

THE **FLY BABY** BULLETIN

Issue No. 1

July, 1967

When PETE BOWERS designed FLY BABY, proved it a safe, stable airplane, and made the plans available at a reasonable price, he brought flying within reach of a lot of people who otherwise would never have flown or owned an airplane. We have a lot to thank him for. Consequently, any publication, however modest, dealing with Fly Baby, should begin with an introduction by Pete.

A MESSAGE TO ALL FLY BABY BUILDERS AND PILOTS from PETER M. BOWERS, FLY BABY designer.

This is the first issue of THE FLY BABY BULLETIN. HAYDEN FERGUSON is to be commended for his initiative and industry in offering to compile, edit, and publish such a document on a monthly basis.

It is his hope and mine that the BULLETIN will, with the help of the builders and flyers, become a valuable publication and a worth-while and interesting source of information about FLY BABY builders, their problems, and their accomplishments. While some information can be provided by the designer, most of it will have to come from YOU, the reader. Don't feel that you have to be a "Pro" writer in order to have something published. You're among friends and the BULLETIN will be as informal as a bull session out in the shop. If you are having problems in finding materials, or have stumbled onto a good source, send in the word. If you had construction problems and licked them on your own, others will be grateful for the information. If you just want to sound off on the joys of flying your own FLY BABY, here's your soapbox!

One personal benefit that I expect to derive from the existence of the BULLETIN is a great reduction in the personal "Problem" and "Where" mail that has to be answered. Now that Hayden has all of the file cards that I compiled with each plan sale, he will have the job of answering all the letters that ask "Who is building a FLY BABY near my town?". This chore might not leave him with enough time to get out a monthly magazine and build his airplane too. He may have to cut back to a bi-monthly publication! In any case, the transfer should enable me to get out in the shop again and finish those biplane wings that I started a couple of years ago!

In the statistics department, there are at least 32 FLY BABIES that have been completed. I have definite knowledge of 24 in the form of photos and reports from the builders and indirect knowledge of eight more that I have heard about second-hand. At this writing, I have personally flown 10 and made the first test flights in five. The most I have know of in one place at one time was at the EAA Chapter 105 Fly-in at Portland, Oregon on July 14/15, 1967, where five were on hand. As a project for an early issue of the BULLETIN, I would like to compile a list of the completed and flown projects. If yours has been completed, please send the information, including registration and serial numbers and FIRST FLIGHT DATE, to Hayden. If you know of others, send that word along, too. The builder might not have heard about the BULLETIN. Additional information, such as powerplant, color scheme, modifications, etc. will be welcome but is not as essential as name and location of the builder and the first flight date. Good pictures, suitable for our photo page, are welcome.

As you who read EAA's magazine SPORT AVIATION know, I have put up a trophy over the last three years for the best FLY BABY appearing at the annual EAA Fly-in at Rockford. My ambition is to be there for the Fly-in that sees more FLY BABIES on hand than any other single homebuilt design. When that day comes, I promise you, there will be a special FLY BABY award for every pilot who has a FLY BABY there! Here are past attendance-toppers, just to give you an idea of the numbers I am talking about:

1960 - 15 Corben Baby Ace	1963 - 21 Corben Baby Ace
1961 - 12 Wittman Tailwind	1964 - 27 Wittman Tailwind
1962 - 17 Wittman Tailwind	1965 - 23 Smith Miniplane
1966 - 21 Smith Miniplane	

I can only make it to Rockford with my own ship every other year (even numbers), so I won't be there in 1967 but will look forward to meeting many of you in 1968. If the desired FLY BABY numerical superiority shows up in an odd-numbered year, I'll hop an airliner and get back there for a day or so if someone will send me the word that the FLY BABIES have topped the list.

Ed. Note: If taking some of the correspondence load off Pete will speed up the development of the biplane wing, then we will have made a lot of friends. Some fellows plan to build the biplane from the start and many others have incorporated the fittings for later addition of the top wing. As soon as Pete gives us the word, you will know. -- Hayden.

BIRTH OF THE "BULLETIN"

As we outlined in the original letter about the Bulletin, the idea was born several months ago. It was not until March, this year that we really got serious and contacted Pete with the idea. He bought the whole idea immediately and things got underway. Pete sent us his card file and the work began in earnest. Our shop looked like a fresh snowfall for weeks with paper, cards and envelopes covering every available space. Finally, the last envelope was dropped in the mail chute. The weeks of typing, folding, stuffing, stamping and mailing were over. Now all we could do was wait. And then the waiting was over. Day by day the replies came in, slowly but surely. Slowly to be sure, with rarely more than 2 or 3 in one day. However, as we read and re-read the replies, a definite pattern emerged. We were among our own kind. These people loved airplanes and FLY BABY in particular. This we more or less expected, but more important, these were people who liked to talk about their airplane and were anxious to help others and in turn asked for help. To sum it up, they not only love airplanes, but they like other people who love airplanes. Needless to say, this is exactly the type individual we wanted to reach. Without them, the Bulletin would be a miserable failure. So, let us say a heartfelt "THANKS" to each and every one of you for your wonderful reception of the Bulletin.

This first issue of the Bulletin is going to be somewhat lighter than we had planned, for several reasons. We want to keep it light so it can go first class mail to escape the rail strike embargo on third class and also to get it into your hands before the Rockford Fly-in. Also we don't yet have a lot of information in from the builders to include in this issue.

We ask everyone who has something to contribute to please get it in to us as soon as convenient. As Pete said, you don't have to be a "Pro" at this. It is obvious that we are not experienced, so don't shy away from sending us material. We are all in the same boat, and if the literary and grammar critics are so moved, they can have a field day grading our "papers".

ONE FATAL ACCIDENT

On September 6, 1965, a Canadian builder of FLY BABY was killed in a takeoff accident. Because of the unfortunate way this accident was handled in an American magazine, the FLY BABY plans business was just about wiped out for a couple of months. Both aspects of the story should be explained.

The magazine ran a two-part article on accidents involving amateur-built airplanes as a safety feature. As a lead shot for the series, it ran a photo of this particular crash. It was not identified as a FLY BABY, but it didn't have to be - that trademark tail was identification enough. The harm to the program resulted from the fact that no information concerning this crash appeared in the same issue. It was mentioned, with insufficient supporting information, in the following issue, which was a month AFTER the unexplained (and spectacular) crash picture had scared some actual FLY BABY builders to the point where they telephoned the author of the article to ask if FLY BABIES were unsafe. Some went so far as to ask if they should scrap their nearly-completed ships.

