

NEWSLETTER

REPLY TO: EAA CHAPER 245 , TERMINAL BOX 8412

OTTAWA , ONTARIO

K1G 3H8



CARB HEAT - Hot Air and Flying Rumours

Meetings - 3rd Friday at the National Research Council Building Auditorium
100 Sussex Drive, Ottawa, 8 pm

Feb. '86Minutes of January 17, 1986 Meeting

Eric made the following announcements:

- The Ottawa Fly Club is holding its Wings Dinner on January 25th at the Canadian Forces Uplands Base. The guest speaker will be Paul Poberenzy, President of the Experimental Aircraft Association.
- There is a Carp Airshow Meeting on Sunday, June 19th at Mylight-Carp. Membership in the Carp Airshow Association is \$12.00.

NOTES ON TOOLS, ETC.

from talks by

Eric Taada, Ken Cavers, Gord Standing and Gary Fancy

ERIC introduced the talks on tools by mentioning the usefulness of 3M scotch-brite aluminum oxide abrasive pads for those working with aluminum. He also noted that he had had good success with 3M glue - #2216, in bonding aluminum strips onto a cowling. Cleaning off the surfaces is essential - an alcohol based cleaner is available from Ottawa Plastics.

For those who like the accuracy available with modern technology, Eric had digital calipers available for examination. Cost - \$125. He also brought with him an example of excellent safety glasses and a pair of ear defenders - by David Clark - which he considers about the best you can buy (\$27.).

KEN showed his plywood scarfing machine that he designed himself - the end result of a number of trial models. It has a 3-inch drum sander mounted onto a 1/2 H.P. table saw motor which turns at 3600 rpm. This gives the necessary speed and power to produce a straight, even scarf - the leading edge of Ken's CA-61 Cjchkovic wing is entirely of wood, so obviously he's found his machine very useful. He uses 16:1 ratio for his scarf for more strength than the more common 12:1 ratio.

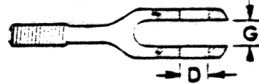
Pres: Eric Taada	749-4264	Vice-Pres.: Roger Fowler	225-6070	Program Director:
Sec: Terry Peters	745-7466	Newsletter: Dick Moore	836-5554	Peter Plaunt
Aircraft Op.: Garry Fancy	225-0454	Treasurer: Gord Standing	224-2879	839-2283

GORD commented that the handiest tool in his opinion is a file! And with that he offered to pass on a little information on turnbuckles, a subject he knows fairly well - his Flybaby has 26 of them in four wing panels and a centre section. He discovered too late that you are not supposed to have more than 3 threads showing. Over half of his did, so rather than change all the turnbuckles he bought more wire and replaced the cables to get the proper length so the turnbuckles could be brought back to 3 threads max! (It was an expensive mistake).

There are three types of ends:

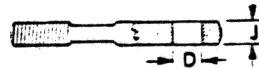
AN161 For~~k~~ (which can be slipped over a metal fitting)

AN161
FORK



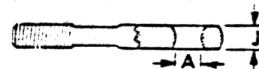
An165 Pin eye

AN165
PIN EYE



AN170 Cable eye

AN170
CABLE EYE



A bushing can be bought to change a fork end to a cable end (i.e., an insert)

AN111 CABLE BUSHINGS

Made of cadmium plated steel. Used in same manner as AN100 cable thimble.



Dash No.	Cable Size	Price	
		Each	100
-3	1/16", 1/32"	.48	38.40
-4	1/8"	.52	41.60

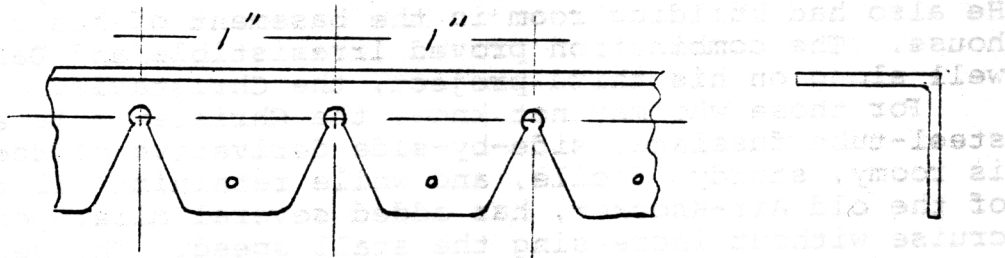
Turnbuckle barrels come in two lengths: 2-1/4" and 4". An assembly can be ordered with a fork on one end and a cable eye on the other - An130-16 for example. The No. 16 following the AN130 denotes that the turnbuckle strength is 1600 lbs. An "L" after the 16 would indicate a long (versus short) turnbuckle. All must be safety wired with 0400 locking wire.

