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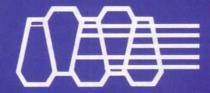
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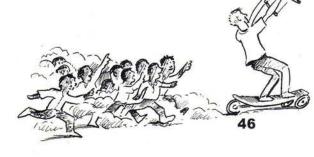
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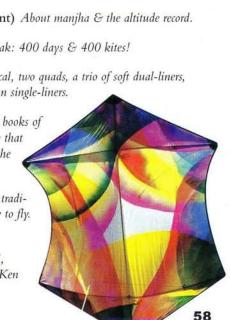
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COVER: Don Mock and one of his Mockfoils make a splash at the 10th Annual World Kite Festival in Uchinada, Japan. Photograph by Valerie Govig. (See story on page 34.)



"The fondness by which one is remembered

IS THE GREATEST MARK A PERSON CAN LEAVE UPON THIS EARTH"

A t the end of February we were joyfully anticipating going to press in a week or two. We were unprepared for the tragedy about to befall us: the death of my husband, Mel Govig on March 10, 1999. He was only 64.

He had been diagnosed with congestive heart failure in July, but with his medications he seemed to be doing fine. Yet it took only small complications to render him fragile, unconsciously fighting for two days in the hospital. My two daughters and I clung together in tears, unable to believe it.

We spent the next week preparing for Mel's memorial service, sorting his papers and other items, so full of reminders of his irreplaceable life. We made phone calls, faxes and an Internet posting. Cards, letters and flowers began to arrive from all over the world. The 2½-hour memorial service, standing-room-only in the funeral home, was a chance for everyone to share memories of Mel. Each of the speakers (over a dozen) shed a different light on a man who played many roles in life, all of them well.

Mel was born in Illinois, but was raised and schooled in Oregon, where the family moved because of the climate. Mel was elected president of his high school senior class and won seven college scholarships, one to Harvard, which he attended for one year before transferring to the University of Oregon, influenced by my presence there. We married after our sophomore years and continued college. Mel studied economics, I studied English.

He joined the Navy as an officer in the supply corps in 1957. His first duty was aboard a troop ship that shuttled between Seattle and Japan each month. After that we went to the Naval Postgraduate School in Monterey, California, where one day in 1961 we visited the Carmel Kite Festival and became fascinated with kites. However, it was not until after two years in Vietnam and two more at the Navy Yard in Washington, DC that we settled in Baltimore, where Mel accepted a position as Director of Medical Records at Johns Hopkins Hospital.

By now we had two daughters and they grew interested in kites, too, when we started the Maryland Kite Festival in 1967, then



Mel Govig in Nagasaki, Japan, 1987

the Maryland Kite Society in 1969. In 1977 I bought out Bob Ingraham's Kite Tales (renaming it Kite Lines) and the American Kitefliers Association. In 18 months I called the first national meeting of kitefliers to organize the AKA. Mel was an important supporter of all these undertakings. In particular, he ran the first kite auction, which earned good seed money for the association and is now an established custom at many large kite gatherings. In 1986, for our contributions to kiting, Mel and I were named honorary life members of the AKA, the only people ever to be so recognized.

In 1981, Mel was hired at the Westinghouse Defense and Electronics Division as a systems analyst and then a radar program manager for small aerostat surveillance systems ("SASS"). His job involved travel to Central America, the Caribbean and Korea. But he was not so busy that he forgot kites. Besides making thousands of them with children in workshops, he built his large "Crashing Boar" rokkaku, many fighter kites and the muchcopied Cloud Seeker, which was marketed by Cloud Pleasers for about three years.

But Mel is probably most recognized for his frequent writings for *Kite Lines*. He drew succinct word pictures, articulating theories and opinions in a down-to-earth and humorous style. He helped kitefliers know themselves and why they cared about kites. When Mel was retired in the downsizing of Westinghouse in 1993, he increased his volunteer work for *Kite Lines*, traveling to Canada, Colombia, Curaçao, Europe, Asia and many parts of the U.S. He was a welcome guest because of his ability to adapt to and appreciate a variety of people, places and kites. As he had been to his children and grand-children, he was enthusiastic, positive and nurturing toward kitefliers.

He was depended upon for much that was the heart of *Kite Lines* and its impact on the international kite community. He was not only a writer, but, for me, a sounding board, friend, advisor and idea source. In addition, he was the company cook; he loved to toss ingredients together without recipes.

Mel was a giver, generous all his life, not in money but in time and ideas. People would phone *Kite Lines* with a bridling problem and Mel would spend an hour explaining what to do and why to do it. He was a great talker and possessed of a brilliant mind, a storehouse of knowledge on practically any subject. His gregariousness and diplomatic skills helped people get past their conflicts. He left us having much more to give.

Mel was an independent thinker and never joined a church, believing that Christian, Jew, Buddhist and Shintoist were of equal value. He believed in a higher power but would not ask one for personal solace. He lived by the Golden Rule without being calculated or regimented about it—just because he was a good man.

Mel believed that immortality belongs to no one, that one lives in the minds and hearts of others. A greeting card from David and Susan Gomberg said it well: "The fondness by which one is remembered is the greatest mark a person can leave upon this Earth."

At the 1999 Smithsonian Kite Festival, Mel was remembered with a short period of fighter kite flying. His ashes will be dispersed by kite at sea later this year. And Kite Lines will continue in the style Mel helped establish: authoritative without stuffiness, vital, inspiring and—not least—full of the joy of kites.



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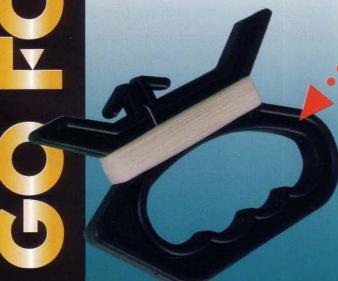


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Dear Kite Lines ... HAPPENINGS IN JAPAN, FINLAND,

BERMUDA, LITHUANIA, AUSTRALIA & THE U.S.

FLYING THE OLYMPIC SPIRIT

The Winter Olympic Games were held in 1997 in Nagano, Japan. The Olympic mark is truly a wonderful symbol. Why not emblazon the sky with it using kites?

Five members of our club, Masashino Kite Club, took up the challenge and each built a 3-meter-diameter Circoflex [design of Ton Oostveen and Helmut Schiefer of The Netherlands]. The kites were red, black, blue, green and yellow.

We would fly our Circoflexes whenever we could and would try to bring them together to form the Olympic symbol whenever possible. Of course, getting all five in the air at the same time to form the mark was quite difficult, but we were able to achieve some measure of success.

Seeing the Olympic symbol in the sky is, indeed, a wonderful experience.

—Katsutaka Murooka Tokyo, Japan

GRAFFITI, PUPPETS & MORE

This year I have retired and am free to work with kites 24 hours a day. I have an atelier of 100 sq m for kitemaking.

I have continued the development of a flying puppet theater. Now I can control the flying kite 100 percent. It is based on the Kasper kite from my 1981 book. These puppet kites can even walk on the ground or sit on tree branches. I have a flying circus with a flying man putting his head into the mouth of a flying lion, a seal playing with a ball (even the ball is a kite), two clouds, a circus horse made of two separate kites, a three-dimensional snake coming out of a box, a doll hanging high in the sky on a trapeze, and two small dancing ghosts.

I have just developed a graffiti kite based on Eiji Ohashi's bowed Edo design. The kite is made of bedsheets or similar cloth, size 180 cm x 250 cm. The spars are electrical tubing. The corners of the sheets are affixed simply to the spars—no sewing. Youth make their graffiti on these kites and not on walls. Big wonderful graphics. Very much like real Japanese. This first





time we made 10 great kites. If this project goes further it will surely become a trend internationally.

Ecological kites will come one day. That means ripstop and carbon spars will be out. Some years ago I had a kite workshop for Finnish architecture students where they built kites only on ecological principles. Now I have studied and tested which materials from nature could be used for spars. Several grass and flower stalks were very near carbon fiber in strength per weight. For cloth I am trying to use very thin silk. The silkworm, I am told, cannot live with pesticides. When will there be ripstop of silk, and carbon spars from compacted bamboolike grass? There might be a market. Who will take it?

I am publishing a little kite newspaper five times a year, separately in Finnish and Swedish. My next kite book (in English!), when it is published, has many novel ideas.

—Mårten Bondestam Boback, Finland

BLOWN AWAY IN BERMUDA

After several years of building Bermuda kites with the expert guidance of Alan "Bones" Daniels, I decided to be in Bermuda for the national holiday, Good Friday [1998], and fly kites with the Bermudians.

Unfortunately, thanks to El Niño, gale

force winds caused the official part of the event to be cancelled for the first time.

[But] Alan got his "Somerset" up, a local variation on the "Hummer," made of heavy wood, brown paper bag, brass tacks and a 40- to 50- foot tail. When this kite ascends in high wind it sounds like my cat when I step on his tail—but continuous!

In early evening as the winds lightened and the overcast skies grew dark, I decided that since I had come

to Bermuda to fly a kite on Good Friday, I was going to do it. After several tries outside the hotel I got my hummer to rise over Hamilton. I was flying with a salmon fishing reel and 20-lb line and gradually let it all out. As it became darker, I lost sight of the kite, but by the pull on the line I knew it was still flying.

Finally it was time to bring it in and when it came into reach, it was dripping wet. The tassel in the center was becoming unglued and the colors from the untreated tissue used for noise makers were running. It was not raining, so the only explanation I have is that I was flying in a low cloud.

—John and Lois Fleming Liverpool, New York

A CLUB IN LITHUANIA

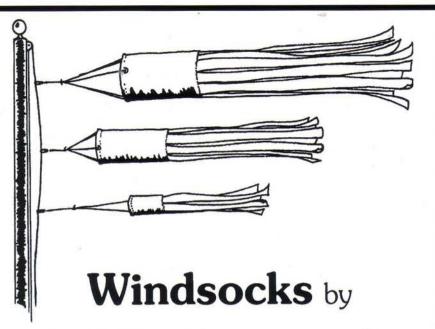
You can inform the kitefliers community that there is one more club at this far-away country. We have [established] our kite club, called Vilnius Kite Club. It's very small and just starting to do the job it is needed to do.

Last year we arranged three kite events that attracted a lot of local magazine and newspaper attention. Even TV did a few reports. We also have a connection with the Latvian Kite Flyers Association. We also have club e-mail at this address: <aitvarai@post.omnitel.net>.

-Robertas Bartasus Vilnius, Lithuania

REVIEWS RETORTED

Thanks for reviewing our CD, an archival project for the Australian Kite Association. The original documents were copied "as is," which explains the crooked pages. I felt it



IN THE BREEZE

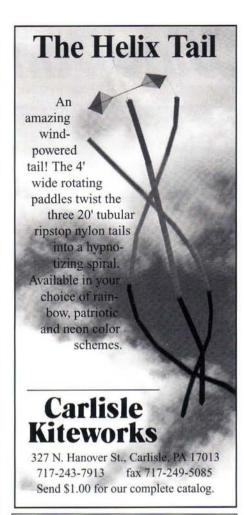


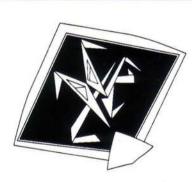
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Kite Cities of the World: LAUNCESTON, WASHINGTON,

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Devilish good time

hen the kites came back to Launceston, Tasmania, the place swarmed with excited children, most of whom were not even born when the first World Kiting Festival was held here 10 years ago.

They called the new event, in March 1998, the Roaring Forties International Kite Festival, because Australia's island state lies between 40 and 44 degrees south latitude, home to legendary winds. As predicted, they came roaring in while international guests and fliers from across Australia

gathered on the grassy flying field.

The Korean team launched a stunning three-dimensional phoenix bird, but gusts snapped the line and carried the creature into a neighboring river system. Boats and later a seaplane were dispatched, but the hapless kite was not found until 24 hours







WHAT ARE THEY LOOKING AT?

Brightly uniformed students in Tasmania try their hands at a big multibox by Australia's Michael Alvares, helping at left. Also notable at the Roaring Forties Festival: below left, Tasmania native Robert Brasington framed by one of his creative kites; below right, Tony Rice of Australia holding the bridle of his winged rokkaku of painted Tyvek.

> later, beached near the mouth of the river, in sorry and sore condition.

> One of the large bols I was flying tore loose and drifted over the crowd into a nearby scrub field. I chased it to the edge and then hesitated. They have really poisonous snakes here, right? "Just make lots of noise and they'll leave you alone," advised one of the locals. Several of us waded in after our kites, and we made lots of noise.

> Over the course of four wonderful days, the rapid-fire commentary of Shakib Gunn of Singapore entertained the crowd and inspired the fliers. Old friends such as Peter Lynn (New Zealand), Michael Alvares

(Australia), Abdul Halim (Malaysia) and Masaaki Modegi (Japan) flew familiar kites, but I was most fascinated by Australian kites and fliers I had never met before.

Tony Rice of Australia brought out incredible painted Tyvek works. His giant "Dragon" stretched easily 150 feet across the field on its maiden flight.

Robert Brasington of Tasmania, known for his sport kite designs, fashioned a number of cellular pieces as finely detailed as any I have seen in the world. He created the official festival logo kite, which was launched by the premier of Tasmania on Saturday afternoon.

> At the festival 10 years ago, a contingent of fliers from the Japan Kite Association had left a huge Edo kite as a gift to the city. This year, locals restored and flew the 20-foot wonder made of bamboo and washi (handmade Japanese paper) to celebrate the return of international kiting.

> One notable new festival feature: Tasmania paid its way by charging adults a fee. This helped organizer Jeremy Carson and his team take good care of every detail on and off the field.



One night we took a twilight cable chair ride across beautiful Cataract Gorge for a wine tasting and buffet dinner. The next night we broke into small groups for home hospitality.

But the best part? I never saw a snake! —David Gomberg

Correspondent Gomberg sets the unofficial record for most miles flown in search of the perfect festival: five continents in just six weeks last spring. Other events included the Dubai International in the United Arab Emirates (March), Berck sur Mer in France (April), Miami and Maryland in the U.S. (April) and Uchinada in Japan (May).

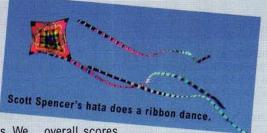
Sensational Smithsonian

I itefliers in the Mid-Atlantic region mark the beginning of the kite season with the annual Smithsonian Kite Festival. The 33rd edition of the festival occurred too close to press time to be included in this issue, but last year's event was one of the best everas you may judge from these accounts:

A GIFT OF GOOD WEATHER

Kiters were jumping out of their skins with joy. It was sunny! It was warm! It was breezy! And the cherry blossoms were in peak bloom! The pink-tinged city of Washington, DC was filled with visitors, who spilled around the kite field below the Washington Monument to make probably the largest crowd ever for a Smithsonian, estimated at 27,000.

The 1998 event was not otherwise exceptional, save for its theme commemmorating the 100th anniversary of the box kite. The organization stepped forward in some respects, backward in others. The kites were charming and exciting but not out of all proportion to those of other years. The publicity was extremely good-or at least extreme, shaken as it was by the manjha



overall scores

from the judges in other cateories. Had we known, we'd have tried harder to break the tie ourselves.

Anne and I walked over to Scott nearby and told him he was a tie winner by our lights. Then someone reexamined the original scorecards and discovered a mistake. Scott's scores in flight performance and overall were a point higher than Marc's! But

the announcement had already been made. A promise was given that the official list of winners would show a tie. and it was posted that way later on the Smithsonian

Associates Web page.

THE

IMPOSSIBLE:

A TIE!

A tie (illegal by Smithsonian standards) had occurred! A tie (correct by our standards) was awarded!

It was a delicious case of several wrongs making a right. And in the end everyone was happy...although Scott could have been happier. He had wanted to hear his name loud and clear over the microphone. Instead, he was given his award at the Maryland International Kite Expo in April, at Ocean City, Maryland. -V.G.

The 1998 Smithsonian brought together Anne Sloboda, Bernice Turner and me as judges of Beauty in the Air, a subjective award judged independently of the other competition categories. Bernice judged the 15-and-under age group and Anne

and I evaluated the 16-and-over class. We operated rather independently, and when Anne and I compared candidates, we found we had each starred about six kites, mostly the same ones. We worked our way down to four, then two-and there we stuck. Each of the last two kites was excellent, but in irreconcilably different ways.

One, by Marc Ricketts of Beverly, Massachusetts, was a tensegrity-based,

tetrahedral-inspired cellular kite of a spareness that would please the Bauhaus school of design. The other, by Scott E. Spencer of Collingswood, New Jersey, was an all-out blast of color in an intricately appliquéd surface design on a hata-type kite with long, flashing tails.

"Well, could it be a tie?" I asked. "Yes, I think it is, but will they allow it?" Anne said.

Neither of us had been given a copy of the rulebook, but we agreed to ask the Chief Judge to accept our recommendation when we handed in our papers. We then awaited the awards presentation.

"Beauty in the Air, 16 and over, Marc Ricketts!" Only then did we learn that Smithsonian ties are broken by comparing

conflict (see article on page 17). It was a good day by any standard, and Mother Nature made it a great one.

low an altitude. The poor "Scout" came to Earth before his parachute deployed.

Highlights included an authentic recreation of the historic Lecornu ladder box kite by Todd Little of Camp Hill, Pennsylvania. The kite, with carved wood spars and cotton sails, flew high but tended toward non-recoverable dives in the wind gusts. Todd dramatized its antiquity by wearing a derby and waistcoat in 1880s style.

The family award went to the Johnsons of Grenada. Their buzzing paper and wood "mad bull" kites of traditional Caribbean design flew as well as any kites there, proving again that simple materials can match the highest of tech.

At day's end, working our way to our distantly parked cars was not a pain, for it extended the joy and the memory of the great Smithsonian of 1998. - Valerie Govig

Well-grounded Maryland

ometimes at kite festivals, you find the most notable things on the ground-for J instance, these features of the well-executed 3rd Annual Maryland International Kite Expo, April 24-26, 1998 in Ocean City:

■ The tinkling, fluttering banners of guest Frank Schwiemann of Germany (who also flew bols and strikingly graceful large

P, UP AND AWAY!

Cub Scout Pack 681, Den 7 of

and green bamboo spars-at the 1998

Smithsonian Kite Festival. A dozen pairs

of little hands (helped by larger parental

mitts) tugged on the line and on the heart-

strings of proud parents as the beast rose

straight and steady. Emulating the original

Cody man-lifting role, the Cubs lifted a wicker basket with a mannequin inside, which was dropped out the bottom upon a radio control signal—unfortunately at too

Arlington, Virginia built and successfully

flew this Cody kite of about 10-foot span-

made of ripstop (in the official Cub colors)

deltas with long, undulating tails). Made in



JOYS OF THE MARYLAND INTERNATIONAL:

Above, Anne Harris of England takes a breather on the soft tail of Joey, her inflatable kangaroo—who maintained his form in Ocean City's uncertain winds through an umbilical hose
attached to a fan. Below, Calamari (squid kite) by Ron Gibian of Visalia, California seems
hauled right out of the surf. Below right, Frank Schwiemann of Germany kneels amid his myriad banners plugged into the sand, some of which include pleasing bells.

the shapes of fish and other non-representational figures, his banners—some of which carried bells—drew constant attention from boardwalk passersby. We asked if perhaps the waving of undersea grasses had been his inspiration for the display fish. "My inspiration is to give the viewer inspiration. What do *you* think they look like?" he replied.

■ The calm-proof inflation system used by England's Anne Harris to keep her large windsocks standing—among them a kangaroo, guinea hen and hedgehog—in the uncertain winds at Ocean City. (For two days, the breeze blew from the west and was thus blocked low down by boardwalk buildings.) She employed portable generators to power fans that were attached by hoses to her bulbous friends.

A splendid Friday show for several hundred children, who came to the beach on field trips from nearby schools. Festival organizer Bill Ocshe, of The Kite Loft, did the announcing and led the children on a parade through

the guest kitefliers. Then the youngsters flew white sleds, made in workshops run by members of the Lehigh Valley Kite Society of Pennsylvania. From the boardwalk, they looked like whitecaps upon the ocean.

■ The genki kite that ran away to sea. One of the kites flown by guest Reza Ragheb of Colorado pulled free of its ground stake and drifted downwind, dragging along its winding device. The reel looked like a hooked fish as it splashed through the water,

providing enough drag to keep the kite aloft until it was nearly out of sight. Then it started coming back! A passing boater had snagged the runaway. But the boat cruised up and down the beach for some time and then departed—without bringing the kite ashore, alas.

■ The taming of a menagerie of Peter Lynn monsters by the Jack Rogers Traveling Kite Show, of Westborough, Massachusetts. Lynn's creations are notorious at festivals around the world for their erratic ways, bringing down kites and otherwise proving problematic flying on single lines. Rogers' solution? Double or triple lines, solidly anchored, to steady the big beasts. The principal line of

a Lynn Manta Ray, for example, was hitched to the front tow-bar of a 4 x 4 vehicle via sturdy web straps, and the rear tow hitch of the

vehicle was anchored by thick rope to twin ground stakes, as big as those used to set up a circus tent. Two side lines anchored to the posts of beach volleyball nets steadied the kite. Still, we saw the left line give way, causing the ray to spiral into the sand—engulfing a kneeling stunt flier preparing his kite for the concurrent Mid-Atlantic Stunt Kite Competition. (No harm was done.)

-Steve McKerrow

Skyviews in 2 hemispheres

Well-known kite aerial photographer Craig Wilson gets around. Here he reports from two festival journeys:

COLORFUL CAPE TOWN

A full week ahead of the Cape Town International Kite Festival (December 15–21, 1997), organizer Rodger Duffett drove my wife, Betty, and I about in his Volkswagen Combi to do aerial photography for an exhibition of photographs to be shown during the festival and auctioned at the conclusion.

We flew in vineyards, on beaches, over monuments and lighthouses and from the top of Cape Town's rugged Table Mountain. We also flew kites on Robben Island, where from 1964 to 1982 Nelson Mandela was held prisoner.

But kiteflying near the Cape was a lot like work. In one location, we could be searching for any hint of breeze, yet an hour later be wondering what kite to put up in a screaming wind. This explained the notable absence of flags flying anywhere in this city. They would last maybe a week!

The sea breeze hits Table Mountain, which forms the backdrop to the city, and the moist air is carried aloft to form a cloud that rolls over the top edge like a waterfall. As it descends toward the city, it warms and dissipates, leaving only the top shrouded in



a white blanket the locals call "the cloth."

We struck out at the Cape of Good Hope itself, however, arriving on one of perhaps five windless days of the year. But here I learned the value of having a stout bamboo spreader, even without sufficient wind to lift a kite. When I gave up trying to fly and began breaking the kite down, I found the spreader handy to fend off a very bold and hungry baboon! (Warning signs caution that the local denizens are dangerous.)

At the end of our photo trek, we checked into our lodging in Cape Town, where we met other festival guests, including Anne and Chris Harris from

England, Michael Alvares from Australia, Stafford and Hilary Wallace from England and Scott Skinner from the United States. For the next five days, the festival occupied the pier head at the Victoria and Albert Waterfront.

One day we also took a road trip to visit the township of Khayelitsha, the location of Cape Mental Health, the organization that sponsored the festival (along with The Kite Shop of Cape Town).

Arriving unannounced, we launched a kite from a vacant lot of littered land across the street from the office facility. Within 30 seconds, hundreds of happy-faced children had streamed out of the houses and alleys to join us and help pull on the lines.

We let them have some fun, sometimes at the expense of the kites, and then



KITES AT KHAYELITSHA: Children in a village near Cape Town are excited by the visit of festival fliers. Above, girls try out plastic three-stick kites provided by Australia's Michael Alvares.

announced they could make kites with us. Inside we went, where the kids eagerly took their turns making plastic-and-wood kites tutored by Alvares. The parking lot and street outside filled with children trying their new kites, and I left feeling I had been part of a very good thing.

After a successful auction Saturday night, the festival suffered a visit by what the locals call "the Cape Doctor"—so-called because it cleans the city of litter as it howls ashore unabated from the cold, southern ocean. But despite the blustery ending, Cape Town's festival was a gift to the citizens of a beautiful city.

GOOD WORKS IN FLORIDA

Organizers Linda and Rick Gelinas saw to every detail of the third annual Miami International Kite Festival April 17–19, 1998—another event that helps a worthy purpose. The festival benefits the charity Little Acorns, a nonprofit organization that works to help inner city kids stay in school, out of gangs, away from drugs and off the streets.

More than 3,000 of these "at risk" young people came to the festival on school trips Friday. They were encouraged to fly their more than 1,000 kites made in classroom workshops, while kite "masters" circulated to share their knowledge.

Some students volunteered to assist the guests, and I had two 17-year-old boys for the day, Ricardo and Phillipe. We

worked our way up and down the beach, making photos of the beautiful architecture to be found in the sky, along the street and on the shore.

Proving that a large kite has power beyond its pull on the line, both of my friends came back the next day to help again. Some of these kids were seeing modern kites for the first time, and I could see their impressions of a kite changing right before my eyes.

The link between festival and young people was coordinated by Linda Bridson, a high school teacher and kite enthusiast who estimates some 30,000 kites have been built as teaching tools within the school curriculum. She was moved to tears when many students told here it was the best field trip ever.

—Craig Wilson



A kite by José Sainz of San Diego, California floats over Miami Beach. The design was chosen as the logo for the 1999 festival.

About manjha...about altitude:

TO CUT OR NOT TO CUT? & WHERE DID WE PUT THOSE ARCHIVES?

When is cutting line OK?

In many kiteflying cultures of Asia (India, Pakistan, Nepal, Afghanistan, Hong Kong, Indonesia, Korea, Japan), the essence of the sport is combat: to slice opponent kites adrift using glass-coated flying line, called manjha.

But does cutting line have a place in the West? Disagreement over this question tugs at fighter fanciers and, in some places, is producing cross-cultural clashes.

For example, Stafford Wallace of England, the noted popularizer of Indian kites, emphatically criticized the promotion of cutting duels by Manjha Club International, a Europe-based group founded to spread fighter kite traditions.

"We just don't need to do this," said Wallace after a victorious demonstration duel with Canada's Richard Gareau at the 1997 AKA convention at Wildwood, New Jersey. They flew under AKA rules that award points by line touches, not cuts.

He criticized flying on manjha outside countries where it is traditional, primarily citing safety concerns. In further comminiqués to *Kite Lines*, Wallace also contended "the cutting game is a lot of luck [whereas]...I believe the touching game to employ pure skill and it is highly unlikely, nay impossible for a beginner to beat an experienced flier in touch fights."

However, answering a *Kite Lines* inquiry, Philippe Gallot, founder and secretary of the Manjha Club International (and author of the book *Fighter Kites*), took issue with Wallace: "We have always been more than fair to all our kiteflier friends, with a time set up for such a competition and well known in advance, a place dedicated for the tangles, with provisions [made] to where kites will go once cut [and] a public address warning to the public and children not to catch fighters flying loose.

"No one ever complained, no one got hurt and all were delighted that we played very safely together."

Control of conditions is the key, sure enough, but who besides Gallot can accomplish this, under festival conditions that have evolved in the U.S.? Kiteflying does not need



the kind of publicity that has been generated, for example, by a series of manjha-related incidents last year in Washington, DC.

MANJHA MAKES NEWS

Last summer the National Park Service was finally driven to impose a ban on the use of cutting line on the grounds of the Washington Monument, the popular flying area in the heart of the national capitol.

Flying large paper fighters traditional to their home country of Afghanistan, a group

mporting a traditional fighting style from elsewhere might be like transplanting gorse or kudzu; it might grow unchecked into a major weed infestation.

-Mel "Scissorhands" Govig

of fliers was accused of deliberately cutting noncombatant, stable kites from the sky, injuring passersby and leaving dangerous flying line hanging in trees and lying on the ground.

In the most notorious incident, a large work of kite art by Jon Burkhardt, Mid-Atlantic Regional director of the AKA, was cut down in March, while he flew it in connection with an interview for a Washington newspaper. It settled 40 feet up a tree near the Monument, where it stayed for several days until being rescued by park workers in a cherry-picker.

Although the kite was repairable, the incident prompted Burkhardt to write a sharp letter to the superintendent of the National Park Service on behalf of the AKA, as well as the Maryland Kite Society and the club Wings Over Washington, seeking the manjha ban.

Burkhardt documented a number of specific incidents in the previous year. A Pennsylvania woman was cut on the hand by flying lines, a Maryland man was cut on the mouth by cutting line hanging from a tree and a seagull was ensnared by discarded cutting line (and rescued). In addition, he said numerous kites flown by local kiters had been sent adrift by the fighter fliers.

