P.O. Box 462 Hales Corners, Wisconsin 53130

ACRO SPORT NEWSLETTER

AND PROJECT SCHOOLFLIGHT

Issue No. 6 December 1983

We are now beginning to see the fruits of many Acro and Pober Pixie builders; an increasing number of the aircraft are completed. As I have always said, putting hand and mind to work is enjoyable as well as educational. This is particularly true for EAA Project Schoolflight, whose teachers and students alike benefit from the many talents and skills that building an aircraft offers and especially having a great appreciation for quality and craftsmanship. This standard of quality will be recognized throughout ones life.

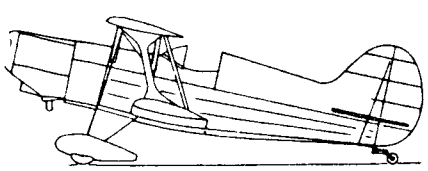
We are proud of the fact that 3 of the 40 Acro Sport I's known to be flying were Schoolflight Aircraft. Two were totally completed in the schools whereas one was turned back to the sponsor for his completion.

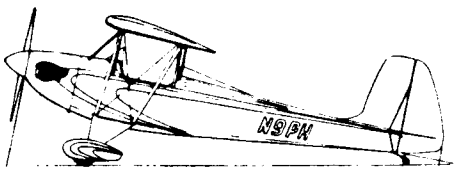
As many of you know, the Acro Sport I and the two-place Acro Sport II, as well as the Pixie, were designed to provide a set of drawings for a docile type aircraft of the steel tube, spruce and fabric covering type. Many of these drawings have been provided to schools, scouting groups, universities and the Civil Air Patrol for consideration of building as part of an Industrial Arts Program, or to serve as an educational document much the same as a manual on typical tube, wood and fabric construction.

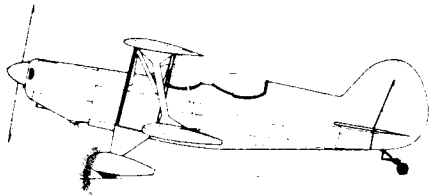
The amateur built aircraft movement of the past thirty years has produced many fine designs There seems to be a design that suits most everyone's tastes. However, there is always another dream just over the horizon.

The Acro and Pixie series of designs, like any other aircraft, need good pilot skills to operate in a manner that offers the pilot and passengers the safety they deserve. Any aircraft of any design can be abused and flown to destruction by overstressing in aerobatics at an altitude insufficient for safe recovery. Flying in marginal weather or attempting landings in unimproved areas, or in winds or crosswinds beyond the capabilities of both airplane and the pilot are major abuses.

So often builders spend years completing their projects and give little attention to that day when the airplane is ready for its first flight. Quite often, with little current







experience, the first flight is attempted with disastrous results or major damage to the aircraft and one's pride.

It is wise to get proper flight instruction for the type of aircraft one is to be challenged by, or obtain the services of a qualified pilot for the test flight. You will find it an equal thrill to see your pride and joy on its maiden flight from the ground.

The Acro Sport II offers the opportunity to the pilot-builders to obtain dual instruction. I have found it an easy and docile airplane to fly; also an excellent training aircraft. Many of you have seen the single and two-place Acros perform aerobatics at the EAA Oshkosh event. However, in designing the airplane, the emphasis was not on a competitive aerobatic biplane, but an all around easy to fly aircraft, with particularly good landing and directional control qualities, which even then may be a challenge to all of us.

I have been doing a little more work on my Acro II and must admit one keeps learning and recalling some of the things that were thought to be forgotten. I am about to install my lower wing fittings to the fuselage and one must insure that the lower wing fittings attached to the wing spars will perfectly align with the hole and fittings of the fuselage. As I have all my wing ribs glued into place on the four wing panels; the drag and anti-drag wires installed, it then would be best that I tramel or square up each bay (there are 3 per wing), by use of the tramel bar (depicted in your plans) and adjusting and tightening the drag and anti-drag wires so that each point on the tramel bar falls equally into the center point of each wing rib of those bays where the wires cross or attach to at the butt or wing tip end. But as I now remember, when gluing and nailing my wing ribs to the spars, you don't place the nail in the center of the rib where the tramel points must fit for measurement as the point doesn't fit too well on top of the nail head! Attempting to remove the nail is not always easy. After measuring the key spots, the center of the rib and center of the spar width, and marking on the rib where the two cross, a slight indentation with an awl will allow the tramel bar points to hold their position while tightening and/or loosening the anti-drag wires until equal measurements are obtained in each bay. One should also sight down the wing spars as it is easy to see the curve in the wing spars of bays that come out of square during both the learning and rigging process.

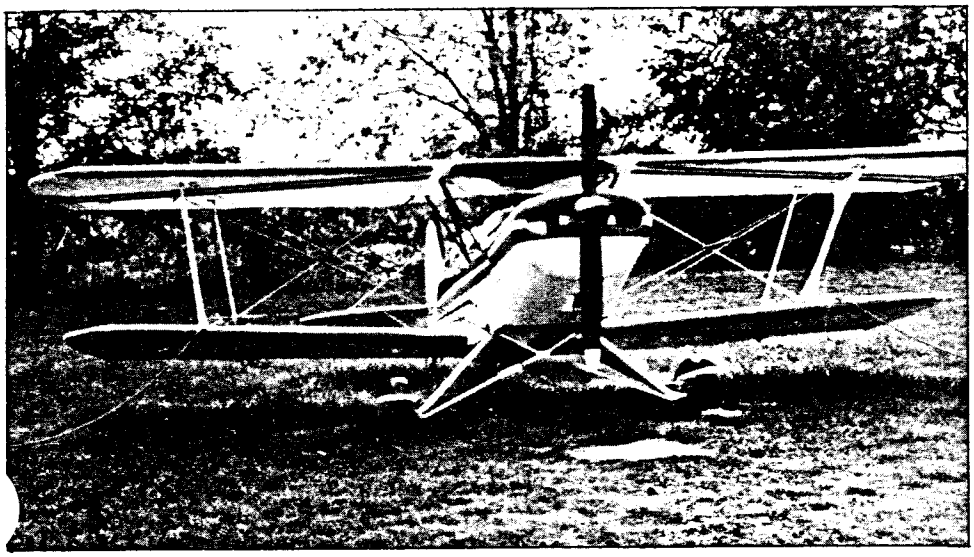
There are several ways to insure accuracy so that your lower wing fittings both right and left are properly aligned, and so that rigging problems will be minimal. One way I have used, and am doing on this Acro II is, first, the fuselage should be square so that in measuring from the top of the fuselage longeron to the center of each wing fitting bolt hole, taking the measurement from the drawing which, for the front fitting, is 19-7/8" and the rear fitting is 20-3/8", that both wings will have equal angle of incidence. Second, level the fuselage laterally and longitudinal. Third, attach front and rear wing fittings to the spars and, with the use of clamps and bracing or short sawhorses, place the wing into its proper position, adjusting the fittings and clamp them to the fuselage so that the proper measurements from top of the longeron to center bolt holes are obtained. The fourth step, before tack welding the fittings in place, is to soak rags in water and place them around the wing spar ends to protect them from the heat of the welding torch. One thing you must do, before you start the above, is to clamp the rear wing spar fitting into its accurate position. You then form the lower finger of the fitting by heating it to a cherry red and using a hammer, form it around the bottom longeron and cross tube. Doing this beforehand will eliminate exposing your wood wing spar to the flame or heat of the torch.

