

Above: This is the "eight day" fuselage we mentioned last month, built in that length of time by JIM COX, Houston, Texas.

Opposite: A rather extreme modification by DAN DUNNING, of Federal Way, Washington. He put in a 125 HP Lycoming O-290G engine, increased the wing span two and one-half feet, added tip plates UNDER the wingtips only and put on a modified Whittaker type tandem landing gear. Spar size was increased to one inch and the wire attach points were moved outward five inches to reduce the overhang ratio. Thirty gallons of fuel are carried, 19 gallons in a tank in the regular location and in a tank behind the seat. Gross weight for the test flight was 1245 pounds. Since Dan had only a student permit at the time, Pete Bowers made the test flight. (bottom photo)

The tandem gear didn't work out very well, and has since been replaced by a standard unit that saved 30 pounds in the process. Both the original and the replacement gear used steel tube struts instead of wood. The tandem gear seems to have died out anyhow. Pilots who used to use them for flying into rough area in things like Super Cubs have abandoned them in favor of plain oversize tires on standard gear. Main drawback of the tandem gear is maneuverability on the ground.

Main problems on Dunning's ship, in addition to the ground handling, was the lack of shock absorbers. With his combination of an overweight ship and going into rough mountain clearings, he really needs shock absorbing characteristics, and the oversize tire route is the only way to go. Actually, Dan's original intention in using the longer wings and more power was to give the ship good high takeoff capability on floats.

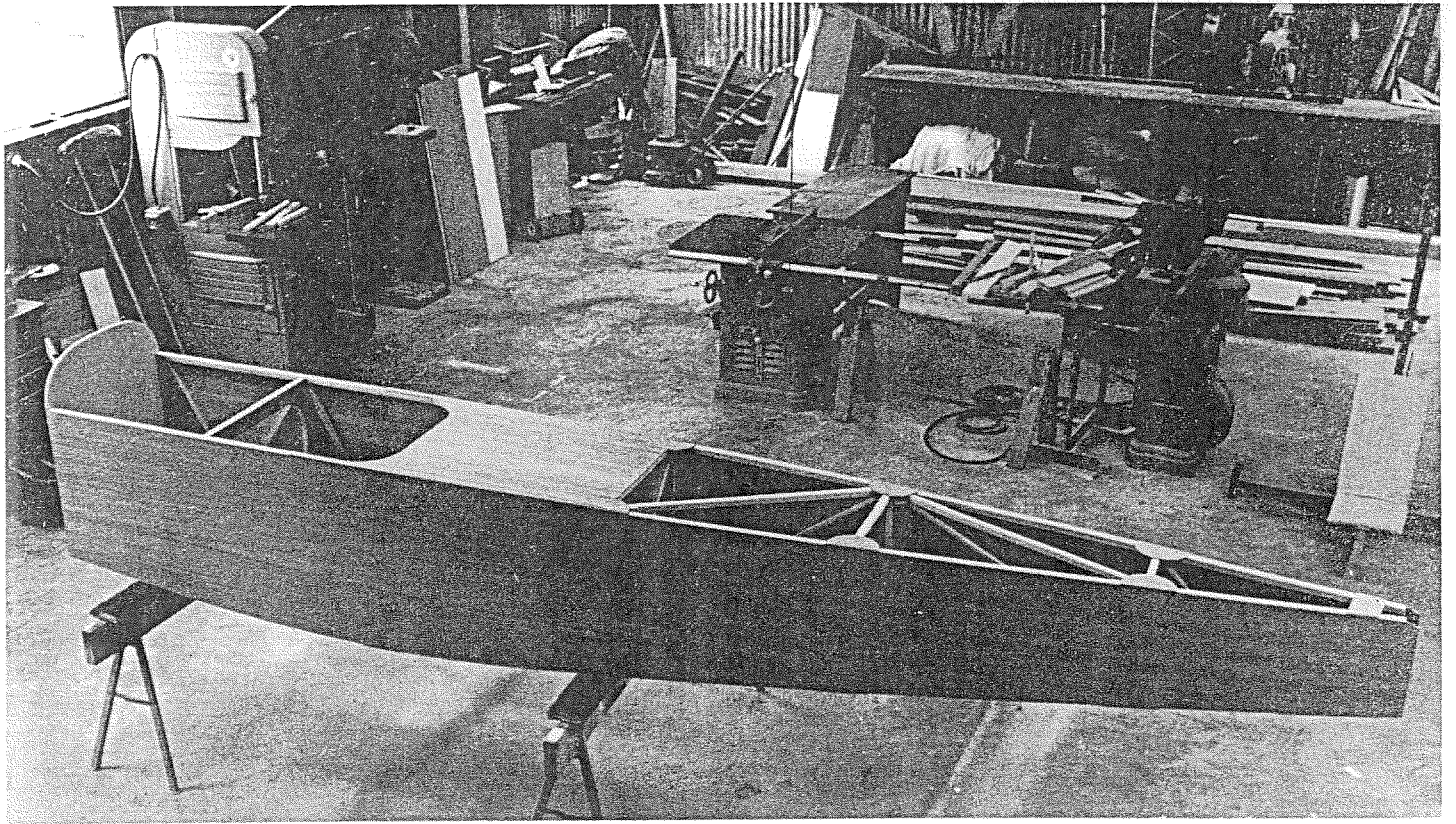
Well, that's it for this month fellows, (and Maureen), and sorry we are so late, but will try to catch up next couple issues. See you next month.

