



VOLUME 7 MARCH/APRIL 1996



## GEORGE'S CORNER

Fellow GP-4 builders,

I may have mentioned this in previous articles, but most Saturdays a bunch of us get together and fly some where for lunch. My good friend Scott Kemper, who handles my advertising, named us the..... **"BUZZARD SQUADRON"**. Scott says we circle around some airport restaurant looking for a "Dead Cow! We have a lot of fun however.

Last Saturday after a lunch flight I was at the gas pit for fuel. This nice looking young man walked up asking if he could look over my GP-4. He then asked if he could get a ride in it? I explained that I try to reserve rides for builders or potential builders. He went on to say that he had talked to me by phone and had driven all the way from Navan, Ontario, Canada to see the plane and wanted a set of plans. With an embarrassed mumble about my short memory..... I said "Let me show you the best way to get in". This young man had only flown in Cessna 150's and not much time in them.

After clearing the ARSA I leveled off and trimmed for a low cruise and gave him the stick. My head banged into the canopy, then my butt banged back in the seat when I grabbed the stick to steady things down. I said "Chris just hold the stick lightly and only think about a turn and it will happen". It wasn't long before he was making nice needle width turns left and right stopping on the section lines. His pitch control settled down and he started to relax and enjoy the ride. My thoughts started to wander. What if this had been his first flight in a GP-4? More than likely he would of overcome his lack of pitch control and settled down, but if he would of had a couple of distractions like a rough engine or a hot cylinder, etc. and he might be in trouble. Few test

flights ever go without ANY glitches of some kind.

I guess my point is, if your a low time pilot flying 150's or the like, maybe you should let some one else make that first flight.

The GP-4 is a very honest little airplane, very stable, goes where you aim it, very responsive. When you do aim it. it gets there very quickly!

Any Lancair, Glasair or Pitts pilot would feel right at home flying your GP-4. So giving that first flight to a more qualified person might be the best thing to do and should be given a good amount of thought!

### ● Letters

I thought Richard Nadig's letter was very informative. This is what our newsletter is all about. Information, problems and solutions. I also thought Spud's remarks on metal component parts costs were RIGHT ON! I can't begin tell you how fortunate it is that we have an experienced GP-4 builder that has the expertise that Darry Capps has to build our metal GP-4 components for us.

### ● Technical assistance

#### Fuselage Lay-out - drawing #2

I have had some calls from new builders that have trouble understanding which uprights are set at 88.5 degrees.

There are 4 pieces of wood that have to be set at 88.5 degrees to the horizontal center line. The block with the hole and the slot in it that is 5 1/4" long X 7 5/8" high must be set at 88.5 degrees on the aft vertical side. If you carry that line on up the vertical the aft side of the upright above the block is a 3/4" X 1 1/4". That is set at 88.5 degrees. The third piece is also 3/4" X 1 1/4" spaced 5 5/8" aft of the first 3/4" X 1 1/4" upright. The fourth

piece is a 3/4" X 2" upright that is 22 5/8" aft of the second 3/4" X 1 1/4" upright. All four pieces set the wing incidence. When you butt the face of the wing spar up against the 88.5 degrees block the wing incidence sets at 1.5 degrees positive. The other three uprights hold the wing attach fittings shown on drawing #39.

The slot in the mentioned block (drawing #2) is there for the wing tank fitting that sticks out of the butt wing rib to fit up into the slot as you set the fuselage down onto the wing spars. You may want to cut out the slot on a final fuselage to spar fitting session. The slot should be extra wide. At least an inch on either side of the fitting because you'll eventually have to get an end wrench on the nipple (AN816-6d) that screws into the female tank fitting and then the #6 hose fitting to the nipple (See drawing #23).

### ● Do's and Don'ts

Don't use 3/32" control cable for the flaps and rudder controls. Use 1/8" aircraft cable only. Either galvanized or stainless aircraft grade. Part 23 of the FAR's require 1/8" aircraft cable for all primary control.

Don't use any automotive fittings for any plumbing in your fuel systems. Use only aircraft AN fittings. All hard plumbing in the fuel system is 3/8" O.D. aluminum. All flexible hoses on the fuel system are #6. All oil lines from the oil cooler to engine are #8. If you make up your own hoses, Strataflex or Aeroquip, always use a mandrel. You will need 3 sizes to plumb your GP-4. No. # 4, #6 & #8. Wicks Aircraft Supply carries them if you can't borrow a set. Use fire shields over all fuel lines firewall forward. It helps insulate against vapor lock. Use steel fittings (AN nipples) that screw into the engine.

I'll get into more detail in the engine compartment in later issues of the newsletter.

Regards To All George

# THE 1996 GP4BFN BUILDERS LIST

Here is the current GP4BFN subscribers list as of 4-1-96. In the last newsletter I put in a notice (page 7) that I would be publishing the builders list in the next issue. The list here reflects the current subscriber base of the newsletter, 123 people. There has been 312 sets plans for the GP-4 sold as of April 1996. Not

everybody subscribes to the newsletter and since they did not receive the notice of the pending name release, I feel it wouldn't be right to release there names without notification. I feel this newsletter subscriber base probably reflects the most active builders.