After a final check for accuracy of measurement, tack weld the fittings in place; remove the wing and add several more tack welds to insure that the fitting is more secure as the heat from tack welding can cause slight movement of the fitting. Again, slip the wing panel into the fitting; install the wing bolts. If the fittings have moved a bit from the heat applied to the fitting, slight heating of the fitting and tapping with a hammer will bring the fitting into alignment. Remove the wing and complete the final welding.

We would like to thank Bill Chomo of the EAA Foundation Restoration Shop for his presentation on construction, and Capt. Bud Judy of Delta Airlines, also an aircraft homebuilder, for his talk on the flying characteristics of the Acro II and also for his aerobatic demonstration with it at Oshkosh.

Ben Owen, who has acted as editor of the newsletter, would like to hear from each of you as to the progress you are making on your project. We would like to include your name and address as well as photos of the aircraft you are building in the newsletter. Black and white pictures or sharp color photos would be appreciated.

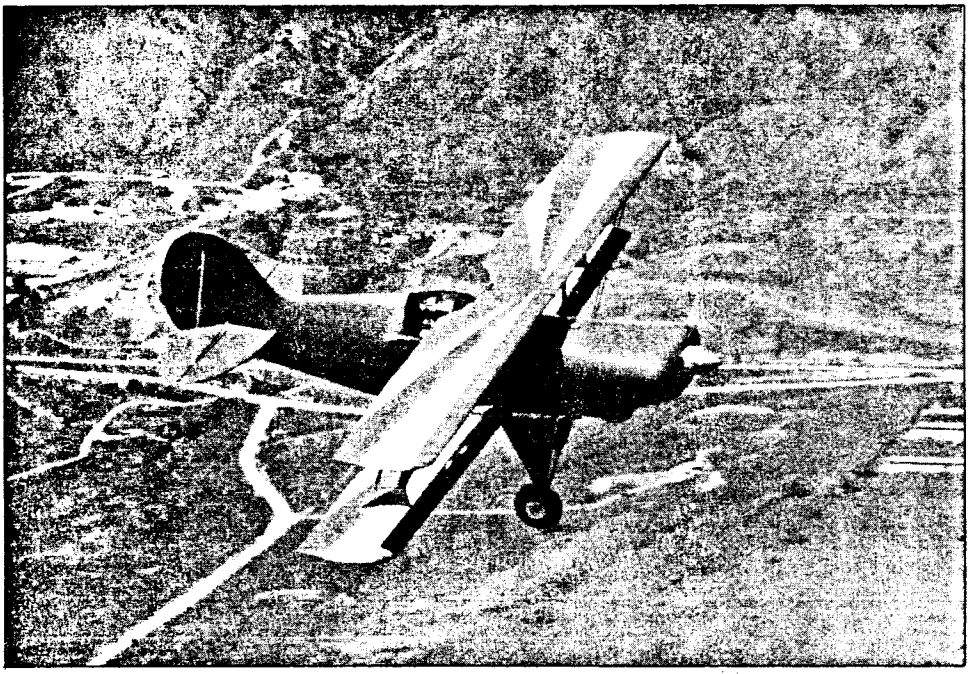
ACRO SPORT GALLERY



Acro Sport II Builder-Owner
Elmer Farris, Jr.
142 Preston Avenue
Lexington, KY 40502 reports:

This is my third Homebuilt having built an EAA Biplane in 1964, sold it and built an S.A.L. 2/3 scale P-51 Mustang, sold it and started on the Acro in June '81. Final F.A.A. inspection on April 30th, 1982 and after final adjustments flew it on June 13th, 1982. Flew hands off the first flight and still does. Several of my friends have flown it and they all say it is the most stable airplane that they had ever flown. I worked on it full time as I retired from Rockwell International in 1980 and I just love building airplanes. I am a graduate of Aeronautical University, Chicago, Illinois Spartan School of Aeronautics, Tulsa, Oklahoma and the U.S.A.F. Jet School, Lockburne A.F.B. Ohio.