Thanks to friends in Canada who obtained copies of the official Department of Transport (DOT) accident report, we have the facts. These show very definitely that the airplane can't be blamed for this one.

The pilot, a typical family man, had last flown in February, 1960, and had accumulated a total of 33 hours to that time. His flying then stopped for over five years, during the last few of which he built his FLY BABY.

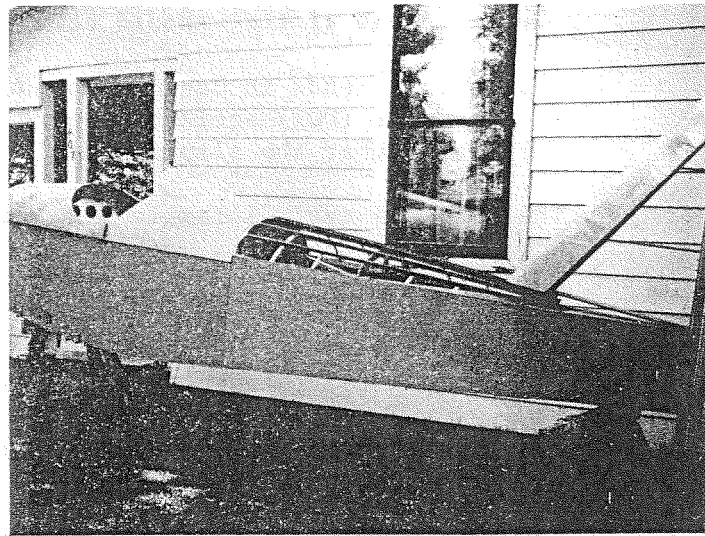
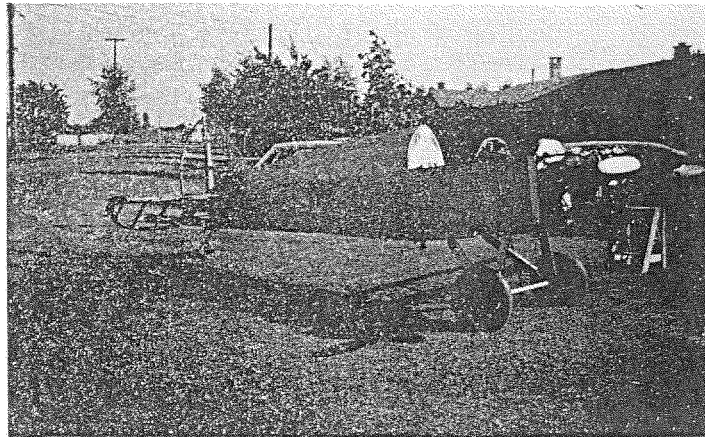
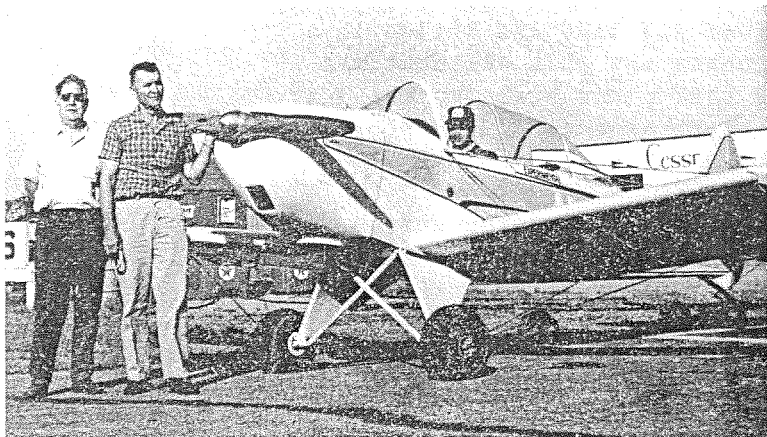
The Canadian regulations are like those in the U.S. in regard to test flights - a current and suitably rated pilot has to make the first flight in a new homebuilt. This was done, and the first flight was for 15 minutes on a windy day with crosswind gusts to 20 mph. The test pilot reported everything OK except that the ailerons seemed a bit stiff. The report says that they were loosened a bit, but didn't say how. This was probably done by loosening the micarta blocks that hold the torque tube between Stations 3 and 4. No other adjustments were considered necessary for further flying. The airplane design itself had been modified only to the extent of adding a rather large elevator trim tab.

With the remark that "I hope it flies as well for me as it did for you" the builder/owner climbed into the ship to make his own first flight. He still had only 33 hours, all of it five years in the past. His friends and the DOT officials all had urged him to take some refresher flights in a two-seater first, but he ignored the advice and stepped into a relatively lively single-seater when all of his experience had been in docile two-seat trainers.

According to eyewitnesses and an amateur movie of the event, he never caught up with the airplane. It got into the air quickly, thrashed around for about 20 seconds, and went in nearly vertical.

The DOT contacted Bowers for his opinion as to whether the elevator tab could have introduced a control problem. Pete bolted a big fixed tab to one elevator of his own ship and found that while it stiffened up the stick forces when fully deflected, it was easy to over-ride. The official conclusion of the DOT investigation was that the pilot "Exceeded his ability and experience".

Several pilots with only 35 hours' total flight time have flown the original FLY BABY (158 different pilots have flown it through July 16, 1967), many of them straight out of Piper J-3 "Cubs". The essential difference in these cases is that the flight time was recent and the pilots were "Current".



Top Left and Lower Left.

- This beauty belongs to Clarence Brueggeman of Norfolk, Nebraska. Clarence finished his project in the fall of 1965' and from the photos and articles appearing various magazines, he has been flying it ever since. Powerplant is a 65 Continental and is finished in gold and white with blue trim. We are planning an article on his canopy as soon as we can get him out of the cockpit long enough to tell us about it.

Top Right.

- Our apology to Mr. George Noble of Richmond, British Columbia, Canada. Our reproduction of a photo of a truly fine fuselage leaves a lot to be desired. Take our word, the workmanship is beautiful in the original snapshot. We will improve with time and experience. This ship is 70% complete and the spinner is going to give it a rather sleek appearance.

Lower Right.

- Again we have a nearly complete fuselage belonging to Lowell D. Morrow of Yorktown, Indiana. This job has already passed two FAA inspections with flying colors. Note the sharp clean line of the scarf joint on the fuselage side. Again our apology for a poor reproduction of a good print. Maybe by the time this ship is complete, we will be able to do it justice with better quality pictures of the first flight.