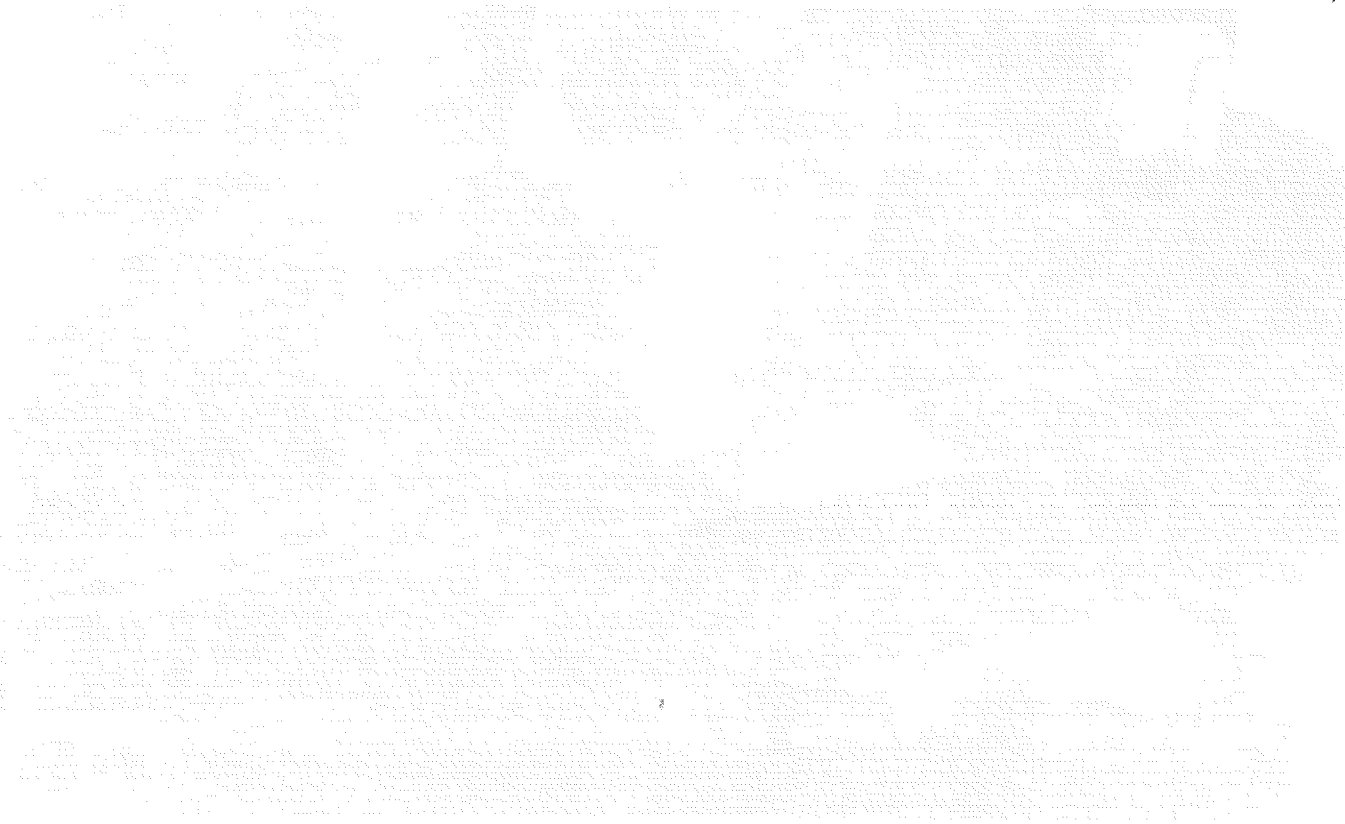
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# THE **FLY BABY** BULLETIN

Issue No. 4

October, 1967

Some fine morning you may wake up and find that the Bulletin has arrived in the same month that it is dated. Don't bet on it however, since that day may be a long time coming. Anyway, we had rather stay a month behind than to skip a month.

## EAA & SPORT AVIATION

In case you EAA members missed it, the October issue of Sport Aviation carried an announcement of the Bulletin on page 20. We had hoped to see in the same issue PETE BOWERS article on "Fly Baby, Five Years Later", but it didn't make it yet.

While on the subject of EAA, we want to pass on the information on how to get in touch with this organization for the benefit of our readers who are not members. To those who are members, it may seem incredible that anyone building or contemplating a homebuilt is not aware of this outfit. However, there are several of our group who are not members. Whether this is by choice or not, we don't know, but we do want to be certain that everyone who reads the Bulletin is aware of EAA and the benefits that are to be gained by membership. EAA by the way is short for "Experimental Aircraft Association". We could devote pages to this subject, but the best thing to do is let those interested contact EAA Headquarters and get the info first hand. The address is, Experimental Aircraft Assn., P.O. Box 229, Hales Corners, Wisconsin 53130. About all we can say in summary is that if you really love airplanes, and homebuilts in particular, the \$10.00 annual membership fee is the best investment you can make in pursuit of your dream. Didn't mean to sound so dramatic, but thats about the size of it. You may not always agree with the policies of EAA, but is is the best thing we have going for us, so if you don't belong, give it serious consideration.

## SURPLUS PARTS CATALOG SOURCE

We have the address of a parts house that we are told carries several items of hardware that can be used on "Fly Baby". This info was sent to us by BILL STURGEON, of Victoria, B.C., Canada. Bill, who is just one of several Canadian builders sent us a clipping showing such things as aircraft cable, choke assemblies, rod end bearing and so on. If you want a copy, write to,  
PRINCESS AUTO AND MACHINERY LTD.  
P. O. Box 1005,  
Winnipeg 1, Manitoba, Canada.

We have written for a copy but haven't got it yet. We also asked if there were any problems getting orders shipped into the U.S. such as customs, duties, etc. Will let you know if there are any procedures to follow.

## HELP NEEDED ON "HOW TO VARNISH"

Simple as it may sound, the proper method of varnishing in building our airplane is very important. The question has been posed several times and we don't feel qualified to answer. We need a comprehensive report from someone who can speak from experience to put in the Bulletin. Remember, you don't have to be an expert at writing to get it printed in the Bulletin.  
(Cont. next page)

## Varnish (Cont.)

We need information such as, type, brand names, proper temperature for application, what brush to use, how many coats, when and when not to varnish and many other details. When preparing copy for use in the Bulletin, it is nice to have it typed and double spaced, but this is definitely not a requirement. Write it on the back of an envelope if you have to but get it to us.

## FIREWALL (STA. 1) CONSTRUCTION TIP

We had another letter from PAUL BOKROS of Carlisle Mass. with a note that might save a little frustration. Paul says that in Fig. 1-14, the Sta. 1 dimension of 12" to center line could be changed to 12-1/8". This will ensure that the edge of the firewall is flush with the sides of the fuselage. The depth of the two notches on the side of the station will also have to be changed from 3/4" to 7/8" to compensate. That's all from Paul. (just couldn't help that last bit.)

## PROJECT GIVEN UP

It may never happen again, but for at least once we would like to applaud someone for giving up building "Fly Baby". JOE CLARKE of San Jose, Calif. was building his ship along with a partner who was helping. During the building, they discovered that his partner was epileptic and would never be able to fly single seat aircraft. This resulted in the plans and fuselage being donated to the local EAA Chapter 204 as a Junior Project. Joe plans now to build a 2 seat "Woody Pusher" and if a 2 seat version of "Fly Baby" is worked out, he wants to know about it.

To our way of thinking, this is an excellent example of why a lot of people call homebuilders a "different breed of cat". To Joe we want to extend our sincere best wishes on his new project.

## A BINDER FOR THE BULLETIN

Several readers have suggested that a convenient way to keep the original plan file and the Bulletin in good shape is to buy a 2" or 3" three-ring vinyl binder. These are usually found in office supply or dime stores for a 1.50 to 2.00. We say a vinyl because our first purchase of a cardboard-backed version for 80¢ lasted about three months and had to be replaced. Since the same idea was suggested by several people, we can't give any one individual credit, but the first person to write was GLEN HODGES of Granbury Texas. In line with this you might want to pick up a few clear plastic sheet protectors at the same time. These holders make ideal display sheets for photos and since they usually have a black filler sheet in them, you can use both front and back. We have found that they keep your photos and important documents from getting dog-eared and finger-printed.

The Bulletin has been and will continue to be 3-hole punched so you can use the same binder for it and the plan set.

## REPORT FROM ROCKFORD

We mentioned in an earlier issue the number and names of the "Fly Babies" in attendance at Rockford, but that was about all. Here is the rest of the story.

