

Dear Kiteflier:

We hope our January DATA-LETTER convinced you to make and fly our version of Hornbeam, the versatile sled-kite. A kind of tradition dictates that a "standard" sled should have a height "H" of three feet; but

Hornbeams are consistent good performers in all of the practical sizes. Here are the specifications of three excellent fliers that happen to be available for measurement as this letter is being written:

THREE HORNBEAM KITES

| Height (H) (inches) | Span (S) (inches) | Area (A) (ft ²) | Weight (W) (ounces) | Loading (oz/ft ²) | Longerons (inches) |
|------------------------|----------------------|--------------------------------|------------------------|----------------------------------|-----------------------|
| 25 | 31.25 | 3.60 | 0.97 | 0.27 | .125 x .125 |
| 38 | 47.50 | 8.32 | 2.24 | 0.27 | .125 x .125 |
| 75 | 93.75 | 32.42 | 10.83 | 0.33 | .250 x .312 |

Note: All three kites have canopies made of .005" Tyvek®10
All were flown with forty-foot bridles

The kite sizes listed above are not limits. Smaller sizes make lively, low-altitude kites for children; however, they appear as insignificant specks in the sky when they are flown at middle altitudes. A kite made in a height greater than about two metres—say about 79 inches—is too hazardous for one person to fly. The Beast will snatch you bald-headed if it embraces a 15-knot wind-gust. Although the specifications in

our table show that the 75" kite has a 22% higher area loading than the others, we have noticed that it will float serenely aloft long after the wind velocity has become too low to support the smaller ones. "Reynolds number," a bit of fluid mechanics esoterica, is involved in the explanation of the better performance of the large kite. We'll play with Reynolds numbers (briefly) in a future issue of PMAF DATA-LETTER.

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THOSE VENTS

This old letter from Hornbeam describes how his crony, Beauforce Stringfellow, once succumbed to the doctrine of holey-ness and barely escaped with life, limb, and sanity:

Dear Air Marshal:

Over full flagons of best vintages, you have many times heard me mention my dear friend Beauforce Stringfellow; but I don't remember ever telling you how I first met him on the top of your beloved Piney Mountain during the days that immediately followed World War II. I vividly recall that fine spring morning: I was prowling the garden of my retirement pad in Advance Mills, and I glanced towards Piney Mountain as I tend to do hundreds of times when the weather and the air are good. Over the summit, soaring vultures were clearly visible even though the little mountain-peak was two miles away. I was admiring the special clarity of the air just as I sighted the UFO high above the birds. Intrigued, I ran to the house, routed out my camera bag, and soon had the van tearing over the narrow winding roads between home and the mountain.

Within five minutes, I had driven near enough to the manifestation to discover that the aerial mystery was an unusual kite. It was not an evil invader

(Page 1 of 4; continued on page 2)

("Vents," continued from page 1)

from remote galactic marches, but my sight of its bloated mass tickled topological memories of nastinesses such as Klein flasks and Möbius strips.

After I stared at the mass for a few seconds, the optical stimulus triggered my palate into a cacophony of stentorian hiccoughs. I was later to learn that it affected everyone that way. (I must mention here that I was beholding the Stringfellow Giant Re-entrant Tri-Squid. I itch to tell you more about it, but hawkish Government minions have wrapped an impenetrable fog of secrecy about the invention and its later development.)

By resolutely keeping my gaze averted from the kite, I found that the seizure and some accompanying nausea tended to abate. At the road-end, I parked the van and followed a footpath through the oaks and pines until I entered the mountaintop clearing that surrounded an aircraft-warning mast. There, I saw Beauforce: a be-goggled figure sporting froglike eye-filters of a loathsome hue of magenta. Despite the evidence that he was busily husbanding an array of instruments and recorders, he greeted me with friendly interest and hastily passed a pair of the goggles to me. "Here, wear these," he said. "They'll preserve your health and sanity."

During succeeding months, we often found time to commit bad aerobatics in the old Consolidated Fleet biplane, fly cross-country jaunts, and occasionally to run up a kite. We sweated and argued over airflow theory. Our acquaintanceship had ripened into solid friendship. Even our ladies got on well together.

In time, both of us heard of Allison and his emulators. Beau commenced to make sleds, good ones; but he sought wisdom from evil counselors, consorted with witches, and contracted a monumental case of Pentanus ventosis (the vent virus).

One day, he began to chant orifice orisons and proceeded to cut a pair of his favorite witch's ritual pentaports in the lower center-section of his best sled; but the kite flew about the same as it had before the witch's holey-spell was reduced to practice. Beau's frustration was sharpened by the guilty knowledge that he'd not observed fickle atmospheric changes during un-holey and holey flights. His resident daemon (yes, Beau was possessed) prompted him to adopt scientific methodology and caused him to fabricate two fugals of high quality sleds identical in dimensions, materials, and weights except that one of the fugals flaunted penta-holes and the inevitable diminishment of sail area. He flew all simultaneously, and they made a brave sight; but he could not decide which kind was better.

