BUILDERS & FLYERS
GP4
NEWSLETTER

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

VOLUME 9 JULY - AUGUST 1996

JAKE JACKSON'S GP-4 OF RIO LINDA, CALIFORNIA

Hello Spud.

I thought it would be a good idea to bring you up-to-date on my latest project with my GP-4. N58JJ. I have about 130 hours on the airplane now and she flys beautifully with no problems to date. My weight is almost the same as George's, mine weighs in at 1301 lbs empty.

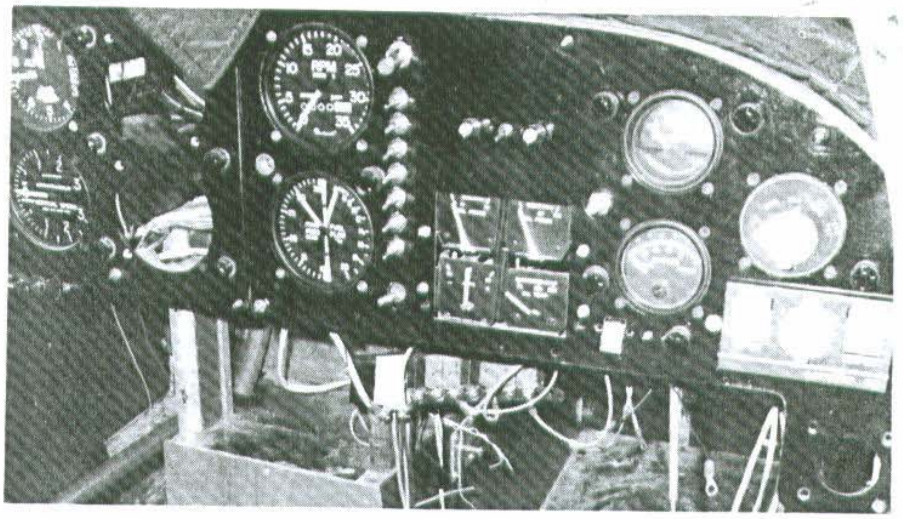
I have a several suggestions to pass on to our fellow builders.

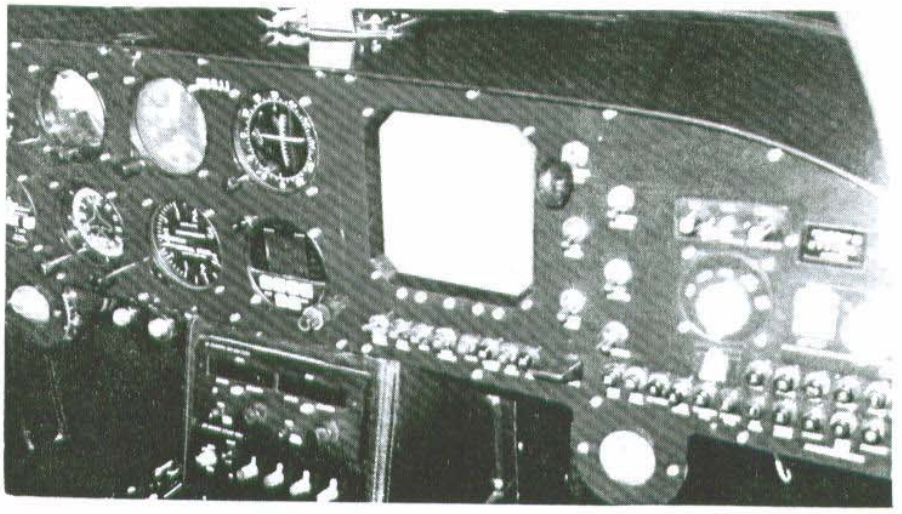
Ailerons:
When I built my GP-4, I built my ailerons a little differently than George's. On his, the trailing edges come to a point. On mine, I squared mine off. My airplane flys basically identical to George's except in one area. My aileron stick pressures are much higher than his. The only thing that is different is the trailing edges. So I recommend going with the pointed trailing edges for the lighter control feel.

