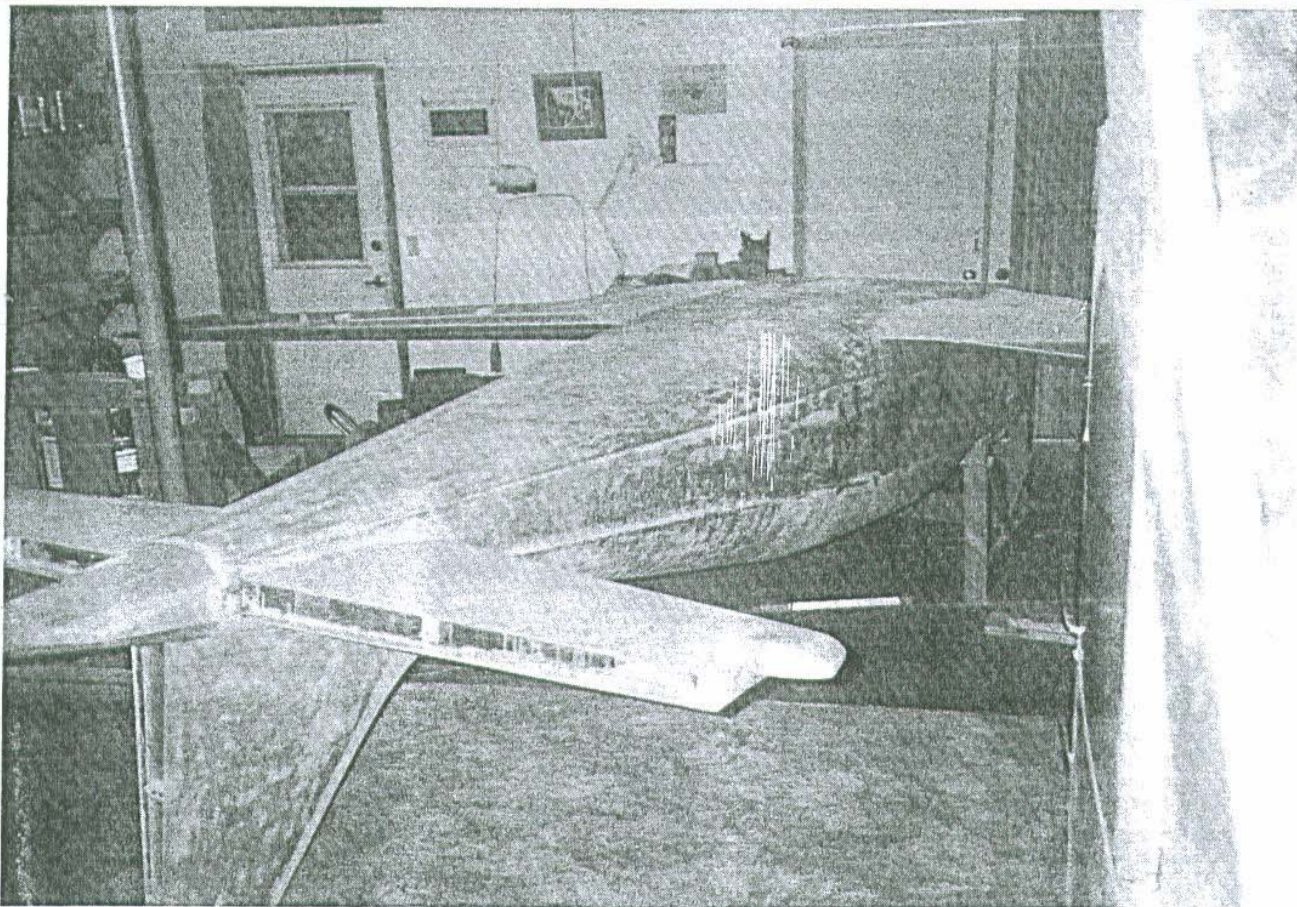


# BUILDERS & FLYERS GP4 NEWSLETTER

THE OFFICAL VOICE OF GP-4 BUILDERS ALL OVER THE WORLD

VOLUME 5

NOVEMBER - DECEMBER 1995



## BILL BERRICK OF OMAHA, NEBRASKA GP-4 PROJECT

Dear Spud,

I really enjoyed your most recent GP4 Newsletter; the tips from George are sure to be helpful to a lot of builders. I have a number of letters he has written to me in response to various questions along the way. I will be

sending those copies later to be shared in future issues of GP4BFN and it might save George some time in re-writing some things.