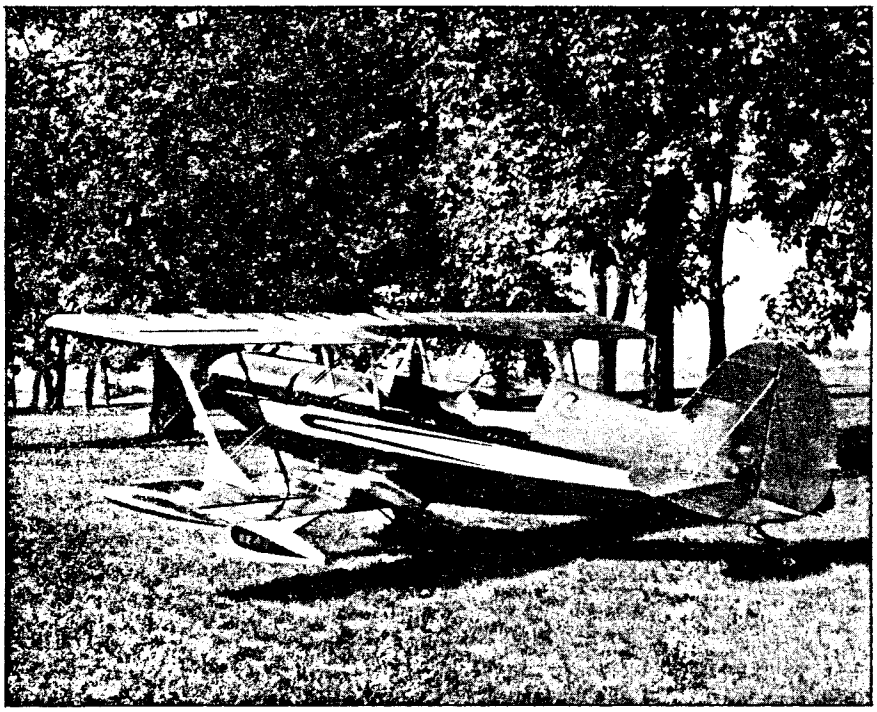
Acro Sport II, N80EF cost approximately $15,000.00 and was started June '80 and completed May 2, 1982. It was approximately 1600 plus hours to build and uses a Lycoming 0320 A2D and a McCaulley, 76 X 53 inch prop. Cruises at 122 MPH at 2350 RPM at 3,000 MSL. Empty weight is 980 pounds with full electrical system and a 14 inch mount. Empty weight CG is 63.7 inches and has a battery on the fire wall and an inverted fuel system. Approach speeds are approximately 75 and landing 55 and it is finished in Dupont. Although you can't see it here, it's finished in red, white and blue.



Acro Sport I Builder,
Barry Beausoleil
1606 Centaur Cir.
LaFayette, CO 80026 reports:

This is the Super Acro Sport you had a hand in building. Thank you so much for the many questions you answered and time you spent speaking with me on the phone over the three year building period. This Acro Sport is N1717 and hangared at Boulder, Colorado. The engine an 0-320, empty weight 838 pounds, 92 hours total time and flying great. Many thanks Ben.

Barry Beausoleil

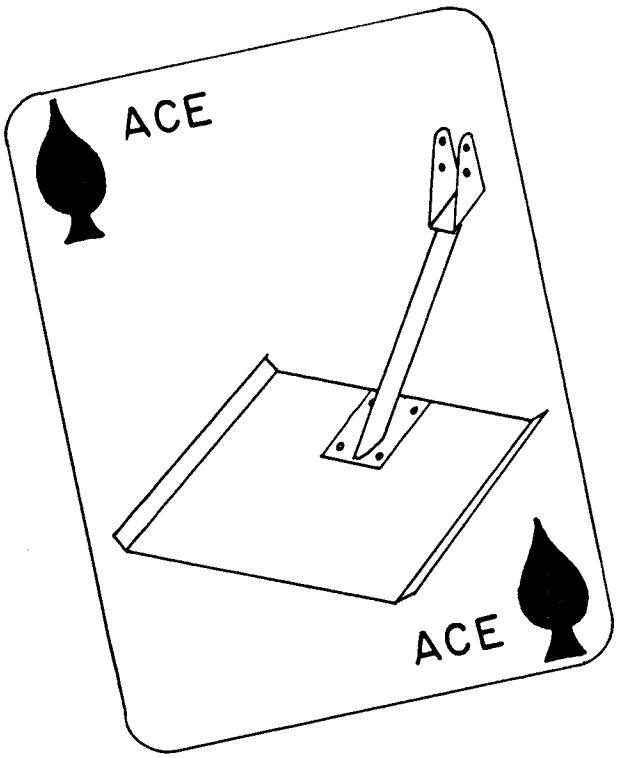


Acro Sport II Builder,
Bud Gores
6948 Brewer Road
Burlington, WI 53105

Engine - 0320 A2B Lycoming 150 H.P
Propeller - Sensenich 74 DM 6-60
Radio - Genave Alpha 200 B Nav Com
Full Electrical System
Covering - Ceconite 101 Process -
13 coats Butyrate Dope
Construction Time - 8 1/2 years
First Flight - October 1, 1983

CONGRATULATIONS! - Dave Blanton
Wichita, KS. test flew his Acro Sport II December 10, 1982, and he is very pleased with it. Dave's is the 18th Acro Sport II to have flown. At this time, we also know of 40 Acro Sport I's flying and 11 Pober Pixies.

CALLING A SPADE A SPADE



A Spade is basically an aerodynamic balance forward of the hingeline which also provides some slight additional aileron effectiveness from its own area. We have been flying Acro Sport N5AC with spades and have found that they do increase aileron lightness. Any apparent increase in effectiveness is fairly negligible. However, they do lighten up the ailerons! Spades were originally used on the Czechoslovakian Zlin several years ago. If you will check "Janes All the World's Aircraft" for 1970/71, you will see the Zlin wearing spades. In this country, one of the early experimenters with spades was Mike Frey of Alvin, Texas. In 1972, he started experimenting with them and put them on a Pitts, a Skybolt and a Spezio. He found that there are a lot of different ailerons. He read old NACA Reports and found they were not too much help. On his aircraft, when he redesigned the ailerons, he copied the Bucker style of Friese aileron. He rounded the nose off, closed up the gap and increased the thickness of the aileron by 20%. This helped a great deal, and then he started adding spades, attaching them to the existing horn. His most recent spades are not rectangular but trapezoidal and he found this worked best as it shoved the area forward. This means the forward dimension was greater than the rear dimension on the spade. He found also that the longer the span, the better they work. However, on his Pitts, he found that the snap-roll was somewhat slower and he doesn't really know why this happened. It did lighten up the ailerons considerably. Mike was a consultant for one of the aircraft manufacturers who added spades to their aircraft and he has some simple rules. You never put more than 25% of the "effective area" in the spades and he multiplys the arm of the aileron back of the hingeline times the area and divides that by 1/4 to get the area and the arm for the spade. This eliminates any "aileron snatch". He has tried some spades with slightly more than 25% "effective area" on his wife's aircraft and so far it seems to be working right. He set the spade parallel to the chordline and used small washers on the bottom plate to balance it on the aileron so it feels the same upright as inverted. He has not tried airfoil shapes as yet but concedes they may be better. He has never even rounded the ends of the plates which might help as the ones on the Skybolt did stall out. He also states that it takes a while to get the trim right at the rear and he originally had designed them like a tab but that they might be better as an airfoil. Actually, Mike has been calling his spades "power wings" for some time, "spades" only came into useage recently. We will provide some basic dimensions that others have used, but would prefer that the individual builder basically design their own. The plate itself is made up of 1/8 inch aluminum, approximately 8 inches by 10 inches on the Pitts and about 8 inches by 8 inches on our Acro Sport. There is 3/4 inches of flange on the sides to stiffen the plate and they are bent up at a 30° angle out of .125 aluminum, 2024 T3. Pitts plates are .090, 2024 T3 which is slightly lighter. Pitts spades are attached to the lower ailerons by approximately 8 inches of 1 inch streamlined 4130 tubing with the appropriate attach fittings also of 4130 .049. The upper portion attaches to the existing hole and one other hole would be drilled about 7/8 inches up on the lower hinge bracket. They are attached only to the lower wing aileron. The dimensions of the upper attach part is approximately 1 3/4 inches high made of .050 4130. The streamlined tube on our aircraft are 1 1/8 by 1/2 inch streamlined tubing, welded to a plate at the bottom of .050 413D, 1 inch by 2 3/8 inch with 4 bolt holes. The lower bolts are number 6 (shim for trim) and the upper bolts are number 10's. Front edge of the plates can be