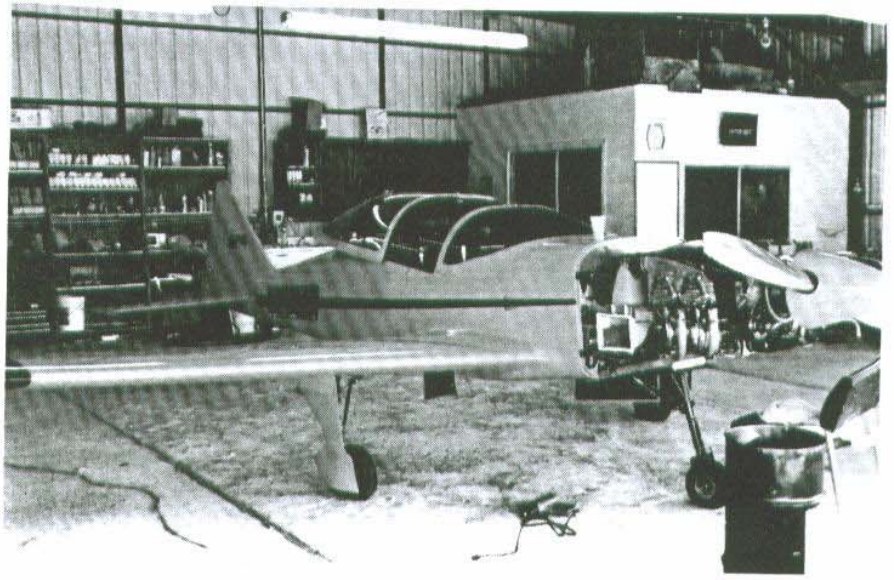
Canopy Pinning:
I pinned my canopy with 6 pins equal spaced over the arch of the canopy bow. They lock in solid and gives me a little more assurance.

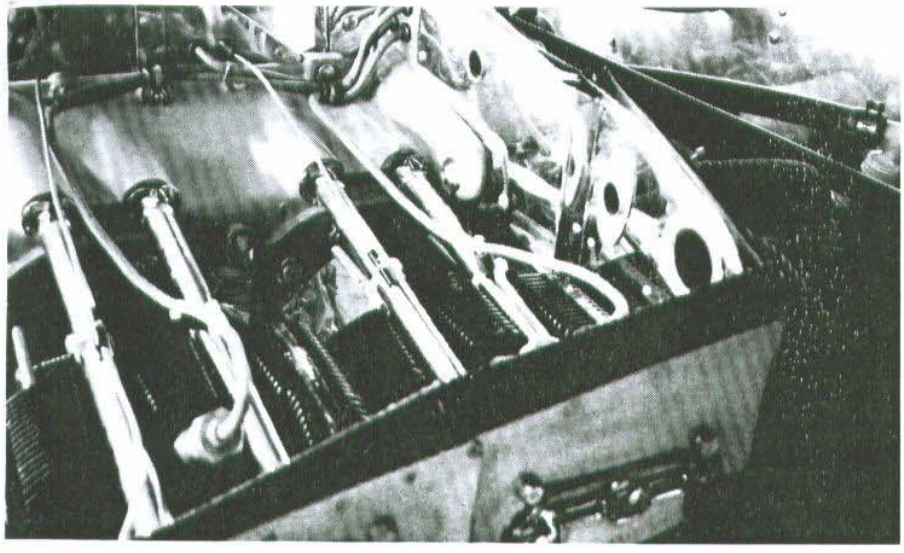
I decided to change my panel on 58JJ in early 1995 after a friend of mine named Mike Dubey who owns Advance Marine Services in Citrus Heights assured me it was a piece of cake. He said it would only take a few days to rewire the panel to a week on the outside. I should of known better, because all of my one or two day projects usually run into the months and this new panel project was no exception. In designing the new panel you will also note the location of the circuit breakers and the fresh air vents. By moving the circuit breakers into the panel I gained one inch more leg room for the pilot and passenger. I also moved the fresh air vents from each side of the cockpit to the center of the panel behind the control sticks. This change again increased the room under the panel. I blocked the NASA inlet off on the passenger side because it picked up the hot air from my oil cooler. I used one and half inch hose on the pilots side NASA inlets to feed the fresh air vents for the pilot and passenger. I now get more volume of air than the original configuration and that location seems to be an improvement in distribution of air inside of the cockpit.