If you have photos you would like to see in print, send them in. We will do our best. We would like to keep the photos in our files for future reference but will return them if you insist.

See you next month - - - - -

THE **FLY BABY** BULLETIN

Issue No. 2

August, 1967

If the mail received in response to the first issue of the Bulletin is any indication of the future, then it is a bright one indeed. Our sincere thanks to all those who took time to write us. The well wishes and congratulations are appreciated.

We have not as yet received any positive replies from the suppliers who have been contacted. Maybe before we wrap up this issue we may have something definite. We did get to talk to a couple of the exhibitors at Rockford, but with the rush and confusion of the Fly-In in full swing, we couldn't corner them long enough to talk about any Fly Baby specials. The stock answer was, "write me a letter about it", and this is what we are doing.

AL JOHNSON, out in Wenatchee, Wash. sent us a sketch for wing tip modification which he claims simplifies tip construction considerably. It shortens the wing span slightly, but Al and the local EAA Designee, BILL DUNCAN do not expect any appreciable change in performance. So far we haven't heard from PETE BOWERS on this, (maybe because we haven't asked him), but Al says Pete has agreed to fly the prototype "Cry Baby". Since our drawing ability is even worse than our composition, we won't try to reproduce Al's drawing but will be glad to mail photo-copies to anyone who wants them. Thanks a lot Al for the kind words and if you come across another pair of those "free for nothing" Scott brake cylinders, keep us in mind. The only stray pair we have been able to dig up are so old and corroded that they are without doubt the first pair Scott ever produced.

ROGER DUPERRON of Santee, Calif. is working on a two seater and has promised to keep us posted as he progresses. Cockpit will be 3 ft. wide. More on this as we hear from Roger. Considerable interest has been shown in the two seat version, even though Pete has not given too much encouragement up to this point.

JOE POPE, Lynchburg, Va. has drafting equipment and has offered to draw sketches of any modifications you might have. If so, send them to us and we will forward them and make copies available to everyone. Since reproducing all sketches in the Bulletin would take a lot of space, we will in most instances, describe the modification and make the sketch copies available on a request basis. It would be appreciated if you could send along a stamped envelope when requesting copies and also specify which sketch you want. While on this subject, we would like to add that the offer of help from Joe Pope is typical of the attitude of most of the builders. Everyone wants to help and needless to say, we need and appreciate it.

DAVID STODDARD, a "Fly Baby" builder has written us advising that he has a limited supply of small hardware such as washers, nuts, nut plates, clevis pins, etc., which he will sell for half or less of retail price. Dave says to send him a list of the small parts you need and if he has them, will quote you a price. Please handle these inquiries direct with him. The address is 268 Colorado Ave. S. Torrington, Conn. 06790.

August, 1967

THE BULLETIN'S "FIRST LADY":

As most of you know, we have among us only one lady builder at the present, and it appears that any group of a half dozen or more waste no time in naming a "princess", "queen", "first lady" or some such. Why should we buck the trend? Permit us to introduce MRS. HAROLD ROUTLEDGE, of Almonte, Alberta, Canada, the Bulletin's "First Lady". Mrs. Routledge is a housewife and works on her project "mostly on the kitchen table". She chose "Fly Baby" because it "looks like an airplane". Don't smile at that. This was a common answer on most of the replies. Sometimes it was worded different, but the meaning was the same. At the moment, Mrs. Routledge is the only lady among us, but once the word gets around, we expect more to step out of the shadows. A lot of plan sets have been sold to ladies and they were not all gifts to husbands and boyfriends.

Mrs. Routledge in her letter of "acceptance" passed on what we consider some valuable information. It seems she lives near an area of boatbuilding activity where marine plywood is used. She says that what the builders consider scrap is often large enough to be used on her project. Those thick pieces of plywood come high, so you fellows who live near a boatbuilding area take note and let us know what you come up with. Thank you Mrs. Routledge and we will be looking forward to hearing from you as your airplane progresses.

JIM COX, down in Houston, Texas has what is probably the sweetest set-up a homebuilder could ask for. Jim is a commercial photographer, licensed aircraft mechanic, commercial pilot, and owns a FAA Certified Repair Shop. At the present he is with the Houston Post as a news photographer, and uses his shop to work on his own airplanes. Probably the only FAA certified hobby shop in existence. Once he starts a project, he really moves as evidenced by a photo sent of the major part of the fuselage built in eight days, including layout. At the moment however the "Fly Baby" project is shelved in favor of some antique restoration and the necessary evil of making a living. The photo of the "eight day fuselage" will be included as soon as we get it out of hock with the platemaker for printing.

PETE BOWERS test hopped another completed "Baby" the last week of July. This one, with longer wings, 30 gallons of gas, and a 125 hp. powerplant weighed in at 1240 pounds. Pete says this combination makes a two seater look practical and will look into it further. He also promised some photos as soon as available and we will pass them on as soon as we get them. Take heart two-seat enthusiasts.

PAUL BOKROS of Carlisle, Mass. sends along a tip that you might want to use and save a little time. On page 1-11, Fig. 1-6, detail "B" & "D" show a cross member as two separate pieces. Paul says make it a single piece of wood. Also detail "A" of Fig. 1-10 shows an insert in the bow. Paul made a solid bow instead. The extra weight he says is negligible.

August, 1967

At this point we want to give a proud salute to GEORGE R. GARRETY, formerly of Springfield, Ohio and presently serving in Vietnam, flying helicopters. George bought a set of plans in June, 1965, but this other little chore came up and took priority. His mother was kind enough to return the questionnaire, advising the military status of her son. We are sending her a copy of this issue and asking that she forward it to George. From what we have heard about chopper pilots in Vietnam, the "Fly Baby" should prove rather tame to George. If he should so decide, we will welcome him aboard on his return. In the meantime we wish him the best of everything and we are proud to have one of "our kind" doing his fair share for all of us.

ROBERT CLOW, Inglewood, Calif. says that he had a fellow builder pass along a set of drawings for building a substitute for a 1/8" NICOPRESS. These things go for \$35.00 per, so here is a chance to save a few bucks. Bob says the drawings are now in the NEW E.A.A. publication, "Tips", which is available from headquarters for \$2.00. We don't have a copy as yet but will bet even money that it is a good investment and will have a lot of handy hints and kinks. Thanks for the tip, Bob.

