

## on the horizon

### AKA Convention

September 27 - October 1, 1995  
 Tulsa Marriott, Tulsa, Oklahoma  
 Info: Jim Miller, (312) 642-8962

### Kite Aerial Photography Workshop

with Craig Wilson & Brooks Leffler  
 October 21, 1995  
 National Air & Space Museum  
 Washington, DC  
 info: Barbara Harrick  
 (202) 633-8926

### 10èmes Rencontre des Cerfs-Volants

Easter Week 1996  
 Berck-sur-Mer, France  
 Info: Gérard Clément, Paris  
 (+33) 1 44 68 01 86  
 fax (+33) 1 44 68 03 86

## sources

If you can't find what you're looking for locally, try these:

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Dethermal timers; R/C equipment.  
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Gears, belts, nylon fasteners, and  
 all manner of little stuff. Catalog.

*A Working Farm, Cornwall, England by Rob Green. Yashica T-3, 18' Delta*



# the aerial eye

a quarterly publication of the aerial photography committee  
 of the American Kitefliers Association  
 volume 1 / number 4 / fall 1995

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overseas



M. V.  
 Matanuska  
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 Passage,  
 Alaska  
 by  
 Henry Jebe

## GADGETS & GIMMICKS

## the aerial eye

This newsletter is produced by the Aerial Photography Committee of the American Kitefliers Association. It is our goal to publish quarterly, in August, November, February, and May.

Single copies and subscriptions (including back issues) are available to AKA members and non-members alike, under the following fee schedule:

	single	4 issues
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Advertising is available in modules of 2.25 inches wide by 1.25 inches high, at \$20.00 per module, payable in advance. Advertising in which aggressively competitive pricing is featured will not be accepted; call if you have questions or need more info. Camera-ready copy is not necessary, but is acceptable if it meets the above criteria. Copy deadline is the first of the month of publication. Contact Brooks Leffler.

## now it's your turn

As of this issue, we have a paid readership of 75+, but only 18 have contributed words, pictures, or letters during our first year. We're all volunteers, and the success of the publication depends on each of us—yes, you too—to participate. So send us something, early and often! Each contributor will be published!

Text via Email or on 3.5" (9cm) high-density disk (Mac or IBM in ASCII text format) is preferred, but typed text or handwritten letters are welcome too. Likewise, diagrams in PICT, GIF, or TIFF formats are best, but pen drawings, preferably on white paper, will work as well.

Photos may be sent as negatives, prints or slides. We can also read Kodak PhotoCD, or Macintosh disks in JPEG, TIFF, or GIF formats. We'll keep the prints unless you direct otherwise, but return all negatives, disks, CDs, and slides—eventually.

Send everything to Brooks Leffler at the address below.

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## gadgets, gimmicks, & trick devices

by STEVE EISENHAUER

### PAINTED LENS CAPS

Any quality camera should have its lens covered when not in use. Some viewfinder cameras have built-in lens covers; all SLRs have separate lens caps. I paint my lens cap white, red or a fluorescent color [below]. It's disturbing when you send your camera up, take a roll of photos and then realize the lens cap is still on. The standard black cap will sometimes ascend unnoticed; a white or brightly-colored lens cap is much more obvious.

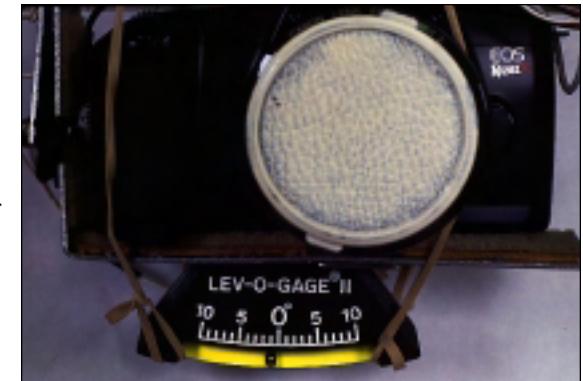
This issue contains several gadgets for line handling, an aiming device, a vibration damper, a line hanger, a detailed discussion of the Picavet suspension system, and more.

I've got my own list; it's probably similar to those of other KAPers. Here are some of my favorites:

### LEVEL INDICATOR

This lightweight plastic device is available for \$12.00 from Edmund Scientific Co., 101 E. Gloucester Pike, Barrington, NJ 08007-1380, USA (order Lev-O-Gage II, part #Y36,612) [below]. It allows you to quickly check (within one degree or less) if your camera is hanging level from its cradle. Do this check with the camera pointed in the four perpendicular directions. Use rubber bands to temporarily fasten the gauge to the bottom of your cradle; it is so light its own weight does not affect the cradle's balance if it is fastened under the center of your cradle.

our feature this issue:



• continued on next page

gadgets continued from page 3

with your photos. If your lens permits a screw-on shade, buy the proper one for your focal length and then cut it down (most stock shades extend out too far and the wind catches them when panning aloft). As an added plus, a shade helps protect your lens from scratches.

**TEFLON/ALUMINUM DAMPER**

This device increases my percentage of acceptable exposures [right]. It helps keep photos horizon-level and also dampens cradle swing and allows for a slower shutter speed. But since I'm one of the few KAPers who uses twin aluminum strips for the pendulum swing of my cradle, I don't know how many KAPers can easily use a similar damper. The smooth friction created by two teflon washers sandwiched by three aluminum strips allows the camera to remain nearly level even when blown by wind gusts or when the kite quickly changes elevation or its line angle. By tightening the lock nut in the pivot center of this sandwich, pendulum swing is minimized. If you can't obtain teflon washers, try nylon washers; they should work similarly although not as smoothly as teflon.