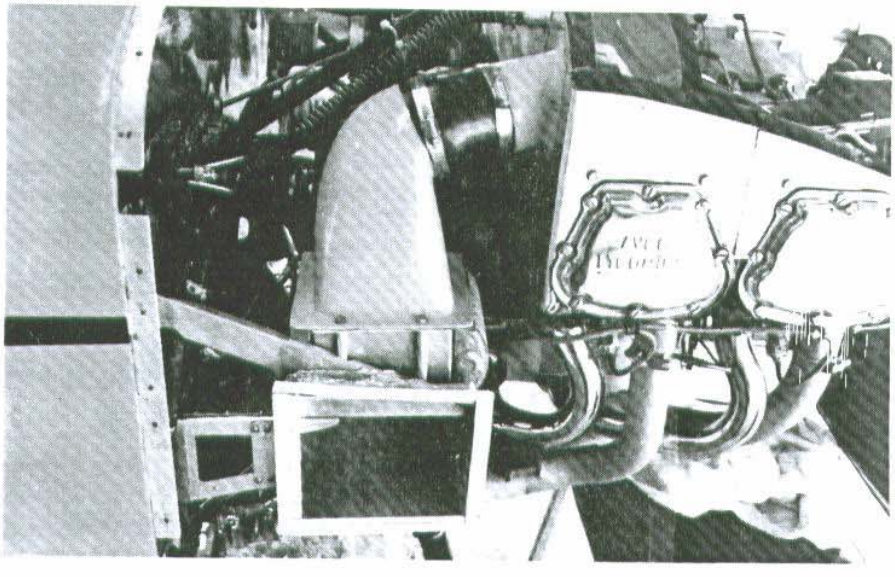
After seven months of working on my new panel, its finally completed. The only problem I had was trying to decide what color to paint the panel. Because I did not paint my airplane BRIGHT RED like George would of liked I thought I would paint the panel RED! As you can see from the pictures the VM1000 really enhances the appearance of the instrument panel and the red paint enhances the overall view. I must say it would have been a lot easier to install the VM1000 when the airplane was first built. The only problem I had with this thought was the VM1000 wasn't available in the early 1990's