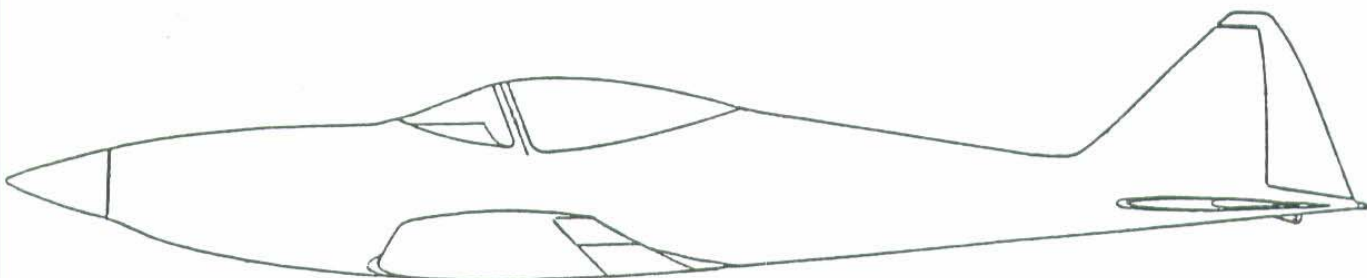
Also the list is listed "By State". This should make it easier find builders that are close to you or where ever you may be traveling.

We will update the list annually. - Spud

| Last<br>----  | First<br>----- | Address<br>-----              | City<br>----    | ST<br>-- | Zip<br>--- | Country<br>----- | Phone<br>-----      |
|---------------|----------------|-------------------------------|-----------------|----------|------------|------------------|---------------------|
| PROC          | JOHN           | BOX 533                       | KEOMA           | AB       | TOM 1G0    | CANADA           | 4039354816          |
| BYMAN         | RON            | P.O. BOX 2913                 | VALDEZ          | AK       | 99686      |                  | 9078355131          |
| FOSHEE        | PHILIP D.      | 310 PINEDALE RD.              | CLANTON         | AL       | 35045      |                  | 2057553980/7553877  |
| HAUGEN        | MIKE           | PSC 80 BOX 10075              | APO             | AP       | 96367      |                  | 011816117336476     |
| DOWNIE        | DON & JULIE    | 635 LATIGO LANE               | KINGMAN         | AZ       | 86401      |                  |                     |
| NAJAKA        | ROBERT S.      | 2683 BROKEN ARROW             | KINGMAN         | AZ       | 86401      |                  | 5207577903          |
| PIERSON       | ED             | 2519 W. ESTRELLA RD.          | PHOENIX         | AZ       | 85027-8179 |                  | 6024659381          |
| SPRIGGS       | JAMES          | 50750 W.WILLIAMS RD PO BX 112 | AGUILA          | AZ       | 85320      |                  | 5206852364          |
| STEWART       | NORM           | 3211 GILLENWATER DR.          | FLAGSTAFF       | AZ       | 86001      |                  | 7792239             |
| STOFFERAHN    | EMERY M.       | 6236 E. BOSTON                | MESA            | AZ       | 85205-3251 |                  | 6029813251          |
| BAUM          | STEVE          | 9482 PIKE ROAD                | SANTEE          | CA       | 92071      |                  | 6195625278          |
| BRANSON       | RORY           | 8757 CROSSWAY CT #76          | SANTEE          | CA       | 92071      |                  | 6194487089          |
| BRAVO         | CLAUDIO        | P.O. BOX 2414                 | OLYMPIC VALLEY  | CA       | 96146-2414 |                  | 9165813041          |
| CAPPS         | DARRY          | 813 HOYER RD.                 | NEWMAN          | CA       | 95360      |                  | 2098622707          |
| DREW C/O FAI  | RODNEY         | 4360 CAMPUS DR. STE. G        | NEWPORT BEACH   | CA       | 92660      |                  | 7148520248          |
| RICHENGERGER  | FRED           | 4565 E. CLINTON AVE.          | FRESNO          | CA       | 93703-2658 |                  | 2092551958          |
| GIANATASIO    | TOM            | 1576 BELLEVILLE WAY           | SUNNYVALE       | CA       | 94087      |                  | 408-733-0693        |
| GROTE         | MAC            | 14980 LONG VIEW DR.           | PONTANA         | CA       | 92337      |                  | 9098227216          |
| HARMON        | STEVEN         | 6689 WESTERN AVE.             | RIVERSIDE       | CA       | 92505      |                  | 9096871456          |
| JACKSON       | JAKE           | 1052 HAYER COURT              | RIO LINDA       | CA       | 95673      |                  | 9169920608          |
| KALLOS        | THOMAS         | 444 SARATOGA AVE. #2L         | SANTA CLARA     | CA       | 95050      |                  | 4082493552          |
| LONG          | DON            | 4904 ALEX DR.                 | SAN JOSE        | CA       | 95130      |                  | 4083797523          |
| LYNCH         | DENNIS         | 10656 WUNDERLICH DR.          | CUPERTINO       | CA       | 95014      |                  | 2490211             |
| MORROW        | DAN F.         | 5350 STUDEBAKER CIRCLE        | SAN JOSE        | CA       | 95136      |                  | 4082257499          |
| MORTON        | CRAIG A.       | 1881 ALPHA RD #16             | GLENDALE        | CA       | 91208      |                  | 8185450165          |
| PEREIRA       | GEORGE         | 3741 EL RICON WAY             | SACRAMENTO      | CA       | 95864      |                  | 9164833004          |
| SPENCER-HAYES | PETER          | 110 PICO BLVD NO #125         | SANTA MONICA    | CA       | 90405      |                  | 3104503072          |
| TRAUD         | MIKE           | 11907 PROSPECT HILL DR.       | GOLD RIVER      | CA       | 95670      |                  | 9166351147          |
| WILSON        | BILL           | 303 ROCK OAK ROAD             | WALNUT CREEK    | CA       | 94598      |                  | 5109397276 w3517654 |
| WYCKOFF       | STEVE          | 1448 CALLE PRIMERA            | LOMPOC          | CA       | 93436      |                  | 8057330573          |
| YOUSCHAK      | STEVEN W.      | 751 GRAYLING BAY              | COSTA MESA      | CA       | 92626      |                  | 7145571812          |
| ADAMS         | MATT           | 6420 RIFLE CR.                | COLORADO SPRING | CO       | 80919      |                  | 7195316608          |
| BOGGAN        | LARRY          | P.O. BOX 49416                | COLORADO SPRGS  | CO       | 80949      |                  | 7192606244          |
| GREEN         | DONALD         | 11285 N. CARDINAL DR.         | PARKER          | CO       | 80134-7906 |                  | 3038414499          |
| LANDWEHR      | MARK           | 1410 ATHENE DR.               | LAFAYETTE       | CO       | 80026      |                  | 3036666221          |
| MIKUS         | TONY           | 0344 KINGS ROW, N.            | CARBONDALE      | CO       | 81623      |                  | 9709639575          |
| WAY           | GEORGE E.      | 2877 W. 55TH AVE              | DENVER          | CO       | 80221      |                  | 3034588817          |