This was our first year at Rockford and we spent eight great days there. A tent was home and "foot-long" hot dogs were survival fare. It was well worth it though and we wouldn't have traded places with anyone, anywhere else. Most of the week was spent crawling under, over and around the eight ships there, talking to their pilots, and making a general nuisance of ourselves.

Since most of you will be reading the details of the Fly-In in Sport Aviation, we will leave that to the pros' reports. We did, however, have some "Fly Baby" activity that won't be reported in S A. On Tuesday and Thursday nights, there were informal meetings of "Fly Baby" builders that were more bull sessions than anything else. These meetings were held in the "back yard" of ERNIE HARBINS camper in the tent area. Ernie as you may recall is the builder who had his ship test flown at the Fly-In last year by none other than PETE BOWERS himself. This event was given full coverage in Sport Aviation at the time. Not until you realize how many obstacles and difficulties that had to be conquered, do you realize what a great accomplishment it was.

In addition to the general discussions at the meetings, we had films of the "first-flight" last year and also some of the early flights of the original "Fly-Baby". These included the "dunking" of the mother hen when Pete first put floats on her. The film which was flown in by ED SAMPSON in his own Fly Baby, had some great footage made by Pete with a remote camera mounted on the vertical stab and shooting forward over his head. Some of the shots taken with this rig included a chase sequence of Pete hot on the tail of what appeared to be a "Liberty Sport". Only once did the Sport manage to get out of his "sights", and then for only a few seconds. Another striking sequence was of Pete coming in on final to a very narrow grass strip with tall trees almost brushing both wingtips. There was an almost audible sigh of relief as each tree was cleared without touching. Another discovery was made while watching this shot. Pete Bowers has been recorded as having bounced on a landing! The effect was rather strange though, because with the fixed camera, the airplane seemed to remain steady while the ground bounced up and down a couple of times.

If you want to shoot some exciting film with your bird, try the remote fin mount. We will ask Pete to give us the details of how it is done and pass it on for those who want to try it.

Quite a bit of excitement was stirred up among the "Fly Baby" crowd, as well as everyone else for that matter, when JOHN VILLENEUVE, of Gilbertsville, Ky. arrived in his "Baby". John followed the plans as faithful as anyone could. Right down to the paint job. Except for a slight difference in the shade of red, (so we are told), his ship is a ringer for the original 500F. When it hove into view over the horizon, everyone was sure Pete Bowers had arrived and not until John climbed out of the cockpit did they know different. In fact many who did not see the ship close up were sure Pete was on hand and we were asked several times where to locate him.

REPORT (Cont.)

Just about everything at Rockford was great, but the greatest kick of all was meeting other Fly Baby builders. We met a lot of them and there was not a single "sour apple" in the bunch. We have said it several times before, but it bears repeating; Fly Baby builders are the greatest group of guys in the world. (and lady)

All in all, it was a wonderful week and we plan to try to make it again next year but will have to wait and see. The family gave up their vacation this year so "Dad" could go, but they may not be so willing next year.

BEST "FLY BABY" AT ROCKFORD

The "Best Fly Baby" award for this year was given to GEORGE WELSH, of Etobicoke, Ontario. George was awarded the trophy at a presentation ceremony in the Forum Tent.

George has a beautiful sliding canopy which he says is a necessity for the winter flying in Canada. Being from the "deep south" we wouldn't know about such things. Last winter we had two inches of snow and they closed the schools and declared an emergency. Just kidding, but it seldom gets below 15 degrees here and then we don't fly.

George had one of the three Canadian "babies" at Rockford and they all three came from the same area. We just had a letter from him a few days ago and they expect to have two more ready to go in the spring! How about that, a whole squadron of the "bloody" things as these Canadians say. The whole group is made up of ex-servicemen. There are two RAF, two RCAF, and one Navy. All are about the same age. They all work at totally different things, but have one thing in common. That is a mutual admiration for the airplane and Pete Bowers.

While at Rockford, we spent a few minutes in the cockpit of George's ship and happened to notice that the "stick" was a rather odd looking piece of hardware. We meant to ask George about it, but with all the hubub and talking, we never got around to it. As if he read our mind, George told us about the stick in his most recent letter. Here is the story as George tells it.

"It is the stick out of a Messerschmitt 109G. It was back on New Years' Day, 1945, on an airfield in Belgium and we were just recovering from a big party the night before. Around about 9 a.m. two squadrons of 109's and FW-190's hit us with everything they had. They shot up our field from every direction and we lost fifty two aircraft on the ground including some of your B-17 bombers which had landed there as they couldn't make it back to their bases in England. One ME-109 pranged right beside our billet and a few days later I cut off the joystick as a souvenir, never thinking that one day I would be using it to control my own aircraft."

This little narrative makes us wonder how many other ships are flying around with pieces of equipment in them that have an interesting background. Take ED SAMPSON for instance. We noticed what appeared to be a World War I tachometer or possibly a clock in his panel. What is it Ed? How about an article on it. If anyone else has something of this nature, we would like to hear about it and are sure the others would also.



## AILERON FLUTTER

"Fly Baby", because of sound basic design has never had problems with aileron flutter as some homebuilt designs have. We do have however one reported instance which we want to pass along to remind everyone that it is possible. BOB MITCHELL of Santa Barbara, Calif. says that flutter has occurred twice on his ship. The first time was when entering a loop at 110 mph. and the second was when a friend was in a tight spiral. Bob has since balanced the ailerons, but we haven't heard yet if this corrected the problem.

Aileron flutter is an entirely foreign subject to us and all we have heard is "old wives tales" about it. The original "Fly Baby" has been flying over 5 years now and as far as we know, has never shown any tendency to have flutter.

It would be quite helpful if some of our more experienced pilots would write us some technique type material of what to do when flutter occurs. Also how to recognize it, how to correct it, and most important, how to build in prevention during construction.

Don't get us wrong about this. We are not trying to generate a major problem from a minor incident. It is just that we have not had much material to date on actually flying our bird. Many of our builders, like ourselves for instance, are not "old pro" pilots and an article like this would be helpful and interesting. Any takers?

## BUY, SWAP & SELL

Remember the "for sale" we ran on a fuselage in the second issue? A letter just arrived from LOUIS BALOS, Niles Mich. telling us that he had contacted GLEN PALMATARY and bought the fuselage. Louis says that he is very well pleased with it and this gives him a good start on his project.

This also gets our "Buy Swap & Sell" column off to a good start, but this month we don't have any offers.

If anyone has an item that fits this category and is not of a commercial nature, let us know and we will be glad to run it for you.

## EXTERIOR GRADE PLYWOOD

On page 9-2 of the plan set, Pete Bowers says that it has been found that exterior grade 1/8" mahogany door plywood is excellent for use in "Fly Baby". To back this up, we have a letter from GEORGE GOODIER III, of Sedalia, Mo. who says the door paneling will stand the water-proof test for days with no ill effects. An added attraction is the appearance of the wood. Since it is made for exposed doors, it usually has a beautiful finish. George says that it is available at most first rate cabinet shops and if they don't have it, they can order it easily.