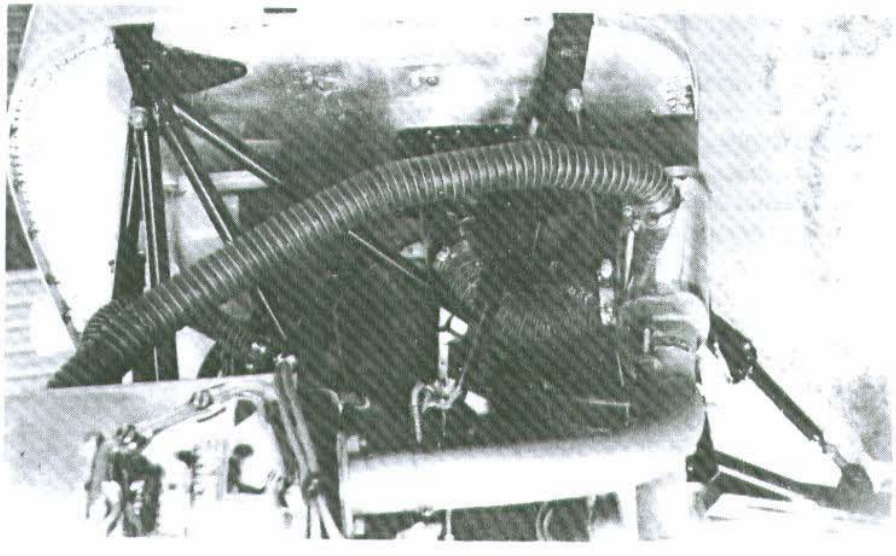










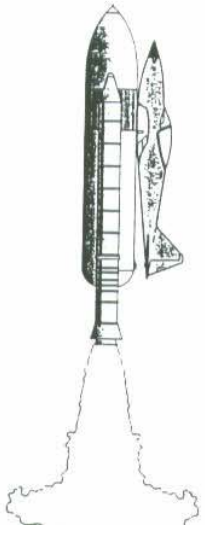


and it took me some time to decide on spending the bucks. If any of the builders are interested in using this particular instrument I would recommend you do it before you finish your instrument panel. Micro Vision also has a capacitor type fuel gauge that must be installed prior to closing the three fuel tanks in the GP-4. For the wing tanks the sensors lay flat the full tank length. As you use fuel the sensor detects the amount and indicates it on the gauge. I wish this feature was available to me prior to closing my tanks. It is my understanding you add fuel to your tanks in two gallon increments. You note what the fuel gauge is indicating each time you add the 2 gallons until the tank is full. You then send the instrument back to Vision Micro and they burn in the readings for each tank. This should give you a very accurate reading of the amount of fuel remaining in your tanks.

If any of the builders are interested in using this instrument you can contact Vision Micro at (360) 398-1833. I have approx. $3000.00 into my unit.

Best Regards

Jake Jackson
1052 Hayer Circle
Rio Linda, CA 95673



GEORGE'S CORNER

Fellow GP-4 Builders,

Recently I have been helping a good friend with his Glasair. I know your shocked, but he is a GOOD friend! Al is in the last stages prior to painting. I must say its been an interesting education working on this "Snap together" home-built. Al's kit was an early tail dragger converted to a tri-gear retract model. Much of the kit does snap together, however Al has been at it for ten years now! Some golf games got in there, but it has been difficult for this first time builder. I, long ago came to the conclusion that building any airplane is a lot of work and must be a labor of love for a rewarding completion.

If you to divide the building of your GP-4 into three most time consuming categories it would be something like this.

#1; Woodwork (fuselage, wing tail & etc.).

#2; Engine compartment (plumbing, wiring, instruments & avionics).

#3; Exterior finish (Getting it ready to put the color coat on).

I found that number three was by far the most time consuming. Here are some things that may help if the fiberglass and painting is a new experience.

Use epoxy resin for all of your fiberglass work. Try to find a Long-EZ builder and pick his brain if having problems. They can tell you how to use micro balloons for a filler, peel ply for lap joints and much more. Much of your glass work is similar to their construction. Foam covered with fiberglass and resin. Always try to get all of your fiberglass plies on before the first ply sets up (gets hard). Your fuel tanks are about the only place where there is multi-plys used. I found a good foam shaping tool is the "Sureform" planes. These thin corrugated blades come in flat, half round, and round shapes. I use the blade without the holder as its more flexible this way. It seems to work the foam better to cut while pulling the blade. For sanding the foam I use 60 to 80 grit paper. A hacksaw blade works well for roughing out a block of foam. Remember you must use epoxy resin when using the Styrofoam. All of the ester resins will turn Styrofoam into a liquid, same as gasoline would. In areas where the foam is part of the structure such as wing fillets, gear doors, etc. You should use a slurry or paste of micro and resin to attach the fiberglass cloth. Use a squeegee to smooth out the slurry, then cover with your glass that has been cut slightly over size. Wet the glass out with resin only and apply the next ply. Weight can be saved by using a squeegee to work out the excess resin. The slurry makes a better bond of your glass to foam on the first ply lay-up. When you mix up the slurry, it should be about as thick as hot cake batter.