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| ----         | -----       | -----                       | ----            | -- | ---        | -----   | -----               |
| CAMPBELL     | ZOOM        | 3000 21ST STREET N.W.       | WINTER HAVEN    | FL | 33881      |         |                     |
| EVANS SR.    | THOMAS L.   | 8304 WATERVIEW WAY          | WINTERHAVEN     | FL | 33884      |         | 8133259843          |
| GREENE       | A.G.        | 501 LAKE AVENUE             | LAKE WORTH      | FL | 33460      |         | 4077951173 w4075855 |
| HAYNES #2    | DEAN        | 367 MELROSE LANDING BLVD.   | HAWTHORNE       | FL | 32640      |         | 9044755068          |
| KURRY        | ANDREW      | 2653 SPRUCE CREEK BLVD.     | DAYTONA BEACH   | FL | 32124-6893 |         | 9047618632          |
| LeBLANC      | JOHN        | 1699 STONE RD.              | GLENWOOD        | FL | 32720      |         | 9048225637          |
| MEGGERS      | LESLIE      | 7702 CALLAN COURT           | NEW PORT RICHER | FL | 34654      |         | 8138443922          |
| SATKOWSKI    | JOHN        | 2027 HAWAII AVE N.E.        | ST. PETERSBURG  | FL | 33703-3419 |         | 8135266552          |
| WOOLDRIDGE   | HARRY       | 7751 LYNBROOK DRIVE         | NEW PORT RICHER | FL | 34653      |         | 8138473499          |
| SHEPARDSON   | CINDY & MAT | 1203 CRESTLANE DRIVE        | SMYRNA          | GA | 30080      |         | 7704380798          |
| RIEPP        | MICHAEL     | 10301 HALL RD               | CEDAR RAPIDS    | IA | 52411      |         | 3193930562          |
| SEVERN       | EUGENE C.   | 401 NO. LAWLER BOX 327      | POSTVILLE       | IA | 52162      |         |                     |
| JEYS         | THOMAS R.   | 1263 WEST CONKLIN PARK ROAD | WORLEY          | ID | 83876      |         |                     |
| LIND         | PETER       | 27575 HENRY LANE            | BARRINGTON      | IL | 60010      |         | 8473810831          |
| MARILEY      | JOHN        | 840 ELDER UNIT #210         | HOMewood        | IL | 60430-2549 |         |                     |
| VANDER WOUDE | PAUL        | 621 SO. ASHLAND             | LA GRANGE       | IL | 60525      |         | 7083543417          |
| WEINSTOCK    | STEVEN      | 174 NEWTON AVE.             | GLEN ELLYN      | IL | 60137      |         | 4697569             |
| HAMMERSMITH  | MARTY       | 1777 OAKRIDGE DRIVE         | LAWRENCEBURG    | IN | 47025      |         | 8126372122          |
| QUIRE        | GREGORY S.  | 886 MT. ZION ROAD           | FRANKFORT       | KY | 40601      |         | 5028751741          |
| KILTS        | BRUCE E.    | 2924 ORMOND AVE.            | BATON ROUGE     | LA | 70820      |         | 7692755             |
| BERNARDO     | FRANK       | 929 PINE HILL RD.           | WESTPORT        | MA | 02790      |         | 5086368801          |
| HOLMES       | ERNIE       | 519 E. RIVER ST #71         | ORANGE          | MA | 01364      |         | 5085448140          |
| KAPLAN       | CHUCK       | P.O. BOX 19, 475 WEST ST.   | WALPOLE         | MA | 02081      |         |                     |
| MC KEEN      | DAVID       | 20630 DEER WOOD PARK DR.    | LEONARDTOWN     | MD | 20650      |         | 3014753691          |