PAUL COMEAU, of Leominster, Mass. suggests we initiate a "Buy, Swap, & Sell" section. We are all for it. All we need is ammunition. If you have an item that fits the description, send it in. This section however is not open to commercial type advertising, even though the person might be a "Fly Baby" builder. It is intended to serve the people who might wind up with surplus parts, wrong type parts, or looking for a hard to find item.

LONDO'S "FLY BABY" ADVENTURES

The Sunday Supplement of the SEATTLE TIMES for April 9, 1967, had a color cover and a four-page inside spread featuring FRANCIS LONDO and his beautiful white-and-yellow "Fly Baby" which first flew in February, 1967. You need a gimmick to get a homebuilt written up in the papers these days, and Francis had a good one - he had built an airplane but he didn't know how to fly!

Because of this, designer PETE BOWERS made the test flight, which was covered by the paper. Another pilot flew the original "Fly Baby" as a chase plane and Francis went up as a passenger in a "Cub" and took closeup pictures of his bird on its first flight when Pete moved in for some close formation flying. No adjustments were necessary after the test hop and a relay of other pilots started putting time on the new ship, which ended its first day with nearly four hours flying time in the logbook.

Francis, meanwhile, went in search of flying lessons. After an unhappy experience with one of the local pilot factories, he and a friend bought a Luscombe 8A and he took his lessons in it. He soloed it on June 17, 1967, and on the weekend of June 24/25 took it 300 miles to a Fly-in in southern Oregon. He felt that he was ready to solo his "Fly Baby" at the time, but his instructor wasn't available to sign him off for it, so he had to use the Luscombe.

(Con't next page)

Page Three

In discussing the problem with Pete, who had his own FLY BABY at the Fly-in, Pete offered the use of his ship for some tail high fast taxi runs down the runway for familiarization. As a further check on Francis' flying ability, Pete flew formation with him all the way back to Seattle. It was still early in the evening when they got back, so Pete offered to ride around the pattern a few times with Francis in the Luscombe to see how he handled it on the landings.

The first landing was completely routine, so Pete told Francis to do it again, this time from the right seat. This was quite a change for Francis, who had been doing only left-seat flying, which meant that he used his left hand on the stick and his right on the throttle. This change gave him some readjustment problems and he decided that maybe he wasn't quite ready for FLY BABY after all. A couple of hours' right-seat solo time, however and he was ready. With his regular instructor still not available for a sign-off, Francis drove 30 miles to Pete's place to get his student permit signed off for FLY BABY (Pete has been an instructor since 1949) and then drove 30 miles back to his own airport to solo his FLY BABY.

From there it was strictly "Cloud 9" - no problems at all. Nothing to do after a few trips around the pattern but drive all the way back to Pete's to tell him about it.

FOR SALE

GLEN C. PALMATARY, writes as follows; With much regret I am forced to sell my project because of financial reasons. Therefore, I am asking you to notify other builders through the Bulletin, that it is for sale. I have the fuselage about 2/3 to 3/4 completed. Everything from the cockpit rearward is completed except rudder and elevators. The aft turtledeck and stringers are on and ready to cover. The firewall is complete with asbestos and galvanized covering. I do not have it on gear, nor do I have any controls or instruments. I have the tailwheel and fittings ready to install. I have the upper wing landing wire supports and aluminum blocks ready to install.

I also have 1 full sheet of 1/8 plywood, 2/3 sheet of 1/4 inch marine plywood, 1 sheet of .065 sheet 4130, all the capstrip stock for wing ribs, enough spruce to finish the ship except the wing spars, and misc. bolts, nuts, washers, glue, nails, C-clamps, etc. All is aircraft grade material with receipts and the ship has been inspected and the log signed by the FAA.

I would like to recover my cost which is about \$200.00..
Sincerely, Glenn C. Palmatary. (end of letter)

We regret also that Glenn will not be able to complete his project. Maybe at some future date, he will again be in a position to build. For those who wish to contact Glenn, his address is 1409 Marylee Drive, Columbia, Missouri. 65201. Please handle all correspondence direct with him.