This letter as well as conversations with several builders who have used the door plywood, makes us feel much better about our decision to do likewise. If any other builders have used this wood, we would like to know about it and how well it worked out for you. Use of this wood can save several dollars as you well know from the prices of aircraft ply. George also sent us some addresses to contact for prices of other items which we are checking out and will report later.

PHOTO PAGE DETAILS

Top Left: Fuselage of Lowell D. Morrow, Yorktown, Indiana taken in June, 1967. He calls it "Splinters" and will carry registration of N-30060. Photo by builder.

Center

Left: Inside view of "Splinters". Note the contour seat and map case. Will try to get more info on the seat from Lowell.

Lower

Left: This is Gifford Gillingham tooling along over what we suppose is his hometown of Buffalo Grove Ill. Shots like these make our mouth water in anticipation. Makes you want to get out in the shop and get busy.

Upper

Right: This neat "office" belongs to Clarence Bruggeman of Norfolk Nebr., This bird has been flying about two years now. As you may remember we ran a shot of the completed airplane in a previous issue.

Center

Right: This is the "Baby" that caused so much commotion when it landed at Rockford this year. The proud owner is John Villeneuve who was our neighbor in the tent area that week in August. When John came in, everyone thought it was Pete Bowers in 500F, since the reproduction is faithful down to the last detail. The excellent photo is thru the courtesey of Joe Pope who is one of our most valued readers. Joe is the fellow who is preparing drawings of other guys sketches for the Bulletin. He is also in his spare time working on a type approved small transceiver. More on that in this issue.

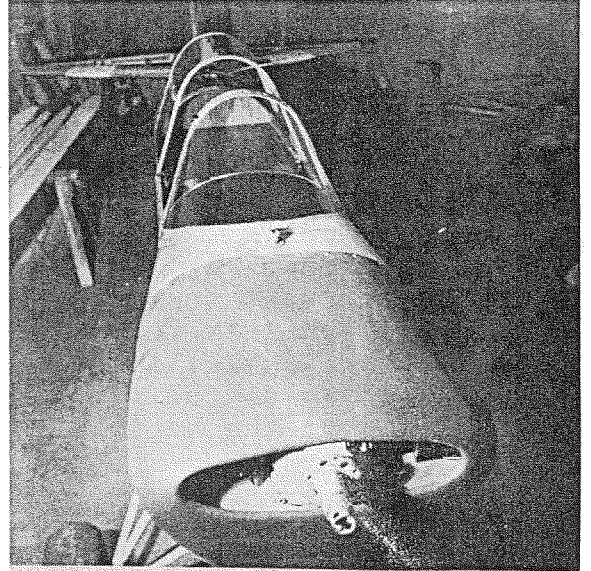
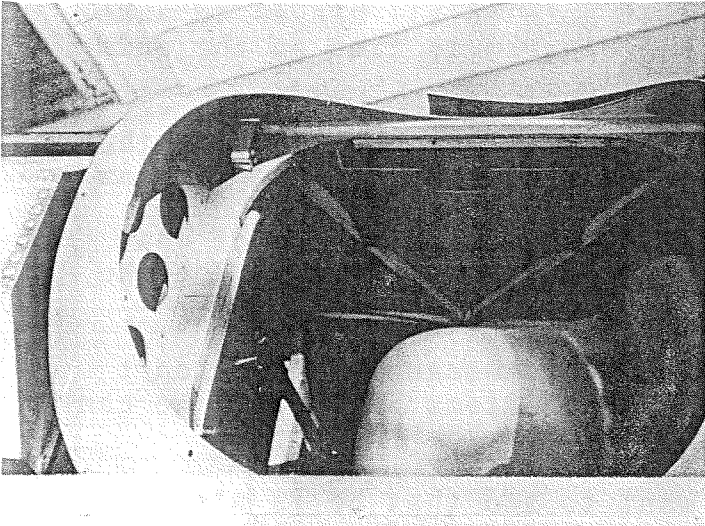
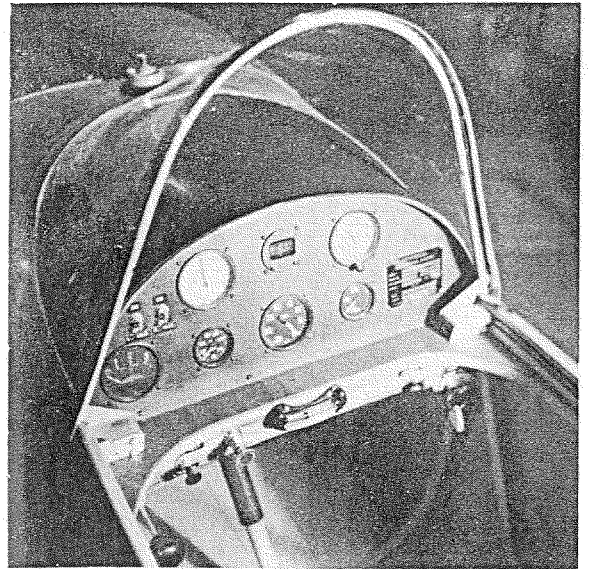
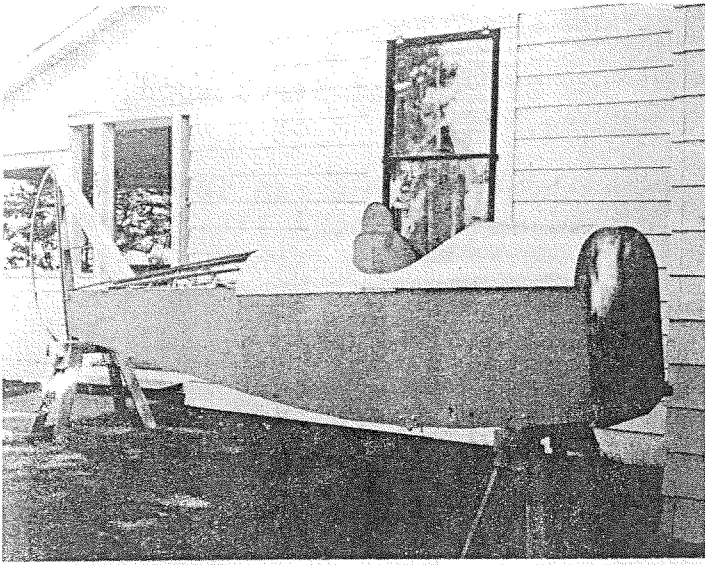
Lower

Right: This is another construction photo of Clarence Bruggemans's ship. Note the beautiful cowl job, and sliding canopy. The canopy we hope to get plans on before long and publish them.