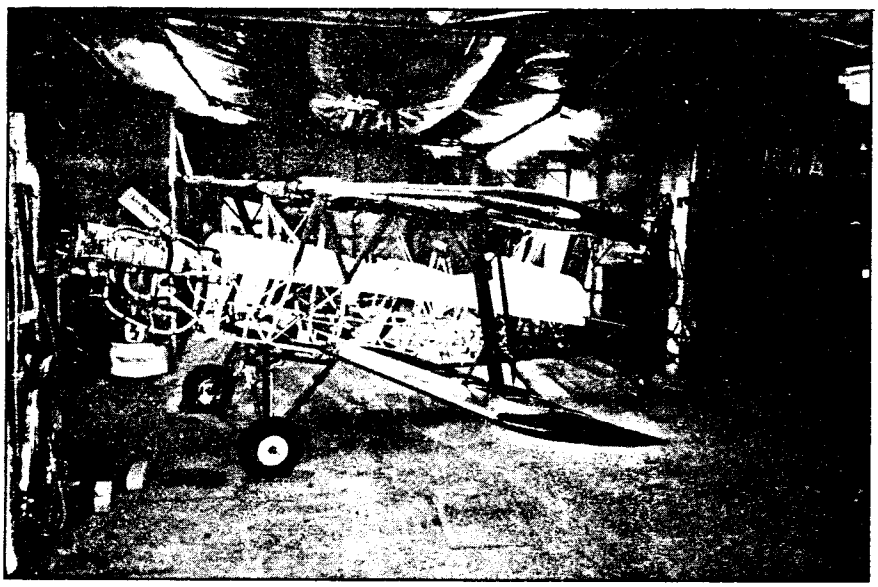
trimmed off by approximately 1/2 inch increments until the desired feel is attained.

Probably some of the more sophisticated spades can be seen on aircraft such as Leo Loudenslager's Lazair 200. These are a streamlined shape and are allowed to "float" slightly around the neutral axis to give better aileron feel at the stick neutral position and also for cruise.

I would like to caution any Acro Sport or even Pixie builders who attach spades to their aircraft that they are designing their own modification, and we are providing only guide lines. Spades do considerably increase the sensitivity of the ailerons and may be more than some pilots are willing to have on their aircraft. However, if you decide to take your airplane to an aerobatic competition, maybe these ideas will help you terrorize the opposition! And remember, when you are in Texas, call them "power wings" not "spades", and maybe Mike Frey will even give you some advice.

THE ACRO SPORT BUILDERS REPORT

Lee Farnsworth's Acro Sport II
Racine, Wisconsin



I did a Designee visit to Lee's Acro II the other day and found him with the aircraft fully assembled and jigged in the basement of an old theater. The shop is appropriately called "The Dungeon". Lee has a beautiful aircraft. It's hard to fault. He has used the O-320 H engine and found that you can't convert this engine to a pressure carburetor pump, and he had to put the gravity feed carburetor back on. This of course is a Cessna engine from Wag Aero. If any builder has any ideas as to how to convert the H engine to a pressure carburetor pump, we would appreciate hearing from you. One note on the wings of the Acro Sport. The blocks that hold the drag anti-drag wires should actually be faced grain end out so that the wires pull parallel to the grain. This will provide a harder surface for the blocks. Additionally the drag anti-drag blocks can be faced with 1/16 inch plywood to insure that the washers don't penetrate the blocks when the wires are tightened.

