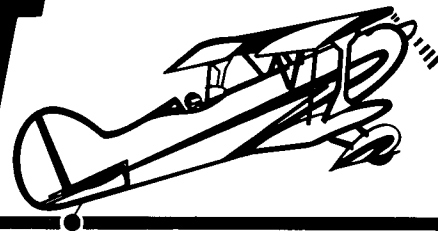


ACRO SPORT Newsletter



ASSISTANT EDITORS:
Laura Remer and Debra Michels

NO. 30
JANUARY 1990

EDITOR: Ben Owen
PRINTING: Times Printing



C. R. "Nick" Nickle of Garland, Texas in front of his Acro Sport II with his three year old grandson, Christian Bowers and Christian's Acro 1/2!

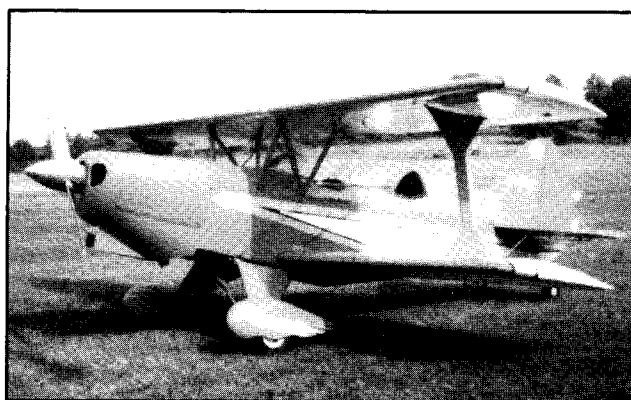
This beautiful Acro Sport was reserve Grand Champion at the Kerrville, Texas big show in 1989.



Lee Farnsworth of Racine, Wisconsin and his Acro Sport II. Lee had one of the six Acro Sport II's that flew in for the EAA Oshkosh '89 convention. Lee is an early builder and we have him to thank for many of the modifications to the early day plans.



This beautiful Pixie was built by William E. Homan, 302 Center Parkway, Yorkville, Illinois 60560. The aircraft first flew on July 4, 1989 and had 15 hours at the time this picture was taken. 65 Continental and 90 mph cruise.

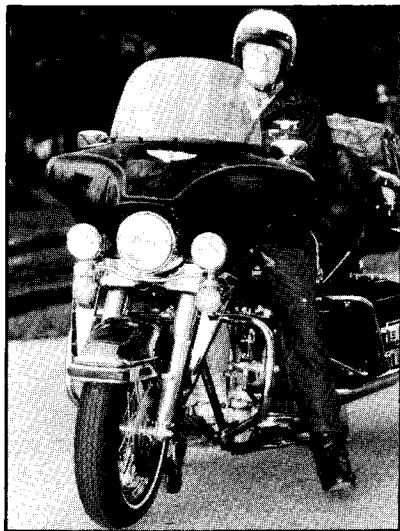


Bob Cunliffe of New Alexandria, Pennsylvania has twelve tach hours on his Acro Sport II. He had some minor problems with the angle of incidence on the horizontal stabilizer, but he has the problem cleared up using 1-1/4 degree of positive incidence. The pictures were taken on the grass strip where he hangs his airplane.

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Editorial



EAA Chairman of the Board and Founder, Paul H. Poberezny aboard his "Harley Hog".

Editorial By Paul H. Poberezny

It was a cool morning right after church when I test flew the prototype Acro Sport II. It had been almost 1-1/2 years since reconstruction began. We completely rebuilt the lower wings, did some repair to the fuselage and applied a complete new Stits covering which gave the airplane a very fresh look, as the airplane design is nearly 10 years old. As I pushed the throttle open down the Pioneer Airport runway behind the EAA Air Adventure Museum, I wondered where all the time had gone.

With the 180 hp engine and no one in the front cockpit, it really accelerated and climbed out; reminiscent of some of our 1930 fighter planes. The airplane flew extremely well, just like it always had. I want to thank our Australian friend, Brett Clowes, for his great help as well as others who helped put the little airplane back into the air.