The GP-4 does not require any of the exotic structural glass cloth. When forming the glass over a corner the weave of the cloth forms better when 45 degree to the bend. Ask your Long-EZ / Cozy builders about this.

The three wheel wells should be pre-finished before any primer or outside paint goes on. I prefer to leave the wells natural with the first two coats of clear Varithane brushed on then sanded and the last coat sprayed on. The landing gear should be removed to do this and its a good time to paint all of the components in the wells. Once the landing gear is back in the wells you can mask off the wells and get the exterior ready to paint. A word about masking tape. 3M masking tape is the only tape to use. The cheap hardware store brands leave glue residue and other problems. I only recommend 3M masking tape. Its only available at automotive paint stores. Its more expensive, but well worth the price. I used their "Fine Line" tape for all the stripes on my GP-4.

If you have never spray painted I have to say its a craft all its own. You should talk to a professional for all the tips and help you can get.

Almost all of the new cars are clear coated. They use a base color coat over their primer sealer then are sprayed with a clear transparent high gloss enamel for that deep **"wet look."** The clear coat process I used went something like this. Once the primer was block sanded for the finish paint I used a non-sanding sealer coat. This is a sealer that provides a good adhesive over the primer for the next base color. It also covers the entire airframe with the same tint so the base color coat isn't shaded. The base color coat is then evenly sprayed, in my case red. Next the airframe is masked for stripes, numbers & etc. Then the clear coat is sprayed over the entire airframe. The base color paint will dry in a semi gloss state. The high gloss is brought out when the clear

coat is applied. The clear coat is then sanded with 1500 grit wet paper until all of the dirt or dust is off the surface. You can even sand out runs using 400, then 600, then 1500 grit paper. You then use rubbing compound with a machine buffer for that nice deep wet look finish. Dings and scratches can be sanded and compounded out. Major surface repairs can also be made using the clear coat process as the final clear coat can be blended into the repaired area. A nice clean environment is a must when painting, but a spray booth is really not necessary when clear coating your GP-4. The only disadvantage to the clear coat process is a little more weight over straight enamel. I say again talk to a pro because there are other ways to go.

Regardless of what kind of painting process you use always do the following:

1. Wet your floor down before spraying.

2. Use a good charcoal filter mask with fresh filters.

3. Press all masking tape down just before spraying.

4. Air blow and tack rag all surfaces prior to spraying.

5. Ailerons, flaps, rudder and etc. should be painted separately and allowed to dry in a separate room to avoid over-spray.

I am sure that some of these suggestions seem academic, but for the first time painter they will help.

Regards to all,

George Pereira

GP 4

A NEW TEAM JOINS THE GROUP!

● Just a cool letter!

Hey Spud:

Greetings from Georgia. Wanted to let you know that my wife, Cindy, and I really enjoy the newsletter. We really appreciate what you are doing and support the idea. Although we are still in the initial stages of starting our GP-4 we have been dedicated to the design for a couple years now. Actually, we were hoping to start our plane this summer but the shutdown of ValuJet Airlines, where I have been a First Officer for the past year, has put a crimp on the airplane fund and has thrown me back into the job market--it's too bad because ValuJet has been a great company to work for. Such are the unique events that happen in life.

But then again, the GP-4 has been one of those unique events in life too. I know that this letter doesn't deal with the progress on my aircraft or about any technical aspect of the GP-4, but I wanted to share with the other folks that all of us have a unique fascination with this aircraft. Mine became a reality through a strange series of events in 1993. In July of '93, I learned that a fellow Vermonter that I had gone through the Air Force Academy with had been killed in an Air Force plane crash. Seeing as there were very few Vermonters at the Academy, we were all pretty close and watched out for each other. After hearing of Steve's death, I sent a letter to his widow saying that if there was anything that I could do to help--just say the word.

