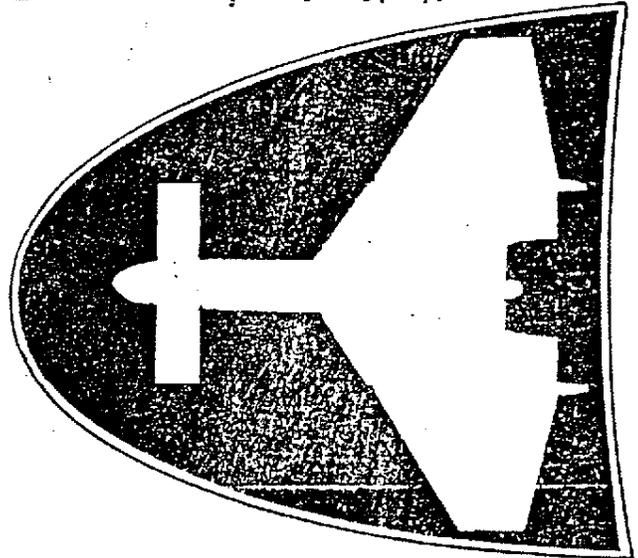


MAY 1974

RUTAN AIRCRAFT FACTORY/P.O. BOX 111/VALLEY CENTER, KS. 67147

## THE NEWSLETTER

staff has finally organized: Burt Rutan, Editor-in-Chief; Carolyn Rutan, Proof Reader. This being the first newsletter, will be mailed to all holders of VariViggen Tech. Reports and Plans. Future newsletters will be mailed only to those who actually plan to build an airplane and who have an Aircraft Serial Number assigned.

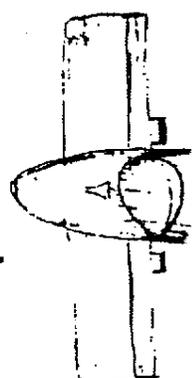


This is your newsletter, the sole purpose of which is to aid in your construction projects through exchange of information. Please feel free to send progress reports, comments, or photos of your project for printing in future newsletters.

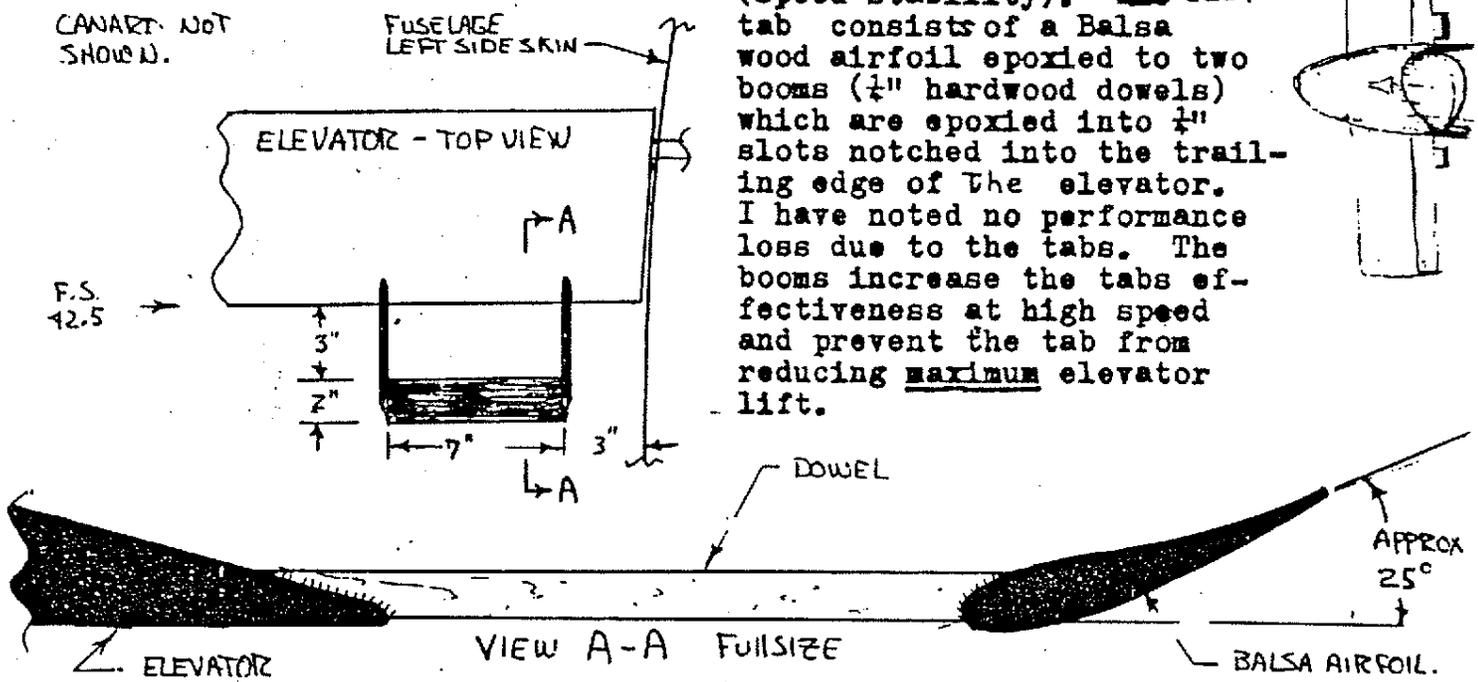
**ACTIVITY** at the RAF - Carolyn and I have spent a busy Fall and Winter preparing the plans and getting them mailed. My apologies to those who waited several months. Our prototype, N27VV, has passed her 300th flight-hour, and our latest inspection and relicense revealed only that she needed new tires and brake pads. The low maintenance requirements have been very pleasing. Check around and see how much flying most homebuilt prototypes see in their first two years! We took several trips this winter - see May '74 "Sport Aviation". N27VV has given two airshow performances so far this year and we have approximately eight more on the schedule for this season, including Oshkosh, July 31-August 6, and Brantford, Ontario, August 10 and 11. Sales of plans now total 190, and 53 builders have already returned their "Page Two", requesting a serial number and indicating that they plan to build an airplane. Of these, 41, plan to build theirs similar to the prototype or with minor modifications, and the rest - wow! We will see some very interesting flying machines! To get on the Sport Aviation list of Aircraft Under Construction, I urge you to notify EAA Headquarters of your project. To the builders, I'm enclosing a complete list of all present builders (by Aircraft Serial Number), their addresses, and any major modifications they are considering. I will mail the list to other plan holders only if they return "Page Two" indicating they intend to build an airplane. This list will be updated each Newsletter.