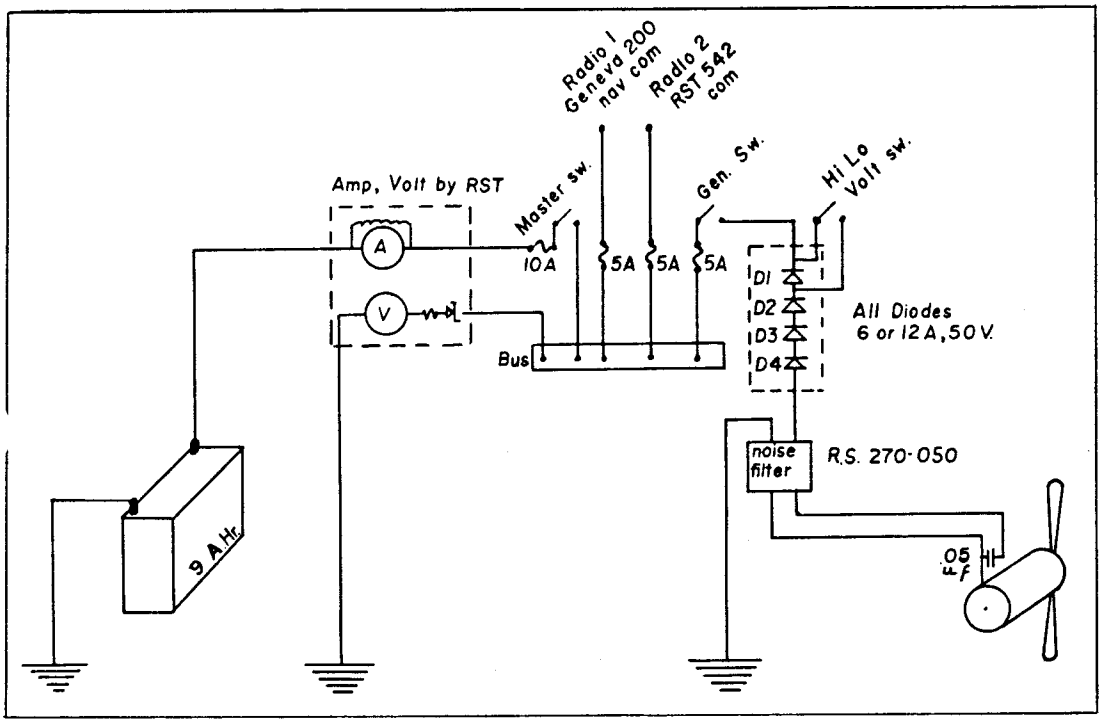
John Leitis
Roaring Spring, PA

Thanks for the inquiry of my wind generator hookup as used in N81JL. The generator is a permanent magnet 12 Volt direct current motor made by American Bosh and was to be used as a bicycle pedal assist motor, (not a wheelchair motor as previously stated). The propeller is of 8 1/2" D X 8" P and will begin to charge the battery at 65 MPH air speed. To charge with radios on, the air speed must be 80 MPH or faster. For different speeds, it would require a different pitch and/or diameter propeller. On long cross country trips at 90 MPH and 3 diodes in circuit will deliver close to 15 Volts, therefore I installed a fourth diode, with switch, to reduce the charge voltage to approx. 14.5 V. The propeller is a model airplane racing prop, however other make or type will also work with somewhat different results.

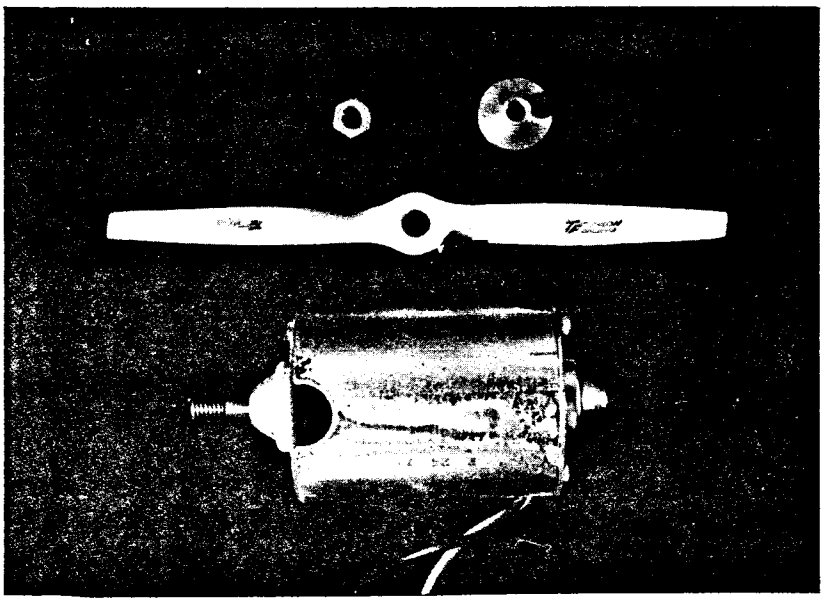
My first generator was a model airplane electric motor of .25 cu. in. equiv. power produced 2.5 Amp's at 14 Volts with 6" P x 10" D prop. However, the brushes lasted only 70 Hrs., perhaps due to higher RPM needed to produce necessary output. The Circuit used only one diode, which is necessary for blocking DC current from battery to motor, otherwise the motor will spin and drain the battery as soon as the master switch is turned on. Also, it is very important to face the flat part of the propeller into the relative wind, or results are less than satisfactory. I suppose anyone wishing to carve their own prop with proper airfoil would be better, however, for me, the model prop mounted backwards is quite satisfactory. My present set up has over 150 Hrs and still working good.

To be able to attach the prop to the motor shaft, I had to fabricate a bushing. Of course, different motors will require different attachments.

I am very happy to be of service to EAA and its members.



Pober Pixie N81JL radio hookup, RST equals radio systems technology and RS equals radio shack.

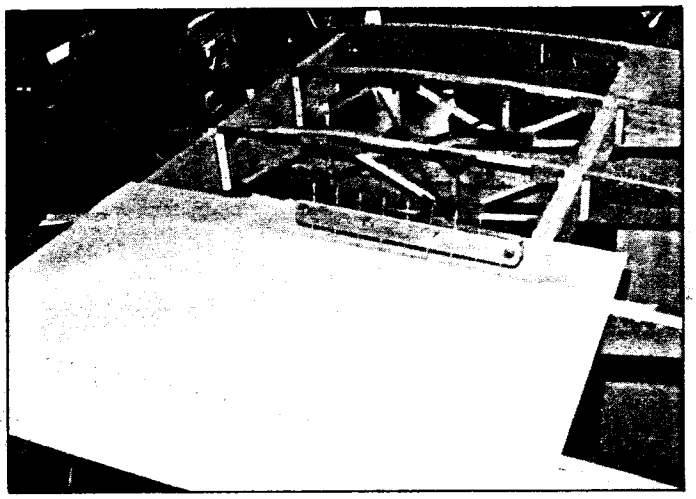


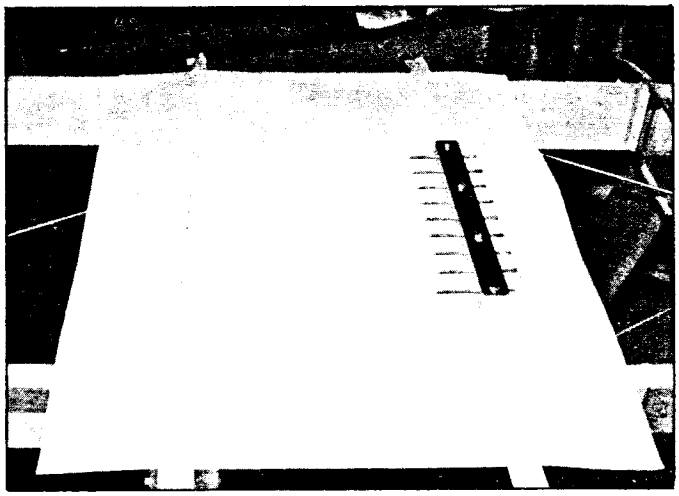
John Leitis
Roaring Spring, PA
Pixie N81JL