After countless trials and sleepless nights, he began to vent kites according to his own geometrical theories. From pentaports, he worked backward to the classic ellipses and trapanus vents; he worked forward to a rash of multishapes. He slashed away at heteragons, megagons, stars, lush tomatoes, and even whole baskets of fruit. He didn't neglect the animal kingdom, either.

Beau eventually abandoned pre-flight perforation and began to make his plans for accomplishing hole-punching in situ. Because of his masterful abilities with target arms, he had no doubts about his being able to punch accurate patterns in a flying kite. He cleaned his forty-five caliber S & W target revolver and compounded elegant custom hand-loaded cartridges for it. He weighed powder charges accurate to individual particles; he swaged his hand-cast wad-cutter bullets to an order of precision that could have shamed the efforts of the best watchmakers; and he seated his shell-case primers with exquisitely controlled pressure. He shot hundreds of patterns through hand-laid drawing papers and vast yardages of Flemish linen canvas that he erected like fences

all over his land. Within two weeks, he had sharpened his shooting eye and tuned his trigger finger to a state of excellence that enabled him to reproduce Picasso's Doghead Woman with startling fidelity; he captured the nuances of the ethereal smile of Leonardo's Mona Lisa; he even evoked the chiaroscurean vigor of Rembrandt's Night Watch. (Of course, these works were in monochrome.) At the end of his practice period, he'd acquired a style of his own.

When the perfect flight-day arrived, he was ready to try his virtuosity on a kite in flight. He lofted a splendid ten-foot sled over a pasture lot across the road from Mount Zion Church. The sun and wind were against his back; the airflow was as smooth as golden pellucid honey. I watched him as he carefully payed out line until the sled locked itself in a steady state about one-hundred metres above his head. "Why," I mused, "should he try to improve on that?" Anyway, he tied the line to one of our ponderous flints and he began a meticulous ceremony of burning hair of a goat's armpit and measuring time-of-day, wind velocity, solar radiation, atmosphere, line-angle, and the ballistic range....

He uncovered and studied a neat sketch he had placed on a nearby easel. It was evident that he intended to treat his shot-hole composition in the manner of the great Grandma Moses: simple, austere, symmetrical; a primitive snowscape.

Beau unlimbered the heavy forty-five, confidently let off his first shot at the sled, and shot the line in two!

As I watched the kite flutter downwind into The Squire's bull-pasture, I was distracted by a melon-thump kind of noise that came from Beau's location. I turned just in time to see him collapse in a wild-eyed coma.

A bystanding moonshiner resourcefully flooded my friend's gullet with generous measures of undiluted First Aid. In no time at all, Beau was on his feet and rational; said he'd not felt better in weeks. "...And furthermore," he said, "I never want to have any more traffick with those fling-danged, hole-riddled kites!"

Because I am a slow thinker in my mature years, I allowed a week to slip away before I deduced what had happened in that Advance Mills pasture lot: The kite was almost directly overhead when Beau's first and only bullet cut the line, passed through the kite, and continued its upward course until it reached terminal altitude at about six-hundred metres, I'd guess. As it started to fall, its spin had slowed and it began to drift and tumble. All two-hundred and forty grains of bullet fell on Beau's head, made the thumping sound, and temporarily stunned him into unconsciousness.

"But what happened," you may ask, "that caused him to regain his sanity and give up the holeymania?"

The answer is a simple one: Beauforce always used small percentages of silver to harden his bullet alloys. When the bullet pranged Beau, it also pranged the daemon who controlled and possessed him. (Any book of the occult will tell you that a silver bullet is pure poison to all witches, afreets, and daemons.)