I've got two more sitting in my shop on their gear. One is covered and we'll use the 108 hp Lycoming with gravity feed. The other Acro II is complete but needs covering, instruments, etc. It will be powered with a 200 hp fuel injected Lycoming.

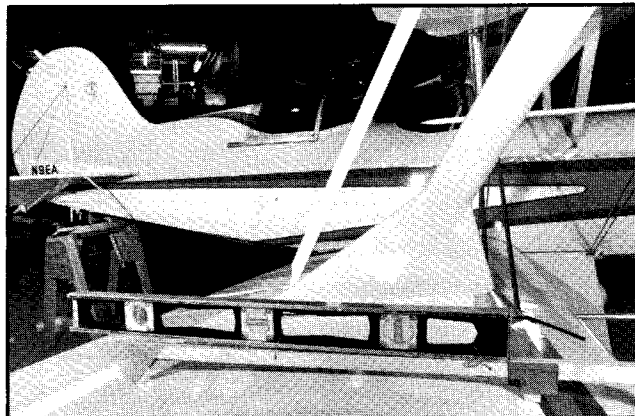
In talking to other owners and builders of the Acro II, I'm very pleased with the fine remarks regarding the handling qualities of the airplane, its docile stall characteristics and, in particular, that it is the lightest of all the aerobatic two place biplanes which accounts for its improved rate of climb and lower landing speeds.

The Pober Super Ace should be ready to fly within the next several months. The drawings have been completed by our friend Bill Blake and we've been putting in a bit of time on the Pober Junior Ace. Based on comments from the many visitors who come to my shop, they feel that this is going to be one of the more popular two-place homebuilts, reminiscent of the 1930 era.

During the latter part of November, we held a meeting with officials from FAA, Transport Canada, several kit manufacturers of both amateur-built and ultralight, and EAA staff to review the overall amateur-built program, its needs and its future. I'm pleased to say that with the cooperation of our FAA friends in Washington, DC, the FAA regions and Transport Canada of Ottawa the meeting was outstanding. The two-and-a-half days they were here again cemented the friendships and working relationship that we've all enjoyed.

I'd like to take this opportunity to thank all of you for the great support you've given and hope that each year we can

see more Acro Sports at our annual EAA convention. I'd also like to take this opportunity to wish you and your families the very best for the forthcoming new year.



Brett used this method to get the wings very precisely straight. He found that the long level was easier to use than the small carpenter's level and he did jack it up with a piece of wood which can be seen under the center level. Brett did an excellent job with the airplane. The wings came out **very** straight.



The prototype in the EAA Foundation shops being checked for rigging and weight and balance. It looks better than new!



The repaired prototype, N9EA being checked for weight and balance by Brett Clowes.

A New Home For N35DQ

Dan Quebedeaux/John White's Acro Sport, N35DQ

Dan Quebedeaux of Arnaudville, Louisiana built a beautiful Acro Sport II which he subsequently sold to John White. John has done a lot of work on the aircraft. Among the things he has done is replace the aluminum flap tube weight with the heavier brass one from B & F which has a finger strainer. He is using 601 hose on the flap tube. The aluminum was too light, the hose too short and it wouldn't flex past 30 degrees with the weight it had. The B & F example is 14 inches long. Where it used to quit in the inverted position with 16 to 17 gallons aboard, now they can fly it down to 9 gallons of fuel inverted.

They also had a hot aluminized exhaust system which rusted off and the pipes were too short. He went to a crossover exhaust system and he feels it was "the best dollars ever spent". It has 50 more rpm static, 7 miles per hour more in flight and 70 rpm more. They did make up a ball joint to get the pipes more maximum down near a 45 degree angle as the other system bumped the cowl. It says also that he is experiencing 300 to 400 foot/minute better climb. He has also done some work, as we've reported previously, on the horizontal stabilizer; raising it up. His brother has a S1A Pitts that has flown along side it to check that the elevator isn't deflected and perfectly straight with the horizontal stabilizer. His considerably edited story follows:



2-1/2 proud owners, Scott White on right, John White on left and Scott, Jr. in the center.