The dispute made some press, with stories in the *Washington Post* and *Washington Times* that said park officials were asking police and rangers to be alert for kite-cutting trouble during the annual Smithsonian Kite Festival at the end of March.

The Afghani kites were noticeably absent from the festival. But during the summer they were back in full attack mode, bolder than ever. Again the news media picked up the story when a duck was captured in the manjha and nearly lost its leg. Kitefliers are avoiding the Monument

grounds on Sundays, but innocent victims can lose their nice new kites purchased at the Smithsonian gift shop.

Mel Govig is said to have warned the fliers once, but then mercilessly applied his scissors without further communication.

"The great kite fighting traditions have each developed a singular character, peculiar to the materials, winds and population of the locale," said Govig, whose travels for *Kite Lines* have long paid special attention to fighting kites. He suggested importing a traditional fighting style from elsewhere might be like transplanting gorse or kudzu; it might grow unchecked into a major weed infestation.

A WHOLE NEW SPORT?

In the Pacific Northwest region of the U.S., arguments over traditional vs. modern dueling generated a detente-minded editorial in the first newsletter of the Northwest Fighter Kite Association, established last April in Ocean Shores, Washington.

Co-founder Dennis Crowley noted some fliers contend that "long-line" dueling with manjha is the only true fighter kite competition. (Real cutting fights typically are flown at long distance.) But he argued that the line-touch or "short-line" style developing in the U.S. not only hon-

CONTROVERSIES

[Continued]

ors tradition, but also creates "a brand new ballgame."

"I dare to suggest that it's two related but different manifestations of the same sport, neither one better, just different," he wrote. Like Wallace, he argued that linetouch dueling involves quicker eye/hand coordination and thus faster kite aerobatics, requiring the development of new kites and tactics.

Another of the Northwest Fighter founders, Bruce Lambert, takes a different tack regarding fighter flying, wondering if what's needed is "single line sport kiting." He suggests that a new category for one-liners would include "the precision and ballet categories of conventional sport kites, as well as dueling categories-perhaps even using manjha."

Along the same lines, Nelson Borelli of Chicago, Illinois led an informal discussion of fighter kite "issues" at the AKA convention in Ocean Shores in October. Subjects included manjha, competition categories, committees, rules, teaching and so on.

But a few voices rose in counterpoint, objecting that stunters are one thing and fighters are another—they are not just stunters flown from one line.

Kite Lines takes pride in having long exposed readers to the varied dueling styles to be found around the world. Indeed, some of us love fighters above all other kites. But the answer to the maniha question seems clear:

No, no, no. Manjha and Western kite festivals do not mix, short of limited demonstration flying as practiced by Stafford Wallace and others.

Do you agree?

-Steve McKerrow

Digging deep for altitude

m he Seattle-based Drachen Foundation recently questioned the single-kite altitude record (12,471 feet by Clayton and Sweetland at the Blue Hill Weather Station, Milton, Massachusetts, February 28, 1898). This achievement was researched by Kite Lines in 1989 and offered to the Guinness Book of Records in 1991 in an effort to encourage the editors to publish more kite records.

Guinness took our hint. In fact, after publishing only five kite records before, they increased the list to include the singlekite altitude mark. Then they added other kite records, and for the last few years Guinness has been listing eight of them. (The 1999 Guinness is an exception; see page 70.)

The foundation phoned Kite Lines and asked for the source of the single-kite altitude record, as opposed to the much higher record set by a train of eight kites (31,955 feet in 1919 at the Prussian Weather Bureau in Lindenburg, Germany). We replied that it was in old Department of Agriculture documents, because the Weather Bureau was part of the Agriculture Department at that time. We did not have the specific volume number handy for the caller, but we figured with this good lead the foundation could find it through its own researches.

About three months later, a news release sent to "all the kiting magazines" arrived. To our surprise, without even mentioning Guinness or Kite Lines, it referred to secondary sources (Kiteworks by Maxwell Eden and Kiting to Record Altitudes by Richard Synergy). Also it presented two pages of data culled from the recent book The Blue Hill Observatory: The First 100 Years-1885-1985, by John H. Conover (coincidentally, very distantly related to Leonard M. Conover of the Kite Lines staff). It showed that the number of kites used (in trains) in years surrounding 1898 was typically between four and six. (For some reason, the number for 1898 was never recorded.)

The foundation also talked to John Conover, who was employed at Blue Hill as librarian going back to 1939. He said that high-altitude efforts were always done with multiple kites and that one kite would have been unusual, and reported in the local news, but no such reports could be found.

Finally, the foundation offered data from the work of Ben Balsley and colleagues of the University of Colorado's Cooperative Institute for Research in the Environmental Sciences (CIRES). The foundation has made itself useful to CIRES, whose first experiments on Christmas Island were reported by Bill Tyrrell in the Spring-Summer 1992 Kite Lines. Tyrrell provided CIRES with consultation and parafoil kites built by Bobby Stanfield. A height of 11,400 feet was reached on the island, using two foils.

After Christmas Island, Balsley made further flights. One with a single parafoil in Newfoundland on August 7, 1995 reached an altitude of 10,112 feet. The foundation suggested this be recognized, at least provisionally, as the single-kite altitude record. This effort had not been published in Kite Lines because at the time we did not believe it was a record.

Now we are willing to consider it, at least provisionally, because we have been unable

to find a primary source for the "old" record. The original research was done by comparing many documents to find the highest altitude among them. As often happens (today and yesterday), items of "fact" and news are often accepted by one source from another, with the result that a falsity, by the mere fact of its frequent repetition, becomes accepted as gospel. We now suspect the source we found in 1989 may have been this kind of secondary source.

Following the alert from the Drachen Foundation, we thoroughly searched our own library and also contacted the Blue Hill Weather Observatory to confirm the 1898 information. Unfortunately, their original archives have been inaccessible for several years (and probably will not be accessible for another year or two, if ever) while the Observatory undergoes renovations.

While there is reason to doubt the 12,471-foot mark for a single kite, which may have been unusual, it was surely not impossible and has not been absolutely proven wrong.

Interestingly, other publications from that period, as secondary sources, confirm the "old" record. Further, an excellent 31page scientific paper by Ben Balsley was appended to the foundation's news release. Titled "The Use of State-of-the-Art Kites for Profiling the Lower Atmosphere," it included a fine four-page history of atmospheric research using kites. Did the foundation read this paper before sending out copies? In it Balsley states:

"...the single kite altitude record of 12,507 feet, established at the observatory in 1898 stands today (Nature, 1899)." This is at slight variance from the "old" record, perhaps a result of converting back and forth from metric to U.S.

In sum, we can finally say this:

The single-kite altitude mark of 12,471 feet set at Blue Hill in 1898 may have been for a train of kites, pending study of archives.

The single kite altitude effort of 12,507 feet established at the observatory in 1898 and quoted by Nature in 1899 and again by Ben Balsley in 1998 may have been incorrect as well, pending study of archives.

The single kite altitude of 10,112 feet set by Ben Balsley in Newfoundland on August 7, 1995 is, at least, substantiated.

And now, all the would-be record-setters can go back to work, thinking they only have to beat 10,112 feet. In fact, with today's technology at their disposal, why not beat 12,471 feet? It should be easy.

That's what they've all been saying for —Valerie Govig years.

400 days, 400 kites BILL BIGGE REACHES HIS

BIRTHDAY GOAL AND JUST KEEPS ON GOING BY STEVE MCKERROW

B ill Bigge of Germantown, Maryland celebrated his 69th birthday on June 9, 1997 by flying a kite—a small diamond he made of plastic and wood. Each day for the next year he flew another self-made kite, at least subtly different than any previous. And when June 9, 1998 arrived—his 70th birthday and the date he had announced as his goal for consecutive kiteflying—he just kept going.

The result? An unprecedented 400 consecutive days flying 400 separate kites.

Bigge, who brought his collection of kites packed in a half-dozen boxes (including pizza cartons) and other documentation of the effort to the *Kite Lines* offices, said he stopped the streak simply because 400 seemed like a good, round number.

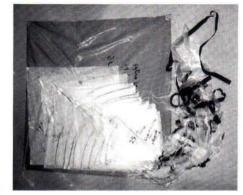
Initially, the physicist (retired from the National Bureau of Standards) set out only to better the 366 days of consecutive kiteflying chalked up in 1984 (a leap year) by C.W. (Bill) Mosley of Converse, Texas. Bigge planned to fly a different kite each day, while Mosley used just 68 different kites through the year.

"My first problem, of course, was how different is different?" Bigge said.

Best known for making elegant small kites, Bigge had previously sponsored two notable events: the International Exposition of Small Kites in Harpers Ferry, West Virginia in 1984, and the International Indoor Kite Efficiency Challenge in Catonsville, Maryland in 1988. Dozens of kites were shipped from all over the world and flown on these occasions. But for 1998 the challenge was strictly personal, and for it Bigge decided to play with small kites in just two simple shapes: the diamond he calls a "hata/Eddy style" and the sled.

He chose simple materials, too: plastic grocery bags of white, pink or blue for most sail covers, masking tape for joinery and spars of thinly sliced basswood, bamboo and, for the crossbow of many of the diamonds, thin piano wire 0.015" or 0.020" diameter. (Originally, he used bamboo but lost patience with the fine shaving required and found the wire provided uniform flex and better balance.)

Bigge kept meticulous notes on each



flight in a hardback book of blank sheets. which he titled One Year's Journey Into Kite Variation, or, A Trajectory in Kite Space. For instance, his first entry describes the inaugural kite as a 15-inch square hata weighing three

grams, bridled five inches from the bottom of the spine and at two points on the cross spar, 4% inches from the spine. "Tailless, naturally," he wrote, and went on to describe some design and construction flaws, the weather and its flying performance.

The first month or so, Bigge flew mostly white diamonds that varied from one another by size. Each successive kite differed by six percent in height and width. After he flew one, he wrote the date on the surface and sometimes added comments: "wild!," "thermal," "windy, fair balance."

In the second month, he switched to sleds, first varying the width by a half inch for each new kite, then making another series of a different height. (One discovery: The wider the sled, the less wind it needs to fly—but it also collapses easier. It probably will require a tail when much narrower than the height.)

A series of Bigge's hata/Eddy kites is 10 inches high. The position of the crossbow-and-spine junction varies by incre-



Above, in trademark hat, Bill Bigge knocks off another day's flight with a small sled kite. Above left, a mass of Bigge's kites are collected in date order after use. Left, Bigge uses a 6:1 ratio geared reel following an example made by Charlie Sotich of Illinois.

ments of two percent of the spine length, from the center to very near the top of the spine. Each series in a group differs from the next in the location of the spar ends, by four percent of the spine length. Finally, there are three groups, having widths of 9½ inches, 10 inches and 10½ inches respectively. This turned out to include more than enough somewhat different kites.

These small kites, with light sticks and covers, fly satisfactorily in a wide range of winds. It seems, though, that the extremes are less forgiving.

Bigge says he sometimes got up in the morning and made that day's kite, but other times made a group of kites at one sitting, and chose the one to fly based on the weather.

For days of particularly stiff wind, he made a few kites (both sleds and diamonds) of striped cotton cloth. And for light wind days—zero wind posed a greater problem than too much, he says—he made ultralight kites of thin, transparent plastic and even produced one fragile hata-style kite of

FOR THE RECORD

[Continued]

microfilm. He poured the covering material himself and picked it up on a frame from a film-covered water surface.

What constituted a successful flight, by his standards? "Enough to demonstrate that it was not a nonflying kite." In case of doubt, that meant a flight in which the kite stayed out of trouble for at least two minutes. To achieve stability, he used a variety of tails (mostly of plastic garbage bag material but also including lengths of string) and on occasion added plastic or string tassels to just one tip of his diamonds.

Most flights were made from a high, grassy area next to a parking lot at the neighborhood soccer field. Several locations in that area were used depending on the wind. Many flights were made at Gunners Lake Park, a larger, level area raised above most turbulence from surrounding trees.

On some high-wind days, he flew in the lee of trees to help filter the blow. And on wet days, "I'd go out with some reading material and sit in the car at the field. When the noise on the roof stopped, I'd go out and pop the kite up.... I was worried in the winter about snow, but El Niño helped out there." (Maryland had little snow in 1997.)

Several small kites designed for the occasion accompanied him to a family reunion in Ohio in July, 1997. At the AKA convention in October, one of the flights was made by slipping out the side door of the convention center and popping the kite up in a light drizzle.

When all was done, Bigge went back over his meticulous logbook and made charts showing the flights by month and day and the kites by type. Photographs taken to document every day filled five plastic bags by the end. His first photographer doubled as a witness, but later Bigge took his own pictures, and witnesses became anyone he could find. Sometimes, at kite festivals, the witnesses were well-known fellow kiters. But there were days when no signatures were obtained at all. Ordinarily Kite Lines would require witnesses for any world record, but the careful documentation of the logbook, the array of actual kites and the character of Bigge himself make his achievement indisputable.

Besides, is anyone else ever going to make and fly a different kite every day for 400 days? To quote Ted Manekin, long-time kiter of New York, "That's a real Cal Ripken record! Bigge is the Iron Man of Kiting."

"A learning experience" in Long Beach with "Stormy"

hat's what veteran Oregon kiter Warren O. (Stormy) Weathers calls his attempt in August to surpass kiting's oldest record: altitude achieved by a single kite. The mark to beat stands at the 12,471 feet reached by Henry Helm Clayton and Arthur E. Sweetland, at the Blue Hill Weather Station, Milton, Massachusetts, on February 28, 1898. (See pp 18 for a further discussion of this record.)

In two attempts during the Washington State International Kite Festival in Long Beach, Washington, using a 4½-foot x 6-foot version of his Swift Victory kite (a variation of his trademark star-shaped winged sled) made of international orange polyester for visibility, Weathers and crew claimed altitudes of 2,300 feet and 3,800 feet. In the first attempt, August 20, the kite would not lift beyond an inversion layer at the lower altitude, and in the second, August 22, did not have enough angle to go higher than 3,800 feet. Weathers planned to test kite and bridle modifications in preparation for making another attempt in 1999.

He certainly has enough line, for he purchased a good quantity of Spectra at a sporting goods store out-of-business auction: 178 miles' worth!

"I have to do something with it!" he says.

In England, no recordbut good record-keeping

ngland's Northern Kite Group may have produced last spring the second longest, most meticulously detailed account of an unsuccessful attempt to set a kiteflying record.

Team leader and club secretary Ron Ogden sent *Kite Lines* an 11-page report, complete with contributions by team members and color photos, detailing an effort in May to surpass the kite duration record.

The record, however, still stands at 180 hours and 17 minutes, as set in 1982 by the Edmonds Community College Kite Team of Long Beach, Washington.

Flying on Walney Island, Cumbria, beginning on May 6, members of the Northern Kite Group encountered difficult weather while keeping a Greens of Burnley Stratoscoop 2 (52" x 50") in the air for 41 hours 20 minutes.

Attempting to blanket the range of kites suitable for varying winds, the group initially launched in succession nine kites—also including a delta, rokkaku, Pearson roller

variant, Flow Form, fringed delta, Pearson roller and four-foot Malay. All but the Stratoscoop were downed by the weather or spar breakage before 10 hours had passed.

The Stratoscoop, however, survived the next 30-plus hours, flying through two nights and in conditions that included varying amounts of rain and winds up to 45 mph. A five-person team plus five observers—all of them 65 years old or older—rotated six-hour shifts to tend the kites.

Diminishing winds and strong rain, however, finally dropped the kite from the sky, saturated, early in the morning of May 8.

In what also may be a first among would-be kite record setters, the group enclosed details of the attempt in a plastic bottle, which they sent out to sea. (So far, no response indicating recovery, says Ogden.)

The group also was able to donate a total of £800 (almost \$1,300) to a variety of charities, through sponsorship contributions.

Small, smaller, smallest kites fly in Seattle

herry blossoms, children and tiny kites came together in April 1998 in the home city of The Drachen Foundation. The organization linked up with the annual Seattle Cherry Blossom and Japanese Cultural Festival to stage what it called the first annual World's Smallest Kite contest. Another edition of the event, now called The Second Great Miniature Kite Contest, is scheduled in connection with another occasion, the International Children's Festival, in May of 1999.

The event was organized and proclaimed with little advance warning and without acknowledging previous small-kite events, such as the International Exposition of Small Kites, staged in Harpers Ferry, West Virginia by Bill Bigge in 1984 (see *Kite Lines*, Summer-Fall 1984). The standards and judges for the Seattle event became somewhat clearer after the fact, in a smart *New York Times* article.

The winners of the first Seattle event: First, Nobuhiko Yoshizumi of Japan, for a 10 x 8 mm sode kite; Second, Harm van Veen of The Netherlands, for a 13 x 11 mm Eddy kite; Third, Dan Proebstel of Colorado Springs, Colorado, for a 10 x 10 mm Eddy. Special recognitions also went to Van Veen for Best Flying Kite, Bas Vreeswijk of The Netherlands for best three-dimensional kite and the Kyoto Kite Club for Best Group of Small Kites. Yoshizumi's sode kite was submitted to the Guinness Book of Records and is still awaiting reply.

A wide spectrum a radical dual, NEW QUADS, SOFT

STUNTERS & A FLOCK OF SINGLE-LINERS WITH CHARACTER

Preston trickster: strange!

nce upon a time, a British chap named Andy Preston dropped a little bomb on the stunt kiting community: the Stranger. Its high aspect ratio, oddly curved leading edges and a deep sail redefined what trick kiting was all about. It was the first kite



what trick kiting
was all about. It
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shape with every move.

you could "kill" anywhere in the window that is, make it stop in a stall, turtle or pancake and flick it around in a variety of slackline moves.

So three years passed and Andy wanted something new to play with: the Stranger Level 7, the most talked about stunter of 1998. It is hard to say which sweeping curve grabs your eye first: the oddly in-swept wingtips, the deep keel with a sharp turn at the bottom or the reverse bend at the top of the spine.

Okay, so it looks funny. How does it fly? Flexifoil recommends this kite for experts only and Preston suggests one needs several days getting acquainted with the kite's bizarre flight characteristics. Both know what they're talking about.

Like the original Stranger, the Level 7 is designed to be "killed," but also left in a stable flying position—even upside down—permitting all sorts of odd spins, flips, recoveries and combination moves. But it also can be made to fly in three dimensions, a concept popularized with the quad-line kites from Revolution.

What is 3-D flying? Stunt kites usually fly along the inside surface of a sphere, whose radius is described by the length of the kite lines. But in 3-D, the kite is purposely pulled out of the wind and brought within the space between the end of the lines and the flyer. When we had tuned it correctly, we found the Level 7 would glide toward us in a curve that

eventually turned the kite back downwind, out to the ends of the line for recovery.

Construction is extremely durable—a good thing, because many of our crashes were loud and even frightening. The kite bounced around but was always ready to fly again. The lightweight polyester sail is heavily reinforced on all stress points and the leading edges and spar sleeves are well covered with heavy polyester. Sturdy 6mm pultruded carbon spars and tapered fiberglass rods are used for the spine and wingtips. Heavy rubber bands tension the wingtips and spares are provided.

Color combinations available on the 22panel sail are interesting and different. The kite includes a serviceable instruction manual on tuning and flying, as well as a video, which provides some great footage showing what the kite can do. Watch the tape in an area free of flies, however, or some are sure to buzz into your slack-jawed mouth!

We spent about 15 hours getting acquainted with the Level 7, flying on the recommended 75-foot, 80-pound Spectra lines in winds ranging from 4 to 15 mph.

The first thing we noticed is that the Level 7 tended to nose dive into the ground. But many hours later, this problem largely went away as we began to understand the kite's flight and glide characteristics.

The Level 7 flew in light winds, but was not very much fun. Instead of hanging or gaining altitude in positions such as a fade (belly up, nose toward the pilot), the kite would pull out of the wind and into a glide.

At the middle of the wind range, however, we found the Level 7 an absolute pleasure, offering extreme trickability through glides, super tight spins with heavy oversteer and simple relaunches from any position—including the dreaded belly-down, noseforward dead launch and the fantastic Otis launch (belly-up, nose-forward), from which the kite lifted into a fade and flew itself to the top of the window.

Things got a bit shaky at the top of the wind range, where the kite pulled hard enough to break 80-pound line. But at least it told us when the wind was too strong, forcefully shaking and shuddering.

One of the most enjoyable traits we found was that the lines never seemed to get caught anywhere, which is particularly nice given the long lines recommended for new Level 7 fliers.

On the other hand, on our kite one of the stand-offs repeatedly pulled out of its reinforcement on the sail. And we found the tensioning line used to adjust the nose billow tended to slip, changing flight characteristics. This happened most often during dead launches, which defeats the purpose of being able to dead launch.

Overall, the Stranger Level 7 is not for the faint of heart, nor the inexperienced, but will provide many hours of fun (and frustration!) for those ready to take on the challenge.

—Jeff Burka

SKYDANCER BY INTER ACTIVE KITES Challenging quad partner





At top, in light air, the Skydancer is a wide rainbow arch. Above, slashing across the window, the wings sweep back sharply. ancing smoothly with this distinctive "variable geometry" kite from England is like a complex ballroom routine: It needs rehearsal. But once you are in step, the kite offers a striking quad-line experience. You can even fly it with 40-foot tails!

Unfortunately, in our earliest outings, we kept stepping on the kite's toes. Initially, it seemed to respond to a conventional lead, like other quads. But at times, particularly in light air at the edges, it flew off solo, pirouetting away and ignoring the reserved wrist movements that usually bring quads into line.

As we slowly discovered that the kite desired a combination of confidant, assertive

WHAT'S NEW: KITES

[Continued]

movements, a great affection for this dancing partner began to bloom.

"It's absolutely necessary to keep all four lines tensioned. Then you are involved in actually retaining the shape of the kite," we were told later by David Davies, a former military pilot who spent 3½ years designing the kite with his son, Howard, also a pilot.

The Skydancer significantly changes shape in answer to the wind, from a wingspan of 100 inches when flat to just 57 inches when swept back in a stiff breeze. Poised on the ground, the kite is a rainbow arch nearly 180 degrees around, but in flight it becomes a deep, inverted "U."

The leading edge of 6 mm carbon rod comprises three sections, joined by ferrules inside a sleeve of reinforced nylon. Twin longerons angle on the back of the kite from conventional wing fittings at the leading edge to pockets on the trailing edge, tensioning the 18-inch-wide ripstop sail.

The kite assembles quickly. The middle leading edge spar remains in the sleeve and the wingtip sections slide inside. Bungee cord stretches the wing to arrow nocks on the tips.

One striking feature of the Skydancer: no bridle. Flying lines attach directly to snapswivels, which are attached near the top and bottom of the longerons and extend through neatly done grommets in the sail surface.

In flight, the longerons sweep backward in the wind, drawing the kite into a tighter curve. When these spars approach parallel they give the kite speed, but also create stability by spilling wind smoothly off the wings. Davies suggests it may be impossible to break this kite under wind pressure alone, and we flew it in hugely gusty winds with no problems.

Although Skydancer is rated for flight in winds from 4 to 18 mph, the designer suggests beginners wait for at least a 12 mph breeze to begin to feel out the kite. We began to appreciate its personality on a day of 15 mph-plus breezes, as we learned to make swooping circles and rapid spins, like that old wheel Ezekial saw, 'way up in the middle of the air .

And what ground play! The kite's shape enabled us to roll it along like a colorful wagon wheel. In tip stands, the deeply curving rainbow looked like a banner plugged into the ground.

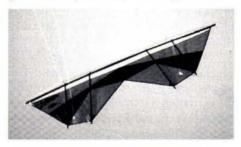
Then we flew Skydancer with its colorful tails: neatly sewn tubes 3½ inches in diameter in seven sections of bright color.

The kite became, if not exactly docile, at least very stately to fly. The tails made a great show, adding to this quad's appeal as a crowd-pleasing performer. The manufacturer recommends 100-foot lines when flying with tails. Accustomed to flying quads with shorter lines, we had to link two sets together, but found the result well worth buying a 100-foot quad set.

—Steve McKerrow

Fast, yes, but still faithful

W ow! Nudge back the handles in even a moderate wind and this new "Speed Series" kite from the originators of the quad-line stunter screams toward the top of the wind window. Yet rotate the wrists downward, as with any Rev, and you gain relatively familiar, if touchy, control.



The new Supersonic from Revolution responds to wrist control—and the market.

Revolution says it created the Shockwave and the Supersonic, the first two kites in the Speed Series, to meet requests for faster kites. The Supersonic is marketed as the "more forgiving" model—but we found this kite tested our reflexes quite sharply enough, thank you.

A very thick top spar, ½-inch in diameter, is the first thing we noticed when assembling the kite. The three-wrap graphite tube, in three sections, is tensioned by a bungee-and-cap system.

The second departure from the familiar Revs? No mesh webbing on the leading edge. Instead, a two-inch strip of clear plastic with white grid marks just makes it *look* like the old mesh. Finally, the kite sports four, not two, longerons on the back of the sail, which tension a trailing edge with flat bottoms rather than the usual pointy tips. The Supersonic looks less like a bow tie than the conventional Revs, but the family resemblance is still unmistakable.

We found assembly quick and easy the first time out of the bag, running out line in less than two minutes from arrival on the field. The kite comes in a nice nylon bag, with pockets for handles and lines. However, we advise patience and care when joining the leading edge spars, making sure they have gone together securely. As with all Revs, you must mate the wingtips with ferrules on the center spar blindly, by feel alone. We broke a spar tensioning the wing when one ferrule had not been properly seated. That's a \$14.95 replacement stick!

Revolution's recommended wind range for the Speed Series is 4–20 mph. We managed to maintain control on several days when gusts were ripping through well beyond 20, but recommend this only with reservations. The kite is so fast that, over the course of many hours flying, we broke *two more* spars—both times in high wind when slashing a wingtip on the ground. Despite their girth, the spars will snap in two.

In light air flying, the shallower profile Supersonic did not respond as readily to line pumps as a conventional Rev. But we were able to at least fly gentle patterns in dying evening breezes.

In stronger wind, it performed side slide maneuvers in the upright position better than earlier Revs, and we felt equally in control in reverse flight. However, the kite exhibited significant oversteer, which took some adjustment of technique. It was hard to do just one snap spin!

Fliers of any other kites in the Rev series will find the Supersonic a lively challenge. (The venerable Rev 1 is not in the company's line any longer.) No beginner should make this a first quad-line, however.

-Steve McKerrow

WINDDANCE BY SEATTLE AIRGEAR Soft fliers for travel fun

tunt kiting has moved in the direction of radical performance and "slack-line maneuvers." But Seattle AirGear wants to bring us back to a time when kites pulled hard and we maneuvered them through our own vigorous pulls on the lines. These three new, dual-line soft wings, designed for stunting, not traction, will turn on a dime, scream across the sky and pack into small bags easy to take anywhere for impulse flying.

All three kites are based on the same basic design, differing in the number of cells across the span. Sails are 1.5-oz ripstop nylon, and every conceivable stress point has been reinforced. Cell openings are edge bound and bridled ribs have a strip of material zig-zagging down their length to spread pressure. In fact, the WindDance kites are so well built they can withstand a power dive into the ground at the center of the window—an action often devastating to other stuntable parafoils.

