Brodhead PIETENPOL Association Newsletter

Issue 13-04 | Fourth Quarter, Two Thousand Thirteen | October 1st, 2013

Rod Matlock's (Waco NE) recently completed bright and snappy Air Camper **N632P**. "After 5½ years of building, I flew it for the first time on 6/23/2013. I was hoping to fly it to Brodhead in July but it just didn't work out. The engine is a 1900 hour, O-200 that I bought on a crate and overhauled. It will indicate 90 mph at 2,500 rpm."

What's Inside...

A Brodhead Odyssey

by **Douwe Blumberg** (Demossville KY)

During my ten-year building adventure, as inspiration I devoured every flying article to be found in my newsletter collection dating from the early eighties, finding them highly motivational, educational and excellent fuel for daydreaming. This, in turn, is my main motivation for writing this article.

After a decade of faithful Brodhead attendance, tire-kicking and emphatically pronouncing "this is the last year I DRIVE up here…" I finally achieved my goal and flew my own airplane up to the annual Brodhead Pietenpol reunion (or fly-in, not sure why it's called the "reunion"). Brodhead is a wonderful grass airfield in southern Wisconsin whose EAA Chapter 431 graciously hosts the legendary Pietenpol get-together the weekend before that "other" fly-in further north.

Having finished **N799B** (dubbed "RE-PIET" for good reasons), this was finally my year. I had an uneventful flight with good weather and I claim no records. There have been many longer trips than mine, but this was the culmination of a personal "Odyssey".

The Route - From my home base in northern Kentucky to Brodhead is about 330 nautical miles with a few controlled airspaces in the direct path. My schedule and personality dictated that I get there as quickly as I could. This is why I built a large Tiger Moth style wing tank into which I could cram a touch over 23 gallons - every ounce useable. If my butt can stand it, I could make this trip with one fuel stop; assuming no headwinds. A rather naïve assumption! I wanted to stay on grass if I could, so I picked my airport stops. My original plan called for a 130nm leg to Glendale Indiana, followed by a long 200nm jaunt into Brodhead. As the big day approached, predicted headwinds added several stops – Lowell IN and Poplar Grove IL to meet up with Dan Helsper for the last leg into Brodhead.

Packing - My wife **Marci** would be driving up with our camping gear, but I would need to camp alone the first night. I also wanted enough stuff to cover contingencies and forced stops due to bad weather. Into the airplane went my "must carry" items – tiedowns, rucksack of personal stuff, sleeping bag, pillow, essential tools, quart of oil, a mapcase and some cleaning stuff. That added up to 50 lbs., most in the front seat area, but some stuffed here and there. I carried a "stadium pal" setup for any emergency pit non-stops.

Navigation/cockpit stuff - This would be my first big navigational exercise in RE-PIET. I didn't really know what to expect and wanted to test some ideas. I carried a Garmin 196 gps and an Iphone with Fore Flight. In case of electric failure, a cutout strip chart was my backup.

The trip – Marci and I got to the airport well before 6:00am (the earliest legal departure time). The airplane had been packed and fueled and the GPS set the day before. The two of us rolled the airplane out of the hangar into the lonely airport darkness under the flashing green and white beacon to the chirping of crickets and the sound of fuel sloshing in the tank. While waiting for dawn, I got myself dressed for cold at altitude, climbed aboard, and with electric start on the C90, began the journey with a loving wave at Marci. It was very exciting, perhaps too exciting I guess, because the engine didn't start well with the mags off. Switches on and it fired right up. Another look back, another wave to Marci and RE-PIET took off briskly. My groundspeed was about 50, matching the headwinds forecast. As the sun rose, I crossed the Ohio River into Indiana, where the rolling woodlands gave way to farmlands. I decided to stay at 2,000 for the first thirty miles or so to stay under CVG airspace, but even here I began to notice it's pretty cold. Second thing I noticed was the forecasted headwind hadn't taken the morning off at all. I flew on up to 2,500 ft. where I found that my sidepipe exhaust system warmed my cold fingers, just like the SE-5 pilots in WWI. Just north of IND was my first stop at Glendale IN with a beautifully smooth grass strip. It took 2½ hours rather than 2 hours. I had called ahead the night before to assure fueling, but after a decent landing I found nobody at the airport. As I had arranged to meet someone there in the early morning, I called the airport manager who after apologizing profusely told me how to turn the pumps on and asked me just to leave a note with my address and how much fuel I used and he'd send me a bill. I LOVE IT! I pumped in 13 gallons, which gave me a fuel burn of 5.5 gph.

The next leg was 70 minutes into Lowell IN and it was warming up a bit and was a straight shot with nothing but farmland below me. I began to relax and realized that my navigation system was workable, the airplane probably would not fall apart and the engine would likely keep on running,

I really began to enjoy myself. Lowell is a 3,000' manicured grass strip surrounded completely by corn and soybean fields. Again, I had called ahead and an older lady assured me of the availability of fuel if they "didn't have a doctor visit scheduled". They didn't, and so I got to meet and was fueled by **Don Bailey**, a 92 year old WWII vet who's been running the airport for decades, ably assisted by his three legged dog named Brigeitte.

Don talked up a storm while I pumped 100LL (he had no mogas) as he apologized for the price of the fuel ($5.14 per gallon). He printed my receipt on an old mechanical machine in the office and got change from a jar in the refrigerator which does double duty as a filing cabinet. Don had broken his hip but he's recovering well.

This is what I really love about the kind of flying we Pietenpol folks do – the opportunity to meet so many down to earth, warm-hearted people and acres of grass. They would be harvesting corn in a few days and Don promised to fill me up when I came back through. Took some photos, shook hands and then another departure, heading northwest.

Lowell to Poplar Grove IL was my favorite leg of the trip. Ground speed in the high sixties, warm weather, and abundant landing sites below me. I skirted DeKalb and Chicago and used my Iphone to call Marci and send

photos. From 3,000 ft. I could see the Chicago skyline looking like the Emerald City of Oz. Coming into Poplar Grove, I saw **Dan Helsper**, just as we had arranged, just taxiing in with his gorgeous black and yellow Piet towards the pumps. After handshakes, photos, and fueling, we took off together for the last 28 miles to Brodhead. Flying over Beloit, I saw country that I'd driven through for the last decade. Now there I was myself, flying over the same countryside in an antique designed airplane built with my own two hands (TWICE!!). It was a wonderful feeling when I first recognized the distinctive design of Brodhead airport and spotted the hangars where I had spent so much time. I landed carefully as I was heavy with fuel. Once the rollout slowed and I realized that I had made it, I was filled with a sense of euphoria that I'd safely attained a long-held goal. The air was warm and smelled of freshly mowed grass.