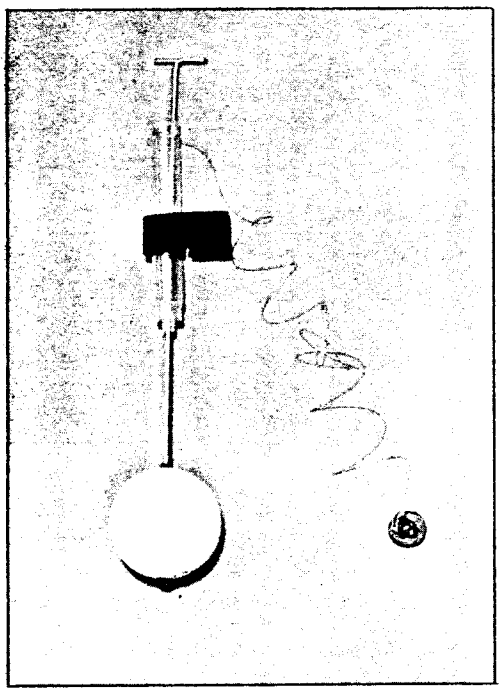
Has an excellent electrical system that some of you might like to copy.

Report from Pitts Builder, Art Teulon of Ft. Lauderdale, Florida:

Art is a good friend of mine and has some excellent ideas that some of you might like to copy. The first is a device he uses to prepunch fabric on wings. He has it made of aluminum bar with the needles clamped between the bar. This could just as easily be built of wood. For the builder who wants to get his stitches perfect, this is the easy way.







Art also has an excellent little device fabricated from a ping pong ball which is self-explanatory. It fits on the lip of your fuel tank and when you are filling those last few inches, you can keep from running over and spoiling the finish by using this simple float. It is a ping pong ball and a piece of wire and some plastic tubing and the black Bakelite clip to clip on the lip of the fuel tank. Just as a after-thought, Art added a small magnet on a string so that you can attach it to the cabane and not lose it when you are fueling.

"ACRO SPORT II AEROBATIC FLIGHT REPORT"

Report from Acro Sport II Builder, George Jones of Ruffin, North Carolina. George has done some aerobatic flying with his Acro II and you might appreciate his comments. "As you know I installed the Lycoming 150 engine in mine and a full electrical system, Escort 110, and intercom. The empty weight is 940 pounds. Full fuel and just myself, I find it performs very well even on our hot humid days. I get off in about 500 feet, climb at 60 MPH, then lower the nose to 80 MPH for best rate and cooling. It climbs at 1200 to 1300 feet per minute and with the 74-54 prop it indicates 105 true air speed. I am flying the sportsman and just started practice on the intermediate sequence, minus the snaps. I have placed repeated -3 to +5.7 G's with most sequences at -2 to +4.5 G's. Max entry speeds up to 170 MPH for hammer heads. It flies just great. I have just within the last year started doing

aerobatics, but to date have about 100 hours of it. I hold ATP, CFII, MEI ratings. Have flown the J-3, 7AC, Great Lakes, Decathlon, and the Pitts S2A. The Acro II ranks best all around as a sports plane. In January, I completed Jim Holland's 20 hour advanced aerobatic course in order to better explore and fly the II. I have done multi-turnspins, most everything except flat spins and find it a great airplane. I am about to install a Lycoming - 360A 1A engine. At gross weight I would like a little better climb and more duration in knife edge flight. Otherwise the 0-320 does fine."

The above was from a previous letter from George covering his aircraft. When he installed the 0-360, he found the rate of climb to be about 2,000 feet per minute and the cruise speed jumped up to about 125 at 2500 RPM at 1,000 fett altitude MSL. He used a 15 inch mount on his 0-360. The empty weight CG was 65.93.

ACRO SPORT BUILDER TIPS

1. Some builders have found it difficult to make the insert for the cabane struts. If you will put a 3/8 inch from the left line on the insert drawing to the 1 1/4 inch dimension and a 1/2 inch from the left line to the 1 inch dimension, this may make the part easier to build.

2. Acro Builder, Paul Poberezny suggests that a good tip is to obtain powerful magnets from the hardware store like the one shown in the "How To Build The Acro Sport" manual. You can buy them from Ace or True Value and use them to hold fuselage components together while they are being tack welded.

3. Regarding Acro Sport II entry speeds, Paul Erickson of Kensoha, Wisconsin has approximately 120 mph cruise. He enters loops, Immelmanns, hammerheads and Cuban 8's at 140 mph. He does rolls at anything over 100 mph, usually close to 120 and snaps at 90. Barrel rolls he does from 120 mph or at cruise speed. His stall speed is an indicated 40 mph. The speed for maximum deflection of control surfaces in the Acro II is approximately 130 mph.

4. Acro Sport I and Acro Sport II Spar Drilling

   The following tips come from EAA Aviation Foundation Mechanic Baucan Noack.

   A. Prepare the spars by marking the rib locations, layout marks, etc.

   B. Glue and nail the doublers for the flying and landing wires only.

   C. Do not glue the root fitting doublers but do nail them temporarily in place.

   D. The root 4130 and landing and flying wire aluminum plates are pre-drilled. Front and back are drilled the same.

   E. Place the root fitting in place on the front face of the spar and use it as a template. Use <u>sharp</u> drills and drill carefully.