I wonder if George meant to say a 4" x 4" x 5' sanding board? A 4" x 4" would be a little heavy;



I used a 1 x 4 x 6 board with two wooden hand holds on the top because it was easier to find a really straight and flat finished board in that dimension. It seemed heavy enough to me; I think George used a 2" x 4".

*I very easily could have made a mistake here. They don't call me the "Two Fingered Wonder" for nothing ya know! I did not have George's original letter to confirm my whoops. I'll get the straight scoop from George for the next newsletter. - Spud*

I made up an index of the plans early on that saved me a great deal of time during construction. I'll enclose with this letter so we can share it with all the other builders. *Bill's Super index is on pages 3 & 4 of this issue!*

I am just finishing my main gear doors--mounting the outboard metal ones today. The skinning is finished except for the top area between the panel and the firewall. I am leaving that open until the engine is mounted and wired. I'll put the glass bead slurry on the bottoms of the wings and do the finish sanding, hopefully this month, then get about 17 of our EAA Chapter 80 members over again to turn the project right side up. That is how many we used when we inverted it several months ago! This is a walk-out basement with a double door just in front of the fuselage in the photo. We have to carry the wing outside to invert and turn it end for end. I used a cable come-along suspended from the rafters to help lift the center of the main spar until everyone had found a grip on the trailing edge. It was easy enough for that many people, but it made quite a sight for the neighbors--like some giant caterpillar!

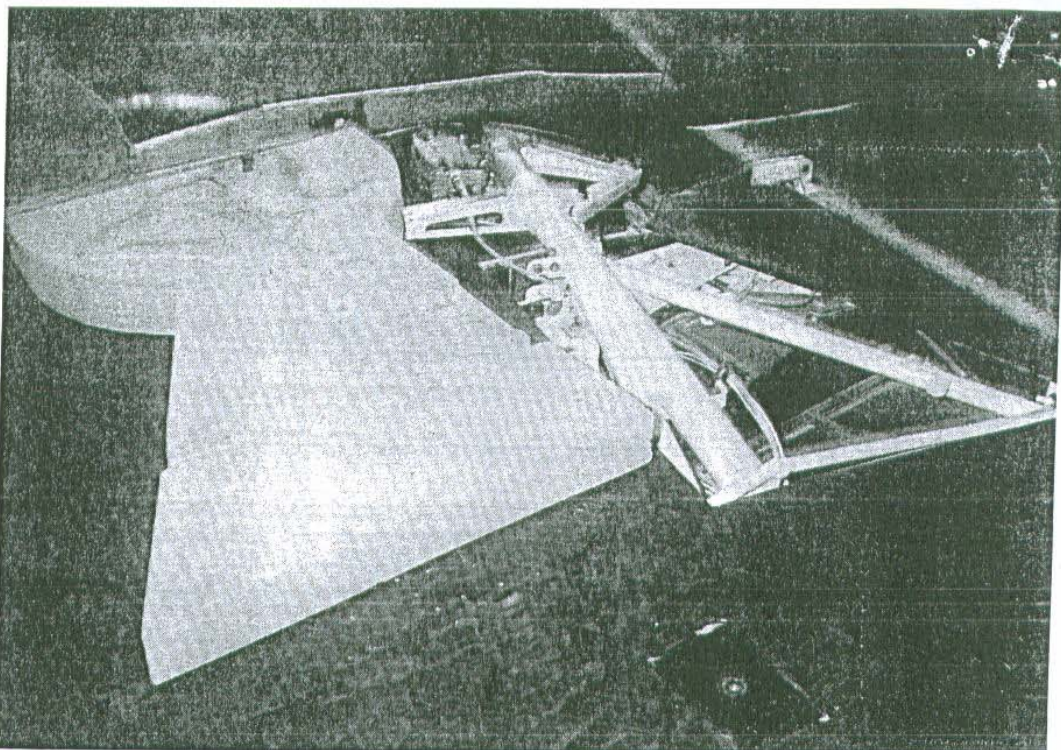
*Hey Bill! We need a picture next time you have your "caterpillar" out!*