By John White of St. Paul, Virginia

N35BQ began life in the fall of 1984 when its new wings lifted the weight of itself and builder, Dan Quebedeaux Jr. from the runway of a little town next to the bayou in Louisiana. N35DQ was built from scratch! Four years later, with only 46 hours time, a "good ole boy" by the name of John White put together the wherewithal to peruse the pages of Trade-a-Plane for a real airplane made of wood, dope and fabric, 4130 strong wire — tried and true "just for fun" airplane. It had to be pretty, with a loud paint scheme "hopefully yellow", two wing and two seats because everybody gets a free ride on Saturday and Sunday or any other time they show up.

After some months of flipping pages of the Trade-a-Plane, I found an ad that read: "ACRO SPORT II 46HRTT etc., etc." The funny sounding voice on the other line admitted he had an airplane for sale "they say us ole southern boys talk funny, but son you just ain't talked to a real Louisiana Cajun about a homebuilt yet!"

Mr. Q. named the price, Mr. W. with a slight choke said, so, so, sold!

Well, I went home and was telling my two brothers about this here yellow airplane. The one that doesn't own the Pitts said he would like to have half. Hot dang! What a deal cause I ain't told you know who yet!

Scott, my buying brother, took one look at N35DQ, grabbed me by the arm, jerked me to the side and with a death grip on my arm said, "Hello, let's give him the money right now afore Mr. Q. backs out." You probably won't believe this but Mr. Q. insisted we try out N35DQ before we gave him the money — no insurance either! The next morning, the whole thing was consummated at Mr. Q's house over some good cajun coffee. (As if we ain't stimulated enough at this point!)

Mr. Q ran to the midfield position of the runway with camera and a big waving hand and away we go. As I passed Dan with his camera a clickin, I could really see the tears dripping from his cheeks. Boy, what a thrill cruising in smooth clear air over the Louisiana swamp with my brother in his Cessna 185, side by side. What a sight!

We made it to Chattanooga that evening, in spite of a strong headwind and two gas stops. The next day, at Scottsboro, the weather turned cloudy and rainy so we flew on home in the Cessna 185. The next day was beautiful and both brothers loaded up the 185 and off we go to pick up N35DQ. Nice flight with one — of an exciting landing as the Pitts driver was not quite current enough in the 185! With my older brother and I in N35DQ and the other brother along side in the Cessna, I couldn't help but think what if our dearly loved late Father, who taught us how to fly in a Cessna 180, could see us now — it brings tears to my eyes.

Mr. Daniel Quebedeaux, you're a very special man in my book and N35DQ will always be a very special airplane to me. We have nicknamed the airplane the Quebedeaux Special in your honor.

We arrived home over the Virginia Highlands Airport with everyone looking up waiting for the airplane. Here she comes, up and over the top of a loop to just say hello and welcome to your new home, N35DQ.

I will write more next time

Your humble scrivener, John White.

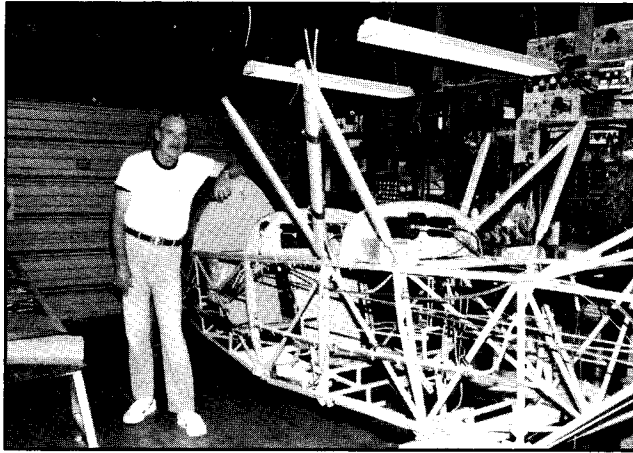


Welcome home N35DQ!