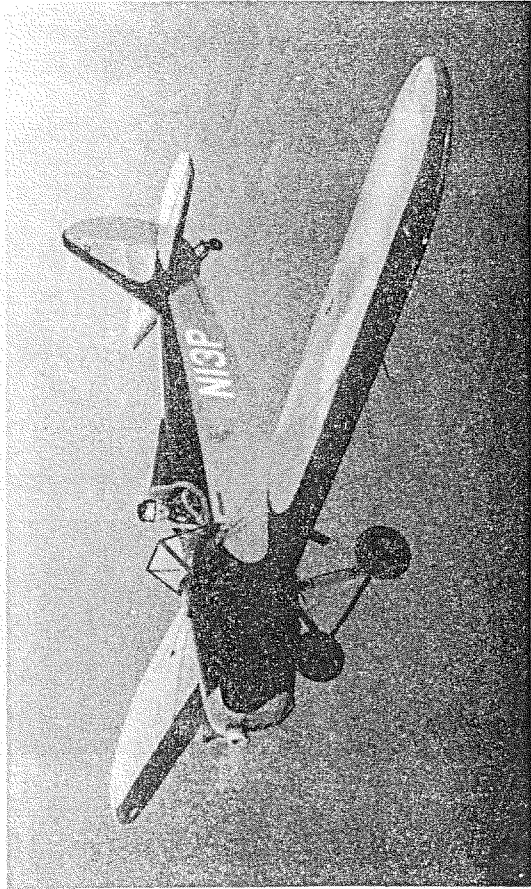
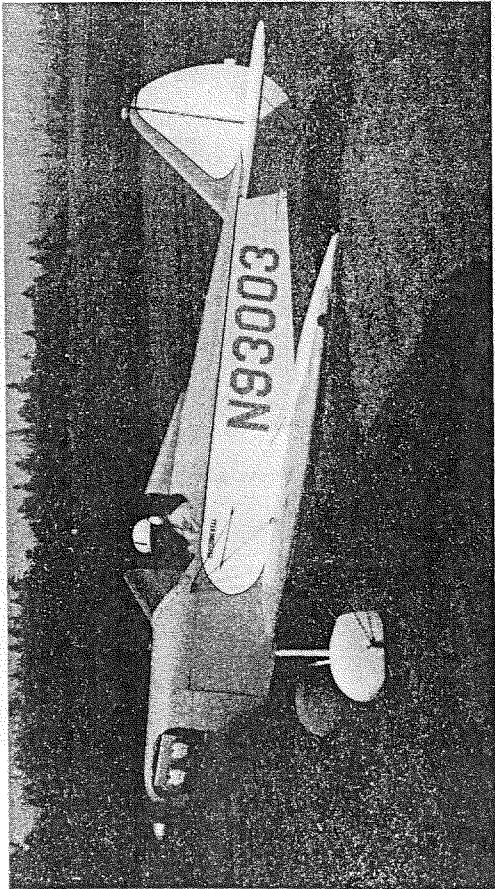
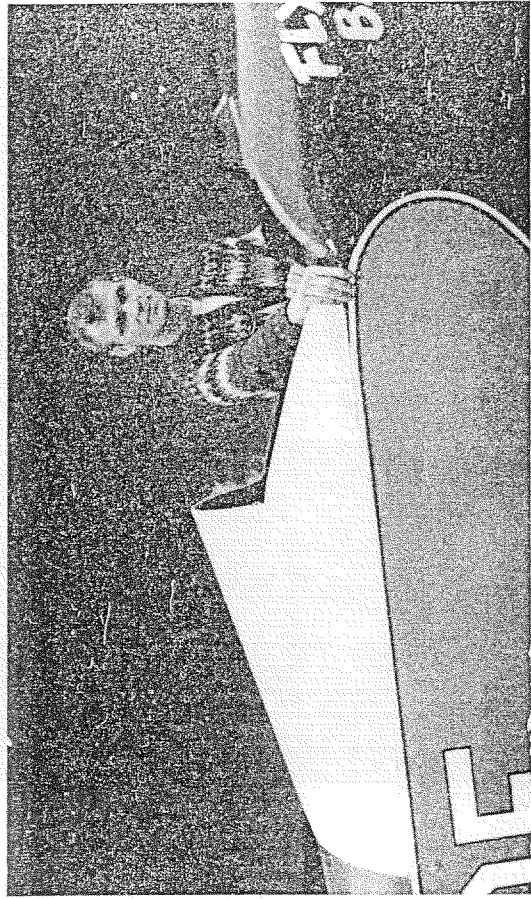
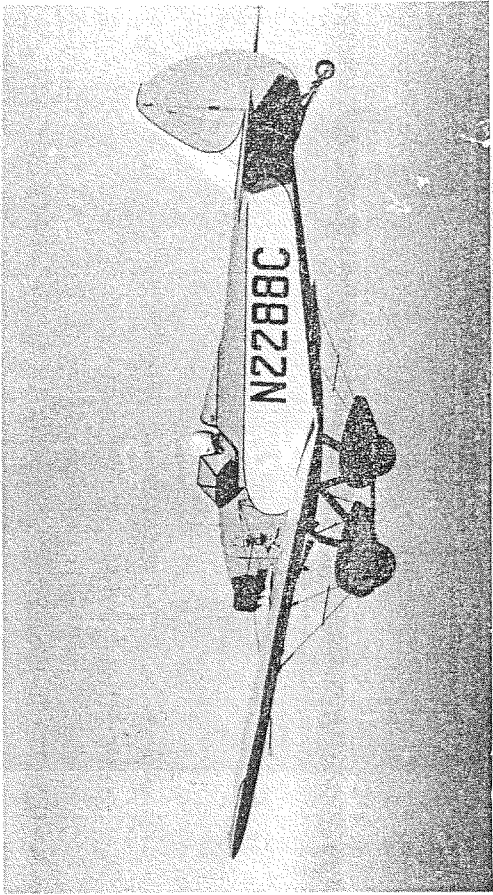




Photo Page Captions.

Front Side:

Upper Left; This is a slightly modified FLY BABY by Wes May of Portland, Oregon. Steel tube divided axle, landing gear and wheel pants, plus one-piece windshield. Photo by Peter M. Bowers

Upper Right; Francis Londo of Seattle built his FLY BABY before he learned to fly. Now he's making up for lost time on a X-C from Seattle to Portland for a fly-in. Photo by Peter M. Bowers

Lower Left; The original FLY BABY with it's original fuselage and short registration number taken in 1960. Photo by Peter M. Bowers.

Lower Right; Dave Smith of Seattle is building a FLY BABY and will use a fiberglass turtleneck. Here he tries it out on the original. Photo by Peter M. Bowers

Back Side:

Top; Although five FLY BABIES have been in one place together, three are the most Pete has been able to get together for a photo. Left to right, Wes May's, Pete's, and Bert Copp's. Photo by Peter M. Bowers.

Bottom; Another "gathering of eagles", this time at an Abbotsford, B.C. fly-in. Shown are Pete's ship and Bernie Bricklebank's, CF-SNA. The other ship could not be identified as the registration markings were hidden. It definitely is Canadian however from what is visible. The photo came from Bernie, who got it from Pete, and we assume it is handiwork.

FLY BABIES AT ROCKFORD

We don't as yet have any photos of the Fly Babies at Rockford, but all told, there were eight present at the 1967 event. Although all 8 were on the field at one time, we were not able to get them together for a family portrait. We did get individual shots of each, but the finished prints have not been returned from the processor. If the photos are worthy, they will be in an upcoming issue. The Fly Babies that made it to Rockford are listed below, with registration number and builder.

CF-RXL	George Welsh	N-4742	Jim Quick
CF-SUT	Norman Kelly	N-59365	Johnson-Porter
CF-EWC	Ed Cook	N-4629T	Ed Sampson
N-6542D	John Villeneuve	N-86681	Hal Gier

That's it for this month, and since it is so late getting out, we plan to get started right away on the new issue. See you in about four weeks.

THE **FLY BABY** BULLETIN

Issue No. 3

September, 1967

Last month we set a precedent by getting the Bulletin out late and at this point it appears that we will do the same again this month. Most magazines and periodicals stay at least one month ahead and a lot already have the December issue on the newsstands. You must admit we are different. Pete Bowers said that we were biting off quite a chunk when we first broached this idea and did he ever know what he was talking about. Sure cuts into our building time. No complaints however, since we enjoy every minute of it. (well, almost.)

Those who are members of EAA be on the lookout this month or next for an article in Sport Aviation about "Fly Baby, Five Years Later", or something to that effect, by PETE BOWERS. The article may not make it due to the Rockford coverage, but should show up soon. In the same issue we hope to see a notice about the Bulletin, and maybe it will reach some of the fellows who didn't get the initial letter. About a third of our letters were returned, undelivered and a lot of guys never got the word.

There have been several responses to our offer of copies of prints sent in by AL JOHNSON. At the moment we are experimenting with a photocopy machine to make a printing master direct from the prints you fellows send in. If this works out, we will be able to print exactly what is mailed in and nothing will be lost in the translation. Will know for sure next time.