	POWER		DUAL-LINERS			QUAD-LINERS		SINGLE-LINERS					
Name of Kite	EX'S	SKY TIGER HI22	WIND- DANCE 1	WIND- DANCE 2	WIND- DANCE 3	LEVEL 7	SKY- DANCER	SUPER- SONIC	CUBE	TRIAD	GINGER	GADFLY	JUMPING FROG
									\Diamond		0	97	
Manufacturer	Concept Air	Cobra	Seattle Air	Seattle Air	Seattle Air	Flexifoil	InterActive	Revolution	Shanti	Prism	Sky Delight	Inflight	Dancing Frog
Sgstd Retail Price	\$470	\$399	\$89	\$119	\$139	\$289	\$300	\$189	\$19.50	\$24.95	\$69	\$175	\$50
Sail Material	RP	RP	RN	RN	RN	RP	RN	RP	RP	RP	RN	RN	RN
L'ding Edge Material	n/a	n/a	n/a	n/a	n/a	DT	RN	DT	n/a	n/a	n/a	n/a	n/a
Framing Materials	n/a	n/a	n/a	n/a	n/a	GR, FG	CFr	GR	CF	CF	GR	FG/GR	FG
Fittings	n/a	n/a	n/a	n/a	n/a	MP	MP	MP	٧	٧	V	MP	٧
Dimensions	10'7" x 3'3"	9'6" x 2'7"	5'6" x 22.4"	6'11" x 22.4"	8'4" x 22.4"	72" x 38.5"	100" x 36"	91" x 19"	11.5" x 11.5"	14.25" x 15.5"	40" x 20"	63" x 64"	14" x 16.5
Sail Depth at stand-offs	n/a	n/a	n/a	n/a	n/a	13"	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Sail Area	- 32 sq ft	25.2 sq ft	8.8 sq ft	11.4 sq ft	14.1 sq ft	9.6 sq ft	12.5 sq ft	6.0 sq ft	506 sq in	663 sq in	400 sq in	480 sq in	224 sq ir
Weight (oz.)	n/a	11.5	5.5	7.0	8.5	13.0	10.5	9.7	1.1	1.1	2.1	5.0	0.7
Suggested Wind (mph)	5-25	5-20	4-30	3.5-30	3-30	4-15	4-20+	4-20	3-15	3-15	0-12	5-20	5-20
Suggested Line (lbs)	300/150	200/150	150	150	200	80-150	60	100	20	20	50	30	30
Skill Level Required	I-SK	I-SK	N	N	N	sĸ	SK	SK	N	N	I-SK	N	N
Assembly (minutes)	5	- 5	1	1	1	3	1-2	1-2	2-3	2-3	3	2	1
Launch/Relaunch	G-VG	VG	E	VG	G	E	VG	VG	Ε	Ε	E	VG	VG
Landing/Ground Work	G-VG	VG	G	G	G	E	VG	VG	n/a	n/a	E	n/a	n/a
Responsiveness	VG	E	E	E	G	E	VG	E	G	G	E	n/a	n/a
Ability to dwell	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	VG	VG	n/a	n/a	n/a
Straight Speed	F	M-F	F	F	М	М	М	F	n/a	n/a	М	n/a	n/a
Speed in Turns	M-F	F	F	F	M	F	M	F	n/a	n/a	M	n/a	n/a
Precision/Tracking	G-VG	VG	E	Ε	E	G	VG	VG	n/a	n/a	Ε	n/a	n/a
Amount of Pull	Н	M-H	1	M	Н	M	L	М-Н	L-M	L-M	M	L	L
Amount of Noise	SI	SI	SI	SI	SI	SI	SI	М	SI	SI	SI	SI	SI
Visual/Graphics	G	G	VG	VG	VG	VG	VG	VG	G	VG	VG	VG	VG
Workmanship	E	E	E	E	E	VG	E	E	Α	VG	E	E	E
Portability	E	E	E	E	E	G	E	E	E	E	G	A	Α -
Durability	E	G	E	E	E	E	VG	E	G	VG	VG	VG	VG
Durability	E	G	E	E	E	E	VG	E	G	VG		VG	VG VG

NOTES: Retail price (in US dollars) is as "advertised" or "suggested." Wind range (mph) covers minimum and maximum speeds deemed suitable by our evaluators. Dimensions are in the following order: width x height. Measurements and (usually) drawings are made with the kite standing on the floor facing the viewer. Materials: RN-Ripstop Nylon, RP-Ripstop Polyester, DT-Dacron Tape, WD-Wooden Dowels, B-Bamboo, FG-Fiberglass, GR-Graphite, EP-Epoxy, CF-Carbon Fiber, PRF-Prizmafilm, r-Rods, t-Tubes, MP-Molded Plastic, V-Vinyl. Speed: SL-Slow, M-Medium, F-Fast. Skill levels: N-Novice, I-Intermediate, SK-Skilled. Pull: L-Low, M-Medium, H-High. Noise: SI-Silent, L-Low, M-Medium, H-High. Other ratings: P-Poor, A-Acceptable, G-Good, VG-Very Good, E-Excellent, n/a-not applicable.

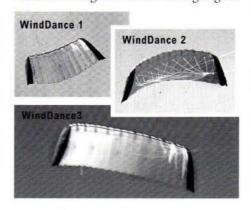
The kites also feature a polyester crossbridle with a simple method of bridle adjustment. Each of the two bridle points has an adjustment line which is fastened to the towpoint loop by a sheetbend hitch. By moving this hitch, the flyer adjusts the flight characteristics.

To prevent bridle tangles during storage, each WindDance also has loops sewn on the trailing edge to which each leg of the bridle may be larksheaded—a much-appreciated feature. These loops also double as tail attachment points, and tails can be used for show or to help slow down and reduce the pull of the kites.

We flew all three kites on the manufacturer's recommended 75-foot, 90-pound Spectra lines, in winds ranging from 3 to 15 mph. The lines held up in moderate winds even with the largest WindDance 3, but we suggest heavier lines for both the 2 and the 3 in winds much higher.

Edge work proved a risky business with all of these kites. Flying too quickly to the window extremes tended to turn the kites onto their backs. But we soon found it was possible to approach the edge gently, and once there do all sorts of fun things, including tip stands and other ground work.

All three kites launched easily, as long as we carried a ground stake and had some method to weight down the trailing edge of



the kite, such as a line bag, to prevent an inadvertent launch or roll while we walked back to the handles.

WINDDANCE 1

The baby of the series is the fastest and tightest turning. It was an absolute blast in medium to high winds, able to recover from almost any sort of tangle, flip or fall. This kite pulled lightly even in high winds and made sharp, angular turns. With its low pull, it would even be suitable for children to fly, a good kite on which to learn two-line skills.

WINDDANCE 2

The mid-size model performed much like the 1 in terms of its turn speed, and angular turns were similarly possible. While not quite so fast across the window, it was still a spry kite, recovering from most in-air mishaps or crashes into the ground. The pull was significantly stronger, however.

WHAT'S NEW: KITES [Continued]

WINDDANCE 3

The largest kite's additional cells give it a higher aspect ratio, producing a noticeable effect on flight and recovery. Turns and forward flight were slower, and we could not match the crisp angles possible with the 1 and 2. We almost always had to walk to the kite to reset it for launch after a crash or midair tangle. The kite pulled quite hard, and should be flown by adults. The good news, however: This kite flew in surprisingly light winds, given the weight of the canopy.

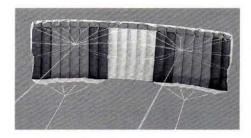
Overall, we were impressed with this series of kites. They are well-made, fun to fly and great for travel.

—Jeff Burka

Say Hi to friendly foil

When the SkyTiger Hi series traction kites were introduced four years ago, they set a new performance standard for quad-line traction kites. Their high aspect ratio design made them faster and more powerful and they were an immediate hit. Although no longer the fastest foils, they still have a strong following among both racers and those who prefer more casual traction activities.

The SkyTiger Hi22 is the newest addition to the stable, which includes kites up to 80 square feet. Like its mates, it has a very high aspect ratio and the distinctive trailing edge flaps that steer it.



The SkyTiger Hi22 hits the happy buttons.

Our preflight checkup revealed a wellconstructed kite of Icarex polyester with a preset Spectra bridle. We also found it to actually be about 25 square feet in area.

The difference from the advertised 22 square feet lies in the measuring. We use a flat measure for review kites, laying a kite on its back and measuring dimensions. The back surface is larger than the the front, and includes the area of intake scoops. We measure by that.

(In the Hi22's case, we excluded the keels at the wingtips and the steering flaps on

the trailing edge. SkyTiger's own measurements include only the fabric between the scoops and flaps. For the record, some manufacturers use the flat measure, some use a projected area calculation and still others apparently use an elastic tape measure!)

Setting up the Hi22 is simple. Experienced fliers will attach lines and go, and neophytes will follow the well-presented directions and be flying soon, too.

Although this SkyTiger was new to us, our first flight was like meeting an old friend. In only a moment, we felt we had never been apart because, since our initial review of traction kites (*Kite Lines*, Summer 1996), we have used the Hi series as one of our benchmarks for test kites.

The Hi22 behaved like its siblings—which is to say, very well. Midlength arm movements coupled with medium wrist rotations produced quick turns. The Hi22 responded predictably, even when flying well beyond its recommended wind range.

It flew in a puff, and gusts produced rapid acceleration. Consequently, controlling it in extreme conditions required concentration. Like others in the Hi series, this kite's wind window is wide, upwind performance is strong, it tracks well and is stable at the edges. Maximum power is generated by maintaining positive pressure on the brake lines.

SkyTiger now uses the same length handles for all their Hi series kites; the 15.5-inch set that came with the Hi22 are also used for the Hi80. But this seems like trying to use the same screwdriver for all sizes of screws. The long handles work well with big kites, but made the Hi22 more difficult to fly than necessary. Minimal rotation that would barely trim a larger model briskly turned the Hi22. (Owners may shorten the handles—or perhaps replace them. While their construction of gray PVC tubing is functional, they are less than we expect from a commercial product.)

We chose the Hi22 in strong wind conditions for which we previously have chosen the larger, lower-aspect SkyTiger 26. The power seemed equivalent and we could use the increased responsiveness to good advantage. But new fliers will continue to be better served by the more moderate 26.

With its upper midrange acceleration and power, predictable responses and userfriendly demeanor, the SkyTiger Hi22 certainly carries on the well-established Hi series tradition, filling what arguably might be the last gap in the SkyTiger Hi line.

-James C. Welsh

Extreme power you can tame

raction kiters who thrive on speed and power will thrill to the Traction EX'S, an oddly named quad-line kite that accelerates aggressively to speeds as high as the best performing kites we have tested. In fact, each of us who flew the 3-square meter EX'S in strong winds rediscovered our personal points of thrill versus fear.

But the EX'S—say it as "Excess"—does not have to be an extreme kite. It can easily be adjusted to curb its assertive nature, through what Concept Air calls its VSS system. The camber of the kite can be changed



The EX'S as seen from a buggy.

by adjusting the length of the C power bridle lines in relation to the A and B power bridle lines. (The system is similar to Ted Dougherty's variable camber system: see *Kite Lines*, Summer 1996). Performance can be enhanced or reduced by moving two larks head knots up or down .25 inches.

In the normal position, we found the EX'S to be powerful, very fast and reasonably user-friendly. Turns were best accomplished using a push-pull technique, coupled with strong wrist rotations. At the bottom end of the wind range, the kite struggled to stay aloft. But as the breeze picked up it performed better and better. Stability and response both increased dramatically.

In traction activities, quick power turns were easy and relatively safe. We learned to tug in both brake lines to dump some power, rotate the wrists to turn the kite and release the brake lines to accelerate.

Upwind flight was very good, but when the kite was at the edge, care was required to avoid luffing. In its performanceenhanced mode, the EX'S flew even faster and accelerated harder. But this extra performance came at a cost: In anything but expert hands, edge luffing became a certainty, especially in gusty winds.

In its performance-reduced mode, the leading edge of the EX'S is tilted slightly away from the flier, and the intent is to provide a smoother flight. It did that, but at

the cost of becoming so flat to the wind the kite was difficult to launch. Thus the only time we used this mode was during testing.

The Traction EX'S showed first-rate construction and came set up with 75-foot sleeved Kevlar lines on epoxy-painted PVC handles, with a link line between them. Ours flew well right out of its 200-denier nylon zippered bag.

The large cross section of sleeved Kevlar lines no doubt slowed the EX'S down a bit, but, as their manufacturer told us, the increased durability is an asset in the rough conditions in which these kites are often flown.

The Traction EX'S is a good choice for aggressive, competitive fliers, or those who wish they were. Most will prefer to fly it in its normal mode, but for the those who dare, it offers a thrilling potential.

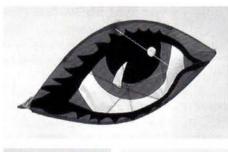
-James C. Welsh

Put on a happy face!

These two kites from Joel Scholz of Sky Delight Kites are at once older than time and fresh as a breeze. Built to the basic design of the traditional Japanese *yakko*, minus the usual trailing parts, they can reflect your mood or just give a chuckle to a bunch of kids.

In Ginger, Joel's comic sense has produced a kite that watches you as you watch it. In Mood Swing, a smiling pair of red (Marilyn?) lips can be bridled to reflect your mood. Feeling sorry for yourself? Fly it frowning. On top of the world? Let everyone know by reversing the kite's bridle to fly it as a smile.

The kites are outwardly similar in size and shape, made of ripstop nylon with sewn







The seductive eye of Ginger and the dual personalities of Mood Swing. (If Scholz made a Nose kite you could fly a whole face!)

appliqué work and graphite spars. Construction details differ, however. The eye of Ginger is formed with curved spars sleeved within the leading and trailing edges and straight spars and a spine crossed at the back. Mood Swing is shaped by just three sleeved, deeply curved graphite spars and a center spine, reminiscent of the bones of Scholz's Butterfighter kite.

Putting the kites together the first time required careful attention to the instruction sheets, and we subsequently found it easiest to transport them flat rather than undertake repeated reassembly.

The kites show the high construction quality typical of Sky Delight, making clever use of vinyl end caps to also serve as spar anchors and providing nice touches of stitchery at the pockets.

In flying, we found these kites would launch easily from the hand, but would not take off so well from the ground. Once aloft, they required relatively close attention to guard against a tendency to overfly or to turn into changes in the wind. However, an attentive hand could keep them up in winds from 4–20 mph. The kites seemed virtually indestructible, even in a head-on crash. And with no protruding parts, they are also harmless over a crowd—exactly where you'll want to fly them.

—Mel Govig

Hybrid insect is no pest

Jim Rowlands has for some time been among the authorities on soft kites, which he distributes through his company in England. He also does framed kites. Melding both skills, he has produced a whimsical insect that flies on a ribbed flat wing but whose body is inflated by the wind. It is challenging and unusual to combine stiff and soft in this way, particularly while covering the labor costs in making a commercial kite.

In nature, the gadfly is actually a biting pest—like the horsefly, deerfly or blue-bottle fly. This Gadfly, however, best evokes the friendly firefly of warm summer nights. Indeed, devising a way to put a small strobe or chemical light in the tail could produce that effect!

Well-constructed, even if not nit-picking perfect, of ripstop nylon with colorful appliqué, the kite uses graphite wing spars and spine, joined by a conventional stunt kite T-fitting, with three fiberglass spars per side to spread the wing.

The head, body and legs are those of a soft kite, with air entering to inflate the body through two mesh vents
between the bulbous
eyes. Thus the kite
needs at least a
moderate wind
to fully snap into
shape. A four-point
bridle leads from

the head, the neck and two pairs of legs to a single towing point, and helps to maintain the body's form. This is important because when it is filled out and flying you will see the kite's real personality, an asset you'll miss when the body lies limp on the ground.

We found the Gadfly climbed well to a moderately steep angle of flight and parked with relative stability, tending only to sweep back and forth in shifting winds. When the breeze began to die, it slowly backed down onto its tail.

The Gadfly was easy to fly and it didn't buzz about like the real, busy original—which is a good thing in most kites. However, its legs jittered just a bit, giving an extra, lifelike dimension to the fun.

-Mel Govig

Simple & simply delightful

his small kite should inspire us all to revisit basic Asian kite designs to freshen our own clever sky art. Attracted to the native kites of Indonesia, Jennifer Snyder and Bob Harris have applied their signature frog motif to a classic rectangular planform, using dyed ripstop covers and spars of graphite and fiberglass.

The result? A luminous, crouching amphibian in the sky which, in a light, steady wind, jumps to the touch of a hand on the line or bobs and twitches within a limited range when flying untended.

Although assembled in the United States, the kites are hand-painted in Bali, where the California pair established a studio in 1997. Native painters use a traditional batik process requiring up to three coats of dye, and also have some latitude to interpret Jennifer's basic frog designs. Thus no two kites are exactly alike. (In addition to the reviewed four-stick rectangular kite, they make a small diamond kite about 18 inches tall bearing frog designs.)

The makers took inspiration from the ripstop dye work of friend and fabric artist Ty Billings, whose High As a Kite company of Inverness, California is still distributing the kites (though *Kite Lines* has sadly learned it will soon close down operations).

WHAT'S NEW: KITES [Continued]

Why frogs? Snyder and Harris explain they are among the most sensitive creatures on the planet, unusual beings that first live in water then breath air on land, generating much mythology. Recently the discovery of deformed frogs in certain localities has been taken as a marker of damage to the environment. In Bali, flying frogs in particular are celebrated in native culture.



The Jumping Frog in midjump shows its unusual rounded edges.

The kite structure is a variation on the classic four-stick rectangle flown for centuries in Asia. It features a bowed fiberglass head stick, a stiff carbon fiber spine and twin flexible fiberglass diagonal spars. All insert into stitched nylon pockets, and vinyl tube fittings join the cross spars to the spine. The fabric is cut with gracefully scalloped edges and serge-stitched all around.

In flight, a tassel tail of dyed ripstop hangs from a loop about two feet below the kite to tame its namesake tendency to jump around the sky.

—Mel Govig

THE CUBE BY SHANTI & THE TRIAD BY PRISM Variations on a theme

ow much fun are these single-cell box kites that can be made to tumble and swoop? Judge by this: One of our lingering memories of the 3rd Annual Maryland International Kite Expo at Ocean City, Maryland last year will always be the sight of two Cube kites bobbing about a pink-tinged sky, the last kites flying from the rooftop of a boardwalk hotel as night closed in.

This is where we first saw the modestlypriced, candy-colored ripstop polyester kite from Shanti Kite Company. Coincidentally, Lee Sedgwick was walking the beach flying his own Mylar® construction on the onecell theme, enhanced with a sliding bridle (see *Kite Lines*, Fall 1980 for our first look at such a bridle, by Japan's Takaji Kuroda).

Then in early fall we encountered and flew a prototype of the Prism Triad, a single-cell triangular design of roughly similar size and performance.

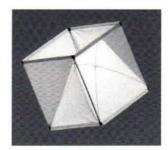
While hardly providing the precise control of a good fighter kite, these cell kites can be made to maneuver, through vigorous slacking and tightening of the line. And while not offering the stability of a good two-cell (or more) box, they do fly steadily in lighter winds. We have heard of people stringing a half-dozen or more cells onto a single line to make a veritable squadron of geometric models in the sky!

The kites are very light, thanks to ripstop polyester sail material and graphite rods. They assemble easily and break down into tight packages and thus qualify as perfect impulse kites to keep in a car trunk or your briefcase.

In The Cube, four vertical framing members fit permanenty into cloth pockets, while at each end two cross spars anchor at the corners and are joined at center by vinyl tubing. Tension adjustments can be made via this center fitting. On the Triad, the three vertical members are similarly fitted into pockets, while the tensioning spars anchor at the corners in molded plastic fittings, bow-



Prism's
Triad is a
tumbler,
easy to
launch and
play around
with.



Shanti's Cube is a darter and gentle mover that's good to learn with.

ing out but not crossing. Prism says adjustments for varying wind strengths can be made by sliding the back fittings up or down.

The Triad comes in three combinations of three hues that are adjacent on the color wheel and give an iridescent effect in combination as the kite moves. The Cube is available in 12 solid colors. Construction quality of the two kites we compared was better on the Triad, including reinforced stitching on the edges and at each corner. On our Cube, after only a few flights, we

had to restitch one corner spar pocket when it separated from the sail.

Although the kites weigh the same, we judged The Cube to be a little livelier. We also successfully flew both kites together on a single line.

We had only one problem when flying our Cube, which we assume can happen with the Triad, too: We flew it first on light fighter kite line, underestimating the pull it generates, and in a puff of wind the line broke. The kite fell to the beach, then began bouncing and rolling downwind like a demented beachball, with two of us in hot pursuit. But we flagged in exhaustion after running several blocks in soft sand, and were resigned that the kite would roll all the way to Delaware—until it fortunately became trapped against a set of boardwalk steps.

-Steve McKerrow

OUR OBJECTIVE? TO BE OBJECTIVE

Our purpose in publishing kite reviews is to offer full and objective information about new kites, along with a touch of vicarious flying experience. To that end, here is what we live by in our reviews:

- Kite Lines and its writers have no interest, financial or otherwise, direct or indirect, in any kite manufacturing business of any kind, anywhere.
- No advertising or business agreements with Kite Lines are part of any editorial considerations.
- Kite manufacturers are never shown reviews in advance, and we review only production models, not prototypes.
- All Kite Lines reviews are signed, denoting the authors' willingness to stand behind them. However, the opinions expressed combine the views of at least two experienced kitefliers, often more.

Homemade...and worthwhile PLUS AN OLD

BOOK IN NEW PACKAGING, A BUGGY GUIDE, SOME HOW-TO'S—& A DISASTROUS CD

On Bats, Birds and Planes

By W. J. Brick (Florence, Oregon: self-published, 1998), softcover, 34 pages, \$3.95



W e have complained in these pages that the increasing

ease of desktop self-publishing is not always a good thing, producing sloppy books of marginal value. But it does not have to be so. This simple volume by a longtime kiteflier in Florence, Oregon achieves modest aims, including thoughtful observations and plans for four interesting kites that can be made inexpensively.

The author states in the introduction his preference for "reliable, well behaved, light wind, single line, high angle, soaring kites: kite forms that cooperate with the air passing over their surfaces to create an airfoil shape that will generate its own lift."

In the first section, he recounts his study of not only bats and birds, but also manta rays, skates and sharks, which "fly" through the water. He aimed his experiments, he says, at incorporating into kites efficient elements common to these creatures in wing structures and tail forms.

Clear black-and-white drawings illustrate the book throughout. The kite plans call for simple materials: plastic, wood dowels, bamboo, soda straws and fiberglass rods.

The first kite is a variant of a fighter Brick calls the "Basic 30/40 Kite," referring to the angles from the horizontal of the leading and trailing edges, respectively.

Two bird kites, the Hawk Tail and the Hawk Tail Penta, depart from the basic design with the addition of light plastic struts and battens to help shape the wings.

Brick calls his final kite the Egyptian Vulture Kite, which builds upon the basic structure of a delta and is the most interesting and complex of the four. Struts and battens added to the wing—along with a battened tail and fluttering trailing edges—

all imitate the real Egyptian soaring bird.

A final chapter presents plans for four winders to be made from ordinary materials.

One might fault this book for lacking discussion of sail decoration. But any kitemaker's imagination and color markers or paint can easily be applied to these flying surfaces. Indeed, we can envision consulting Peterson's or another birding guide to create a very realistic-looking soarer.

-Steve McKerrow

RADICAL IDEAS FOR DARING RIDERS

The Guide to Western Circuit Hard Core Buggy Riding

By Charlie Watson (New Zealand: A Kiwi Kite N.Z., 1998), softcover, 32 pages, \$9.95



n the eight years since Peter Lynn unleashed his kite buggy on the unsuspecting world, sur-

prisingly little has been published in the way of instruction manuals. Lynn himself wrote *Buggies, Boats & Peels*, a very technical look at the physics of kite sailing, dualline traction design, and, oh yes, riding. Servaas van der Horst and Nop Velthuizen included a pretty good buggy chapter in *Stunt Kites II*. And for a while we had Corey Jensen's *Buggy Newz* newsletter.

Enter *The Guide*, a simple new homebrew booklet of 32 photocopied pages, including almost as many photographs. If previous publications tended toward the simple side of riding buggies, this new booklet is right off the scale in the other direction. It sets forth a compendium of knowledge about hardcore radical tricks developed by some seemingly nice—but totally insane—buggiers from the country where it all started.

This book is not intended for folks who just got some new gear and want to learn how to use it, although it includes directions that might help. Nope, this one is for people ready to risk bending axles or breaking their buggies by crashing them into rivers, slamming them down hills and jumping them over moguls.

This could also be a guide for the rest of us, who only dream of doing nasty things to our gear and bodies in search of a thrill. The wonderful photos in this book certainly provide a vicarious thrill.

The Guide leads off with a section on kite and buggy equipment, including some of the more interesting five-wheel configurations. Following chapters cover fundamentals, tricks (180s, 360s, etc.), hard terrain and jumping. The booklet finishes with recommended reading and a glossary.

The tricks section uses simplistic but innovative and helpful little charts which quickly convey wind direction, buggy travel direction and how one turns the buggy's wheel to accomplish a particular move.

The authors recognize that hardcore buggying is a dangerous sport, and take pains to discuss safety concerns and considerations.

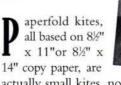
Like many radical, cutting-edge sports, hardcore buggying has its own slang, and *The Guide* makes for quite a colorful read. Do you know what "punch the mince" and "smudge" mean? Respectively, the terms describe riding at 100 percent and crashing and getting dragged—as in, if you punch the mince you might smudge?

Reading this booklet won't make you an instant radical buggier. But it can certainly push you well down the road beyond your basic reach. As summed up on the final page: "Buggy hard and die."

—Jeff Burka

DO YOU NEED IT? Marvelous Mini-Kites

By Norman Schmidt, (U.S.: Sterling/Tamos, 1998), hardcover, 96 pages, \$19.95





actually small kites, not mini-kites in the sense in which most kitemakers under[Continued]

stand that term. This book offers three basic styles with several variations for each, including fish, birds and bugs.

It's a colorful, beautifully-designed work; its cover is one of the prettiest among kite books. The construction diagrams are well done, spread out over four to five pages.

The sections on history, flying and methods and materials are generally good. Five of the nine books listed in "Further Reading," however, are out of print and no credit is given for the kite designs. Most of them, including methods and sequencing, could have come directly from Beth Matthews' *Kite-Folds* (Australia: Platypress), which was first published as a book in 1987, and the kites were spread around the world in worksheets long before that. It was recently revised and reprinted with fine color photos of kites that are actually flying.

I made five of Schmidt's kites, samples of each of the given designs. Delta One flew well when the towing point was properly set, about an inch higher than stated. The full page color picture of this kite apparently flying is misleading, however, for it will dive if rigged as shown. [However, Mel Govig said, "My first reaction to the Delta One illustration was that the towing point was too far back. But I made the kite as specified; it flew well, without a tail!"]

Schmidt's Delta Two—essentially Matthews' Beaked Deltafoil—likewise has the tow point set too low. Schmidt gives advice on towing points, but without explanation of the principles involved.

Other kites, constructed with folded, glued spine and cross spars, flew well with tails and some bridle adjustments. No claim is made that these are kites for children, although the Sterling catalog lists it as "juvenile"—assuming that little kites must be for little people? The folding and gluing is fussy work and successful flying of these kites calls for skill and judgment.

Schmidt recommends a hand-bent hook slipped into a reinforced hole for attaching flying line. (The illustration looks like a Christmas ornament hanger.) I prefer a 2-inch loop of string tied in the hole and a snap swivel on the flying line.

Felt tip pens are recommended for coloring the kites. Watercolor markers work fine, but are not specified. A warning to use permanent markers only in a well-ventilated area would be in order.

Do you need this book?

—Margaret Greger

The TRAGEDY of the FRENCH CD-ROM

An ambitious multimedia production effort in France, which set out to present the world of kiting in interactive computer style, has resulted in a disappointing final product, whose future is unclear.

Titled Cerf Volants: La passion du vent (Kites: Passion of the wind), the much-

anticipated CD, whose principal directors were Serge Gaillard and Emmanuelle Simonnet, arrived in our offices in early February. We were eager to view it, for the undertaking involved knowledgeable kite people we respect and admire, including frequent *Kite Lines* international correspondent Pierre Fabre.

Imagine our disappointment when the CD, designed to run on MacIntosh and PC computers, repeatedly crashed every computer on which we tried to run it. Each of three Macs more than met the minimum system requirements, but gave us no more than a tiny taste of the contents. It was as if we had bought a book and found the covers glued shut!

Guessing we had a defective CD, we asked the producers for a new one, and this copy ran well on two personal Macs, and also on a Windows 95 PC. But an older office Mac still could not crack the thing.

A product that cannot actually run on the machines it says it will presents nothing but frustration at any price, let alone at the relatively steep \$49-or-so cost of this one. (This demonstrated unreliability is the principal reason we will not be distributing the CD in the Kite Lines Bookstore. In addition, at press time we heard mixed messages from France regarding whether the product will actually be distributed at all, or withdrawn for retranslating.)

What is inside the CD? An unfortunately mixed experience.

The pictures are gorgeous, it has music and video clips (rokkaku battles, buggiers on the beach, kite jumpers) and it does a fairly good job of presenting the sweep and variety of kiting traditions, practice and people around the world—albeit it with a decided Francophile skew.

But the English version (you can choose French or English at the outset) presents a translation that is at times merely quaint but at others so bad as to be barely understandable. As just one example, we doubt our friend and contributor George Peters actually said the statement attributed to him in the CD's profiles of contemporary kitemakers, reproduced here verbatim:

Kite has something to do with people spirit, of having something that flies. In the ancient Egypte, and China, they were human being, just like us, and had the same human instincts, they wanted to elevate their perceptions to either their gods or just for playfulness.

