# NEWSLETTER

## EAA Chapter 245

### Experimental Aircraft Association of Canada

## Ottawa, December 1977

President	George Reid	749-0792 (home)
		238-3222 (bus.)
Vice President	Frank Cianfaglione	731-5001
Secretary	Eric Taada	722-7258
Treasurer	JMarc Bastien	234-8205 (home)
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	Ottawa, K2H 7J9	

Meetings - 3rd Friday at the War Museum, 3rd Floor, 660 Sussex Dr., - 8 pm

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(Opinions expressed in this newsletter are those of the contributors and not necessarily the Experimental Aircraft Association of Canada.)

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# MINUTES OF EAA CHAPTER 245 MEETING OF NOVEMBER 18, 1977 HELD AT THE WAR MUSEUM, OTTAWA

Meeting ppened at 8:17 pm

Attendance: 50

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Four guests were welcomed including a Mr. Peterson who expressed interest in the KR III amphibian.

The chapter crests are on the way and will be available at the December meeting.

Red Morris of Zenair has indicated willingness to bring a Zenith 2-place or the Tri-Z to Ottawa in time for the December 16 meeting. Any interested people should contast George Reid if they have not already put their name on the letter of interest.

The Composite Seminar starts at 8:45 a.m. Saturday, December 3 with Burt Rutan lecturing. A super 8 mm movie of the Varieze in flight will be shown. A

cafeteria lunch will be available at Centennial College. During the afternoon, George Gibbons will be demonstrating foam cutting and glass epoxy layups.

Jay Hunt of Aerobatics Canada, Ottawa chapter outlined the history of his organization for us. Jay was a competitor in the recent International Championship at Kiev and has been very active in getting Ottawa's Chapter 5 going. They now have a membership of 44 and an aerobatics practice area at Carleton Place airport. The Canadian championship was organized at Carp in September but due to very poor weather only the unlimited class competition was held.

Jay gave us a real insight into aerobatics, more specifically a cockpit view of a Lomchevak by movie camera. A very exciting movie that will tempt the less timid of us, I'm sure.

After the intermission Glenn Brunton and Joe Bajada held the group's interest with a practical sheet metal and riveting seminar. A vertical stabilizer for a BEDE 4 and vertical stabilizer for a T-18 were present as examples.

# 10 elimente Eric Taada

CHAPTER CREST - The chapter crest is finally out and will be on sale at the December meeting at \$4.00 each. I'm sure you will find them attractive and well worth the long wait.

Our chapter president is hoping to pick up a number of EAAC Crests and Decals at the seminar in Toronto and these should also be for sale at the next chapter meeting. Costs are \$3.00 and \$0.75 respectively.

CANADIAN SPORT AVIATION NEWS - The chapter has received a number of copies of the latest issue of Canadian Sport Aviation News, Vol. 1 No. 4. Copies of these will also be available at the December meeting or by contacting your Editor. The chapter received only 35 copies of the news, not enough to send to all members, so until we receive more copies it will be a first-come-first-serve proposition.

CHAPTER QUESTIONNAIRE - Attached to this newsletter you will find some preliminary results of the questionnaic sent to all members a couple of newsletters ago. The attached sheets shows homebuilts under construction, homebuilts owned and flying and homebuilt plans available for reference only. To date your Editor has received about 22 replies, not too good of a response considering that the chapter has about 75 members. If you haven't completed yours, do it now and pass it on to any executive member. Thank you.

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MEMBERSHIP DUES FOR 1978 - At the last executive meeting, the dues for 1978 was set at \$10.00. This is an increse of \$2.50 over the 1977 dues but in fact the chapter will be getting \$0.50 less from each member. In previous years, the chapter sent to EAAC \$2.00 per member leaving \$5.50 for the chapter treasury. Now with the increase in EAAC to \$5.00, only \$5.00 for the pot. With all costs going up, I guess the chapter will have to tighten its belt and spend less. With the cost of coffee, donuts, postage stamps, writing material, etc. ever increasing, we'll have to really look at our expenditures and cut-down or cut-out in some areas. A real challenge to-day.

# PRESIDENT'S CORNER

By the time this issue hits the streets, warmer flying will only be about four months away. That's enough to spur on all the keen builders who want to see a daylight under their tires next summer. Which means that there is a lot to be done between now and then.