| KELLER       | JORL        | 176 FOUNTAIN STR.           | BANGOR          | ME | 04401      |         | 2079459973          |
| ALLEN        | ERIC        | 18530 MACK AVE. #249        | GROSSE PIONTE   | MI | 48236      |         | 3133725145          |
| DAVIS JR.    | CHARLES     | 499 FURNACE STREET          | MANCHESTER      | MI | 48158      |         | 3134289369          |
| DECKROW      | ROGER       | 3838 SEAMAN RD.             | ALMA            | MI | 48801      |         | 5174633735          |
| THOMAS       | GERALD B.   | 27604 MORNINGSIDE PLAZA     | LATHRUP VILLIA  | MI | 48076      |         |                     |
| YODER        | JACKIE D.   | 2760 YODER                  | MIDLAND         | MI | 48640      |         | 5178322012          |
| BRENHAUG     | JRFF        | 16848 ST. HIWAY 15          | HUTCHINSON      | MN | 55350      |         | 6125874284          |
| WORWAG       | WOJCIECH    | 513 DEL RIO DRIVE           | CHANHASSEN      | MN | 55317      |         |                     |
| WUORINEN     | BILL        | 7904 CONROY WY              | INVER GROVE HT  | MN | 55076      |         | 6124556936          |
| EDSON        | WAYNE       | P.O. BOX 812                | BRANSON         | MO | 65616-0812 |         | 4173346128          |
| BERAN        | DALE        | 1137 N. STR.                | ORD             | NE | 68862      |         | 3087285379w7283257  |
| BERRICK      | WILLIAM     | 11803 HUNTERS COVE          | OMAHA           | NE | 68123-1119 |         | 4022926832          |
| COX          | DEAN        | 14846 ORCHARD CIRCLE        | OMAHA           | NE | 68137      |         | 4028963553/WX496857 |
| DE GROSA     | JIM         | 69 CLINTON PLACE            | HACKENSACK      | NJ | 07601      |         | 2013434807          |
| SAULSBURY    | THOMAS P.   | 101 WALNUT ST.              | BRIDGEBORO      | NJ | 08075      |         | 6094617418          |
| CAVIN        | KENNETH A.  | BOX 21752                   | CARSON CITY     | NV | 89721      |         | 7028857643          |
| GUGLIELMI    | PAUL M.     | 4052 FANCHER ROAD           | HOLLEY          | NY | 14470      |         |                     |
| BOWLUS       | NICHE       | 45 HOWARD AVE.              | WORTHINGTON     | OH | 43085      |         | 8857124             |
| STITTLE      | JAMES       | 19 MEADOW ACRES DR.         | AGINCOURT       | ON | M1T 1A9    | CANADA  | 4164958599          |
| CATHCART     | RON         | 229 S.E. 2ND STREET         | TOLEDO          | OR | 97391      |         | 5413362947          |
| GERRARD      | RON         | P.O. BOX 832                | SPRINGFIELD     | OR | 97477      |         | 5037460452 w7469818 |
| GORGAS       | HENRY       | P.O. BOX 692                | CARLTON         | OR | 97111      |         | 5038527378          |
| GRIEB        | KENNY A.    | 225 FORSYTHE RD.            | MARS            | PA | 16046      |         | 4126259202          |
| SWYSCHTCH    | GERHARD E.  | R.D. 1, BOX 470B            | CANADENSIS      | PA | 18325      |         | 7175950577          |
| LOCKMILLER   | ROBERT      | 231 MARTIN SCHOOL RD.       | PICKENS         | SC | 29671      |         | 8038689432/8435303  |
| COLOMBE      | GEORGE      | RR #1 BOX 87                | WENTWORTH       | SD | 57075-9607 |         | 6052564335 also fx  |