Some sections include short oral readings, by a carefully enunciating female voice, but pronounciations are sometimes terrible, especially of names. And it would be too easy to make a list of errors in names, starting with Valery (sic) Govig, running through Bobby Standfield (sic) and on to such historic kite figures as Graham Bell (sic) and Laurence Hagrave (sic).

Beyond abysmal editing, over which Pierre Fabre had no control, the CD also delivers less than its subsections would seem to offer. As just one example, the section on kitemaking spends much time on the varieties of covering paper and cloth available, yet offers not a single kite plan!

In sum, in viewing this CD we found ourselves recalling the oft-quoted lament of poet John Greenleaf Whittier: "For of all sad words of tongue or pen, the saddest are these: 'It might have been!"

-Steve McKerrow

The Magnificent Book of Kites

By Maxwell Eden (U.S.: Black Dog & Leventhal, 1998), hardcover, 464 pages, \$17.95

rirst: This is not a new book—it's merely a new



title and format. Almost all the material was first published in 1989 as Kiteworks: Explorations in Kite Building & Flying. Even the author's Preface, explaining "how I came to write this book," is the same odd, rambling account of a vision experienced while flying a delta kite made from shirt material.

Can a writer plagiarize himself? The only acknowledgement of the original book

in the new volume is in small type on the copyright page. It states the book was first published by another house (Sterling), but does not provide the earlier title. That strikes us as a serious stretch of publishing ethics. Certainly if you have Kiteworks there is little in The Magnificent Book of Kites to warrant purchase.

The only substantial new information is a short chapter on kite material and communication on the World Wide Web. But any Internet "newbie" will likely find more useful information in a single session on-line.

This book is thicker than *Kiteworks*, but the format has changed to an almost-square page to account for some growth. The design wastes—or pads?—significant additional space. On the outer 25 percent of most pages is printed a hazy black-and-white photograph of a cloudy sky—with a diamond kite on left-hand pages and just clouds on right. Seldom is this space filled

with useful text. Indeed, at several locations this image occupies a full, empty page.

As for the contents, well, one might hope a new publication would at least make improvements. But the book still lacks good photographs, the color section includes the same unimpressive paintings, the plans are not particularly well presented and the balance of subjects is poor.

Some things that were right in the old book are wrong here, such as the Indian fighter kite in Chapter 20. It's the same photo as in the 1989 book—but printed upside down! And the cover shows nonflyable diamond kites with bridles tangled.

Many people whose designs or other help were used in *Kiteworks* with what they felt was insufficient recognition are unlikely to feel better it has now happened again.

But perhaps the most distressing feature of the new book is this: Nine years later, shouldn't any kite book that claims the title "Magnificent" account for the passage of time? But no, such subjects as the development of the Revolution, the Quadrifoil and other quad-line kites, as well as traction kiting, radical trick flying, stunt kite competition and lightweight indoor flying—all are utterly neglected here.

We must also mistrust the fairly lengthy appendixes, after checking material we know best. The book mentions the Maryland Kite Festival as taking place in Gaithersburg, Maryland the last Saturday of April. Well, that event and location was accurate in, let's see now...1989? Hmmmm. Isn't that when Kiteworks was published? —Steve McKerrow

Rund um den Drachen

By Walter Diem | (Germany, Hugendubel, 1998) in German, hardcover, 94 pages, \$23.95

f you are interested in line climbers, line laundry, kite aerial photography or hang-



ing any other interesting object on your kite lines that is not a kite, you are likely to want this book. Although the text is in German, much of the information is pictorial and therefore useful to all.

Detailed instructions and photos help you create line climbers, ranging from simple card messengers to elaborate droppers and even a simulation of a boat. Instructions and drawings also cover a simple windsock with variations, including a rotating conical windsock and a corkscrew windsock. The book also illustrates ways to hang banners and gives tips as to which kites are most suitable for the more demanding items.

The book concludes with highlights of the history and practice of kite aerial photography. The most interesting of the four historical phoptographs here is of an early monoplane airplane kite. —Bill Bigge

Book News & Forecasts

At the Japan Kite Museum, I was delighted to find a new-to-me 1997 kite book, Tako dai Hyakka (literally, Big Kite Encyclopedia), in Japanese, by Ichiro Hike. "Big" it is: 601 pages, beautifully printed, illustrated with many color pictures, cloth-bound and even boxed. The cost was ¥15,750(about US \$120), which normally would be reasonable for a book so well packaged. Alas, we found the contents disappointing. The first 350 pages, on Japan, seem worthy, but the following 13 countries are represented by relatively old and mostly commercial kites: Canada is sampled by two Gayla kites, England by Brookite and Zammo, and so on. But if you collect kite books of all stripes, you have a reason to visit the Japan Kite Museum. • The folks at Wolkenstürmer in Germany have published Skywork 3 Experience on the heels of their successful earlier "Experiences." Plans for a dozen stunters and one ambitious single-liner, the Peter Lynn Octopus, are well detailed, though lack the feel and color of the Bernhard Maas illustrations in the first books. •• Surprise! The title Building Kites: Flying High with Math, written for teachers by Nancy Ann Belsky, is as good as many books written for kiters. It does a nice job with sled, box and tetrahedral designs, the expected lesson plans, a little history and flying tips. •• "This is a good book," pronounced Mel Govig in November when he finished reading Cerfs-Volants Traditionnels de Combat à Travers le Monde (Traditional Fighter Kites from All Over the World) by Ludovic Petit and his wife Karine Boitrelle. The book shows kites from 14 countries and includes details of construction and flying. An English edition is promised and will be carried as soon as available in the Kite Lines Bookstore. • Sitcom star Ray Romano's new book Everything and a Kite is good for laughs, and it has a cute two pages involving kites. • Watch your local bookstore this summer for Stephen King's next sure-to-be-a-blockbuster novel, Charlie Don't Surf. It takes place in the '40s and has "something in it about kites." The dust jacket will -Valerie Govig feature kite tails.





A ripstop hata

THIS INTERPRETATION OF THE TRADITIONAL

NAGASAKI FIGHTER IS FORGIVING AND EASY TO FLY BY C.A. WILLIAMS

This ripstop rendition of a Nagasaki hata is more tolerant L than most fighters. It is slower, easier to launch, flies in a lower wind range (5 to 12 mph) and accepts appliqué readily, even in asymmetrical designs, with less effect on balance. Yet it still executes graceful ground dives and turns in all directions.

Dimensions have been culled from various sources to remain as true to the traditional hata (which means "flag" in Japanese) as possible.

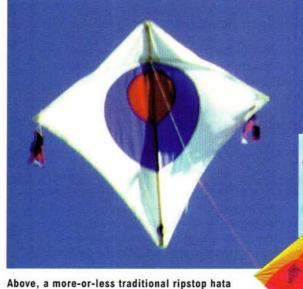
[Editor's note: The author prefers working in centimeters for accuracy in critical dimensions. But some materials in the U.S. are sold in non-metric units, so we have used American standard measurements in some places.]

Materials

- approximately 1 sq yard of ¾-oz ripstop
- 6 inches of 3.9 oz. Dacron® polyester, 2 inches wide, for spine and spar pockets
- ripstop repair tape or adhesive-backed polvester
- at least 36 inches of 3/32-inch-diameter solid fiberglass rod, for the crossbow (cut to fit later)
- 30-inch length of white pine or spruce, milled to 1/6-inch x 1/32-inch for the spine
- 7½ feet of 20-lb-test polyester braided flying line for the bridle
- two sheets of 10-ply poster board and one sheet of regular 4-ply poster board, for making templates
- three long nails and a 12-inch length of pine or scrap wood, for making spine press
- double-sided fabric tape
- duct tape

Templates and cutting

I prefer to make a full-sized template for cutting the sail from ripstop, because hot-cutting a folded half-shape tends to make the edges stick together and then fray when separated. But I first make a half-shape of lightweight



in the red, white and blue colors that historians believe derived from the Dutch flag. Upper right, a genuine Nagasaki hata of paper and bamboo. Inset, a creative asymmetrical adaptation in multicolors of nylon by the late Leland Toy.

> poster board to make the full-sized template from stiffer board.

- 1. Draw half the kite shape on the 4-ply poster board: a triangle measuring 45 x 54.4 x 67.4 cm, with the long edge of the board as the spine. Cut out with a razor-edge hobby knife.
- 2. Lay this half-pattern on one 10-ply board, again using the long edge as the centerline, and cut the shape out. Repeat on the second 10-ply board, then join both half profiles carefully with duct tape to form the full template.
- 3. Lay template on the fabric, oriented so the ripstop forms diamonds down the center line of the kite, and hot-cut the fabric along the edge of the template. (It helps to weigh the template down with books or other heavy objects.)

Appliqué work

4. Draw desired appliqué shapes on paper, then transfer shapes to poster board. Cut these appliqué templates out and apply to scraps of ripstop, hot-cutting the fabric along edges.

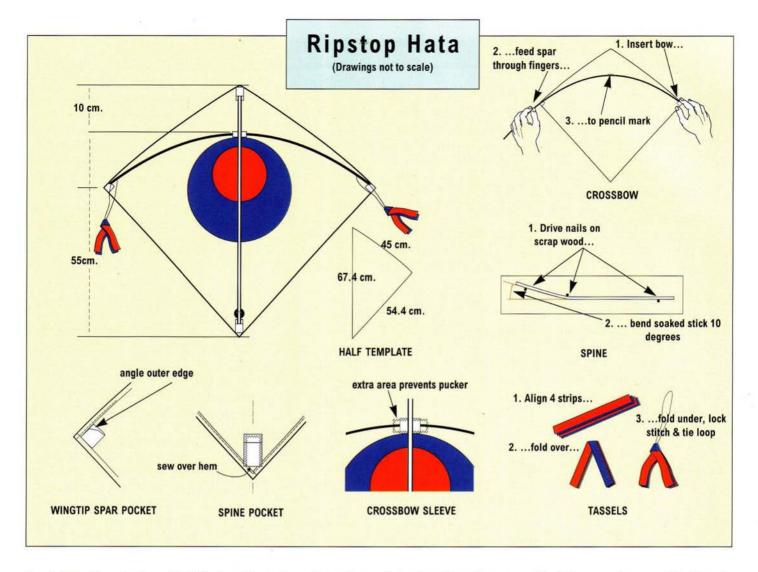
- 5. Using double-sided tape, carefully tack appliqués on the sail, being careful that the grain patterns align perfectly. (Variation will alter the stretch of the sail and affect the performance.)
- 6. Set up your sewing machine for a zigzag stitch of average width and

about 15 stitches per inch. For each appliqué, lockstitch in place, then zigzag around the edges, making both zig and zag fall on the appliqué. At end of sewing line, zigzag in place to lock the stitch down.

7. Turn the sail over and, using a seam ripper under the material with ball end down, cut unwanted sail material free.

Pockets and hem

- 8. Hot-cut two wingspar pockets, each 3 cm x 4 cm, from 3.9-oz polyester. Fold in half and cut a diagonal down the front edges to ease spar insertion.
- 9. With kite sail face down, mark an 8cm hem by using your fingernail or other noncutting device (such as the edge of a large nail head) to scratch an impression around all four sides of the kite. Fold this hem over.
- 10. Insert a folded spar pocket into the hem at the left wingtip (actually the right wing when viewed from the front), with the diagonal cut toward the center of the kite.
- 11. Set your machine for a straight stitch with eight stitches per inch. Lock the stitch just outside the spar pocket by running the machine forward three stitches, back three and forward again.
- 12. Now slowly drive the needle up the hem, sewing through the sail and the doubled-over polyester, anchoring the spar pocket in place.
- 13. Continue sewing up the top left hem, stopping just before the nose. Fold



the right leading edge hem (the left wing of the kite from the front) under the left hem, and sew to the nose, stitching both hems.

- 14. Stop the machine, lift the presser foot and turn the material. Continue stitching the hem down the leading edge to location of the second spar pocket. Apply a lockstitch, then sew pocket in place as before and lockstitch at the corner.
- 15. Turn material and continue sewing hem down to bottom of kite. As at the nose, fold over the left trailing edge hem, sew over, stop and turn. Continue sewing hem up the trailing edge and, at the wingtip, finish with a lockstitch over the spar pocket.
- 16. Trim excess material tabs at four corners with scissors.
- **17.** To make spine pockets, hot-cut two 4.5 cm x 2 cm strips of 3.9-oz polyester. Fold down the top 1.5 cm of each.
- 18. Locate the center line of the sail by lightly folding in half and carefully matching wings for symmetry. Score lines at the top and bottom of the centerfold.
- 19. Fold the spar pockets in half and likewise score their centers. Put a small piece of double-sided tape on the back of

each pocket and press into place along the center line. (Remember: The top pocket opening is down and the bottom is up!)

20. Stitch pockets into place using the same procedure as with wingtip pockets.

The "bones"

- 21. With the kite lying on its face, measure down 10 cm from the top of the upper spine pocket and mark a horizontal line in pencil on the fabric. This is where the cross-bow will cross the spine.
- 22. Place one end of the fiberglass rod in a spar pocket. Lay the rod flat across the kite to the other spar pocket, and begin to "feed" rod through your fingers. When the center bend reaches the mark on the kite, the spar is the correct length.
- 23. Mark and wrap tape around the spar. With a fine-tooth saw, cut the rod through the tape. (Scoring the cut line all around before sawing helps eliminate splits in the rod, which can play havoc on your fingertips.) Take the cut rod to the sink and run under water to prevent glass dust from getting into the air while removing the

tape. Sand the spar edges round with wetdry sandpaper.

THE SPINE

I prefer to use a professionally milled spine of white pine or spruce. A lumber yard will cut these to order, but you must buy enough sticks to make it worth their time; on average, a half-hour run that provides 45 sticks costs about \$17—just 37 cents a stick! I then make a 10-degree dihedral bend in the spine to improve control and recovery.

- **24.** Soak the spine sticks for at least 24 hours in a solution of 95 percent water and 5 percent ammonia.
- 25. To get a consistent bend in multiple sticks, make a simple jig. Lay one stick on edge on a flat piece of scrap wood and drive a nail where you want the bend. Place another nail on the opposite side near the tail end of the stick. Now carefully bend the top end against the center nail until it strikes a 10-degree angle. Drive a nail behind the stick to hold it at this point, as the bottom nail prevents the stick from slipping away. Once made, you have a jig to make multiple identical spines.

Where did it come from?

he story of the Nagasaki hata presents one of those historical confluences that answers a trivia question: What did European sailors in the seventeenth century do to pass the time while voyaging to the exotic East? They flew kites found along the way—the small paper fighters of India to be exact, which would evolve into the hata.

Kite historians point out the hata is like no other kite in Japan, either in design or color. Indeed, the usual colors of the hata kite are red, white and deep blue, the colors of the Dutch flag, and the word *hata* means flag.

"Considering that the first Westerners who set foot in Japan in 1543 were restricted to Nagasaki alone, it seems likely that these

early Portuguese, Dutch and English traders introduced the kite from India," contends David Pelham in his authoritative *Penguin Book of Kites*. And in *Kites: An Historical Survey*, Clive Hart notes, "it would seem most reasonable to suppose that the Dutch introduced the design from the Indies, together with its ready-made patriotic decorations."

Hatas are traditionally flown in connection with certain festival days in March, April and May. But in *The Art of the Japanese Kite*, author Tal Streeter reports, "Former U.S. President Ulysses S. Grant visited Japan in 1879 and

watched hata from a ship anchored in Oura Bay."

Still handmade by a small number of artisans, and seldom exported in any great numbers, the traditional Nagasaki hata displays tassels that hang like earrings at the wingtips. They are not just decoration, but aids to fine tuning. If the kite turns toward one side, fliers add tassel strands to the opposite side or subtract them from the side to which it leans.

Hatas also fly on the longest bridle of all fighters, six feet or more end-to-end. The bottom leg extends from the end of the spine

while the top leg attaches at the juncture of spine and crossbow.

Traditional kites are made of sturdy washi (handmade Japanese paper) and bamboo spars. The frame is outlined with string, over which the edges of the sail are folded and glued. Typically, for decorative effect, little diamonds of paper are left at each corner when trimming the sail paper. The kite design is not painted, but is made by carefully joining paper cutouts of different colors, much like tissue Indian fighters. Thus a sail actually comprises several pieces of paper.

The traditional crossbow/spine junction has no counterpart among other fighters. The back of the spine is carefully split upward for about an inch at the appropriate location, and the crossbow is inserted into this split. The joint is lashed together, which makes an

extraordinarily rigid fitting.

A traditional kite may also feature a strictly ornamental curly extension to the top of the spine. This is made by shaving off material down to the outer, slick "skin" of bamboo, which is then curled around a blade, somewhat like the way one curls a piece of ribbon for gift wrapping.

In Japan, fliers launch their kites downwind like gliders, nose first and face down. A well-timed gentle tug on the string turns the kite 180 degrees and a second pull pops it into climbing position. Hart also reports that Japanese boys sometimes flew their hatas

This 16th-century print (from Masato Horikiri) shows hatas dueling from rooftops. Note the long bridles. The figures in the foreground appear to be chasing the falling kites with forked catching poles.

from the end of long bamboo poles.

In addition to using the glass-coated cutting line common in Asian kite duels, hata flying line at one time also included "small scythe-like blades" projecting from numerous spots, according to Tadao Saito in *High Fliers: Colorful Kites of Japan*. However, Saito also admonished: "The strictest rule governing these fights is that the loser must bear no grudge. Ill feelings must not linger until the following day; instead the battle must create between the combatants a link that should develop into friendship." —*Steve McKerrow*

26. To cut to the right length, first insert the crossbow into both wing pockets of the face-down kite. Lay the spine stick atop the spar so that the bend begins just above the crossbow toward the nose. Press the top of the stick against the spine pocket and make a pencil mark where it reaches the top of the pocket. Saw at this point and whittle a slight bevel into the end, sloping toward the nose, to ease insertion into the pocket.

27. Insert the spar into the top pocket and repeat the marking process at the bottom pocket. Cut and bevel this end, and insert the spine into the pocket to test for correct length. The spine need not be so tight as to stretch the sail drum tight.

Final steps

To strengthen the sail material at the bridle point and prevent puckering due to the press of the spine, you should provide a reinforced sleeve for the crossbow.

28. Hot-cut a 3.5 x 2 cm piece of 3.9-oz polyester and, with both spars in place (with spine *on top* of the crossbow), place onto back of sail, across the centerline and directly under the crossbow.

29. Remove both spars and, with your machine set to zigzag, lockstitch the pocket at the center top. Sew down the polyester edge in one direction, continuing out onto the sail 10 stitches past the sleeve. Stop, turn

the fabric and stitch down five times. Stop and turn back toward the center. (Now is the time to remove the double-sided tape.) Stitch back to and across the bottom of the polyester sleeve, and again 10 stitches beyond. Stop and turn and stitch up five times. Stop and turn and stitch back to the top center of the sleeve, remembering to lockstitch in place.

You should now have a sleeve with both ends open, located in the middle of a zigzagged rectangle on the sail.

Tassels & bridles

30. Cut eight strips of ripstop, 25.5 x 2 cm. Take four strips, held evenly together,

and fold them twice so that their middles form a triangular loop and the strips make an eight-ended tassel. Place a zigzag lock stitch just below the triangular loop to secure them together.

- 31. To attach tassels to the kite, run a 15-cm length of line through the triangular loop and knot together. The loop can be simply hung over the spar at each end before insertion into the wingtip pockets. In flight, the tassels slide to the wingtips, twist up and remain in position, even during maneuvers.
- **32.** To bridle the kite, locate bottom attachment point 4.5 cm up from the end of the spine and place a 3 x 3 cm reinforcing patch of ripstop tape or polyester on back of sail.
- **33.** Using a heavy needle, punch twin holes close to spine at this location and also through crossbow sleeve just above the bow.
- **34.** Thread needle with 20-lb polyester flying line and, at top bridle point, pass through holes from front to back around spine and tie with three square knots.
- 35. Measure 96 cm along bridle string and tie tow loop, then measure another 105 cm for bottom leg. Mark this point on string and tie bridle to kite around the spine through prepunched holes. (In reality, the loop point is determined by the angle of the top leg from the perpendicular to the spine. It should be slightly less; that is, angled toward the bottom of the kite.)

EDITORS' NOTES: IF YOU'RE NOT ABSOLUTELY COMMITTED TO TRADITION...

Regarding the bridle dimensions, we suggest fliers may safely shorten them; indeed, we have seen hatas flying in Japan on shorter bridles much more like those of Indian fighters.

In addition, the location of the bridle point is also variable, and affects the response of the kite. Traditional hatas are bridled right at the bottom of the spine. Moving the tow point up the spine makes the kite spin easier, but too high and the kite becomes hard to control.

Finally, we have come to prefer a sliding tow loop to tune almost any fighter. Make a loop about two inches in diameter of the same line as the bridle. Attach to the bridle loop with a double lark's head knot. When tightened, the knot will hold the loop anywhere along the line; higher makes the kite more active, lower makes it more stable. To loosen, spread the bridle loop and slide the knot to a new location and pull tight again.

Dear Valerie and KITE LINES staff

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JAPAN: Old, new & glorious!

TWO UNIQUE FESTIVALS ARTICLE & PHOTOGRAPHS BY VALERIE GOVIG

nly once before had I been to Japan—to Kyushu, the big southern island—so the chance to see some of the north of the country and its kites in the cherry blossom time of 1998 was irresistible. My response to Masaaki Modegi, President of the Japan Kite Association, was a grateful Yes.

I would see not one, but two kite festivals! I began wondering how much alike, or different from each other, they would be.

FUJISAKI, APRIL 29

My American maps knew nothing of Fujisaki. But I was told it existed, in Aomori prefecture in the north of Honshu, next to Hirosaki. It turned out to be a real and distinctive town of clean streets and, everywhere, blossoming apple orchards. (The town's economy is built on its Fuji apples.)

Festivity was in the air: Hanging from poles in every dooryard were *koi nobori* (carp banners) in rainbow colors, representing the family, and flashing with metallic spinners on top. This was Golden Week, including Children's Day on May 5, when kiteflying is a tradition. In the distance, snowtipped Mount Iwaki made a grand backdrop for the banners, the flowers (apple blossoms included) and, of course, the kites.

The kites were important to Mrs. Tokuko Sato, too. Here was a woman who had been a kabuki dancer, a flute player and a martial arts belt-holder—and now she was a kitemaker, teacher, festival organizer and hostess extraordinaire.

In Japan, it is considered the utmost honor to be invited to stay in someone's home. For the festival, Mrs. Sato was boarding about 20 people! Obviously, she and her husband (a dentist, with offices at the front of the house) are unusual people, with large hearts and a large home, stuffed with eclectic decor, from a 400-year-old suit of Samurai armor to a full-size ceramic Dalmatian. A geothermal spring under the house heats the bath and keeps the floors

warm (very nice when the shoes are left at the front door). And the food, often cooked at the table, is a seemingly endless flow of varied cuisines: pork chops, sukiyaki, fried chicken—something for everyone, and all of it delicious. Mrs. Sato's sister, Katsuko Tsuchiya, who spoke only Japanese, was a highly animated back-up player in the circus. Our five days were filled with visits to the fragrant apple plant and warehouse, a Buddhist shrine,

SNOW-CAPPED MOUNT IWAKI rises beyond an apple grower in Fujisaki.



a samurai house from the Edo period, a Shinto shrine, the Hirosaki park and castle (with picnic), food and clothing stores and the Fujisaki Cultural Center.

Kites were my reason for going to Japan, but there is no keeping kites apart from culture. I must mention the Aomori area's spectacular tradition, the Nebuta parade. A short version of it was staged just for us, but in August up to 100 big floats are hand-

hauled on beams through the streets. My head is still thumping from the drums, bells and flutes, and the huge lighted paper sculptures will roll through my dreams forever.

The Cultural Center served us twice. One day we were wrapped in lush silk kimonos by practiced women. Even the most shy in our group (me!) was turned into a geisha. The men were wrapped, too, in formal long male robes. Giggles all around. The Center was also the scene for a reception, with a room full of people, speeches, food, music and dancing.

Here also we met new friends, who were to relieve the Satos of hosting us for two nights, and our group split up into several small parties. I went to the compact apartment of Sachiko Kono, a 24-year-old teacher of agriculture. She constantly apologized for her English and nervously referred to her Japanese/English dictionary. I was touched by her earnestness and enthusiasm.

The festival, in its third annual run, is sponsored by the city of Fujisaki for

OUR GROUP

- Australia: Michael Alvares
- Canada: Ray Bethell
- Korea: Mr. Roe Yoo Sang
- Malaysia: Abdul Haim and Siti Hasnah
- Tahiti: Kim-Tai and Edouard Piha
- U.S.A.: Richard and Marti Dermer;
 Valerie Govig; David Gomberg;
 Liz and Joe Manfredini;
 Don and Jeanne Mock; Pete Rondeau;
 Chris Silvia; and Charlie Sotich

the purpose of exposing the children to different cultures. The government is fully involved; it not only sets up kite programs in the classes but lets all the children off school for

the festival! Whole families come, bringing barbecues or box lunches. I saw that some brought kites and others made them as a family project from kits supplied at the field. One table offered traditional paper aizu tojin figure kites, another small plastic diamonds. We visitors sought to please the crowds as best we could in minimal breezes at the start. Then the winds improved. Pete Rondeau's umbrella line runners captivated a TV crew. Michael Alvares, Don Mock and Ray Bethell used leg power when necessary to keep the sky alive. Charlie Sotich with his bubble bugle was surrounded by jumping youngsters: "Kids are the same the world over," he said.

I was startled to hear what sounded like an airplane overhead. Looking up, I saw several of the great humming Tsugaru, traditional rectangular kites of this area, flown by a team. One huge kite, made by Mr. Kangawa, was still on the ground, so I could see it up close. Its frame was cypress and its paper surface was painted with a dramatic samurai image. But the special feature of the Tsugaru hung behind the bowed leading edge, where a cord carried a flat piece of paper glued over it. The paper was heavy-it felt like leather! I was told it was only one piece but very thick, specially made and sized with glue, which took a week to dry. This powerful vibrator hits the back (not the front) of the kite as a sounding board and makes tremendous noise, from a harsh rattle near the ground to a high and heavy whine in strong winds.

Near the end of the day, a rokkaku battle was announced. Masaaki Modegi said it was the first ever in the Aomori area, and it was to be run by Western-style rules! I was astonished at this reverse transfer of the rokkaku sport, which the West adapted from Japan in the first place.

For the combat, about 20 beautiful kites had been made in advance, all the same size, by Mikio Toki, sponsored by Morihiro Takeda. Satoshi Hashimoto directed. The rules were simple: Get the kite up to the 40-m length of line (supplied) and then engage. The last kite in the sky wins. Pete Rondeau jumped in, so did Chris Silvia. It was going well at first, but the winds grew gusty and resulted in a huge tangle. No one kiter was a winner: everyone won!

The next two days were filled with tours of fascinating places around Fujisaki. For me the most amazing was the visit to Chuo Seka, the wholesale fruit warehouse, scented with apples and furbished with a truly great kite.

Measuring 10 by 6 meters, the Tsugaru was made for arts promotion at the Cultural Center under supervision of Mrs. Sato. The warehouse was the only place in town with adequate ceiling height to store it. Depicting a famous Chinese story, it is framed in traditional cypress spars—about an inch thick and we inches wide. The covering was said to e seven papers thick, for strength and supe-

five inches wide. The covering was said to be seven papers thick, for strength and superior sound. The door to the Cultural Center was a limit on the kite's size, so it was made in four sections with hinges to fold for transport. I learned later that the kite was never flown, which I confess I found somewhat disappointing if understandable.

On our tour bus, Mrs. Sato sat next to me and pointed out the window. "Every February we have a snow festival on this rice field," she said. As many as 3,000 people come for the festival, supported by the 15-member local kite club under Mrs. Sato. She lamented that no young people are making the traditional kites now, a trend she works to divert. Even as we enjoyed ourselves as guests at the final big meal at the Sato house, Mrs. Sato was instructing Chris Silvia in the making of two Tsugaru kites.

The next morning, as we signed friendship books and took one more multicamera group photo, we were sorry to leave, but looking forward to the festival in Uchinada. I was wondering especially: Will Chris have his Tsugaru kites finished in time?