Starting at the membership level, many projects are buzzing along and some are about to start. Glenn Brunton feels his BD-4 needs a kid brother so he is about to launch off in a cloud of sawdust and slivers in the production of a Taylor Monoplane. Howie Hamilton has a head start on a similar aircraft and is well into the first turn. Somewhere ahead on the backstretch Doug Hayes is running hard on his Tu-Holer and Ken cavers is almost negk and neck with his C---c. (I never could pronounce it!). Others, myself included, will spend part of the ice age doing small repairs and generally getting ready for the spring launching time.

At the chapter level there are always things to be done and your "new" executive won't find the time dragging. The hangar question - to be or not to be - is still breathing and of great interest to some of the members. Perhaps another shopping center display might come along in which case some of us could get busy almost right away preparing small items. One each from a lot of members makes for a large showing of components. Other suggestions for chapter level activity could be made and I'm sure your executive would gladly listen to each one so how about passing along your ideas to them? And then get involved in the resulting action - that is half the fun of belonging.

At the EAAC level things look marvellous just now to one who has been in this hobby for fifteen years. The seminar in Toronto on composite construction and the joint meetings between EAAC and DOT officials are reflections on just how far this movement has progressed since Joe Collins bought his first plank of Sitka spruce. And there is more to come in the future I'm sure. I'll bet by 1990 there will be a real good 85 H.P. engine on the market again. If I start on a Midget Mustang now, my timing should be just right!

Before I sneak away, let me tell you what EAA is to me. It's people, like Alex Fulton who, quietly and without fail, conjures up the coffee and donuts at every meeting. And Bev Field who drives heaven only knows how many miles every year to attend our meetings. And Ted Slack who is an enormous sparkplug in the movement but who goes on sparking quietly and continuously for the good of the movement. And all the rest of you who fill the chairs each meeting so that the President has someone to talk to. I have enjoyed this past year - I'm looking forward to joining the back row next year. Best Xmas wishes to those of you who can't make the December meeting and to all the other chapters and clubs who receive this newsletter.

Cheers!

George Reid

FAMOUS LAST WORDS - "Looks pretty crumby ahead. Let's do a 360 and get the heak out of here."

SOMETHING TO THINK ABOUT - After all the chapter 245 new executive was elected by acclamation, the latest Hamilton newsletter came as a bit of surprise. It goes as follows:

"EAAChapter 65 has eight Directors, serving terms of two years each.

Half of the Directors' terms become due each year, expiring on 31 December.

"Nominees have been asked to aid the membership in their choice by submitting a brief statement. Not all statements were received in time for inclusion in Crosswinds, so in such cases the Editor has added some background material which is available to him."

There follows background information and the aims of some candidates for office of eight members seeking a Directors position. I'm curious to find out how many names appeared on the ballots in the EAA 65 elections. We'll also have to find out what they got that we haven't; besides a beautiful hangar. Drool, Drool!

# 245 NOTI CEBOARD

FOR SALE
Continental 470J 225 hp
Will major at additional cost
Contact: Bernie Lapointe
(3) 12 deNiverville Dr.
CFB Ottawa S, Ont.
613-521-4676

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WANTED
- Small Oil Cooler
- Tail Wheel Assembly (should be 8"
diameter and pneumatic)
Contact: Garry Fancy
(3) 613-829-4682

WANTED
Chipmunk Propeller
Contact: Frank Cianfaglione
(1) 900 Garwood Ave.
Ottawa, Ont., KlV 6X1
613-731-5001

MEETING

EAA Chapter 245 Ottawa
War Museum, Sussex Dr.
8 pm, December 16, 1977

WANTED
Auxiliary Tank 3.4 gal. for 1946 Aeronca
Chief also Wing Struts Complete or
partial set.
Contact: Bernie Lapointe
(3) 12 deNiverville Dr.
CFB Ottawa S, Ont.
613-521-4676

WANTED
7AC Aeronca C65 exhaust stacks L&R.
Heat Muffs. Air Box.
Contact: Len Forsyth
(2) 128 Vercheres St.
Gatineau, Quebec
663-6496 res.
741-0741 off.