After tie-down I just sat under a tree for the next few hours, thinking about what I'd just done and realizing that at last I'm actually sitting at Brodhead next to my own airplane! The next few days were a frustrating mix of wind, clouds, rain and cold with few good flying times. I did get to take Marci on a memorable "out of Africa" flight on Friday evening.

I absolutely needed to get home before Monday and planned to leave on Saturday. **Don Emch** and I took off about 3:00pm – he to Joliet and me back to Glendale to sleep on a couch in the airport lounge. My generator seemed to be charging but the battery didn't want to participate so I had to hand prop. Thank God I brought along a nifty little rope set-up that allowed me to tie the tail down and release it from the cockpit. A solid night's sleep ended at dawn and was followed by a two hour blistering speed flight home. I buzzed the house, waved to Marci, and touched down at K63 (Gene Snyder/ Falmouth) after only 4½ hours from Brodhead.

Take-aways and lessons learned – There are lots of these, and I will take them up in future articles. The big one is – don't get so fixated on your project or adventure that you ignore your loved one. In the end, people and relationships are more important than airplanes. KEEP ON BUILDING! IT'S WORTH IT!

(Ed. Note: The tail-mounted glider tow hitch sounds like a very practical idea, even though, in Douwe's case, he has a starter. When the battery is dead, hand propping becomes necessary. In Douwe's case, his tow hitch release is in the cockpit. He simply "sells" the expendable tiedown rope to the tree. Meanwhile, the circus of chasing the airplane around the airport never happens.)

How Bernard Built Some Wing Spars

by **Vitalis Kapler** (Rochester MN)

I would like to add to the article on wing spars in the 3rd quarter 2013 **BPA Newsletter**. On the last two Air Campers that **Bernard Pietenpol** built he made up laminated spars using five laminations 1 inch wide by a little under 1 inch thick. When the last lamination was put on, it was trimmed to the correct height to make it come out to 4¾ inches. He used 2 inch ring shank drywall nails about 6" apart to nail to the previous lamination instead of clamps. Bernard used Sitka spruce or hemlock in random lengths and scarf spliced the pieces so that the splices were staggered throughout the length of the spar. When the glue was dry, the full length spars were milled down to ¾" in a planer. He glued a 1" wide strip of 1/8" plywood at each wing rib position. The plywood strip was put on the back side of the front spar and on the front side of the rear spar. Ribs were made the same as for a 1" thick spar.

I made the one piece wing spars for my Air Camper in somewhat the same way. In 1962 I purchased five pieces of Sitka spruce 16" long on special order which cost me $18 at that time. I cut it into strips and made a 10 to 1 scarf splice on one end and glued them up so that the scarf was positioned above the center strut's two scarf joints on one side and three on the other side. I rounded up enough clamps to do one half of the spar length at a time.

(Ed. Note: It would seem that the laminated spars would have enough glue in them to be somewhat heavier than just wood. Since the glue joints are usually stronger than the surrounding wood, it would seem that the spars would also be stronger. Any reader comments?)

Another Interesting BPA Member

by **Dee Mosher**

A few years ago we here at BPA received an email from a young man named **Joseph Jameson** from Chappell Hills Texas, inquiring how he could become a member. I think he was about 12 (going on 13) at the time. He sent along a picture of himself and one of the Pedal Cars that he had built "when he was younger". It was really very impressive. Little did I know Joseph was just beginning to impress me (and Doc), and a growing number of other people.

Less than a year later I received another picture of Joseph standing next to his Pietenpol fuselage that he had been working on, with the help of his Dad (Kelly), and his 12 yr old brother (Josiah).

I first got to meet Joseph in person along with his "team" of family members at the Pietenpol Fly-In at Brodhead this year. He is a very determined and dedicated young man now (just turned 16). He is moving along quite nicely with his Pietenpol Scout and I have no doubt whatsoever that he will build himself a beautiful and safe airplane. He has met and made friends with some of our more "seasoned" BPA members who will no doubt be there for him with answers to so many of the questions that always come up when one is building a Piet.

Dan Helsper gave Joseph his first ride in a Piet this year at Brodhead and Dan sent us a copy of a note he received from Joseph thanking him for it. Dan thought we might want to share it with our members. We do.

Dear Mr. Helsper,

Thank you so much for taking me for a ride in your Pietenpol. It was fun to ride in a Pietenpol that is finished. It was also fun to see the Wisconsin countryside from a Piet. Thank you for encouraging and inspiring me to keep working on my Piet project. Maybe some day I can take you for a ride.

Sincerely, Joseph Jameson

Ol' Tattered Wingtips

by **Doc Mosher**

I've always been bewildered by the need of people to assert themselves by wearing "GAP" or "OLD NAVY" shirts or jeans. Is it purchased status or herd instinct? "Boy, **we** really clobbered those Bears!" (In Wisconsin of course it's "Dem Bears".) As if we really had anything to do with the outcome of a professionally staged entertainment event. Is it different when aviation enthusiasts get together? In some ways no – in some ways yes.

For all the millions of people all over the world who have "flown" (as passengers on a huge cattle car called an airline jet), there are relatively few who have actually **flown**. As pilots, we are so fortunate to have discovered something in our lives that demands so much of us and also brings so much fulfillment and pleasure. Flying (and here I mean **flying**) is not for everyone, but for those relative few of us who get to do it, it gives us a special personal window through which we pass to exercise our human capabilities to our fullest. Only a hundred years ago, we could not have gone flying! In just this short a time, after a million years of dreaming and mythology, mankind has gained enough scientific knowledge to take some sticks and cloth and add a little engine to build a flying machine that would have been an international sensation only a single lifetime ago.

From early pioneers, we have the capability (scientific knowledge) that allows us to fly. Collectively, we have the know-how to transport whole hospitals to ravaged parts of the world – and to build bombers and missiles to cause indescribable devastation.

But when we roll our little homebuilt Pietenpol out of the hanger in the late afternoon, crank it up and take off before dusk to fly over a rolling landscape, we are using more than scientific knowledge. Supposedly, our left brain is the primary processor of scientific knowledge, the things that allow our survival, like tying our shoestrings or walking up stairs. Our right brain is supposed to be the controller of the more ethereal part of us; things like poetry, music, theology. Flying brings the two parts together, at least for a short time.

Yes, pilots are very fortunate to have been to a place that produces such a unique perspective of the world around us - different from what most other people experience. Perhaps pilots seem to gather so quickly and effortlessly because we have had the same wonderful and daring experiences that can only come from flying. Some of the people around us have been touched by this wonder of flight too; but pilots - we are birds of a feather.

