



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

VOLUME 29

Sixth issue of 1999



### ***George Pereira out on one of their many "Buzzard Squadron Runs"***

**A construction update from -**  
**C.J. Reinhart - Fort Worth, Texas**

Hi Spud,

Here's how I turned my GP-4 over. I used Jackie Yoder's idea of a cradle on the firewall, but made mine out of 3/4" plywood and 2 x6's. I made a second cradle that attached to the canopy base, so that when it was

turned over there would be 4 casters on the ground to roll the whole thing around. It works great! I can roll the plane anywhere with no help. The cradle is way overbuilt - like everything else on the GP-4.

I called Mike Shields who owns Shields Signs and he came out to help. He arrived in front at 1:45 p.m. He put the leveling sown on the truck,

hooked up the cables, and at 1:55 p.m. the airplane was back in the hangar. 10 minutes! No other help needed. I had a friend there to help, but it wasn't necessary. For other guys who don't have a lot of people to help, I'd recommend this way. The sign company people have the right equipment with telescoping boom cranes and they have the experience hanging things in the



wind and in difficult situations. Mike was really smooth.

I now have two landing gear doors complete and now starting the finish work on the fairing and wing center section. I'll finish the wing fairings and probably prime the bottom before turning it back right side up. When I finish with this cradle assembly, someone can have it for the freight charges.

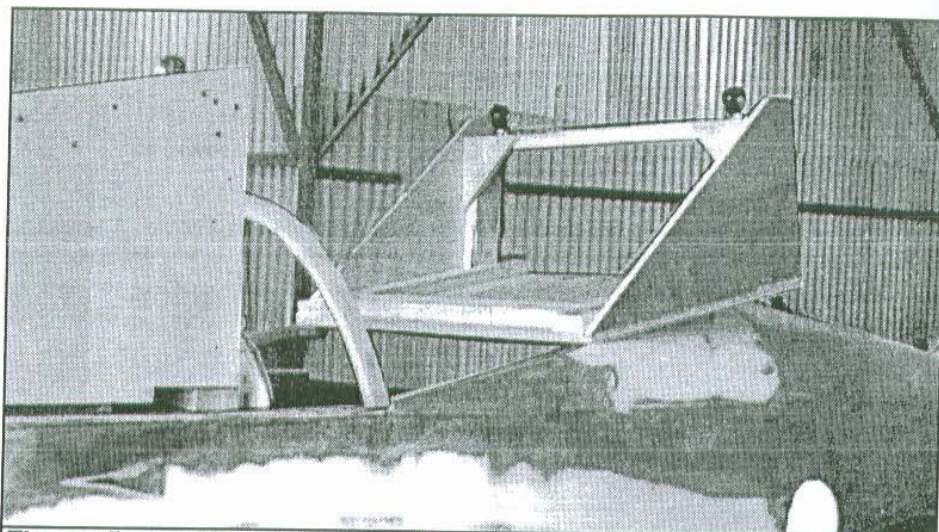
I agree with Mike Traud's comment in regards to West System Epoxy – Which is all I use for glasswork. The Gougen Brothers have been in business for years and both are allergic to epoxy. So theirs does not cause the problems that other stuff does when you work with it. I used the ProSet on my wing tanks and put them in a black plastic on my roof for 1 day to cure them. That was 3 years ago. Their tech rep told me how to do it. He also said they have fuel and chemical tests on all of their stuff. No one else had this testing.

I used their plain #205-105 epoxy straight from Wicks Aircraft to make my header tank since I've had samples of that (The #105-205 stuff) soaking in 100LL, Ethanol Alcohol, and Isopropyl alcohol for over two years! No problems or deterioration from any of the samples in the 3 jars. This is the plain West epoxy that I've used on everything – not the ProSet. Ethanol is what is put into gasoline, so I went to the whiskey store and bought a bottle of 190 proof grain alcohol, poured it into a jar, put the fiber-glass samples in, and closed it up. The glass in the 100LL got a little residue in it at first, but I emptied that out, replaced the gasoline, and never saw another thing – it's clear to this day.

