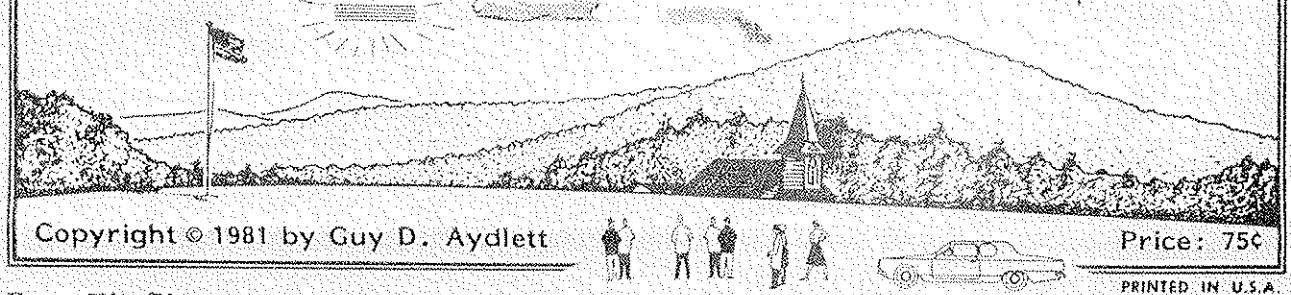
# PINEY MOUNTAIN AIR FORCE
# DATA-LETTER

VOLUME 1, No. 10 September 1981



Copyright © 1981 by Guy D. Aydlett

Price: 75¢

PRINTED IN U.S.A.

Dear Kiteflier:

UFO SIGHTINGS reports make intriguing reading when they are prepared by objective observers. ROBERT H. NELSON, the designer of the excellent SUPER SLED that we featured on page 4 of *DATA-LETTER* 6, sent us this interesting letter on 22 July:

". . .Have you or any of your kiteflying friends seen anything unusual in the sky except for some weird kites?

"Having been very skeptical of the reports of UFO's and unidentified aerial phenomena, I am puzzled by my experience on the afternoon of July 15th. It was a bright sunny day with scattered cumulus clouds and a light northwest wind. Having lofted a camera by means of a 3-foot Super-Sled kite, I was having problems with thermals and sudden downdrafts. I was facing toward the southeast, but happened to glance toward the northeast and sighted in a clear area between two clouds a rectangular object in a horizontal position. It had about the proportions of a railway boxcar; was of a pale blue color compared to the clouds; at about the same altitude [as the clouds] and an apparent length about equal to 3/4 the diameter of the moon. *[The apparent diameter of the full moon is almost one-half degree of arc—Ed.]*

"After about 20 seconds, the outline became blurred as if smoke or vapor was emitted from it; then a plume of vapor or smoke appeared seemingly from the side facing me and near the right end. As the plume increased in size, the object became less distinct; soon completely fading away [and] leaving a small cloud of smoke or vapor of the same pale blue tint.

"I then glanced toward the northwest, where in a similar open space between two clouds was an identical object.

"At that time, my kite was caught in a downdraft forcing me to reel in rapidly to prevent the camera from being lodged in the trees. When I returned my attention to the second object, it had also dissolved into a small cloud which slowly evaporated in the same manner as a wisp of cloud does on occasion.

"Both objects remained motionless at all times in relation to the clouds which were slow-moving.

"At present, the only explanation that I have is that they might have been reconnaissance probes programmed to self-destruct after making an observation.

"Enclosed are two sketches of the approximate appearance and positions *[See overleaf]*.