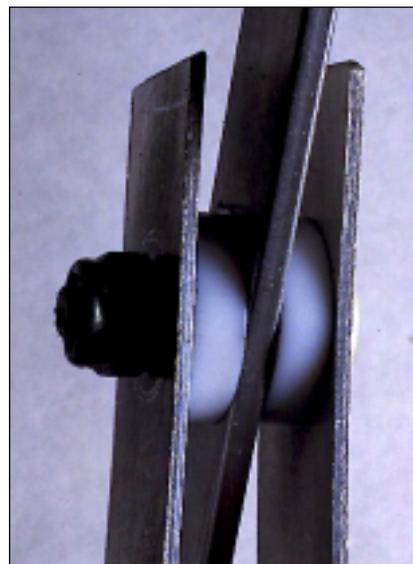
**DELTA-CONYNE TRAINS**

With many lift kites, you can add delta-Conynes below the top kite for additional lift in light winds. However, not all DCs can be easily trained. Many have upper and lower box sections equal in size to the center opening; a

good train DC has an opening larger than each box section. Devotion to Motion Ultralight Kites makes DCs with larger center openings and a bridle that makes training easy.

Send your primary lift kite aloft, then simply add DCs as needed by passing your winder through the center opening and hooking up one or more additional DCs at the desired spacing (I usually space them 100 ft. apart). In flight, keep your line taut when flying in train, and make sure your top kite has a tail or drogue to keep it facing into the wind. It should also have more pull than the lower DCs; I once used a small delta for the top lift kite, but the lower DCs would occasionally dive earthward and the little delta couldn't straighten them back out again.

Flying in train is safer than single kite flying when you fly above 500 ft.; a



train makes your line more visible to aircraft and any nearby kitefliers. (8' ultralight DCs suitable for training are available from kite stores for about \$60.00. Replace 1/4" wood spars with fiberglass tubes since wood is more fragile and tends to warp with age.)

**FOAM R/C CONTROL DAMPER**

The Futaba radio control lever for my camera's shutter returns to the "off" position automatically. The other r/c function, panning, works better if the little internal springs that tension the lever are removed from inside the r/c unit. But with the springs removed the lever flops back and forth loosely, so I epoxied a block of closed-cell foam (like that used for sleeping pads) against the lever to keep it in position. [below.]

**PRESET AIMING**

If you don't like squinting up at your airborne camera and fiddling with your r/c controls to aim each photograph, then practice a little on the ground and mark your r/c controls with white paint marks. Use the direction your kite line is pointing as a reference



point. Adjust and mark your controls so when set in the center the camera is pointing in the direction the kite is flying. If your cradle's servo gearing allows 360 degrees of panning rotation, then put paint marks at the r/c setting for 90 degrees left and right pan, and 180 degrees (directly towards you). After a little practice, you'll be able to aim your camera by feel alone, and you can keep your eyes focused on your kite's flight, with occasional glances downward. If your cradle has a servo for tilt control you can adjust and mark your r/c unit similarly.

**BITS AND PIECES**

- Graphite powder is a good lubricant for teflon or nylon washers.
- Don't use microservos with SLR-equipped cradles on anything but the shutter control; use the standard servos that weigh more but last longer.
- If you use Kevlar® line, use a drogue or tail. Dacron line is heavier, thicker and acts like a drogue by pulling the kite back and down due to wind and gravity forces.
- Buy a radio control unit with replaceable batteries, not one with a built-in battery pack. If you forget to turn off the r/c unit after use or if it's used a lot in one day it'll have to be recharged fully. If you can immediately replace the batteries with fully-charged spares, there's no down time.

# picavet — past & present

*text & drawings by RALF BEUTNAGEL, with WOLFGANG BIECK & OTTO BÖHNKE*

[This article has been adapted from one published in Sport&Design Drachen in May 1995. English translation is by Ralf with a little further interpretation by me. -ed.]

## THE BEGINNING

In November 1912, Pierre L. Picavet [pronounced Pickavay] published an article in the French kiting magazine La Revue du Cerf-Volant, entitled "Suspension Pendulaire Elliptique." This article shows that kiters experimented on the stability of a camera cradle as early as the beginning of this century. Michel

Dusariez of the Kite Aerial Photography Worldwide Association reprinted this article in KAP-

WA Magazine in April 1988. For this he must be credit-

ed with saving the Picavet suspension from obscurity.

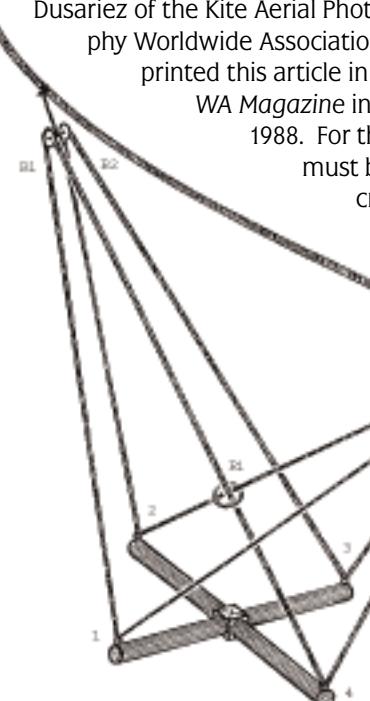
In his article Picavet named from the existing suspensions one by Captain Saconney as useful, but he didn't describe it because it was too complicated to build. As a variant he pointed to one used by Mr. Aubry. From this Aubry suspension the suspension we call in later days Picavet suspension is derived.

Picavet's basic design [below] provides a self-leveling, two-point suspension for a camera cradle through a continuous line passing through eyebolts on a central cross-shaped member from which the camera is hung.

## IGNITING THE FIRE

The First International KAP Meeting in 1993 in Germany brought together KAPers from two continents and four countries. Participants included the authors and other KAPWA members from Europe as well as Anne Rock from the USA. The co organizer Wolfgang Bieck showed here his version of Picavet's design with modifications in building and function. This event became the starting point for modern improvements to the Picavet suspension.