   F. Place the flying and landing wire fittings in place on the front face of the spar and use it as a template. Use sharp drills and drill carefully

   G. You cannot put the root doublers in place permanently until the ribs are on.

5. Other Drilling Tips

   To position a center line accurately, always have good clear pencil lines on the piece to be drilled. Do not use pencil lines on aluminum unless you completely remove them. One good way of insuring that a drill is exactly centered over the point to be drilled is to put a <u>straight</u> large needle in the drill press and position this exactly on the point to be drilled. Without moving the piece to be drilled, the needle is then removed and the drill can be inserted into the bit.

6. Piper aircraft uses rubber stops in the landing gear of 1/4 inch thickness that are jammed in both ends on top of the stops on the landing gear. This may be one good method to keep from having excessive loads on "maximum performance" landings.

7. Basically 2 good ways to check on the performance of a used engine are by checking the oil pressure with it operating and by use of a differential compression tester. Hopefully when you buy a used engine, he won't have added any great quantity of STP to it to make the oil pressure look good! That is an old used car trick, by the way.

8. A differential compression tester is built of a tube. In the middle of the tube there is an obstruction, usually a washer welded shut with a number 50 drill hole through it. The left-hand side has a fitting for a hose in from the compressor and the right-hand is a hose out to the spark plug hole. There are gauges on both sides of the tubes so you can tell the difference in pressure from the left-hand or compressor side to the right-hand or cylinder side. The cylinder to be tested is brought to the top dead center position where the propeller is held securely by another person. A perfect test would indicate 80 PSI on both sides. A more normal reading would be 80 PSI on the compressor side and 60 PSI on the engine or cylinder side. If the engine side is below 60, the engine probably needs an overhaul. The other precaution is that the engine should be thoroughly warmed up before a defferential compression test is done and then you should be sure that the mags are off and that there is no fuel in the cylinders when the test is done. Some of the reasons for a quick leak-down of the engine side would be blow-by past the piston rings, another could be valve leakage in either intake or exhaust valves. Hissing would give a good indication where the problem is and if you really can not find it, more than likely a stethoscope would be useful. There are stethoscopes made for engine analysis that have a needle rather than a disk for listening. You should listen for the engine "hiss". You should take precautions against the propeller moving and have it securely held in place as the force inside the cylinder is about equal to that when the engine is running. For this reason the cylinder must not be allowed to move past top dead center.

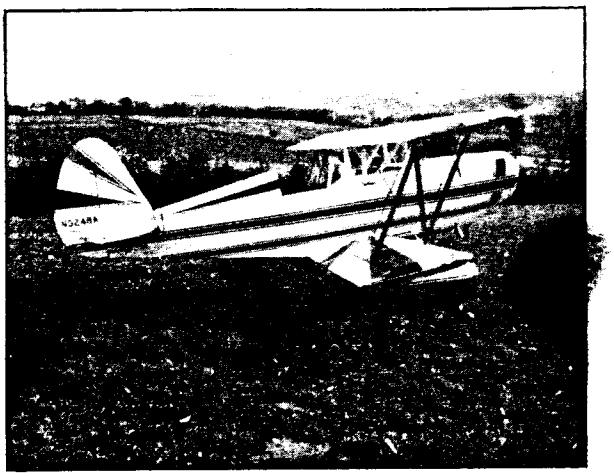
9. Safety cable installation for aircraft engines.

We have had 6 cases of propellers departing from aircraft in flight in the past 12 months to other amateur-built aircraft. If a blade portion departs the aircraft, the propeller imbalance can be quite severe pulling the engine out of the mounts. The race pilots require that a 3/16 inch cable be wrapped entirely around the engine and around the fuselage tubes. This will ensure that the engine weight stays with the aircraft in the event of breakage of a propeller blade. It's pretty cheap insurance.

10. We are not sure what the slowest aircraft in the series is although we would suspect one of the lightly loaded Pixies. However the fastest of the Acro Sport aircraft appears to be the Super Acro Sport that Ralph W. Cashen built and flew in 1977. The aircraft has a Lycoming 10360-C1E6 of 200 H.P. and a Hartzel constant speed propeller. The cruise speed is 155 MPH at 2500 RPM at sea level. The aircraft is now owned by Dick Blatten. However, it is not necessary to install a large engine in the Acro Sport I or II to get good performance. You will find that many engines that have been taken out of other airplanes might be available at around $3,000.00 to $4,000.00. In fact Dick Wagner at Wag Aero had one priced around $3,000.00 when I checked with them in December of '83.

11. The gap that is left to weld tubing is strictly to accomodate the expansion of tubing during heating. For this reason, it is not exact, but can vary between about 1/32 to about 1/16 inch. This would apply to all joints except those where one piece of metal was being lapped over another.

12. Cooper Aviation Supply, 2149 East Pratt Blvd., Elk Grove Village, Illinois 6007, 312-364-2600 has small patch plates to cover the holes necessary to adjust the flying wires on the upper wing. These are best kept small and they have patch plates part Number A6913-1024-1 using a 10-24 screw and an OD of 1 5/16 and a skinhole of 1 1/8 inches that should work out pretty well. These also present a much better appearance than larger holes would.



An inspirational note from EAA Biplane Builder, Robert L. Poyer, Jr. of Hackettstown, New Jersey

I wish to take this time to thank you for the picture of you and your P-51. I appreciate the time you took to talk to me on the telephone. It was a real pleasure to tell you about my EAA Biplane that I flew for the first time on October 21, 1983.

No matter what anyone says about you or the way EAA is being run, don't be intimidated. They are only criticizing you because they are jealous. You are doing a marvelous job. Anyone who started with just a dream and built it into an aviation empire does not deserve the criticism from those who are jealous. We live in a country where we are blessed with the natural resources and an abundance of technical information, plus a government that allows the average person to build his own airplane. As far as I am concerned the only reason that I was able to complete my Biplane, was because the dreams of a handful of men who were infatuated with airplanes, were able to make their dream come true (EAA), therefore, allowing me to fulfill my boyhood fantasy of actually flying my own Biplane. I know in my heart that when you started EAA you never realized it would be as it is today. Just remember one thing. It did not get there on its own. You made it come true. I am very proud to be a part of EAA and for what it stands for.