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| ----        | ----       | -----                         | ----           | --      | ---        | -----    | -----               |
| BERRIE      | WILLIAM    | 5323 LONGWOOD                 | MEMPHIS        | TN      | 38134      |          | 9013770841          |
| NADIG       | RICHARD E. | 5334 PEGHORN TRAIL            | OLTEWAH        | TN      | 37363-8670 |          | 4233962917 40789711 |
| PESAK       | ROBERT K.  | 1804 BARNWELL T.              | HERMITAGE      | TN      | 37076      |          | 6154512809          |
| BOUDREAUX   | GARY       | 508 MEADOW OAK CT             | EL PASO        | TX      | 79932      |          | 9155816357          |
| HAMELMANN   | KARL       | 219 ENGLEWOOD                 | LEAGUE CITY    | TX      | 77573      |          | 7139418713          |
| LAMBERT     | JOHN       | P.O. BOX 92201                | AUSTIN         | TX      | 78709-2201 |          |                     |
| MANN        | SID        | 7710 MESA DR.                 | AUSTIN         | TX      | 78731      |          | 5123456128          |
| MARVIN      | GARY       | 3814 RIVERWOOD PARK DR.       | KINGWOOD       | TX      | 77345      |          | 7133605536          |
| MASAL M.D.  | SGT. JIM   | 3731 VAN NESS LANE            | DALLAS         | TX      | 75220      |          |                     |
| MAUK        | GLENN R.   | 109 MEADOWS DR.               | BURLESON       | TX      | 76028      |          | 8174470400          |
| RAINEY, III | WILLIAM    | 9036 JAMAICA BEACH            | GALVESTON      | TX      | 77554      |          | 4097372011          |
| REINHART    | C.J (John) | 6812 TOLEDO CT.               | FORT WORTH     | TX      | 76133      |          | h8172949451w8179625 |
| SMITH       | KEN        | 6818 HERTFORD PARK            | HOUSTON        | TX      | 77084      |          | 7138553786          |
| WALKER      | TOMMY      | 212 MARSH DR.                 | LIVINSTON      | TX      | 77351      |          | 4093272211          |
| WATTS       | GELNN      | P.O. BOX 166                  | EDNA           | TX      | 77957-0166 |          | 5127825371          |
| MOORE       | BOB        | 356 NO. 400 EAST              | OREM           | UT      | 84057      |          | 8012246515w2297054  |
| HAMMOND     | ALAN       | 5156 LINETTE LANE             | ANNANDALE      | VA      | 22003      |          | 7039782145          |
| GRIBBLE     | FRED       | 1593 MAIN STR.                | FAIRFAX        | VT      | 05454      |          | 8028496167          |
| WHITE       | STAN       | 222 CAMP STREET               | BARRE          | VT      | 05641      |          | 8024799887          |
| MILKER      | DON        | 31 FLEET DR.                  | PORT LUDLOW    | WA      | 98365      |          | 4379331             |
| NICOLL      | FRED       | 9910 130TH ST CT #K212        | PUYALLAUP      | WA      | 98373-9450 |          | 2068489392          |
| O'NEILL     | CRAIG      | 7433 KEEN WAY N.              | SEATTLE        | WA      | 98103      |          | 2065241467          |
| ANDERAS     | PEPE       | 2824 MT. CAROL DR.            | GREEN BAY      | WI      | 54311      |          | 4144687497          |
| COX         | JACK       | P.O. BOX 3086                 | OSHKOSH        | WI      | 54903-3086 |          |                     |
| GULIG       | GARY       | P.O. BOX 991                  | POND DU LAC    | WI      | 54936      |          |                     |
| HOMAN       | ALAN       | W5878 BRICK CHURCH ROAD       | PONTANA        | WI      | 53125      |          | 4142756683          |
| OWEN        | BEN        | P.O. BOX 3086                 | OSHKOSH        | WI      | 54903-3086 |          |                     |
| PREY        | ROBERT     | 578 NO. DANZ AVE.             | GREEN BAY      | WI      | 54320      |          |                     |
| RANDALL     | KIM W.     | 1348 THORSON CT.              | BLACK EARTH    | WI      | 53515-9760 |          | 6087672622W2423896  |
| COUSIN      | CHRISTOPHE | 19 R DU PRE NATTIER           | 27140 GISORS   |         |            | FRANCE   | 011331632551927     |
| BHMANN      | DAVID      | 462 PINEHOUSE DRIVE           | SASKATOON, SAK | S7K 4X5 |            | CANADA   | 3069346042          |
| GUILLAUME   | LOUIS M.   | 29 JARDINS DE L'OLYMPHE-CH DE | LA MAJOURANE   | TOULON  |            | FRANCE 8 | 193394245833        |
| LOATES      | DAVID      | R.R. #2                       | BELWOOD, ONTAR | NOB 1J0 |            | CANADA   | 519 843 4969        |
| MARC        | RAVETTI    | 8 RUE HIPPOPYTE POLIN         | 60410 VERBERIE |         |            | FRANCE   | 44-40-21-46         |
| OLSEN       | CARL-ERIK  | LUNDEN 9, HASLUND             | DK-8900 RANDER |         |            | DENMARK  | +4586445003         |
| TUCHSCHERER | GERARD     | 110 RUE NATIONALE             | 57110 YUTZ     |         |            | FRANCE   | 82-56-05-40         |