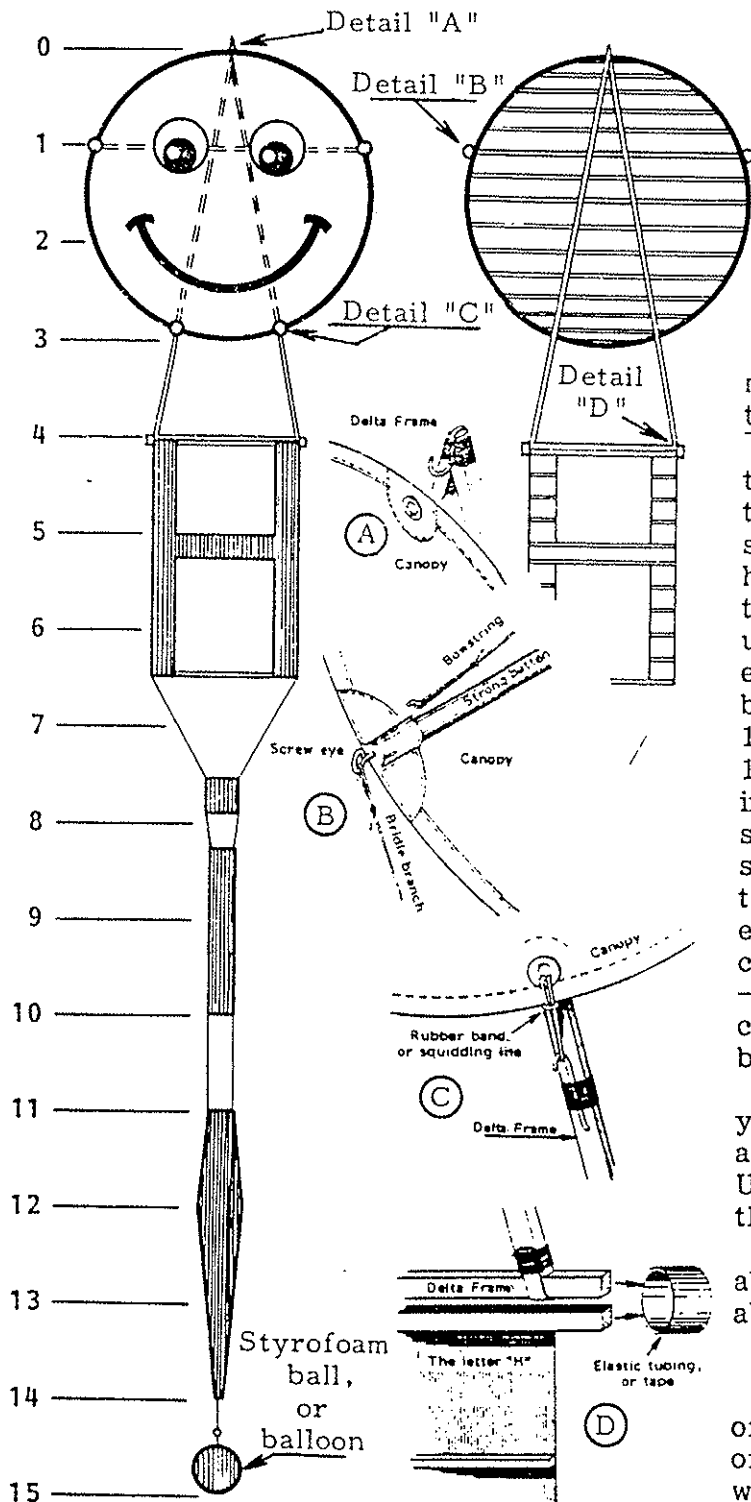
It wasn't the moonshine that cured him. Cured him? Beauforce has commenced a rigorous series of rotor-kite experiments.

Aeolian blessings,

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THE BATTEN KITE

Did you ever yearn to air a sky statement? Or loft a love letter? If so, the batten kite just might be the ideal vehicle for your aspirations. A batten kite consists of a shaped canopy of cloth, paper, or plastic sheet backed by a multiplicity of horizontal mini-spars that tend to maintain the kite planform when the fabric is tensioned perpendicular to the spars (or yards). One or more strong longerons provide the "spine" over which the fabric is stretched and tied. Obviously, the demounted canopy can be rolled up for storage or transportation. PMAF's "Happy Face" flaunts a friendly greeting that will be noticed:



HAPPY FACE

Happy Face satisfies the batten kite definition given above only as far down as his collar-bone, or where the top-side of the "H" commences. From there on down to the ball of the exclamation point, the elements are battened for lateral spread, but they hang: literally depend on gravity and drag to maintain their longitudinal integrity of form. One might be tempted to call Happy Face an articulated dragon kite.

Glue, cement, stitch, or pocket the battens according to techniques most favorable to your choice of canopy fabric. Use many small, lightweight battens rather than a few heavyweights. For example, if you decide to translate the modules shown into one-foot units, the face will be 3' in diameter (an excellent size); and the overall length will be 15'. Battens for a kite this size can be 1/8" diameter birch dowel, if pocketed; or 1/8" square spruce, if they are cemented in place. Make the delta-frame of 5/16" sq. spruce (readily obtained from aero-model shops in 4' lengths). Also, use a piece of the same stock for a sturdy spar on whose ends the upper bridle branches will be secured. It is well to bow this spar slightly—in the manner of the Eddy kite—so that it can better withstand the tensions of the bridle.

Happy Face must be colored goldenrod yellow (what else?); his mouth bold black, and the eyes detailed in black and white. Use black or another dark color for all of the elements of "HI!".

The bridle branches should join together about three feet in front of the face and at about the level of the eye-centers.

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Batten kites make excellent sky-sculpts or portraits. Who'll send us a photograph of his favorite? Hint: You can fly "HI!" without a face, or just fly "!" Show us...

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