MORE PHOTOS NEEDED FOR OUR PHOTO PAGE

Not a single one of the above snapshots was made by a professional. The point we are making is that any one of you can take a snapshot type camera and get reasonably good results. If we are going to continue running our photo page, we need pictures to print. Dig thru your old snapshots and see if you don't have some that would interest others. We can't be sure of printing all of them since some contrast is required for halftone printing, but not many are too hazy for reproduction. If your photo is a "one and only", tell us and we will return it after printing. Several fellows we know are keeping a running record of their ship by photographing it during all phases of construction. A couple have said that it made their FAA inspections easier.

Modification photos are especially interesting since they can show what the finished job looks like. As someone once said, "one picture is worth a 1000 words. How about it?"



## OUTBOARD RUDDER & ELEVATOR HINGE MODIFICATION

Here is a hinge modification submitted by JOE BYRNES, of Streamwood, Ill. and illustrated by JOE POPE, of Lynchburg, Va.

Joe Byrnes, who is a police Lieutenant with the CMSTP&PRR ran into a problem with locating the hinge for the top of the vertical fin. Here it is in his own words.

"The hinge for the top of the vertical fin is in the wrong place. Maybe I should say it is in the right place, but the diagonal spar for the fin joins the rudder post just where the hinge is supposed to go. The top bolt will have to go thru the point where the post and diagonal spar join.

I wrote to Pete Bowers regarding this and he stated to move the hinge down past the point they join. By doing this the bolt holes will not go thru any of the rudder post filler and any great tightening of the bolts will result in crushing the spar or post. I think I have a solution to this problem. First of all, the top of the rudder post will have to be filled more than 8" from the top. Then make a hinge as shown in the diagram, (see next page), and attach it as shown. I plan on using anchors instead of regular nuts on all hinges to make repair easier. The same, as shown on the diagram is true on the ends of the horizontal stabilizers also."

The drawing as mentioned above is courtesey Joe Pope who is doing them in his spare time, along with about 5 other projects. If you have an article or modification that requires a drawing or sketch which you would otherwise send in, go ahead and give us a rough sketch of what you want in the way of a drawing. We will in turn send it to Joe who will prepare it for the Bulletin.

Now, some of you guys who have been holding out because you couldn't draw, have no excuse. How about getting those items in to us. We can certainly use them.

Before we close out on Joe Byrnes, we want to add that he is also among the group who is building a fibreglas headrest for his ship. This approach seems to be getting more popular all along. (For those who are curious about the string of initials, CMSTP&PRR, as we were, they stand for Chicago, Milwaukee, St. Paul and Pacific Railroad. O.K.?)

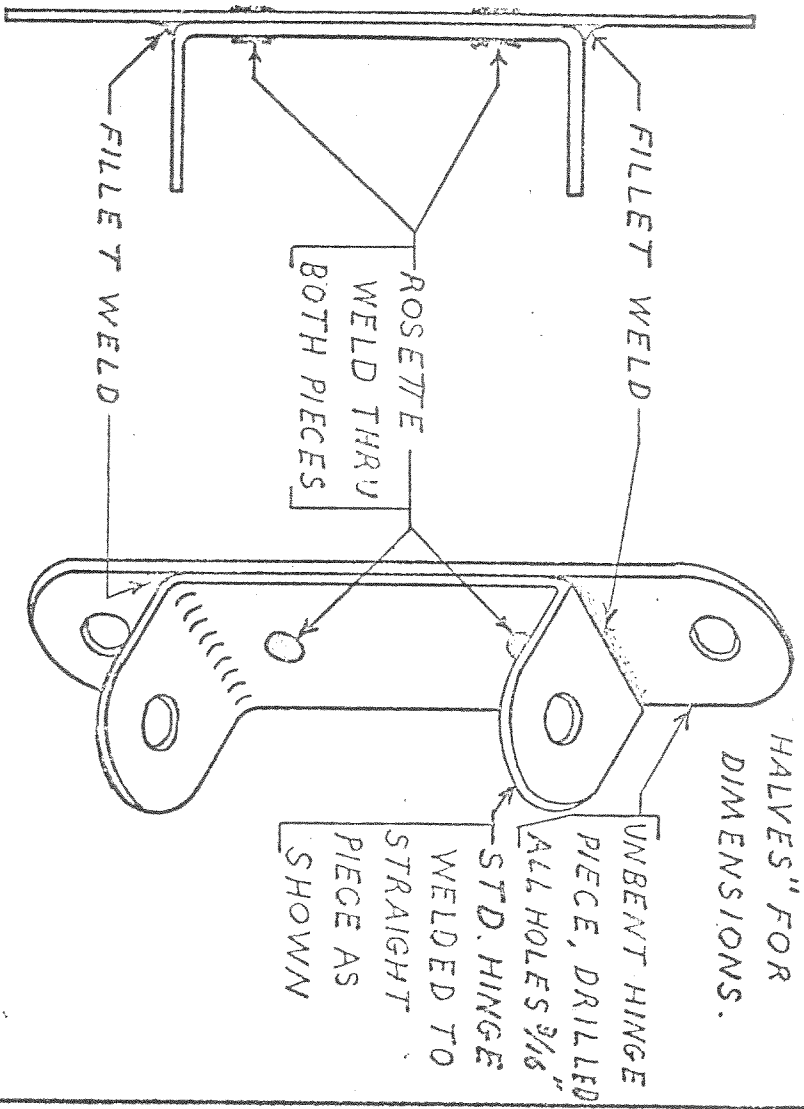
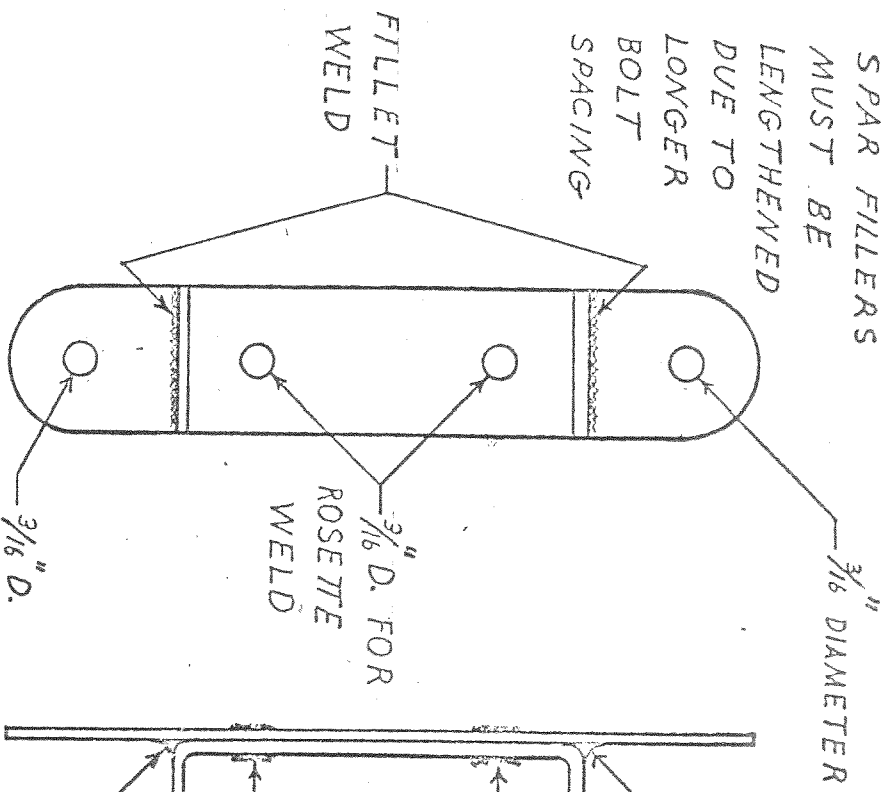
## BULLETIN LARGER THIS MONTH

As you may have noticed, we have a few more pages than usual this month. We may regret it when we start digging for items for the next issue, but we have faith.