## LETTERS!

Hello Everyone!

Geez. already time to renew the newsletter - where has the time gone? I had indicated in my initial response to the GP4BFN that I'd contribute - so much for that idea. Flight schedules, kids, wife, etc. - you know the routine.

I have been involved with my GP-4 project for, well, a little under three years. Empennage complete, flaps and ailerons complete (skins fitted, but not glued at this point), wing spars done, cowls (thanks to Jake Jackson Cowls, Inc.), associated weldments, and the fuselage is well underway, just about ready for all the hardware. I am fortunate to live in close proximity to the prolific designer George and his hangar at the Rio Linda Airport. I usually just haul my parts, subassemblies, etc. out to this grass roots airport for an exhaustive critique by the now famous, but little known, Buzzard Squadron. As a result, I think I know what I'm doing, but in reality.... Since my proximity to Rio Linda Aerodrome is favorable for such visits, I usually get the chance to fly the prototype GP-4, N59GP. This is a tremendous asset in that I am gaining experience in the type of aircraft I am building, plus, I get all these ideas from George on how to put it all together. OK, enough of the Bravo Sierra. Here are two areas of wisdom for current and wood-be (pun intended) builders:

### ● Keeping It Straight

Building a high performance aircraft out of wood is a PhD challenge in itself, but throw in the little fact that this medium varies with temperature and humidity, and you are going to go nuts trying to keep all those parts straight. (Keep in mind: At 220 knots, if your airframe is not straight and true, you will be penalized for that in trim drag, i.e. the induced

variety, plus other competitor airplanes, ah, those fiberglass ones, will beat you in that ever present race which occurs from time to time.) Why do these ribs, spars, even finished unskinned surfaces warp? Well, it is due largely to the fact that, generally, two types of wood are used in the substructures of the airframe: solid woods (spruce, pine, or Douglas fir), and plywoods (mahogany and birch). These two wood types expand and contract at much different rates. The plywood is much slower than the solids because of the glue used in the laminates. The glue inhibits moisture penetration, resulting in much slower expansion or contraction. So, when you build a spar, or rib with spruce caps and plywood webs, you have a component built with two different wood types which expand and contract at different rates. If the environment you are building in is subject to large temperature variations and changes in humidity, you are likely to experience a warp in your part at some point in time. A typical scenario might go like this: you loft a spar from the drawing to the perfectly flat work surface you are using. Then, you painstakingly cut out the spruce caps, center blocks and end blocks, then the plywood web is cut along with the necessary gussets. You're excited now. With extreme care, you glue it together, clamp it with just the right pressure and wait. Later, after the epoxy has cured, the spar is removed, excess glue is trimmed away, and WOW, a straight and true part! You show it to your wife. She is amazed at your craftsmanship. Your friends are equally impressed. Your confidence swells. You then store the spar and continue building other components. Days, perhaps weeks later, when you return to re-examine your workmanship, you discover, much to your dismay, that the spar is bent! What a pisser! Fortunately, there is an easy solution to this problem. First, completed spars (and ribs too)

can be stored on mini jigs to keep them straight until they are needed. (Use an old level, or aluminum extrusions, etc.). This mini jig can be used during construction of a surface to keep the spar straight (while ribs and leading or trailing edges are attached). Second, when you go to skin a surface, you can "back clamp" a straight edge to the spar when the first skin is glued in place. Back clamping involves clamping a straight edge to the outside, or webbed side of the spar through the open or unskinned side of the surface. After the glue has cured on the skinned side, remove the back clamp and skin the other side. (Obviously, you are sealing the inside of the surface, etc.) Once a surface is skinned, it is not going to move at all. Remember, if you close a surface with a bent spar, it will remain that way forever. Obviously, not all your parts and subassemblies will warp - this depends on the climate and the other factors discussed above. However, should you encounter a warped part at some time during the construction of your GP-4, employing the simple techniques above will ensure a straight and true surface.

### ● Levels And Lasers

The past several years has seen tremendous advancement in digital electronics, especially, as applied to work shop tools. Digital levels are now the standard for measurement and leveling applications. They have unprecedented accuracy (usually to +/- 0.1 degree) and are very easy to use. Anyone building a GP-4 or thinking about building one should consider using a digital level. Another neat device is a small Laser pointer. You can use a Laser pointer in a similar fashion as a transit or stretched line, i.e. long distance leveling and alignment. The wing would be a good example here. The Laser pointer would be beneficial in aligning the tip and root ribs, ensuring a straight leading edge with all the center ribs in

alignment.

Just a few thoughts and ideas which I have found helpful in my quest to build and fly the fastest (just ask Darry Capps) four cylinder airplane available.

Regards.

Mike Traud

Gold River Facility

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Hello Spud.

I'm looking forward to a new and even better year for GP4BFN!

The big news here is that the first parts of my GP-4 have flown.....AS CHECKED BAGGAGE! I machined some pine cap strips over Christmas at my dad's shop in Michigan and boxed them up for the flight home. It was really tempting to mark the box "FRAGILE - AIRCRAFT PARTS", but decided not to raise any questions.

Anyway, since then I've scrounged some 3/32 plywood from a local EAAer and placed a small spruce order with Wicks Aircraft of Highland, IL. My tail section underway with minimal investment - just the way I need to keep things! I've got all the ribs made for the rudder and elevator, and I'm getting ready to glue caps on the stab ribs. (I'm starting with the tail surfaces because I'm working in a small basement and I haven't YET convinced my wife of the wisdom of knocking a hole in the foundation to accommodate the BIG parts!) I'm really having a ball so far, and even though I only seem to manage about a half hour a day in the shop, I'm satisfied with my progress; I think my goal of flying by the time I'm 45 (14 more years!) is in reach (assuming, of course, that I get my way with the foundation thing)!

By the way, when George sent me my plans last November he penciled in the margin "Nice to have a builder up in Glasair country!" Well, you'll never hear me say a bad word about the Glasair (Both because I VALUE MY JOB and because it's a great airplane also), but the smell of spruce sawdust beats the smell of vinyl-ester resin any day! Naturally, the thought of how much fun it'll be to dust the factory Super II-s someday in my GP-4 has never occurred to me!

And now a suggestion: While taking a break from sawing pine over the holidays, I signed on to my folks' computer and got on their "America On-line" account. Where I was pleasantly amazed to run across the GP-4 discussion group in the aviation forum area. Unfortunately, I'm not a AOL subscriber. Couldn't some computer GURU in the GP4BFN audience set up a BBS on the internet? That way, AOLers could still participate, but so could the rest of us. Just a thought.