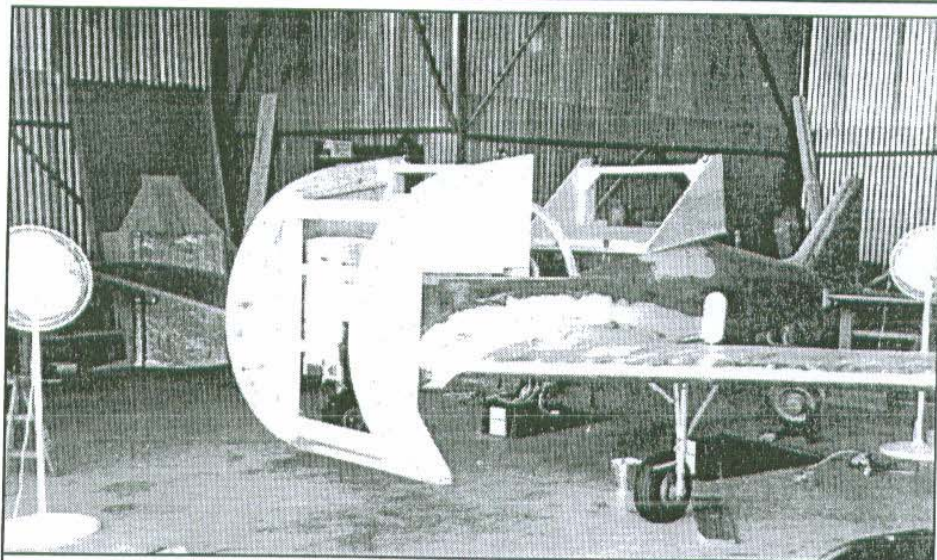
#### Part two:

Here's the latest! The bottom –as of 5-2-99 is officially ready for final color coat.

I used Polyfiber water based



*The cradle over the canopy base. You can see the four castors so that when it's upside down - There's four wheels. Easy to roll the whole thing around.*