We depend almost entirely on incoming mail to put this thing together. However, the past few weeks have been rather light. Maybe it is the holiday season that is almost upon us. At any rate, our reserve of items for the Bulletin is dwindling fast and help is needed. If you have something to contribute, now is the time to get it in. As Pete Bowers said at the beginning, this is your "soapbox", so lets use it.

(Note. The back-side of the drawing on the opposite page is blank in case you want to place it in your plan set.)

SPAR FILLERS  
MUST BE  
LENGTHENED  
DUE TO  
LONGER  
BOLT  
SPACING

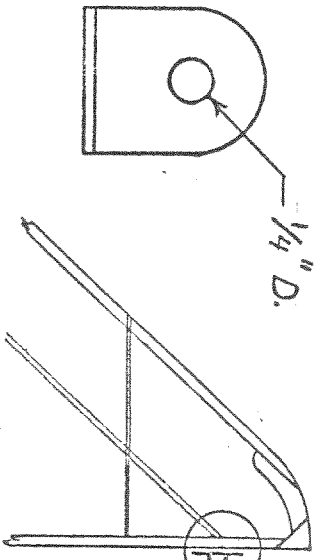


SEE PLANS  
PAGE 3-10 "HINGE  
HALVES" FOR  
DIMENSIONS.

UNBENT HINGE  
PIECE, DRILLED  
ALL HOLES 3/16"  
STD. HINGE  
WELED TO  
STRAIGHT  
PIECE AS  
SHOWN

OUTBOARD RUDDER & ELEVATOR  
HINGE MODIFICATION BY JOE BYRNES  
STREAMWOOD, ILLINOIS.

USE AT OUTBOARD FITTINGS ON FIN  
& STABILIZER WHERE DIAGONAL SPAR  
MEETS MAIN SPAR FOR ADDED BOLT  
CLEARANCE. ADDED PIECE IS STD.  
HINGE, UNBENT, WITH ALL HOLES 3/16"



Joe Byrnes  
11-15-67



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"FLY BABY" FITTINGS PRICE LIST

1. ELEVATOR AND RUDDER HINGES WITH RUDDER HORN	- \$12.50 SET OF 9 PR. OR \$1.50 PER PAIR
2. WING LANDING WIRE SUPPORTS	- \$5.75 WITH SPACERS
3. ELEVATOR CONTROL CABLE HORN AND TORQUE TUBE	- \$1.50
4. STABILIZER ATTACHMENTS	- \$3.75 SET OF 4 2 FRONT, 2 REAR
5. AILERON BELLCRANK	- \$5.00 SET OF 4
6. WIRE SUPPORT	- \$1.75 EACH
7. WIRE SUPPORTS	- \$3.30 SET OF 6
8. INNER ELEVATOR CONTROL HORN	- \$3.15 SET OF 2
9. OUTER ELEVATOR CONTROL HORN	- \$3.65 SET OF 2
10. COMPRESSION RIB SET WITH TUBING	- \$20.28 PER SET
12. LANDING GEAR OUTER SUPPORT FITTING	- \$6.96 SET
13. LANDING GEAR INNER SUPPORT FITTINGS	- \$8.80 SET
14. TAILWHEEL STEERING HORN	- \$1.65
15. SWING LINK SUPPORT	- \$1.88 SET OF 2
16. BELL CRANK SUPPORT	- \$3.00 SET OF 4
17. SWING LINK WITH TUBING	- \$2.00 SET OF 4
18. AILERON HORN	- \$3.40 SET OF 4
19. WALKING BEAM SUPPORT	- \$1.25 SET OF 2
20. WALKING BEAM	- \$1.00 UNIT
21. FIN SPAR ANCHOR	- \$1.60 EACH
22. SHOULDER HARNESS ANCHOR	- \$1.50 SET OF 2
23. REAR L. GEAR FITTINGS	- \$3.65 PAIR
24. FWD L. GEAR FITTINGS	- \$3.60 PAIR
25. SPAR FITTINGS	- \$4.96 SET OF 8
26. HINGE SUPPORT WITH GUSSET	- \$1.70 PAIR

(CONTINUED ON REVERSE SIDE)

27. WING HINGE	- \$2.00 SET OF 4
28. WING WIRE ANCHOR LEFT FRONT BOTTOM	- \$1.60 SET OF 2
29. WING WIRE ANCHOR LEFT REAR BOTTOM	- \$1.60 SET OF 2
30. WING WIRE ANCHOR LEFT FRONT TOP	- \$1.75 SET OF 2
31. WING WIRE ANCHOR LEFT REAR TOP	- \$1.75 SET OF 2
32. CONTROL STICK AND ATTACHMENTS	- \$12.50 SET READY TO WELD
33. TAILWHEEL SPRING AND BRACKET ON SPECIAL ORDER ONLY. SEND DIMENSIONED SKETCH FOR YOUR TAILWHEEL	
34. L.G. WIRE SUPPORT	- \$.75
35. AXLE SUPPORT PLATES	- \$5.00 SET OF 4
36. RUDDER PEDAL ADJUSTMENT LINK	- \$1.00 SET OF 2

COMPLETE SET TOTALS \$133.63

THESE FITTINGS ARE ACCURATELY LAID OUT, DRILLED, EDGE FINISHED AND DIE FORMED WHERE NECESSARY TO EXACT BOWERS SPECIFICATIONS OF 4130-N STEEL. THEY ARE THEN SAND BLASTED OR BUFFED, AND ZINC-CHROMATED ONE COAT. AT THIS TIME I CANNOT SUPPLY WELDED FITTINGS, HOWEVER, ALL PARTS FOR THE WELDMENT ARE FURNISHED. THIS SET INCLUDES ONLY THOSE FITTINGS LISTED AND DOES NOT INCLUDE THE FOLLOWING:

RUDDER PEDALS AND PEDAL MOUNTS P-6-3 FIG. 6-2  
ELEVATOR CONTROL PUSH ROD P-6-9 FIG. 6-3  
AILERON CONTROL PUSH RODS AND  
AILERON LINK P-6-8 FIG. 6-4  
SEAPLANE REAR FLOAT STRUT FITTING P-2-13 FIG. 2-7  
FLYING WIRES, AND BOLTS AND HARDWARE