Gord started with his turnbuckles extended to the maximum, laid out his cables and then tightened. He ended up with about one thread showing (hand tighteners plus one complete turn).

The minimum amount of cable that can stick out of a swaged sleeve is 1-1/2 times the diameter of the cable.

Gord used 5/32" cable and 1/8" 4130 mounting plates.

GARY demonstrated how he prepared angled aluminum strips for bending, to be mounted onto the firewall. Instead of putting cuts into the strips he drills holes about one inch apart and then makes cuts which he files smooth. The results are shown on a demonstration piece, was very professional.



A rechargeable electric drill (i.e., no wires attached) is very handy (cost - \$60. to \$70.) and works well on light aluminum. He noted that rechargeable batteries seem to have a memory. The battery should be allowed to run down almost completely before recharging - it will take a better charge apparently if this is done.

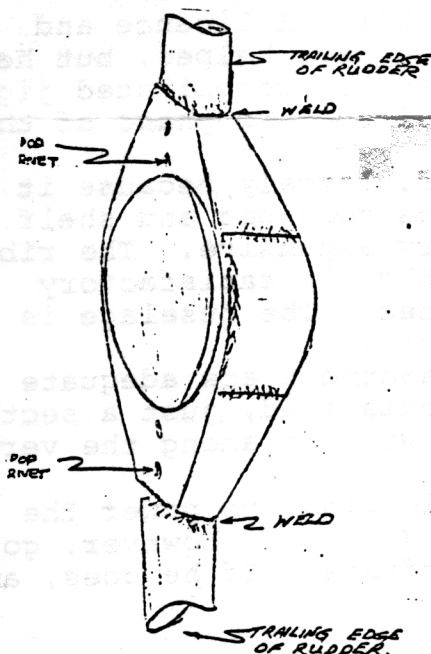
PETER PLAUNT played host to a guided tour through the NRC machine shop and showed some of the complex and interesting machining tasks undertaken in support of scientific research.

TAIL LIGHT RECEPTACLE MOUNT

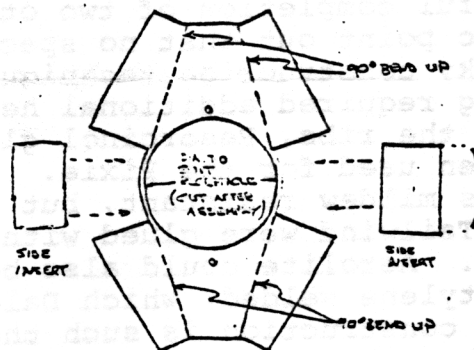
by

Garry Fancy

The following illustrates one of making a tail light receptacle mount. Although this illustrates the method of attaching the mount to a steel tubing trailing edge, it can easily be adapted to wood or aluminum structures.



TAIL LIGHT RECEPTACLE MOUNT.



1. Cut mount from .028-.070 steel (do not cut centre hole)
2. Bend four sides up
3. Cut side inserts and bend to fit outer circumference of hole
4. Weld in side inserts
5. Cut central hole dia. to fit receptacle
6. Weld mount to rudder trailing edge
7. Pop rivet mount (min. 2 places) to trailing edge
8. Fasten tail light receptacle to mount

CHAPTER PROJECT REVIEW: Dale Lamport's Christavia

Having completed, flown, and sold both his Tailwind W-8 and his Pober Pixie, Dale Lamport evidently was anxious to do something with his cash, free time, and his "no-plane" situation. He also had building room in the basement of his recently-acquired house. The combination proved irresistible and Dale is now well along on his third project, the Christavia.

For those who may not know, the Christavia is a high-wing, steel-tube fuselage, side-by-side derivative of the Champ. It is roomy, sturdy, docile, and while retaining all the good features of the old Air-Knocker, has added several miles-per-hour to the cruise without increasing the stall speed. The secret is a computer-generated airfoil with which the designer, Ron Mason, is very pleased. Dale flew in the prototype before choosing a design and says the plane lives up to the published specs.

When I visited Dale, he had the plans pinned up all over his basement walls. My impression of clarity, good detail, thoroughness, and general professionalism was confirmed by Dale. He also noted that the designer is readily available for help, either by visiting him in Belleville or phoning him. In short, observed Dale, the plans are so good that they would be excellent for even a first-time builder. Incidentally, last summer I was privileged to see the prototype Christavia Mark II, a four-seater, and its plans even include a master sheet with every tube numbered, identified, and briefly explained. These plans too looked very professional and were drawn by Ron Mason himself.