Beats the hell out of a GAP shirt any day.

Your spark Plugs – Why "Champion"?

by **Doc Mosher**

Once upon a time in Paris, France back in the gay 90s, there was a speed cyclist who developed a passion for engines in motorcycles and cars. His primary interest was in developing the "sparking plugs" and his plugs were considered the best in the world. His name? **Albert C. Champion**! He put his name on each plug.

In 1904, to be closer to the new automobile businesses in the USA, he moved to Flint, Michigan and founded the Champion Ignition Company. His partners, several brothers from Toledo named Stranahan, took over the company and froze Albert out (familiar story). But because of the established reputation, they held onto the Champion name. Today, in all the Champion historical literature, the name Albert Champion is never mentioned.

Albert Champion, with the backing of the Buick Motor Company, started a new company to manufacture quality spark plugs. He called it the AC Spark Plug Company. The "AC", of course, happened to be Albert Champion's initials. In 1916, United Motors was formed and eventually acquired Buick and AC Spark Plug. Albert became a millionaire.

In 1927, Lindbergh used AC spark plugs for his flight across the Atlantic. Albert, who had recently remarried, was with his new bride in Paris at a Lindbergh celebratory dinner. His wife, a former cabaret girl, had been carrying on an affair with a prize fighter. At the dinner, Albert impulsively kissed his wife. This so enraged the fighter, that he attacked Albert. Albert died within three days of the attack (the papers said heart failure).

Years later, as Mrs. Champion lay in the hospital on her death bed, the fighter insisted on seeing her. The hospital security guards refused him entry. A fight ensued. The "fighter" was beaten to death. So the story goes.

There must be a moral here but I'll leave that to you.

Your Own Angle of Attack Indicator for Less than $50 Bucks!

by **Doc Mosher**

Early in our flight training, we all heard our instructor say (on base or on final) "Don't get too slow!" That was a warning that if you got too slow, you could stall. So we all associated stalls with airspeed. Of course, in ground school, we learned that as you get into a tight turn (60 degree bank), the airplane becomes "heavier" and the stall airspeed increases. The fact is that the wing creates lift as long as it is pushed or pulled through the sky at a certain angle of attack (think inclined plane or your hand out the window of the family car).

The angle of attack is typically given as the angle between the chord line and the mass of air in which the wing is flying. Ten degrees might be given as a good lift-producing angle of attack at cruise power and speed for a certain airplane. Fourteen degrees of angle of attack at the same power and speed might also be productive for a climb. But most general aviation airplanes exhibit dramatic changes at the magic 16 to 17 degrees of angle of attack. They STALL ("exceeding the critical angle of attack") and the wing suddenly stops producing lift! It doesn't matter what the airspeed indicator was saying. In a 60 degree bank (circling tightly over a moose or a romantic couple on a blanket) the stall will occur at the fabled 16 to 17 degrees, regardless of the airspeed (which may be in the low 50s at the time in a Piet.), That airspeed can seem quite adequate. Of course, in steep turn, with one wing traversing the air at a more aggressive angle of attack than the other wing, an immediate and dramatic STALL/SPIN occurs, much to the chagrin of the pilot who may have been fixated on his airspeed (and the visual sights on the ground.) The angle of attack is especially valuable to a pilot of a low-mass/high drag aircraft like a Piet. When the wing is loaded in turns during the pattern (like an aggressive, late turn from base to final), the angle of attack can increase at a rate that can catch the unaware pilot off guard.

Back in the late 1940s, Dr. Leonard Green (SafeFlight) invented the little vane type stall warning indicator that you know of because of the Cessna airplanes. It has probably saved many lives by warning pilots of an impending stall. It is an excellent unit for its intended use, and the loud buzzing in the cockpit at touchdown tells the pilot that he just did an excellent job of judging the landing at just stall speed (or near it). But with its attributes, it does not warn how close the wing is to a stall; only that it is suddenly very close.

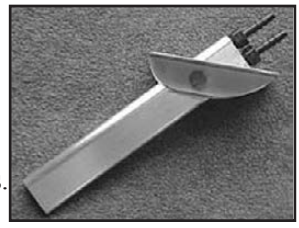
As a pilot, you may have associated this little vane with airspeed. Actually, it depends on angle of attack!

The angle of attack indicator has been with us for a long time. Landing a Navy jet on a carrier is not primarily a function of airspeed. The AoA indicator is crucial! Take a look at any jet today, and you will see, just below the cockpit windows, the probes for an AoA indicator. Some are pitot-like probes and some are hinged vanes. In the jet, AoA is crucial. In the slow airplanes of Pietenpol style, the airspeed indicator is woefully inadequate at slow speeds. You can't expect more from a $100 WWII special. Did you price a helicopter gauge? Part of this problem is instrument vernier inadequacy – part is due to pitot tube angle at very slow speeds.

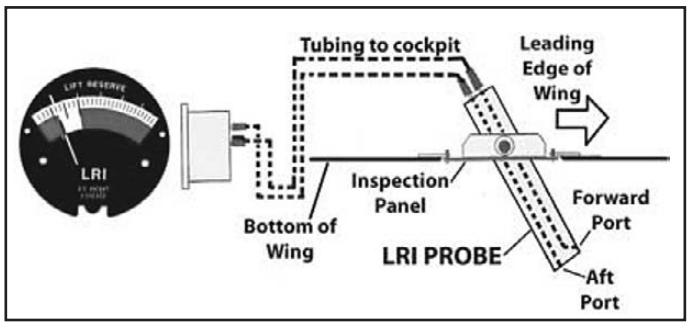
We all recognize that the STALL/SPIN accident is the single Pietenpol accident that actually takes lives! Eliminate these, and Piets will just about eliminate fatal accidents. Wouldn't that be nice?

Now, how can we equip our homebuilt Piets with an accurate AoA indicator? There are a number on the market – including very sophisticated electronic units at thousands of dollars. Pieters will, of course, immediately start figuring a way to put such a system together using hardware from the Lowe's aircraft supply aisle. After all, we've already built an airplane from 1930s plans and put some sort of an engine on it, so store-bought is hardly our modus operandi.

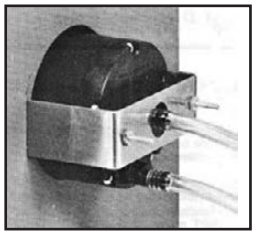
To measure that magic 16-or so-degree angle of attack other homebuilt people have already developed a system that costs less than $50 all told! It will consist of an air mass probe and an indicator, and connecting nylon tubing – three simple parts. No batteries! The Internet is alive with information on this! Just toggle "Angle of Attack Indicator" and prepare to spend some time. Several websites provide concise instructions with pictures.