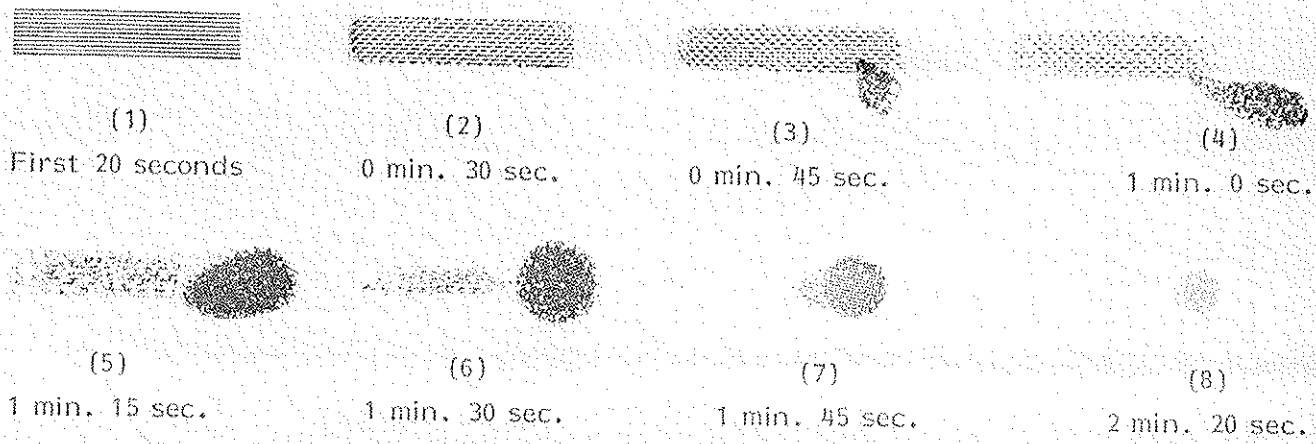
"I hope that you will alert other kitefliers to be prepared in case they should have the same experience; to have a camera, preferably with telephoto lens, and binoculars handy.

"I belatedly thank you for sending the extra copies of your bulletin with the plans of Super-Sled which are 100% accurate and clearly outlined. I have a minor criticism that it should be titled the "Allison-Nelson Sled" rather than the reverse, because Allison was the designer of the original sled."

*(Page 1 of 4; continued on page 2)*

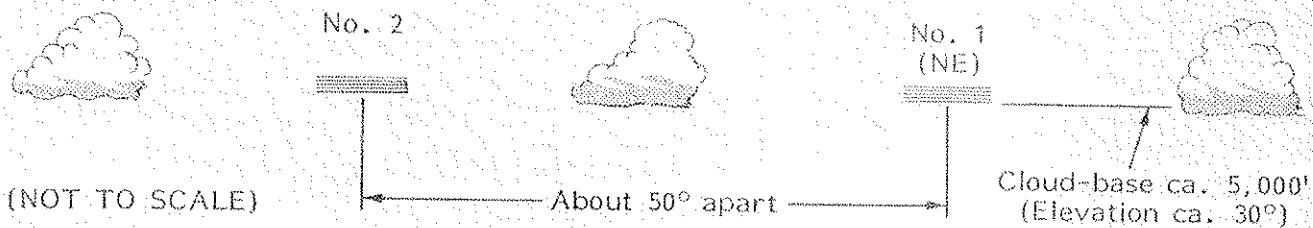
*Robert Nelson's UFO--(continued from page 1)*

The graphic sequence and time diagram shown immediately below was based on Robert's excellent description and his sketch that was, unfortunately, not sufficiently contrasty for good printing reproduction:




SKETCH NO. 1: SEQUENCE AND APPROXIMATE TIMING of UFO OBJECT No. 1; sighted by Robert H. Nelson at Westfield, Massachusetts on 15 July 1981; about 2:15 to 2:30 P.M.

About two minutes after he sighted the first object, Robert Nelson saw a second one that was identical in color, shape, and size:




VISIBILITY EXCELLENT; LIGHT WIND FROM THE NORTHWEST

SKETCH NO. 2: RELATIVE POSITIONS of UFO OBJECTS Nos. 1 and 2. Both objects were already in place when they were first sighted; No. 2 sighted about two minutes after No. 1 that had dissolved into a small cloud at that time. Apparent length of each object was about equal to 3/4 the diameter of the moon, or about twenty-one minutes of arc.

