaks over and over again. We've spent a lot of time pioneering the way to what we have today, so use the existing technology for your safety. Expand on what we have, rather than trying to re-invent the wheel. This way, we'll have more "incident" reports and less "accident" reports!

We took the time to find a better way, and Phil and Andy are taking the time, effort, and money to pass on the word. For your safety, and to keep as good a name as possible for our outrageous sport, please be safe and use existing technology to your advantage. Ignorance kills!

Editors' Reply:

Mark Hewitt's comments are valid only to the degree that they follow one basic philosophy: it is better to fix the canopy you've already got out, rather than abandon

it in favor of yet another parachute. In line with this, it is obviously preferable to clear a line-over by using the line-release modification, instead of having to deploy a tersh.

However, the success of the line-release modification is predicated upon the facts that the jumper will get an inflated canopy, and that the problem will be be a

line-over. In every other instance, the line-release modification proves completely useless. And unfortunately, the list of possibilities is long: pilot chute in tow, bag lock, riser release, down up canopy, and broken suspension lines, to name but a few. In any of these cases, a line-release modification does absolutely no good. Granted, none of these things SHOULD be occurring, but if everything always went as planned, then there wouldn't be any need for tershers or line-release mods in the first place! Furthermore, if some problem besides a line-over does develop, there may simply not be enough time for a safe cut-away and reserve deployment. In this case, a tertiary pilot chute becomes the ONLY viable option for living through the jump (or at least surviving it without sustaining very serious injuries). Finally, although the line-release modification is basically a good idea, it is far from free of flaws:

1. The steering lines cannot, obviously, "stow exactly the way they are designed at the factory." If they did, then they would have to pass through both the slider grommet AND the riser keeper ring, and the modification would be completely ineffective.
2. Once the brakes are unstowed, the steering lines form an angle with the risers that is steeper than normal, due to the fact that the lines pass outside the keeper rings. This changes the flight characteristics and response of the parachute.
3. If the jumper lets go of the steering lines at any moment while he is under canopy, the lines will fly free behind the parachute, out of his reach and control.
4. Once the jumper has landed, the steering lines are once again prone to coming free. The jumper must either take the extra time to velcro the toggles back to the risers (and hope they won't come undone later anyway), or face having

to later sort out his lines. This presents the possibility of a line entanglement or misrouting; a recent accident occurred when a jumper crossed his steering lines as the result of using the line-release modification.

All of these weaknesses stem from the basic problem described in the conclusion to Cragmille's accident report: "no one has yet developed adequate toggle keepers for use in conjunction with this modification." Fortunately, as of this writing, your BASELINE editors were putting final test jumps on a toggle keeper they have just developed, which effectively solves all the above mentioned problems:

1. The keepers allow the steering lines to indeed be routed the way they were designed: passing directly through the keeper ring only one time.
2. Because the brake lines pass through a ring attached to the riser, the angle between the steering lines and riser is kept normal. The canopy can thus be flown the way it was designed, and the way to which the jumper is accustomed.
3. The keepers maintain the steering lines securely attached to the riser until the emergency release is activated. The jumper needs not worry about accidentally releasing his lines, nor taking the extra time to stow them back after landing.
4. The keepers quickly and positively release the steering lines when the jumper pulls on the red emergency handle.
5. When repacking after an emergency release, the keepers make it impossible to accidentally cross the steering lines.

6. Because the keepers allow the brakes to be stowed the way they were designed to stow, the chances of a premature release are minimized. The keepers also allow the lines to be easily released under the high loading caused by a line-over malfunction (thus precluding the need for special Zoo toggles).

Once the final modifications and test jumps are made, your editors will print a complete article, including diagrams and detailed instructions. Also, we hope to have a working model to demonstrate to any interested jumpers at Bridge Day.

Finally, a few comments in response to some of Mark's more specific statements:

1. BASELINE did not recommend cutting a steering line as a practical method of dealing with a line-over malfunction. As a matter of fact, the exact words used in the conclusion to Cragmille's accident report were: "the first way is to cut the offending steering line, a process for which there may simply not be enough time."

2. Although a trashed out main and round parachute ("tersh" or otherwise) will compete for air if they are out at the same time, they seldom perform a downplane. Furthermore, proper emergency procedures call for a main ejection after the reserve has been successfully inflated, and this will eliminate further problems caused by having out two parachutes at once.

David Cragmille cut away his main after his tersh inflated, and his injuries were caused because he landed on rough terrain, NOT because he rode in two parachutes competing for air.



"Whuffo They Jump Off Buildings?"

By Andy Calistrat

*"To the believers, no explanation is necessary;
To the skeptical, no explanation is possible."*

Just about everything in the world of free fall and parachutes has changed since an intrepid few people first threw themselves out of airplanes many, many years ago. Everything, that is, except for whuffos. There's always those select few who are quick to tell you how crazy it is to "jump out of a perfectly good airplane," and what a fool you are for participating in such a crazy sport.

As skydiving advanced, it divided into distinct disciplines: sequential RW, CRW, speed stars, large formation, etc. And although many jumpers soon began showing a marked preference for one segment of the sport or another, they at least shared a mutual respect with their fellow jumpers who had different interests. That is, until BASE jumping came along. And such a simple distinction — that BASE jumpers leap from fixed objects, instead of aircraft in flight — has turned many skydivers into true whuffos, against their own kind!

Sound plausible? Although many skydivers might try to objectively argue against BASE jumping, they would all probably vehemently deny having a whuffo's mentality. If so, then consider some of the most common complaints skydivers hear from whuffos, back-to-back with the most common complaints that BASE jumpers hear from skydivers:

Whuffo: You invest all that time and money, and only get 60 seconds of free fall!

Skydiver: You expend so much effort and risk, and only take a three second delay!

Whuffo: The only thrill to skydiving is the danger. Why not try alligator wrestling, or bomb disposal?

Skydiver: The appeal to BASE jumping is in the risk. Why not skydive without a reserve, or just pull at 500 feet on every jump?

Whuffo: If skydiving were as safe as

***"The appeal to BASE jumping
is in the risk. Why not
skydive without a reserve, or
just pull at 500 feet on every
jump?"***

everyone claims, then people wouldn't get killed every year.

Skydiver: People get injured and killed BASE jumping — that's the best reason why no one should do it!

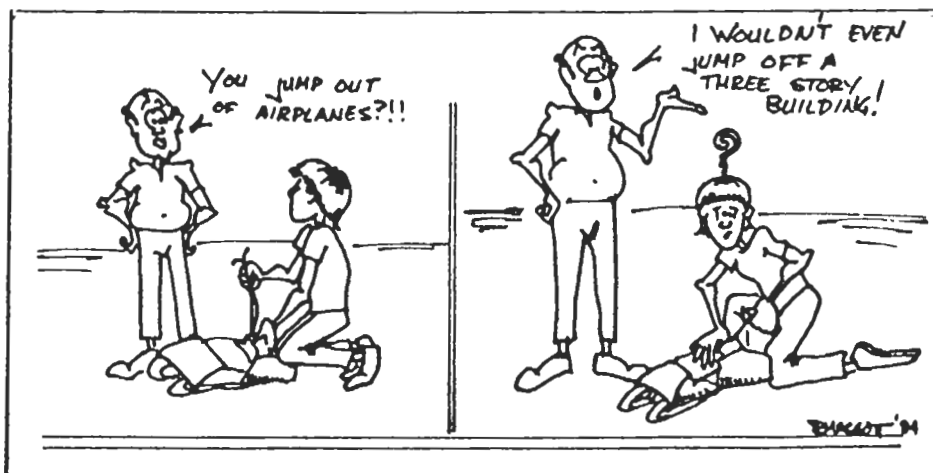
Whuffo: Skydiving is an ego thing. People only do it because they want to be noticed.

Skydiver: If the cameras weren't there, you'd never be BASE jumping.

Point made? The problem with these

kind of skydivers, as with whuffos, is not that they have something against a sport — rather, they feel that because they have something against it, then no one else should be allowed to do it, either.

Of course, many skydivers try to denounce BASE jumping on other grounds. They claim that BASE jumping is hurting skydiving's image in the eyes of the public, which tends to lump all of parachuting together. First of all, since when were most skydivers ever concerned with their image in the eyes of the public? Second, since when has it been BASE jumpers' responsibility to give skydiving a good image? And finally, when will skydivers open their eyes and learn the truth: when a whuffo witnesses a BASE jump, he not only enjoys what he has just seen, but he considers the jumper a stuntman and indeed a hero. This contrasts sharply to the number of disgruntled neighbors of drop zones, who complain of noisy, low-flying airplanes, foul-mouthed jumpers, and parties through all



hours of the night.

Drop zone owners like to think that BASE jumping is hurting their business. When will they stop shooting themselves in the foot? BASE jumping makes an ideal advertising vehicle for sport parachuting, because a whuffo could far more easily picture himself jumping off a building or a cliff, rather than out of an airplane. Furthermore, when a whuffo does witness a BASE jump (either in person or on TV) and likes the idea, where does he turn? Since there are no schools for BASE jumping, chances are he checks the yellow pages for the nearest parachute school!