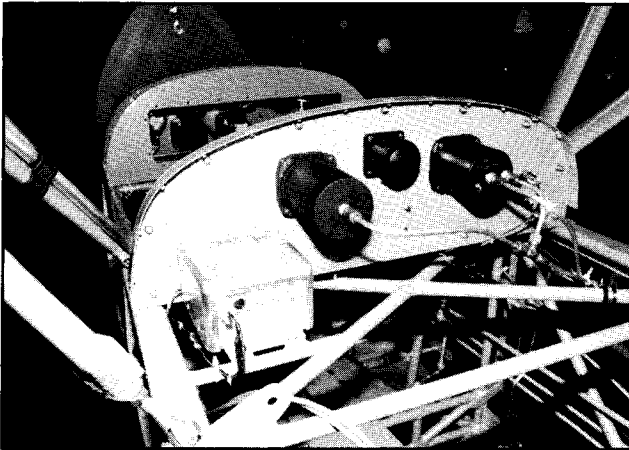
Tony Hohenwald's Acro Sport II

Tony Hohenwald's Acro Sport II

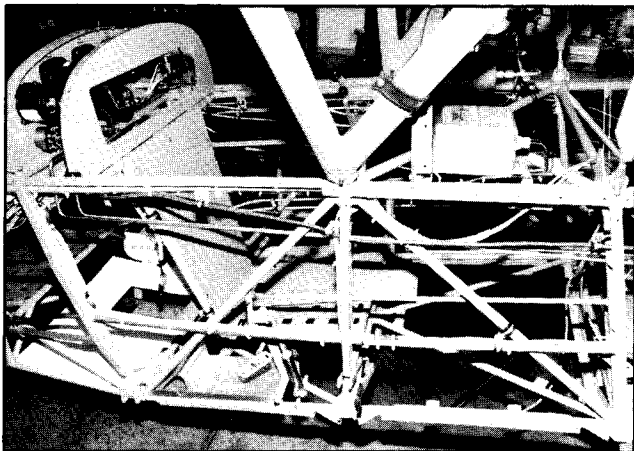
Tony's aircraft is basically complete except for some minor details. It shows the kind of workmanship that literally brings tears to your eyes. I stopped and visited him in September of 1989 on a vacation trip out west and my wife was even amazed with the workmanship.



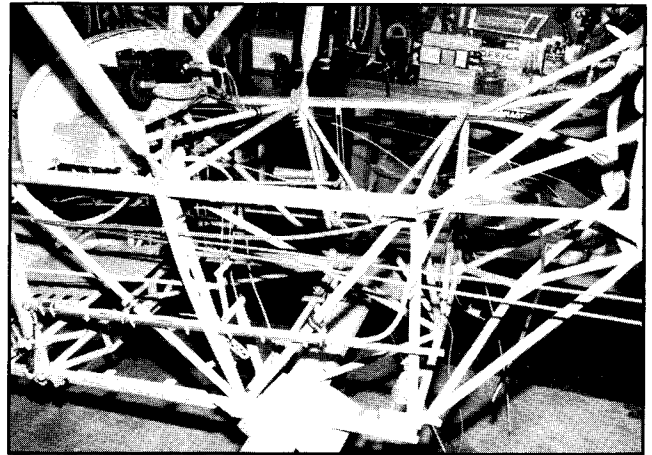
Thanks a lot to Tony and Sandy for their hospitality during our stay in Denver.