By way of individual touches, Dale plans to put the trim tab on the open side of the cockpit for easy checking. Also, he will position the trim control on the wall, not the ceiling, as indicated in the plans. Personal preference will also account for a square tail (like a Citabria) rather than the rounded look of the prototype. The cowling and windows will likewise be altered as part of the overall attempt to give a Citabria-look to the bird. The structure, however, adheres faithfully to the plans, something Dale recommends other builders do as well.

To date, no problems have been encountered in the construction of the plane. Dale admits that his AME licence and successful completion of two other projects have helped, but he is quick to point out that no special machinery or complicated jigs or tricky construction techniques are required. No phase of the building required additional help.

For the ribs, Resorcinol glue was used, largely because it had also been used for the Pixie. The glue has good pot and shelf life, is mildew resistant, but is also very expensive. The ribs on the Tailwind were glued with SW-1, with fully satisfactory results. Aerolite could also be recommended. The fuselage is oxy-acetylene welded, which Dale did himself.

The construction is such that basic handtools are adequate for the task. The work area is likewise unspecialized, just a section of the basement. Axle threading and nuts will be among the very few jobs farmed out.

Since electrics will be installed, Dale plans to power the craft with at least a 100 h.p. windmill. He could, however, go up to 150 h.p. without altering the basic airframe. If he does, and

if Garry Fancy and Henri Beaudoin similarly equip their Cuby's, the chapter will have three home-sick angels in terms of climb performance. (Look out Pietenpol, here they come!) The condition of the powerplant is not a great concern to Dale since his AME qualifications would make any necessary overhaul a fairly routine matter. If he can locate one, he will hang a metal prop on the nose, due to its greater efficiency.

No figure was available for the time invested so far, but Dale guesses he is about 20% finished. The tail feathers were finished and the fuselage is nearly done. The cabane cross members cannot be installed until after the plane leaves the basement because the stairs and doorway are too narrow. Progress has been about as expected, perhaps because Dale frequently slots in one and one-half hour bursts or smaller daily stints. He cautions, however, against working against an unreasonable timetable or when frustrated. That's when you make serious mistakes or take shortcuts that come back to haunt you later. At his present pace, he contemplates completion in about another 2 years. Another related piece of advice is to have all the necessary materials available at the start, so that network stoppages occur due to lack of material.

From his 2 previous homebuilts, Dale bent the fuselage sides after they had been removed from the jig, which is the usual method. This time, he experimented and bent each side right in the jig. The new technique worked fine.

His bag of tricks goes much further, however. He reduced the speed of a (\$75) Black and Decker band saw to 53 f.p.m. for metal cutting and powered it with a 1/4 h.p. washing machine motor. He glued sandpaper around toiletpaper cores and then inserted an expanding rubber drum (available from Pascal's) to make an inexpensive and portable drill drumsander. For reaming and de-scaling, he grinds hex heads on drill bits and turns them with a socket. A valve spring depressor was made out of scrap leaf springs so that both hands are left free. Similarly practical and cost-cutting is his use of Tremclad as rust inhibitor and external paint for metal parts. Rib gussets were stapled (with an ordinary gun) and 1/4" staples. Later, the staples were removed.

Dale found Grass Roots Aviation in Oshawa an excellent source of materials. Service was prompt, prices were reasonable, David Drain was friendly and accomodating, and everything needed was in stock. Grass Roots even stocks the mild steel tubing which the plans call for in parts of the fuselage, at a saving of \$300-\$400.

When finished, the Christavia will sport toe brakes, coupled with Cleveland discs, float fittings, Ceconite covering, standard dope, and wing tanks.