To make a long story short--after many months I finally met Cindy in person and we started corresponding. She was living in Colorado Springs, CO at the time and I was here in Atlanta, flying for a commuter airline. After getting to know her, we realized that we had quite a bit in common--both of us are from the same area of Vermont! I started using my passes to go to Colorado quite a bit, and in fact it seemed as though I was commuting to Atlanta after awhile. Well, one day we were having a great conversation and I stated that I wanted to build an airplane. Cindy responded "If we were to be together, would I be able to help build the plane?" I pretty much decided right there that if she could tolerate being with another pilot that I wanted to spend my life with her. Besides, how many of us who want to build an airplane have a spouse who wants to work on it also?

I had heard a lot about the GP-4 and after more research decided that this would be the airplane to build, especially since it had two seats--very important! Seeing as Cindy wanted to be a big part of building an airplane with me, I knew that this would somehow have to be a part of the proposal. Since I usually work as a volunteer on the Warbird flightline at Oshkosh, I decided to work all of this together. I ordered a set of plans from George Pereira saying that I wanted to use them as part of the enticement at Oshkosh '94. He had the plans shipped very quickly so that I would have them on-hand.

I had also arranged for a friend to take us up in his Beech C-45 during the week, but the actual day I had planned everything for was the only day it rained heavily during our stay. So in the rain, I took Cindy out to the flightline to show her my friend's airplane. After she was seated in the back, I made it look like I was rummaging around in the back. I said "Hey, look what's back here,"

referring to the plans which had already been placed in the airplane. I set them out on the serving table and asked her what she thought. She thought they were great, so I asked her if she would help me build one, to which she said yes. Then I asked her if she would marry me, to which she instantly said yes. So, in reality, she agreed to help me build the airplane before she agreed to marry me. We were married in May of 95 and are looking forward to the project ahead. I guess that my only concern is that by the time we finish building the GP-4 I hope George will have designed a 4-place version! [illegible] get working. Spud!

I have a feeling we are going to have a lot of fun with the construction. But in the process, Cindy will have to finish getting her Private Pilot's License. We are glad to be a part of the group and look forward to meeting many other builders.

Take care and happy building!

Matt and Cindy Shepardson
285 Blue Spruce Trail
Lilburn, GA 30247
(770) 638-0893

MULTICOM!

● We're in good company.....

Dear Spud,

Thanks very much for the newsletter. I'm enjoying reading it. I have been fond of wood construction for a long time. I'm so fond of wood construction that I have undertaken building a replica TUG BOAT! (14 1/2' long by 7 1/5' wide) *(Where are you going to attach the wings Tony? - Spud)*. I've been monitoring Sid Mann's GP-4 project and will be looking forward to helping him build his wing spar. Will try to keep you posted. The newsletter will be most welcome,
Thank you, and Adios!

Tony Bingelis - Austin, Texas

I hope every one has been reading their Sport Aviation. Tony has be devoting quite a bit of his article space to wood construction. In the latest issue he goes "in depth" into quite a few areas of wood construction. Just awesome information!

Also keep a eye for our friend Ben Owen of the EAA. He has been devoting a good bit of his column space in Sport Aviation to wood construction and the different adhesives and so on. Gang we are surrounded with some excellent talent and knowledge! - Spud

● Now a word from our Oshkosh Moderator.....

Hello Spudley,

I was happy to sit in for you as moderator of the GP-4 mini-forum on the front porch of Homebuilders Corner at Oshkosh. Here's a brief report on how it went.