To test this out, I once showed some video tapes to a group of whuffos. The first tape was of skydiving (ABC Wide World of Sports), and the second of BASE jumping (PM Magazine and West 57th Street). Both of these were shows made by whuffos, for whuffos. The results? The group quickly became bored with the skydiving videos. "It's so static," they commented. "The most exciting part is watching jump out of the plane. After that it looks like they're just floating around in mid-air."

But when the BASE jumping videos were shown, the same group sat glued to the set in mesmerized fascination as jumper after jumper whizzed by buildings, down the face cliffs, and off antenna towers and bridges. "That looks exciting!" they exclaimed. "That looks like something I'd like to try."

One weekend at the drop zone, a few weeks after Bridge Day a couple of years ago, I noticed a large group of first jump students who had all signed up together. When I asked one of them what had interested them in trying skydiving, he replied: "We saw a TV show of some guys jumping off a bridge in West Virginia, and we decided we'd like to try it." (I wonder if the DZ owner ever considered how much revenue BASE jumping had brought him that weekend?)

When I explained to the group that BASE jumping was about the last thing they could expect to learn at a drop zone, they didn't seem to understand.

"To them it was all a part of free fall and parachutes, and if they could make a static-line first jump at the drop zone, then they were satisfied in their minds that they had done the same thing as 'those guys on T.V.'"

To them it was all part of falling and parachutes, and if they could make a static-line first jump at the drop zone, then they were satisfied in their minds that they had done the same thing as "those guys on TV."

Still, many skydivers argue that BASE jumping is absurd because it is simply "too dangerous." I often listen to skydivers at the drop zone spend hours trying to assert how much more dangerous BASE jumping is than skydiving. The point is: certainly BASE jumping is more dangerous than skydiving! There are more things that can go wrong, and fewer things you can do about them. So what? Is this to say that someone won't do something simply because it is "more dangerous than skydiving?" If so, then skydiving would necessarily be the most dangerous thing a jumper ever did! Is this the way most skydivers wish to view their sport? I doubt it.

The decision about danger is one which both skydivers and BASE jumpers must make every time they go up: is the potential risk worth the intended

gain? Skydivers say "yes" to their sport, just as BASE jumpers say "yes" to ours. And just as skydivers are long tired of having whuffos attempt to impose their values on them, so are BASE jumpers tired of being constantly derided by skydivers. As Jon Bowlin once remarked: "There is powerful magic that comes to those who have gained high places and jumped off. Not everyone would choose to do so, but no one should deny another the right."

In the final analysis, I'm not asking that any skydiver understand or even agree with the nature of BASE jumping. Rather, all I ask is a little acceptance of the fact that it is my decision that I want to BASE jump — that there is something which BASE jumpers see in those two or three second of free fall which makes it all worth it — and that that force is as powerful as the one which keeps skydivers coming back to the DZ every weekend.

After all, isn't this the most any skydiver would expect of a whuffo...?



Alan Heatherington jumps from the 160-foot Gerrard Desmond Bridge in Long Beach, California. The question is not "is it safe?" but rather that each jumper should be allowed to make that decision for himself, without having others' standards imposed on him.

USBA Update

BASE Awards

"BASE" is a sequentially-numbered award given to those jumpers who have made at least one jump from a Building, Antenna, Span, and Earth formation. Night BASE is awarded to those who have completed the cycle at night.

Because of the nature of these awards, it is understandable that some people may not wish their names published as a BASE awardee. Consequently, the BASE log is kept strictly confidential by the United States BASE Association.

The names printed here are of people who have specifically given BASELINE permission to publish their BASE number. If we left you out, or if you qualify for any BASE-related award and wish to have your name published in this section, then please contact us at (713) 437-0323 or 931-7709. This list will be updated periodically.

Night BASE

1 Phil Mayfield	TX
2 Phil Smith	TX
3 Andy Smith	TX
4 Dennis Murphy	CA
5 Phil Christman	CA
6 Jim Tyler	CA
9 Nigel Slee	England
10 Ian Marshal	England
12 Randy Harrison	FL
13 Rick Harrison	FL
15 Randy Leavitt	CA
16 Rob Slater	IL
18 Will Oxx	MD
19 Mark Hewitt	CA
21 Liz Collins	MD
22 Clem Majors	CA
23 Nick Bender	AZ
24 Gerald Harendza	NY
25 J.D. Walker	AZ
26 Eric Pehrson	TX
27 Kurt Roy	AZ
28 Andy Guest	England
30 Rich Stein	CA
32 Mark Herndon	OK
33 Mike Wright	TX
34 Richard Castillo	TX
35 Gary Wirth	CA

El Cap Update

Thanks to the many readers who took the time to write their Congressional representatives as a result of our report "El Cap: It's Now or Never" in the last BASELINE. Reprinted below is a copy of the letter Tom Buchanan, BASE #126, of Rome, New York, sent, along with (on the opposing page) the reply he received.

It is important to note from these letters that the proposed "Yosemite BASE Prohibition" has apparently not yet been printed in the Federal Register. It is therefore NOT TOO LATE to write to your representatives in Congress. Please see pages 17 and 18 of the last BASELINE, and please remember to mail us copies of all your correspondence. Thanks!

I am concerned about pending additions to the Code of Federal Regulations which would specifically prohibit BASE jumping (parachuting from cliffs) in Yosemite National Park. If passed, the regulation, dubbed the Yosemite BASE Prohibition, would eliminate the Superintendent's discretionary authority to permit skydiving from El Capitan and other cliffs in the park.

The United States BASE Association (USBA) is now lobbying the Park Service to establish guidelines for legal BASE jumping, as is the practice in Canadian parks. A Congressional prohibition will make it impossible for the superintendent to approve the USBA proposals, no matter how reasonable they may be. While the Park Service may now wish for Congress to ban BASE jumping, such action will forever deny BASE jumpers use of our parkland.

I think the proposed prohibition would be unreasonable and discriminatory to jumpers. Other activities with equal risk and no better safety record -- notably rock climbing -- are allowed in the park with little or no regulation, much less an outright ban. Since 1978 there have been more than 1000 cliff jumps made in Yosemite, and never have any jumpers impaired others' enjoyment of the park.

Perhaps the Federal Government should study the tiny state of West Virginia, where a local Chamber of Commerce hosts an annual gathering of more than 250 BASE jumpers for an October Bridge Day festival. The celebration features hundreds of BASE jumps from the 876 foot tall bridge, and draws more than 200,000 non-jumping spectators. This is a site where BASE jumpers work with the community and jump safely, while helping local tourism.

I urge you to prevent passage of the Yosemite BASE Prohibition, and keep in touch with me and the USBA regarding ways we can open the park to legal BASE jumping.

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Mr. Thomas Buchanan
1029 W. Liberty
Rome, New York 13440

Dear Mr. Buchanan:

Thank you very much for contacting me with your concerns over the prohibition of BASE jumping in our National Parks.

Though BASE jumping was allowed on a trial period for 5 weeks in 1980 in Yosemite National Park, it has been prohibited ever since. According to the National Park Service, BASE jumping is prohibited for a number of reasons.

First, after the trial period, BASE jumping was seen as an inappropriate use of the park. This was determined to be the case even in light of the fact that both hanggliding and rock climbing are allowed. Thus, the consensus is that BASE jumping "significantly" detracts from the integrity and purpose of the park.

Second, BASE jumping would require even more regulation and park supervision than do either hanggliding or rock climbing. The park system would feel even more of a budget stretch under these circumstances because each park allowing BASE jumping would have to make major additions in its safety provisions and personnel.

Finally, such an activity would draw crowds large enough to be damaging to the park environment. During Yosemite's trial period, the already crowded park was crippled by worsened traffic jams and damaged by spectators viewing the events from Ahwahnee meadow on the valley floor. With limited access to the park, these factors also posed a serious safety hazard.

Currently, BASE jumping is prohibited by ruling 36 CFR 2.17(a)(3) of the Code of Federal Regulations. Under the ruling there is a specific provision allowing each park's superintendent to grant a permit for a BASE jump at his discretion. There currently are no proposals, either by Congress or the National Park Service, to change, strengthen, or amend this regulation. Therefore, each park is still open to lobbying efforts to allow BASE jumping.