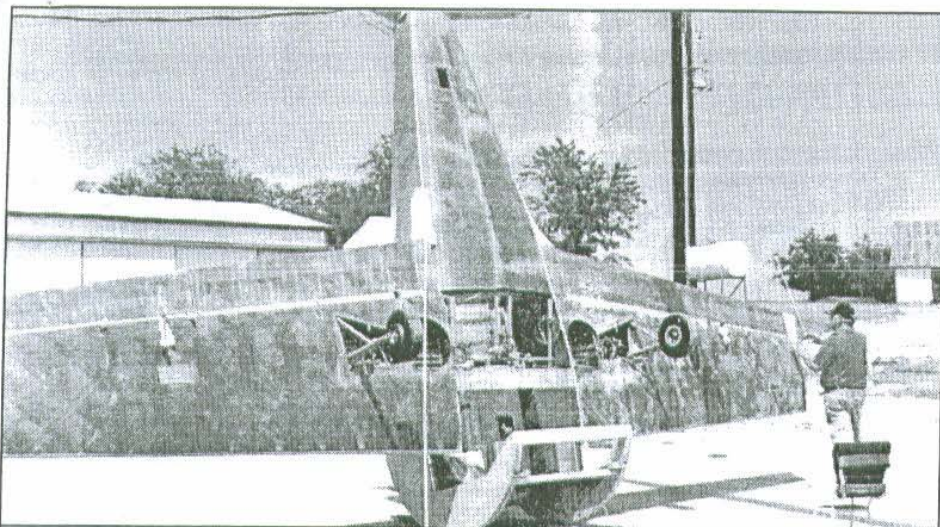


*Ready to turn over!*

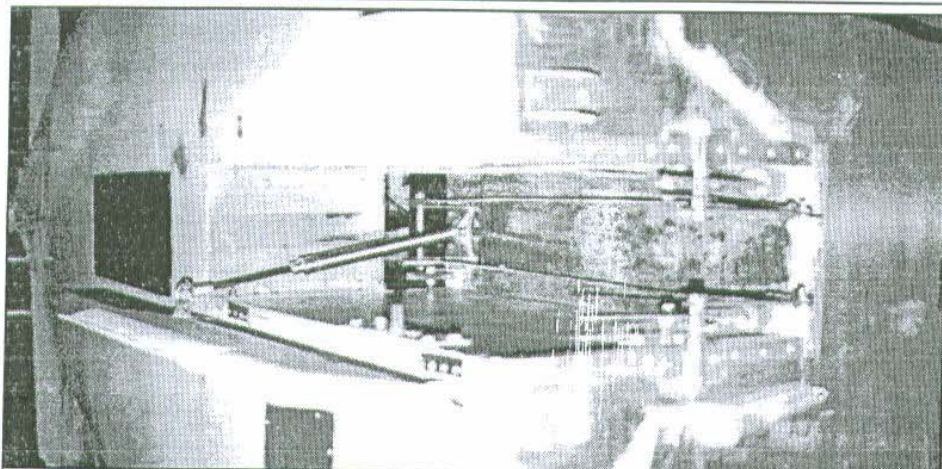


*Mike Shields - Shields Sign Co. wondering what he got himself into here... The lift load at this point was 18 lbs. at the tail.*





*Just before this picture was taken, he had the whole plane suspended 3" off the ground by sta. 178 former only - How's that for strength!*



*Here's how I installed the nose door air cylinder. Simple - weld two brackets to the pulley bracket. The Bimba 044-RP attaches and aligns perfectly with the door actuator arm. All cleared by the nose wheel. Simple.... same air cylinder I used for the inner gear doors.*



*I love these P-47 - Hawker Hurricane doors!*

polyurethane primer (smooth Prime) and Ultraviolet Shield (silver Shield). Thick stuff! You put it on with a foam roller. No waste.

4 coats of primer - Then sand it and finish with 320 grit.

3 coats of Silver Shield. Sand it and finish with 320 grit.

3 coats of Smooth Prime - sand it and finish with 320 grit.

Then - 1. Call the local hangar critics - roll it outside into the sun, and have them go over every square inch for imperfections in sanding. 2. Finish up the sanding on all noted places. 3. Call the critics back and go over it again.

No imperfections remain on any square inch of primed surface, PERFECT!

And as they say "Smooth as a baby's bottom", unbelievable! Easy to use and clean up. I hand sanded it all, 3 times. I do not recommend power sanders, just do the work.

I had to clean out all the edges where access plates went and re-fit all the gear doors. All of that is done.

I'm ready to turn it back over after nine months and 566 hours of work. As of 9/4/98 I was at 2832 hours to 5/2/99 3398 hours. Now that includes all the instrument panel and radio wiring I've done at home because that is ready to bolt in, route wires and plumbing, and that's finished.

I'll finish the top, the prime and paint the whole plane before installing the engine and cowl and all that stuff.

CJ Reinhart

Ft. Worth, Texas



## GEORGE'S CORNER

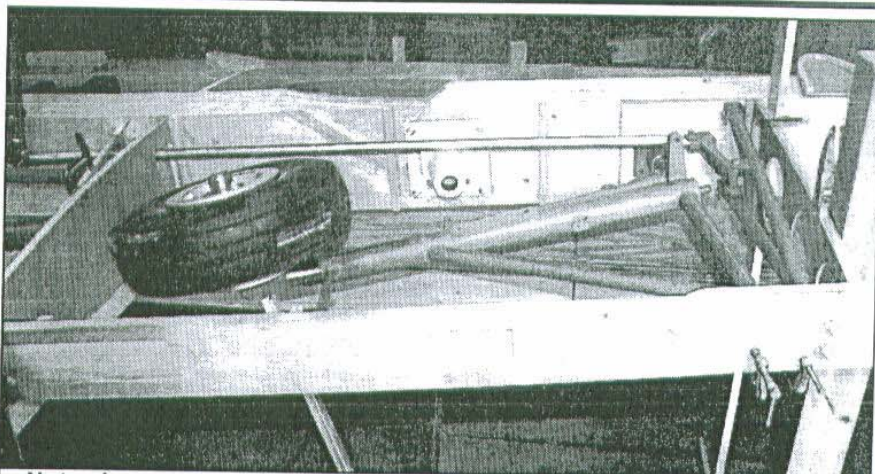


Fellow GP-4 builders:

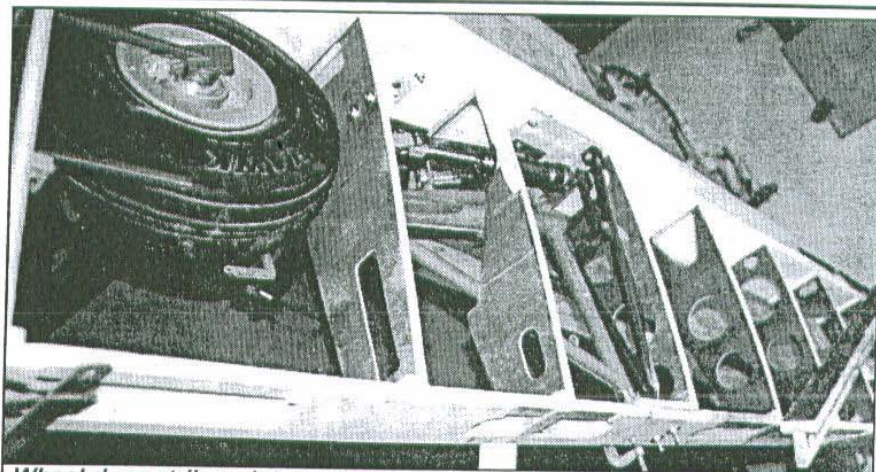
What a pleasant surprise it was to see Dr. Phillip Foshee's GP-4 on the cover of the last newsletter. I have talked to Phillip several times by phone as he progressed along. But, somehow I didn't get a good read on a completion time. Congratulations Dr. Foshee!

In the last newsletter, volume 28, I covered the wing assembly and seat rails installation of Mike Traud's hydraulic gear project. Mike brought over all of the Capp's built landing gear components, along with wheel tires and brake parts. Mike and I decided we would install all of the mechanical working hardware, leaving the plumbing, wiring, etc. for later installation.

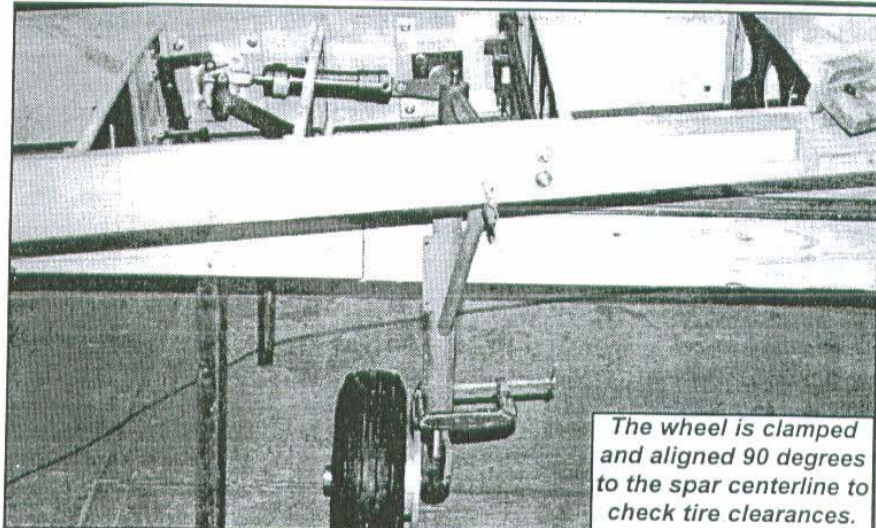
The main gear trunions are bolted 1" further outboard than the manual gear trunions. Drawing M-5 shows 52" from spar center. The lower wheel strut is therefore extended the extra inch so that the tire clears the #1 rib by 1/2" when retracted. You may have to put an aluminum plug on top of the Danley compression spring in order to pre-load the wheel strut. The spring may be a little short since it is extended the extra inch. The squat switch is only required on the left side. (See drawing M-8) The