As you may have guessed, the Bulletin is made up a little at a time as mail comes in and time becomes available. If it sometimes seems a little dis-jointed, this is the reason. While on the subject of mail, it has been a little light lately and we would like to hear from some of you guys that have been holding back until you see how this thing is going to work out. We really need you fellows and your ideas and thoughts. We heard several ideas at Rockford that were going to be mailed in, but haven't heard from you yet. While at it, we might mention that all contributions don't have to be brainstorms and new innovations. Constructive criticism is certainly welcome and if you have something to say, lets hear it. That is what we are here for.

Here are just a few items that we have had requests for help and questions about. If you can help on any of them, let us know.

- A simple radio installation.
- Glue types and working characteristics of various glues.
- Modifications using salvaged light plane gear.
- Experiences in making or using wheel pants.
- Sliding removable canopy plans.
- Modifications for wearing a parachute. (seat and back pack.)
- How to get the wife interested in "Fly Baby".

These are just a few. More next month.

September, 1967

Last month as you will recall, we introduced our "First Lady", Mrs. MAUREEN. ROUTLEDGE, and we thought we did a pretty fair job of it. Well, is our face red. In one fell swoop, we moved her all the way across Canada. Her location was given as Almonte, Alberta. This is wrong dear friends. Almonte is in ONTARIO, which is only about 2000 miles to the East. Our apologies, Maureen. While on the subject, our only lady member is considering using streamlined brace wires such as used on floats, tail surfaces, etc., instead of control cable for her wing braces. She is asking for advice on this if anyone can help. Specifically she needs to know the exact distance between attach points for each brace. This same idea was brought up at Rockford and if anyone has done any work along this line, let us hear from you.

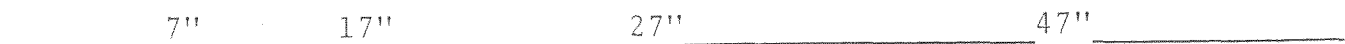
ED. JORDAN, Aurora, Ill. was kind enough to let us borrow his 1945 issue of Model Airplane News, which contained the plans for the original "Fly Baby", a model airplane built by a Lieutenant Peter M. Bowers. The article also carried a photo of Lt. Bowers which evoked a smile. 22 years and he still hasn't got over airplanes.

REV. G.W. SHEERES, our only minister, sent in the following concerning the rudder of our Baby. Since there are several "onlys" and "firsts" among us, why not here and now appoint Rev. Sheeres our unofficial, official Chaplain. Now that we have that bit of democratic proceeding out of the way, we can get down to the serious part of his letter which follows.

Rudderpost Talk

Well, another FLY BABY Monday has come and gone (Monday is my day off), and we're just a wee bit closer to the big day when Fly Baby will take to the air, that is, if you take the long - - - perspective, for it will probably be at least two more years or so before all the spruce and the plywood and the fittings and the bolts which make up Fly Baby will hopefully defy gravity. Yet every nail driven thry the plywood and every batch of Aerolite glue mixed brings the ideal a little bit closer.

Having finished the fin recently I'd like to bring a small item to your attention which may be of benefit to those who still have to build their rudderpost. According to Mr. Bowers plans, (cf. page 1-15, Fig. 1-10) the rudderpost is to be built with the following filler blocks.



It might be well to consider adding ONE MORE fillerblock to the rudderpost to act as a back-up for the wire support. You'll have to figure out for yourself where your wire support fitting will be located. If the figures on page 3-3 of the drawings are accurate it should be approx. 11-1/2 inches from the top; the measurements of my rudderpost are slightly different here. The point is: add a fillerblock as a back-up for your wire support.

September, 1967

Rudderpost Talk: (cont.)

A second item pertaining to the rudderpost is this -- you may want to consider adding steel tube bushings thru the rudderpost where the bolts of the tailwheel-spring-fitting go thru the rudderpost (cf. page 2-12, Fig. 2-6). A friend of mine who has a sharp eye for possible weak spots in plane construction, and who is a regular lecturer on this very topic at our monthly EAA meetings, suggested that some play might develop without bushings there. He made this suggestion some months prior to the '67 Rockford Fly-In. Lo and behold, when I looked over one of the many Fly Babies on the Rockford field, and questioned the owner on the tailspring etc., he told me that some play had developed where the tailspring fitting was attached to the post. He suggested that bushings might prevent this. So I am merely passing on what I have been advised to do and what I have consequently done myself, i.e. add steel tube bushings thru the rudderpost where the bolts of the tailspring fitting go thru the filler block of the rudderpost. (end)

The above item requires no further comment, but we would like to add that we had the pleasure of meeting Rev. Sheeres at Rockford and it would be difficult to find a more personable likeable fellow. We had always figured it would be rather difficult to be a minister and a "nice guy" at the same time. There is a combination and this man has found it. You had better know your airplane pretty well if you plan to argue the fine points with him.

ED SAMPSON Of Belview, Minn. had 2 flying airplanes at Rockford. In addition to his completed Fly Baby, he had his Headwind, which he built himself, and a friend flew in. Now, Ed is working on a 2 hole Fly Baby and says he has the plans all drawn up. Completed so far are the stabilizers and rudder. Wing ribs are next. Wing area will be 136 sq. ft. and the fuselage will be 21 inches longer and 4 inches wider. Seating will be tandem. Wings will be strut braced from a cabane mounted at the present location of the landing wire fitting. Tail surfaces will be increased in size and squared off. Landing gear will be of the J-3 type using 700 x 6 tires. Wings will use routed ribs and one inch thick spars. A J-3 torque tube will be used if it can be adapted.

Ed also added that the advent of cold weather will "ground" his "Headwind", and anyway it should have been called the "All Wind". Those familiar with the plane can see why.

WOODROW THOMPSON, Eureka Calif., sent us a snapshot of the Trinity Alps taken on a cross-country while working for his ticket. The mountains make our foothills here look like sand dunes. Thos of us living in flat and semi-flat areas should pause and count our blessings. Woodrow is a Music Instructor and uses his 3 months off in the summer to good advantage in working on his ship and building hours toward his private ticket. Oh! for the life of a teacher.

September, 1967

"Something On Steel"

Mr. C.E. MULTOG, McMinnville, Tenn. sent us the following item which should prove of value to those who have yet to face the making of fittings. The article is reproduced as sent in by Mr. Multog, who we met at an Alabama Fly-In a couple of years ago.