So long,

Bill Berrick (402) 292-6832

11803 Hunters Cove

Omaha, NE 68123-1119





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## GEORGE'S CORNER

Fellow GP-4 Builders:

Our last newsletter asked the question "How can I rip a 3" wide board and get two 2" pieces and a 1" piece?" Obviously you can't as the two saw cuts use up some width. What the builder was really asking can I down size the board some and still use it. There are probably some areas in the fuselage where a slightly smaller width would suffice structurally but I would like to see you builders staying pretty close to all plan dimensions. At least within 1/16" and closer is even better. A lot of structural engineering has gone into areas like the engine mount attach fittings, wing juncture etc. It's important to have a generous area to bolt these very high stress fittings to. Since all of the fuselage lumber is 3/4" thick and milled to this width. A hollow ground blade will rip your beautiful, very expensive spruce with a minimum of waist. It cuts a narrow cut, very smooth, that is ready to glue. Because its hollow ground there is not much set to keep your work from binding. You have to run your board slowly through your power saw. If it starts to bind you can insert a small wedge into the cut in front of the blade to relieve the bind and continue ripping the board. With the spruce I got from Wicks Aircraft Supply I never found a wedge necessary.

The carbide tipped blades last much longer before sharpening is necessary however they make a wider cut. I used 4 hollow ground blades, keeping one or two sharp ones on hand at all times. The sharper the blade the least chance of a bind.

When I gave a material list to Wick Aircraft Supply I thought the structural lumber list was liberal, but would not tolerate any giant mistakes. In the back of the builders manual has a pretty close inventory of your lumber needs.

Substitution: My Osprey II is built out of douglas fir bought from my local lumber yard. Still fly's very nicely! Douglas fir is about 300 psi stronger than spruce however its a little heavier in a strength to weight factor. We found that lumber yards were reluctant to sell their douglas fir to airplane builders. Liability bows its ugly head! I re-engineered the plans in spruce so Osprey II builders would have a quality grade lumber available. If a GP-4 builder needs an extra board to fill in he could use douglas fir. You should try to get as dry as possible. Look at the end of the board and count the growth rings and the angle of the rings. Strive for as many ring per inch as you can, at least 8 per inch, and the ring slant of no more than 45 degrees if you are

using the board in a longeron. When you buy a board from the lumber yard a 1" X 4" actually measure about 3/4" X 3 3/4". Be sure its a full 3/4" thick if you are using it in your 3/4" thick structure. You of course will be buying No#1 grade clear stock.

Other wood can also be substituted in some areas. A softer pine can be used in the fuselage corner blocks that tie in the rib to spar junctures. I laminated some pine strips in my windshield-canopy bows. You should never use a soft wood in high stress areas like the longerons, spar caps, through bolt areas, etc. Let's say you need a 3/4" X 1 1/4" piece of spruce and you find you have a 3/4 X 1" in your scrap pile. There is nothing wrong in laminating a strip onto your 3/4 X 1" to fill it out to the correct width. Lets say you need a 3/4 X 1" board 7 foot long, but you only have two pieces 3/4 X 1" X 4 foot long. You can make a 10 to 1 scarf joint to get the board you need. Cut your two 3/4" X 1" boards on an angle 10" long and glue the two together into one long piece. It is important to note that I only advocate a scarf where a ply skin will cover the scarf!!

A local GP-4 builder called saying he cut his canopy base a bit under size. As you all know this 1/2" aircraft ply is very expensive. I told him to cut a thin batten of spruce and laminate it around the perimeter then reshape as necessary. I went over to his shop to see the results. He did a beautiful job. In fact I have never seen better wood work. He should end up with a beautiful GP-4 if this quality workmanship continues.

Our fall weather here in northern California is a beautiful time to fly. I have made several demo flights recently where the air is clear and stable. The right seat has 3" rudder pedal extensions that flip up or down. On one of those recent flights my passenger had one pedal extended and the other one not extended. He ended up buying the plans but remarked "Boy you sure have to hold a lot of right rudder". Who says you can't win'em all!

Regards

George





## EDITORS CORNER

My, how time fly's! This is our fifth and last issue of 1995. The current subscriber bases is at 111 and continues to grow almost weekly.