With warmest regards,

Sincerely,
Sherwood Boenlert
Sherwood Boenlert
Member of Congress

SB:bc

BASE Update

Here is a list of people who were either left out from the last issue, or who have since qualified for BASE:

49	Jim Beck	FL
53	John Tierney	
61	Rick Quiroz	CA
84	Charles Conable	OK
112	Rod Pendergrass	ND
144	Eric Lee	Australia
150	Dave Jordan	Australia
151	Ray Palmer	Australia
152	Simon Wyatt	Australia
153	Shane Sparkes	Australia
155	Ray Williams	Australia
156	Eros Battello	Australia
157	Steve Dines	Australia
158	Dave Lorkin	Australia
159	Damien Hansen	AL
161	John Roberts	Australia
162	Keith Lutman	Australia
164	Andrej Percic	Australia
165	Mark Scott	Australia
167	Tony Slavec	Australia
173	Pete Fielding	Australia
174	Steve Morrel	NC
175	Bill Legg	NJ
177	Jack Kirk	PA

Australian BASE

The following people have qualified for their Australian BASE award, by jumping all four required objects, each within Australia:

- 1 Simon Wyatt
- 2 Shane Sparkes
- 3 Ray Williams
- 4 Eros Battello
- 5 Steve Dines
- 6 Dave Lorkin
- 7 Dave Jordan
- 8 Damien Hansen
- 9 Nick Feteris
- 10 Keith Lutman
- 11 Ray Palmer
- 12 Andrej Percic
- 13 Mark Scott
- 14 Tony Slavec
- 15 Pete Fielding



Back to "Basics"

In trying to keep with appealing to as broad a cross-section of our readership as possible, BASELINE will feature a "Back to Basics" department with each issue. Although this is geared primarily to the novice BASE jumper, information contained herein might

nonetheless appeal to jumpers of all experience levels.

If there is any special topic you would like to see covered in this section (or if you would like to write something to be included here), please contact us at 1014 Shady Trail, Houston Texas 77038-1833.

Ever ask someone at the drop zone to show you how to pack? Chances are you'll get as many different answers as people you ask. The reason for this is simple: packing a parachute is one area where the ends justify the means. In other words, as long as you can get a parachute to open without it malfunctioning or burning itself up, then any pack job will do. And that's probably why there are so many of them.

When packing for BASE jumps, as with skydiving, the ends justify the means. The major difference is that there are a lot more criteria to satisfy: a parachute must not only open without malfunctioning or burning itself up, but also on-heading and fast enough for the given altitude and intended landing site. Still, any pack job which accomplishes this is fine, and there are admittedly many. So while it is not the intent of this article to detail any one specific BASE pack job, here instead are some general guidelines which will hopefully be helpful in achieving consistent, clean openings.

The very first step in BASE packing is to have a parachute which flies straight. After all, if your canopy won't fly straight then it won't open on-heading. Many canopies have built-in turns of which the jumpers are not aware, simply because they compensate for it unconsciously: either through toggle pressure, or by shifting their weight in the harness. To check your parachute, perform this simple test: leave the brakes stowed after opening, sit evenly in the harness, pick a reference point on the horizon, and check to see if your

canopy flies in a straight path. Then release both brakes, leave the parachute in full flight, and again check your heading. If you notice a tendency towards a turn, then consult with a rigger to check your canopy's trim and brake settings.

Once you are confident your parachute will fly straight, the next step is to make sure it is fit for a BASE jump. Carefully inspect the nylon for rips, tears, and burns, and make sure the cells are clean and free of debris. Untwist the steering lines from the canopy down to the risers, and also check the remaining lines for frays. Make sure the connector links and 3-ring release mechanisms are properly secured and in good shape. Although this might sound more like the procedure for a reserve inspection, keep in mind that many times a BASE jump is only a one-parachute leap, and so both the canopy inspection and packing should be treated as such.

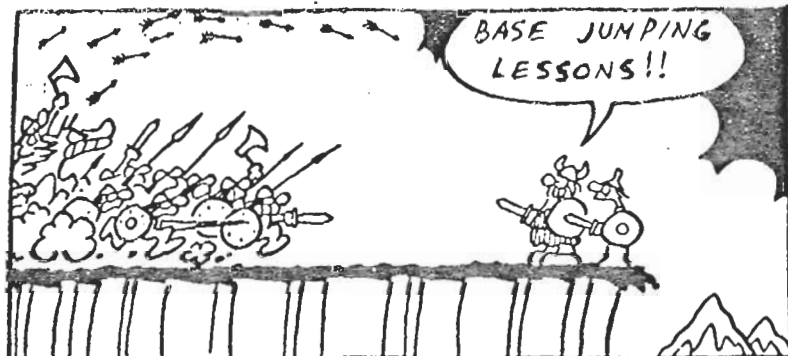
Next, find an ideal place to pack. This should be on a flat, clean and dry surface, with no wind and good lighting. This will probably be a change for most jumpers who are accustomed to packing outdoors at the drop zone, in the twigs and grass. However, a parachute with the slider up for skydives is far more tolerant of sloppy packing, and also the jumper is not usually worried about on-heading openings on skydives. BASE packing requires far more

attention to detail, and the on-headingness of the opening is determined largely by how neatly and meticulously the canopy was packed.

Once the parachute has been carefully inspected and thoroughly dried, the next step is to set the risers at even lengths. A difference of as little as three inches between risers will cause an off-heading opening, while greater differences will have the same result as uneven shoulders on deployment: malfunctions. To insure even riser lengths, many jumpers have run a carabiner through both large rings in their 3-ring releases. Other techniques include driving a stake into the ground, and placing both large rings over it, or simply placing a heavy weight (or having someone stand) on both risers.

Next flake out the canopy, being careful to keep the lines taught: good line tension is perhaps the simplest single thing you can do to insure a clean inflation. If the canopy has just been attached to the harness, or if it has been a while since you last jumped it, or are simply not sure, then this is a good time to do a line continuity check. Make sure that the parachute is not attached backwards, that the lines go to the proper place on the connector links, and that the brake lines run free of all the other lines.

Continued on page 26 . . .



A Bridge Too Far:

The Royal Gorge Parachute Jump

By Don Boyles

"I hope I haven't started a trend ..."

One of the most interesting aspects of any sport such as BASE jumping is its history: learning about those intrepid few who played the game before anyone bothered to make the rules.

Although BASE jumping is still very much a new sport, it has its foundations in a series of very interesting and unique jumps: a 1912 leap from the Statue of Liberty by Frederick R. Law; a 1956 jump from El Capitan by Michael Pelkey and friend; a 1975 jump from the World Trade Center in New York by Owen Quinn. And, of course, no one can ever forget Don Boyles' 1970 leap from the 1,055' Royal Gorge Bridge in Canon City, Colorado.

What follows is an accounting of that jump by Boyles himself, which was written on September 1, 1970.

I have known the Royal Gorge Bridge in Canon City, Colorado is high enough to jump ever since I started skydiving in September 1960 and learned about parachutes. I've been wanting to make a parachute jump from something other than an airplane for quite a while.

I have trained about thirty first-jump students, and one of them is David Lomax, a friend and co-worker at Byron Jackson Pumps in Tulsa Oklahoma. David and I were talking about bridge jumping one night, and at first it was just something about which to talk. David mentioned that the Royal Gorge Bridge was the highest in the world, and we both agreed it would be quite an honor to be the first people to jump from the world's highest bridge.

We had heard many tales about the strong and tricky winds that blow through the canyon, and we wondered if the stories were true, and if there were times when the wind was calm. Finally we planned a trip there with the intention of jumping if all conditions were right: the wind would have to be calm and the landing area suitable. We wanted to take two helpers, so we could station one man on the canyon floor in case we got in any kind of trouble, and another to take pictures from the top. Dave wanted to take his girl

and I'm glad he did, because we couldn't get anyone else to go. We made plans for Labor Day weekend so that we'd have more time for the trip.

A month before our intended jump, my brother Larry and his wife took a vacation through Colorado. Since they were planning on touring the Royal Gorge, I let him in on our plans and asked him to take lots of

"We both agreed it would be quite an honor to be the first people to parachute from the world's highest bridge."

pictures and see if he thought it would be possible to safely make the jump. Larry said it was pretty windy when he was there and that it rained a lot. He also told about the swift river and telephone wires, and said there were only one or two small areas where a person could safely land. It wouldn't be impossible, he said, but it would be real tricky.

Larry reported that it would be easy to jump from the bridge itself, as the rail was only about four feet high, and there were no guards watching it. We looked at the pictures he took and knew it would not be an easy jump to make.

All our plans were pretty secret.

I told my wife Brenda, except I told her that I was only going along to take pictures of David. Everyone else who knew about the trip thought it was just a weekend excursion to get out of town.

The Bridge is a little over 1,000 feet high, so we rigged Dave's parachute with a static-line. My rig was packed with a ripcord, for free fall, only because this was quicker; we planned on rigging up the static-line just before the jump. Brenda began to get suspicious when she saw me preparing my parachute gear, so I told her we might jump with a club up in Canon City.

We left Tulsa around 2:00 P.M. Saturday, September 5, 1970, and drove straight through, getting to Canon City at 4:00 A.M. Sunday. We slept in the car until seven, and then went to get some breakfast. Afterwards we drove up to the bridge and walked out on it, to look it over and check out the swift river below. It all looked pretty spooky, and the whole time we were still trying to decide whether or not to attempt the jump.