*Note clearance required from aileron pushrod mock up and aligned tire and wheel.*

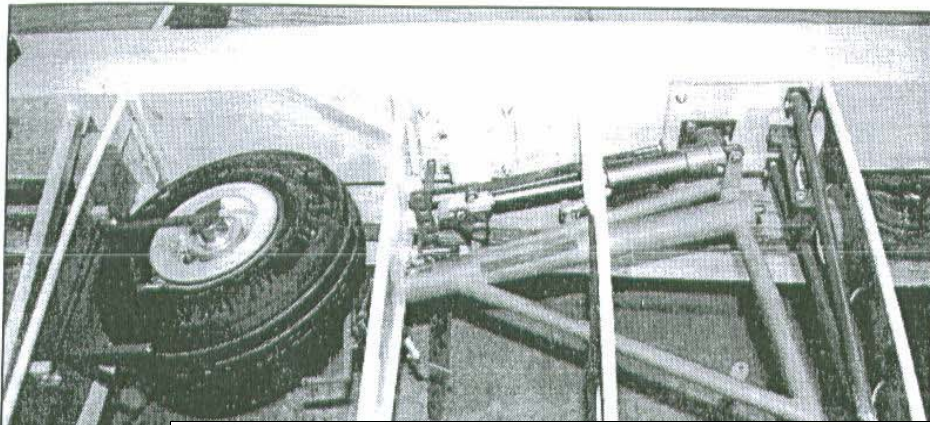


*Wheel door striker plate centers on wheel axle. Note no# 2 rib relieved for gear truss and hydraulic cylinder.*



*The wheel is clamped and aligned 90 degrees to the spar centerline to check tire clearances.*





82 degree angle of the main gear trunion should allow the tire to clear the aileron push rod.

You have to align the wheel and tire for a fairly accurate alignment. You should also mock up the aileron push rod for clearance checking. I aligned the wheels by dropping a plumb bob from the spar face to the shop floor at each main gear trunion location. I then chalk lined, on the floor, a line from these two points. The line was then parallel with the

available. Don's new address is: 220 E. Duedin Rd., Columbus, Ohio 42314. Phone - 614-447-9478.

Retr

A supplement drawing revision was sent to all hydraulic gear plans holders. If you have moved and did not get yours, send me a S.A.S.E. and I will mail it to you.

I hope you all have enjoyed a happy holiday season.

Kindest regards,

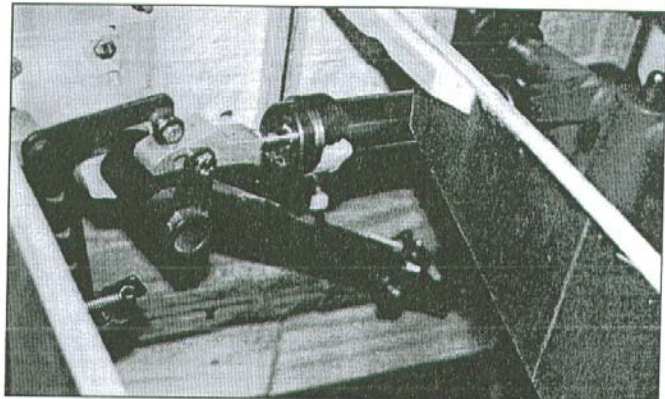
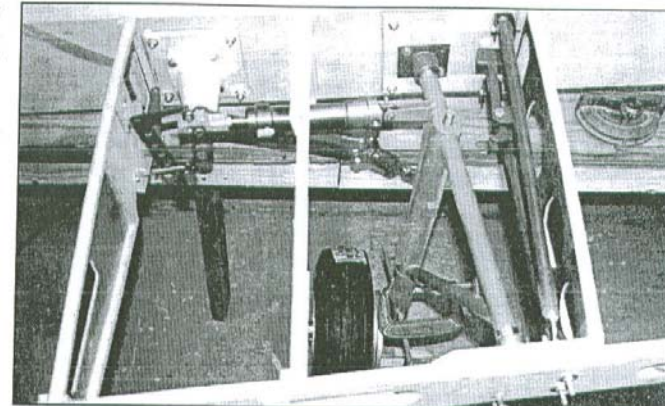
George