The advertised specs are as follows: (with a 65 h.p. motor)

NET WEIGHT:	745 lbs.	V _{ne} :	:120 m.p.h.
GROSS :	1300 lbs.	CRUISE:	105 m.p.h.
LENGTH:	20' 8"	STALL (power off):	40 m.p.h.
HEIGHT:	7'	R.O.C.:	1,000 f.p.m.
SPAN:	32' 6"	TAKE-OFF ROLL:	350 ft.
CHORD:	4' 6"	SERVICE CEILING:	12,000 ft.
WHEEL TREAD:	6'	RANGE (15 gals.):	350 miles
WING AREA:	146 1/4 ft. ²		

Roger Fowler



Experimental Aircraft Association of Canada

The Voice of Canadian Sport Aviation

A Non-Profit Organization Dedicated To The Advancement of Aviation Education, Homebuilt Aircraft and Private Aviation

P.O. Box 18, Mount Albert, Ontario L0G 1M0

January 24, 1986

A LITTLE GOOD NEWS

ENGINEERING AND INSPECTION MANUAL (E&I)

The revised edition of the E&I manual is now in the hands of the Regional Transport Canada offices. Included in the changes in the manual are rules pertaining to four place home-builts and an increase in weight limits to four thousand pounds gross, twenty-five trouble free hours and helicopters.

It is a good idea for all Directors and Chapters to obtain a copy of the new manual for reference. The changes are significant and important to all builders, restorers, designers and others involved in the recreational aircraft movement.

CANADIAN AIRSPACE REVIEW

Over the past two weeks, several of the EAAC Executive have been in attendance at the meetings in Ottawa and have delivered position papers to the "Review Task Force". Rules and regulations covering recreational flying, radio frequencies, aerobatics, air shows, navigational aids and many other subjects, have all been discussed. The purpose of the Task Force work, is to establish needs and direction for the remainder of this century. The strength of the EAAC representation helped to play a significant role in the discussions.

1986 AND BEYOND

A "Future Planning and Development" seminar will take place in February, with Regional Directors (as many as can make it) Executive and Committee members attending, in Peterborough, Ontario. The results of this important event will be fully reported.

Jack Greenlaw
Director, Public Relations.

648 Adelaide Ave. W.,
Oshawa, Ontario,
L1J 6S2
January 30, 1986

Lionel Robidoux,
195 Crestview Rd.,
Ottawa, Ontario,
K1H 5B1

Dear Lionel,

Received your letter today re my symposium article in the October/85 issue of CHAN. Thank you for your interest in what I believe is a worthwhile project. Time and circumstances have a way however of modifying or annihilating our goals.

Over the past few months I have attempted an alternate approach to the continuation of the symposium. The accompanying article which will appear in the March/86 issue of CHAN is the result of that effort.

With the realization that, (i) as my supply business is growing at an ever increasing rate, (ii) my time available is becoming less and less, (iii) it seems apparent that, because of poor commitment response, the majority of the new symposium workload would probably rest on my shoulders, I have decided to pass on the leadership opportunity to someone else and/or another EAA chapter.

Your letter today could possibly be the answer to this situation, where I can visualize the movement of the symposium program to the Ottawa area. Eric Taada has on another occasion intimated interest in this possibility, and because Ottawa is the information hub of this program, I see no better setting for the symposium than in your EAA chapter.

After discussing this with your chapter members and other "members of the cast", should you decide to accept the challenge (yours is the first opportunity of acceptance or refusal), I will assist as best I can in the transference of pertinent information, records and materials.

I look forward to your response.

Yours truly,

Dave Drain

P.S. Feel free to discuss this letter with anyone.
Enclosed: Copy of "Well, I'll Be Handed".
C.C.: Ted Slack
Eric Taada

YOU ASKED FOR IT

(Article #13 for Mar./86)

WELL I'LL BE HANGED

Over the last few months, since the idea of reviving the homebuilders' technical symposium has been tossed around, many aircraft builders stated that they thought the idea was good. It was something that was needed, etc. etc.

Based on their urging I attempted to initiate a new run at the thing. Because participation is necessary for success, I told those who talked with me that every member who joined the new symposium chapter would have to take part by accepting a job/participation position. "You won't get very many people with that approach," they said. "Well, I'll try." I thought.

Much consideration was given to the new approach which can be re-read in the October, 1985 issue of CHAN.

Having lead the technical symposium in the past I know it takes two or three dozen interested and actively involved people to insure success. My October article requested a response from the CHAN readers and supposedly interested people. Well, my critics were right. There wasn't much interest. Yes, I received some replies, mainly inquiries.

When the crunch really came to "put your money where your mouth is", the old general attitude of "let the other guy do it" came shining through. Commitment was minimal. Because this was to be a serious commitment, it seems there are not many who are prepared to fight for what they believe in. THERE IS NO FREE LUNCH. A few non-committed volunteers is not enough. I cannot personally commit myself to the total time needed. I know, I was there before.

The technical symposium revival as I envisioned it is therefore, as of now, not viable. I shall continue to help as many builders as I can in my own way as I have done in the past.