Next we took the incline car to the bottom of the gorge, looked it over, and took some pictures. The river was really swift, and we knew we wouldn't stand a chance if we landed in it, even though we had on our life

jackets. The only landing areas that seemed suitable were a small section by the tracks on the west side of the Bridge, and two small patches on the east side — one on each side of a rocky hill. Each area was five to ten feet wide and not much longer. We returned to the top and looked around some more, and I rode the

"We tried to get ready without attracting any attention, and I think we were pretty successful. I covered my rig with a jacket, and let off my helmet. 'All right, let's go,' I said when I was finally ready. 'I hope I know what I'm doing.'"

cable car across the gorge and back. We then went back to Canon City and checked into a motel. Dave and I talked it over for a long time, and finally decided to jump if the wind was calm enough.

We got up early the next morning, ate breakfast, and drove back up to the gorge. Dave and I took the incline car to the bottom once more, and walked along the tracks under the bridge to the east. The hillside didn't look too good, with all the rocks and telephone wires running along the top; from the bridge it had looked level.



Don Boyles prepares to jump from the Royal Gorge Bridge. Photo by Dave Lomax.

We went back to the top and walked across the bridge. There was a support cable about 15 feet below the surface, and we were afraid it might get tangled with our canopies if we made static-line jumps. The decision was clear: we would have to do free-falls.

Since I had more experience — 357 jumps to Dave's 25 — and my chute was already rigged for freefall, I talked him into taking pictures while I jumped. It would have been difficult for both of us to jump and still get pictures. Candy agreed to drive the car, a '65 Ford station wagon. We got a wind drift indicator from the car, and found a suitable exit spot on the east side of the bridge, near the middle. The wind was gently blowing from the west. I took the WDI from under my coat, and when no one was looking I threw it over the side. It unrolled and drifted in a steady line to the hillside below, indicating low winds. My experience gave me confidence that I could make the jump successfully, but I was a little worried about the landing. I knew there was a good chance of spraining my ankle, or worse.

We walked back to the car in the parking lot and got everything ready. I loaded and set the cameras, and geared up in the car. My gear consisted of boots, jumpsuit, helmet, lifejacket, reserve, and main

parachute.

We tried to get ready without attracting any attention, and I think we were pretty successful because we were only 9 or 10 in the morning. The park wasn't crowded yet. I covered my rig with a jacket to keep people from seeing what I had on. I left off my helmet. I think a few people that saw us suspected something, but there weren't too many people on the bridge in the place.

We drove to the selected exit spot with no trouble. When I was ready, I said, "All right, let's go; I hope I know what I'm doing!"

Dave and I got out of the car. Candy drove to the south end of the bridge, turned around, and headed back across to the parking lot. Two young employees of the Cliff Terrace restaurant saw us get out of the car, and they noticed my Oklahoma license plate as we passed them. All they could do was watch.

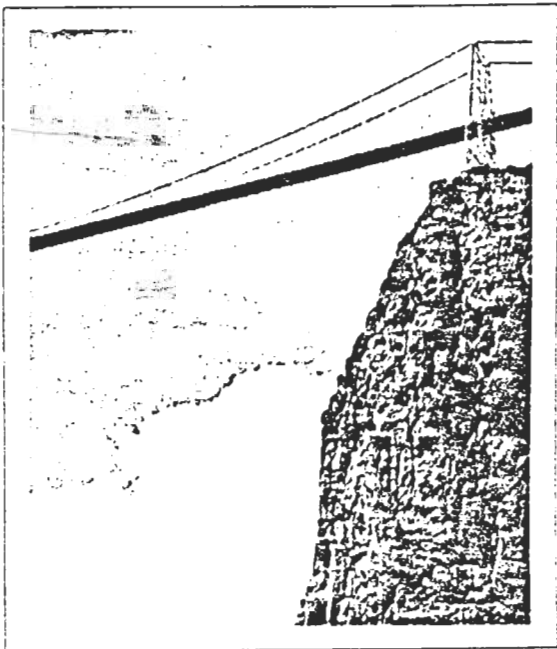
While I paused at the side, I snapped three or four pictures with my 35mm camera, and then switched to the 16mm movie camera. When I started filming I climbed up on the rail and jumped. I had my hand on the ripcord and pulled it as soon as I cleared the underside of the bridge. It took four seconds to open, about a second or two longer than a normal jump. It sure seemed like a long time! As soon as it opened I checked the canopy, and then stowed the ripcord back in its pocket. I started steering the chute, trying to find a place to land. I turned west, thinking I might be able to make the area I had picked out west of the hill. I soon discovered I was too far east and wouldn't make it. I made a right turn and saw the car directly in front of me, and I turned east, heading downwind. I was too low to make it across the hill to the other landing area, so I picked the only place left: on the hillside. I turned a little left, braked myself, and slammed into the hillside real hard.

I knew I had sprained my ankle just laid for a while resting. My ankle soon felt good enough for me to start field packing my chute, and

noticed then that I had landed about 10 or 15 feet from the telephone wires, and missed the rocks just enough to keep from getting hurt badly. The wind drift indicator had landed about 30 feet from me, so I limped over to get it, and then started climbing down the hill.

"We asked the waitress who was in charge of the Royal Gorge Bridge, and she replied 'Canon City.' We thought we'd best get out of there fast."

When I didn't get up right after landing, Dave thought I was hurt. He quickly bought a ticket and rode the incline car down to see about me. I was almost to the bottom of the hill when he and two young employees came running. They asked if I was hurt, and they helped me carry back my gear. I asked Dave if he had brought me a ticket for the ride to the top, but one of the employees said he would give me a free ride.



*The wind that sighs
gently through the high,
lonely cables of the
Royal Gorge Bridge
can blow a greasy popcorn bag
seven miles East.*

Dave and I walked over to the car for our free ride, and we got a lot of funny looks as we carried by the parachute gear. The employees were talking among themselves, but didn't say much to us. We expected to be apprehended when we got to the top, and I told Dave to get me a lawyer if I was arrested.

When we got to the top there were only two tourists there, who took our picture and asked us why we did it. Dave told them it had never been done before, and they seemed satisfied. We figured the best thing we could do was throw our stuff in the car and leave, so we did. I was really surprised that we were able to drive away without anybody trying to stop us.

We stopped at the motel in Canon City to eat lunch and have some coffee. We asked the waitress who was in charge of the Royal Gorge Bridge, and she replied "Canon City."

We thought we'd best get out of there fast, so we left and headed home. Dave drove because my ankle was swelling and hurting.

Down the road quite a way, a Colorado highway patrolman had a black station wagon pulled over, and he motioned for us to stop, too. We thought they'd heard about the jump and were looking for a station wagon; as it turned out, he stopped us because we had fender mirrors sticking out and we weren't pulling a trailer. I have a camping trailer at home, but hadn't bothered to take the mirrors off the car. Our parachutes were in plain sight in the back seat, but the cop didn't bother us at all, just made us remove the mirrors.

We were all relieved as we headed for home again. Then just a few miles from the Kansas state line, we heard it announced on the radio. They said a station wagon bearing a Tulsa, Oklahoma license plate had pulled onto the Royal Gorge Bridge and two men leaped out. While one climbed up on the rail and jumped, the other filmed the event with a

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movie camera. The jumper landed safely and the group left without identifying themselves.

We were all feeling pretty good that everything went as well it did. I called Brenda from Garden City, Kansas and told her everything was all right, and that one of us had made the jump. Dave drove straight through, stopping only for food and gas. We got in about 2 A.M. Tuesday.

It's about a 700 mile drive each way: a long trip to make just to jump off a bridge! Brenda was pretty shook up when I told her it was I that jumped, but she got over it soon.

I hope I haven't started a trend, but a friend of mine parachuted from a T.V. tower about two weeks ago.

About The Author: Don Boyles resides in Tulsa, Oklahoma with his wife Brenda. He is a regular face at the local drop zones, where he continues his skydiving career, and recently earned his Gold Wings award.

Don is also frequently seen at the annual Bridge Day event in West Virginia, and he has made two jumps from the New River Gorge Bridge.

BASE Meets MENSA

MENSA is a nationally known intelligence organization. Its members form many SIGs (Special Interest Groups). MENSA's Skydiving SIG is headed by California subscriber Al Warsh.

Mr. Warsh was the first person to ask permission for an El Cap jump. His request was granted by the National Park Service, but his permit was revoked shortly before the scheduled jump date. Mr. Warsh eventually got to make the leap (his only BASE jump to-date), earning him

El Cap #17.

At MENSA's annual gathering (held this year in Dallas, Texas), Al arranged for Phil Mayfield, BASE #2, to address the group on the topic of BASE jumping. Mayfield had to cancel due to a last-minute conflict of interest, but was replaced by Arlington, Texas resident Ernie L., BASE #105. Ernie's presentation was well-received, and we subsequently received the following letter from Al Warsh:

I would like to thank BASELINE and Phil Mayfield for setting me up with a speaker for the MENSA Annual Gathering. Ernie Long did a fine job of presenting BASE jumping as a rational, intelligent choice for the jumper who wants a little more zing out of life. His presentation was excellent for both the jumpers and the wuffos, and I heard repeated favorable comments about his presentation.