### The Troops cking in...

Hi Spud,

Just a note to let you know my e-mail and snail-mail addresses have not changed. My GP-4 project has the fuselage framed, the vertical stabilizer attached, horizontal stabilizer framed and hanging on the wall, and all parts for the elevator ready to glue up. Unfortunately that is where it has been for about the last 15 months. My work and personal schedule got pretty ugly and my interest waned. I am an Army Pilot and have spent much of the last year away from home. I have turned my wood working efforts to making furniture and cabinetry. It gives me an outlet for my creative needs and gives comparatively instant gratification. I have given passing thought to selling the project and reclaiming the floor space in my wood shop, but am not ready for that yet. I will retire from the military in a little over 4 years after having devoted over 28 years of my life to it. I am thinking that I will be more apt to re-immers myself in the plane then. Until then, keep the newsletters coming. I find that every one has something of value and I keep them all.

Sincerely



Kim Randall  
1348 Thorson Ct.  
Black Earth, WI 53515-9760  
[blckhawk@itlis.com](mailto:blckhawk@itlis.com)

Hi George, Spud and fellow GP-4 builders,

I received your Hydraulic Gear update in the mail today, thanks George. I was only looking at the plan of the bearing a few days ago and wondering how to approach it without any measurements!

I began work on the project on 20th October five days after taking delivery of the Wicks Kit. As we are going into

summer in this part of the world I thought I would start with woodwork & get as much as possible done during the warm weather. I began with the aileron & flap ribs followed by ply cutting for remaining wing ribs, next came the rear spars which took about 30 hours. Since the 10th November I have been working on the main spar and have just spent the evening sealing the inside ready to close up with the front web, I still need to fit the aileron bell crank nut plates and drill the drain holes. It is certainly a great structure and fun to build, it has taken 110 hours so far bringing my total to date to 186. So far I have not encountered any real problems once I got used to working in fractions of an inch one minute & decimals of an inch the next! I drew the spar outline on the table and used this the whole time to

Continued on page 8

action clearances in the #3 rib with clearance around the installed the wheel so that the strike in the axle nut on half moon cut out on tire height to the cover in the wheel. Another reason you wheel and tire!

in the wing walk going to laminate 2 inside and 2 top-talk. He should be a little further in this way.

moon in #2 ribs so be 1/8" from the tracted. We then trunion assembly. (M-5) It is 12 main gear trunion The up lock can be accurately

lightly relieved to the hydraulic cylinder condition. The shown in the photographs. They are and throw as those

recommended on drawing M-5. They are available from Don Austin. The Austin cylinders are considerably less expensive and readily