**PLANS** Changes - I'm very happy to report that there have been very few corrections reported.

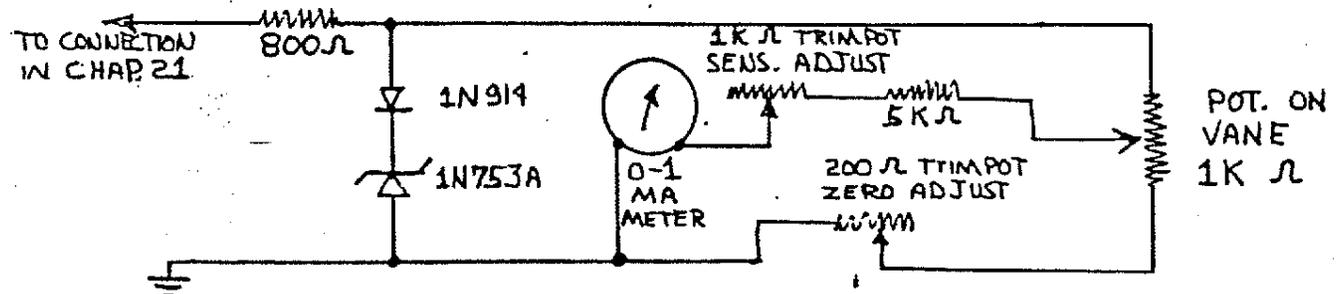
1. Material was omitted on F13; it is 1/8" plywood.
2. The fixed trim tabs, which are discussed in the Tech Report, were omitted. They should be installed on each elevator to improve trim characteristics (speed stability).



Each tab consists of a Balsa wood airfoil epoxied to two booms (1/4" hardwood dowels) which are epoxied into 1/4" slots notched into the trailing edge of the elevator. I have noted no performance loss due to the tabs. The booms increase the tabs effectiveness at high speed and prevent the tab from reducing maximum elevator lift.



3. The Tech Report refers to the propeller size as 70Dx67P. Performance on 150 hp is best with a 69Dx64P or 69Dx65P prop as shown in the plans.
4. Zounds! ~~W~~ don't plug in you angle-of-attack indicator! I slipped a decimal point on a resistance (pg 43 of Plans). The revised schematic shown, also includes the trimpots I have in my airplane to allow fine calibration. This is identical to the system in N27VV. This system can also be used for the car-top wind tunnel shown in the Tech Report.