TOKYO ON THE WAY

We arrived in Tokyo early enough in the evening for...shopping. The power shoppers jumped at the chance. The rest of us wandered idly about the Ginza, alight like double Broadway. We were blessed. We found Itoya, an eight-floor mecca of stationery and art supplies, both predigital and postdigital (every color of pastel, every calligraphy tool, etc.). In the washi section (Japanese handmade paper) I feasted my eyes on sheets ranging from sheer-asorganza to near-cardboard in all colors and textures, some with embedded butterflies, some printed. If you ever go to Itoya, buy something just for the wrapping. It is art the exquisite way the clerks wrap your purchases.

UCHINADA, MAY 3

The next morning, after rides in bus, plane and bus, we arrived at our *ryokan* (traditional Japanese inn) in Uchinada, a coastal town near Kanazawa. My room had tatami mats, futon and quilts, *zabuton* (floor pillows)—and a TV set. I joined the Dermers in a visit to the local supermarket, which was—jeepers—just like home: potato chips, instant coffee, frozen goods. Any differences? Many, such as the huge variety of mushrooms.

That evening was the big reception. An enormous crowd of people filled the Uchinada Culture Center's modern auditorium, including balconies for spectators. The main floor was dotted with tables and each table was laden with about seven trays of fancy foods. We listened to speeches, watched an exciting dragon dance/combat, ate standing up and talking, clapped at



ON THE FIELD AT FUJISAKI: Above, Pete Rondeau and Joe Manfredini admire the flock of rokkaku kites made for the occasion by Mikio Toki. Below left, Michael Alvares of Australia positions his big striped cellular kite just so to produce a witty image of boxes-in-boxes. Below right is the airborne view.





awards giving, enjoyed a performance of small-kiteflying by five Japanese and Charlie Sotich, and finally watched the auction. This was very loud and fast. Don Mock had been here before and learned Japanese numerals, the key to success in snagging bargains. At last the evening ended. My feet were very tired.

Breakfast was superb and serene at our *ryokan*, but as soon as we arrived at the festival we were caught up in the tumult.

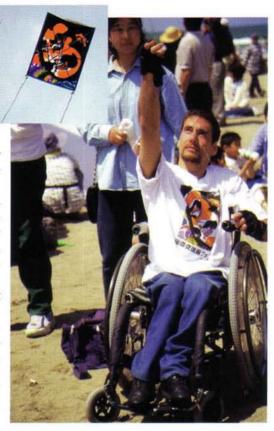
Officially titled the World Kite Festival in Uchinada, this 10th annual event has become the gathering point for the diverse kite clubs and fliers that make up the Japan Kite Association. The beach site, according to the Festival's Chief Director, Mr. Yuji Nishio, is 300 m wide and 9 k long (though only 1 kilometer is used). The site had been occupied by the U.S. military in the Korean War, and afterwards the town wanted to use it peaceably. The first festival was sponsored by Ishikawa TV; the JKA and the city joined later. On this day the organization is excellent, and the weather (and winds) ideal.

As a rule I am uninspired by opening ceremonies, but I admit the drum performance and fly-overs by six ultralights were impressive. Nevertheless, what took my breath away the minute I stepped on the sand was the sight of dozens of handsome Edo kites already in the air, their bridle shrouds hanging below them like monks' beards. I later saw some of these Edos on the ground being fitted with foam bumpers on the corner spar projections: protection for the spectators.

Within no time, the Edos were joined by kites of all sizes and varieties. I saw a beautifully realistic eagle, then as the day went on I saw many other bird kites (tori dako), all of them just as lifelike. It seemed that the Bird Kite Association of Niigata was well represented. I found myself exchanging business cards at a rapid clip, and I believe now, as I sort my cards, that two of the best bird kitemakers were Mr. Kazue Tanaka and Mr. Kazuko Isikawa. (I fear giving names in case I leave someone out.)

Three very long trains were up in the morning until the skies became too busy for them. The trains were those long, consistent elegant lines for which the Japanese are famous.

Many kites were nontraditional and kinetic. A small squid by Chiomatsu Wakabayashi made lifelike swimming motions in the sky. Three wiggly kites by Yukio Akiyama flew on a collection of 12 bridle



OVER THE SAND AT UCHINADA:
Above, Chris Silvia easily launches his two Tsugaru kites from his chair. (Inset is one of them in flight.)
Below, a huge classic Edo, flown by the Tsubata police department, is only one of dozens swimming overhead. Bottom, Kim-Tai and Edouard Piha of Tahiti show off their traditional leaf-shaped kite made of natural materials.





lines and made frenetic motions, as if about to go out of control (but they didn't).

There seemed to be extra attention paid to a huge Edo being flown by the Tsubata police department for anticrime promotion. When the kite finally was launched, everyone cleared out. I remember being a bit too close to the fliers myself as they barreled past me.

A certain number of imported kites made a contrast to the Japanese ones. Our group was responsible for many of these, and I felt some embarrassment for the dominating presence of the big (faded) American flag multisled by Wes Allee, flown by fellow Oklahoman Richard Dermer. But the Japanese seemed to love it! Kids were taking little bouncy lifts on the rope all day.

Also active on the scene were Michael Alvares with his beautiful cellulars, and Don and Jeanne Mock with their growing collection of soft Mockfoil kites (see cover).

Pete Rondeau was flying his Asianinspired kites with skill. However, the winds never gave him a chance to fly his centipede, "Elvis," for which he had built a handsome wooden carrying box (which proved a burden to deal with on airplanes).

Kim-Tai and Edouard Piha of Tahiti had brought a large white leaf-shaped kite made of natural materials, called a *uo* in Huahine or a *pauma* in Tahitian. In addition, they painted ("this morning—no much sleep") another kite with an image of the earth, God's hands, a man fishing and birds. Their effort appealed so much to the Japanese that they gave the Pihas a special award.

Throughout the day, in a field to himself, one-man stunt team Ray Bethell was flying his three dual-line kites tirelessly, to an appreciative crowd. Other stunt kiteflying and competitions were going on further down the field, rather in a secondary status to the single-line kites. I missed many things, and the stunt kites were among them.

But I kept my eye on Chris Silvia, who had finished overnight (all night, he said!) the two kites he had begun in Fujisaki and had brought them out to fly. Having been taught by Mrs. Sato, how could he go wrong? Still, I was a bit tense for him. No need to be. Up they went, both kites, bringing the Tsugaru image from Fujisaki to the Uchinada event. Chris, an American who has spent a few seasons in Japan, is a resilient inhabitant of a wheelchair, a fact he makes you forget.

Suddenly there was a closing ceremony, brief but intense, and the festival was over promptly at 3 p.m.





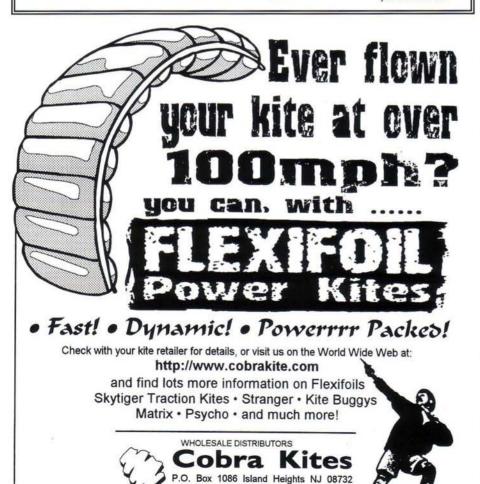
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KINETIC KITES by Yukio Akiyama shimmy on 12 bridle lines—but never get out of control.

That evening we heard that the newspapers had reported a festival crowd of 100,000. In the *ryokan*, we enjoyed a meal, games and karaoke. Charlie and I sang "Santa Claus is Coming to Town."

We still had a day to enjoy Kanagawa, just inland from Uchinada. The entire Ishikawa prefecture is rich with gardens, shrines and artifacts of old Japan. Another wonderful meal was taken in a private room in which about seven of us cooked our own seafood over hot coals and enjoyed good conversation.

On our last day, back in Tokyo, we had time to shop and gawk in the Asakusa district, in which countless small stores specialize in everything from waxed paper umbrellas to hapi coats.

Last but not least, we went to the Kite Museum, the famous warren of four rooms, all fully packed with kites, mostly Japanese. Conveniently located in the same building is Taimeiken, the restaurant owned and operated by Masaaki Modegi. After helping ourselves at the enormous, delicious buffet, we were served steak, abalone and soup. Many cameras were out, especially when we learned it was Marti Dermer's birthday. Suddenly there were flowers, cake, candles and singing. "This is the best birthday I ever had," Marti said. It was a grand finale to the trip for all of us.

HOW TO SUMMARIZE?

This may have been the best kite trip I ever had. Certainly the hospitality was unequalled.

And as for my notion that I would write a comparison of Fujisaki and Uchinada... well, how stupid and useless that would be. These were two glorious and unique festivals. It was a privilege to be there.

JUST TESTING... Known for its ease of control, the distinctive soft FLOW FORM kite began life in the 1970s as an experimental parachute. In the 1980s, designer Steve Sutton collaborated with Ted Strong (of Strong Parachutes, Florida). The test jumper is Ted Strong, on another prototype that led to new patents. Strong reported excellent flight characteristics and a soft landing.



From 'chute to kite HOW THE CLASSIC

FLOW FORM CAME TO BE ARTICLE & PHOTOGRAPHS BY KATHY SUTTON

ou see the kite's high-flying profile at festivals around the world. With its deep cells and almost square shape, it has been compared to a baggy pair of trousers, or a giant molar.

Serious kitefliers use the Sutton Flow Form® for recreation and competition, for flying flags and banners and for lifting cameras for aerial photography. Yet the soft kite popular for ease of launch, stability and light pull on the line was originally designed not to go up, but gently and maneuverably down—conceived by its designer as a better parachute.

Flow Form designer Steve Sutton grew up in Toronto, Canada.

"I bought a lot of kites when I was a kid. I had one that looked like a bird, with wings that twirled. I was fascinated by it and still wonder how it worked," he recalls. (Rotor kites employ a principle called the Magnus Effect. See *Kite Lines*, Winter 1997–98 for a report on a new use of this effect.)

An athlete and adventurer, Sutton took up sport parachuting at the age of 19, mak-

ing his first parachute jump in Orange, Massachusetts in 1965. At this time he was working as a lithographer in his family graphic arts firm, Sutton Graphics (where he is now president). He continued parachuting on weekends, and while in Orange saw the world's first airfoil-type parachute being tested for military purposes. Manufactured by the Pioneer Parachute Company, this



non-rigid wing was designed by Domina Jalbert, who invented and patented the concept of the ram air parachute in 1964. (Jalbert's foil would also become popularized as a kite design, the parafoil).

It was in the late 1960s that Sutton began to develop the aerodynamic ideas that would eventually lead to the Flow Form.

"I was fascinated by Leonardo da Vinci's drawings, especially his sketch of a parachute, which was basically in the shape of a pyramid," he recalls. "It occurred to me that da Vinci might have conceived his parachute this way because the pyramid is inherently a very stable form. I also looked at windsocks. Parafoils are basically built like a series of windsocks tied together in a row. But I knew that wind-

FIELD OF DREAMS...
Steve Sutton takes a large
Flow Form for a walk. The
trailing edge is moderately indented here, but it
can be more deeply
indented with longer "taillike" side extensions.

socks work far better when they are vented with a hole in the tail, and I wanted to apply this principle to my design work." Sutton's sport parachuting career evolved rapidly as he progressed from the round, military-type training chute to a Para Commander, at the time an advanced round parachute with a pulled-down apex and many vents in the sides to aid turning. He soon began to enter parachuting competitions, becoming a member of Canada's national team in 1970.

During this time, Sutton researched the pioneering work of inventors such as Jalbert. He greatly admired Jalbert, and the two corresponded, but never met.

In 1971, Sutton purchased and started jumping a prototype airfoil-type parachute, 160 square feet in size. And in 1973, after retiring from competitive parachuting, Sutton left his job to pursue his design ideas full time. He spent the next two years developing parachutes, working in both Florida and Toronto.

"Most airfoil designers have worked with only one principle: the lift created by an airfoil as air passes over it. This is how Jalbert's wing worked. But air has other properties. Unlike other materials, such as water, it can be compressed. Different densities can be created," he explains. "What I tried to do was to create a form which would harness the air it was passing through, and use it in a thrusting and stabilizing fashion."

Sutton created the first Flow Form parachute by making modifications to a parafoil, adding vents to the top and bottom surfaces and the trailing edge.

"I flew it as a kite before test-jumping it. When I saw how stable it was in the air, how well it flew, I knew I was on to something," Sutton recalls. He made the first test jump on January 2, 1974, in Zephyrhills Florida.

To this point, nobody had ever constructed a wing, either flexible or rigid, that used venting and air flow concepts in such combination. The original designs of Jalbert, and later developments by others, were airfoil-type parachutes that depended on air ramming in the front of the cells to maintain inflation, hence their name: "ram air" foils.

"Between test jumps, I made a lot of adjustments to the prototype, changing the angle of attack, vent sizes and so on," Sutton explains. In the end, his flexible-wing parachute had not only structural integrity, but also excellent flight characteristics, including the ability to make a controlled vertical descent without stalling. His first U.S. Patent was granted in 1974.

During his research, Sutton tried to interest Canada's National Research Council in helping him develop his concepts, but did not have much luck. "I found it difficult to make a breakthrough in

the established aerodynamics field. I met with NRC scientists in Ottawa. But since I didn't have the right credentials, I couldn't get access to the wind tunnel tests I wanted," he contends.

Unexpectedly, however, he began to receive notice from kitefliers. For just as the Wright Brothers and other aeronautical pio-



GRAPHIC DELIGHT: Flow Forms lend themselves to adornment. This 450-square-foot model wears the colors of the Maryland state flag—flown by the Maryland Kite Society, of course.

How does it work?

n essence, the Flow Form® is a self-regulating wing that constantly accepts and vents large quantities of air. This allows it to maintain relatively constant flight characteristics despite changing wind conditions. In contrast, conventional foils can be difficult to control in high or gusty winds and usually need a tail for stability.

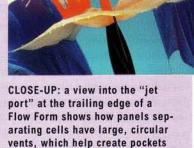
Compared to other parafoils, Flow Form cells are generally more than twice as deep. Air enters freely through the huge open area at the leading edge, pressurizing the wing and maintaining its form. These deep cells provide a strong and stable structure that won't easily collapse in gusts.



INVENTOR AT WORK: Steve Sutton hot-cuts fabric in 1984.

In addition, drag is greatly reduced because of the continuous massive venting, making a wing that's far lighter on the line.

The Flow Form also exploits the fact that air is a compressible fluid. Air entering the wing develops a higher pressure than external air—otherwise, the structure would not keep its shape—but also constantly exits through pressure flow vents in both the upper and lower surfaces, as well as the large jet port at the tail. Vents are sized and located so that dynamic "pyramids" of high-pressure air develop inside the wing to enhance stability. For



of pressure. (The strings were

sewn in to simulate air flow.)

instance, an area of higher pressure is always maintained at the center of the wing, where both top and bottom vents are smaller.

In flight, additional thrust is generated as high pressure air exits through the larger upper vents behind the high point of the airfoil and from the jet port. Additional lift is created as air spills out the large vents at the outboard edges of the lower surface.

In addition, air constantly spills from the vents in the upper surface to replace the air that breaks away. This increases the laminar airflow, decreases induced drag and prevents the wing from stalling (i.e., losing lift). If the wing enters a vertical descent, the airflow exiting through the bottom vents actually changes direction and enters the wing, preventing cell collapse.

—K.S.

neers experimented with tethered versions of their craft, Sutton tested his designs as kites.

"I built hundreds of prototypes. I would design a template, than make several kites to test its flight characteristics, then go back to the loft, make changes, then fly the kites again," he recounts.

While working on his designs, Sutton spent two summers flying kites at Ontario Place on the Toronto lake shore. "People would drive along and see my kites, then



FROM ABOVE: A Flow Form captured by an ultralight pilot/photographer, Carl Hiebert.

they'd stop and ask me where they could buy them." He sold a number of kites directly to individuals. He also sold several large models to telecommunications companies, which used them to lift antennas in remote areas, testing reception prior to constructing communication towers.

Sutton's kites also got exposure when he was hired by promoters to tow banners and flags, or simply fly a big kite to attract crowds for mall or business openings. "I towed a lot of banners," he recalls. "Once I flew my big kite from the top of a condominium—which was pretty dangerous."

Because of the great interest from kitefliers, Sutton eventually developed a series of Flow Form kites in various sizes. In 1984, he granted a license to Air Affairs, Inc. of Hatboro, Pennsylvania to manufacture and distribute Sutton Flow Form kites.

According to Jerry Murphy of Air Affairs, the Flow Form "changed the whole perspective of flying large kites. Kitefliers now can fly extremely large kites and still know that safety is insured because of the Flow Form's stability, light pull and easy inflatability."

Air Affairs remains the sole authorized manufacturer and worldwide distributor of

the Sutton Flow Form. Kites range from four square feet in area to 450 square feet.

When traveling in later years, to Nepal, to India, twice to the Canadian Arctic and to many other places in the U.S. and Canada, Sutton was never without a Flow Form.

"When I was on a hiking trip in Pangnirtung (a small town on Baffin Island in the Canadian arctic), every kid in the village came out when they saw my kite fly. In Katmandu (Nepal), I happened to be in town during an annual festival. There were 500 or more people gathered around me as I flew my kite."

In 1987, Sutton once again took up his design work. In conjunction with a Florida parachute company, he built a 280 square foot Flow Form parachute from scratch, using all his concepts

to date. However, despite the success of initial test jumps, the parachute was never marketed.

Sutton is still actively involved in aero-dynamics. He is currently building and testing prototypes of a new air-drop delivery device that employs his Flow Form concepts. This work is being done in conjunction with a research and development project undertaken by Canadian artist and humanitarian Curtis Hooper to improve current technology in emergency food supply and delivery.

Kathy Sutton lives in Toronto, Canada with husband Steve. They met in 1971 when both were involved in sport parachuting, and married in 1985. They have been flying ultralight airplanes since 1981 and are currently building a Stoddard-Hamilton GlaStar (a metal and composite kit plane) which they plan to fly on floats.





hat do Manchurian ponies, Siberian huskies, farm tractors—and kites—have in common? All have been used to transport people on sleds or skis across the frozen wastes of Antarctica. But the last 10 years of polar travel have proven that the wind offers the purest, most efficient and economical form of over-snow travel.

For a century, expeditions using dogs, horses or motor vehicles could travel daily distances of 20 to 35 kilometers (12 to 21 miles). In the southern summer of 1996–97,

Norwegian Børge Ousland, first human to make a solo trek to the South Pole, averaged 45 km (27 miles) a day using a Parawing to tow him on skis, while he hauled a sled behind. Days of 100 km (62 miles) travel were not uncommon and his best day topped 200 kilometers (124 miles)! (See *Kite Lines*, Spring-Summer 1997.)

In 1995, I crossed Greenland with the help of kite power (*Kite Lines*, Winter-Spring 1996) and covered almost half the total distance of about 700 km (435 miles) using the wind. This was my introduction to kite travel and I have been hooked ever since.

So when I visited Antarctica from September, 1996 to February, 1997, working for the Australian Antarctic Division as a field training officer at Mawson Station, I regularly strapped on my skis, unfurled my kite and headed out for some fun.

What is this new and efficient form of ice travel? What kind of equipment is needed? And is it only for polar expeditioners?

Ski before you fly

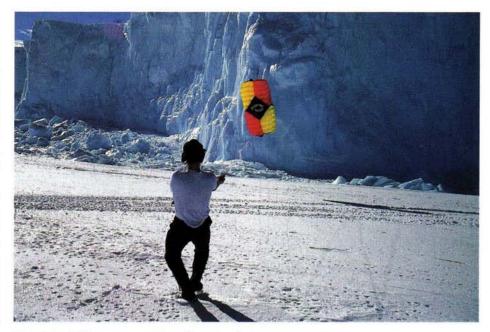
You can try skiting on any wide-open, snow-covered expanse that is free of obstructions, such as logs or protruding rocks. Avoid frozen lakes, however, unless reliable local knowledge assures the surface is strong and safe. As you gain confidence on flat surfaces, you'll start to look for bumps, gullies, chutes and any other anomalies to provide a bit of spice.

To pursue this form of snowbound travel, you should already be adept on crosscountry skis. You need to ski on autopilot while directing your attention aloft, maneuvering your kite to provide forward motion, ready to quickly spill the wind should you need to stop pronto. As an experienced skier, you will also appreciate suitable skiing locations and know how to continually assess surface conditions, obstacles, terrain and, of course, the weather.

I also recommend wearing full protective gear, including helmet, ankle, elbow and knee guards.

Use cross-country skis with metal edges, cable bindings and leather boots. Edged skis give better traction on firm snow or ice, and are also generally tougher. Select a ski with good side cut (thin waist, wider tip and tail) to assist in turning. Also choose a waxless ski with a step base, so you can walk when the wind dies.

Keep your ski edges tuned, for they are your best buddies when you encounter icy surfaces, allowing you to turn and stop. Unlike a buggy on grass or asphalt, skis on ice are frictionless and tend to a great deal of side slipping.



Mark Tahmindjis grapples with his kite below icebergs in Antarctica.

Also invest in a pair of telescopic poles to carry in your day pack. If the wind dies and you're a long way out, you can stride your merry way home.

The kite

My experience lies with Quadrifoil four-line kites. It and similar quad-line soft kites offer features most effective for traction on ice and snow, particularly for expedition purposes.

For example, an easily maneuverable kite four square meters in area packs down to the size of a couple loaves of bread. In expedition terms, the smaller and lighter an item, the more chocolate you can afford to throw into your sled!

A good polar kite should offer a wide wind window, which allows one to skite as close to the wind as possible, just as a sailboat "tacks" to windward. Many variables affect this ability in a kite, including wind strength, kite tuning, surface condition and the ability of your skis to hold an edge.

A snow kiter does not just sit placidly back behind the kite, as if riding a rope tow on a ski slope. Rather, you must generate power through constant looping or figure-eighting of the kite. And each pass across the window has a power phase and a recovery phase.

- The power phase creates forward pull, where care must be taken not to lose one's heading. Skiers must edge hard and counterbalance.
- The recovery phase, where the kite is depowered at the edge of the window and turned to make another pass across it, allows the skier to "steal" some forward ground on each loop.

It's a bit of a knack, but practice will make perfect. An added bonus is that the movements of perpetually maneuvering the kite generate body heat. To a polar traveler, warmth is God.

Incidentally, skiting techniques can be easier to learn if you first try power kiting on in-line skates. However, skates are less stable than skis, and asphalt or cement are less forgiving when you fall. Wear safety gear!

Lines and harnesses

Choosing lines is of utmost importance. For speed and performance, you want a thin but strong line that won't create too much wind

KITES HELP ICETREK TEAM REACH THE SOUTH POLE

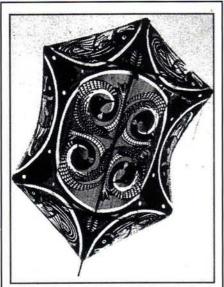
AUTHOR ERIC PHILIPS AND FELLOW AUSTRALIAN JON MUIR JOINED SIR EDMUND HILLARY'S SON, PETER, of New Zealand on a 1,875-mile trek across Antarctica to re-create the ill-fated 1911 expedition by British explorer Robert Falcon Scott.

Scott and his team of four men, with ponies and sled dogs, died of starvation and weakness only a few miles from a supply dump and just days from journey's end. The animals also died.

The new IceTrek explorers, embarking on November 4, 1998, carried super-lightweight equipment, an Iridium satellite telephone and traction kites for their trip. Each sled carried 396 pounds of food and was to haul all refuse, even human waste, to the South Pole and back. Their route took them over the 88-milelong Shackelton Glacier, thought never to have been crossed before. The trekkers describe the crevasse fields as "intimidating... like human mousetraps."

Initially expecting to take 100 days, the team encountered the same kinds of problems that killed Scott, suffering illness and frostbite in the -22F temperatures, 55-mph winds and visibility as short as 20 feet. But they had advantages that Scott did not. Running three weeks behind schedule but still continuing to ski toward the South Pole, they were able to summon a food delivery by helicopter. And when they reached the Pole on January 26, they opted to be flown out instead of skiing back.

-from wire reports



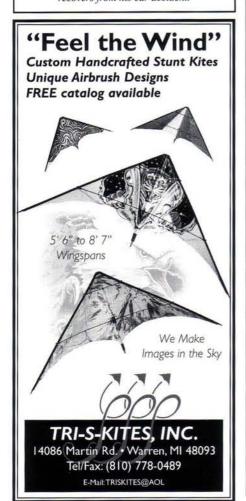
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We regret that there will be a temporary suspension of production while Eric recovers from his car accident.



resistance and weigh down the kite. This is particularly important in low winds.

I have always used "expedition weight lines" for my polar trips: 220-kg-test (500-lb) power (or top) lines and 120-kg (250-lb) brake (or bottom) lines. I fly recreationally with lighter lines which give better performance in light winds and marginally increase speed, such as 120/90-kg sets (250/200-lb).

I and other polar kite-skiers typically use quad-line racing sets with a Spectra core sheathed in Dyneema, an abrasive resistant fiber. Spectra is extremely strong and used by mountaineers as rope, and stiffens like cable when subjected to cold.

That minimizes the possibility of line tangles, which are frustrating when working with gloves or mittens. In Greenland, I recall only one knotted line during about 50 hours of flying, and this was easy to untangle with the cold-stiffened line.

Line length must also be considered. Too long and you spend half your time coiling the lines at the end of a fly. Too short and you won't find clean wind. The optimum length I've found is about 15 meters (50 ft).

Avoid using clips to attach lines to kite bridles; they're just another item to break down. I use standard lark's-head loops to make all line attachments.

If you plan to spend hours skiing and are confident in your skiing ability, wear a harness. Linked to the harness, the pull of the kite lines is much less taxing and will conserve your arm strength. However, less able skiers should avoid being harnessed, for they run the risk of being pulled over and dragged.

In a good system, a link line 5–15 cm long (2 to 7 inches) connects from a ring on the harness via a climbing carabiner to a loop attached to the tops of your quad-line handles. Wind pressure on the power lines transfers to the harness, and thus your body, yet you still have control over the kite through the handles.

I recommend a harness that includes an adjustable waist belt and firm leg loops, rather than just a waist belt. I have used a conventional padded climbing harness comfortably. Line pull is directed to the entire pelvis and upper legs, not just the waist.

To the waist belt, attach a loop of tape or rope and adjust it so that once the handle link-line is clipped on, the pull of the kite is absorbed mostly by your hips. Your arms should remain slightly bent and used only to maneuver the handles.

Using a carabiner permits quick clip-ins. But be warned: There is no quick release when the pressure is on. For safer skiing, Quadrifoil now makes a specialized rig, the Q-Harness, that incorporates a reinforced pulley wheel attached to the front of the waist band. In place of a rope link-line, the Easy Rider link-line is sheathed in flexible, low-temperature tubing and attaches to the handles with Velcro lark's heads, which can be released more quickly if the need arises.

Safety first

Don't underestimate the injury potential of skiting. In general, follow all the rules as set out for more conventional cross-country skiers, and add the following:

- Wear that protective gear.
- Always look ahead to have a runout, a safe place to turn if obstacles arise.
- Don't skite blindly into areas from which you see no exit. You may be able to stop on a dime as a skier, but when you're being towed by a kite in a solid breeze, you will keep going.
- If you're on ice, mentally *triple* your presumed stopping distance.
- Use a harness only if your skiing skills match your kiting skills.
- Take rest breaks to prevent becoming overtired. If you don't want to pack your kite away, land it upside down and pile lumps of snow onto the kite to keep it there. Clip the power lines at the handle end onto something solid, and the kite will sit there until you're ready. To take off, pull on the brake lines and spin the kite upright. In very strong winds, make the takeoff out at the edge of the wind window so you are not jerked into orbit.

So you don't ski?

YOU CAN STILL HAVE FUN ON SNOW and ice with a kite. Anything that slides can be used—even your body.

I recall a sunlit evening in Antarctica watching Judy Clarke, a tiny but tough-as-nails biologist, wrestle with my kite in a 20-knot breeze. Determined not to let go, she was pulled off her feet and dragged across the sea-ice on her stomach, bouncing around like a wild stallion.

Dave Clement, a giant electronics engineer, gave chase on foot and finally jumped onto her back. But they both continued sliding until "Hamster," another burly communications officer, dived onto them and managed to rein them to a halt.