One final point: A ringing endorsement of Wicks Aircraft Supply - Fast, very courteous; Very professional packing ( I'll be using the crate lumber for jiggling!); And absolutely gorgeous, accurately cut wood. They'll be getting all of my aircraft business!

Happy Building!

Craig O'Neill

Plans #297

E-Mail - [cjoneill@u.washington.edu](mailto:cjoneill@u.washington.edu)



## ON THE FRONT COVER!

On the front cover is our "fearless leader" himself!

The picture is George Pereira with the GP-4 prototype in front of the Osprey Aircraft hangar in Rio Linda, California.

We'll all smile like George when we finish our GP-4's also.



## ON THE BACK COVER!

Here you go Spud - Here is a good photo to share with the gang! I took this shot from the right seat of George's GP-4 (N59GP) of Jake Jackson's yellow GP-4 over Clear Lake, California.

It was a fantastic flight indeed!

It was a tough job, but someone has to do the chores!

Take care my friend.

Mike Traud - Gold River, CA.

**GP 4**

## ● Oshkosh 1996!

We have a GP-4 builders group meeting scheduled at the Home-builders Headquarters Building (Just south of the tower) front porch meeting area Sunday morning August 4th 9:00 to 11:00 AM. We would like to see everyone attend. This will be an informal 2 hour chat session. Anything goes and we'll talk about everything. Bring those ideas and thoughts and don't forget those progress photo's. See everyone there!

I'll also be working on a GP-4 builders dinner. This will be a little tough, at least this year. We've never done this before for this GP-4 group. We have over 120 subscribers now, but we don't have a feel for how many of the gang will show up? I can't tell you if we would have 10, 40 or 80. The big restaurants that have banquet facilities must know exactly how many people would be attending in advance and want a guaranteed payment. Most of the big restaurants are also booked up on Friday, Saturday & Sunday. I'm still working on this project, but I would like to know just how many of you are planning on attending Oshkosh this year and if there is interest in a builders dinner at one of the Oshkosh restaurants. Just how many is the key. Please let me know.

## ● The Ferrari vs. The Lamborghini!

Thanks gang! I was really surprised on how many of you responded strongly approving my caption were I compared Falco vs. the GP-4 on the rear cover of GP4BFN #6. Its a great airplane! Thanks again - Spud

## ● Join The EAA!

Wow! I can not believe the people that I have talked to over the last year that are not members of the EAA and are not receiving their excellent magazine "Sport Aviation". Sport Aviation goes into much more technical detail than any other publication. For those of you that are not members..."YOU ARE MISSING THE BOAT BIG TIME!" If you are going to build a airplane, you need to support the EAA and you definitely can use the technical info. Here's a special offer. I have obtained a quantity of EAA info and membership pamphlets. You call me, write me or E-mail and I'll mail this to you no charge. So come on gang Join the EAA today! - Spud

## ● Possible New Pre-Fab Parts!

Hi Spudley, Henry Gorgas here, GP-4 plans #249. I'm really enjoying the newsletter. I'm the general manager of a company called Air-Crafters, Inc. Carlton, Oregon and we are assemblers of RV-4 and RV-6 aircraft. We are planning to produce spars completely machined on a mill and other components only after George Pereira's 100 % approval. We feel the quality will be superb or we won't build them. Some of my aviation background covers 9 yrs. at Lockheed, 2 1/2 yrs on the B-1 program at Rockwell and 6 years building experimental's. As things unfold well keep everyone posted. Keep up the great work on the newsletter Spud - Henry Gorgas

## ● Weight And Balance Error!

In the last issue of GP4BFN George supplied us with the weight and balance worksheets on the GP-4 prototype. Well...Eagle Eye Bill Berick of Omaha, Nebraska caught an error on the last computation. I

check this all out with George and he says Bill is correct. George said it was a very small change, but a change non the least. So please the appropriate changes. On page 3, under the Most Forward Condition Computation. The last computation should read as follows:

|          |         |
|----------|---------|
| 47153.65 | 1454.80 |
| -5152.60 | 335.13  |
| 45698.85 | 1789.93 |

= 23.47 aft of datum  
24.12 % of M.A.C.

## ● The Troops Checking In!

Hi Spud, I am currently building my GP-4 Plans # 218. As of this letter I have put in 1200 hours over the last 2 years. The elevators and horizontal stabilizer have skin on one side and all of the hinges are in place. I have a few small details, such as varnishing, to complete before I glue on the top skins. The vertical fin is in place on the fuselage and all of the top and bottom formers are in place. I intend to start on the main wing spar very soon. I enjoy the newsletter and am very interested in hearing how other builders are doing on their projects. Steven Wyck-off - Lompoc, California.

I guess it's time to join the "GP-4 Club" by filling you in on my progress and history. I've completed the fuselage except top and bottom skins and the tail feathers are complete except fin skins. Rudder and brake pedal assemblies are complete as well as the elevator torque tube and idler arms. What's next....The canopy bow or installation of the antennae.

I work in manufacturing as an electronics technician so I don't expect any difficulty with the aircraft electrical systems.