"When I undertook this Fly Baby project, I thought I'd soon burn out and with this in mind I bought a whole sheet of 4130 plate .090 thick, 18" x 72". I had the notion that by the time I chopped up this piece of steel and made a few fittings, I'd come to my senses and quit before I got in too deep. I am no youngster and it has been many years since I did any flying.

Pete's material list isn't much help, so how many pieces or square inches of steel do you need? I have all my fittings made lacking just a couple items that are of different stock or best made later "to fit". Of the .090 sheet I have one foot left and from an 18" x 36" (1/2 sheet) of .063 steel there is about eight inches remaining... There are a few scraps, but not much. Pete calls for .090 and also .093 in some places... I couldn't find .093 and did obtain an O.K. from Pete to use of .090 throughout.

I had the steel sheared at a local plant and unless you have access to shears, it would be best to buy your steel in strips. It's a long saw by hand and you will do plenty of that anyway. Following is the way I had my steel cut up. - - -

Pcs. (Out of .090 - 4130 steel plate)

- 1 - 4-1/2" x 18", cut 4 - 4-1/4" pcs.
- 1 - 2" x 18", cut 2 - 3-1/4" & 2 - 4-3/8"
- 1 - 2-5/8" x 18", " 1 - 12"
- 1 - 5-3/16" x 18", 4 - 3-3/8"
- 2 - 3-1/8" x 18", 2 - 7-1/8", 2 - 4-3/4"
- 1 - 1" x 18" (an extra one needed - maybe)
- 1 - 2-1/4" x 18"

(Out of .063 - 4130 steel plate

- 2 - 3-3/4" x 18", cut 8 - 3-3/8"
- 1 - 3" x 18" cut 4 - 3-7/8"
- 1 - 2-7/8" x 18" cut 4 - 3-7/8"
- 1 - 2" x 18" cut 2 - 5", balance 2-1/4"
- 2 - 1-1/2" x 18"
- 3 - 1" x 18"
- 5 - 3/4" x 18"

A few remarks on working steel that come under the classification of "Same Old Stuff", may be of some help if you are not an "expert" or it has been awhile since you tried your hand.

September, 1967

C.E. Multog (cont.)

It is not too difficult to turn out say one elevator hinge that looks pretty good, but make eight more just like it. If you are going to duplicate parts, some kind of a template is needed as it is most difficult to make bends to a mark or line.

When you layout the first piece from which you will drill the others, don't use the full size drill. Drill pilot holes with a small drill, say $3/32$ ". With a small drill, you can set it into a center punch hole more accurately. If you are drilling thin stock like .063, even .090, and try to use it as a template with say a $1/4$ " drill, even though the pieces are clamped together the hole will tend to wander. With the small pilot hole, the larger drill will follow it and all the pieces will come out with the holes in the desired place.

Set the drill very lightly in the punch mark and don't hold the steel. Let the drill center itself, then hold the piece and lubricate after taking a light cut. I like to start the drill-press after I have set the drill in the punch mark.

Even on steel, a scribe mark at a bending place will tend to cause a break. If you have to scribe, bend to the mark inside. On aluminum, scribe marks are prohibited and I don't like them even on 4130.

In making the Fly Baby Rudder-elevator hinges, after the hinge pieces are shaped and drill to size, make two simple templates of say $1/8$ " flat stock. Round the bend edges with a nice easy radius and match drill the two little templates with a hinge piece, so the template can be bolted to the hinge piece to be bent. The templates are to be a little wider than the hinge and of course to the length between the bends. I used a drill shank thru one hole and tightened a bolt in the other. Then remove the drill and set the part in the vise down almost to the bend line as the light steel template will not take the bending unless supported by the vise jaws. You can bend the end over with the hammer; put the bolt in the other hole, holding the two pieces in the corner of the vise so the template does not shift while changing the holding bolt from one hole to another. My templates for the hinges were 2 - $5/32$ " for the outside hinge and 2 - $1/32$ " for the inside hinge part. You may have to adjust the template length a bit with a file after bending a pair.

The plans do not show what these hinges turn on and nothing in the hardware list is indicated. I bought a deal for what was supposed to be all the hardware requirements for Fly Baby and while the items furnished conformed to the list, I find many items short, wrong size, too long, too short or just not there. So don't go by your plan "Bill of Materials" too much. In my notion, had various sheets shown the needed hardware items, one could have run out their own list. Bolts were used in the Fly Baby I have seen. I think the hinges could stand a little more pin area and the hinges should be bushed.

C.E. Multog (cont.)

Speaking of hinges, the plans call for AN 257-2-300 aileron hinges. That is what I got in this stuff I bought and it is so stamped right on the hinges. But, if you will look at plan Fig. 4-23 which scales 1/2" - 1", you will see that the hinges shown are 1" each half or 2" flat out. The AN 257-2-300 hinges I have are just 1-1/16" flat open or 5/8" to the side. This puts the bolt holes right close to the edge and while there is enough wood at the hinges in the wing spar, the wood in the sloped top of the aileron spar is pretty marginal, which I didn't wake up to until after I had already fitted up the wing with the doublers, nut plates, etc. I believe the AN 257 hinge is obsolete anyway.

Back to the template or jig deal; a rectangular piece of steel (1/8" to 3/16" thick) was used to bend up the eight landing gear inner support fittings, Figure 2-2. As these are left and right hand fittings, all four sides of the template were used the difference being in location of the holes by which the part was bolted to the template for bending. The area of the part which is later trimmed and rounded off was drilled for the holding bolt and the template drilled to match. These fittings are drilled in place on the fuselage, or at least marked at the time of assembly.

I also made up a jig for welding the end fitting on the tubes for the compression ribs. It isn't easy to weld .035 tube to .090 or thicker plate and I couldn't find anybody here who could do it. The welding instructor at the trade school suggested Welco 17-FC high strength alloy and that is what was used. This alloy has a tensile of 100,000 P.S.I., hardness of 200 B. and bonds at 1550° F. I don't know if it's legal, but it is a very strong weld and I couldn't twist a sample weld loose. All I did was wind up the tube.