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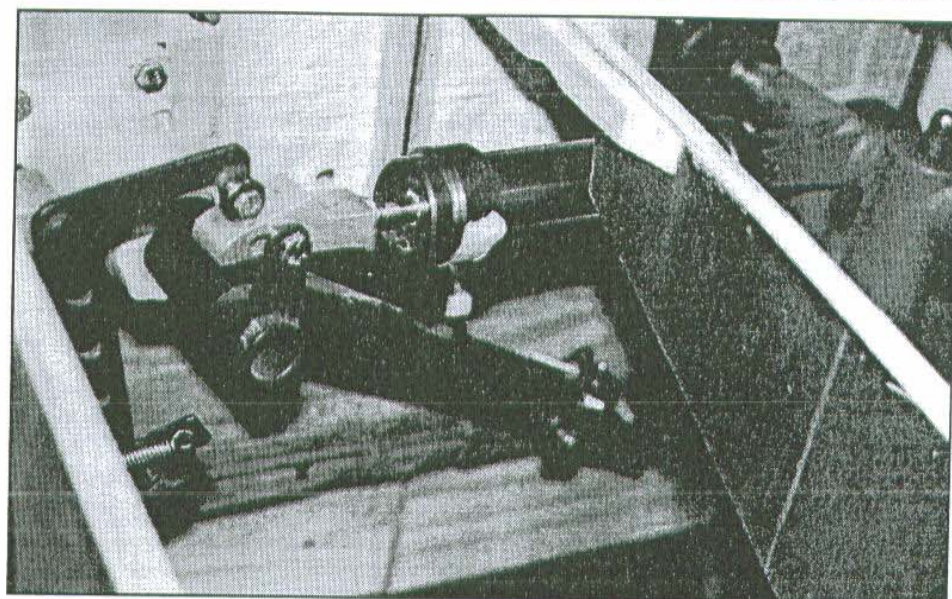
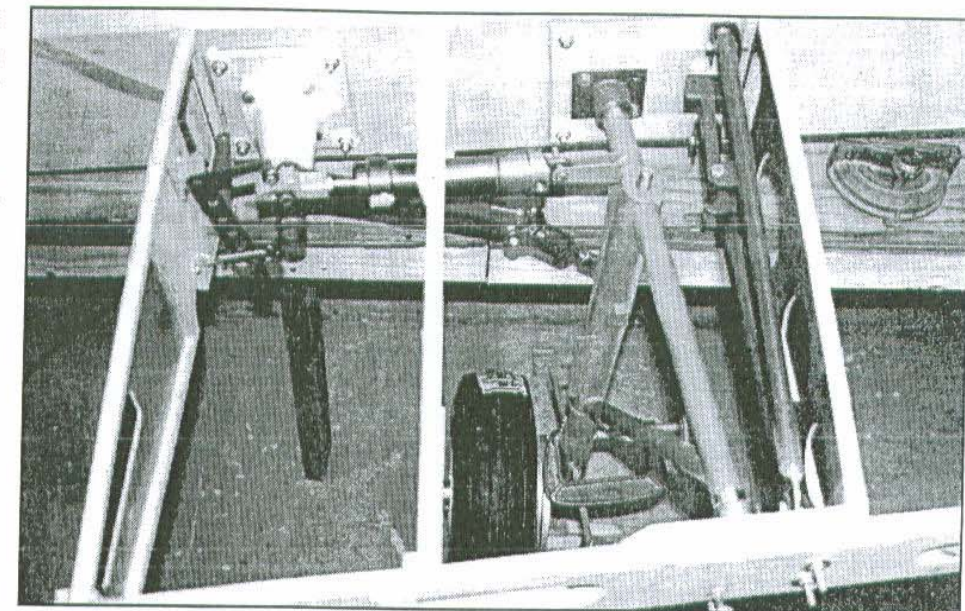
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## The Classifieds

**For Sale:** GP-4 project: fuselage framing, vertical stabilizer framing, horizontal stab and elevators framing complete. Firewall installed. All fuselage internal hardware complete (D. Capps). All wood packages, two fastener kits. Project signed off by EAA Tech Advisor with compliments on construction quality. Fuselage signed off for closure. Stu Fitrell, [sfitrell@lxpk.veridian.com](mailto:sfitrell@lxpk.veridian.com) or (301) 373-8087 or 25723 Vista Road, Hollywood, MD 20636. (27/28)

**For Sale:** GP-4 project - Most wood materials to complete. Most metal parts cut-to-fit and tack welded. New hartzell prop and spinner to George's spec's. Contact Tony Mikus in the evenings after 5:30 PM mountain time. (970) 963-9575 (27/28)