5. The sharp eye will note the slant in the side of F121 bulkhead on pg 19 (B.L.12.1 to B.L.12.25). This is because the bulkhead slants backwards (see side-view) while the fuselage is getting more narrow (see top-view). No errors here; just a clarification of the reason for the slant.
6. NG35 is an 8" Scott tailwheel assembly, not 9".

**ALTERNATE** Source for Epoxy - I've found another wood bonding epoxy that can be substituted for the Epibond. It's a 50-50 mix and, thus, is less critical to mix than the 10-to-1 Epi-bond. It's Bond Master M666 by National Starch & Chemical Co., 653rd Ave., N.Y., N.Y. Weibe Wood Products, 311 S. Kansas, Newton, Ks., 67114, sells it at \$13. for two quarts. I've seen its excellent results in several wood aircraft.

**ENGINE** Selection - A lot of you indicate preference for larger engines. Frankly, I'd like to have an 180 hp O360 in mine, but I do not recommend the 200 hp Lycoming: the extra weight would create a tailheavy condition that would require some redesign. The same is true for a metal prop or constant speed prop. As many are now finding in other applications, the modern wood prop is unbeatable for fatigue-free safety.

**FULL-SIZE** Drawings - I received a question as to why all the drawings for ribs, etc. are not full-size to allow tracing to the part. The answer is because so many of the ribs, etc., are so long, that they won't fit any convenient paper size, and that paper that long, can shrink and thus effect the size of the part. If you use the following hints you will find that converting the scaled-down drawings will be a very small percentage of the work required to build your aircraft:

Do not draw the part full size to transfer to the material; transfer the dimensions directly to the wood or metal (ball-point pen on wood; BIC Banana on metal). Have a wife or friend read the dimensions from the drawing or grid while you use a scale to plot them on the material. This is much faster than looking back and forth and eliminates errors. Buy a Stanley metal tape, rule no. B61-112Y. This is a 12 foot retractable tape-rule with graduations in tenths of inches, not 1/16ths. That tool alone will save you many hours of conversions.

**MACHINED** Parts - A question has come up as to whether the machined parts will be available. If I can receive orders for 25 or more sets, the handling and shipping costs can be justified. The set would include

- |                       |                         |
|-----------------------|-------------------------|
| (8) WA5 taper pins    | (1) NG32, NG33, NG34    |
| (1) RM5 screwjack     | assembly (welded, heat- |
| (1) RM6 threaded tube | treated & chromed)      |
| (2) V1 plugs          | (1) NG37                |
| (1) NG1 spool         | (2) MG12                |
| (1) NG28              | (2) MG15                |
| (1) NG29              | (2) MG19                |
| (1) NG30              | (2) MG30                |
| (1) NG31              | (2) MG35                |
|                       | (1) MG42                |

Let me know if you would consider buying some or all of these. The price would be more than it would cost if you had a good friend with a lathe, but considerably less than if you took the drawing to the local machine shop. I'll definitely have F23, F25, F27, and F28 available by December 1974 and the cowlings shortly thereafter.

## PHOTOS

- I'm also considering making available photographs, if there is demand enough to get a low price. Let me know if you would be interested in

SET #1 8x10 Color - Top quality, suitable for framing:  
1 inflight shot  
1 ground shot with Carolyn  
1 shot showing cockpits with canopies open.  
Approximate cost, \$14. plus mailing cost.

Set #2 4x5 Black & White glossy:  
4 different inflight shots  
4 different ground detail shots  
4 different cockpit shots  
Approximate cost, \$5. plus mailing cost

**VARIVIGGEN PATCH** The symbol on the cover, we selected as the official VariViggen patch. Our distinctive plan view identifies us without need for words! Look for it at Oshkosh. Sew-on jacket patches will be available.

**ITEMS** - for Future Newsletters: Cockpit heat system, stowable ladder I-use for front seat entry, improved carb heat muff design, complete treatment process for sealing plywood and for exterior finishing, additional hints on electrical system, etc., etc.

**QUESTIONS** I can answer your questions, etc., promptly only if you include a self-addressed, stamped envelope.

FILL OUT BOX - RETURN TO RAF

- Yes, I probably would buy the machined parts if available.
- Yes, I would buy photo Set #1 if available.
- Yes, I would buy photo Set #2 if available.

I think the Newsletter could be improved by:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Name \_\_\_\_\_ TR# \_\_\_\_\_

Address \_\_\_\_\_ Plans# \_\_\_\_\_

\_\_\_\_\_ Zip \_\_\_\_\_ Serial # \_\_\_\_\_