First, the probe. There are several on the market, and there are free shop drawings to make one. Go to ronleclerc.com/photos/panel and check it out.



Next is the actual cockpit indicator. The difference between the input of the two probe holes stuck out into undisturbed air under the wing at different angles can be measured by an instrument that can measure subtle air pressure differences in a linear fashion. The instrument of choice is a Dwyer 2-5002 2" gauge. Be sure to get the mounting bracket with it. The gauge sells for about $50 to $60 by a lot of suppliers. Go to Burden Sales Co. in Lincoln NE and get it for $11.95 plus bracket.



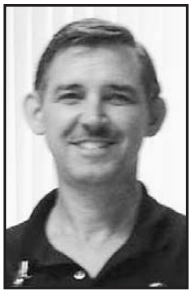
Now connect the probe inputs with the differential pressure gauge and you're almost done! Go fly your airplane and adjust the airstream probes by swinging them by small (1 degree) increments until you're right on the money as the stall occurs. On the Piet the probe can be mounted on the wing strut outside the prop wash.

Do not mount the instrument on your panel. Put it outside where you can see it on landings – maybe just under or ahead of the windshield. You can even bury most of the gauge, with only the key color ranges showing. The gauge will provide you with a needle that is in the green, perhaps in the yellow, and then in the red – whoa, why did you allow it to get there?

(Ed. Note: At AirVenture, BendixKing announced their new KLR 10 Lift Reserve Indicator. It is electronic, and gives both visual and aural warnings. It lists at $1,600. Of course, an aural buzzer in a Piet is pretty innocuous amongst the normal clatter of a Piet in flight.)

Siren Song of the Air Camper

by **Oscar Zuniga NX41CC**
(Medford Or)



I'm an engineer. Logical, rational, methodical. And yet, I fall for the lure of the open cockpit and the "scent of an airplane" that comes from the wood and fabric of my Pietenpol, without rhyme or reason. It's the perfect elixir of avgas, exhaust, wood, and some sublime mixture that Stits or Bernard Pietenpol or somebody came up with in a back room somewhere. Heck, for all I know there is a John Stromberg and a Fred Continental who also sat in the room and sprinkled some kind of pixie dust in the vial to come up with the intoxicating stuff. It comes out of these old airplanes, from their exhaust and cockpits and propwashes, and fills our senses and leads us around on a leash like puppies.

Whatever it is, it's more potent than wine, women, or song. It's what keeps pulling us back to the hangar, to the cockpit, to the prop, throttle, and stick.

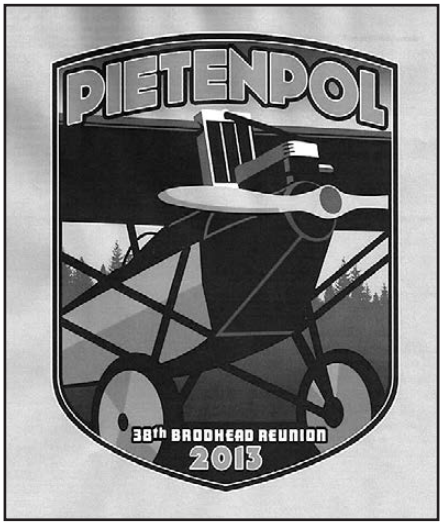
We go nowhere on these flights... we start and end up at the same place. It's like a ride that ends too soon but the next one is only as far away as the hangar door and the fuel valve, so we can keep going back again and again. We fly the same routine, feel the same sensations through the wires and controls, feel the same blast of air on our faces, but each time it's new again, and perfect. There is no explanation for what it is about flying these old airplanes. But I'm preaching to the choir here.

(Ed. Note: Reprinted from a listing that Oscar put up on Matronics over two years ago but oh so true yet today.)

The 2013 logo for Brodhead Chapter 431. Just in case some of our members missed seeing it on posters, Tshirts, cups and such at the Fly-In.

Really nice.

Thanks to Pat Weeden for sharing.



A DAY OF FLYING DOWN UNDER WITH "PETE and PAUL"

Recently we received an email from long-time BPA member and friend **Graham Hewitt** in Australia. Listed as the email subject was "Halcyon Afternoon". After a quick trip to the dictionary it became clear that Graham was painting a word picture of a calm, peaceful, tranquil and golden afternoon. He went on to write: "Here are some pics of one of the most momentous days I've ever had in 63 years of Aviation. Of course, the little Piet Scout is the one **Bernie** built & that **Forrest Lovely** restored. It spent a number of years in Brodhead as **NX12941**. You will be pleased to know that it is still flying and very well looked after here in Oz. Best wishes from Graham now a 50 hour Piet pilot." For download of the final article with pictures, email the author/photographer **Jon Davison** mailto:jondcameraman@me.com

All pix by Jon Davison

Tom Kretschman (Verona WI) shown with his beautiful and popular Sugar River Pietenpol **N41TK**. Tom and his Piet are based at his widely known Sugar Ridge Airport (WS62) in southwestern Wisconsin. Tom built his '04 Piet with a C-85 engine. Read about Tom's interesting experiences with Sugar Ridge, airplanes, police work and teaching in the Wisconsin Hall of Fame, *Forward in Flight* Magazine, Summer 2012.

John Chirtea (Milton DE) Sent us this picture of his "flock of birds". John's '91 GN-1 Pietenpol **N633TZ** has a C-85 engine and was built by **DanTowery** and **Andrew Zammetti**. The rest of the fleet lined up in front of the Chirtea nest are a Breezy and a Champ.

BRODHEAD 2013

BPA HAS A NEW EDITOR!

Readers of the *Brodhead Pietenpol Newsletter* are aware that editors, Doc & Dee Mosher, have been looking for a while now for help with the operational side of maintaining the BPA Newsletter and membership roster.

We are happy to announce that **John Hofmann** has joined BPA as Editor-In-Chief beginning October 1, 2013. John has been very active in the Pietenpol community for a number of years and flies his own Piet **N502R**. He also has experience in corporate business and is very comfortable with the editing of aviation publications and the maintenance of mailing lists and membership rosters.

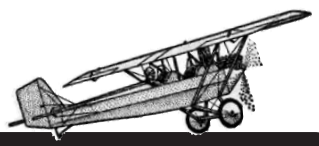
We are sure that John, along with the continued support of so many other talented and dedicated Pietenpol members, will not only be a great addition in the every day organization and activities at BPA, but will also prove to be very creative and innovative in the production of the quarterly newsletter. Watch for John's premiere edition with the January 2014 BPA Newsletter.