As for the symposium's future, if any of you readers are interested in running it, I'll be glad to pass on any helpful information I can.

EAA MUSEUM IMPROVEMENTS

A new display in the Air Racing Gallery of the EAA museum, which features Steve Wittman's "Bonzo" and Matty Laird's "Super Solution," has now been moved out of the "Cessna Aeronautical Restoration Center" and onto the museum floor. The two airplanes have been moved into position and EAA's restoration and museum crew is now in the process of finalizing all the details of this exciting new exhibit. SPORT AVIATION will contain more information on this addition in the near future.

TWO NEW THEATERS

The EAA Aviation Center will also be the home of two new theaters in the very near future. The EAA Aviation Foundation's Board of Directors has approved a new "Vistascope Theater." The theater will be adjacent to the Aviation Center's Johnson Wax Entrance Gallery, directly across from Aeronautica. The new theater will show specially produced aviation films. We hope to have the new theater in operation by Memorial Day 1986. The "Vistascope" process incorporates specially designed film and equipment. The film is projected onto a 12' x 30' concave screen and fills the viewer's entire field of vision. An environmental sound system surrounds the audience for a total sensory experience. The first film to be shown in the theater will be "The World of Sport Aviation" which was produced during the last two EAA conventions.

The second theater, which is currently under construction, will be located in the northeast corner of the museum beneath the new Homebuilder's Gallery exhibit and next to the new Propellerama display. It is a children's theater which will show aviation-related films that are both educational and fun to watch. It will seat up to 40 young people at one time and is expected to be completed by January 15th.

L.A. REC AIRCRAFT EXPO

Paul Poberezny spent the Thanksgiving weekend at the L.A. Recreational Aircraft Exposition, which was held at the L.A. Convention Center. Paul felt that the promoters were probably disappointed because the turnout was smaller, both in exhibitors and in attendance, than last year. He reports that it is becoming very obvious that the new designs of "ultralight aircraft" are becoming scaled-down versions of larger conventional aircraft. Paul had an opportunity to visit with many of the exhibitors and a good number of long time EAA members on the West Coast.

While at the Expo Paul addressed a meeting of the Light Aircraft Manufacturers Association (LAMA). Paul says that he found the interest of the group focused on the experimental/amateur-built area. LAMA feels that this segment of aviation holds the greatest hope for growth. This is especially true since many of the aircraft formerly regarded as "ultralights" are now being built from kits and licensed as experimental aircraft.

Oshkosh has already experienced its third major snowfall of the season and it's certainly beginning to look a lot like Christmas around here. All of us here at the Aviation Center wish all of you in the EAA Chapter network a very Merry Christmas and a happy, healthy and prosperous New Year!

PIONEER
HOMEBUILDERS
TO BE
FEATURED IN
SPORT
AVIATION

EAA's historian emeritus, George Hardie, of Milwaukee, is working on an interesting look back at the early pioneers in the homebuilding movement. His series of articles will be included in future editions of SPORT AVIATION and will culminate in a special program at the 1986 EAA convention in Oshkosh. The program will honor the pioneers of homebuilding as well as reliving some of the events in the early history of the Experimental Aircraft Association.

PAUL POBEREZNY VISITS OTTAWA

On January 23, Paul Poberezny was in Ottawa to confer with D.O.T. and Ted Slack about Primary Category Aircraft. While here Paul attended the Wings Banquet at the Ottawa Flying Club on Saturday, January 25. On Sunday, the executive, namely, Eric Taada, Terry Peters, Roger Fowler, Gord Standing, Peter Plaunt and Dick Moore was well as Ted Slack met with Paul for breakfast at the Westin Hotel, where incidently, Paul was staying (nice place, eh!), to show our appreciation for his coming to The Great White North.

The conversation was light and we touched on many subjects including Paul's some eleven projects he has on the go, one of which is a Corbin. Roger and Eric took pictures to remember the occasion and we bid a fond farewell and said we'll see you at Oshkosh.

MATERIALS COURSE

The Carleton University is offering a television course called the Nature and Behaviour of Materials that might prove of interest. This course can be seen on Tuesday and Thursday from 5:30 to 7:00 p.m. and repeated on Sunday from 7:00-10:00 p.m. on Cable Channel 12.

Eric Raft sends his regrets to the friends of Chapter 244. He is unable to contribute to this Newsletter.

Next Meeting - February 21, 1986.

Speaker - Ted Slack

Topics - Video-MacII to Oshkosh

- Slide presentation on his Carribean tour
- Possibility of a talk on the new Primary Category Aircraft