A SAFE RETURN - The following incident happened to our Chapter Vice President

On November 19, 1977 about 11 AM, I was on a flight from Ottawa aitport to Smith Falls airport for the purpose of putting the airpraft in a hangar for the winter. The pre-flight consisted of the usual walk around plus the removal of about  $\frac{1}{2}$  inch of wet snow from the wings and the tail surfaces. The temperature was about  $1^{\circ}$ C ( $34^{\circ}$ F). The flight was planned for 2000 ft. for the 38 mile flight.

I encountered a slight drift at 2000 ft. so I corrected this with rudder and aileron. I noticed after a few moments that the aircraft needed more aileron. I moved the stick more to the right until I came to the stop. I looked at the ailerons but they were level. I moved the stick from right to left and back again and noticed that the ailerons moved about 2 inches up and down and were very stiff. I repeated the movement and suddenly the stick was free but the ailerons dis not move at all. I had lest all aileron control. I proceeded on course not knowing what to do thinking that this always happens to the other guy but now that person is me. I tried to diagnose the problem and arrived at the conclusion that something was broken directly under the stick since neither aileron moved. The air was a bit bumpy and I was controlling the aircraft by using the rudder and elevator. I tried to lift the floor board to investigate but it seemed that just as I would remove my right foot from the rudder pedal the aircraft would go into a left bank thereby requiring right rudder to straighten out. I was afraid of getting into a spin and then not being able to get my foot back in place soon enough. I didn't know what to do at this point so I elected to continue on to Smith Falls and try a landing. The runways there are not very wide and they are gravel surfaced with trees all around. On the approach at about 100 feet above ground level the right wing suddenly lifted and I found myself heading for earth. I am not too clear what happened then but I think I instinctly pushed the right rudder and applied full power. The aircraft leveled out again and then I commenced a climb. I elected at this point to fly back to Ottawa where the field is flat and clear and the runway is 10,000 feet long. On the way back, I called upon divine assistance to help land the plane. Upon entering the control zone I contacted the tower and explained my situation. They asked me to do a 360° upon which I replied that without ailerons, this would be difficult to do. The controller then cleared me in following another light aircraft. I lined up with the runway and slowly descended recalling that with a pusher configuration I should keep lots of RPM's so that the rudder will be effective. I finally touched down smoothly, in fact smoother than any other previous landing. God was my co-pilot.

I investigated the cause of the problem and found that the cap screw (413-6) which is welded on the end of control push rod 413-2 was broken. Looking at the drawing, it was the cap screw shown on the left side of the drawing. (Ed. A copy of the drawing can be found elsewhere in this newsletter) As this item is installed (see drawing 409), this cap screw is in tension and compression and also a bending moment is present. A preliminary look at the cap screw failure by the accident investigation people of the Ministry of Transport (Canada) revealed that the cap screw failed due to repeated cyclic bending.

Later on in the day, I visited another Coot owner, Albert Pellerin of Hull, Quebec (across the Ottawa river from Ottawa) and showed him the failure. He said that the exact thing occured to him last year in November except that he detected the problem on the take off check. He checked below the floor boards and saw that the cap screw had been bent in the same manner as mine and that a fracture which had commenced had almost worked through the bolt. He thought it was an isolated incident and as I recall, he did mention it to me but I wasn't too clear about it

then and promptly put it at the back of my mind. He had a welding set at his place so we cut off the cap screw and welded on another one. The remains of the fractured cap screw are now being investigated by the accident investigation group but on a low priority and on a request basis, evidently because I did not declare an emergency when I landed.

I installed the repaired rod on the Coot and on Nov. 20, I flew it to Smith Falls and put it in a hangar for the winter. I matelia ero be see that a set the Frank Cianfaglione

TOOK DESIGNATION OF THE STREET AND TOOK

SAFETY NOTE - Frank's incident brings up a very good question, "What would you do in your airplane if you lost all aileron controll?". Or any other control, rudder, elevator or trim. Or instrument, altimeter, airspeed, tachometer, etc.. The next time your up boring holes through the sky some Sunday afternoon, try flying your aircraft without the use of aileron, rudder, etc. I keep saying "your aircraft". Each aircraft is different and the response will be different so the way you react to a situation might be different if your flying a Coot than a Cessna 172.

For those of you not familiar with the Cessna aircraft handbook, let me quote

from a section entitled "Emergency Let-Downs Through Clouds".