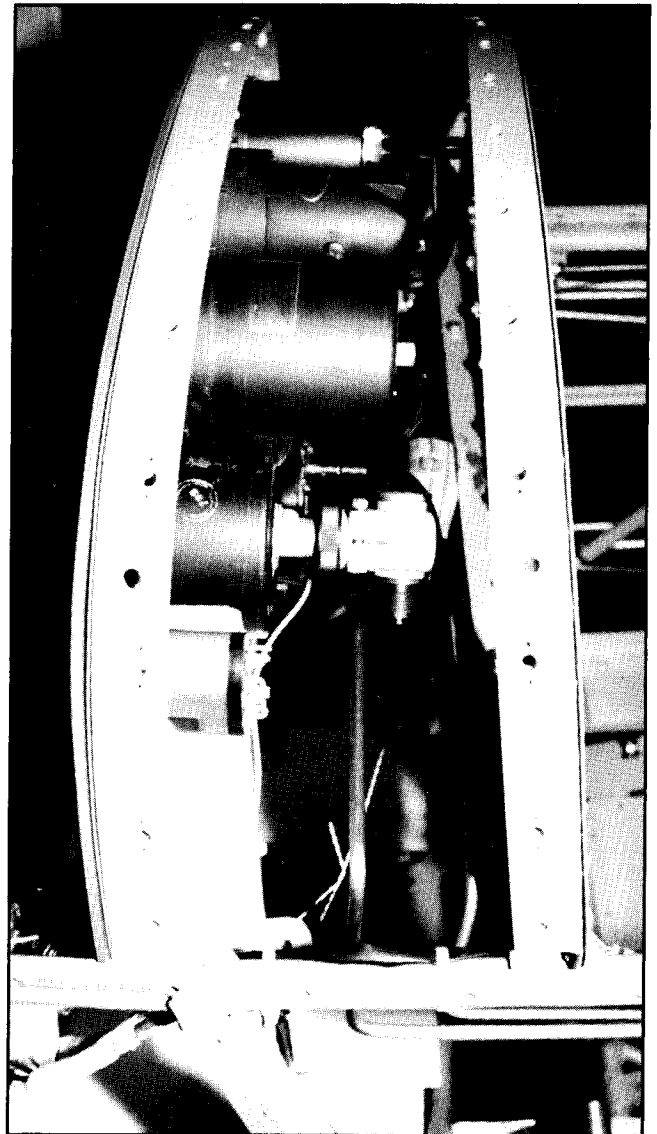
This shows the Hohenwald front instrument panel at the rear. It may give some of you builders ideas.



The front seat assembly area.



Details of the front mount fuel tank cabane area.



Tony's rear instrument panel showing some of the details.

We have many, many more fine pictures of Tony's aircraft and its detail that we will be enjoying in future issues of the magazine.

Technical Tips

Acro Sport Cowling Note

Builder Bob Callis reports that he built the top cowling exactly per plans. He also reports that the nose bowl (Wag Aero type) appeared to be several inches down from the straight line leading from the rear instrument panel to the nose bowl. He checked the dimensions pretty carefully on this one and he called Al Smith who had the same problem. The solution was to raise the nose bowl up about an inch. In this manner, the nose bowl hole is not centered exactly on the propeller plans, but the spinner will cover this adequately. The nose bowl is still down a bit from the straight line from the rear instrument panel over the front instrument panel to the nose bowl but this is barely noticeable. This is also the solution that Al Smith used. When building the mount, it might be better to raise the thrust line and to not actually build the mount itself until the nose bowl has been properly positioned in line with the instrument panel height. Of course, this is not possible, if like Bob, you have purchased the mount from Wag Aero. When the above solution to the problem is applied, this is barely noticeable with Al Smith's Grand Champion.

Exhaust Systems

Don Baker's exhaust system was purchased from Dick Poston, Custom Aircraft Parts, 1318 Gertrude Street, San Diego, California 92110, telephone 619/276—6954. With this system, no "bumps are needed in the cowl" to accommodate a 200 hp engine.

More Exhaust System Information

Builder, Herb Williamson, 1276 SE Duke Drive, Hillsboro, Oregon 97123 writes to tell that the neat exhaust system, sump and induction system were purchased from Kevin Murray at Sky Dynamics. There was an article in the December 1988 IAC magazine about his system along with some dyno figures that are very interesting. You can contact Sky Dynamics Corporation, Route 1, Box 170, Moneta, Virginia 24121 or phone 703/297—6754.