I was very careful in making up the components for the compression ribs; that is, that the tube ends were square and of exact length, that the end fittings were all drilled alike and the fittings square, also. I center drilled the end fittings 3/16" - used a washer in each end of the tube to center a 3/16" rod, threaded at both ends which held the fitting to the tube. These washers were some I had and a bit oversize so that I had to put a few on a bolt in the drill press and take a light cut with a file; very little for a snug end fit in the tube ends. The washers may be an Auto-Lite generator part. I couldn't find any more of them around here. If you had a taper reamer, a light cut would let the washer in enough. The tube with ends held by the rod were lined up in a simple jig made of a couple 4" hardware-store steel angles and a piece of 3/4" angle iron I got off an old bed frame. The steel angles were bolted to the base angle iron, squared and lined up and drilled at the top to take two 3/16" bolts spaced exactly as the end fitting is drilled. These bolts projected 1/8" so that by springing the angle a bit, the tube and end fittings could be slipped in between the two ends of the jig. The base of my jig is 26-3/4" long and there has to be two positions for the angle at one end as the compression ribs are of two - actually three lengths. (cont. next page)

C.E. Multog (Cont.)

C-4 rib was not put in the jig, but held with the rod and squared or lined up by putting on a flat plate. The washers of course stay in after the weld. The rod is removed and I put "Texaco" Rust Proof Compound inside and sealed the end holes with a piece of tape.

I think I am running out of "herbs", but there has been a couple articles about adhesives - glue if you prefer; in Sport Aviation and every time you read something of this nature, you wonder who is right. I made archery bows some years ago and have had a little experience with this stuff. I'll go along with the W.S. Evans tests and experience as opposed to the "Dont Believe All You Read" in the April issue. See Evans comments under letters Page 3, July issue. I have made a number of "break tests", mostly like Mr. Evans suggests, try a few tests of your own. Resorcinol is waterproof all right, but it won't stack up for me with plastic resin glues and I have know this for a long time; - my experience. I don't go along with some of the things that have been written about wood, Somebody will have to prove to me that aircraft woods get special treatment at the mills. This is lumber country around here, not fir or spruce, but I know something about how mills operate. I'd like to see how I get .70 to .90 per foot certified aircraft grade spruce, fir or anything else delivered here. It's your move. C.E. Multog. (end)

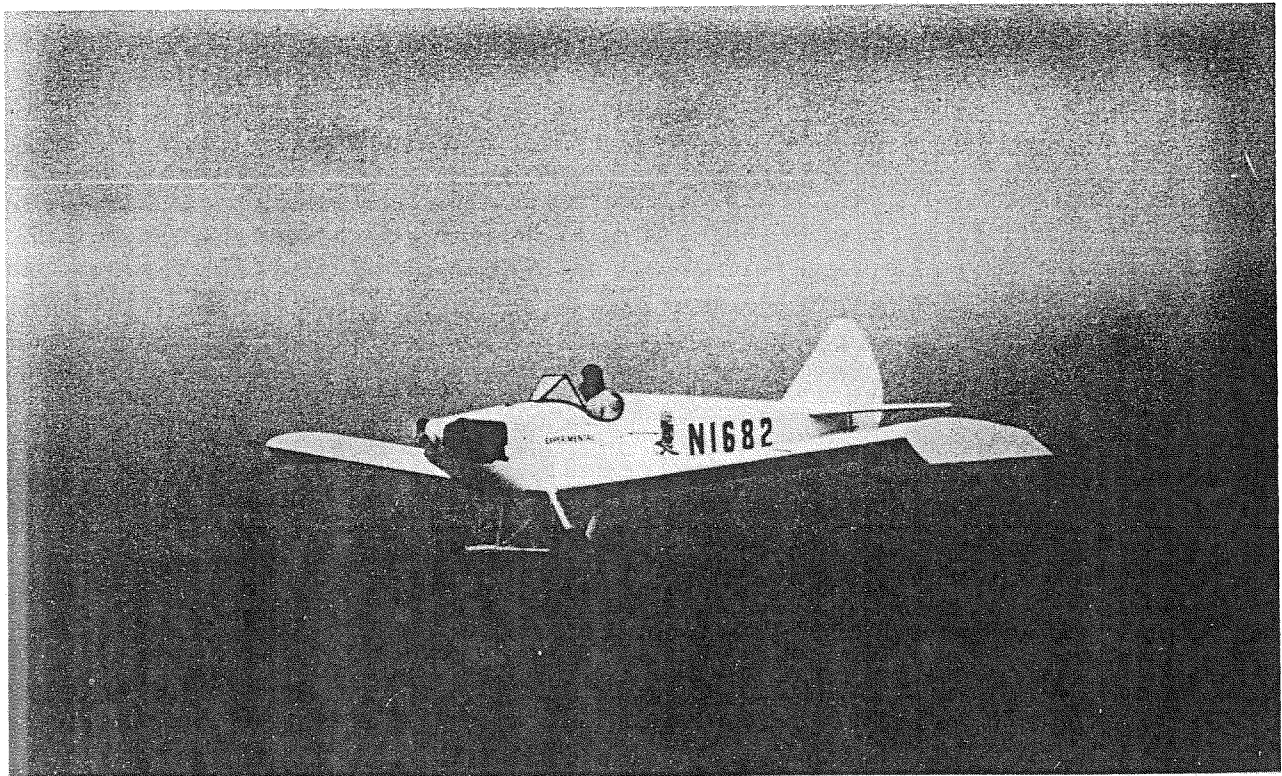
Notes on Modifications: (From Pete Bowers)

One of the most extreme modifications under way is by Eugene Wise, of Saugus, Calif. He's converting FLY BABY to a shoulder wing, something like the old Buhl Pup or the Church, with the wing attached to the upper longerons. He realizes what this does to the pilot's downward visibility, so he's putting windows in the wing roots. My major concern is the extremely shallow angles of his wing brace wires - the flying wires attach to the bottom longerons and the landing wires to the top of the turtledeck ahead of the pilot. While this worked fine on the Buhl Pup, that design had an extremely deep belly to give good flying wire angles and had a pylon above the fuselage to give a good angle to the landing wires.

Quotation from a letter received 19 July, ordering a set of Fly Baby plans: " I am ordering a set because I can no longer put up with the way George Welsh (CF-RXL) has been living it up since he completed his FLY BABY!...That from Garth Elliot, Meadowvale, Ontario, Canada. - - - - Ed. Note: George Welsh won the "Best Fly Baby" award at Rockford this year as reported in the August issue.

JOHN J. HOFFMANN, of Waco, Texas sends in a report that the Sherwin-Williams Company has a Polyurethane varnish that he believes is far superior to the traditional spar varnish. He mentions a friend who started a Pietenpol and had to leave it uncovered and out in the weather for a year. No visible ill effects on the wooden frame.

Tips like these are just what we need for the Bulletin. Keep 'em coming. (All above from Pete.)



Open Next Section [FBB section two](#)