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"If possible, obtain radio clearance for an emergency descent through clouds. To guard against a spiral dive, choose an easterly or westerly heading to minimize compass card swings due to changing bank angles. In addition, keep hands off the control wheel and steer a straight course with rudder control by monitoring the turn coordinator. Oceasionally check the compass heading and make minor corrections to hold an approximate course. Before descending into the clouds, set up a stabilized let-down condition as follows:

Apply full rich mixture. Apply full rich mixture.

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of per laste (2) use full carburetor heat. (3) Reduce power to set up a 500 to 800 ft./min. rate of descent.

(4) Adjust the elevator trim tab for a stabilized descent at 90 MPH.

Keep hands off the control wheel.

Monitor turn coordinator and make corrections by rudder alone.

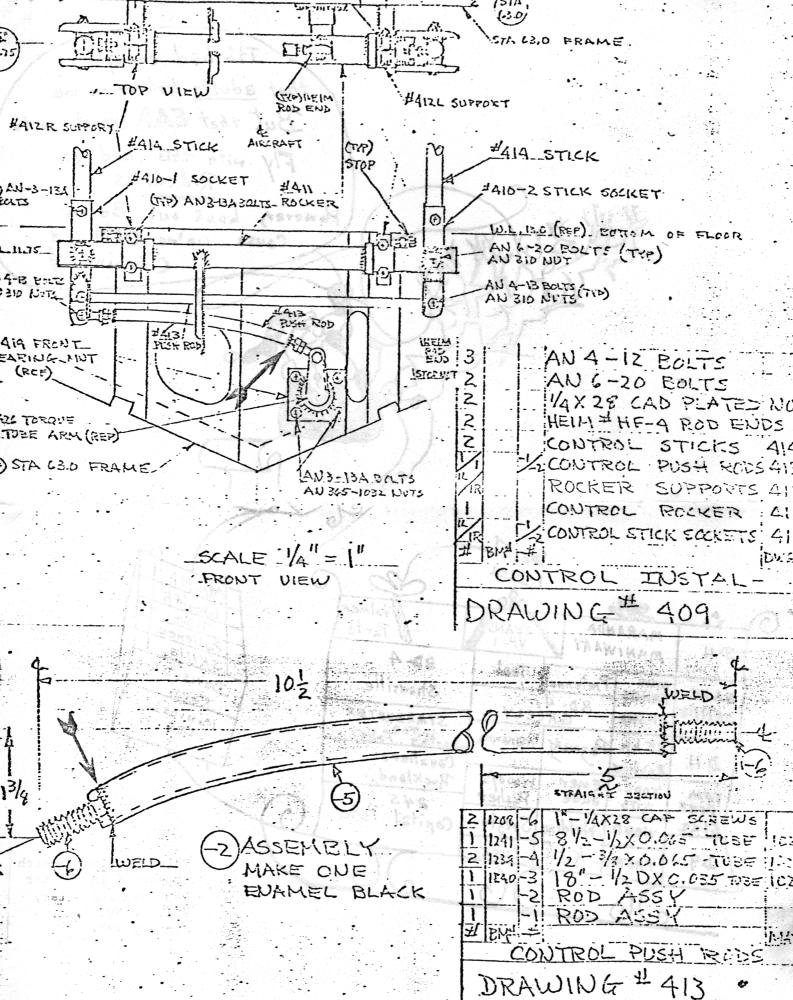
Check trend of compass card movement and make cautious corrections with rudder to stop the turn.