Crazily, this madness was not enough. Minutes later, the trio pulled out a sled, sat down, lofted the kite and rocketed off toward the horizon.

—E.P.

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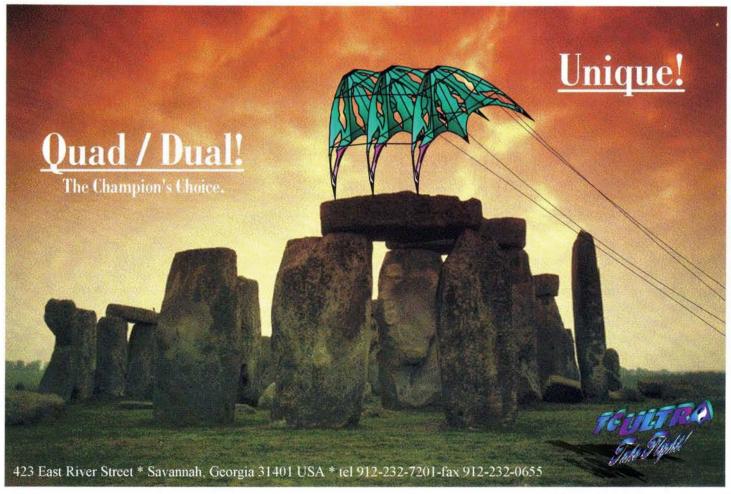
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INDIA SKIES FLYING IN THE LAND OF

THE MAHARAJAS ARTICLE AND ILLUSTRATIONS BY GEORGE PETERS

Wouldn't it be nice if nations could resolve their differences merely by kite duels? The following article and its companion piece on Pakistan were written before India and Pakistan began testing nuclear weapons. The aftermath has, unfortunately, clouded optimism about current travel to those nations. -Editor

ne cannot turn down an invitation from His Highness Gaj Singh, the Maharaja of Jodhpur, to fly kites at the royal residence of Uhmaid Bawan Palace in Rajasthan, India. Melanie Walker and I welcomed the opportunity to make a return trip, having first visited in 1993.

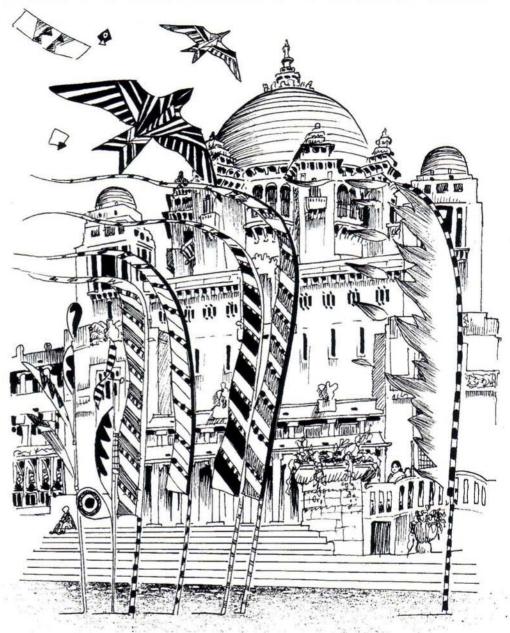
As we approached Jodhpur by bus-after two days of wearying travel filled with luggage anxietythe palace's familiar towers and huge central dome jutted above a ridge like a mineral outcrop. We drove between wandering cows and pigs, past an army training ground and on to a large gate at what appeared to be a garden park, where the bus stopped. A high wall stretched to each side, and longtailed monkeys the size of small boys sat upon or ambled across.

Here were our quarters-very elegant little bungalows, each with a small porch, arched stone ceilings, clean marble baths and comfortable beds. I found out later these rooms were originally stables for horses and were then used, in the 1920s, to

house a previous Maharaja's personal collection of zoo animals!

On a walking exploration, we approached a grand spreading tree near the palace that appeared to have hundreds of large brown fruits hanging from every branch-until one of the fruits seemed to move. Bats! The whole tree was full of enormous flying fox bats, which would take flight at sunset on graceful five-foot wingspans.

We dressed for the kitefliers' reception dinner held at the palace beside the reservoir.



During drinks, people were chatting and doing the distinctive head bob. The heads of all native Indians seem to swivel side to side with every statement in conversation, appearing to our Western eyes that they were shaking their heads in contradiction to what they were saying.

A definite distinction prevailed between the upper class guests and the local fighting kite teams, which had gathered for the competitions. The kitefliers were seated in small clusters, silently watching the

palace guests chatting with drinks in hand.

TO THE SKIES

Our first day of flying made a broad dirt field on the outskirts of town bloom with banners and kites. Bands of small boys rushed to the far end of the field as Scott Skinner unpacked a Martin Lester Legs kite, in the style of an American cowboy in fancy boots and spurs. "Running" across the field, the Legs took to the air, bringing delighted screams from the children. In the too-light

winds, however, the kite fell lifeless to the ground. Upon another attempted launch, the street urchins grabbed the line and began running to fly it themselves.

"No...o." yelled Scott, fearing damage to the fragile fabric on the stony and dusty ground—as well as the power developed by the big kite when flown by inexperienced hands. The kite tumbled in a cloud of dust until it was the color of the field. When Scott finally retrieved it, the kite had suffered a large rip.

Suddenly attention was shifted to the other end of the field where Paul Thody, a stunt kiter from Brighton, England, lifted a stack of Flexifoils. Jumping on a skateboard, he drifted through the sea of small black heads as the kids ran screaming after him. Paul caught the front edge of the wave of children and broke free, like a surfer cresting an enormous breaker. He tacked back at the end of the field, cruising through the mob as they scattered and turned like a flock of birds.

The day wore on; kites were hoisted into the air and fluttered down as the light winds shifted. But the crowds grew and closed in upon the area that Melanie and I had made on the field. We hastily erected ribbon fences around our gear to prevent hands from grabbing.

My bird kites were staked to the ground as they soared overhead—a practice unheard of in India, where people fly kites as a fighting sport. Curious bystanders wanted a try at the line and, unfortunately, a quick tug on my kites sent them spiraling to the ground. Crash!

I ran to the rescue and sent the giant birds airborne again, only to have the same thing happen again and again. I finally traced a large circle in the dirt around the stake, threatening to stomp any foot that crossed. The children laughed at my antics, so I appointed one of them as a "policeman" to watch over the kites while I went to rescue another crash.

In the evening, at the palace banquet, we were stunned by the extravagance in utter contrast to the surrounding streets of Jodhpur, with its bustling traffic and animal hazards. We walked up marble stairs and through a cavernous lobby into an entirely different world.

Just at this moment, however, the lights of the entire palace went dark. Some people laughed, others groped their way in the total darkness. But I had visited the palace before and grabbed Melanie's hand. Walking straight on through the dark to the huge central rotunda, we arrived just as the lights flickered

on again, revealing the ornate overhead dome. Beyond and out the far door, the vista opened to palace gardens, where a white marble pavilion glistened in the moonlight.

We joined the courtyard reception for



the kiteflier guests and friends and family of the Maharaja. A Rajasthani music group playing an accordion-like keyboard, flute, drums and clacking castanets—performed in the ornate sandstone courtyard.

We sat down with delicious Rajasthani delicacies upon our plates, as the Maharaja entered and made rounds among the guests. He looked a bit weary from the partying. It was his 50th birthday—and he is the first Maharaja in a long time to have been lucky enough to live this long. He mounted the throne at the age of just three, when his father perished in a plane crash in the early 1950s.

The Maharaja came to our table and chatted a bit, catching up on the five years since I had been to the palace last. Our conversation was interrupted by a steady stream of well-wishers, each of whom would bow with clasped hands. The Maharaja would graciously acknowledge each greeting and return to our conversation.

Soon the crowd showed signs of being satiated and a big cake appeared in the shape of a "5" and an "0." After singing a rousing happy birthday to the Maharaja, we retired for the night.

PEDAL POLO

The following day, we arrived at the flying field to find a bicycle polo match in progress. A man in the center of the foray looked familiar: the Maharaja, wearing sunglasses and sweeping his mallet along to strike the ball!

When we began to fly, children again

came to greet us and try to tug on the lines. But today policemen with cane sticks were keeping the crowds under control.

The final day we took the festival to the palace grounds, although the utter lack of wind permitted few of our kites to fly. The day's festivities ended early with an award ceremony including the Maharaja and a lunch at another part of the palace grounds. Royal courtesies were given and a group photo was taken.

INTO THE GREAT DESERT

"Jaisalmer," the train man blurted, waking us from our sleep the next morning. Melanie and I, Paul, Colin McKay and Geraldine Lopdell, also from England, had elected to take an overnight train trip to this city further east, at the very edge of the great Thar desert. It was still dark and grimy out the windows as we gathered our bags and shuffled off the train, weaving behind our guide among clumps of people sleeping under blankets.

It was just getting light as we drove off in a waiting car. As the light brightened, we saw a turreted fortress of massive proportions glowing golden in the early morning light. A small village of dark shabby tents and crude shelters stood down the road, not far from the bleak desert landscape of brush that extended out to the horizon.

We toured the fortress city that afternoon, viewing its walls of carefully laid stonework and huge semicircular stone tower bastions and turrets that sloped up

from the gravel spillways. These arched around the whole fortress wall, like a bric-a-brac of golden sandstone.

The ancient city of Jaisalmer was the central route of the silk merchants trading across the desert to what is now Pakistan. It was built in the 11th century and became a very wealthy hub of commerce. Throughout the city and fortress are beautifully ornate

mansions called havelis.

Walking through the narrow stone streets of the city fortress, we inched by the horns of huge Brahma cows that blocked the way. They chewed contentedly and would occasionally start eating from a shopkeeper's stocks, which brought the owner out with a shout and a quick swat with a stick. The city was alive with fruit merchants, pigs rooting in the open sewer trenches and scooters roaring up narrow passages.

After a day spent exploring the city, we embarked upon a camel safari into the desert dunes, arranged by our host, Ajay. "Kites, too?" I asked, as we climbed into the jeep to begin for a long journey west.

"Yes," replied Ajay, "but we must be careful. Recently there was a lady who was flying kites and taking aerial photographs of the city. She was arrested and jailed." Apparently, Jaisalmer is a sensitive military area protecting the border with Pakistan and Afghanistan. Suspicious equipment is confiscated and treated very seriously.

A couple hours along a single lane road brought us to an encampment. We squeezed out of our tight seats to see a long line of camels in colorful array, standing side by side. Camel drivers rushed up. "You take mine! He is Michael Jackson," said one mustachioed camel driver to Melanie. The rest of us found our mounts and the kneeling camels groaned and complained with loud wooky voices as they

scrambled to stand. "Lean way back!" the driver said as the camel's rear legs struggled up. "Now forward!" as the front legs

OTHER PARTICIPANTS ON THIS 1998 TOUR OF INDIA

- From the United States:
 Ali Fujino and Scott
 Skinner of the Drachen
 Foundation, sculptor Tal
 Streeter and wife Dorothy
 Romig and her sister, Virginia
- From England:
 Barry Pitman and Paul Thody
- From France: Jean-Philippe Bequet
- From Belgium: Guy van Acker, Adries van Looken and Frank Coenraets
- From Hong Kong A team of five fighting kitefliers led by Alphed K.Y. Lee

joined in to hoist us high in the air.

Soon we were plodding in a long line up the dunes to the jangling of camel bells. Several ragged musicians ambled alongside, playing flutes and drums and asking for rupees. We were led by several of the older tribesmen, as well as some younger boys. I asked the boy leading my camel what his name was. "Colonel!"—but I think

that was the name of his camel. He tossed me the reins and off I rode, like Lawrence of Arabia.

In Pakistan, kites light up the sky

CARBORISED

Hans Bauman, a kiter from Belmont, California, had the opportunity in 1997 to visit Lahore, Pakistan during the annual celebration known as Basant, which marks the end of winter:

asant officially runs from Saturday evening through Sunday evening (mid-February), but kites are in the air everywhere during the days leading up to the event. Kites are on sale from converted businesses and makeshift stalls. Most are traditional diamond-shaped patangs, but the two-bulbed tukkal kite is also popular—and even adorns a matchbox widely distributed here.

The kites are very inexpensive, ranging from free (but poor quality) promotional kites carrying the names of businesses, to standard street stall kites costing 5–15 cents, and on to fancy show kites costing upwards of a few dollars.

I found no rules observed regarding tangles between tukkals and patangs. [Tal Streeter reported in *Kite Lines* Spring-Summer 1997 that "in India it is an unwritten rule that tukkal and patang kites do not cross strings."] Perhaps the relatively few tukkal kites in the air (less than 10 percent) would limit competition and fun if cross-variety tangles were taboo.

Manjha flying line is sold on metal and plastic reels or, more popularly, as a ball about 15 cm. in diameter. The line is paid out directly off this ball during flying by an attentive assistant, who keeps the line flowing smoothly, deals with tangles and ensures the fragile line does not drag on the ground.

Good manjha is essential but expensive. The cheap stuff costs \$1 to \$2 but the best and recommended types cost \$10 to \$15 for a ball of several hundred meters. The better manjha is thinner, smoother and less brittle than the cheaper line. The good line is also a brighter color.

Formal festivities begin on Saturday with exclusive nighttime rooftop parties in the old city. Spotlights are erected to illuminate the action, although frequent power interruptions occur every 20 minutes or so.

Most of these outages, I am told, are due to short circuits cre-

ated by kite scavengers. These kite-hungry fliers use regular cotton line, around which is wrapped a length of spring-like wire. They swoop down to catch cut and drifting kites. But they can also snag power lines by accident. The sparks and small explosions of resulting damage are a constant feature during the night, along with the occasional intentional fireworks.

Parties run on well past 3 am, with the little boys still intent on the rooftops and kite stalls open for service.

Basant proper is on Sunday. Everyone is dressed in their finest shalwaar kameez, a traditional Pakistani outfit of loose pants and long shirt, or bright yellow saris. Yellow is the color of Basant.

The sky over Lahore is abuzz with kites. Again the main action is in the old city, where rooftop parties provide food and drinks to distracted guests and victories are announced with cheers, drums or—too frequently for comfort—gunshots.

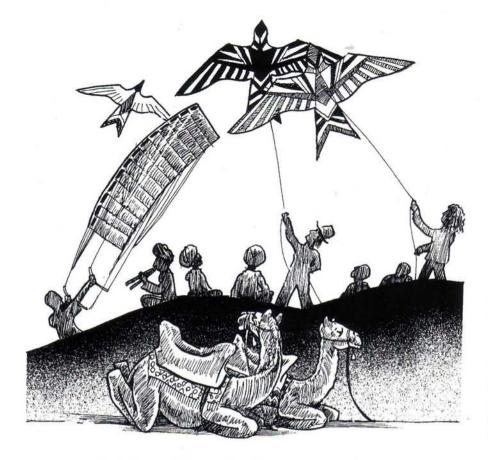
The kite fighting is a veritable free-for-all. You let your kite out a couple hundred feet, then search out a sparring partner in the area. For an inexperienced fighter these duels can be dishearteningly brief, as the action is fast, ruthless and without rules. No Zen, peaceful, one-line Western kite-flying can prepare you for this!

Wrapping lines with another kite is the first step and relatively simple, as there are hundreds of kites in the sky at any one time. The trick after engagement is apparently (although I was unable to succeed in about 10 attempts) to tuff continue to pay out line gingerly while retaining tension on to your line, abrading the other's line.

When done properly, the sudden drift of the other kite raises cheers and applause from your rooftop. If that's *your* kite drifting, you pull in the remains of your precious manjha, rewrap your ball and try again.

Apparently, after a third consecutive defeat, you get booed and teased by your roofmates but I suspect they spared me this humiliation, as I was the only *gora*, or Western person, in sight

-Hans Bauman



to dismount. We climbed the ridge of the

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We came to a high dune and the camels dune and watched the sunset, as we began were brought down to their haunches for us to unroll and assemble kites. Paul pulled out a giant quad-line kite that leaped into

the air with a burst of color. The resting camels spooked at the sight, jumped to their feet and began galloping back toward camp. The drivers ran after them, laughing and grabbing their reins.

Paul let several of the men try the lines of the big kite, helping them steer the monster as it swept back and forth across the crest of the dune. A flock of my birds flapped overhead. Camel caravans coming back from day trips into the dunes passed below us, their riders smiling and waving in appreciation of our flying show.

The night descended quickly. As we mounted our tall steeds for the return trek, I pulled out some chemical glow-sticks, activating the bluish lights to the delight of my driver, who now sat behind me atop the camel.

We rounded a dune to find several camps set up and the sound of chatting foreign voices around campfires. White plastic lawn chairs ringed a long table, and a group of turbaned waiters appeared, passing out hot tea. We all warmed ourselves at the fire under a canopy of stars.

It all left me wishing we could arrange to travel around the world like this alwayson camelback, with bells and catering and musicians and kites. It was like a dream!

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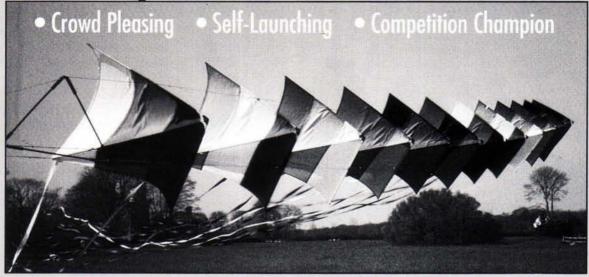
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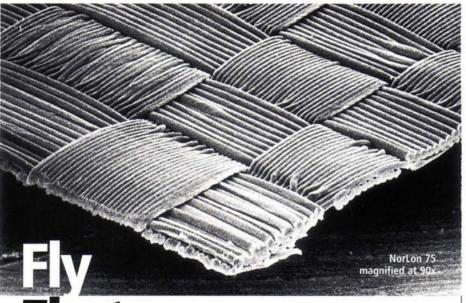
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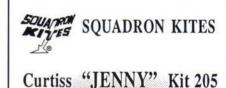
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Nishibayashi, Harrison, Loy, Szerlag, Lewis, Turner, Low

TAKESHI NISHIBAYASHI

akeshi Nishibayashi, a kitemaker and enthusiastic flier well known both in Japan and among Western enthusiasts, died February 11, 1998 at the age of 82. Known everywhere simply as "Nishi," he was famous for the modern, creative kites he made and flew and for the "Kite Flying" song he loved to perform.

Nishi, who lived in Tokyo and had worked in the textile industry, was the author of three very good books in Japanese (*Create A Kite 1* and 2 and *Happy Kitemaking*) featuring numerous plans for kites from simple materials.

The kitemaker, who was born in Korea, is survived by his wife, three sons and grandchildren. We asked Larry Hoffman, a kitemaker who has lived in Japan since 1954 and is a member of the Musasho Kite Club in Tokyo, to remember his friend. He writes:



remember his Takeshi Nishibayashi as friend. He writes: seen on the cover of one of his books.

"When I received a request to

do a 'small piece' about Nishibayashi, I thought: How can anything small be written about a guy who was so big? He was big in his love of life, his love of family, of friends, but more than anything his biggest love was kites. I'm certain he was dreaming of flying one when his time came.

"I really can't remember just when I first met Nishi. It had to be long before 1976, for that was the year he and my son, Kenji, a high school student at the time, went to the U.S. for a swing through several states visiting friends and flying kites. Kenji was along to act as interpreter. In time Nishi's English improved, the result of visits to many places around the globe, and an interpreter was not needed in his later years.

"A fun-loving person, he was a pleasure to be with. We used to go to a German bierstube in Tokyo, where he would spend most of the time singing. And he had a great voice.

"Nishi loved to make new designs and was constantly coming up with interesting and often complex kites. Are we ever going to find a substitute for Nishi? I doubt it—and I'll bet St. Peter is making his first rokkaku under Nishi's watchful eye."

-Larry Hoffman

HUGH HARRISON

The British Columbia Kitefliers Association lost one of its most dedicated members, Hugh Harrison, on February 27, 1998, two days before his 87th birthday. Harrison was one of about a dozen people who established the BCKA in 1980, and was until recently its most active member. When the club was first formed, Hugh simultaneously filled the positions of president, secretary-treasurer and editor of the club's newsletter, "Windsox."

He also organized and prepared materials for the BCKA workshop program for school children. He was known by children all over Vancouver as "the kite man" with his distinctive long-beaked hat and his jacket covered in kite patches. Harrison conducted most of the workshops for many years.

One of the first members of the AKA, Hugh was known in the 1970s for his travels from Montreal to kite gatherings in the United States, including California, Florida, Maryland, Washington and (especially) the Long Meadow Kitefliers in Rochester, New York. Some of his observations appeared in *Kite Lines* (Summer 1997). I always enjoyed his stories of flying with such people as Bob Ingraham, Ed Grauel, Will Yolen and other pioneers of modern kiting.

Together, Hugh and his wife, Marjorie—who died in 1993—watched out for the interests of the club and allowed us the use of their home for numerous workshops.

Hugh flew many kites and was well known for his large delta with 13 flags attached to the line, one for each of Canada's provinces and another displaying the Harrison family crest. My best memory, though, is of standing beside him at Vanier Park in Vancouver, each of us with a kite in hand (Professor Waldof boxes, I believe), chatting and enjoying the day. Hugh was generous, kind and selfless, and I and others who knew him will not soon forget him.

—David Tuttle

JOHN W. LOY

John Wilson Loy, a chemical engineer who built his own wind tunnel to analyze the aerodynamics of kites—and wrote on the subject for *Kite Lines*—died June 3 at his home in Bartlesville, Oklahoma, after a long illness. He was 82.

John's last piece for us, "Why Do Kites Fly?" (Fall-Winter 1996), was characteristically rigorous, dismissing much accepted wisdom about kites as "speculation and nonsense" and carefully documenting his theory of kite behavior, which he called "dynamic equilibrium." He collaborated in lengthy editing of the article and his respect for accuracy compelled him to write a clarification in the next issue: crediting a particular book for addressing a technical point that he had written was not noted by any kite publication.

In an earlier article, "Sleds for All Seasons" (Summer 1989), John measured performance characteristics of the simple sled kite invented by William M. Allison, using data compiled in the wind tunnel he constructed at his home after his retirement (in 1979) from Phillips Petroleum Co.

John Loy was born in Chanute, Kansas, and educated in chemical engineering at Kansas State University. He went to work for Phillips in Borger, Texas in 1939. His career included work with the Petroleum Administration for War during World War II and the renamed Petroleum Administration for Defense during the Korean War.

For the oil company, he spent 16 years in Asia during the 1960s and 1970s, work-



John Loy taking a look inside the wind tunnel he designed and used to test kites at his home in Bartlesville, Oklahoma ing in India, Japan and Hong Kong. And he traced his technical interest in kites to these years in the East, where he studied local kite forms and was also well known as a flier of Western kites.

Loy held two U.S. patents for kite designs, both awarded in 1981: #4243191, for a "sled kite with a flap or hood along leading edge," and #4279394, for a "swallowtail sled with a triangular cut and cord at trailing edge."

He also held numerous patents in the refining field and published a noted article in mathematics in 1971, on the subject of growth curves.

Yet for all his technical expertise, John always appreciated the essential, simple pleasures of kites. In one letter to *Kite Lines*, for example, he recounted an experience in Cochin, India, where he was flying "my very best performing kite" from a rooftop.

"A young child appeared in my backyard, below me, and launched a very small kite with what had originally been the format of a fighter kite, but he had installed a 45-degree dihedral and rather flimsy tissue paper.... His kite flew right alongside mine. In fact, my larger kite tore the tail from the child's kite, but it flew even better. Wisdom from the mouth of babes."

John is survived by his wife, Chieko Tamura, three sons and three grandchildren.

—Steve McKerrow

HANK SZERLAG

enry E. Szerlag, a founder of the 5/20 Kite Group (on May 20, 1976) in the Detroit area, died from complications of a stroke on July 7, 1998 at the age of 60.

Hank was a gifted graphic artist who worked for the *Detroit Free Press* for 35 years. He and his wife Nancy produced a club newsletter in professional style with a "Builder's Bag" page that especially demonstrated Szerlag's talents at illustration.

A devoted couple, the Szerlags were excellent organizers, and spurred the club in such projects as the building of a 35-foot delta (thought to be the largest ever at the time).

Hank arranged to allow the club on board the 1000-passenger "Bob-Lo" boat for free to fly kites from it on its trip up the Detroit River to an an amusement park. In conjunction with the Detroit Free Press, he and Nancy hosted the "Kaleidoscope" kite fly each year for several years. They also made up kite kits, bumper stickers, "Kite Person" t-shirts and an impressive reel called The Hauler under the business name The Cloud Connection. Their abilities made them an obvious choice to host the AKA



Ken Lewis with kite and Miss C.N.E.

convention in 1982, where they started such practices as the convention logo, computer registration and personalized certificates.

In recent years, the couple became involved in organic gardening. The club continued as the "5/20 Kite Group-Detroit."

-Valerie Govig

KEN LEWIS

r. Kite Canada, Kenneth Lewis, died in Toronto in July at the age of approximately 85. Bob Ingraham of the AKA dubbed him with the moniker, and it stuck. Ken owned about 1,000 kites and flew most of them, too, as a regular fixture in the 1950s and '60s at Ontario Place in Toronto, where he lofted up to seven kites at a time to the delight of passersby.

Many of his kites were self-made, Conynes mostly, up to 10-foot size, using aluminum tubing for spars. Some were made and flown as advertising kites, others for weather studies or as historic recontructions for the Ontario Science Centre.

But perhaps Ken Lewis is best remembered for the organization and publicity he brought to big, well-sponsored events such as the Canadian National Exhibition Kite Festival and the Glad Kite Festival in the 1970s.

Few people knew that Lewis was the grandson of Sir Hiram Maxim, who experimented in 1895 in England with steam-propelled flying machines. Perhaps it was some of Sir Hiram's genes that made Ken useful to Domina Jalbert in the late 1970s. It was a Lewis custom to spend November through April in Pompano Beach, Florida, flying advertising kites. There he met Jalbert and began helping him test parafoil kites.

Lewis was one of the founders in 1974 of the Toronto Kite Club, from which the Toronto Kite Fliers evolved. Ardith Quanbury and Kevin Barry wrote in memory of Ken Lewis in "KiteLog," the Toronto Kite Fliers newsletter. Quanbury and her daughter met Ken at a park in 1992, where he gave her a Nantucket Kiteman kite. Quanbury wrote, "It changed my life."

-Valerie Govig

OLAN TURNER

lan Eldridge Turner, Jr., one of the most active and respected kitefliers on the East Coast, died October 16, at his home in Yardley, Pennsylvania. He was 81.

Following his retirement in 1977 as a national sales manager for Kraft Foods, Inc., he turned to kites. In Ocean City, Maryland with his wife, Bernice for a family reunion, he saw Bill Ochse of The Kite Loft flying a stunt kite and said, "If I had one of those I wouldn't be so bored." But the shop was sold out of the kites. On a later holiday, in Key West, Florida, he went to the local kite shop on the first day and came away with a Peter Powell kite. In a few hours he had mastered it, and he was hooked.

When the first AKA convention was held in Ocean City in 1978, the Turners were there. They soon became involved with the people and organization. A special friend was Steve Edeiken, whose Rainbow Stunt Kites were just coming onto the market. Olan began flying them regularly. He served as chairman of the second AKA convention, in Manassas, Virginia. There he flew his stack of Rainbow kites to music with Steve Edeiken in a perfectly coordinated ballet—totally without rehearsal.

Olan and Bernice were inspired to initiate a kite festival near home, and they worked



Olan and Bernice Turner

with the Parks and Recreation department to hold Kite Day in beautiful Core Creek Park in Langhorne, Pennsylvania the first Sunday in May, starting in 1979. It was never competitive, but it was not without planning; Olan was a gifted organizer and saw to it that full details about the kites were announced to the crowd. He also gave many school workshops in advance, and it was reflected in the attendance, as many as 10,000 people. Kite Day was consistently blessed with good weather, to complement the excellent hospitality at the Turner home after the festival.

On a whim one day in 1984, Olan said he would start a kite fly for his birthday (December 1st) if the spouses would make peanut butter cookies. Thus was born the IIOPBCKFBO, the International Invitational Open Peanut Butter Cookie Kite Fly and Bake-Off, in Seaside, New Jersey. Entries both edible and flyable were shipped in from everywhere and Olan served as Chief Judge and Trophy Maker. (The event, now held in October, will continue, care of Mike Dallmer of Philadelphia, Pennsylvania, who plans to add "OTM" to the front of the name, for Olan Turner Memorial.)