One of the most telling was a comparison Ernie gave of BASE jumpers' attitudes to that of the wilderness hikers who don't leave anything behind -- who clean up after themselves and leave the world a better place for those who follow. I'd read about this "take only pictures, leave only foot prints" attitude in BASELINE, but I'd never encountered it first hand. I am impressed!

I was also very impressed by the technological improvements in BASE jumping about which Ernie told us. I have also been reading about these gear and equipment innovations in BASELINE. You folks are certainly are doing a fine job, keep up the good work!

On the Yosemite front, I've talked to Roger Rudolph (the chief ranger) twice, and will talk to him again in early August. He had agreed to talk to the superintendent about his feelings on BASE jumping in the park, and to phone a friend recently transferred to New River Gorge Park about their experience with BASE jumpers. I'm trying to convince them that we are civilized human beings with whom they can deal. The stories of spray painted slogans on the rocks, and flatbed trucks full of barricade movers have created a strong attitude of distrust. I can't say we didn't earn it, but hopefully we can convince them there is a new generation of true BASE jumpers with a better attitude.

The Superintendent has so far turned down cold any attempts to reinstate jumping. Despite this, a number of people have described him as a very reasonable man, and when he was chief ranger he gave Rick Sylvester permission to jump! (In 1970, Rick skied from El Capitan and deployed his parachute, practicing for an upcoming stunt in a James Bond movie. Sylvester holds El Cap #3. --Ed.) I will continue to work with the rangers, because as long as law enforcement objects to BASE jumping, I don't see any possibility of legalizing it over their objections. Besides, my request worked last time!

So far, I have asked for permission to jump El Cap and Half Dome, but I have been wondering about asking for Glacier Point instead. It is hardly an ideal site, but it is accessible, and they already have an employee there in the morning supervising the hang glider pilots. The fact that it's not a good launch point would hopefully keep away the non-BASE people, and perhaps cut down on the terrible injury rate we had at El Cap. At least it would be a legal launch point, and although it wouldn't be ideal for us, it might be within reach.

I don't want to work at cross purposes to Jean Boenish, who wants El Cap as a training site for novices. But I would be interested in hearing your reactions, and especially those of anybody who has jumped Glacier Point!

Take care, and thanks again.

Al Warsh
Colton, California

Editor's Note: Glacier Point is one of many jumpable walls within Yosemite Valley. It was first jumped by Carl Boenish and Brad Smith in 1981, and has since seen a handful of visitors.

Glacier Point never gained the popularity of El Capitan and Half Dome because it doesn't offer the same safety margins as those monoliths: whereas El Cap offers a 2200-foot vertical drop, Glacier Point claims only 900 sheer feet. Anything but a perfect ram-air opening will result in a talus landing, tumbling for 2000' down the 45-60 degree granite slope, and certain death.

Mr. Warsh's comment about "spray painted slogans on the rocks and flatbed trucks full of barricade movers" refers to two incidents which occurred while El Cap was still a legal jump. In one, a group of skydivers riding on the back of a flatbed truck moved a barricade so as to gain access to a closed off trail. They hoped that travelling on the restricted road might save them some time in reaching the El Cap exit point. Unfortunately, the entire group was apprehended by the rangers. In the second incident, a group of jumpers spray painted the slogan "Eat F--- Skydive" on a large section of rock.

It is this type of irresponsible behaviour by skydivers which closed down the El Cap program, and which constantly threatens the existence of Bridge Day jumping in West Virginia.

Book, Video, & Equipment Review

48" BASE Pilot Chutes. 10' bridle and curved pin included.

Arizona Parachute Enterprises, 507 W. El Prado Road, Chandler, Arizona 85224 \$49.95

Last issue we reviewed the BASE pilot chutes manufactured by Para-Innovators (PI). Several other companies, including Arizona Parachute Enterprises (APE), offer a competitive product. In order to help our readers choose the right pilot chute, we will compare the APE pilot chute (and others in future issues) to the PI (which is generally known as the "industry standard" of BASE pilot chutes).

The APE pilot chute is about 40% less bulky than the PI, making it a little easier to stuff in the container for stair or ladder climbs. Its light weight (45% less than the PI) is a slight disadvantage as it makes it more difficult for a jumper to throw the pilot chute clear of his burble.

As a result of its smaller diameter and tighter mesh, the APE offers 30% less drag than the PI. (APE also offers a 54" model, which theoretically would have 27% more

drag than their 48" model). But perhaps the biggest disadvantage to the APE pilot chute is its lack of stability. In our drag tests, the APE oscillated violently in airspeeds as low as 25 MPH. The PI, during the same test, provided a very steady and stable resistance, with little or no oscillation. This stability is important in achieving on-heading openings (especially when deploying

"We will compare pilot chutes to the Para-Innovators, which is generally known as the 'industry standard' of BASE pilot chutes."

from a bag).

Other than that, the APE BASE pilot chute is well made and attractive, coming in an assortment of colors. For an extra charge, APE offers a "Sport Death" model featuring a two color skull and crossbones emblem sewn on the crown.

The APE pilot chute, like the PI, is well worth the asking price.

"Parachuting's Unforgettable Jumps III"

By Howard Gregory. Hard cover, 426 pages. 640 The Village #209, Redondo Beach, California 90277. \$23.95

"Frowned on by conventional skydiving groups, and viewed as pests by police and security guards, parachutists in growing numbers are hurling themselves off tall objects. They call themselves BASE jumpers..."

So begins chapter 25 — the chapter on BASE jumping — in Howard Gregory's newly revised book, "Parachuting's Unfor-

gettable Jumps III." Originally titled "The Falcon's Disciples," Gregory's now-famous anthology covers parachuting's "funniest, most unusual, and most memorable jump stories."

The chapter on BASE jumping is well-written, a pleasure to read, and clearly shows Mr. Gregory's understanding of our unique part of sport parachuting. The numerous BASE jumping stories and reprints from newspaper and magazine articles are interlaced with a vast collection of BASE photographs, including shots of jumps from El Cap, Angel Falls, a Texas antenna, the Crocker Center Building in Los Angeles, San Pedro's Vincent Thomas Bridge, and many more.

The stories are entertaining and quick-paced: "Robin Heid, a Denver-based BASE jumper, was caught and charged with criminal trespass three years ago when a gust of wind blew him into a building during a jump from a Denver skyscraper. The accident broke his thighbone, and he was shackled to the frame of his hospital bed until his family raised bail."

"A 1,350 feet Antenna in Worcester, Mass., was jumped on April 20, 1986 by Scott Elder of Boston and Paul Nelson of Westboro, Mass. 'The climb took us 1 hour and 20 minutes while a hawk circled around us, evidently trying to figure out what we were doing. Our raw forearms kept asking the same question,' Scott conceded. 'But those few seconds of ecstatic free-fall and the looks on our faces made it all worthwhile. The hawk, at least, was no longer puzzled, but my forearms still are!'"

"On July 22, 1975, Owen Quinn dove off the top of the World Trade Center. 'After free-falling for 50 floors to make sure I had enough speed to pull the chute off my back, the people on the upper floors reported a suicide because they had seen a body go falling past their windows.' Owen grinned, continuing, 'But the lower floors reported seeing a man in a parachute outside waving



Found ... sheer ... section ... Send ... bigger pilot chute ...

to them, which I was doing to those people who had their faces pressed against the windows of the Trade Center.' Michael Sergio captured a dramatic photo, just as Owen was going off the edge of the building."

"A television tower soaring 1,909 feet over Wagoner, Oklahoma, was jumped by Jane Suzanne Mellor, 20, of Yorkshire, England, and Lori Love, 31, of Wichita, Kansas on July 15, 1981. 'It took us five hours to climb the bloody thing,' said Mellor. 'I've got plenty of blisters in my hands.' Both women were experienced jumpers with 1,000 jumps between them. They were arrested by the local Sheriff on landing, and Judge Paul Simmons fined Love \$1 for trespassing; he let Mellor go because she hadn't been warned not to climb the tower."

The remaining 24 chapters of "Parachuting's Unforgettable Jumps III" are just as lively, interesting, and humorous, and follow the same "short story" format. This is perhaps the biggest advantage to Howard's book, as a jumper can read small portions at his leisure. Although \$23.95 could represent a

couple of jump tickets, the money would nonetheless be well spent on Mr. Gregory's new book: it is hard cover, attractively bound with full color front- and back-cover pictures (and pages containing over 300 photographs), and will provide hours of reading pleasure. Mr. Gregory is also giving a full color poster free with each purchased copy of his book.

"Although \$23.95 could represent a couple of jump tickets, the money would nonetheless be well spent on Mr. Gregory's book..."

Chapter 25 ends with yet another interesting tale: "Mountain climbers from all over the world converge upon Yosemite Valley; at one of the most challenging vertical rock climbs in the world: the El Capitan escarpment.