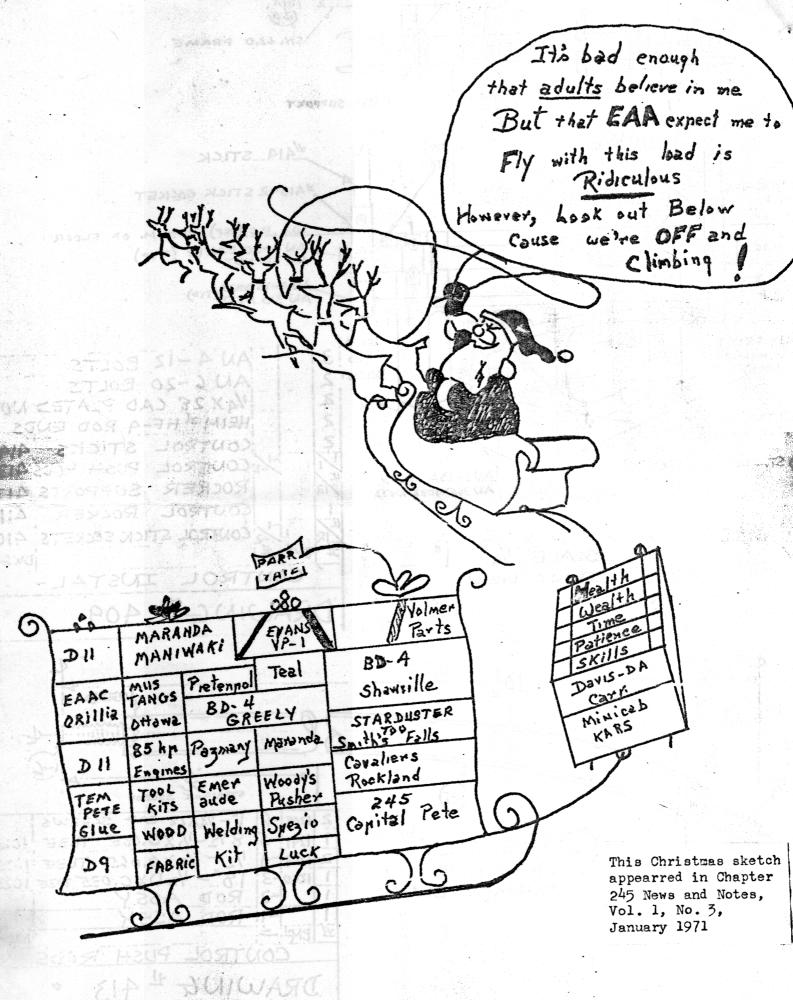
(8) Upon breaking out of clouds resume normal cruising flight."

exact thing cours to his last year in November except that he estected

Your Editor has tried this procedure in level flight using the Directional Gyro and found that you can fly hands off not only straight and level but also slow turns. What's so difficult about instrument flying? Frank also proved that you can fly without the ailerons in an emergency situation. So go out and try it to gain the experience in case you get caught with your ailerons down or in instrument conditions. Really instrument flying is not as easy as I tried to show but the above procedure could be your life saver if you do experience some unusual situation . Don't wait till it happens, do it now. Sies eR parti 9 ed; a baweds bon (sepis cort revit serio cat vacta) a

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## QUESTIONNAIRE RESULTS

# Homebuilts Under Construction

Ovjetkovic CA-61 Mini Ace - Ken Cavers

Evans VP-2 - Jim Tyler

Osprey I - Bruce Hamer

Pereira GP-3 Osprey II - Joseph-Marc Bastien

George Reid

Taylor J.T.1 Monoplane - Howard Hamilton

Zenair Zenith CH-200 - Bob Acheson

# Homebuilts Owned and Flying

Bede BD-4 (taildragger) - Clare Strutt

Bede BD-4 (tri-gear) - Glenn Brunton

Davis DA-2A - Jim Bradley

- Bev Field

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Jodel D-9

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State SA-63 Flut-R

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Evans VP-I - Jim Laing

Steen Skybolt - Garry Fancy

Stits SA-6B Flut-R-Bug - Roger Bryant

Taylor Coot - Frank Cianfaglione

Taylor J.T.1 Monoplane - George Reid

## QUESTIONNAIRE RESULTS

# Homebuilt Plans (for reference only)

Aerosport Quail - Howard Hamilton

Bakeng Duce - Bob Aitchison

Bede BD-4 - Glenn Brunton

Bowers Fly Baby - Howard Hamilton

Evans VP-2 - Jim Tyler

Jodel D-9 - George Reid

Minicab - George Reid

Miniplane - George Reid

Osprey 1 - Bruce Hamer

Pazmany PL-1 - Jim Butler

Pitts - George Reid

Rand Robinson KR-2 - Peter Plaunt

Rutan VariEze - Peter Plaunt

Rutan VariViggen - Howard Hamilton

Sindlinger HH-1 Hawker Hurricane - Howard Hamilton

Spezio DAL-1 Tuholer - Roger Bryant

Stits SA-6B Flut-R-Bug - Roger Bryant

Stolp SA-300 Starduster Too - George Reid

Taylor J.T.1 Monoplane - Glenn Brunton

- George Reid - Bill Laundry

Volmer VJ-22 Sportsman - Bruce Hamer

Wag-Aero CUBy - Bob Aitchison

Zenair Zenith CH-200 - Bob Acheson

- Steve Fogarasi

# Episode 2 - "AN AIRPLANE DESIGNER BEGINS A NEW PROJECT" from Airplane Design by K. D. Wood

Having finished the morning paper the Designer leans back in his chair and starts to read over the customer's specification for the new airplane.

