
GP4
N6124D

Ernie Holmes makes his first flight in his GP-4

Ernies great looking GP-4 is on the front cover.

October, 1998

Dear Spud and GP-4 builders;

I'm sorry for not writing sooner. I have been working on my GP-4 for the past six years and this July the paper work for inspection and the FAA was over. The GP-4 is airworthy and ready to fly! On July 24, 1998 I had a test pilot fly it for the first flight. After two fast taxi tests, he gave the thumbs up.

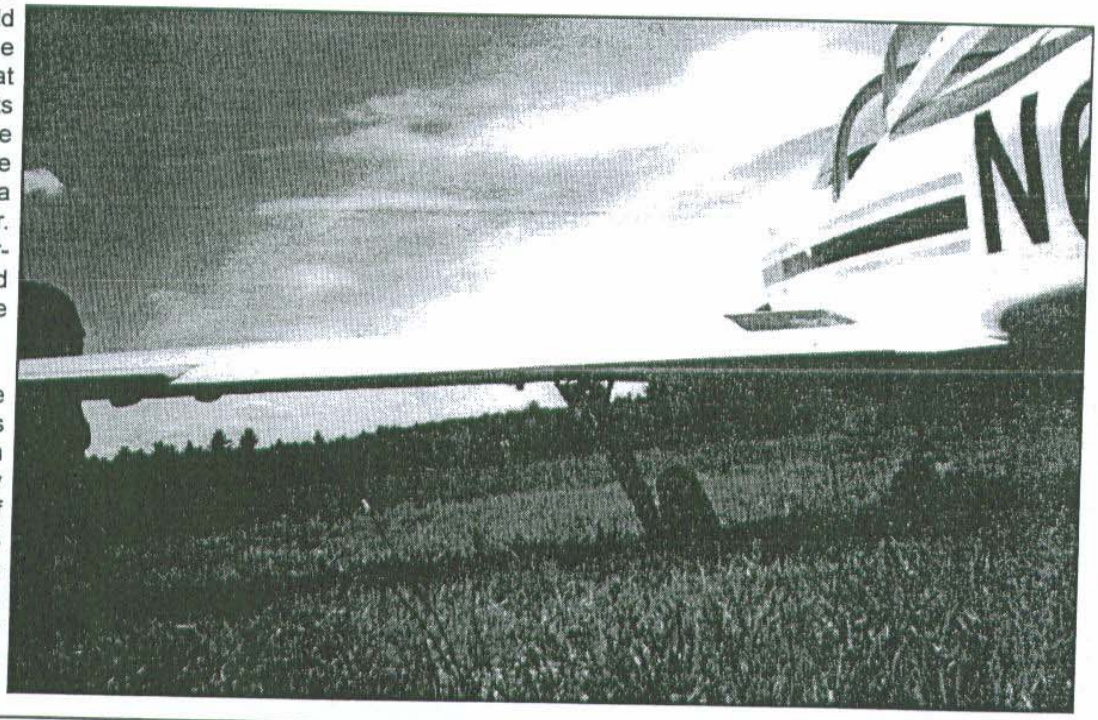
The take off was fine. I told him to keep the airspeed at about 120 knots and to leave the gear down. He flew for about a half an hour. The oil temperature reached about 250 so he landed.

After lunch the engine was cooled down enough to fly again. Take off and climb was good. He climbed to 3000 ft. to do a few stalls. Wheels down, flaps down (dirty) stall was 65 knots Wheels down flaps up stall was 70 knots Again with the oil temperature up around 250 and another .5 on the hobbs it was time to land.

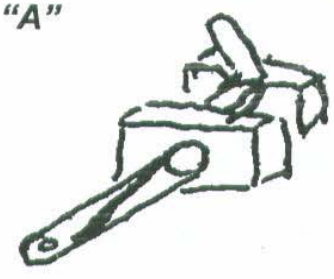
Shortly after touchdown the left main landing gear collapsed causing the aircraft to veer to the left, off the runway and come to rest on the grass. After close inspection I determined that the tube on the retracting link that goes to the front bearing block on the left gear had bent about 20 degrees. (See diagram "A")

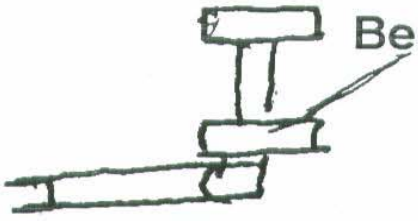
Damage to the aircraft was minimal. Elevator tip and tail cone only. I called George and ordered the plans for hydraulic gear. He said the gear must be installed before the wing is skinned. I saw Paul Salamone at Oshkosh and he told me that he had installed the hydraulic gear in his plane. He made a set of plans and agreed to send them to me. I ordered the hydraulic pump and cylinder. The pump will take about 10 to 12 weeks to arrive.