Young Pietenpol Builders

In a world of diminishing activity and complaints that most of our "young people" are more interested in playing digital games than doing things more creative, BPA has good news. Although the majority of members are in fact "on in the years", we also have an increasing number of younger BPA Members who have been building for years and are still deeply involved in completing their airplanes and getting into the air. Each of the young men listed below has been a member of BPA while building his own Piet for at least two or more years.

So here's to: **Max Wenglarz** (12) San Pierre IN; **Payton Rucker** (16) Shreveport LA; **Robert Newhouse** (15) Rockford IL; **Nathanael Freeman** (15) Chillicothe OH); and **Joseph Jameson** (16) Chappell Hills TX. Stay in touch you guys. **Keep building!**

(Ed. Note: We haven't heard recently from some of these young builders so we can't really tell you how they are each doing on their projects. Here's hoping all is doing well and maybe we'll get an update from them soon.)



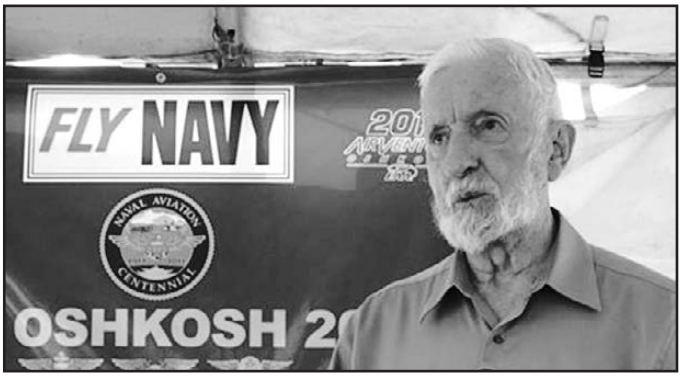


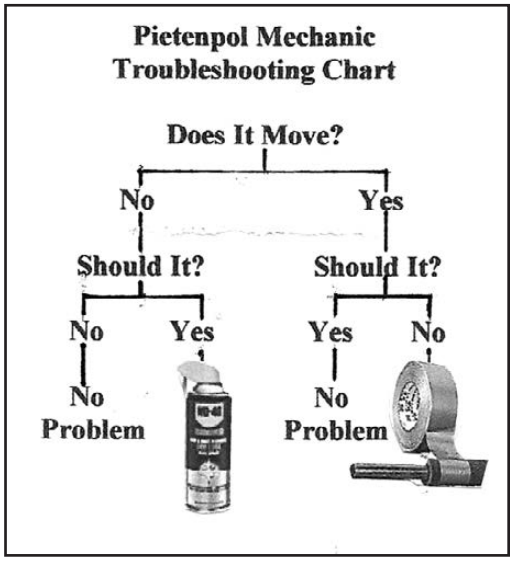
Photo courtesy of Ed Leineweber

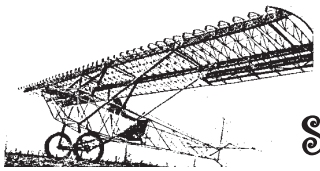
Congratulations to BPA Editor **Donald "Doc" Mosher**, FAA Charles Taylor Master Mechanic and Wright Brothers Master Pilot award recipient, who recently received the Navy League's Aviation Excellence Award "in recognition of his 74 years and 21,000 hours of accident-free flying and aircraft maintenance activities, and his tremendous contributions to the development of general aviation." In an upcoming issue of *Midwest Flyer Magazine* will be an article written by **Ed Leineweber** describing some of Doc's past accomplishments in aviation.

LITTLE PIET

Just re-read the entertaining story written by BPA member **Theresa Sloan** from Ellensburg WA entitled *"Addison's Hangar."* She and her bright red GN-1 Pietenpol **N3087W**, (which she calls her Little Piet) were on the cover of the January 1, 2008 issue of the BPA Newsletter. At that time Theresa had been working for quite awhile writing her book and BPA is fortunate to have two of the first copies. The story was inspired by a group picture of a friend's airplanes in the hangar, and a comment by this friend, **Addison Pemberton**, that he wished he could hear what the airplanes had to say to each other after he turned off the lights at night!

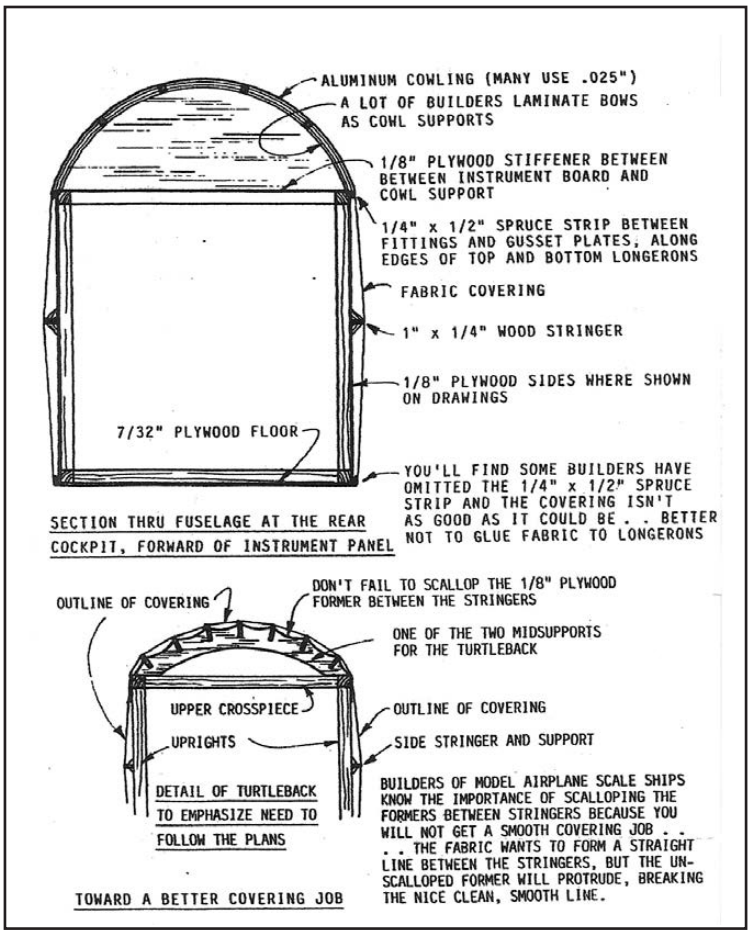
We recently saw the trailer and read the review for Disney's new movie just out called "Planes". Very interesting.