BOB NELSON is a trained observer and an amateur astronomer. In his last letter to PMAF, he said, in part: *". . .I have been skeptical of most of the UFO reports. For a period of about six years, at the beginning of the space program, I took part in a government sponsored amateur satellite tracking program that involved taking accurately timed photographs of satellites. In spending many hours on these observations and as an amateur astronomer, I have never before seen anything that I could not identify. Also, I have spent much time outdoors with the same result.*

*"The objects were large. . .about 70 feet.*

*"There seems to be no possibility that they were natural phenomena such as lensatic clouds. Their identical appearance and sharply right-angled symmetrical shape would indicate that they were artificial. . . ."*

BE ALERT, KITEFLIERS: Whether you elevate kites as prayers, brass-plate the welkin with crass advertising, flaunt egg-headed notions, burn eyeballs with chromatic chiaroscurisms, strain at gut-busting monsters, or fly for the hell of it, tell us what you see.

## SOME AIRFOIL SECTIONS THAT AUTO-ROTATE AND PROVIDE LIFT

SIGURD J. SAVONIUS, inspired by the rotor ship of Flettner, laterally displaced the halves of a hollow cylinder with respect to the original cylindrical center (Figure 3) and discovered that the body, if properly pivoted and offered to the wind, became a self-starting auto-rotator; furthermore, it was evident that a potentially useful side force—the Magnus effect—was produced.

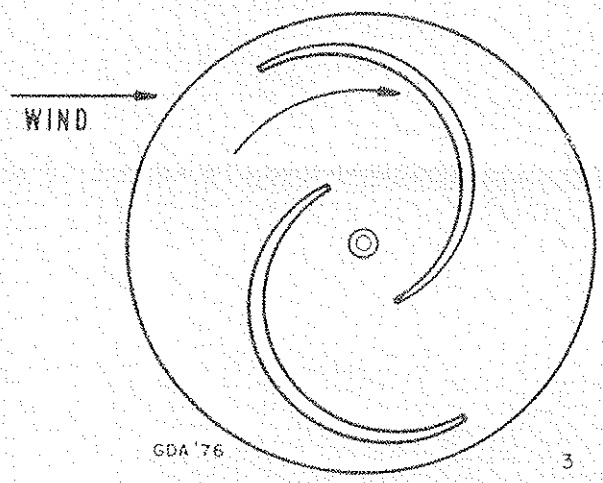



*Figure 3. The S-rotor of Sigurd Savonius —Inspired by the successful Flettner rotor ship; about 1924.*

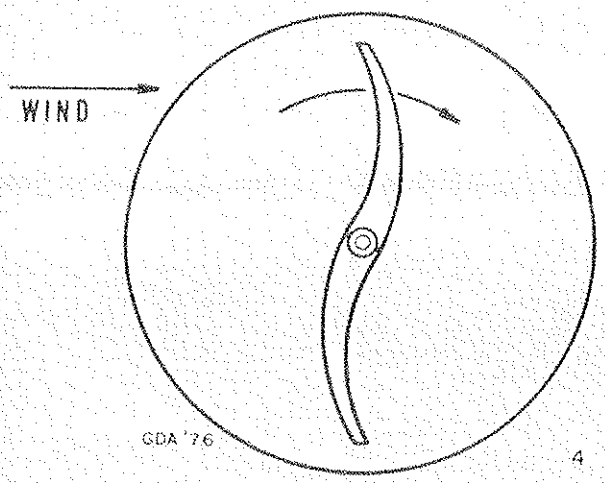



*Figure 4. The Thin S-rotor—Perhaps the most popular airfoil section to be found on commercially available rotor kites, but the section tends towards structural weakness and is only moderately efficient as a lifting shape. [The author of this article has discovered that thicker sections are stronger and are better lifters in low velocity air.]*

In 1962, the late Stanley E. Albertson Jr. patented his "Rotary Winged Kite" that was subsequently marketed for a few years under the trade name "ROTOKI"; a two-rotor kite that used Savonius S-rotors.