I have fixed the elevator tip and tail cone. I welded up two new retract links and made a new tube in the bearing block out of 95th, and



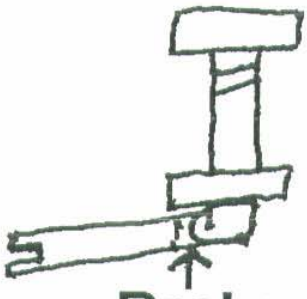
"A"





Bent 20 degrees

"B"



Broke

Broke

installed them. I thought I would fly for about four weeks. The first good day was Sunday October 4. And at about 9:00 a.m. I got the plane out. After preflight I taxied out to runway 32 for take off. I slowly advanced the throttle. At 65 knots and full power I lifted off. Climb out was good, climbed to 3,000 feet and circled the field for about an hour. The oil temperature held steady at 210 degrees.

I let down over the field and made an approach to runway 32. I brought it over the fence at about 100 knots and made a good landing. I flew two more times that day, but on the last landing the gear collapsed again. This time the right and left gear broke at the retract link below the weld. (See diagram "B") Page 35

Again the elevator tip and tail cone were damaged, however the nose wheel held up saving the prop and engine. I m going to install hydraulic gear before I fly the aircraft again. If you are not going to use hydraulic gear, I suggest you make the retract link assembly heavier.

Ernie Holmes
519 East River Street, Lot 71
Orange, MA 01364

(978)-544-8140

Econo - Sand Blaster

Sand blast cabinet - economy type:

When I started to make my metal parts I realized that running across town to use my friend's blast cabinet was becoming a real hassle: So here is what I came up with.

Costs:

1- sheet of 1/2" CDX plyw....$11.00
4- 2" x 4" x 8'.....$8.00
8'- 1/2" x 1/2" x I/8" angle.....$4.00
Sheet metal to cover back, sides & bottom of cabinet including cutting (this was salvage sheet metal).....$10.00
Glass for view window (salvage plate) & clips.....$5.00
Plstic fun'l for sand return.....$0.59
Nuts & bolts.....$1.00
Piano hinge 30".....$6.00
Neoprene gloves (Wells Lamont style 192).....$9.00
Small under counter fluorescent light.....$6.00

Construction:

I first split my plywood length wise then I cut 2 -3' x 2' one for the back, the other I cut down to 3' x 1 8" for the front, I saved the extra to use on the top. I then rough cut 2 more 2' x 3' pieces from these I made a 24" x 35" piece for the bottom cutting a 4" hole in the middle for a sand drain. The other was saved for the top . The last 2 pieces were cut at 24" x 24" and then cut again to 18" front side 24" back side & 24" on the bottom, the angle side going toward the top.

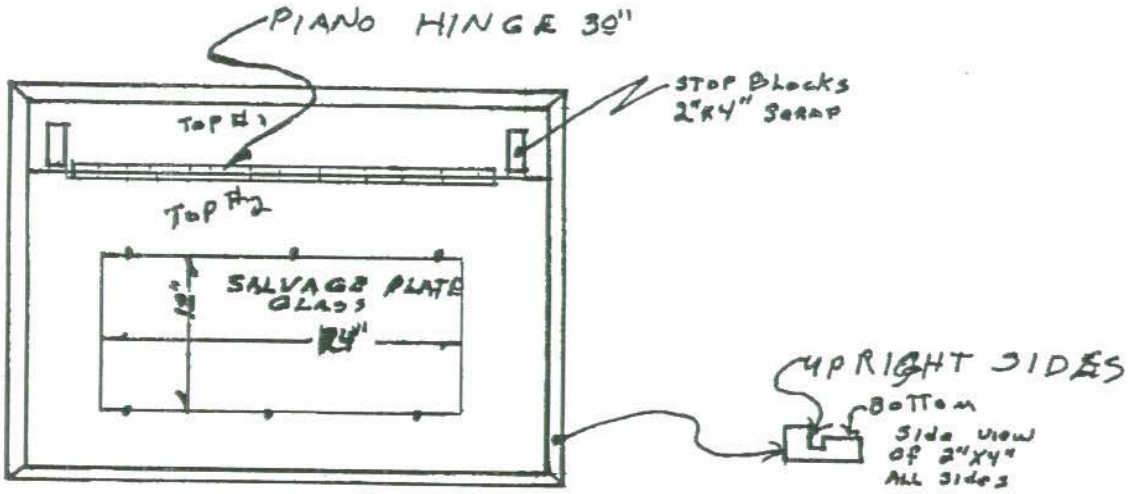
The 2" x 4" were now cut into 2 pieces 42" and 2 pieces 30" from these pieces I made a rabbit 1/2" wide 1" deep 1" from the edge on the 4" side, this is for the upright sides, then fuming the 2' x 4' on edge I cut 1/2" deep from the rabbit out to the other side on the 4"(see drawing) side this gave me a flat for the bottom to rest on. Next I mitered the corners to give a base in the rabbit grove of 25" x 36". The 25" is needed as the back and front runs past the 24" side to make a lap corner.