Thinks it would be a good idea to underscore with red pencil the parts of the customer's specification which will affect the design. After completing four pages finds that he has underscored all but three words so throws down specification in disgust.

Goes into Drafting Room to discuss latest sporting news with favorite layout draftsman. Finds him busy on a rush job for another designer. Dashes into Chief Engineer's office and pounds on desk, demanding that favorite draftsman be trnsferred to his project and moved into his office to assist, as no other draftsman is able to understand what he wants done. Chief Engineer grunts and says that he'll think about it.

Wanders through drafting room looking at work being done for other designers and offering suggestions which involve scrapping all drawings and starting over again.

Designer is startled on returning to his office to find that favorite draftsman has already been moved in and is ready to go to work.

Suggests that centerlines be drawn here, here, and here, and returns to desk for contemplation.

Reads through specification hurriedly and then slams it down on deak asking howinell customer expects to get all that in one airplane.

Looks at drafting board and suggests that center lines be moved to here, here, and here to allow more room for expansion of sketches.

Lights cigarette and starts reading specification again with determination. Discovers that latest model of engine is called for. Swears blue streak but \*\* is secretly glad as draftsman will be kept busy for a few hours making a scaled-down drawing of engine.

Gets new notebook and paper filler from stock room and letters name of new project and his name carefully on front cover, inking in letters with beautiful shading.

Places feet on desk and starts trying to concentrate on the details of the specification again.

Factory Superintendent calls up and says would like him to look at a fitting of his design which is giving trouble in shop. Designer says that he'll be down immediately to look at it. Shop Superintendent faints at other end of phone as he expected that Designer would manage to get down to see fitting in about three days, as usual.

Returns to office and starts in on specification again, Notices grasshopper on window sill. Studies unique details of grasshopper and considers application of catapulting gear for Navy ships.

Goes over to golf club for lunch and discusses merits of new design of clubs with professional.

Returns to plant and as he passes watchman's gate-house hears important base-ball game being broadcast on radio. Listens to several innings, discussing probable outcome of pennant race with watchman.

Back in office starts reading over specification again.

Admires lettering on cover of new notebook and then numbers pages therein, using ornamental figures.

Suddenly realizes that if he is to turn out design which is absolutely up-to-date it will be necessary for him to read up on latest developments here and abroad as noted in aeronautical magazines. Gets magazines and reads all social and political news therein. Makes mental note to read technical articles later.

Wanders down into shop to watch operation of new rivetting mavhine.

Talks ower international political situation with foreman of the Sheet Metal Shop.

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Hears report that new airplane built by competing company has landed at field so drives over to see if there are any new ideas thereon to be appropriated. Looks ship over carefully. Points out to foreman of Hangar Crew all details which were improperly designed and expresses amazement that competitor managed to get a large production order on such a poor airplane.

Walks down to the School Hangar to watch students practicing landing. Comes to conclusion that modern landing gears are pretty good after all.

Back at office starts to read specification again but notices that his slide rule is in need of cleaning. Decides he had better clean rule thoroughly as he will be using it a lot.

Also notices that desk drawer in which he keeps cigarettes, rubber bands, chewing gum, paper clips, smoking tobacco and pipe cleaners is in need of fixing up. Takes considerable care in working out good arrangement of contents.

Sees that it is almost quitting time and if he doesn't hurry he will probably hold up the starting time of his golfing foursome. Puts on hat and coat and wanders over for look at drafting board. Observes that favorite draftsman has made progress on preliminary sketches for new design.

Editor - Having worked in an airplane design office for 5 years, it doesn't sound like anybody that I know. Sounds more like the stereotype of a Civil Servant.