A thin S-rotor (Figure 4) works reasonably well as an auto-rotating lifting body, but it is not as efficient as the Savonius configuration or the Aydlett 290-A (Figure 5). The thin S-rotor has the disadvantage, too, of yielding a structurally weak kite.

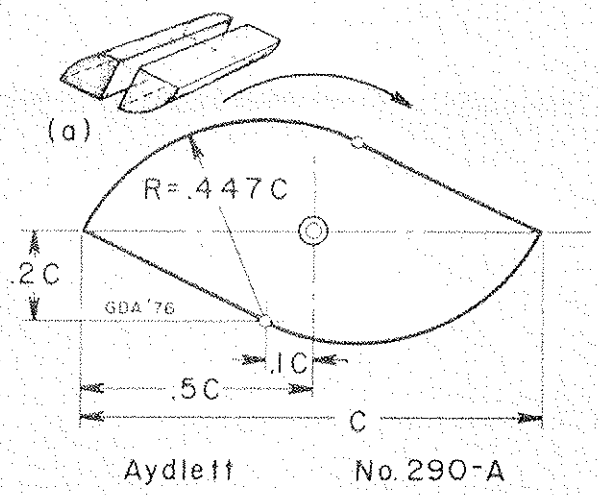



*Figure 5. The No. 290-A Rotorfoil Section —This highly efficient airfoil section employs straight lines, sharp corners, and circular arcs in its layout. The auxiliary view (a) shown in the upper left of the diagram reveals that this autorotative section is composed of a pair of quarter-cylinders merged into an asymmetric demi-cylinder.*

Dead flat oblong shapes can be made to rotate and provide lift; but initial rotation in the air stream or wind has to be started manually before auto-rotation commences. (Butler Ames's flat-plate rotor kite of 1910 may have been the first application of the Magnus effect to a kite.)

The three-lobed construction illustrated on page 3 (August) provides a kite with good beam-strength, good auto-rotation, and moderately good lifting efficiency. *[A four-lobed experimental kite, fabricated in the same materials and general proportions as HORNBEAM ROTOR 661, was a splendid auto-rotator; but it was a dismal failure as a lifting body. Aerodynamics = surprises.]*

## MAKING HORNBEAM ROTOR 661 KITE

### MATERIALS AND PROCEDURES

HORNBEAM ROTOR 661 requires one full sheet (13-5/8" x 47-13/16" x 11/16") of expanded polystyrene panel insulation for its dynamic surfaces. The material is readily available from building supply sources under registered trade names such as: *Chemfoam PIP, Cellofoam, Therm-R-Panel,* and others. It is a snow-white, low density material: about 0.84 ounces/square foot.

Two End-plate Disks, (A) Figure 6, and three Rotor Vanes, (B) Figure 6, are so-dimensioned that a standard sheet of "styrofoam" provides ample material for all of the parts even when 1/8" wide saw-cuts are made by the kitebuilder.

A silicone-lubricated, well-honed carton knife (Stanley® No. 299, or equivalent) will slice the material quite well with the guidance of a good, flat straightedge, or metal rule. Even the circles can be neatly approximated with multiple cuts guided by the straightedge; but if the kitebuilder has access to a table saw with a disk-sanding capability, the parts can be produced accurately and quickly. If the roughed-out end-plate disks are center-drilled with 1/4" diameter holes that are fortified with well-dried white glue, they can be pivoted about a 1/4" diameter pin on a homemade circle-sanding jig clamped to the saw table. Such a simple fixture will produce smooth, true circles in identical sizes. The "chamfer option" shown encircled in Figure 6 can be whittled or sanded to reduce some of the kite weight and to improve flight efficiency.