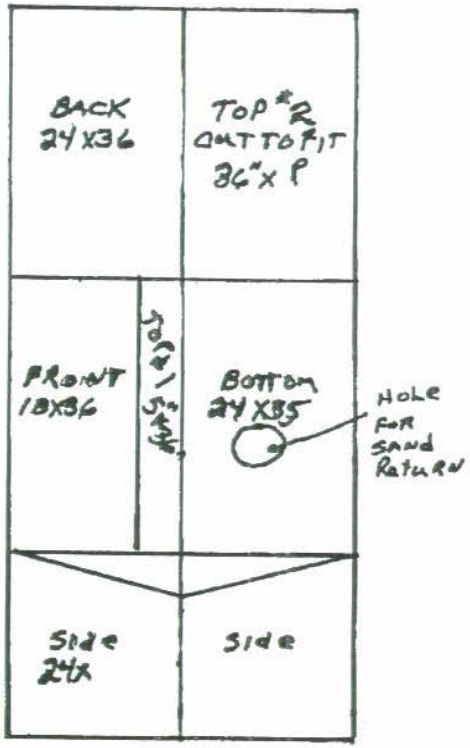
The bottom and side pieces can now be placed into position (trimming may be needed to align all corners).

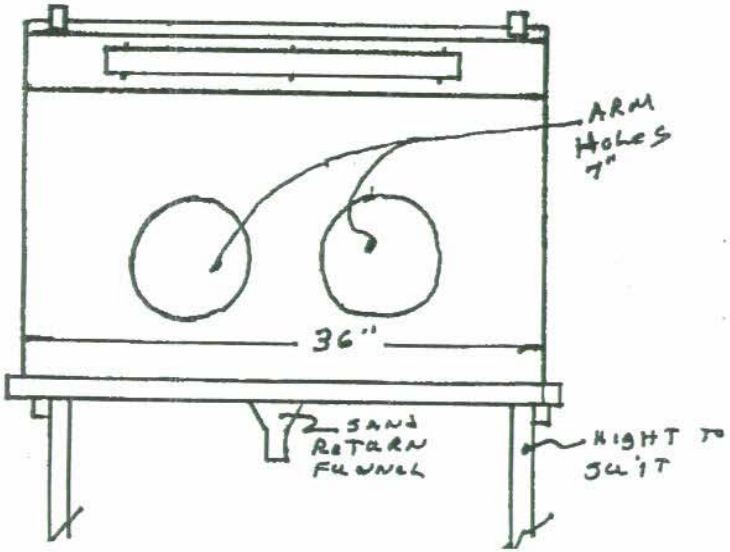
The angle iron was now cut 2 pieces at 22" & 2 pieces at 16" pre- drill a staggered pattern 3 - 1/4" bolts on each side of the angle I used 1" carriage bolts clamp angles in corners and drill wood, next place sheet metal between angle iron an wood and drill (I had a 90 bent at the bottom of my metal about 1/2" lip to help seal bottom corner but this is optional) . Drop in the bottom sheet metal and mark the drain hole remove and cut out the hole leaving a 1/2" for bending into the drain hole.

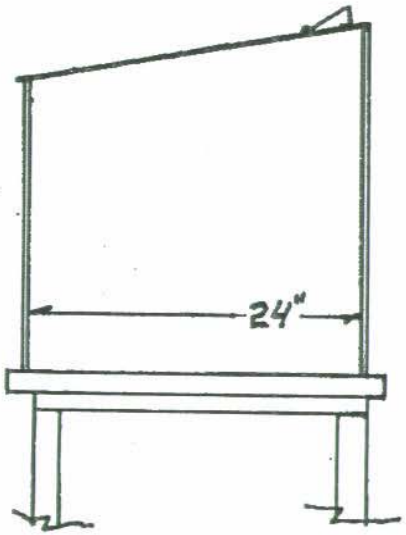
The top is made in two pieces a 5" at the top and the remaining distance to be covered by the other 2' x 3' piece of ply I left about 1/2" overlap on the front as a convenient hand hold to open the top.