ALL FORMED PARTS ARE FORMED ACCORDING TO MINIMUM BEND RADIUS OF STOCK THICKNESS TIMES 2 TO THE INSIDE RADIUS. ALL BENDS VISUALLY CHECKED UNDER 10 POWER GLASS FOR CRACKS. YOUR SATISFACTION IS GUARANTEED AND YOU ARE URGED TO RETURN ANY DEFECTIVE PART FOR ANY REASON FOR REPLACEMENT OR REFUND. WHEN ORDERING GIVE FITTING NAME, PAGE NUMBER AND NUMBER OF THE FITTINGS AS IT IS LISTED IN THIS LIST - FOR EXAMPLE:

"OUTER ELEVATOR CONTROL HORN PAGE 3-4 NO. 9"

TERMS

ON ORDERS LESS THAN \$10.00 - CASH WITH ORDER. OVER \$10.00, 30% WITH ORDER, BALANCE C.O.D. ON FULL SET, ORDERS, PLEASE ALLOW 30 TO 45 DAYS FOR MANUFACTURE AND DELIVERY. ALL OTHER ORDERS 15 DAYS. PRICES SUBJECT TO CHANGE WITHOUT NOTICE REMEMBER, THESE FITTINGS ARE GUARANTEED UNCONDITIONALLY AND IF THERE IS SOMETHING ABOUT THEM THAT YOU FEEL ISN'T SATISFACTORY, I WANT TO KNOW ABOUT IT.

DICK WEEDEN EAA 30164  
1430 GARFIELD  
BELOIT, WISCONSIN 53511



## HOW THE BULLETIN IS "BUILT"

Since we are brand new at this editing and composing routine, we have been trying several different ways of working up the material for use in the Bulletin.

At first we tried putting the major items in groups that had some relationship, but found this to be quite burdensome. Also we find that most letters from our readers contain more than one subject and we have to split the letter into two or more parts, which isn't always easy since some have reference to a previous paragraph or idea.

The approach we are taking now is to take each letter as it comes in and sit down and type the information under a heading that gives a general idea of what is covered. This method results in a stack of isolated items that can then be put into whatever order best fits the make-up of the Bulletin. So far this is working out reasonably well, but still gives a sort of hap-hazard grouping of material.

The purpose in going into this explanation is to tell you how we do it and ask for suggestions as to how it might be done better. Write us and let us know what you like and don't like about the way we are doing it. Also, we are sure there are some of our readers who have had experience along these lines and can offer suggestions. As we have said all along, we don't mind criticism, and we appreciate all the help we can get.

## FLY BABY FITTINGS

You will find a listing of ready-made fittings listed in the Bulletin this month. Mr. DICK WEEDIN, of Beloit, Wisc. makes up sets of fittings for "Fly Baby" and they are quite reasonably priced. Several of the builders that we met at Rockford this year have used Dick's fittings, and we heard nothing but praise for them. Everyone we talked to was much impressed by the quality and workmanship and not a single person thought the price was too high.

Dick is sending us some of the fittings in exchange for putting his list in the Bulletin. When we get them, we plan to have them inspected by the local fixed base operator who has a licensed FAA repair station. This is NOT because we doubt the quality, but so we can give you the opinion of a professional, since we don't consider ourselves qualified to do so.

We do feel however, that a builder is probably better off using fittings fabricated by someone who is well qualified, and experienced in metal working, unless they happen to be experienced themselves. Most of the people we have contacted in this regard have no experience whatever with working steel, and everything they do will have to be from scratch. These are the ones who will benefit from Dick's offer.

At the moment, as you will note on the fittings list, Dick does not offer welded parts. We hope however that he will be able to at a later date. The parts supplied are ready to weld, but not welded. He is at the present attending A & E School in addition to holding down a regular job, and although he hasn't committed himself to it, we look forward to his being able to offer the welded parts as well, once he is out of school.



# THE **FLY BABY** BULLETIN

Issue No. 5

November, 1967

With the stamp-licking taste still with us from the last issue, we are getting hot on this one in an attempt to get it to you during the holiday season when many will try to cram in a few extra hours on what has been termed "our own private brand of insanity". Call it what you wish, but for many of us, our project represents that thin invisible line that separates us from those who resign themselves to the "rut" and let it go at that. Few, if any, who are building "Fly Baby" can deny being individualists. Why else would they declare themselves self-made "nuts" by building an airplane in their bedroom or garage. Maybe we are generalizing a little too much, but that is the reaction we get from the "unenlightened" when the subject arises. When it happens, we try to pass it off as the most normal thing in the world, knowing full well that they don't accept what we are saying, but not wanting to hurt our feelings, they agree. It is we really who should feel the pity as they walk away shaking their head and clucking, because they will probably never know what it's like taking that detour out of the rut.

We all know that lots of different people have all sorts of things going for them, but you must admit, the aircraft homebuilder, and especially those building "Fly Baby" are without doubt the king of the mountain.

So much for this month's Walter Mitty column. If some of the more eloquent among us would like to expound further on the above, we would like to hear about it. Our own streak of romanticism is just broad enough to bridge the gap and that's all.

## UNCONFIRMED RUMOR

Heard a rumor today, probably unfounded, that Santa Claus sled is a homebuilt, and that he and this other cat named Rudolph, (no last name) are EAA members in good standing. Of course we don't believe it, but just in case, if anyone gets a good look at this craft in the near future, see if you can find any evidence of the word "EXPERIMENTAL" stenciled on the side.

While in the holiday spirit, we will use this space to wish everyone and their's a very happy holiday season. Also it it much quicker and easier than sending Christmas cards.

## THE POETS CORNER

Before we get on to the serious business of building an airplane, here is a bit of poetry from our "first lady", Maureen Routledge, Almonte, Ontario, Canada which is still in the eastern section of Canada. The next time you hear someone remark that the design of "Fly Baby" was a step backward for sport aviation, you might remember these few lines.

### The Triumph of "Fly Baby"

There once was a wee airplane  
That brought back the past again.  
People sighed and descried,  
But never could hide  
The charm of this wee airplane.

Maureen Routledge

## AN ANSWER TO THE VARNISH QUESTION

Last month we asked for help on varnishing for several members who needed tips on the subject. Here it is in the form of a letter from Dr. LLOYD ROBERTS, of Cooperstown, N.Y.

How to Varnish.

1. Types of Varnish: Natural varnishes (other than plastic base varieties) come in two basic flavors; indoor varnish - often advertised for use on floors or furniture, and spar varnish; Spar varnish is for boat spars and is more flexible and never really dries hard. Therefore it is no good for floors and furniture. It should be the best of the natural varnishes for the airplane weather protection. However if you are building an airplane you might as well go first class and use something better.

2. Polyurethane Base Varnish; This is better (and somewhat more expensive). These are made by the major paint manufacturers under various names. The one I have used is "Polyvar" made in San Antonio. This smells like varnish, looks like varnish, goes on like varnish, but it sticks better at least to finger nails where it remains as a source of entertainment for days and days. (It has been used by the manufacturer to line his swimming pool.) It is quite a strong film, flexible and when it dries it seems to impart considerable extra strength to the porous door panel mahogany. This door panel stuff will soak up 3 to 4 coats before it looks varnished, 2 are sufficient for water-proofing. The best way to test water-proofness is to varnish small pieces with various numbers of coats, weigh them, soak them in water for a few days and weigh again. If there has been negligible weight gain, its water-proof. Use one extra coat for good measure to cover any "holidays".