In 1986, Francis Gramkowski and Roger Chewning joined with Olan to create a judging system for a new big stunt kite competition, the first of its kind. Together they set a pattern that has been adopted and adapted ever since by other competitions around the world. That event, the East Coast Stunt Kite Championships in Wildwood, New Jersey on Memorial Day weekend, is now part of the Wildwood International Kite Festival. Gramkowski said later that when Olan agreed to help, he knew the competition would be a success.

Olan was an enthusiastic kitemaker, but Bernice did all the sewing. Their teamwork produced colorful Bernuda-style octagonal kites with long tails, and their works were displayed three times at the Franklin Institute in Philadelphia. They attended many events, often as judges, at such festivals as the Philadelphia and the Smithsonian in Washington, DC. In recent years, though curtailed by an arthritic hip, Olan would still put in a day's work at the judging tables.

In recognition of his many contributions to kiting, the AKA presented Olan with the Steve Edeiken Memorial Award for 1986-87.

Olan was also a collector and restorer of antique clocks, as well as a violinist and composer. He is survived by his wife, a son, a daughter, a sister, four grandchildren and a great-grandson. The funeral service, held at the Turners' church in Morrisville, Pennsylvania, was attended by only a few kitefliers because many were just returning home from the AKA convention. But they had heard about Olan on the last day, in time to sign a kite, which Roger Chewning brought home and flew at the church in Olan's memory.

—Valerie Govig



Jimmy Low in Medellin, Colombia in 1996

JIMMY LOW

ames C. Low, a very active kite enthusiast in the northeast U.S., died February 1, 1999 at age 49. He was a New York City hospital police officer and suffered a heart attack when he was struck in the chest while restraining a prisoner. New York Mayor Giuliani attended the viewing and the full-dress police funeral in Chinatown. Traffic was blocked at intersections to allow the cortege through the streets, accompanied by an honor guard and a bugle and bagpipe escort.

Jimmy was an actor on the side. He was in the movie "The Professional" and the TV show "America's Most Wanted." He took occasional walk-on roles at the Metropolitan Opera and made several appearances on the David Letterman show as the "Sumo Caddy."

But kitefliers knew Jimmy for his large, crowd-pleasing kites. He often ran kitemaking workshops in the New York City area and was a member of the Lehigh Valley Kite Society as well as other clubs and the AKA. He was a regular at the Washington State International Kite Festival in Long Beach. He won two awards at the Smithsonian Kite Festival, one, for best Asian kite, as a joint effort with his kiting companion Carmela Pallotta, and the other a joint effort with John Rogers of California. He made three plane trips to meet with John to help design and make the kite.

Andy Gelinas in the LVKS newsletter "Tangled Lines" said:

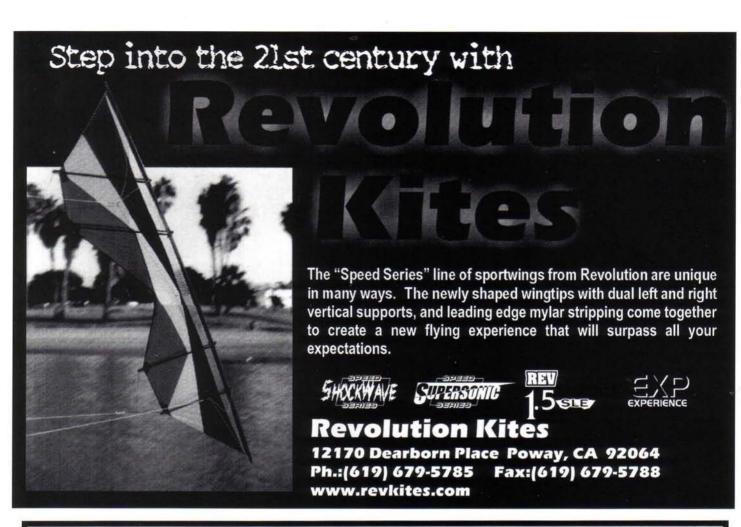
"Jim had a presence—not only by his size but by his demeanor. Soft-spoken, funloving, likeable—always pleasing others and looking for their good side. We will miss him here at LVKS..."

—Valerie Govig,

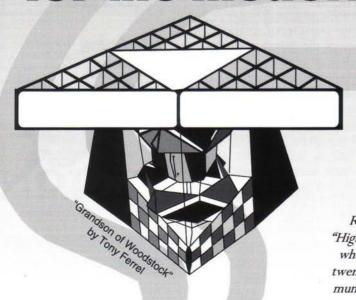
based on the article in "Tangled Lines"







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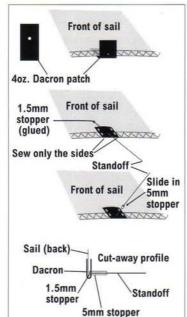
A cure for standoff snags & A COOL TUBING CLIPPER

ONE NO MORE STANDOFF SNAGS

From Chee Wan Leong, Selangor, Malaysia: Because I hate walking to my downed stunt kite to find a bridle or flying line tangled by the standoff sticking out the back of the sail, I designed a pocket that holds and hides the end of the standoff completely.

Punch a hole the diameter of the standoff on the front side of a 4-oz. polyester patch. Sew it onto the sail, leaving the top open. Insert the standoff in this hole from the front. Glue a 1.5 mm stopper (plastic tubing) at tip of standoff. Let dry, then pull the standoff until the stopper holds it inside the pocket. Now slide a 5 mm length of stopper onto the other end of standoff and locate just in front of pocket. Glue here.

Nothing sticks out the back of the sail, and this system also keeps the standoff in place. No more lost standoffs!



TWO CIGAR CLIPPER FOR TUBING

From Brian Blaeske, Waukesha, Wisconsin: I have discovered a new tool to use for cutting vinyl

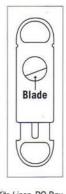
I have discovered a new tool to use for cutting vinyl or plastic tubing. While I was clipping the end of an Arturo Fuente cigar, I looked at my clipper and wondered how this would work for cutting tubing.

When I returned home I immediately tried it and discovered it works perfectly. The cigar cutter made a nice clean cut, on both vinyl and plastic.

Mine can accommodate tubing with a diameter of almost one inch. It cost \$2, much less than a pliers-type cutter for \$20, and can be found at any cigar shop.

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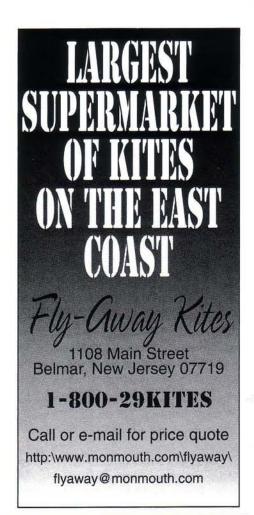
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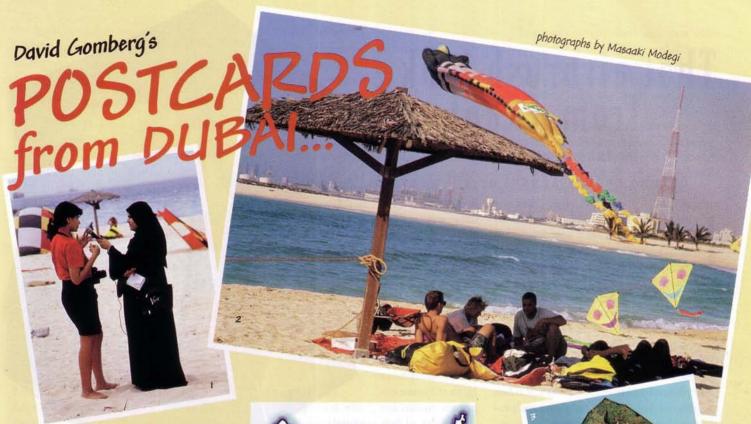
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o here I am, relaxing under an umbrella on the edge of the Persian Gulf. I've had three foils up for the past two hours, which haven't needed a bit of attention. A warm breeze is drifting across the white sand and someone just brought me a cold drink. Isn't kiting wonderful?

All right, I'll admit it. I was dubious about coming to Dubai.

To begin with, President Clinton was talking about bombing Saddam again, and I had been invited to visit the United Arab Emirates, a mere 500 miles away from Iraq.

To make matters worse, I actually got two invitations, because competing organizations were vying for the festival contract, and one had issued nearly 100 invitations to kitefliers around the globe. There was plenty of confusion, but as festival details firmed up and international tensions died down, I found myself packing for a very long flight.

And what did I find out? Dubai is delightful!

Thirty years ago, the city did not even exist. But now it's a gleaming metropolis, where English is the predominant language. Most of the population is actually non-Arab, so we observe Russian tourists in bikinis mingling on the beach with local women covered from head to foot. We're here to fly demos for the annual "Shopping Festival."

Thirty international fliers gather on a pristine beach. Organizers have provided anchors, shade, showers, cold drinks, even air-conditioned toilets. That bit of cool air comes in handy as temperatures hover around 40 degrees Celsius (that's 104 degrees Farenheit for the metrically challenged).



Our group includes a great variety of talent. The group No Limit from Germany brings huge "basket" kites and even bigger inflated kites featuring characters from Sesame Street. Peter Lynn Jr. brings the Megabite from New Zealand. Pierre Fabre floats new designs from France. John Eaton and Paul Thody from the UK pop sport kite tricks and buggy across the sand. Masaaki Modegi and Katsutaka Murooka from Japan fill the sky with traditional designs. Roger and Janice Maddy of Washington State fly multiline Kite "puppets" while Silvio Maccherozzi of Italy launches multicellular creations. Yvonne DeMille of New Zealand flies a wonderful collection of inflatable art. And from India, Bhanu Shah flies a variety of patang fighters. The only thing missing is spectators. Hardly any! But because we had lots of television, radio and magazine coverage, the sponsors don't seem to mind. And that means we can just launch a kite and then go for a swim. Rough duty!

Would I come back to Dubai? You bet. Tonight we're going for a night safari in the desert with camel rides, belly dancing and four-wheeling across the dunes by moonlight.

-Dave



The First International Kite Flying Festival and Exhibition in the Middle East had...

- ...extensive press coverage that sometimes showed the clash of cultures
- ...welcome shade for participants on the hot beach, perfect for sitting idly while watching the Peter Lynn Megabite flying a good distance down the shore
- 3. & 4. ...both tradition and modernity in Kites as illustrated by: 3. a baggy Tyvek delta with a hand painted array of figures, flown by Bhanu Shah of India, and 4. a soft Kite tended by creator Yvonne DeMille of New Zealand.

That airbrush lookfrom a can!

FORGET APPLIQUÉ-TRY

COLORS FROM A SPRAY! BY KURT EBY

admire the beautiful appliqué work of today's kite artists. But one long-time kitemaker told me that the only way to develop those effects is by "putting lots of cloth through your sewing machine." I'm too impatient, and began looking for a quicker avenue to multicolor kites.

I found it in the *Kite Lines* article about spray painting ripstop by Chris Dunlop (Winter, 1992-93). He used a product called Design Master Professional Color Tool, a spray paint offered in many translucent colors that dry quickly, don't crack or peel and produce great airbrush-like effects.

At first, I tried to imitate Dunlop's work, but without much success. So I developed my own style. Here is some of what I have learned.

YOUR KITE "CANVAS"

I have not experimented with fabric other than nylon sailcloth, although I believe cotton and silk would probably work. I have found great results from Bainbridge's Dragon fabric and Carrington's K22. Also I've achieved acceptable results with ripstops rated as second, third or even fourth grade, because the paint usually covers the minor blemishes in the fabric.

Uncoated fabric yields better results than coated fabric, because on coated fabrics the paint does not bond to the fabric but to the coating. As the kite skin flexes, either from the wind in flight or from rolling for transport in a sleeve, the color may flake. To minimize this problem, I make larger than normal kite sleeves, and have also found that wrapping a large kite around a cardboard tube will store it without creases.

PAINT FIRST, BUILD LATER

When I began, I first built the kite of white ripstop, including white leading edges or edge binding and white reinforcements. *Then* I painted it. However, I soon discovered that if I didn't like what I was painting, it was difficult to correct any errors.

I now paint three to five yards of continuous fabric first, then build the kite. You

have many options. You may cut the kite shape from the fabric and then paint the skin, or position a kite pattern onto a prepainted panel and cut out the desired area. Practicing in advance on paper is a good idea; you can then move up to the more expensive material.

To date, I have painted approximately 60 panels of various sizes which can be used as an entire kite skin. I have not used more than one skin per kite, but using two or more is easily possible.

I have no clear design in mind for each piece, and do not plan my artwork ahead of time by spraying paper or using crayons. In fact, it is difficult to describe how my ideas



SCOTT HAMPTON of Sandy, Utah shows his kites and banners at Dieppe, France in September. He uses spray color to achieve ripple and gradation effects in combination with solid colors of fabric in pieced sections.

originate. Dunlop described it best when he said the technique is "playful inquisitiveness."

About one in every 10 tries, I look at a kite and say "yecch." But the beauty of this technique is that you can overspray with flat white or black and start all over, or do something else to fix the look you don't like. The weight of new layers of paint is negligible on any but the smallest kites.

THE SPRAY-CAN PALETTE

Color Tool spray paint is offered in 46 standard colors. In addition, you can buy flat black and flat white, six glossy colors, six tints, eight metallic colors, three wood tones, three glitters (metalflake), shimmering gold and pearl and white and black washes (which lighten or darken colors). A 12-ounce can costs about \$6.50 at florist supply stores. I began by buying five cans in basic colors, plus black. But my first few experiences were less than ideal, for I tried to paint using all the colors. This resulted in color shifts into brown and eventually toward black. So I formulated two key rules:

1. Limit yourself to no more than four of your favorite colors, plus flat black and flat white. Some of the most striking and vibrant images I have painted were done with just a few colors.

2. Remember your basic art classes, which taught that when you lay one color over another, a third color results. Yellow and blue make green, yellow and red make orange and red and blue make purple. Think ahead and use this to your advantage.

I began by painting on white fabric, believing a white background to be most receptive to color layers. Anyone who has done house painting knows it is easier to paint darker colors over light ones. Further, overspraying dark on light seems to intensify the effect of color blending. (It is possible to paint on almost all colors of fabric, however, so you might test different effects on smaller remnants or scraps.)

Sometimes I use flat black first, then spray a portion of the fabric with flat white so I can introduce another warmer color on top of the white. Occasionally I will spray orange or yellow on top of darker colors that I wish to lighten.

PAINTING TECHNIQUES

Lay the fabric flat on the surface and begin painting by holding the spray can about six inches from the surface. Use short bursts and move the can briskly. By painting quickly, the colors remain wet and the second color more easily yields a third.

Sometimes I paint freehand, but have found that cardboard masks help direct the paint where I want it—and also yield interesting design effects. I have several different pieces of cardboard bent into varying degrees of curve, a technique I learned accidentally when I left the masks out in the rain and they bent from the moisture! (High quality twoor four-ply poster board sheets about 24 x 36 inches cost less than \$1, and I cut them into 8-x-36-inch strips.)

To make designs, hold the cardboard and spray directly onto the fabric adjacent to the mask. The cardboard blocks any errant spray and creates a positive line of demarcation.

To create a softer line, hold the cardboard about one inch above the fabric and spray directly along the edge of the mask, not the fabric. The paint bounces off the cardboard and creates a lighter effect on the fabric than spraying directly.

The speed at which you move your can also helps determine the density of the line. Quick spraying yields a thinner line.

To create a narrow hard line, spray color onto a large piece of cardboard and allow it to puddle. Then take a second piece of cardboard and draw an edge through the paint. Press this edge directly onto the fabric and you will imprint a straight line. Sometimes, I slide the cardboard edge along the fabric, creating streaks that give the impression of motion.

Another interesting effect is paint spattering. Spray paint directly onto the cardboard and tilt it toward one corner. Make the effect you want on the fabric by dripping the paint as it runs off.

Sometimes I cut shapes out of oak tag board, and use them as stencils or to mask an area I do not wish to paint. A local sheet metal shop made for me a number of squares of different sizes of galvanized sheet metal, approximately 1/8-inch thick. I lay these on the fabric to provide uncolored areas when overspraying another color.

I have also experimented with using coins, dried flowers, leaves, ornamental grasses, string and other items to create different effects.

And though I began spray painting to avoid appliquéing, I have learned to combine techniques. For example, I've painted fabric rectangles that are then sewn as insets on a black-skinned rokkaku. The wide black edge provides a border framing the artwork, helping the kite stand out in my Pennsylvania gray skies.

EXPERIMENTS ALL OVER

I am not the only kite artist working in this medium, of course. Different effects and techniques are being discovered by everyone who experiments with it.

Scott Hampton of Sandy, Utah, for example, has been working with Color Tool

Consider your health!

The very first time I painted a kite was in my garage. I covered my car with a large plastic tarp and spray painted against my truck beside the open garage door. I wore a dual-element air purifying respirator. But when I removed my mask to walk into the house, enough fumes remained to make me light-headed. And the smell lingered inside and out for days!

Buy and wear a dual-element air respirator while painting, even if outside. Read and follow the safe handling procedures on the label of your paints.

I now paint outside, on the cover of my hot tub on the rear patio, usually at night when there is no wind. (A picnic table would work as well.) And make sure to cover not only your work surface—I use a blue plastic tarpaulin—but any other objects nearby to protect them from spray.

—K.E.



COLOR BY COLOR, Eby brings his kite sails alive. Here, he demonstrates his techniques:

1. Starting on a pre-cut four-foot rokkaku "skin" of white ripstop, he begins to spray yellow in a curving line, using one of several cardboard masks to guide the paint.



2. On the other end of the kite, he sprays a new color. Note how leaving some fabric white in essence adds a third shade



 As paint oversprays previous patterns, the colors on the original white areas are now a brilliant purple, yet where they fall on top of yellow have become a reddish orange.



4. Having dipped the bottom edge of the mask in black paint sprayed on another piece of cardboard, Eby presses the edge onto the fabric to make a well-defined line.

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This rokkaku by Tony Corbe of Mechanicsburg, Pennsylvania, was the first kite he made under Eby's tutelage. It won a second place in Corbe's age class at the Smithsonian Kite Festival.

for four or five years. He was introduced to the technique by kitemakers Don Mock, Spencer Chun and Carl Crowell. His technique differs from mine. He applies three or four light layers, building up color slowly to both front and back sides of the fabric. And he uses just two colors of paint, red and blue, on three colors of 1.5-ounce fabric in mango, fuschia and light blue.

Scott shared his techniques at kite retreats in Washington state and Oregon, where kitemaker Jamie Alford experimented with spraying Color Tool onto crinkled ripstop. Hampton reports the result was an unusual three-dimensional look.

Randy Shannon of Flagstaff, Arizona recently corresponded with me about the spray techniques he uses for his kites, including ones with Southwest Indian motifs.

He writes, "I usually spray onto white [fabric], although I do use gray and yellow also. I then use either hand-cut stencils or rock art designs and overspray with various colors and get a nice sandstone effect in the sky."

He also says he gets good results painting on paper, which "is much cheaper than nylon when experimenting with new stuff."

My last word is a warning: Kite painting, like kite building, becomes addictive. You may even find yourself moving beyond kites. I'm often seen wearing a T-shirt painted in the same bright colors and techniques as the kite I'm flying in the sky!



Kurt Eby, kiting's Jackson Pollock, lives in Harrisburg, Pennsylvania. He's a real estate appraiser by profession and a one-time potter turned kitemaker by avocation.

Kite Lines Bookstore

THE BEST CATALOG OF KITE BOOKS, ANYWHERE

f it's in print about kites, chances are we have it—the common, the rare, the foreign, the domestic, the informative, the artistic. We strive to carry ALL kite titles available anywhere around the world—many that are hard to find—from basic introductory volumes to historical classics

to gorgeous picture books. Think of us as your local bookstore. Pick a book. Look it over. If it's wrong for you, put it back on our shelf. No questions asked. We provide prompt shipping from our well-kept inventory. But be warned: kite books often go out of print unexpectedly. Snap up your choices now!

OUR LOVELIEST BOOK! BUZZING BEE KITES

techniques for splitting and shaping the bamboo he uses for

his kites and their hummers. Hardcover, 64 pp., \$49.95

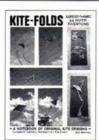
Nagoya Koryu Dako (Traditional Nagoya Kites) by Masaaki Sato, in Japanese. The author is perhaps the world's best maker of bee kites. In this elegant, clothbound, gold-embossed volume,

the world's best maker of bee kites. In this elegant, cloth-bound, gold-embossed volume, he presents color photos of about three dozen kites—not just bees. Photos and drawings detail his

From Australia . . .



Make Mine Fly by Helen Bushell. A classic collection of excellent, proven kite tips and techniques for beginners or experts. Contains plans for 14 original kites, including the author's Fluted Sled and famous Trefoil Delta, as well as several paper kites. Softcover, 93 pp., \$24.95



Kite-Folds by Beth Matthews. Plans for 12 small original kites made from a single sheet of paper, plus the "Skyvelope." Clear instructions, lovely color photos and an addendum on kites in teaching. Softcover, 36 pp., \$14.95



Lawrence Hargrave research by David A.
Craddock, in USA-printed edition. Ravensbourne
to Airborne covers the flight pioneer's work on
aerodynamics, gliders and kites, including his
sketches of equipment, concepts and designs. No
photos. Softcover, 57 pp., \$21.95
Construction Drawings for a Selection of Kites, the
companion volume, includes detailed plan drawings for a dozen Hargrave kites of moderate size.
Softcover, 25 pp., \$14.95
Both books as package, \$34.95

From Belgium . . .

PRICE BREAK! Aerial Photographs Taken from a Kite by G. de Beauffort and M. Dusariez, in English. History, systems, photos from the KAPWA Foundation archives. Includes a reprint of Batut's 1890 book. Softcover, 145 pp., \$36.95



From Bermuda . . .

Bermuda Kites by Frank Watlington.
Plans for five island kites, plus
variations and hummers. Traditional methods (flour and water
paste: "a little cayenne pepper will
keep away the roaches"). Tips and
a little history. A charmer. Softcover, 24 pp., \$5.95



From Canada . . .

AVAILABLE AGAIN! Genius at Work: Images of Alexander Graham Bell by Dorothy Harley Eber. The inventor of the tetrahedral kite (and the telephone, of course) did much of his experimental building and flying in Nova Scotia. This book is rich with black and white photos of Bell flying kites there—including his huge ring kite—plus reminiscences from neighbors. Softcover, 192 pp., \$16.95

Fishing for

Angels: The

by David

Magic of Kites

Evans. A very

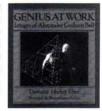
pretty book

illustrations

throughout.

Great kite lore,

with color



Canada continued . . .



Richard P. Synergy's self-published books convey lots of information and enthusiasm: Kiting to Record Altitudes is a detailed account of everything that can go wrong in an altitude effort. Softcover, 72 pp., \$15.95 Stunt Kite Basics covers safety, social aspects, equipment and maneuvers

(32 in all) in detail. Reads like an instructor talking at your elbow. Competition emphasis. Softcover, 142 pp., \$15.95

PRICE BREAK! Popular video + companion book: Kite Crazy (the book) by Carol Thomas. Plans for fighters, dual- and quad-liners.
Trustworthy text, black-and-white drawings. Softcover, 176 pp., \$12.95
Kite Crazy (the video) by SOMA Film & Video. Famous

fliers teach 1-, 2- and 4-line kiteflying. Clear, informative instructions and lovely footage, VHS format, 102 min., \$29.95
Book and video as package, \$39.95



in the form of narrative tales. The book offers good flying tips, too (just avoid the three easy kite plans at the back). Softcover, 63 pp., \$12.95



Go Fly a
Kite: The
Kite
Builder's
Manual by
John
Boxtel.
Attractive

book with plans for 12 novel kites, such as the Sailboat, Man and Windmill. Drawings are charming but lacking in dimensions; techniques described are reliable but old-fashioned. Softcover, 80 pp., \$12.95

From China . . .

Chinese Kites: Their Arts and Crafts by Wang Xiaoyu, in English. Although rife with typos and translation oddities, this book offers a fascinating study of painstaking Chinese techniques. Extensive details on making and flying Asian-style kites, including bamboo framing and covering. Excellent plan drawings of about 25 kites are carefully proportioned. Some color photos. (Note: Temporarily out of stock.) Hardcover, 300 pp., \$29.95



From Denmark . . .

Drager der Flyver (Kites to Fly) by
Dr. Hvirvelvind, in Danish. This 1986 classic, out
of print for several years, is back by popular
demand. Plans for about 10 kites range from the
simple sled and kiskee-dee to a roller, flare and
even an unusual raincoat kite, plus variations of
each; materials, accessories, flying, resources.
Charming cartoons, excellent drawings and
lovely full-color photos. Limited supplies.
Softcover, 80 pp., \$29.95



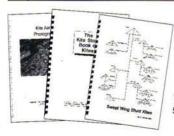
From England . . .

Kite Cookery: How to Design Your Own Kite... by Squadron Leader Don Dunford MBE (of the Dunford Flying Machine). Plans for 4 kites, building methods



and materials, plus idiosyncratic aerodynamics ("the wind is like...giant sausages"). Softcover, 47 pp., \$5.95

England continued . . .



Mark Cottrell's self-published books, although homely in appearance, are honest, entertaining and useful. Last stock available: Kite Aerial Photography. Three kite plans and a comparison study of trade-offs in rigs, with source lists. Softcover, 44 pp., \$10.95 Swept Wing Stunt Kites. Knowledgeable analysis of design elements (shapes, frames, sails, etc.); 4 plans. Softcover, 43 pp., \$11.95 The Kite Store Book of Kites. 10 original Cottrell plans (such as the Swept Wing Box, Ramfoil, MultiJib) plus materials and techniques. Includes a 5.25" diskette (IBM) for computer design. Softcover, 48 pp., \$13.95



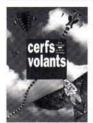
Not an Indian Fighter Kite: a personal evolution of rip-stop fighter kites by Geoff Crumplin. Although editorially rough, this book still contains jewels: about 20 good scaled kite plans (including an Afghan star, fugu, rokkaku, Brazilian, Korean, Martyn Lawrence Hornet) plus building tips, best for experienced makers. Also includes flying techniques and a set of proposed rules for combat. Softcover, 70 pp., \$18.95

England continued . . .



NEW EDITION! Kites: A Practical Handbook by Ron Moulton and Pat Lloyd. Extensively improved over 1992 first edition; offers 8 new designs, including 2 Codys, the Circoflex and the Brogden; also has the Hewitt Flexkite, Pearson Roller and several stunt kites. Excellent drawings, more pages of color, good sections on knots, flying techniques and parachuting teddy bears. Updated appendixes. Softcover, 240 pp., \$31.95

From France . . .



Cerfs-volants, L'art en ciel (Kites, Art in the Sky) by Eric Domage & Marc Domage, in French. Lavish in size and color, this book treats kitemaking as a legitimate art form. Profiles of Streeter, Matisse, Asker, Fabre, Brockett, Bodóczky, Cottenceau, Peters and Gressier, including beautiful examples of their work. Softcover, 126 pages, \$46.95



Les cerfs-volants, les connaître, les piloter, les construire (Kites, knowing them, flying them, making them) by Yan Williams, in

French. This pretty introduction covers a lot of territory in well-compressed style. Color throughout, including many photos and clear drawings. Three basic kite plans. Softcover, 96 pp., \$19.95

France continued . . .

Photographie Aérienne Avec Cerf-Volant: Comment S'y Prendre? (Kite Aerial Photography: How Is It Done?) by Christian Becot, in French. Practical methods of kite aerial photography as used by the author. Includes drawings of systems plus a bibliography-but no kite plans and just 2 aerial photographs, in color on the cover. Limited supplies. Softcover 52 pp., \$16.95



From Germany . . .

NEW! Skywork III Experience by Rolf Wohlert and Christine Lienau, in German, Latest volume in the useful Skywork Experience series. Clear plan drawings for ten new stunter kites (including an indoor model and a trick kite) plus one dramatic single-liner, the famous Octopus by Peter Lynn. Color photographs of each kite. Softcover, 52 pp., \$19.95



Skywork II Experience by Christine Schertel, in German. Volume following the first Skywork Experience. Good original plans for nine stunters and three cellular kites, including a Hargrave, Cody and the "Revolver." Attractive paintings instead of photographs of the kites. Softcover, 52 pp., \$19.95



Germany continued . . .