Cont'd on page 5


PIANO HINGE 36"
STOP Blocks 2"X4" SCRAP
Top #1
Top #2
SALVAGE PLATE GLASS
24"
UPRIGHT SIDES
Bottom
Side View of 2"X4" All Sides


BACK 24X36
TOP #2 CUT TO FIT 36"X 8
FRONT 18X36
TOP #1 5" WIDE
BOTTOM 24X35
HOLE FOR SAND RETURN
Side 24X
Side


ARM Holes 7"
36"
SAND RETURN FUNNEL
RIGHT TO SLANT


24"

Econo Blatser cont'd

These pieces are connected with the 30" piano hinge.

A cut out for the sight glass can be made before or after hinging the top. I used 23" x 11" and covered it with a 24" x 12" piece of salvage plate glass held in place by mirror clips. A small funnel was attached to the bottom of the cabinet to help route the sand back to the sand holder which I placed under the cabinet.

Holes for hoses were drilled through the side, sand hose was left as it was, from tank to gun and a short air hose with quick snap just long enough to exit cabinet was used. A hole for a shop vacuum was cut at the top rear corner as dust builds up fast if not removed.

My wife sowed canvas sleeves to the gloves and I mounted them to the front of the cabinet (I used 7" holes for my arms but larger would have been better).

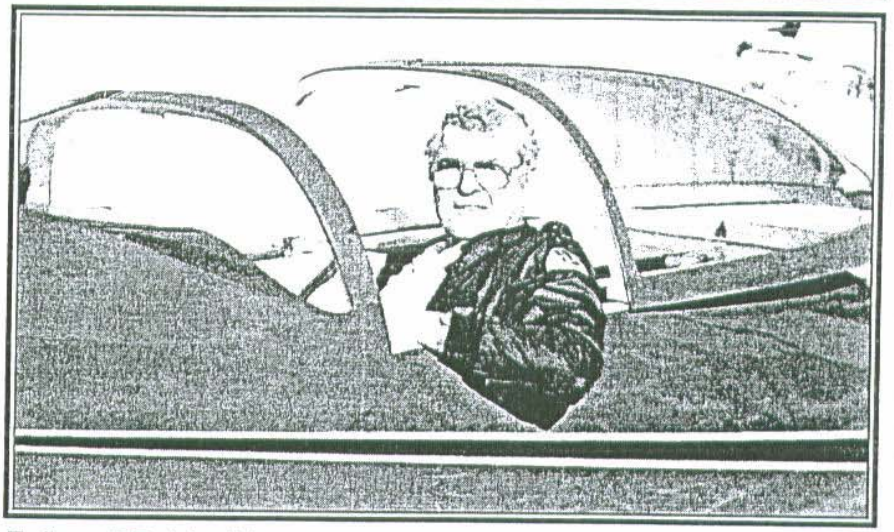
Last the light was mounted to the top at the rear in the cabinet.

Legs can be made at this time (to a height that is convenient for the user). Be sure to seal all openings for dust leakage.

PS: Sand blaster gun can be bought at Sears for $44, I had one lying around so made use of it.

Gordy Valgren
Minot, ND.

GEORGE'S CORNER



Fellow GP-4 builders:

If I could have built our fuel tanks out of wood I probably would have tried. I have never been totally at ease with fiber glass, but I am learning, I think. I had my problems building my center fuel tank and perhaps there is an easier way than the wood male mold I call for on drawing #6.

A Sacramento builder and friend, Mike Traud used a solid block of styrofoam which can be dissolved with lacquer thinner, gasoline or MEK. He covered the sculptured block of foam with silver colored duct tape, glassed the male plug then dissolved the foam. He left a flange around the top perimeter so he could have something to attach the top to once the metal fittings and baffles were installed. I watched this operation and it seemed to work well. I laid out a 3 step procedure for any of you that may want to try it.

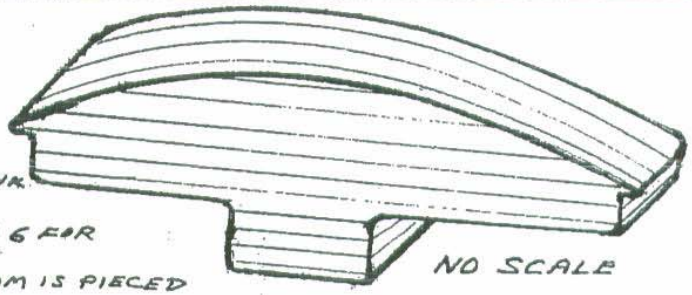
Mike also did a lot of research on trying to make his fuel tanks resistant to alcohol. He settled on a West System product called Pro Set resin, (Gougen Bros.). It's a two stage cure system, similar to regular West System's 105 resin/205,206 hardener, but the second stage cure is at a little higher temperature than room temperature. Mike covered this in the Volume 21 Newsletter and I am sure the cans have directions.