"A group of foreign mountain climbers were climbing the sheer face of El Capitan. This awesome climb can take as long as a week. After spending the last cold night sleeping in tiny canvas hammocks, dangling

like spiders on a rope attached to steel pitons that had been driven into the cracks of the granite, they finally reached the top of this prodigious mountain the following day.

"On top of El Capitan at that moment in time, a group of parachutists were just about to make their leap to the Yosemite floor 3,060 feet below. Speaking different languages, the climbers thought that the Americans were also climbers like they were because they had helmets, backpacks, and similar gear.

"The jumpers tried to explain to them they were about to jump off the mountain; but the climbers could not understand the language.

"Suddenly, in a matter of seconds, the jumpers were gone; over the edge they leaped, plunging down into the abyss. The climbers were dumbstruck — they had no idea of what was going on.

"As a matter of fact, it is safe to conclude that Carl preferred the safe way."

POINT-COUNTERPOINT

"Point-Counterpoint" is BASELINE's open forum for readers to express their views, beliefs, and opinions. Last issue's letter from Bernie Lyng was answered in this issue by Mayfield, on page 8.

Does the following letter say anything about which you feel strongly enough to write a counter-point? If so, please send your reply to BASELINE Magazine, Point-Counterpoint, Shady Trail, Houston Texas 77038-1833. We will select the best letters for publication in the next issue.

I just thought I'd cast my vote on the fixed-object (BASE) jumps. Since I started jumping in 1963, I always thought skydiving was the art of flying your body into a planned formation, or turning on your axis in a 6.8-second style jump.

I wish someone would explain to me what falling off a mountain or jumping off a bridge or tower or trestle have even remotely to do with the fine art of flying your body in freefall.

Butch Rubb
Swampscott, MA

BASELINE Update

Send Us Your Best Shot!

BASELINE is searching for photos to be used on our front cover and "Photo-Finish" department. Entries may be from 3" x 5" on up, in color or black-and-white.

Who Are We?

BASELINE has just finished preparing a "Who Are We?" BASE jumper survey. Unlike the on-going University of Montana's survey (which attempts to draw a psychological profile of BASE jumpers), BASELINE's study will attempt to draw a more general demography of BASE jumpers: number, experience level, education, profession, etc.

Copies of the survey will be distributed to all jumpers participating at Bridge Day this year, and will also be mailed to all readers with the next issue.

Dave Boatman Memorial BASE Jumps

On August 29 Dave Boatman, co-owner of the Spaceland drop zone near Houston, and friend of both Phil and I, died after a long battle with cancer. Dave was just 50 jumps short of 2,000. As is the tradition at so many places around the country, friends began taking peices of Dave's gear on their jumps, and logging those jumps posthumously in Dave's logbook.

On September 5, Phil and I made what we believe is the first case of such a tradition being carried out through BASE jumps. At 8:30 in the morning, we made jumps from a 285-foot cliff. Each of us was wearing one of Dave's

gloves, thus getting him his first two BASE jumps, and also bringing him two jumps closer to 2,000.

Dave reached his goal the next day, and on his 2,000th jump his ashes were scattered in free fall on a 20-way memorial dive at the Labor Day Boogie at Spaceland. We'll sure miss you, Dave!

Final Back Issues

There are still a few remaining sets of last year's BASELINE. The entire volume costs \$7 postage-paid, and will be available only as long as the remaining supply lasts.

Correspondents Still Wanted

BASELINE's correspondents are our representatives in their areas. Among other things, correspondents keep up informed of news and events, who's doing what, and BASE in the news.

All correspondents will receive our press package and writer's guide, and have their names listed on the Table of Contents page. Anyone interested should contact us at (713) 437-0323 or 931-7709.

See You In West Virginia

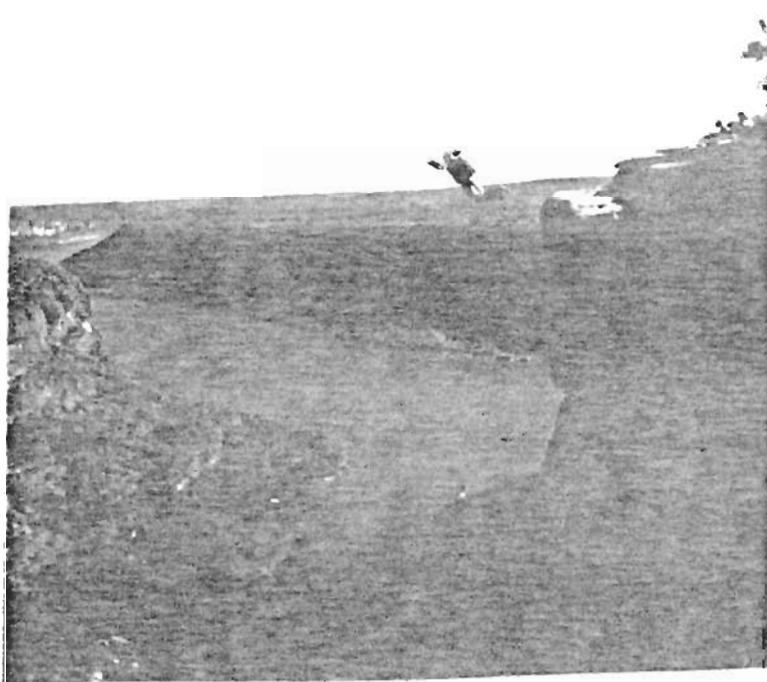
We look forward to meeting y'all at Bridge Day! Please stop by and say hello.

COPS LIKE BASELINE

"Dead" Steve Murrel, whose van was confiscated by Arlington, Virginia police after a BASE jump, called in to report that his vehicle has been returned. Several items, however, turned up missing.

According to Steve, the police kept his reserve ripcord, a BASE plaque, and several other items as souvenirs. Also missing were a few issues of BASELINE, which the police freely admitted to taking. "Everyone at the station has been reading your magazines," Steve quoted the police as stating, "they especially enjoyed Andy Calistrat's article on 'Getting Away With It!'"

Phil Smith snapped this shot of Andy Calistrat jumping from the 300-foot "Dead Man's Cove" cliff in West Texas.



The next step is deciding what to do with the nose. For slider up jumps, many people prefer to expose the nose (by folding it "under" the canopy). This is fine with the slider up, and will result in a very fast opening. With the slider down, however, exposing the nose is not only unnecessary, but even undesirable.

With the nose exposed and the slider down, the first blast of air is absorbed directly into the cells. This causes an excessively hard, even violent opening which can easily over-stress the parachute (and the jumper!). The sudden blast of air also causes a moment of very high pressurization, resulting in a sudden, uncontrolled forward surge. In case of an off-heading opening, this could result in a jumper striking the object before he has a chance to take any corrective action.

Folding the nose "in" on itself produces a marked difference in the opening. Because the cells are shielded, the initial blast of air serves only to spread the bottom skin of the canopy. This results in the parachute opening fully, but with the cells still deflated. Once the jumper's weight hangs fully from the lines, the parachute will gently be driven into forward flight as the canopy pressurizes. The net result of this is a far gentler opening with no significant loss of altitude. Most importantly, though, is that the jumper will be given extra precious time to correct for a bad opening.

Some people have been worried about folding the nose for BASE jumps, because their parachute snivels on skydives. With the slider down, this is a completely unfounded fear. A snivel by nature is the interaction between the slider and the parachute; with the slider down, even the greatest of snivellers will crack open — whether the nose is exposed or not!

At this point, there are numerous ways to fold the remainder of the canopy. This should be determined

largely by how the jumper is accustomed to packing, and which methods have produced on-heading openings in the past (it is helpful to make test jumps at the drop zone). Keep in mind that there are no "miracle cure" or "black magic" BASE pack jobs. As Carl Boenish remarked: "We pack our parachutes to open quickly and on-heading, and believe it or not, I have found that the best pack is a factory pack!"

Still, here are some general guidelines:

1. Keep all lines running to the center, and in a straight line from the container (not off to an angle).

2. Remember good line tension!

3. "Clear" the stabilizers by pulling them out from between the lines. Then fold or roll them, so that the first blast of air hits the center cell (as opposed to the end cells).

4. Do NOT wrap the tail around the entire pack (as is common in book packs). This encourages line-over malfunctions when the slider is down. Rather, tuck the tail between the first and second set of stabilizers.

5. The safest pack job is one where the canopy opens like an accordion, with the nose and tail receiving air at the same time. "Roll" packs (such as the factory pack for 9-cells) are not generally good BASE packs.

Once the folding is complete, the next step is stowing the lines. This can be done in one of two ways: rubberbanding, or free stowing. Free stowing is not generally a good idea for BASE jumps. This is because the lines are uncontrolled during the deployment sequence, and in low airspeed situations, this can be especially dangerous.

Rubberbanding can be done in essentially one of three ways: on the bottom of the pack tray, on a bag, or on a tail pocket or diaper. The latter two methods are far safer, as they result in the lines unstowing from the risers to the canopy (see "Romancing The Rope," BASELINE #5).