Shop Notes

A few shop notes from **Frank S. Pavliga** that first appeared in BPA Newsletters of the past. Old tips but timeless and still very helpful.
There may be many ways to skin a cat, as the old saying



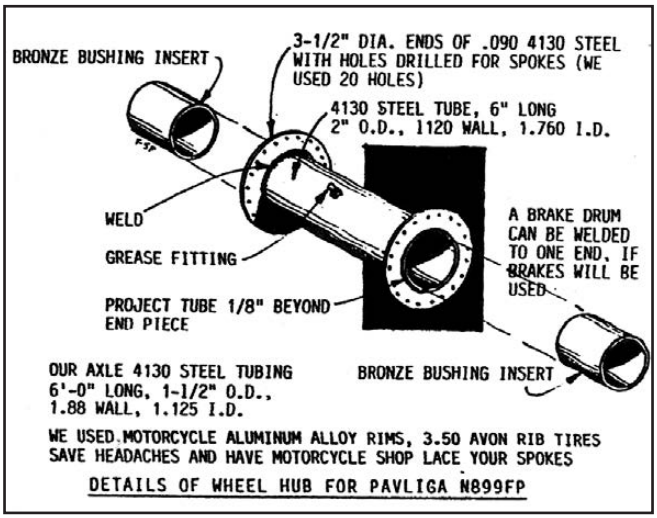
goes, but when you're building your Pietenpol attention paid to certain details will provide you with a better end product, particularly when these details are all shown on the drawings. Above are two conditions where you can assure yourself of a nicer finished fuselage. We've come across some Pietenpols where the ¾" x ½" spruce strip was eliminated and the covering glued right to the longeron's vertical surface. You can see how much neater and smoother it will be if you follow Mr. Pietenpol's advice.

Laminating bows from strips of 1/8" wood is quite a simple matter. Just use about four strips, put glue between them, and secure them to a form you've cut out of wood to the shape required. Hold them against the form with scrap wood blocks, a lot on the order of how you use your wing rib jig. It is in making items like these that a lot of guys use different wood, since they are not primary structural members.

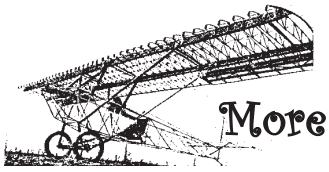
Remember from your early model airplane building days, when, after you shrunk your tissue over the stick and former fuselage, you had bulges at all the formers? You learned then that you should scallop the formers, as we show on the sketch. It makes a much smoother covering job and takes so little effort. Also, covering your fuselage with a sewn "envelope" helps avoid some of the problems associated with gluing fabric directly to the wood members. (3rd Qtr. 1984)

If you build a Pietenpol Air Camper, you'll find that following Mr. Pietenpol's recommendations of sloping the cabanes 3½" to the rear will make the ship come out right. But be certain, all the while to avoid any excessive weight toward the rear. Trim the leading and trailing edges of the tail surfaces to the shape shown on the plans. Don't put a big bulky, steerable tail wheel back there. Try a small, light, fixed tail wheel. (July 1983)

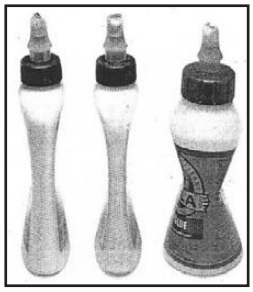
Comments to the contrary, motorcycle wheels have failed due to lateral loads imposed upon the narrow dimension at the axle. It's your plane and you do with it what you want. We're presenting here the wheels we made for our Air Camper. They're quite simple to make and work beautifully, in addition to giving you that feeling of an edge of security. We can verify that the airplane comes down pretty hard at times and we're glad we did what we did. You can do it all with hand tools. Ideally, you should have someone arc weld the stuff together after you've tacked it properly. Be sure your holes for the spokes are aligned if you drill them ahead of time. If you drill them



after the hub is assembled, still be sure they are aligned. If you want brakes, it's no problem to add. (Dec. 1983)
(Ed. Note" BPA Member Ken Perkins makes up sets of wheel hubs at a decent price. 913-764-6949.)

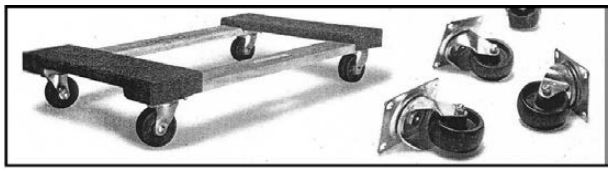


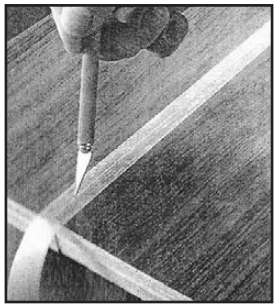
More Shop Notes



You can significantly solve the problem of air and moisture spoiling or hardening adhesives by squeezing out all the air (headspace in the tube or bottle) before you cap it. As a bonus, the glue is at the tip of the bottle as soon as you squeeze it.

If you want some heavy duty casters, perhaps you should price out a furniture dolly and remove the casters. You may get better casters for less money. Your local home center store, for example, sells a furniture dolly with four 250 lb. casters for less than $20. Four individual casters, rated at 170 lb. each, cost nearly $30.





To prevent stains caused by the oozing of glue along the joints, clamp the pieces together without glue. Put tape alongside the joint. Then cut along it with a sharp blade. Separate the pieces, apply the glue, and clamp them together again. The glue will ooze onto the tape, not the wood. Peel off the tape before the glue dries.

Attach the Firm Grip to a paint can rim – it's spring loaded to clamp tight and a magnet on the arm will hold your paintbrush so it doesn't fall into the can. Firm Grip is not expensive ($3), easy to use and it saves you from having a messy brush that's coated with paint halfway up the handle. A metal clip on the end of the arm opens paint cans. Find it at home centers, hardware and paint stores.

IS IT TIME TO GET MY STROMBERG NA-S3 CARBURETOR "WORKED ON"?

by **Bob Kachergius**
The *"Stromberg Specialist"*

Often, one hears the complaint that his Stromberg carb. leaks and drips after engine shut-down. The fact is that most Strombergs DO leak and drip. The remedy is "shut the fuel selector off" and the drip stops. This is a "Band-Aid" way of curing a leak and not really the right way to go. Here is a real simple and quick test you can do yourself to see if the needle and seat in the carburetor are the culprits.

Remove the carburetor from the engine, turn it upside down and drain all of the fuel out of it. (Be sure you get all of it).

Next, turn the carburetor right side up, place the fuel inlet fitting up to your mouth and apply suction. Of course with the carb in the upright position, the float is at the bottom of the float bowl and the needle is wide open. You will not be able to hold suction by mouth.