The three authors of this article worked hand-in-hand and visited each other several times. They decided to document their results so that each



## NOMENCLATURE FIRST

Ralf Beutnagel has developed a nomenclature for Elliptical Pendular Suspensions, based on a diagram in Picavet's article. Each of these systems is described and built using the same nomenclature.

1. The system is fixed to the kite line at two points. A is closest to the kiter, B to the kite.

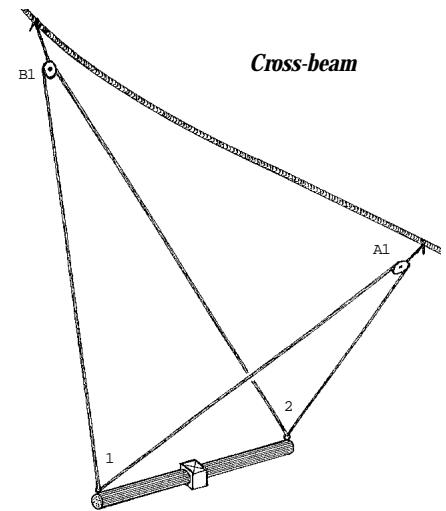
2. At the fixing points there are blocks installed. The blocks get a letter and a number, e.g. A1. Looking towards the kite, they should be numbered 1 for left (or lower) one, and 2 for right (or upper) one.

3. The ends of the cross are numbered clockwise. 1 is the furthest left position. If there are more possibilities it is the one towards the kiter.

4. If there is a ring in the line it is named Ri; St is a stick with eyelets and Kn is a knot.

The important thing is which cross ends are connected by a block, not the specific numbers assigned to those ends. In some variations, the threading pattern and its mirror image will give the same result. In practice there is no difference using a pattern or its mirror image; the placement of points A and B can be reversed as well.

On the other hand there are for one type of cross often several different ways to thread the line. These variations work differently (as do their mirror images), some better than others.



## THEME & VARIATIONS

The authors have experimented with many variations on the Picavet theme, starting with the simplest:

1.) The Cross-beam [above]

A1-1-B1-2-A1

2.) The Longitudinal-beam

A1-1-Ri-B1-2-Ri-A1 [not shown]

These two "beams" are the basis for the other models. They return fast and good in a rough way but have then a long oscillation. The models with more than two ends are better.

3.) The Triangular [see page 18]

Kn at A1-A2-St-2-B1-St-1-A1-2-St-B1-Kn

The line is not continuous. Two parts go over B1; one end is fixed half way between B1 and 2. The other holds the block A1 over A2, which

• continued on page 18

# braking wind

*text and diagram (and yes, the headline) by CRAIG WILSON*

To those who enjoy braking wind in public places with your fabric and fiberglass air brakes, I don't need to point out how much power the wind has. And that power has quite an effect on the kite and line, not to mention gloves, rig, and muscle mass.

In this article, I want to address how the wind produces vibration in the kite line, and hence, how that vibration affects everything that is hanging on the line.

As we have all learned, the faster the air goes, the less pressure it exerts. The different air speeds and subsequent difference in pressure is what gives lift to the surfaces of a kite.

Your kite line is stretched out in the air stream and it is subject to the same forces acting on the airfoil above it. As an article in KiteLines once said, your line flies too.

Pluck your kite line, like a guitar string, and watch the disturbance travel in a wave up to the kite. That wave is a large, slow example of what happens as the wind passes the line. The kite stretches and pulls the line tight and the wind induces energy into the line.

The wind is "strumming" your line and the result is that tiny waves of vibration, whose energy is proportional to their frequency, run rapidly up and down the line, making it buzz.

The first law of thermodynamics states that processes and systems naturally move towards equilibrium. Energy entering the system goes somewhere and must be accounted for; it doesn't just disappear. In 1884 French chemist Henri LeChatelier stated the principle that "a system that is stressed will adjust its character to relieve the stress."

The system of kite and line stay in balance with regard to energy in and energy out. The excess energy entering the system must come back out and it does that through vibration.

Now, if you are simply flying a kite this is not a problem in the least. However if you hang a camera on the vibrating line this can be a very important issue.

When you hang an object in the middle of a vibrating line the system will begin to use that object to help itself dissipate its excess energy. As the system strives to maintain equilibrium your camera becomes the funnel for the energy carried in the line. The camera rig will accept the vibration traveling in those tiny waves up and down the line and it too will begin to vibrate.

If you want to keep the vibration out of your rig, camera, and film, you must insulate your rig from the vibrating line.

There is a really simple, cheap, lightweight solution to this problem. Get a 3"- 4" rubber ring and a 6" length of dowel. I use a tire from a model car, but there are many other possibilities\*. Put it on the line above your camera rig. To put it on the line simply pull a loop through the hole in the rubber "doughnut" and insert the stick through the loop of line. Let the slack back out and voilà!

What the rubber doughnut does is prevent the waves of vibration in the line from traveling past it. Feel the line above the rubber and compare with the line below.

The difference is really remarkable. The rubber has isolated your rig from the energy waves traveling in the line.

The amount of vibration in the line is directly proportional to the length of line in the wind. By adding the rubber "stopper" in the line you have insulated your rig from the length of line above the rig. If you are going to lift your rig 50-100 feet then you probably will not require a second insulator below the rig. If you are going to lift your camera rig to great heights, you will end up

- *I use a 2" lavatory drain washer. Drill a small hole in the edge, tie and short line there and tie the other line end to a 3" length of birch dowel. Glue the knots.*

— Steve Eisenhauer

with a large amount of line below the rig exposed in the airstream and you may want to install a second rubber ring right below the rig.

When you create this area of calm on the line where your camera is, you are adding greatly to your overall goal of consistently good results. An equally important benefit in controlling vibration is that you are helping to preserve the integrity of your rig and camera.