NEW! Rund um den Drachen (Kite Peripherals) by Walter Diem. in German. Over a dozen accessories, including windsocks, line climbers, banners, bowls and a kite aerial photography system. A section on George Lawrence has his famed San Francisco photos. Excellent black-and-white drawings. Hardcover, 94 pp., \$23.95



Neue drachen zum Nachbauen (New Kites to Replicate) by Werner Backes, in German. Compact and reliable instructions, color photographs and fine drawings. Plans for 20 kites (including a diamond stunter) from available materials (good for workshops). Plans for winders, windsocks, a clinometer,

plus flying techniques. Softcover, 128 pp., \$7.95



Books by Hans Snoek, in German offer fascinating early Western kite lore: . . . und sie Fliegen Heute Noch -Geschichte und Geschichten um den Drachen (and They Still Fly Today-History and Tales About Kites). Poems, songs, tales, drawings, photos, plans. Hardcover, 156 pp., \$34.95 Band II (Vol. II). Another scrapbook of early days. Hardcover, 156 pp., \$34.95 Both books as package, \$66.95

From Italy . . .

Aquiloni Acrobatici (Acrobatic Kites) by Cristina Sanvito and



Giancarlo Galli, in Italian. First Italian stunt kite book is a practical manual covering basics and more. Graphics and drawings are neat and clear. Brief history, safety tips, basic-to-advanced techniques and maneuvers for individuals and teams. Includes book list and glossario translating standard English terms into Italian. Softcover, 141 pp., \$19.95

Switzerland continued . . .

Aquiloni (Kites) by Guido Accascina, in Italian, Reliable mini encyclopedia packed with kites. Includes theory, techniques, sources, history and excellent plans for 29



From Japan . . .

Tezukuri Omoshiro Dako Nyumon (A Primer of Interesting Handmade Kites) by Eiji Ohashi, in Japanese, Traditional Asian and modern designs are among 29 easy-to-make figure and box kites, from one of Japan's most





Pacific, Latin America and Europe. With some political overtones, it is kiting's only gloomy book. Softcover, 125 pp., \$42.95

From Switzerland . . .

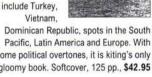
Epple-Gass, in

this interesting

B&W book

German.





DRACHEN

From The Netherlands . . .



Drachen: Spiele mit dem Wind (Kites: Playing with the Wind) by Rainer Neuner, in German. Attractive introductory

many color photos. Good sections on knots and line, tools and construction materials, plus plans for 8 single-line kites-including genki variants, a yakko, an Edo and a swallow. Also contains instructions for five wind toys geared to Swiss conditions (light winds). Minimal appendixes. Hardcover, 131 pp., \$39.95



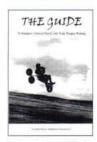
VT KITES II

Two popular stunt kite books by Servaas van der Horst and Nop Velthuizen, in English, cover many aspects of the sport in up-to-date high-tech style. Well organized and printed, the books contain excellent drawings and

Stunt Kites to Make and Fly. The first book includes clear plans for 10 stunters, including one quad-line and two soft kites. Section on basic setup and flying techniques is especially good on line selection and management, and also includes team flying. Softcover, 96 pp., \$21.95 Stunt Kites II: New Designs, Buggies and Boats. Plans for 8 kites, both sparred and sparless, including the unusual "Quadriphant" pink elephant—plus advice on designing

your own kites. Good chapter on aerobatics. Emphasizes traction kites, offering introductions to buggying and boating under kite power. Includes plans for handgrips, a harness and even a buggy. Worthwhile appendix material. Softcover, 96 pp., \$22.95 Kite 2.0. Companion diskette 2.0 for IBM-compatibles, prints out templates of the plans in Stunt Kites II; also simulates stunt maneuvers for visualizing your routines, \$19.95

From New Zealand . . .



NEW! The Guide to Western Circuit Hard Core Buggy Riding, by Charlie Watson. This homebrew compendium from the land where buggying began includes knowledgeable presentation of radical-even insanetricks. They're do-able

by the fearless skilled, and offer vicarious thrills to the more sedate. Attractive black-and-white photos demonstrate that somebody did these tricks. Innovative diagrams are simple and clear, and the book includes safety information and a welcome glossary of New Zealand buggy-speak. Softcover, 32 pages, \$9.95

From the United States . . .

A Kite Journey Through India by Tal Streeter, Absorbing kite travelogue mixes engaging stories about Indian life with excellent

photos in color and black-and-white, showcasing surprising varieties of kites. Softcover, 182 pp., \$39.95 Art That Flies by Tal Streeter and Pamela Houk. Attractive anthology of kites and ideas from a 1990 Dayton (Ohio) Art Institute exhibit. No plans. Limited supplies. Softcover, 139 pp., \$15.95



Kites: Paper Wings Over Japan by Tal Streeter Scott Skinner Masaaki Modegi and Tsutomu Hiroi. This lovely, colorful survey of Japanese kites covers a wide swath, including history, many photos and kitemaker profilesas well as information on where to view and buy Japanese kites. With appendixes, Limited supplies. Softcover, 96 pp., \$18.95



Books by Margaret Greger are clear and trustworthy, ideal for beginning or expert kiters: Kites for Everyone. Over 40 wellselected plans plus accessories; straightforward style. Second edition, softcover, 136 pp. \$12.95 More Kites for Everyone. Some old, some new, Plans for 17 kites, from simple to complex. Softcover, 59 pp., \$9.95





The Tao of Kiteflying: The Dynamics of Tethered Flight, by Harm van Veen, in English. Tough questions tackled by one of Holland's most respected kiters. Clear

writing and diagrams explain stability, scaling, the subtlety of the fighter kite and how to make two simple kites. Charming cartoons. Softcover, 56 pp., \$12.95



NEW EDITION! The Magnificent Book of Kites by Maxwell Eden. A heftier but little updated reworking of Eden's earlier Kiteworks. Contents based on material from leading designers. New Internet chapter (thin), approximately 50 plans, sew-

ing tips, aerodynamics, accessories and (un)related stories. Kite paintings and a few photos in color. Appendixes and index. Hardcover, 464 pp., \$17.95



Books by Jim Rowlands have a few color photos, much black-and-white text and line drawings: Soft Kites and Windsocks. (Same as British Kites and

Windsocks.) The best, most popular Rowlands work. Plans for 11 kites, plus five windsocks, five drogues and two bags. Softcover, 104 pp., \$14.95 The Big Book of Kites. (British Making and Flying Modern Kites.) Plans and techniques for 36 kites on the simple side. (Temporarily out of stock.) Softcover, 127 pp., \$14.95 One-Hour Kites. (Same as British Kites to Make and Fly.) Includes plans for 25 kites including the Facet and three stunt kites. Softcover, 95 pp., \$14.95

Colorful books with clear plans by Norman Schmidt: NEW Marvelous Mini-Kites. A pretty book with 17 designs made from 81/2" x 11" paper. Hardcover, 96 pp., \$19.95 The Great Kite Book. A collection of 19 unusual designs (mostly insects and birds), all



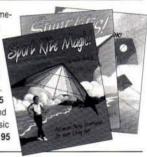
made from painted Tyvek. Short histories interspersed with the plans. Softcover, 96 pp., \$12.95

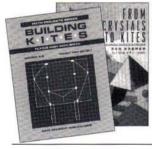
Making & Flying Stunt Kites & One-Liners by Wolfgang Schimmelpfennia, in English. Wide-ranging and upto-date, with superb color plans for six stunters and three oneliners. Some translation oddities. Softcover, 80 pp., \$12.95



Books by David Gomberg are "homemade," lacking photos, but useful:

Sport Kite Magic! His best yet covers the newer tricks and indoor flying. Softcover, 126 pp., \$13.95 Stunt Kites! All the basics plus tips from 20 top fliers. No plans. Softcover, 88 pp., \$10.95 The Fighter Kite Book! How to fly and battle them plus plans for a basic fighter, Softcover, 74 pp., \$8.95





Teacher's workbooks of use for kiters: NEW! Building Kites by Nancy Ann Belsky. Lessons in measuring and enlarging combined with good instructions for making sled, box and tetrahedral kites. Softcover, 65 pp, \$11.95 From Crystals to Kites by Ron Kremer. Teaches solid geometry. Inspiring shapes, good terminology. Plans for building a tetrahedral and other cellular kites. Softcover, 102 pp., \$11.95



Kites: An Historical Survey by Clive Hart Revised second edition (1982). In-depth reference work has many black-andwhite illustrations and the most extensive kite bibliography in print. Good index, no plans. Now in hardcover only, 210 pp., \$29.95



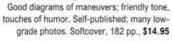
The Creative Book of Kites by Sarah Kent. A colorful introductory book but of value for seasoned kiters too. The author, an experienced stunt team flier, offers some history, a broad survey of world kites, flying instructions for several styles, clear illustrations and nine kite plans. May not be available for long. Hardcover, 124 pp., \$12.95

Flight Patterns by Leland Toy. A modest, accessible book from a wellremembered kiter. Solid tips and easy, well-illustrated plans for eight



kites-including a rotor made from foam meat trays. A portion of this book's proceeds go to the Leland Toy fund. Softcover, 36 pp., \$11.95

Kite Precision by Ron Reich. A celebrated stunt flier teaches basic dualline techniques plus the Revolution. Included are rudiments of team flying, choreography, music selection and three complete ballet programs.





with well-illustrated instructions. Nice introduction to materi-

als and flying. Many helpful tips and lively

The Usborne Book of

collection for kids (or

them). Six easy kites,

adults working with

A cute, practical

color drawings. Softcover, 32 pp., \$6.95



ings but no photos, includes clear design discussions and plans for 4 kites based

NEW! On Bats. Birds

homemade book, with

black-and-white draw-

and Planes by W. J.

Brick This simple

on fighters and deltas, using wooden spars and plastic bags. Includes an Egyptian vulture. Also plans for 4 winders. Softcover, 36 pp., \$6.95



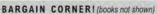
Make Your Own Kite (new kites) by John W. Jordan. Clear plans for nine original kites made of unusual materials, such as plastic foam and computer cards. Amusing reading from a genuine

enthusiast. All in black-and-white with some photographs. Now in hardcover only. limited supplies, 90 pp., \$14.95



Super Kites III by Neil Thorburn. Wonderfully quirky and personalized, with many designs for making delta-sled-box inventions. Tested, creative techniques use easily available materials, mostly plastic bags and wooden dowels. Also includes "kite gear." Written by

an octogenarian who sounds like a teenager. Some color photos brighten this "completely handmade" book. Softcover, 123 pp., \$8.95



 Ski the Beach by Stan Rogers. Homemade book all about sand skiing with kites, the only title on this topic. Safety emphasized. Loads of charts and B&W photos. Softcover, 100 pp., \$13.95

■ 25 Kites that Fly by Leslie Hunt. Reprint of 1929 original. Plans for good old-fashioned kites (Malay, shield, elephant, yacht, etc.) to make from paper and wood + a clinometer. Historical data and

photographs. Softcover, 110 pp., \$3.95

■ Books by Wayne Hosking:

Kites. Lavish color, good research on Asia. Softcover, 120 pp., now only \$11.95 Kites to Touch the Sky. "Homemade" book of 32 plans for plastic kites, good for workshops. No photos. Softcover, 96 pp., \$9.95

■ Fighter Kites (not shown) by Philippe Gallot, in English. Plans for 29 kites plus tips and games. Clear illustrations. Very limited supplies. Softcover, 96 pp. \$12.95

Multimedia kite products!

The wide-ranging system of dual-line instruction by Dodd Gross has everything but the classroom: Flight School 1.5 "The Basics," Flight School III "Tricks" and Flight School IV "More Tricks" (the videos). These most popular tapes coach fliers from beginning setup and initial flights through such advanced tricks as the Cascade and Helicopter. Covers indoor and light air flying too. Running times: Flight School 1.5; 23 min.; Flight School III: 30 min.; Flight School IV: 28 min.,



\$19.95 each; \$54.95 all three

Trick Flight School (the book), by Dodd
Gross & Paul Kappel, in German and English.
A companion volume to the videos, this pocket-sized field book puts the progression of tricks into words and presents a unique graphic representation of the body movements required to perform them. Softcover, 80 pages, \$9.95

Australian Kiting, edited by Peter Batchelor, a CD-ROM for PC or Macintosh computers. Includes collected newsletters and other materials of the Australian Kite Association, dating to 1978, plus AKA website. Many plans, tips, classroom uses for kitemaking and more than 100 color photos of Australian kites and kiters, \$19.95



Fun kite stuff!

The Compleat Rokkaku Kite Chronicles & Training Manual.
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India's kite frenzy by George Peters and Philip Morrison; Bali by Simon Freidin; major stunt kite survey; kite capitals of the world; Sotich's flying wedge; Ohashi's arch train.

■ WINTER 1989-90 (VOL. 7, NO. 4)

China by Tal Streeter and Skye Morrison; Sloboda on Dyeing Ripstop; Bill Green, inventor of the delta; modifying a parachute; stunting a Flow Form; Nishibayashi's bat.

■ SUMMER 1990 (Vol. 8, No. 1)

Festivals in New Zealand, Berlin, Washington (England) and Australia; parachute stunter plans; Peter Lynn's future tech; Bobby Stanfield climbs Stone Mountain.

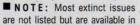
■ WINTER 1990-91 (Vol. 8, No. 2)

European spectacular: Dieppe, Montpellier, Bristol, Berlin; Stunt Kite Survey; D'Alto on Whitehead (1901); largest Eddy record; butterfly plans; power flight on suspended wire.

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■ SPRING 1991 (Vol. 8, No. 3)

Whistling kites of Nantong, China by Tal Streeter; Gomberg's kite pin confessions; quick & easy angle estimating; Wind Shot stunter plans; record for longest kite.

■ SUMMER-FALL 1991 (Vol. 8, No. 4)

Pierre Fabre in Japan; Kinnaird's rokkaku strategies; Bill Kocher's obtuse tetra; Huntington Beach scandal; Wildwood at its best; Jalbert obituary; Sky Gallery: Peter Malinski.

■ WINTER 1991-92 (Vol. 9, No. 1)

Gubbio (Italy) is GaGa; Sprint stunter contest in Italy; Richard Synergy in Poland; Tucker's Painless Parafoil plans; Sloboda on painting ripstop; SG: Roberto Guidori.

■ SPRING-SUMMER 1992 (Vol. 9, No. 2)

André Cassagnes, father of French kiting; world class Thailand; natural fibers festival; Bill Tyrrell flies high at Christmas Island; stunter survey; Heart kite; SG: George Peters.

■ FALL 1992 (Vol. 9, No. 3)

Castiglione (Italy) + Le Touquet, Barcelona, Ostia; the Arch Ribbon—historic notes, tips; kites over Niagara Falls; handling tangles; lanuzzi's Featherlight; SG: Kim Petersen.

■ WINTER 1992-93 (Vol. 9, No. 4)

Kite power by Nop Velthuizen, with traction chronology; fighter kite survey; Dieppe; Hamamatsu by George Peters; the GX-3 stunter; spray-painting nylon; SG: the Gibians.

■ SPRING 1993 (Vol. 10, No. 1)

Soul-lifting kites of Guatemala; Java festival; Ed Alden's family of fighter kites; celeb rokkakus; travel tips; Rameaux aerials; quad-line Propeller; SG: Jørgen Møller Hansen.

■ SUMMER-FALL 1993 (Vol. 10, No. 2)

Adrenaline tour of India; István Bodóczky's asymmetry; Crowell's Cross Deck; Sac City, Iowa festival classic; kites at the Pyramids; power on ice; SG: Tony Wolfenden.

■ WINTER 1993 (Vol. 10, No. 3)

North Sea events (Terschelling, Fanø, Scheveningen); kite camp caravan; Rendez-Vous Mondial, Canada; AKA at Seaside; Sheragy's butterflies; SG: Wolfgang Schimmelpfennig.

■ SPRING-SUMMER 1994 (Vol.10, No. 4)

Kite sailing; South America: Colombia & Brazil; buggy events + Scoot Buggy & Wheels of Doom plans; Kevin Shannon delta; Australia's Bondi Beach festival; SG: Reza Ragheb.

■ FALL 1994 (Vol. 11, No. 1)

Shirone's great museum; Korean fighters and who's who; art & ideas of Joan Montcada; the Thailand International; aerial photographer George Lawrence; SG: Jimmy Sampson.

■ WINTER-SPRING 1995 (Vol. 11, No. 2)

Dieppe; Hargrave commemoration; Stockholm event; spar study; new buggies; Streeter on Hiroshima; Shannon's Baby Cicada fighter; Alex Mason; Roger Maddy; SG: Scott Skinner.

■ SUMMER-FALL 1995 (Vol. 11, No. 3)

Great festivals: New Zealand, Curaçao, Israel, Italy, Canada; artist Steve Brockett; the Smithsonian; Playsail & Windbow by George Peters; what is a kite?; SG: Pierre Fabre.

■ WINTER-SPRING 1996 (Vol. 11, No. 4)

Kites of Nepal; Mallorca roundtable; skiting the Greenland ice cap; kite patents by Ed Grauel; Düsseldorf, Peter Rieleit; Stan Rogers; Gomberg on Fanø; SG: Tom McAlister.

■ SUMMER 1996 (Vol. 12, No. 1)

Kite fishing Indonesian style; festival at Berck-sur-Mer; St. Elmo's fire; Norway's Isegran Dragefestival; special report on power kites; is pin collecting dead?; SG: Michael Goddard.

■ FALL-WINTER 1996 (Vol. 12, No. 2)

Kites in museums; Gibson Girl box rescue; a blessed Dieppe; why kites fly; the Korea International Kite Festival; fighter kites of Hong Kong; SG: Oscar & Sarah Bailey.

■ SPRING-SUMMER 1997 (Vol. 12, No.3)

The Tosa Dako of Japan; touring India with Tal Streeter; the buggy breed; George Lawrence kite photography controversy; the Cartagena bubble machine; SG: Jon Burkhardt.

■ WINTER 1997-98 (Vol.12, No. 4)

Malaysia's kites; Denmark's Progretyst; new rotor kite, the Skybow; history of Englands Brookite; Uchinada; George Peters on kite grounds. SG: Guy & Claudette Gosselin.

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Celebrating 22 Years of Kite Lines! As of March of 1999, your magazine is 22 years old. To our knowledge, we have been publishing longer than any kite journal in history. We thank every reader and flier for taking part in the legacy. But certainly a special thanks is due to our Lifetime Subscribers, who have contributed so importantly to our sustenance. We list their names with pride and gratitude.

Be a Lifetime Subscriber

Many loyal readers of *Kite Lines* have begged us to reopen the special subscription status of LIFETIME SUBSCRIBER.

After publishing the magazine for 22 years to an unusually high standard while facing increasing expenses, we think that now is the time to share the burden—and with it share some joy.

We have made new plans for *Kite Lines* that will allow us to hold onto our quality while saving money. As anyone who's ever done a budget knows, the choices can be difficult and the transition even more so. To ease us into a better pattern, we are offering the Lifetime Subscriber category to our readers for a limited time.

As a way of acknowledging your vital importance to *Kite Lines*, we will print your illustrious name and home town in these pages (unless you prefer to remain anonymous). You can support *Kite Lines* at any of several levels:

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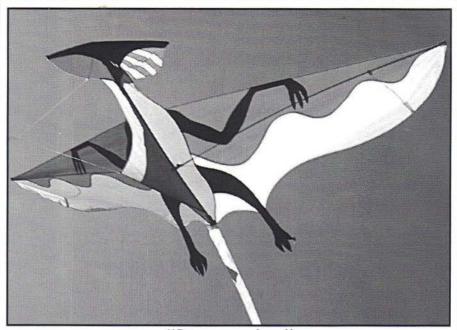
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ANNOUNCEMENTS

THANK YOU! Many beautiful cards and letters have arrived at the *Kite Lines* office expressing sympathy on the death of Mel Govig (see page 6). We deeply appreciate these thoughtful remembrances. For those who wish, in lieu of flowers, contributions may be made to the Mel Govig Memorial Fund (to fund the award for fighter kites at the Smithsonian Kite Festival), c/o Richard Kinnaird, 6643 Barr Road, Bethesda, MD 20816.

To meet U.S. postage hikes just enacted, *Kite Lines* will raise its subscription rates with its next issue. If you've been alert enough to read this announcement, you might also be alert enough to see that our inserts still quote our "old" rates. This is your lucky break! Take advantage of this last chance to renew at the old rates!



"Pteranodon"

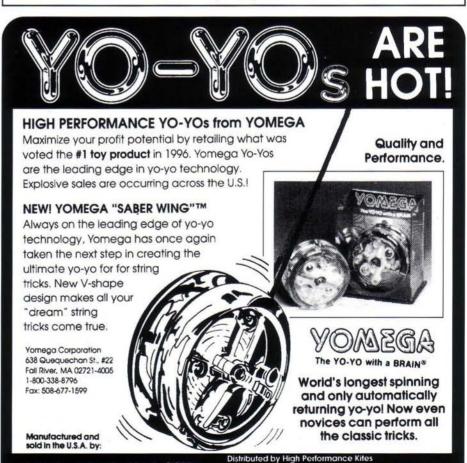
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KITEFLYING EXPERIENCE: Constructing and painting kites for 15 years professionally.

INSPIRATION: The sky, females, great moments with kiteflier friends in good breezes and beautiful brightness, by sunlight or moonlight.

AVERAGE AMOUNT OF TIME SPENT ON KITES: I reflect a long time, then construct the frame very quickly. While the design is well defined, I spend much time looking at the white kite, waiting for inspiration. Then the painting stage is very swift, about two days.

AWARDS/HONORS: Children's glances, adults' glances (which are the same as children's) at my creations. The best rewards are the invitations to national or international kite festivals.

FAVORITE FLYING SPOT: In Touraine, my work and home country, and on Oléron Island, where I have a workshop.

PHILOSOPHY / INTENT IN KITEMAKING: Have fun and give fun!









PHOTOGRAPH: ISABELLE SEREIN

KITES BY MICHEL GRESSIER

- 1. DOUBLE SQUARES: each 4.2 m x 4 m
- 2. BOL-LE GRANDE BLEU: 17 m dia.



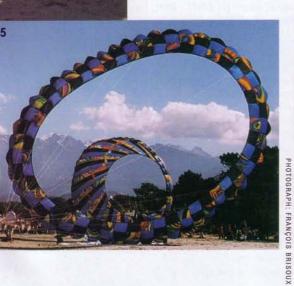
4. TOTEM: 1 m x 5 m

5. BOL: PEINT: 8.7 m dia. and COURONNE: PEINT: 14 m dia.

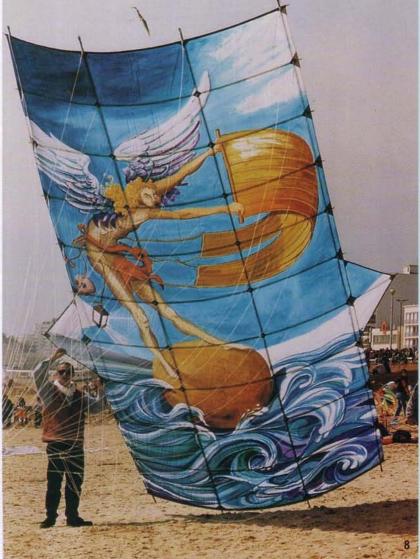
6. TUBE MAGENTA: $1 \text{ m} \times 5 \text{ m} + 10 \text{ m}$ tail

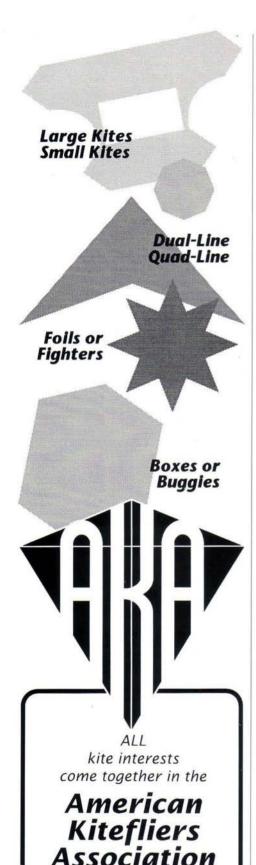
7. TUBES COULEURS: each 1 m x 5 m

8. EDO: LA CHANCE: 6 m x 3 m









News, Rumors & Miscellany

BY THE KITE LINES STAFF

illennium chasers, have we got plans for you! ■ First, attend the opening reception November 19, 1999 of the new Billings Logan International Airport in Montana. Beautiful kites purchased from all over the world will hang from the ceiling over the baggage claim area. This well-planned show will run through March of 2001. For all the details, contact Terry Zee Lee at Sky, Wind and World, Inc., 208 N. 29th, Room 208, Billings, MT 59101; tel: 406-254-1122; fax: 406-248-1254.

IN THE WIND

■ Second, head for the Millennium Kite Festival in New Zealand, the first country in the world to see the sunrise of the new millennium. It will be summer there, and warm! Fly from December 31, 1999 through January 2, 2000. For more information, contact Des Pitfield and Yvonne de Mille, 223 High Street, Christchurch, New Zealand; 64-3-377-1107 (fax and phone); or e-mail pitmille@ihgug.co.nz.

larm! The Guinness 1999 Book of Records does not A contain a single kite record! Kite Lines received a small grant in January from the Kite Trade Association International to offset expenses in making efforts to correct this oversight.

ave when you see German motorcyclist J. J. Toepfer! He's taking his Kite & Bike Dream Tour from L.A. up the Pacific Coast to Canada then back through Yellowstone and the Southwest to L.A. again, all aboard

This exhibit moved on to

HOLD THAT LINE! Animal winders such as this giraffe are made by Dick Curran of Edgewood, Washington, who credits fellow Pierce County Kitefliers Association member Sam Huston for the idea. Dick makes a whole menagerie of line tenders: a whale, a swordfish, two rabbits and a great horned owl-plus free-form shapes. He donates them to club raffles and auctions.

Dear Readers: If you've missed us, we've missed you. The reasons for our long delay in publishing were serious but not fatal. For many months we suffered from what was mainly a financial problem, difficult to solve. We went down several blind alleys seeking help. But we didn't give up. We finally found answers. Indeed, it was more than one answer, but all spoke with one voice: the love of friends. Is anything in life more dear? The generosity and appreciation expressed by our valuable readers was overwhelming. and the mainthing I want to say now, with all my heart, is: THANK YOU! Value

Harley Davidson. And get this: The whole tour is sponsored by Harley! J. J. will carry custommade kite packs and will fly kites on the tour, expected to take about 12 days and cover 4000 miles. Starts May 28, 1999.

ast we heard, the Texlon Corporation had only one ■ 200-yd roll of Orcon® (ripstop Mylar®) left, and they say the market won't support making it anymore. Compensating factor: nylon prints and graduated colors are coming.

ashington, DC was treated to Japanese kites twice recently. As part of the Edo: Art in Japan exhibit at the National Gallery of Art, a few kites were imported at the last minute and a workshop and kitefly mounted with help from Scott Skinner, who invited notable Japanese kiters to town. The show ran from November 15, 1998 to February 15, 1999.

Earlier (April 14-May 28, 1998) we saw Flying and Spinning Through Time: Traditional Japanese Kites & Tops, a display at the Japan Information and Culture Center, featuring some 50 kites, plus an equal number of spinning tops.

Nicaragua through July and was scheduled to be seen later at Japanese embassies in Colombia, Guatemala, Peru, El Salvador and Honduras. The Japan Foundation in New York also tells us two other Kites & Tops exhibits were traveling to embassies elsewhere.



UPLIFTING SCULPTURE?— They're really paintings on canvas and sculpted figures of board. But this and other art pieces by Phil Richards, collectively entitled Grand Illusion 1986/87, pay spectacular homage to Japanese kites, hanging over shoppers last summer in the airy atrium of Eaton Centre, a downtown shopping mall in Toronto, Canada.

um! The new Into the Wind catalog is in. To their credit, the merchants tell the truth about where their kites are made. Here's the count: One each from Bali, India, Taiwan and Wales; two each from Canada and Italy; four from Spain; five from Germany; six from Poland; nine from Mexico; 12 from England; 39 from China and 42 from the USA. What does this tell us?



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Mike Moore, Master Class Flyer

"What I love most about the es/55 line is the durability, strength, and how slippery the line is. I have put 60 wraps in this line and, THIS IS THE STUFFI I also love the blue color and the winders.

Dennis Smith, Master Class Flyer

"All my factory flyers report that es/55 line is the slipperiest." TO Powers, TO Ultra

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John Trennephol, Sky Burner Sport Kites, Inc.

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Dirk Eliker, Kitesville U.S.A.



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