Next, turn the carb upside down and re-apply the same suction by mouth to the fuel inlet fitting again. With the carburetor upside down, the float will now have the needle in the fully seated position. After applying suction, you should be able to hold vacuum with the tip of your tongue in the opening of the fuel inlet fitting – if the needle and seat are working properly.

If you "can not" hold a steady vacuum at this point, and the fitting leaks air, the needle is definitely not seating and this is the reason your carburetor is dripping fuel.

This test is super simple and fast to do which makes it easy for you to make an important decision "To do---Or not to do---that is the question". The answer to this is "Yes", it is time to get your carburetor overhauled properly.

Regards,
Bob Kachergius, email uni-tech@earthlink.net

Thanks Skip !
A Brodhead tradition for years has been presenting each pilot a white cap upon landing his Piet for the first time that year at Brodhead. This year **Skip Gadd** was in charge of the entire "White Cap" program on behalf of Chapter 431 and he did a great job. Thanks go to Skip on behalf of BPA and of course under the auspices of Chapter 431. See the listing of pilots and Piets on page 16 of this issue.

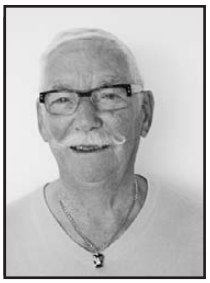
NOTES FROM MEMBERS

Phil Kneip (Auburn WA) – I would like to comment on the optical center puncher – I made my own, but it is not round like the purchased ones. It is a bar, with a ½" hole. I line up the cross hairs and fasten the bar down. I remove the plastic, insert the proper drill bushing and drill. I can center punch, but I have found it more accurate to use a wigiler, a center drill, undersize drill & reamer. A drill should be considered a roughing tool.

Dolores Proffitt (Oakland KY) – To all of you at BPA: I received a note this week from Jack McCarthy with information about the display at MH's camp site during the annual event there this year. Thank you so much for remembering him in such a kind way. He will/would be glad to know he was missed. Thank you so much.

Harold Bickford (Auburn NE) – The Brit-type spar construction is certainly interesting and may well represent what I end up doing although the side-by-side fuselage per Kyle Bradford is the current aspect of construction. **(Ed. Note: Edi Bickford celebrated her birthday at Brodhead on Friday 7/26 by bringing cupcakes to share with everyone at the fly-in. It was a pleasant surprise especially while folks were trapped indoors by a nasty wind-storm that blew in. Thanks again Edi)**

Henry Norrby (Jarvso Sweden) "I am building a modified Grega Air Camper with a Rotec 2800 engine. I am planning to go to Oshkosh this summer and also visit Brodhead. Will there be a Pietenpol Brodhead meeting this year and what date?" Thus began an international email friendship between BPA and Henry. What a pleasant surprise to find that not only did Henry make it to Brodhead this year but he brought his brother **Stig Norrby** along. Stig Norrby was given a ride in a Pietenpol and now we have two BPA members in Sweden – thank you **Dan Helsper**. We look forward to hearing more from the bros over there about their building project.



Back Issues - For quite some time BPA has offered back issues of the Newsletter at $4 each. A number of members have asked us what back issues are available. So, in answer, we put together the following table.

BPA NEWSLETTER
BACK ISSUES AVAILABLE - $4.00 each

Date	Title	Editor
July 1983 to – 4th Quarter 1989	**Buckeye Pietenpol**	**Frank Pavliga**
1st Quarter 1990 – 2nd Quarter 1999	**Buckeye Pietenpol**	**Grant MacLaren**
October 2002 – July 2006	**Brodhead Pietenpol**	**Don Campbell**
October 2006 – present	**Brodhead Pietenpol**	**Doc & Dee Mosher**

Note: We have copies or can make copies of each of the Brodhead Pietenpol Newsletters. We have in-stock original issues of all of Don Campbell's issues and all of our own. Our own are easy. We might have to make copies of Don Campbell's.

We might be able to make a copy of a specific Buckeye Newsletter page or article but not an entire issue.

Rex Poe (Conway AZ) – Piet **N7169K** went back into the air on April 23, 2013. It did great. B Model engine ran good. Last flight on logbook was on 7/1/2000.
I am looking forward to Pietenpol Fly-In this July. Hope to see you there.

(Ed. Note: We checked our member photos and don't have a shot of Rex. Also checked the airplane pictures members have sent us so far from the Fly-In and don't see one of N7169K yet. We'll keep our eyes open for a pix, but maybe Rex wasn't able to make Brodhead this year.)

John Goodman (Oronogo MO) – Received requested newsletters and welcome note. Thank you. I do plan to build and am beginning to gather information. I have a set of GN-1 Air Camper plans and lots of questions. Would really appreciate information on any builders who might entertain my questions and show me their project. We are located in SW Missouri. Would plan a trip to Brodhead if that would be beneficial. Have built an RV9A but Piet is a different story. Thanks for your time. ljgoodman@pixius.net.

MORE NOTES FROM MEMBERS

Oscar Zuniga (Medford OR) – I recently wrote an article about dynamic engine/prop balancing for another aviation publication and after reading it Doc asked me to consider a do-it-yourself article on a balancing instrument that homebuilders could make and use themselves. Being a Pietenpoler and knowing how we think about things (and our price point for things too), I decided that this would be entirely in keeping with our "keep it light and keep it simple" methodology.

To use this instrument, you secure it to the glare shield of either of the cockpits (as long as you can see it while conducting the tests). While tied down securely on the ground, run the engine up to cruise RPM and note the frequency and amplitude of the "lateral displacement indicators" placed around the center of the instrument. You can video or photograph this if you like. Shut down and secure the engine and then securely attach small pieces of flat steel stock to the back of your prop spinner or prop with double-stick carpet tape and run the test again, noting changes in the frequency and amplitude of displacements of the indicators. If things have improved, you're on the right track. If not, don't worry about it. Just remove the small weights and go fly. There is no need to remove the balancing instrument; in fact, it will provide hours of amusement for everyone who sees it, and will provide a constant visual indication of the engine/prop's state of dynamic balance.

Linda Pietenpol Kelly (Chisago City MN)
Linda donated an original painting of the inside of an old church with a partially built Pietenpol resting there for the Silent Auction this year at Brodhead. Along with the picture was a description of the story behind the picture.

"The painting was inspired by an old photo in my **Grandma Edna Pietenpol**'s album. I have not seen ths photo anywhere else. My **Uncle Don** gave me the story behind the photo.