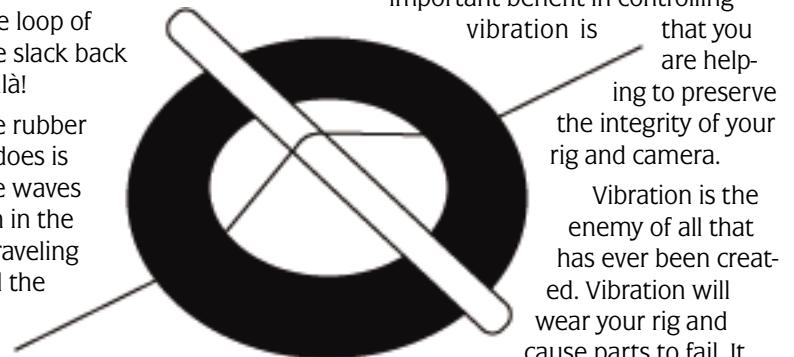
Vibration is the enemy of all that has ever been created. Vibration will wear your rig and cause parts to fail. It

loosens nuts, wears servos, fatigues plastic and metal components, and weakens glue joints.

Get into the habit—make it a ritual—to carefully inspect your equipment before each use. Do not fly your equipment if it shows signs of fatigue or failure. Always check critical attachment points so that a failure will not mean dropping part or all of your rig off the line and onto someone's head or into the lake. We have the responsibility to be safe with our equipment. A structural failure, or error in judgment could mean tragedy to an innocent bystander and the end of your fun.

Remember:

A POUND ON THE HEAD IS WORTH AN OUNCE OF PREVENTION!



## brooxes hangup™

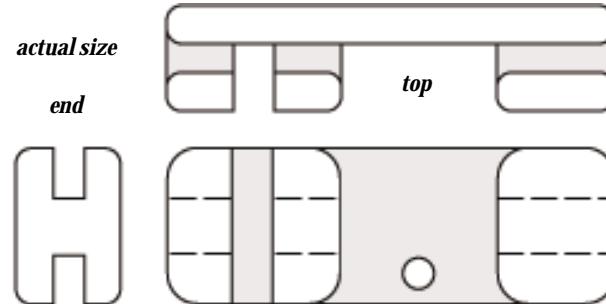
*text and drawings by BROOKS LEFFLER*

I've been using the Picavet suspension [see page 6] for several years now, and wanted a better way to attach it to the kite line than rings and lark's head knots.

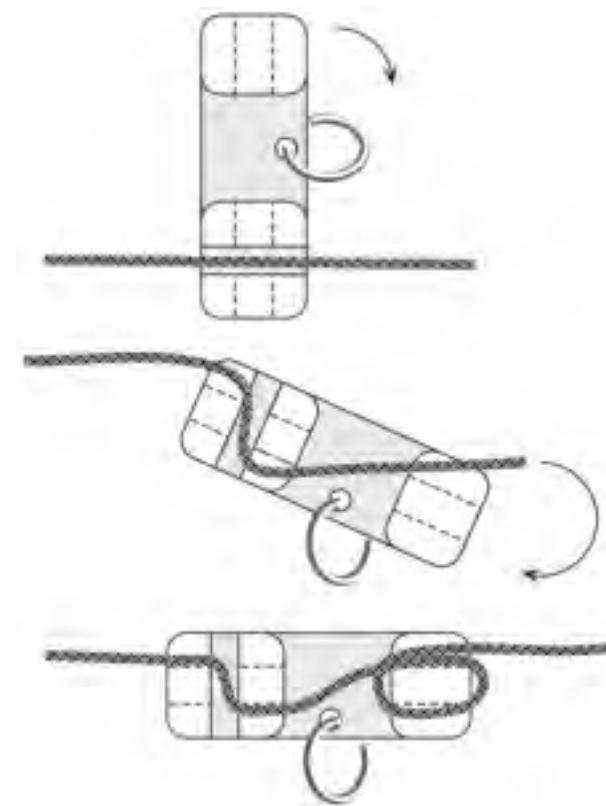
So I came up with a universal hanger which provides a secure, quick connection with little sacrifice in line strength. I made it on my table saw from UHMW polyethylene (the stuff cutting boards are made of) because it was available. Delrin or ABS would be at least as good; maybe basswood would work too.

The drawings show a version with a split ring attached. I leave out the rings and just lace my hangups™ into the Picavet system at the two attachment points A-B.

A longer single hanger should work well with a pendulum system too, or for "line laundry."



*Place the hangups™ about 3 - 5 feet apart on the line as follows:*



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## a wonderful windfall from wolfgang

*by BROOKS LEFFLER*

The announcement of winners for the World Kite Museum's Eddy Centennial Kite Aerial Photography Competition came just as Wolfgang Bleck was about to start his summer holiday, and there begins this tale.

Wolfgang decided to spend some of his vacation picking up his \$300.00 prize in person. His friend Anne Rock persuaded him to come through San Francisco, and I offered to drive him the 900 miles to Long Beach, Washington.

Anne is a formidable tour director. Between noon July 1 and midnight July 4, Wolfgang went KAPing by the Golden Gate, toured San Francisco, dined with KAPer Cris Benton and his family, and drove across the state to Yosemite, camping for a night and visiting both the valley and the Mariposa redwoods.

On July 5, Wolfgang and I aimed northward for a 2+ day trek through the wine country, the redwoods, and the Oregon Coast to Long Beach. Along the way, we looked up KAPer Rodney Thomsen in Eureka, showed Wolfgang's portfolio to the staff of Catch the Wind in Lincoln City, and stopped for some KAP at Cannon Beach. We became good friends.