Whichever method you use, here are

some tips for obtaining good results with rubberbands:

1. Stow as small a "bite" of line in the rubberband as is necessary to prevent premature release. Ideally, this should be an inch or less.

2. Stow even lengths of line on the left and right side. This will insure equal resistance during unstowing, and is therefore conducive to on-heading openings.

3. Rubberbands should provide as little holding force as possible. Do not be afraid of old, worn-out rubberbands; for BASE jumps, they can be used until they break.

4. Standard rubberbands are far too wide (and therefore provide too much holding force) for BASE jumps. They should be cut in half.

5. When replacing a rubberband, be sure to stretch the replacement thoroughly before attaching it. This will take out some of the stiffness common in new rubberbands.

The bottom line in BASE packing is to do what has worked for you in the past. Test jumps on hop-n-pops at the drop zone are your best indicator (but never attempt a slider-down jump from an aircraft, even on an extremely short delay. Only balloons and ultralights are suitable for this).

Some topics not mentioned here include whether to pack slider up or down, free pack or bag deploy, what kind of container to use, and others. These were left out mainly because they are complex issues, often under much debate by even experienced BASE jumpers. Some of these topics have been covered previously ("Sliders: Up or Down", BASELINE #2), while there will no doubt be articles on others in future issues.

If you have any questions on packing your own canopy for BASE jumps, the best thing is to talk to an experienced BASE jumper in your area — preferably one with the type of rig. Also, please feel free to call the BASELINE numbers, and we'll be happy to help you in any way we can.

Incident Reports

Name: Withheld

BASE Jumps: 4

Main:

Reserve: Round

Container: Racer

Pilot Chute: Pull-out

Packing:

Object: Antenna

Altitude: 1450'

Delay: 5 seconds

Type Jump: Daytime, solo exit

Description

The last jumper of a group to exit a television tower had been standing on the antenna for some time, and reported feeling "heat"

from it. After a stable exit, five second delay, and uneventful opening, the jumper was flying away when suddenly one riser released, and his canopy collapsed into a one-riser streamer.

The jumper cut away his remaining riser, successfully deployed his reserve, and landed uninjured in a tree. Subsequent inspection of the gear revealed that the riser rings were extremely hot, to the point where the retaining loop had been melted (thus causing the premature riser release).

Conclusions

The long term effects of direct exposure to high-power radio transmissions are still under much dispute in the scientific community. The short term effects, however, are quite clear, and should be of concern to anyone seeking to make an antenna jump from an operational tower.

Short term exposure to sufficient high radiation levels can result in dizziness, nausea, a burning sensation over the entire body, and even discoloration of the skin. The radiation will quickly be absorbed into metal objects (such as three-ring releases and other hardware on a rig), causing them to heat up rapidly.

Exposure level is determined by the transmitter's output power, distance maintained from it, and length of exposure. Basic safety tips for antenna jumps include:

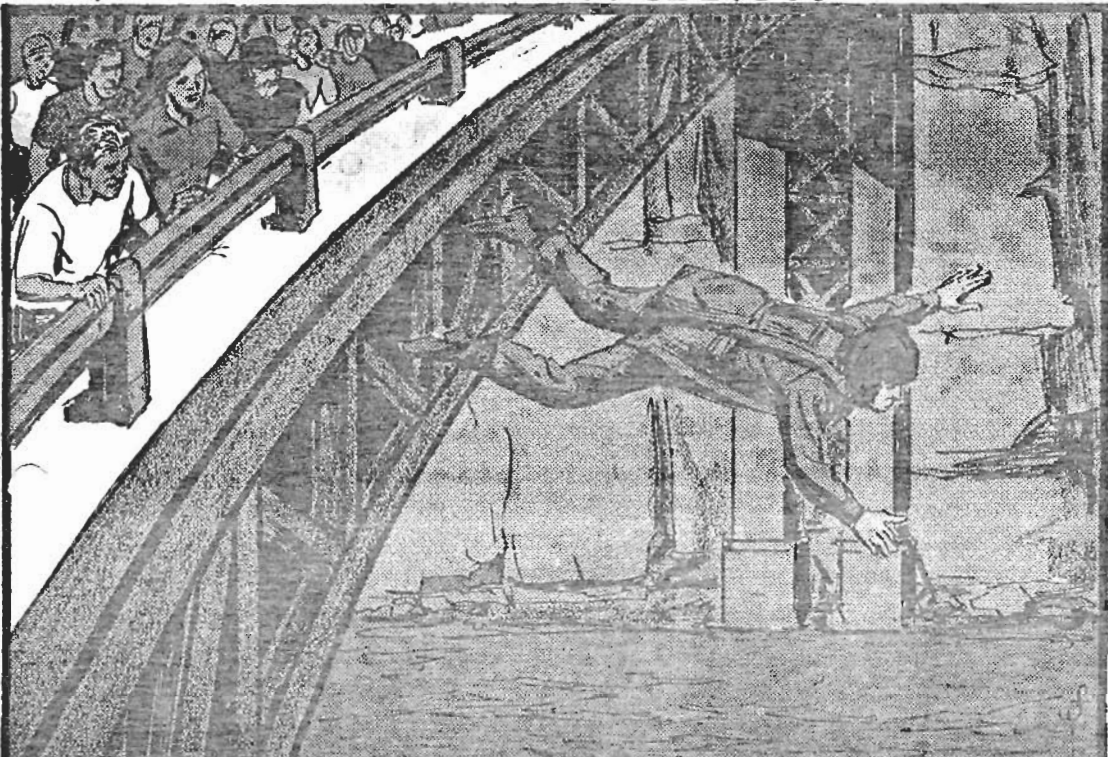
1. Stay as far away as practical from the actual transmitter, and never cross in front of microwave dishes. It is better to sacrifice 100 feet of altitude on a jump rather than risk potentially dangerous close-range exposure to a powerful transmitter.

2. Minimize the amount of time spent after reaching the top, before the jump. If a delay is encountered, to wait out weather or for any other reason, climb back down one or two hundred feet to gain some separation from the transmitter. Remember that exposure level increases exponentially with distance, so even a few hundred feet will provide a significant buffer.

3. NEVER plan on climbing a tower during the night, the waiting at the top until dawn to jump. FM stations transmit as much as 50,000 - 100,000 watts of power, and TV stations broadcast several million watts. This radiation is absorbed directly into the jumper's body and gear, so the less exposure time, the better.

4. If you notice any of the

Ripley's Believe It or Not!



DAREDEVIL "BASE" PARACHUTISTS
"B" FOR BUILDING, "A" FOR ANTENNA
TOWER, "S" FOR SPAN, SUCH AS A BRIDGE,
"E" FOR EARTH FORMATION, SUCH AS A
CLIFF — MUST JUMP AT LEAST ONCE
FROM EACH TYPE OF OBJECT —
FOR THEIR ILLEGAL HOBBY, THEY
FACE INJURY, DEATH OR ARREST!

all-effects of RF radiation exposure, or if the metal parts of your gear begin to get hot, then get off the

antenna as quickly as possible!

5. Finally, try and determine if there are certain hours when an

antenna is not operational. are the best times to climb and

Accident Reports

Name: Kenn Noble

BASE Jumps: 55

Skydives: 300

Main: Strato Cloud

Reserve: 26'

Container: Wonderhog

Pilot Chute: 48"

Packing: Bag deployed, slider down with line-release modification, but no toggle keepers.

Object: Cliff

Altitude: 600'

Delay: 2 seconds

Type of jump: Daytime, solo exit

Extent of injuries: Broken right calcaneus (heel) requiring two staples and one screw.

Description

The jumper made a stable exit, took a two second delay, and experienced a normal, on-heading opening. He then released the brakes and attempted to steer left, but found that this turned the canopy to the right. The more he pulled to the left, the more the canopy turned to the right.

Figuring his brake lines to be crossed, the jumper pulled on the right steering line, but to no avail. By now he was turned parallel to the cliff, and came dangerously close to striking the wall. Ken eventually hit the top of a 25 foot vertical slab, bounced off it with his right leg, and fell to the ground under a re-inflating canopy. He landed in a clear area, avoiding further injuries.

Conclusions

The jumper admitted to having packed hurriedly, and as the result of having the line-release modification, inadvertently crossed his steering lines when attaching them to the risers. This caused a subsequent entanglement upon deployment, rendering the parachute unsteerable.

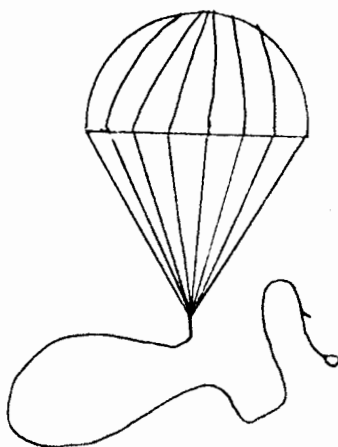
It is ironic that the modification intended to cure malfunctions (the line release mod) was the cause of

the problem in this accident, but it clearly illustrates the need for proper toggle keepers (such as those being developed by your BASELINE editors and others). Technology will only work when used properly!