I've rebuilt several motorcycles and still spend considerable time building and riding both street and dirt.

I built from scratch a Sky Pup ultralight. I enjoyed the building and flying so much I decided to build something with more seats so I could share the fun. I also wanted great performance. At first I was drawn to the Falco for it's good looks and wood construction, but the performance and lines of the GP-4 won me over.

I get much pleasure from the wood working and I've enjoyed learning to weld and work with metal. I started my project January 1990 and I've made no attempt to guess the completion date as I'm raising 3 children and I continue to build and ride motorcycles.

Robert Lockmiller - Plans #133  
Pickens, South Carolina

Hi Spud, This is Mike Haugen. I like the newsletter and I'm glad one finally started. One thing I would like to see is a builders list with name, address and phone numbers. I also have a BD-5 and am a member of the BD-5 builders group. They publish a builders list yearly as part of the newsletter. The ability to contact other builders directly, and go to their location to visit there shop and look at their progress. As you know, this can be one of the most helpful things I could do. There is no substitute for seeing a completed part that you have yet to start and only have seen in the plans.

Anyway is there a plan to have a GP-4 dinner or get together at Oshkosh this year. Last year I met 12-14 builders and about the same number of prospective builders. If anything we should try to get the homebuilt Builders back porch for an informal meeting, and put in the newsletter.

Being in the military stationed overseas, my building has slowed considerably since I'm not working out

of a hangar anymore. I can't build any large structures due to the lack of building room. The largest part I can make are the control surfaces. I'm building parts so that hopefully by the time I return to the states I'll have all the parts made to complete the aircraft.

I travel back and forth to the states constantly, actually I am in the states more than I'm in Japan. I have met GP-4 builders from Florida, Texas, Arizona, California and Michigan.

Mike Haugen  
Plans #90

## 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 you GP-4. See GP4BFN issue #4 for complete component listings and pricing. Darry Capps, 813 Hoyer Road, Newman, California (209) 862-2707

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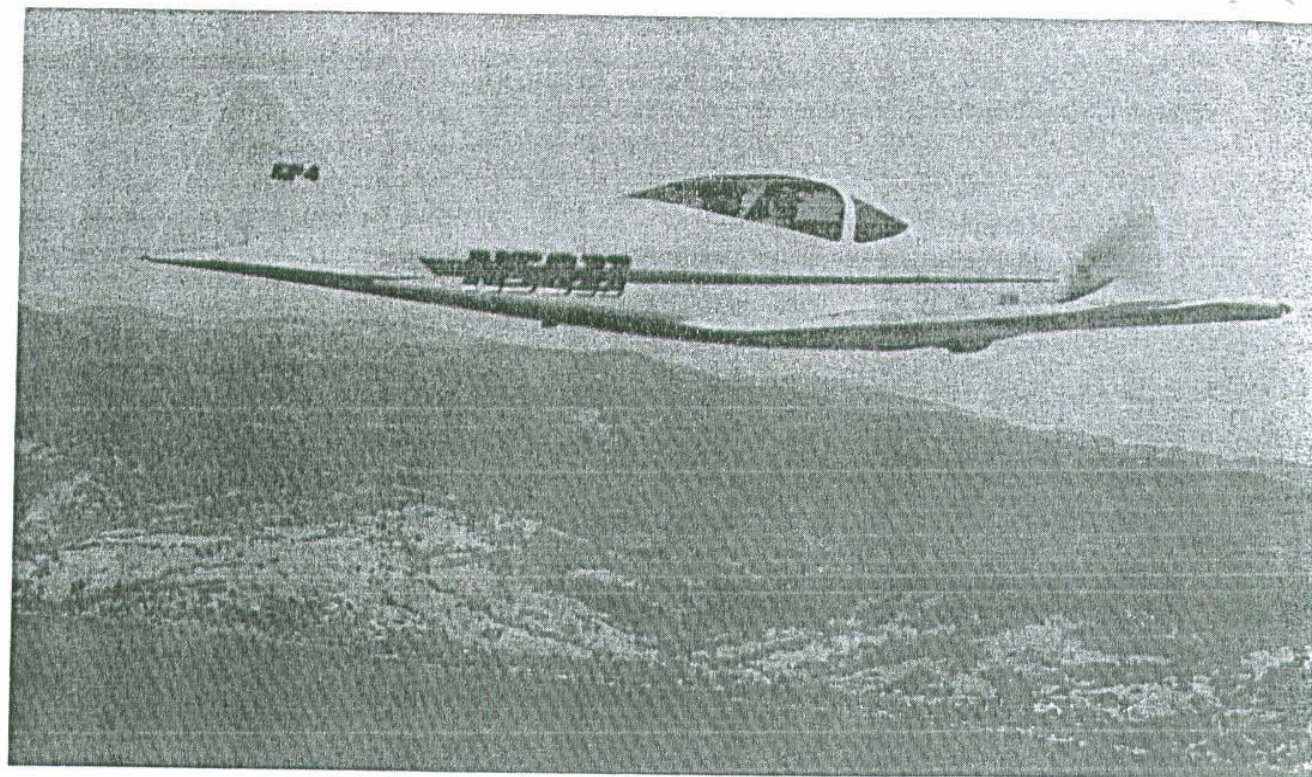
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