**For Sale:** New Hydraulic Gear Plans Upgrade. Convert your GP-4 manual landing gear system to hydraulic - electric system. Complete with emergency back up system. (Note: System must be installed prior to wing skinning!, no retro-fits) Complete print package for \$150.00 Mail your checks to: George Pereira 3741 El Ricon Way, Sacramento, California 95864 phone (916) 483-3004 Fax (916)978-9813 E-mail [GP-4@juno.com](mailto:GP-4@juno.com)

**For Sale:** Pre-fabricated composite components for GP-4. Cowling, exhaust blisters, inlet ramps, tailcone. Complete four-piece package. Call or E-mail for current pricing. Shipment will be sent "Freight Collect" - Jake Jackson - Rio Linda, CA (916) 992-0608 E-mail [jakejackson@jps.net](mailto:jakejackson@jps.net)

**Back Issues:** We have all of the GP-4 back issues (#1 thru #23) available for \$3.00 each. Mail your checks to Bill Spornitz - 1112 East Layton Drive - Olathe, KS 6061-2936

**Wanted:** Looking for a GP-4 project that is "well under way" through "close to being finished". Will consider all projects. Contact me at (503) 646-5276 or by mail at Edward Mitchell, 13835 S.W. Devonshire, Beaverton, OR 97005

**Wanted:** An original video (not a copy!) that George Pereira made on the GP-4. I have a multi-copied video now, but is very poor. Will gladly pay a reasonable price. Contact: Spud Spornitz (913) 764-5118 or 1112 East Layton Drive, Olathe, Kansas 66061

**For Sale:** I have a T-18 canopy/winshield still in crate that I'll sell for \$800.00. Rich Nadig Phone 423-396-2917

### Subscribers Information Center

GP-4 Builders & Flyers Newsletter (GP4BFN) is currently published Bimonthly at a rate of \$3.00 per issue/\$18.00 a year in U.S. \$3.33 per issue/\$20.00 a yr. in Canada, Alaska & Mexico. \$4.83 per issue/\$29.00 a yr. (U.S. funds) per 6 issues to foreign subscribers. Send remittance to: GP4BFN, 1112 Layton Drive, Olathe, Kansas 66061. **PLEASE MAKE CHECKS PAYABLE TO: BILL SPORNITZ**

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E-MAIL [BSPORNITZ@AOL.COM](mailto:BSPORNITZ@AOL.COM)

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George Pereira  
Phone (916) 483-3004  
Fax (916) 978-9813  
E-mail [GP-4@juno.com](mailto:GP-4@juno.com)



**"Troops" cont'd from page 6**  
keep things in line. I am using West System 105 resin & 206 hardener which is made under licence by an Auckland company called Adhesive Technologies Ltd.

sent researching the resin options available here.

I have had email & phone contact with another NZ builder Hugh Tapper which is good as we can share our knowledge & problems.

I am using the mini pumps supplied for mixing and the method is to apply un-thickened resin to both surfaces (sometimes 2 coats on end grain ) then a thickened batch to one surface only. With the temp around 18 degrees C. I found I had plenty of time to get the cap laminations glued & clamped.

Instead of varnish I have painted the inside of the spar with a diluted coat of resin and will follow with another coat tomorrow.

One point to note guys, could we please have some Fax. or email numbers for the suppliers of parts such as the Hyd. Cylinders & Emergency Dump valve etc. Perhaps you could put a few in the next Newsletter?

**We'll work on that - Spud**

Regards to you all,

John Evans  
New Zealand

Next I think I'll take a look at the fuel tanks while I still have room to work on my table. I am at pre-

## SEASONS GREETINGS FROM THE SIMMONS FAMILY



**Now here's what I call a Christmas card!  
From Jim Simmons of Cheshire, CT.**



**1112 EAST LAYTON DRIVE  
OLATHE, KANSAS 66061**

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