The Museum had invited the local press and interested hobbyists in the region to come for an informal workshop on the beach with Wolfgang on Saturday. About a dozen came and watched the maestro at work with his magnificent camera rig.

At the awards ceremony that night, Wolfgang showed his slides, and was awarded the Key to the City. Then came the surprise.

Upon being presented with his cash prize, Wolfgang thanked the Museum—and handed the unopened envelope to me, announcing that he was turning the money over to the Aerial Photography Committee to be used for the advancement of KAP!

The committee has discussed this generous gift, and will use the fund initially to establish a traveling exhibit of KAP, with as many photos from the Museum's competition as we can secure rights to as the core. It is our intention to display them first at the AKA Convention in Tulsa.

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*below: Paths at Spanish Bay, by Brooks Leffler*



*below: Oarsmen, by Cris Benton*



## aerial gallery

*Left: Star, by M. Kanowsky, over Rindby Strand, Fano; by Ralf Beutnagel  
Below: Seawall, Berkeley, California, 1995; by Cris Benton*



*below: Strathmere, New Jersey, by Steve Eisenhauer*



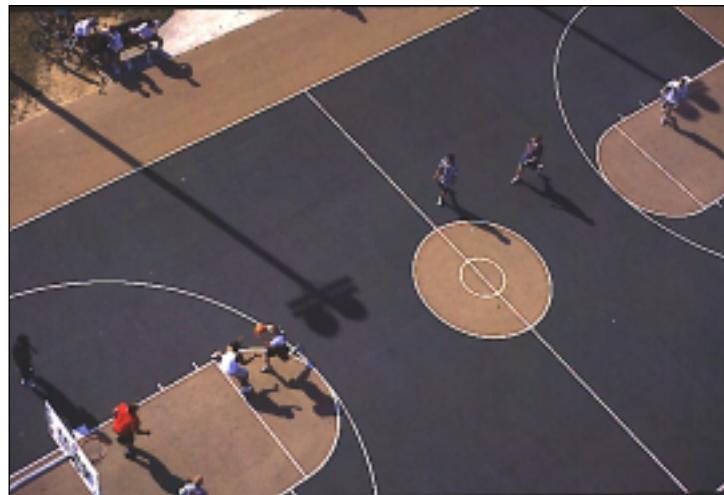
# sports technique

by STEVE EISENHAUER

Outdoor sports activities at local parks and playgrounds produce fascinating aerial images. In late afternoon or early morning, when players' shadows are long, put your kite up next to an ongoing tennis, basketball or soccer game. Even the most inept group of players looks artistic from above. Avoid organized events where your kite is a distraction if it's too close to the playing field or court.

Don't suspend your camera directly overhead unless you have prior permission from the sports participants; people are uneasy about a two-pound weight on a string a hundred feet above their fragile skulls. With the participants permission, or with your friends, you can be more flexible in positioning the camera. People may pose for the camera: your brother shooting a basketball and

you release the shutter with the ball in midair, or your daughter slamming a tennis serve past the outstretched racquet of your son.



*Basketball*  
by Steve  
Eisenhauer

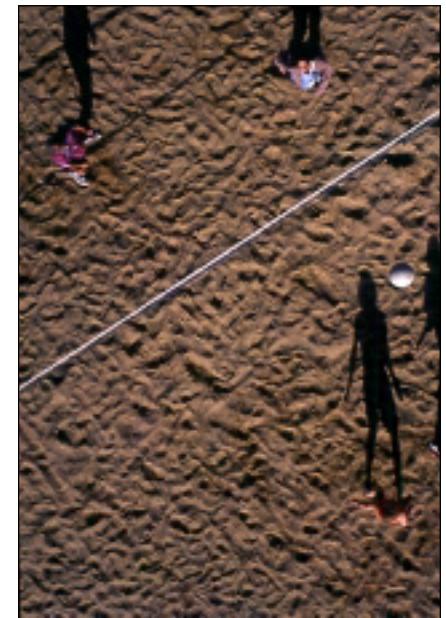
If the participants are strangers you can still photograph them. Just keep your camera a little to one side of the court or playing field, and shoot down at a 45 degree or steeper angle. If you're using an SLR camera with interchangeable lenses, you might switch to a 50 mm lens, which has a mild telephoto effect when used from above. Use the fastest shutter speed possible to stop the action, but don't be too concerned about blurred arms and legs: even at shutter speeds as slow as 1/500 sec. the most motionless parts or wholes of participants will often be in focus, and the overall effect can look artistic and convey a sense of motion.

In composing photographs on sunny days remember that shadows often dominate the composition, particularly in early morning and late evening

when shadows are longer than the figure that casts them. When trying to aim your camera and frame your composition realize that shadows often tell more about your subjects than the figures themselves: they create another dimension.

Practicing your sports technique is a good way to involve your family and friends in KAP. Few non-KAPers fully share a KAPer's enthusiasm, but if you invite family or friends to a park or playground to play tennis, basketball, volleyball, softball, frisbee or simply to have a picnic, you're more likely to get a positive response than if you ask someone to help you fly your kite. It's also a good way to make friends or get photos published in the local newspaper. I sometimes take the addresses of strangers that are in my photos, and then send them a print when I get the photos processed. And local newspapers often appreciate the unique perspective your photos provide; but don't assume you'll be paid since many small newspapers don't have a budget to pay for freelance photos.

If you use a non-SLR camera, use high-speed film (ASA 400) so your camera will select its highest shutter speed (hopefully 1/500 sec. or 1/700 sec.). An SLR camera is preferred, since most recent models allow 1/2000 sec. shutter speeds or higher (up to 1/4000 sec.). I use ASA 100 or 64 film and set the shutter for 1/2000 sec.. In bright sunlight, that allows me an aperture setting of f/2.8 or f/4.0, which is one stop up from the maximum aperture setting of f/2.0 for my 35mm lens. I try



*Volleyball*, by Craig Wilson

to avoid shooting at the maximum aperture setting since even the best lenses produce better photos a stop or two away from maximum.