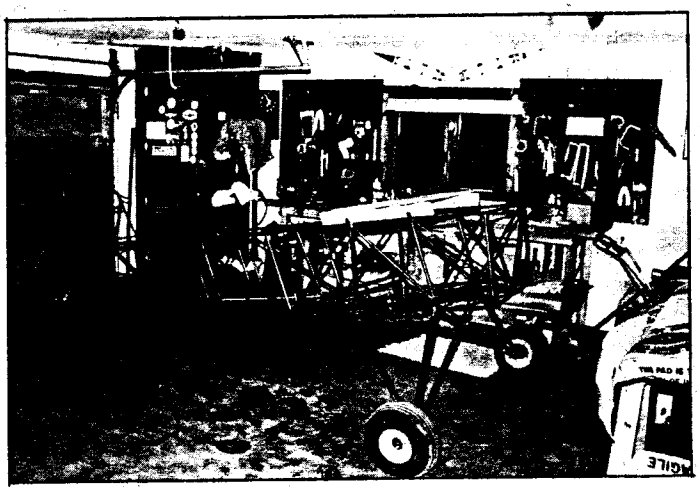
Enclosed are some pictures of my EAA Biplane. I hope you will enjoy them as I did. To climb in knowing that you are about to embark on a journey where few men dare was an experience that I will remember and cherish for ever. As for my spare time now, I plan to write about my project. I hope I can inspire my sons and other young boys that if you really want something bad enough and are willing to sacrifice and work hard for it, anything is possible.

DISCLAIMER

The Acro Sport Newsletter is presented as a forum and clearing house for information on the exchange of ideas and opinions. No responsibility or liability is assumed, either expressed or implied, as to the suitability, accuracy, safety, or approval thereof. Any party using the suggestions, or ideas expressed herein, does so at his own risk and discretion and without recourse against anyone. Any materials published in the Acro Sport Newsletter may be reprinted with prior permission. Please credit the original source of the material and the Acro Sport Newsletter.

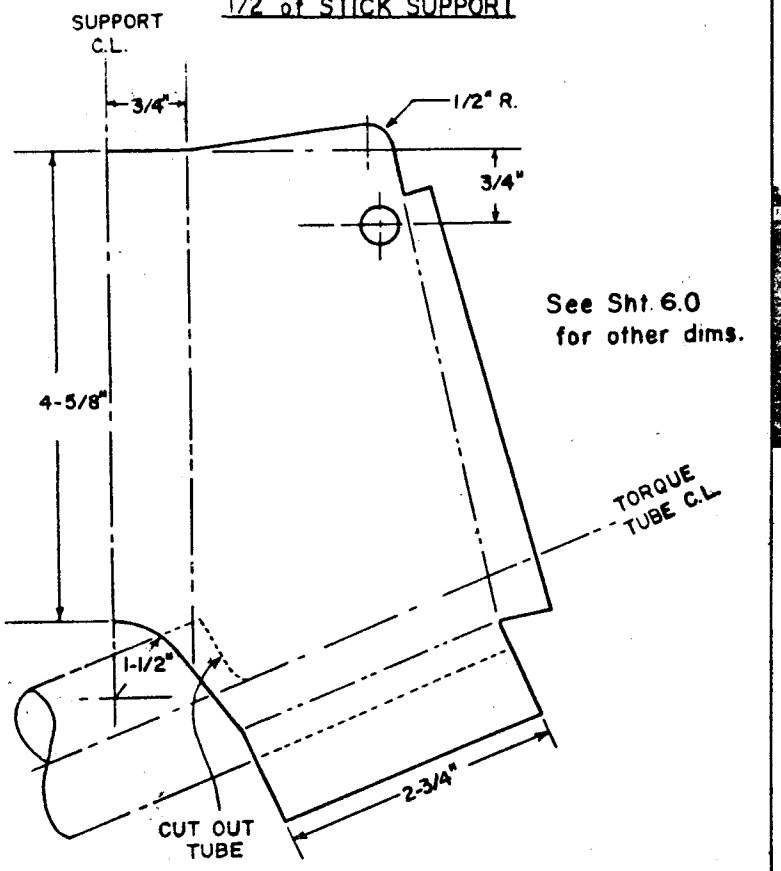
THANK YOU

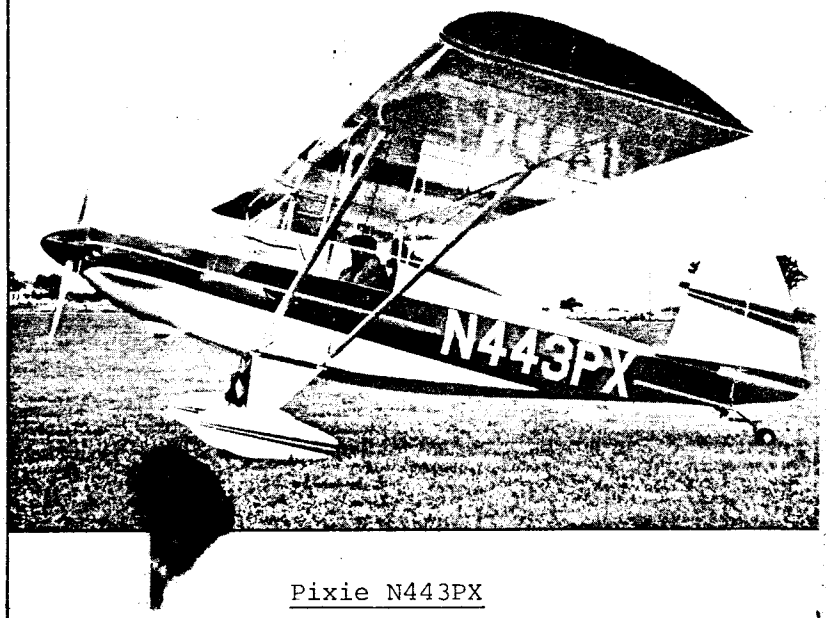
All those Acro Sport I, Pixie and Acro Sport II builders who have sent in information and photographs for use in the Newsletter. Your support is appreciated.



"Paul Poberezny's Acro Sport II being built at his home shop in Steamboat Springs, CO."

ACRO SPORT II
1/2 of STICK SUPPORT





Pixie N443PX

This aircraft has a Continental 65 H.P. engine and is a chapter project of EAA Chapter 443 of Columbus, Ohio. It was first flown in 1977.