Refer to Figure 6 and make all parts in the quantities, materials, and dimensions that are specified in the caption below it:

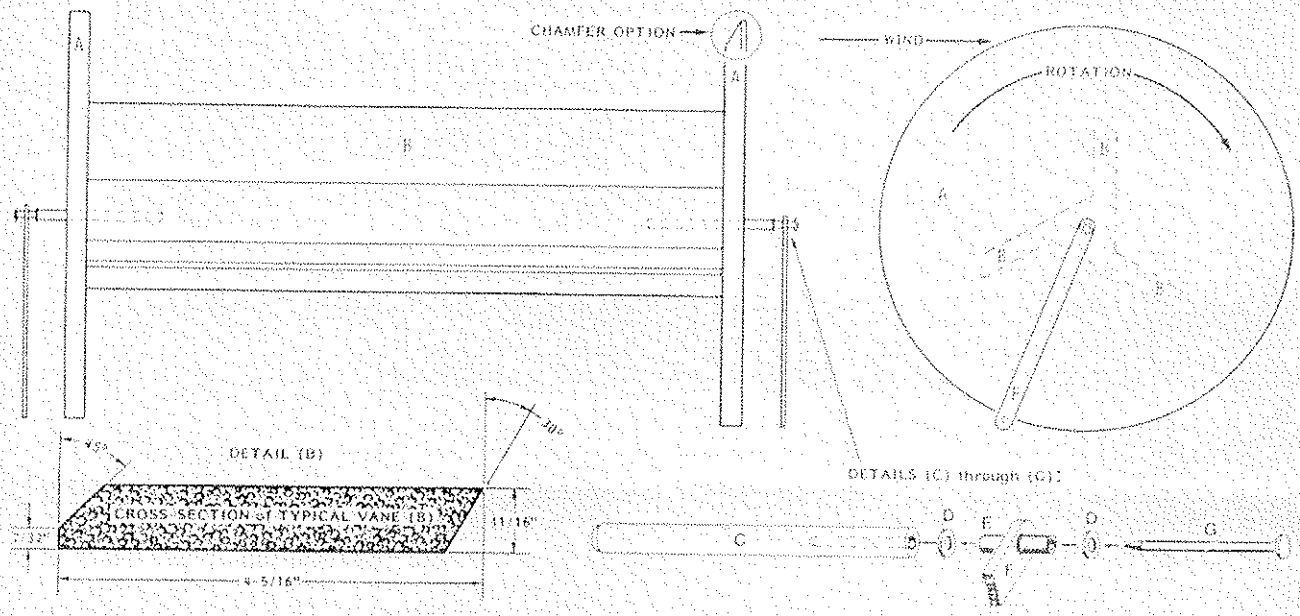



*Figure 6. Hornbeam Rotor 661 Kite Details—Make two End-plate Disks (A) of 11/16" thick styrofoam. Drill a 1/4" diameter hole in each center; finish outside diameters to 13-1/2". Make three Rotor Vanes (B) 20-1/2" long; accurately reproduce the cross-section that is shown in Detail B. Make two Pivot Bosses (C) of 4" lengths of 1/4" diameter birch dowel; chamfer one end of each; drill the other ends—accurately centered—3/32" diameter and 1" deep. Purchase or make four Washers (D): 1/4" outside diameter; 0.100" bore (use brass, steel, or nylon about 0.020" thick). Make two Pivot Bearings (E) of brass tubing: 1/8" outside diameter; 0.013" wall thickness; 3/4" long. Make two Leaders (F) of 1/8" x 3/8" x 7-1/2" spruce; drill 1/8" diameter holes 1/4" from the ends. Use epoxy cement to fix each Pivot Bearing (E) in one end of each Leader (F) (see detail). The two Pivots (G) are made from six-penny (6d) iron box-nails (0.093" in diameter and 2" long; file and polish away any asperities that were caused by the pointing and cold-heading process.)*



*(To be concluded in October)*