We have a new addition of a fax machine at the Pereira house. Please feel free to use it to commuincate any time. That number is (916) 978-9813. Also don't forget we are accessible via the internet. That E-mail address is: GP-4@juno.com

Regards to all,

George

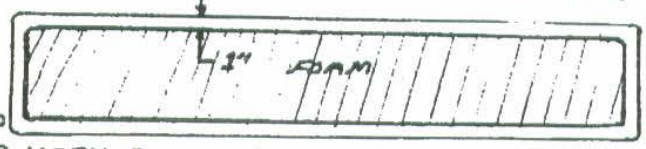
STEP 1:



NO SCALE

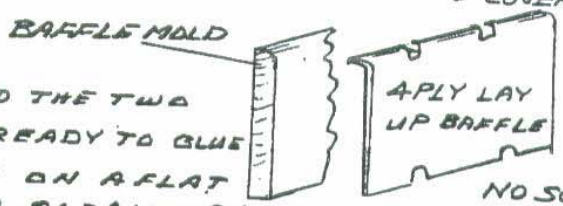
BAND SAW THE T-SHAPED TANK FROM STYROFOAM USING DWG. # 6 FOR DIMENSIONS. IF THE STYROFOAM IS PIECED USE WHITE HOUSEHOLD GLUE. MAKE A GENEROUS RADIOUS TO ALL CORNERS SO THE GLASS WILL WRAP AROUND EASILY. COVER ENTIRE FOAM PLUG WITH DUCT TAPE. USE A SMALL LAP AT EACH LAYER OF TAPE. A WATER SOLUBLE MOLD RELEASE SUCH AS PARTALL (SEE WICKS) HELPS WHEN PEALING THE TAPE BACK OUT HOWEVER ITS NOT ABSOLUTELY NECESSARY

STEP 2:



COVER ENTIRE TANK PLUG WITH 4 PLY OF 7 TO 8 OZ. CLOTH TRY TO GET IT COVERED ALL 4 PLY IN THE SAME LAY UP. VERY RESIN RICH. THE CORNERS MAY REQUIRE EXTRA PLYS FOR STRENGTH AND TO SEAL. CUT THE TOP OUT LEAVING A 1 INCH FLANGE. LACQUER THINNER WILL DESOLVE THE STYROFOAM SO YOU CAN PEAL THE TAPE OUT AND CLEAN UP THE INSIDE. REFER TO DWG #6 AND INSTALL THE METAL FITTINGS. THE BAFFLES SHOULD HAVE A FLANGE ACROSS THE TOP SO A SIMPLE MALE MOLD CAN BE MADE FROM A 3/4" THK BOARD COVERED WITH SARAN WRAP

STEP 3:



NO SCALE

WITH ALL THE FITTINGS AND THE TWO BAFFLES INSTALLED YOUR READY TO GLUE ON THE TOP. LAY UP 4 PLY ON A FLAT TABLE TOP COVERED WITH SARAN WRAP APPROX 10" X 50". ROUGH UP THE TOP FLANGE AND MATING SURFACE TOP LAY UP. WET OUT MATING SURFACES WITH RESIN AND SPREAD ON A THIN COAT OF RESIN AND FLOX SLURRY ONTO THE TANK FLANGE. BEND THE TOP AROUND THE TANK TOP HOLDING IT DOWN WITH DUCT TAPE UNTIL RESIN CURES. SAND THE TOP EDGES WITH A SLIGHT RADIUS AND LAP UP 2 PLY OF GLASS 2" WIDE AROUND THE TOP EDGES. PRESSURE CHECK FOR LEAKES PRIOR TO INSTALLING IN THE FUSELAGE.

GP-4

ALTERNATE CENTER TANK CONSTRUCTION: NO SCALE

The Classifieds

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

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 J7200@aol.com

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

Back Issues: We have all of the GP-4 back issues (#1 thru #17) 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

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913-764-5118

E-MAIL BSPORNITZ@AOL.COM

George Pereira

(916) 483-3004 fax (916)978-9813

E-mail GP-4@juno.com

George Pereira in his other Toy! The Osprey 2

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1112 EAST LAYTON DRIVE
OLATHE, KANSAS 66061

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