Drag-Anti-Drag Tips

I had the pleasure of talking to Curtiss Pitts about drag-anti-drag wires, asking how much is too much on tightening them and his advice was: First of all, you have to be careful and don't let them work the wing. He says they won't if you don't tighten them into a high "C" note. The preload should be to a maximum of 3-1/2 turns and it may be that a 1/2 turn will do it! Remind the builders that it is UP TO 3-1/2 turns. It is best to go light with the drag-anti-drag wires, if they twist the wings, try to cross them over the other way, top to bottom or vice versa. Try to avoid having them too tight as it puts too much load on the spars and compression ribs. But if they can be heard slapping around on the inside, tighten them a little. I wish it were an exact science, but it is a matter of builder feel. Mac Whyte engineers say that you can tighten to 20 percent of maximum load. This would be 420 pounds on the 10-32 wires and 680 pounds on the 1/4 — 28 wires which is easy on the wires because they don't move much, but hard on everything else.

Acro Sport II Aileron

When Brett Clowes was rebuilding our prototype, N9EA, he found that the bell cranks at the aileron push rod were not really designed to give differential aileron. They were designed for proper clearance and when set so the ailerons have equal up and down travel, the aileron up and down travel is approximately 21 degrees, not the 25 that the plans show. We ended up with equal up and down travel by adjusting the length of the push rod.

Control Stick

Neil Sidders had an article in SPORT AVIATION about control sticks and Tony Hohenwald found he was able to do an easier and acceptable job by sleeving the bolt inside so that the bolt could not compress the stick.

Acro Sport Horizontal Stabilizer

Builder Bob Cunliffe of New Alexandria, Pennsylvania reports that he raised his horizontal stabilizer leading edge 5/8 inch which gave it neutral trim and it flies with the stabilizer level with the elevator. His tail empty weight is 54 pounds and the aircraft empty weight is 910 pounds. The aircraft has a 180 hp Lycoming and climbs great on a Sensenich 76-56 prop.

Acro Sport II Control Bearing Note

Neil Sidders has used the uniball bearings (Heim F35-14M) in place of the Fafner REB—3N2. The reason he used this is that the Heim misalignment angle is approximately 15 degrees versus the Fafner misalignment which is approximately 9 to 10 degrees. The uniball bearings are approximately 1/3 of the cost also. You can expand the distance, sheet 7, zone A-1 idler dimension from 7/16 to 1/2 inch. This gives proper rolling clearance for the uniball. He also suggests the use of cone washers (Neil is a machinist) or a cover tube to center the uniball in the space for proper rolling clearance. The Heim has an additional advantage in that it has a 2850 pound capacity versus the Fafner 1000 pound capacity. We found also the approximate clearance from the center of the stick to the inside edge of the vertical fuselage members was 5—1/2 inches.

Acro Sport II Aileron

Mike Finney, Acro Sport builder, feels that the aileron drawing is too thick at the trailing edge. The builder needs to purchase a trailing edge and use it as a guide when putting the aileron together. To make his fit properly, he had to trim 1/4 inch off the trailing edge. Unfortunately, the aileron drawing faces the other way from the wing drawing as he feels he could have used the trailing edge of the wing drawing a lot easier on the aileron if the drawing had been facing the other way. Builders who want to reverse this can oil the aileron drawing so the ink comes through the other side and match it properly to the wing drawing before building the ailerons.

Acro Sport Inc. Notes

Outstanding Workmanship Award

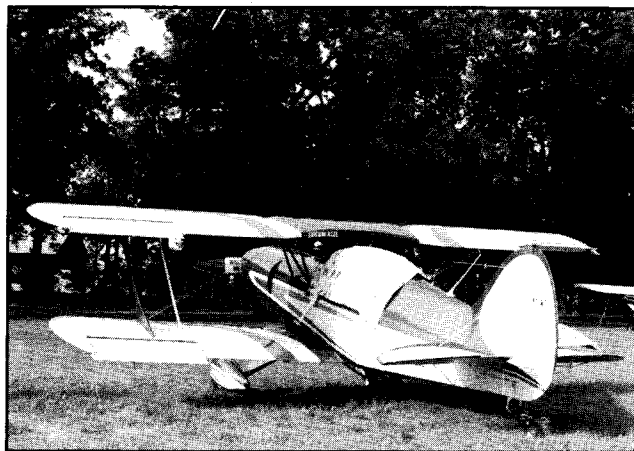
Congratulations to Don Baker for his outstanding workmanship award for his Acro Sport II in Oshkosh 1989.