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FAMOUS LAST WORDS - ".... and to make it go up, just pull back on the stick."

1978 GOODIES - In the early 1970's, Jim Bede ran a series of advertizements in Sport Aviation initially called Be Design (BEDEsign) and later Bede Design. Thirty of these design sheets were published and contain valuable information for the homebuilder. Quoting Jim Bede, "This is the first in a series of 'design discussions' presented by Jim Bede. It is hoped that the various engineering problems to be covered in this series will be of use to homebuilders everywhere and, in their own way, contribute something to the homebuilt movement".

Starting with the January issue of our newsletter, your Editor will select one of these articles for re-publication. Of the thirty design sheets, about half are related to structural design and the other half to aerodynamic design. Thus each newsletter presentation will alternate between these two areas. Your Editor being an aerodynamicist, the first copy will be on aerodynamic design, Aircraft Stalling Speed (Bede Design No. 4)

If you have any particular interest that you feel could be covered by a page of information, let me know and maybe we can get experts in the area to make up a sheet for special presentation. If we find one or more topics in demand, possibly a regular meeting could be used to present the subject. Talent in the Ottawa area is practically unlimited but your executive must know what you want or need in order draw on that talent. So let's hear it from you, by mail, by phone, by word of mouth, etc. and we will try to respond to your wishes.

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### LATE NEWS

COMPOSITE SEMINAR - In regard to the meeting of minds between Transport Canada and the EAAC Technical Committee, I have some news. It may be very good or very bad or somewhere inbetween depending on your attitude toward regulations and restrictions. Those who advocate the principle that we should be able to do what we want when we want will find the meeting results very bad. But for those who believe that a new technology is being explored and that the approach to these non-conventional techniques require caution and understanding so that nothing is done or undone that endangers the EAAC present position with our regulative authority, will find the news very good. Your Editor who has expressed in previous 245 Newsletters that safety, which is of prime concern, is only achieved through education and not legislation, feels that the proposed approach to homebuilding aircraft with composite type structures in Canada is good.

I must say here that I am quite wrong in saying that safety cannot be achieved through legislation. Of couse, abolition of an activity by legislation is a positive way to assure safety and I'm sure that this is being considered as a possible couse

of action by some members of the aviation community in Canada.

"Well what came out of the meeting" I can hear you say. Transport Canada has indicated that the green light will be given to the homebuilding of composite structured aircraft in Canada. One or two more meetings between Transport Canada and EAAC are required and the approval should follow in the very near future. Proposed conditions on the construction are two in number.

- 1. Approval by aircraft type will be given and not a blanket approval on all types of aircraft with composite structure. The initial approval will be for Burt Rutan's VariEze and Larry Haig's American Eaglet. Official notice of the goahead will appear in Canadian Sport Aviation News, Sport Aviation, in all, I'm sure, Canadian Aviation magazines, and official Transport Canada publications.
- 2. The builder <u>must</u> follow all the designers' instruction and inspection procedures as spelled out in their manuals, handbooks, etc. No rushing off to the local auto supplier or boat builder to get cheaper materials. Only designer approved substitutes will be allowed by the inspecting authority who, by the way, will be using the designer recommended inspection procedures to give your workmanship the once-over. So if you follow the book, no problems should result in either the building or the inspection.

Both these limitations may seem restrictive to some but we have to learn to walk before we can run. After a few years of successful construction and flying, these conditions will most likely by relaxed and composites will be classed as just another type of construction along with wood, metal and rag and tube.

The thanks of all EAA'ers in Canada should go out to Ted Slack and the Technical Committee. They have done a tremendous job and established an excellent rapport with Transport Canada. We will hear more about this in the future as the EAAC Designee program gets nationalized. Great things are in the future for the EAAC and your cooperation in any way possible is requested.

WELCOME BACK LYDIA - Lydia Little has moved back to Ottawa and for any of you who would like to get in touch with her, the address is R.R. 1, Osgoode, Ont., KOA 2#0.

(1) Aeronca 7AC rigging. Wide bottoms.
Contact: Doug Hayes

613-833-2333



RETURN TO : RETOURNER À
18 Beaumaris Dr.
Ottawa, Ontario
K2H 7J9



P. POBLINSON

R. ROBINSON 20 9TH AVENUE PTE GATINEAU QUEBEC

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