Reduce vibration by using rubber donuts (see Craig Wilson's article on page 8) above and below your cradle. For years I avoided using these donuts because I didn't think I needed them, but now that I'm using a lightweight Canon Rebel X camera I've finally realized their effectiveness. The lighter your cradle and camera, and the slower your shutter speed, the more you need the vibration-reduction these donuts provide.

Above all, have fun and fly safely.

## basics for beginners: my gadget bag

by ANNE ROCK

Brooks has titled my column "Basics for Beginners" in past issues, but it could just as well be called "In My Opinion"—and for this issue that is certainly true.

Yes, my bag has gadgets, many similar to those bound in others' bags. What gadgets, you ask? Ah, yes, the search for gadgets, gizmos, and goodies that will magically make us better kite aerial photographers!

I have large rubber o-rings—mine are automobile muffler hangers for reducing line vibration. And a walk-down pulley for the kite line so can recover the camera the quick way. Mountain climber's figure-8 descenders to help handle line, as well as a special kite flyer's model Steve Rock



made. It's aluminum, with four holes or rings—rather than the two of a figure-8 descender—each about 1" in diameter, better suited to kite line, and with a cleat for securing the line. [left, actual size]

A field charger that uses 12-volt power to recharge transmitter and receiver batteries, purchased after the transmitter power switch was accidentally switched on during a long car trip, resulting in no aerial photos at a very special location. Extra camera batteries. Webbing, carabiners. Notebook and pen for notes and ideas for future sessions ("this place would be great on an east wind day").

I'd like an exposure counter so I don't lose track of how many pictures I've taken (and come home with stories of the big ones that got away).

All of these could be considered useful tools, items that make some part of the process easier, prevent disappointment, or improve picture quality.

But my three favorite items won't be found at the store or in my bag. The first is the friendship and camaraderie of other kite aerial photographers. Make opportunities to fly with other KAPers. The first time I flew with other KAPers was a joyous occasion—other people who understood what I was trying to do. People with whom to share equipment ideas and stories.

*Continued on page 22*

## henry's handle

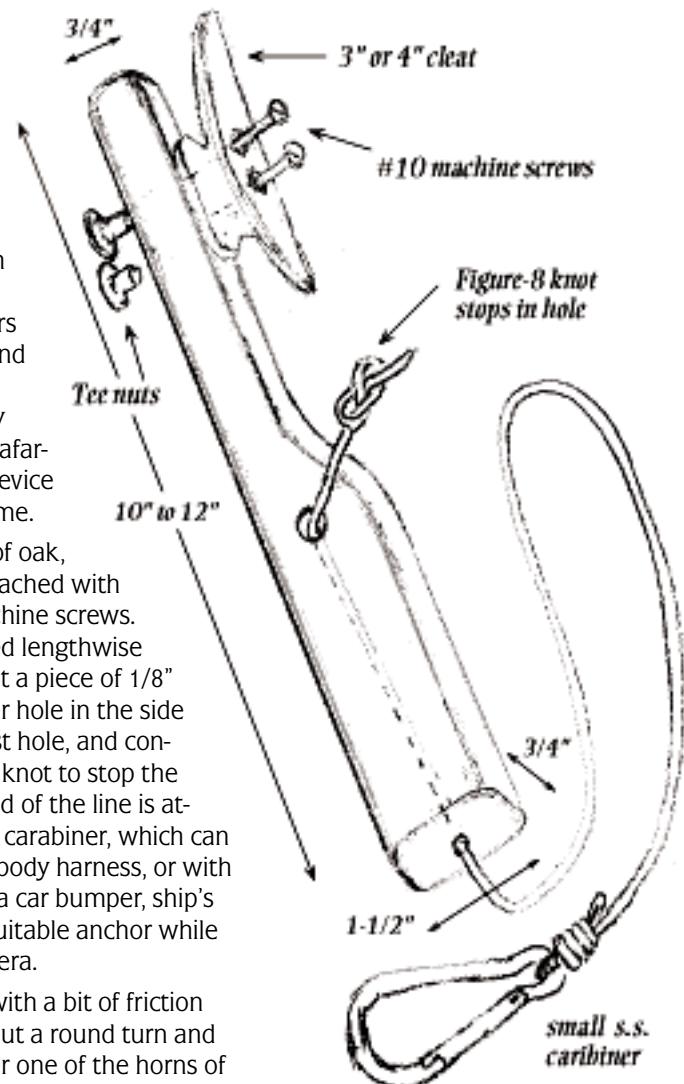
by HENRY JEBE, PO Box 240221, Douglas, AK

I use 250-lb Dacron stored on a hoop. Often on shipboard I can't afford the luxury of using gloves.

I have tried using the aluminum figure-8s that mountain climbers use, but have found them a bit awkward, maybe only because of my seafaring nature. This device works better for me.

It is made out of oak, with the cleat attached with tee nuts and machine screws. The wood is drilled lengthwise about 5" to accept a piece of 1/8" nylon line; a larger hole in the side intercepts the first hole, and contains the figure-8 knot to stop the line. The other end of the line is attached to a small carabiner, which can be attached to a body harness, or with a loop of rope to a car bumper, ship's railing, or other suitable anchor while you set your camera.

To let out line with a bit of friction for braking, just put a round turn and maybe a turn over one of the horns of the cleat and you can control the speed of the line easily.



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**picavet • continued from page 7**

should be as close together as possible, but without A2 resting directly on A1.