**The GP-4 builder.....**I've had the opportunity to talk or read letters from quite a few of the builders. The enthusiasm for the GP-4 is quite overwhelming. I've learned a lot about the GP-4 builder, he is a different "bread of cat". He or she (yes, we have a she!) walks to the beat of their own drum, no one else's. They know exactly what they want, they don't care what everybody else is doing. And they are very, very tenacious. They break down their GP-4 project into 20 or so sub-assemblies and charge ahead, slowly but surely. Most are not on a time schedule, when it's done.....it's done. Almost every GP-4 builder that will finish their plane is a craftsman at heart. They are building to "build" first and the flying part is secondary, but they know their completed GP-4 will be their reward. A GP-4 builder is a person that is building an airplane that they have full intentions in keeping. I've enjoyed working with all of the GP-4 builders and George Pereira in 1995 and look forward to 1996.

**We need to stick together.....** Everyone's renewal is now due for 1996 (see page 7 for details). We have 111 subscribers currently on the roster and we need this many people as subscribers to make sense of doing the newsletter and to keep us supplied with input. The newsletter has grown in content, but I know it hasn't grown passed 8 pages. I have been very concerned on how this has been received by the group in that our original goals where to average 12 pages per issue. I have asked some of you for input on this subject. Quite a few of you have been very kind in saying that there is more information packed into the 8 pages of the GP-4 newsletter than some other newsletters have in 3 issues of theirs. I feel that the newsletter and the group will grow in size and content as more builders get deeper into their projects.

**Newsletter input.....** I would first like to thank George for his input to the newsletter. I have found his words priceless and learn something with every one of his articles. George, thanks for sharing your knowledge and thank you for the GP-4 it's self. OK now you other "Scoundrels", Yes you! We have gotten some excellent input to the newsletter and we have some excellent info coming up in the next issue. BUT..... we have quite a few of you guys that are "sitting on you thumbs". Everyone should have something to offer, even if they haven't necessarily started on the GP-4. We have people out there that welders, skilled wood craftsmen,

engineers, painters and etc. We have people that are full time general aviation A & P's and I & A's. You need think about what you have to offer. Things that you take for granted day in and day out, some other builder may not have a clue about. You A & P's and I & A's you could be keeping us abreast of all the thing we need to know about the 200 HP IO-360 Lycoming we use, like AD's & SDR's, used engines, misc. parts. You welders, you should be able to tell us about some welding techniques. How about you wood guys.....come on! There is a couple of people that have made jigs to turn their wing and one gentleman built a metal jig to rotate his entire assembled GP-4 nose first so he could paint his plane. Where are those pictures and articles to go with. Come on people share those experiences with the rest of the group! We would also like to hear your suggestions and ideas for the newsletter. All input is welcomed

**1996 activities.....**Is there interest in having builders forums at Sun N' Fun and Oshkosh for the GP-4 group this coming year. We also could arrange to have builders dinners also! Please let George or myself know of your thoughts soon as you can so we can plan accordingly.

## WE HAVE A STAR!

### ● Darry Capps goes Hollywood!

I was watching ESPN a couple weeks back and they had an one hour show about the big Oshkosh fly-in. It was an excellent presentation of the event.

Partially the way through the show they reported on the Denver to Oshkosh race. And then before you know it there's the very modest Darry Capps telling them on how the race went.

Now we are just going have to call Darry "HOLLYWOOD" from now on! I just wonder how many people saw this show and said what to hell is a GP-4. Thanks for the exposure Darry...I mean Hollywood!

For those of you that missed that show I believe that video is available from the EAA. It just might be the same thing as their annual 1996 Oshkosh video. I'll try and find out more about it before the next newsletter. -- Spud





## RENEWAL FOR 1996

Everyone's subscription is now due for 1996.

Subscription fee for 1996 for six issues will be as follows:

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**For Sale:** Elevator torque tube as per DWG 12 and rudder pedals and clivis arms per DWG 7 \$150.00 Don Milker, Port Ludlow, Washington (360)437-9331

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# MERRY CHRISTMAS AND HAPPY NEW YEAR!



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**THIS IS YOUR LAST ISSUE FOR 1996!  
PLEASE RENEW! SEE PAGE 7 FOR DETAILS**