About ten guys showed for the 9am Sunday gabfest. Nobody was shy for long and after introducing ourselves the tips, trick and ideas started flying fast and furious for the whole 2 hour allotted time, after which I left as a handful of guys kept right on talking. Some of the topics included how to align skins quickly and accurately, various glues in use, simple and easier fairings, gear alignment solutions and even bigger engines. Two guys even had 3" thick detailed photo albums to demonstrate their techniques. Jack Yoder and Tom Evans are close to the finish line. These two guys were very savvy and are very freely sharing their experiences. They both are willing to talk to other builders; any GP-4 builder who misses the opportunity to meet these guys by phone are missing a valuable resource. As you know, Yoder's wooden Barracuda has been finished and flying for over 10 years so he not only knows aircraft woodworking (and a person is always builds faster on his second plane), but he knows how to flight test the results of his ideas in a completed aircraft.

I hope some of the guys there will write up their impressions of the meeting and will send in some of the shared tips to the newsletter. This was a successful first meeting which I know will get bigger and stronger the next time.

You know I'm a composite guy, but the GP-4 builders got me so fired up that I felt I had to beat it over to the wood workshop to see what had the GP-4 guys so enthused.

Jim Masal - Dallas, Texas

Thanks Jimmy for being a "pitch hitter" for me Sunday morning. I know your great on getting everyone chattering! I apologize for not making it to the mini-forum, but I had to get back to Kansas City and be in Denver by Sunday evening. Just not enough hours in a day. Like Jimmy said it was a good start for our first year. Next year we'll do it again and also plan an informal dinner somewhere in the Oshkosh area for chow and another bull session. - Spud

● The troops checking in.....

Hi Spud, Today I'm building my GP-4 work table -- in the nick of time, since the wood for the fuselage and tail arrives tomorrow from Wicks Aircraft! Should be done with those parts in a couple of weeks (Right!). Thanks for a great newsletter and I'll send pictures or brilliant revelations should they occur.
Bill O'Brien - Warwick, New York

Sign me up for another year of the newsletter. I'm getting a little concerned about the price of Lycoming engines. They seem to be getting more and more out of my financial reach. I keep hoping some one will come up with an auto engine conversion like a Subaru engine with a PRU or one of the small V-6 car engines. I really enjoy the newsletter and I am sorry I don't have more to contribute.

Eugene Severn -- Postville, Iowa.

Hi Spud,

Your doing a good job on the newsletter. The letters from George are great for information and for letting us know he has interest beyond just selling us a set of plans!

My own GP-4 project is going a little slow at present. I just finished a complete J-3 rebuild project, rebuild and cover of an Aeronca L-3 wings and a set of Stinson wings. I started with the metal parts for my GP-4 and have most of them finished. Looking forward to jumping into the woodworking very shortly.

Will we get to meet you and George at next years Sun N" Fun fly-in?

Looking forward to the next newsletter!

Harry Wooldridge -- New Port Richey, Florida

My plans are right now to definitely be there in 1997. I am sure George will let us know when it gets closer to the event next spring -- **Spud**

THE CLASSIFIEDS

For Sale: Pre-fabricated composite components for GP-4. Cowling - $700.00, exhaust blisters - $100.00, inlet ramps - $100.00, tailcone - $100.00. All four pieces for $925.00. Jake Jackson - Rio Linda, CA (916) 992-0608

For Sale: Quality custom fabricated metal components for your GP-4. See GP4BFN issue #4 for complete component listings and pricing. Please allow generous time allowances for your orders. Darry Capps, 813 Hoyer Road, Newman, California (209) 862-2707

For Sale: LETTERING BY ROBERT! - *"N" NUMBERS AND MORE!* High quality self-adhesive aircraft numbers. Numbers and lettering in any shape, size and color. You'll love our work - 100% satisfaction guaranteed. Pricing - 1"-.35, 2"-.55, 3"-.75, 4"-.95, 5"-$1.15, 6"-$1.35, 7"-$1.65, 8"-$1.95, 9"-$2.35, 10"-$2.75, 11"-$3.15, 12"-$3.45, postage and handling $3.50. Ask for Robert after 6:00 p.m. (913) 648-4022 or E-mail "apwrobert@aol.com or mail to: 6501 W. 80th Terrace, Overland Park, KS. 66204-3823

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