In the 1920s there was a little abandoned church next door to the country store/home that Bernie and his family lived in. A man bought the church with plans to turn it into a tavern/dance hall. When local regulations prevented this he sold it to Bernard's dad **Chris**.

The old church became Bernie's airplane factory. The church turned out to be a good place to build plans, a good sized building with maybe a little "divine" inspiration thrown in.

Eventually the building was torn down, but even then it did not go to waste. The wood from the church was used in building Bernard's parents' home which still stands in Cherry Grove MN today."

Harvey Hartman (Waller TX) At this time, I'm contemplating building a side-by-side Pietenpol using Kyle Bradford's drawings. Already being involved in Model A automobiles for several years, it's a certainty that I'll be installing the Ford engine. At this time I am leaning towards building the fuselage of steel tubing and probably the tail feathers as well. The 3-piece wing will be of conventional wood construction per the Air Camper plans, but with the center section widened to accommodate the 36' fuselage width. I also plan to install the stick and pedal assemblies from a Luscombe 8. To reinforce the vintage look, I will likely go with the split-axle landing gear with large diameter air wheels.

My qualifications? I'm a 3000 hr. Commercial/ Instrument/Multiengine pilot with 900 tailwheel hours (mostly in Luscombes and Cessna 195s) and an A&P-IA. I'm currently wrapping up a 1942 Stearman N2S-3 restoration and the Piet will be next. I think the two planes will look good together in the hangar, don't you?

I've been corresponding with Harold Bickford (who is also building a side-by-side) and he's been a tremendous help. However, he's building a wood fuselage and I'd like to get in touch with someone who has built the steel tube fuselage. Also, do you know if anyone has built their tail feathers from steel tube as well?

I have an order for the 2011 and 2012 BPA newsletter back-issues on its way to you. Thanks,

Harvey Hartman
Waller, TX
HLHartman3@comcast.net

Kurt Strutz (La Crosse WI) As you already know, I'm a new member. Thanks for sending me my first newsletter. My dream of flying is slowly transforming into a plan. I hope to build a Corvair powered Pietenpol and begin flight lessons maybe next spring. If I'm lucky I may even begin working on the engine this winter. We'll see. Kurt – kstrutz@charter.net.

Classified Ads - - -

(Classified Ads are free to BPA members. Must contact BPA each issue in which you want the ad run.)

For Sale: '99 GN-1 Air Camper **N6160U**, built and flown by **Jim Sury**. C-85. Asking $4,000 OBO. Call 832-595-4911.

For Sale: '94 Pietenpol, **NX17WR**. A-65, 550 SMOH, starter, radio, **$12,000**. For photos google NX17WR. Also selling two A-65s with logs. One with 0 SMOH, no mags or carbs. $4,500. Other one is 90 SMOH with mags and carb $6,500. Also an A-65 core with some new parts, $1,000. Contact **Bill Rewey** (Verona WI) at 608-833-5839.

For Sale: Pietenpol Air Camper repair project - 90% completed - real nice - no engine - three piece wing. $2,900. call **Bill Poiry** (Oak Harbor OH) for more information 419-898-7985 or email billair@amplex.net.

For Sale: Flying Piet Air Camper **N973DS**. Silver/ blue - $11,000. Let's talk. Total time 75 hrs. since built with overhauled C65-8. Located in Oshkosh area. Always hangared, never cracked. Can include fresh condition inspection. Fly it away! Contact **Doc Mosher** at mosherd@tds.net or bpan@tds.net.

For Sale: 1998 GN-1 Pietenpol N4FQ, C-65 engine 485TT, 16 gal fuel, Annual 10/12. Located in Elizabeth WV. Piet project near completion, selling this one for $12,000. Contact **Skip Gadd**, 304-275-3787 or email skipgadd@earthlink.net.

For Sale: Pietenpol Museum quality workmanship. 0 time A65 - Rebuilt Bendix Mags & Carb. Call for email to see LOTS of pictures. $17,900. Contact **Ron Cunningham**, Spokane WA - phone 509-747-5909.

Brodhead Pietenpol Association LLC
P. O. Box 3501 – Oshkosh WI 54903

BRODHEAD PIETENPOL ASSOC.
Membership Application

Date_____NewMember___ Renewal___

1 year USA $20.00
2 year USA $35.00
Back issues (indicate which)..... $ 4.00
1 year Other countries….. . ..$25.00
2 years Other countries..... $45.00

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USA Amount enclosed: _____
(Cash/check only – no credit card)
Other countries U.S. cash enclosed _____

Make all checks payable to:
BPA or Brodhead Pietenpol Assoc.

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Oshkosh, WI 54903
Email: bpan@tds.net
Web: pietenpols.org

BRODHEAD PIETENPOL ASSOCIATION
P.O. Box 3501
Oshkosh, WI 54903
Address Service Requested

Paul Howard Poberezny
1921 – 2013

low and slow

Brodhead, WI		PIETENPOL FLY-IN		July, 2013	
N Number	**Pilot**	**Color**	**Engine**	**Hometown**	**Comments**
799B	Douwe Blumberg	Cream/Green	Cont C-90	DeMossville, KY	1st flight to Brodhead
18235	Greg Cardinal	Blue/White	Cont A-65	Minneapolis, MN	
29LD	Bob Poore	Blue/Yellow Army	Cont A-65	Richfield, MN	
83WK	Bill Knight	Red/Silver	Ford A	Brodhead, WI	
87DH	Bill Knight	Cream/Red	Corvair	Brodhead, WI	Last Original
929DH	Dan Helsper	Yellow/Black	Ford A	Puryear, TN	
899JP	Jack Phillips	Green/Cream	Cont A-65	Smith Mountain Lake, VA	Longest flight
30PP	Lorin Miller	Blue/Yellow	Cont A-75	Colo, IA	
10743	Chad Wille	Red/Silver	Ford A	Corning, IA	Bill Liimatinen Sky Scout
294RB	Randy Bush	White/Blue	Corvair	Jackson, TN	
17WR	Bill Rewey	Silver/Yellow	Cont A-65	Verona, WI	
92GB	Shad Bell	Blue/Orange	Corvair	Centerburg, OH	
899DE	Don Emch	Green/Cream	Cont A-65	New Waterford, OH	
13691	Andrew King	Red/Silver	Ford A	Alliance, OH	Allen Rudolph Piet
350MB	Bill Fitch	Green/White	Cont A-65	S. Dubuque, IA	
37979	Tom Brown	Red/Cream	Corvair	Rubicon, WI	
518EP	Ty Daniels	Black/Red	Cont A-65	Brodhead, WI	
25101	Alan Reber	Red/Cream	Cont A-65	Muncie, IN	Jack Reber's Air Camper