More important in this case was the jumper's lack of corrective action once confronted with an unsteerable parachute. Simply releasing toggles would have caused the lines to trail free, thus allowing the jumper to regain control of the parachute, and steer to a landing using rear risers. In the jumper's own words: "I screwed up and it caught up with me."

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Name: Withheld
 BASE Jumps: 79 Skydives: 1300
 Main: Para-Flite DC-5 (270 square foot five-cell)
 Reserve: 23' Pioneer Tri-conical
 Container: Wonderhog 11
 Pilot chute: 30" hand-held
 Packing: Factory pack, slider up.
 Lines rubber-banded in pack tray.
 Object: Cliff Altitude: 1800'
 Delay: Nine seconds
 Type of jump: Daytime, triple exit (no contact)
 Extent of injuries: Broken heel partial paralysis of right leg.

Description

The jumper exited simultaneously with two others from three adjacent ledges. No contact was attempted, and the jumper tracked away from the others shortly after exit. After nine seconds he released his hand-held pilot chute and experienced a very slow opening. The slider stayed up and had to be pumped down, resulting in an opening altitude 250' lower than planned.

His DC-5, a slow, docile canopy best suited for steep accuracy approaches, could not sufficiently penetrate to make the upwind landing area. He chose an alternate spot, a

small sandbar near the turbulent river, but needed all his forward speed to clear the water; he struck perpendicular to the sandbar's four foot bank without flaring his parachute.

The jumper's impact caused a lateral compartment syndrome in the calf, pinching the peroneal nerve and causing loss of dorsal flexion of the

***"The technology is available
 to deal with most
 emergencies, and it is
 inexcusable to ignore it."***

foot. His partners evacuated him from the canyon with great difficulty: what is normally a three hour hike turned into a 13 hour hands-and-knees crawl up a steep gully to the rim.

A week after the accident, the jumper's leg was cut open from the knee to the ankle to relieve pressure. A full, although slow recovery is expected.

Conclusions

A cardinal rule of BASE jumping is to have the right equipment for the site. This jumper, by his own admission, left behind his quicker opening, faster flying parachute in

favor of a canopy which susceptible to squirm. Although turbulence is a tight landing areas, consideration should be given in the first place.

Perhaps more important choice of a landing area was reached even if things don't go right. In this case the jumper's exit point downwind of landing spot, even though an upwind (albeit less over available). This secondary had previously been safely

Name: Brian Scott
 BASE jumps: 52
 Main: Laser
 Reserve: Piglet
 Container: Wonderhog
 Pilot chute: 36"
 Packing: Free-pack, slider
 Object: Bridge Alt
 Delay: 2 seconds
 Type of jump: Daytime, camera load
 Extent of injuries: Compound of right heel, shattered ankle, shattered left foot

Description

Jumper exited backwards with the bridge, wearing a mounted 3/4" video deck and filmed his jump partner. The canopy opened with a line-cut on the right side, and began spinning in the same direction. The jumper released his brakes, which increased the rate radically, and attempted to steer until impact in the water below the bridge.

Conclusions

Almost any action other than the one taken would have yielded a different result. A line release mod could have cleared the jumper and allowed a safe landing. A tertiary parachute probably would have spared the jumper from the minor injuries.

Since Brian had neither a line release mod, he should at least have attempted a reserve or possibly a canopy transfer. He had the time to plan these procedures before the jump, not in the heat of malfunction. The technician

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available to deal with most emergencies, and it is inexcusable to ignore it. Ideally, anyone jumping slider down should have a line releases mod, and anyone planning on opening below safe cutaway altitude should wear a tertiary parachute.

With few exceptions, landing a line-over will result in serious injury or death.

Name: Troy Fink
BASE Jumps: Skydives:
Main: Cruisair Reserve: None
Container: Custom velcro BASE rig.
Pilot Chute: Para-Innovators 52"
Packing: Free-packed slider down.
Object: Bridge Altitude: 330'
Delay: 1 second
Type of jump: Day-time, solo exit.
Extent of injuries: Shattered knee cap, broken ankle, broken heel, smashed cheek bone, injuries to left eye.

Description

The jumper had previously experienced a line-over malfunction at the same site when jumping a nine-cell, and was able to clear the malfunction using the line-release modification with zoo toggles. Realizing that the nine-cell was

probably the cause of the line-over, Troy wisely elected to use his 7-cell Cruisair for future slider-down jumps.

However, the steering lines on the Cruisair were not equipped with Zoo toggles, forcing Troy to make the line release modification without proper keepers. This resulted in the right steering line jamming upon

"More important in this case was the jumper's complete lack of corrective action...."

opening.

When Troy fired his brakes, only the left one released, sending the canopy into an immediate right turn. As Troy continued to vainly tug on the right toggle, he managed only to pull down the entire riser, further turning his canopy to the right. He eventually impacted a large boulder about 30-40 feet above the ground.

Conclusions

The line release modification is a worthy idea which admittedly saved Troy's life on a previous occasion. However, the modification needs to be used in conjunction with appropriate toggle keepers to be truly effective. Zoo toggles are good for this

purpose, as they minimize the chance of a jam, and they also release easily under the high loading caused by a line-over. However, the advantages of Zoo toggles end there, as there are a host of other problems created by not having the steering line run through the keeper ring after the toggles are released.

Not having Zoo toggles makes using the line-release modification outright dangerous, as the steering line must be doubled back through the keeper ring, creating the very real possibility of a jammed line (as happened in this accident). It seems that the ideal solution to all the problems is a method wherein the steering lines remain routed through the riser keeper ring. Such a method is currently being developed by your BASELINE editors (for more information, see the article "Line Release Comments" in this issue).

But most important is the fact that the jumper did not take any corrective action upon discovering that his steering line was jammed. Rather than attempting to steer to a clear landing area, the jumper instead fought with the stuck toggle, unaware of his position, and ended up turning his canopy directly into a large rock.

AT PRESSTIME

Norway Bans BASE Jumping

Floridian Brian Scott reports that effective July 1987, cliff jumping was outlawed in Norway. Last year, Scott's plans to jump Trollvegan were blocked by the Norwegian government's ban on that cliff; he settled for the nearby 4700' Kalskratind.

The new ban affects all cliffs in Norway, and carries a heavy penalty: a steep fine, confiscation of gear, and immediate deportation (of foreigners) is imposed on anyone caught. The ban is thought to be the result of the efforts of some to bring as many as 250 jumpers to the cliffs at one time.

Desktop Landing

A Northeastern jumper called in to report that after experiencing a 45-degree off-heading opening on a recent BASE jump, he struck a building across the street from the one he had jumped.

According to the jumper: "I knew I was in trouble ...

right through the plate glass of an office window and landed squarely on top of a desk. There was glass everywhere. I tried to get my canopy in but couldn't, and I knew I had to get out of there fast. I snuck into the fire escape stairwell and hobbled down the stairs, dripping blood from a gash in my leg."

The jumper managed to get out of the building undetected. In the meantime his ground crew, thinking he was hung up on the building and injured badly, had called the police. The cops searched the building and confiscated the parachute, but no arrests were made.

The jumper received medical attention and will recover fully. He considered restitution, until he heard the building owner wanted \$160,000 in damages and full prosecution.

Details Unavailable

The last issue of BASELINE reported on the death of British BASE jumper Michael Gibbard. At presstime, we



"Dead" Steve Morrel is shown on the jump which qualified him for BASE #174. As John Owens holds on to Morrel's direct-bag, Steve jumps from the 28th floor of a

BASELINES

"A long life may not be good enough, but a good life is long enough."

Benjamin Franklin

"Take calculated risks. That is quite different from being rash."

General George S. Patton

"The dreadful summit of the cliff..."

William Shakespeare

"The vitality of thought is in adventure; if an idea is new and its custodians have fervor, then live for it -- and if need be, die for it."

Alfred North Whithead

"This is a free country, and everyone has the right to their pursuit of craziness!"

Doug Maddy

Organizer of Bridge Day in West Virginia

"I hope I know what I'm doing!"

Don Boyles

Prior to his first BASE jump in 1970.

"Seven days without a BASE jump makes one 'weak'"

Anonymous

"Freeze right there or I'll blow your head off!"

Culver City Policeman

"I remember standing on that corner at midnight, trying to get my courage up ..."

Bob Seger

"Gravity has no holidays!"

Mark Hewitt

SPECIAL NOTE:

In accordance with the terms of our probation as directed by the Val Verde Country Court, we are printing the following **ad warning jumpers to stay away from the Pecos River High Bridge** near Comstock, Texas.

The court, and the owners of the bridge (Southern Pacific Railroad), wished for us to stress to all **BASELINE** readers that the Pecos River High Bridge is *private property*, and a sign to this effect is posted at the bridge.

Southern Pacific does not wish to have their bridge associated with BASE jumpers in any way, and they have stressed that they will prosecute anyone caught on their property to the fullest extent of the law.