4.) The Classic Picavet [see page 6]

A1-1-B1-Ri-4-A2-Ri-2-B2-3-A1

The A-blocks are the important ones; they connect only opposite ends of the cross. A1 and A2 can be a double block. [or both ends of the line may be tied to point A and the A1 block eliminated. — bgl]

5.) The Pseudo-Picavet [not shown]

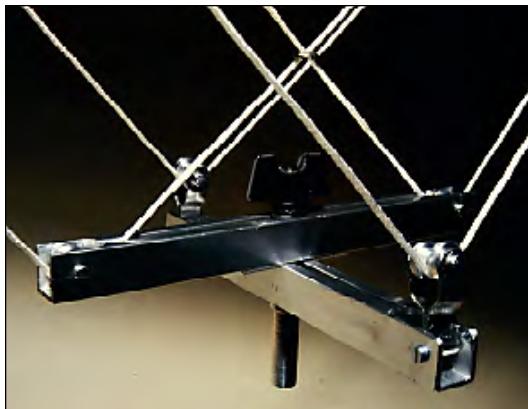
A1-1-B1-Ri-4-A2-3-B2-2-Ri-A1

In this threading, the A and B blocks connect neighboring ends of the cross, which is not as good as the original.

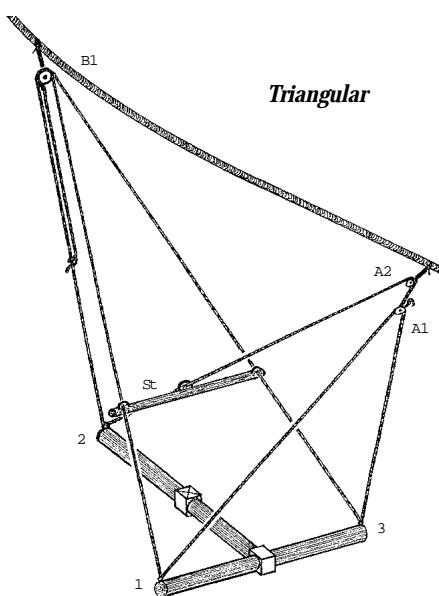
6.) Type Rendsburg [opposite page]

A1-1-Ri-B2-2-Ri-A2-Ri-3-B2-Ri-4-A1

In this variation, the cross becomes an "H". The name is from an aerial ferry at Rendsburg. It has crossed the Nord-Ostsee-Kanal since 1913 and hangs on lines in a similar way.



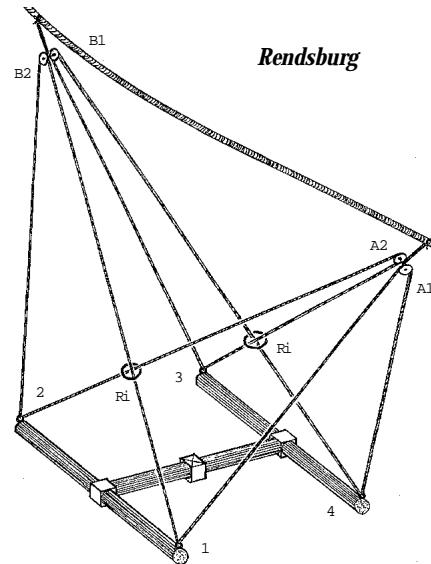
*Otto Böhne turned the aluminum pulleys for this Picavet on his lathe.*



**THE END RESULT**

Using these designs and modern materials, the authors have made suspension systems which share the following characteristics:

- The camera is always horizontal. The center of gravity of the rig (the movable part) is at the point of intersection of the axes.
- Movement due to the rise and fall of the kite is compensated for by the movement of the suspension system.
- The system is compact and lightweight. Bieck (and others later too) have reduced extremely the size of the cross



member from 71 cm as specified by Picavet down to only 10 cm.

- High quality ball-bearing blocks in place of simple eyebolts or screws let the suspension move smoothly.

The way you build this suspension will be limited by your individual conditions. The authors' suspensions shown in the pictures should only be examples. They could be modified individually provided that M. Picavet's principles are served.

It is hard to say which design is the best one, but we

*Wolfgang Bieck's smallest design: 2mm aluminum and model sailboat blocks.*

**in the winter issue:  
CAMERA CRADLES  
REVISITED**

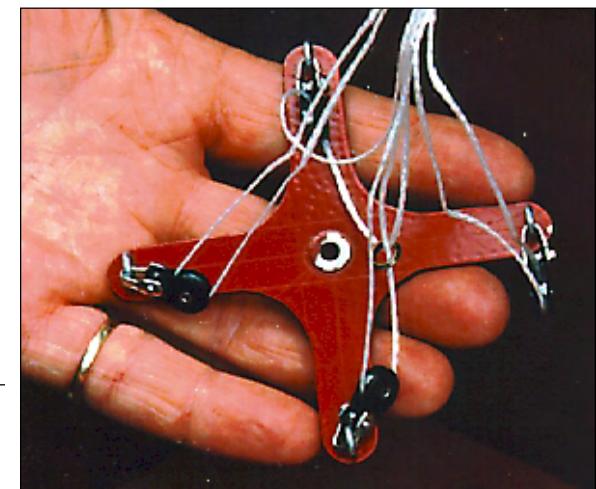
*We'll look again at the latest ideas in camera cradle design. Simple or sophisticated, show us what you've created in the last year.*

**COPY DEADLINE  
NOVEMBER 1**

believe that our modern version of the Classic Picavet suspension, and the Triangular and Rendsburg variations, are all better than the standard pendulum.

Indeed, Picavet's design is so stable that Wolfgang Bieck has used for the last 6 years ASA 25 film only!

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# aerialetters

## KIT'S SPY KITE

This picture [below] is from the second somewhat successful flight of my "spy kite". The kite is a 12-foot delta I built with Tyvek and bamboo.

The camera is a 35mm "point and shoot" with battery powered motorized film winding that I bought for \$10 at the local used camera store. The lens is wide angle, probably about 30mm.

I used a standard model airplane servo to push the shutter.