The best feature of the Polyvar is that it is not affected by dope either, Nitrate or Butyrate. Furthermore the dope adheres very well to the varnished surface. This simplifies things no end although for major attach points of the fabric bare wood or doped wood is probably better. Polyvar does not require exotic solvents, just mineral spirits. It dries fast, especially the first coat, often less than 1 hour.

3. Varnish Application: Any brush will do. A light sanding of the corners of the diagonals etc. will help prevent any varnish from cracking with age along the sharp corner. A light sanding before the final coat should be applied with the grain. Cross grain application of early coats will fill the grain faster.

I will second the motion on door paneling, as long as it is used in a place where thinner aircraft grade would be O.K. (as in "Fly Baby" per Pete Bowers). That fancy grain means some loss of strength. Some sheets will be found to have unequal thickness of the plies, one side thicker than the other. Some of the hardwood varieties have a very thin core so that they are very strong in one direction but not in the other. These make good spars I guess. Some of this stuff is so cheap its unbelievable, 50 cents per 2 x 7 foot slightly damaged sheet in one place. (all gone now). There is a marine grade mahogany plywood imported from Holland which is harder (and heavier) than the door panel but still less than 10 dollars per 4 x 8 sheet. I got this in 4 mm. thickness (5/32) and probably 3 mm. is available. Write to Bob Craddock, Smoot Lumber Co. 1201 Royal St., Alexandria, Va. They get from some supplier in Baltimore. This is excellent wood with no voids. (spaces in center ply often found in door panels.)

## VARNISH CONT.

That completes Doc Roberts comments on varnish but we do a couple of other items from him which will appear in this issue. (we hope)

## QUESTION ON WING DRAWINGS

We have a question from Rev. G.W. SHEERES, Detroit, Mich, that maybe someone that was at Rockford this year can answer. It seems that during one of the "sessions" at ERNIE HARBINS camper, there was some discussion of an error in the drawing in fig. 4-28 on page 4-26. The discussion could have been concerning the dimension change from 1-1/2 inches to 1 inch of the location of the push rod hole from the top of the spar, or the re-positioning of the link support from the top of the pushrod to bottom. Both of these items are covered in the correction sheet 9-1. Probably it was something else that someone changed or found to be in error. If anyone remembers the discussion of anything other than the above, please let us know.

## FURTHER COMMENT ON WIRES

Pete reports that his original calculations on the FLY BABY wing loads for 5-g airplane showed that 3/32 inch 1 x 19 stainless wire would do the job, particularly when doubled. He picked 1/8 inch, however, not for the fudge factor of extra strength but because wire stretches, and 1/8 stretches less than 3/32. For those considering the use of swaged end fittings for turnbuckles, 5/32 for the flying wires should cut down even more on the stretch. This size isn't practical for the Nicopress attachment because the radius and associated thimbles would have to be too large.

As for the stretch, that's something you're going to have to get used to. Even rugged hard-wire braced ships like Ryan PT-22's stretch the flying wires a bit in flight, with consequent slacking off of the landing wires. Pete has flown several other FLY BABIES with wires even looser than his and no ill effects. Realize that this slacking off on one side is from stretch on the opposite side, and not from slop in a rigid system with the wing banging back and forth between two restraints and getting jerked to a halt with each reversal of loading like an undersize bolt in an oversize hole in a strut fitting.

## BUY SWAP & SELL

Only have one item at the moment and if more turn up later, we will add them someplace else.

BILL LEISGANG, Route 2, Box 264, Onalaska, Wisc. 54650 has a fresh-majored Continental A-65 for \$365.00 F.O.B. cash or will trade for aircraft or parts.

Bill also adds that he has found a man who has 3 (three!) barns full of aircraft parts new and used. He lives about 60 miles from Bill. If FLY BABY builders will write their needs, he will try to find parts for them at cost from this man. He specifies that all requests must have the plane serial number assigned by Pete Bowers or won't answer the letter. He is not interested in making the trip for anyone other than FLY BABY builders. Direct all correspondence on this to Bill.

(This is just another bit of evidence of the spirit that sets this bunch apart.)

## ODDS & ENDS

Remember that fascinating tale of how GEORGE WELSH obtained his control stick and the remark about the odd instrument in ED SAMPSONS ship? Well Ed answered the call and here it is.

"About that clock; A former resident of my home town who still has relatives here was home visiting his brother. This fellow is an antique car collector and he came over to see me about my 1924 Ford truck. The truck has been put aside in favor of the FLY BABY project. He said he had a clock that he had picked up from a crashed Allied plane in France in 1918. He said that the plane had been shot down near where he was located and didn't know if it was French, British or American. He offered the clock to me and I jumped at the chance.

As you know FLY BABY N4629T has streamlined tubing for landing gear legs. The legs are Curtiss Robin wing struts and American Eagle interplane struts.

The headrest is American Eagle and all the turnbuckles used in the control system and wing drag wires are from the first and only side-by-side Ford V-8 Pietenpol ever built. It was pictured in Sport Aviation about a year and a half ago. The airspeed is from the original Lasley Sport which became the Franklin Sport Biplane. The Lasley was a homebuilt 2 hole biplane powered by a DH Gipsy motor. A friend of mine owned it and flew it till the hail came, about 1939, and then sold the engine etc. The solid flying wire inserts plug that I have in my axles came from a 1929 Ford Model A truck drive shaft.

Here is the clincher that Pete will enjoy. The metal for the removable turtle deck is from the aluminum outside shell of a Siedelhuber water heater made in Seattle circa 1948-49. Being in the plumbing business, I have an eye on a couple of those old heaters. Waiting for them to spring a leak any day!

## CAUTION ON LOWER FRONT PLYING WIRE FITTING & STAB LOWER WIRES

In addition to the above, Ed passed on some "hard information" that may help some builders.

"A word of caution on the lower front flying wire fitting. To make it as the plan show will result in a concentric load being put on the fitting and bolts. I changed mine during the first 10 hours of flight. There is either too much angle in the dog-leg or too little. I can't remember which. But I made a paper pattern lining up the wires with the attach bolts. I noticed this condition on some of the ships at Rockford this year. Also another item noted was the pick up point of the lower stabilizer wires. Some of the fellows had them attached to the tailspring assembly. I wanted to do this also but an A&E friend of mine pointed out that the tailspring bracket is subject to damage on rough ground and if it failed so does the stabilizer brace wires. The proper place is as the plans show. A hole drilled thru the fin post between the 2 tailspring bracket bolts. Also use a hardwood filler on the fin post. This will help the tailspring from working loose."

Ed also promised us a photo of his winter canopy which we haven't had a chance to see yet. (these poor north-land pilots)

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