Best Acro Sport at EAA Oshkosh '89

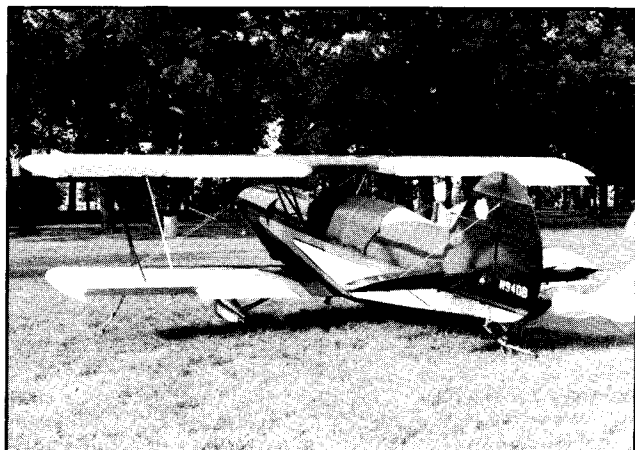
Congratulations to Bill Wilkins for the best Acro Sport at EAA Oshkosh '89. Previous recipients include Don Baker — 1988, Lee Farnsworth — 1986.

Acro Sport II's at the EAA Oshkosh '89 Convention

I want to thank those Acro Sport II owners who brought their aircraft to the 1989 convention. Lee Farnsworth of Racine, Maynard Engel of Parkersburg, Pennsylvania, L. A. Fox of Boylston, Pennsylvania, Don Baker of Elida, Ohio, Bill Wilkins of Bowling Green, Ohio and Norm Gatzemeyer of Mason, Michigan. Unfortunately, I didn't get out with my camera early enough to get all of the aircraft that were here, but here are some of them.



Maynard Engel of Parkersburg, PA brought in N50MD to EAA Oshkosh '89. His son Doug helped build this one.



L. A. Fox brought in the Dave Blanton Jr. built aircraft that we are always happy to see.

Acro Sport Shirts & Caps



Acro Sport caps are available as the photo shows, in white and blue, and Acro Sport II—shirts are also available in prototype colors. Please see order form.

Newsletter Offer

Acro Sport, Inc. has the complete set of back newsletters, 1 through 30 available for \$45 per set. Purchase of the newsletters is mandatory for builders of the Acro Sport II.

Newsletter Renewal Notice

DON'T FORGET TO RENEW YOUR NEWSLETTER. THE DUES ARE \$12 PER YEAR. SEND TO ACRO SPORT, INC., P.O. BOX 462, HALES CORNERS, WISCONSIN 53130.

Thanks to the Pixie Forum Organizers

Thanks go to John Leitus, Dr. Hartwell Jewell and Bob Green for all their help in the Pixie Forum tent.

Thanks to the Acro Sport Volunteers at the Convention in the Acro Sport Forum

Volunteers were: Acro Sport President, La Fonda Jean Kinaman, Tony Hohenwald, Don Baker, Bill Wilkins, Mike Lutz, Norm Gatzemeyer, Bud Judy, Brett Clowes and Ben Owen.

Among the items discussed were spinning the Acro Sport I. We had a lady pilot with a 180 hp Acro Sport I. Bill Wilkins reported on use of the ultralight fuel gauge to save some weight. Mike Lutz reported on his airplane that he was not able to bring to the convention this time. It has a 150 hp and first flew in September 1988. It has 45 hours on it with an electric fuel pump on the engine, 14 inch dynafocal mount, gross weight of 1,032 pounds, gel cell battery on the firewall, no lights and a starter. He reports he flies at 90 mph on final with power off and built the airplane for what he claims is an actual \$10,000! He has built an EAA biplane before so he had some experience before embarking on this project. He built his own drag and anti-drag wires and used the fine wire brush in the drill press to polish the homebuilt wires. He says he spent \$45 versus \$1000 on the wires.

We want to thank all the Acro Sport volunteers who worked the Acro Sport I, II and the Pixie forums and helped out at the Acro Sport display area.

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