I mounted the camera on a piece of bamboo fastened directly to the kite. I thought this would be a more stable platform than something hanging on

the string. It does make getting the kite up a bit more of a challenge and landings a bit nerve racking. However, the way the camera is mounted to the kite is not rigid and the camera and mount have survived many close encounters with the ground.

This flight the wind was quite strong and I was letting the string out as fast as I could while my son Jason worked the joystick on the transmitter to take pictures. When there was about 350 ft. of string out, the kite pretty much straight up, the string cut on the edge of my winder. Most of the pictures were taken with the kite in free flight, gliding very nicely with an occasional full turn. Jason and I were running af-



ter the kite, Jason taking pictures as we went. A neighbor inquired if that was a pterodactyl we were chasing.

We found the kite about four blocks away in the backyard of an empty house. There was no damage to the kite or camera.

I'm currently trying to think of a good way to control the pitch of the kite by the pull on the string in the hope that I can fly in a variety of winds. This has been a fun project.

Kit Richards  
Arvada, CO

## KITOGRAMMETRY?

Do you think your readers would be interested in an article on making 3-D maps from kite photography?

I just discovered **the aerial eye** on the Net. I wish I knew about you a year ago.... Two years ago I began drafting *Small Format Aerial Photography*. The book is in press (Whittles Publishing, Ltd) and should be out this autumn.

You might find it interesting that 35 mm aerial photography is used for photogrammetric purposes—i.e. making maps and measurements—but it appears most of small camera photogrammetry is in Europe. For example, the Photogrammetric Society in England has held three symposia on small-format work since 1985. Occasionally there is a speaker working with kites. Symposia papers are published in the *Photogrammetric Record* (the Society's journal).

I've used 35 mm aerial photography for a variety of survey projects, includ-

ing mapping soil erosion, measuring objects in waste sites, computing the gravel extracted from pits.... Although I've used only light aircraft (and microlights) as platforms, the same principles apply for kite aerial photography.

Bill Warner  
Ås, Norway

*Bill has agreed to send us an article for the next issue.—ed.*

## KAP ON WWW!

<http://www.ced.berkeley.edu/~cris/kap/>

## WANTED

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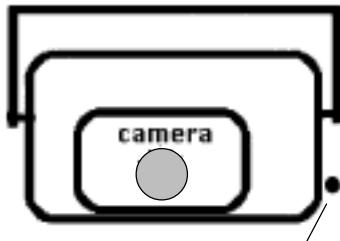
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email: rlatham@cgcd.com  
web: <http://www.cgcd.com>

## aerialetters

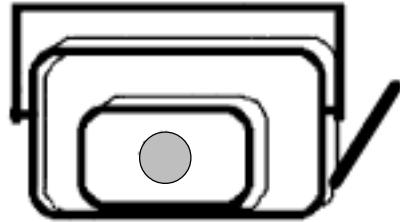
### EASY AIMER

In the summer issue of the *aerial eye* there was a letter from Randy Bollinger about using a laser to aim your camera rig. I have an even cheaper way! [below]

Strap a two or three-foot dowel to the camera frame, so that the dowel is in the same axis as the camera lens. The long end of the dowel must be behind the camera (you don't want to take a picture of the dowel).



*Rod aimed directly at you*



*Rod (and camera) aimed in front and left of you*

### beginners from page 16

The second item is similar to the Nike slogan of "Just Do It." All the gadgets, servos, cameras, and kites don't do me any good if they sit unused. The person flying with a disposable camera gets better pictures than the stay-at-home SLR owner.

The last item on my list is the same item that appears at the bottom of Steve's paragliding equipment list: common sense. You've got equipment together, you're someplace where the

wind is blowing, a subject tempting you, but a voice says the yellow warning light is on. Listen to that voice.

Steve and I are going to the Mono Lake area of the Sierra Nevada this weekend. Last time I was there I was alone, and the winds were howling. I hope I'll have some pictures to share for the next issue, or at least some great stories to tell.

Fly safely and have fun.

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## large motorized camera rig

by CRAIG WILSON

Recently I was asked to take a photo of a hotel in downtown Madison, with the State Capitol building and the lake in the background, and not showing the other nearby downtown hotel.

Because of the height the camera needed to be, the immediate need for the photograph, and the difficulty of kite flying in downtown Madison, I made the decision that I would best be able to get the shot by trying a newfangled gimmick that I had heard many good things about—so I rented a plane.

a sense of my frustration. Another irritating factor was that we were going as slow as we could go and still be flying and yet we were still traveling so fast that my camera would be in position for only a split second. Metering the scene to determine camera settings was just guesswork. Timing the flight so I was there when the light was the way I wanted was also a challenge.

It was quite an experience, tense and



This was not my first time in a small airplane but it was my first time as a photographer. After the experience I wonder how anyone can get a decent picture this way.

First of all, after I opened the window the noise was so great that communication with the pilot was almost impossible. Then I stuck my 28-200 mm Tamron lens out the window and just about had it ripped out of my hands with the force of the wind. That and the vibration in the plane made it very difficult to steady the camera. I was in a Cessna 172 which has a high wing with a strut running from in front of the bottom of the door up to the underside of the wing. Aiming the camera through those obstacles left a very small area to point the camera.

If you compare that to the unobstructed view from below a kite you may get

fast-paced, and I left the airport worrying if I had even come close to getting the shot that I was after. The resulting photographs were not as good as I am used to. I normally end up with one or two shots out of a roll of 36 that are blurred because of camera motion. With the airplane I had seven or eight that were blurred. I also had several that were poorly framed and several where the horizon was tipped. All in all I had less keepers, and no real cool surprises or artistic, imaginative treasures.

I will try the airplane again for jobs that I don't have access to with my kite, but don't let anyone tell you that using a kite is not as good as using an airplane.

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