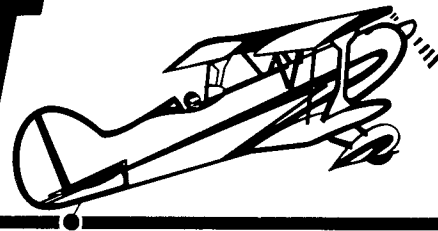


# ACRO SPORT Newsletter

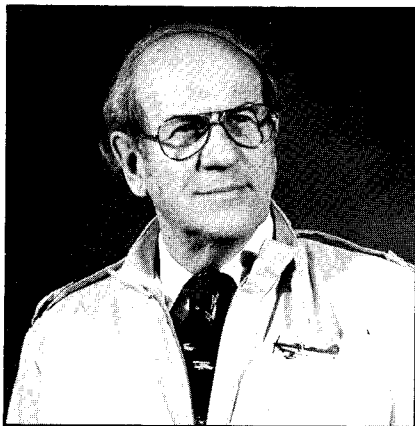


NO. 22

FEBRUARY 1988

## EDITORIAL

by Paul H. Poberezny, President of  
EAA



Paul Poberezny, designer of the Acro Sport series of aircraft.

I'm sure, at times, reading the ACRO SPORT NEWSLETTER, one would specifically think of the two particular aircraft that caused the newsletter to be so titled. In designing the Acro Sport I single place and later the Acro Sport II two place, I guess it was only natural to follow the name, not knowing that the Pixie would follow sometime later and all with the very familiar paint schemes designed by EAA's Editor-in-Chief, Jack Cox. Why, even the EAA DC-3 had the same beautiful blue, yellow, white and black pinstripe color. The same paint design was used on the prototype Acro II, and we've seen the same color schemes on many other homebuilt aircraft. Frank Gomes, long time EAA member of Honolulu, has his beautiful Miniplane and Mooney Mite painted in the same Acro schemes.

Our current two projects, the Pober Junior Ace (a very much modified Cor-

ben design) and the Pober Super Ace, (again a much, much modified Corben design), as yet do not have their own paint schemes. I have both of the aircraft in my shop and have decided that, with the little time that I have available, I had better get one completed in time for some late spring or early summer flying . . . so I have selected the Pober Super Ace as the first to be completed.

At the present time, the airplane sits in my shop, completely assembled, wings are on and covered, formers and stringers, firewall, 85 HP Continental hanging on the nose. I've always said that an airplane that looks good, flies good. And after having flown some 170 different homebuilts during my flying career, I have found that this is a pretty fair statement. We started out the Super Ace program by providing a complete set of original Corben Super Ace drawings, showing the Model A Ford installation. However, the availability of Model A Ford engines, the narrowness of the fuselage (which reminds one of the size and weight of pilots during the Depression era) caused many changes. A new and wide fuselage to take care of us "fat cats", the installation of a readily available powerplant, 6:00 x 6 Cleveland wheels and brakes, replace the old aluminum case wheels (that at one time we made ourselves) and the skinny, high pressure tires that would not be easily available today.

We started out with some amendments and some additions to the Super Ace drawings, which were included with the original plans that would enable the builder to make these modifications. However, with the enthusiasm of EAA artist and Museum designer, Pat Packard, we decided that we'd come forth with a complete set of drawings for the Pober Super Ace that a complete air-

craft, as is this prototype, could be built from. To make it easier for the home-builder, we are including in the drawings full-size patterns of many of the fittings. This will save a lot of time of scaling up, wing fittings, tabs for controls, fuselage formers, firewall patterns, turtledeck and, of course, a complete and full-size wing rib drawing.

Another Super Ace enthusiast, John Clemmer of Toronto, Canada, has also volunteered some effort in the drawing department and spent several days in my shop, over my drafting board, gathering information for drawing work. During the winter months, we also plan to do many of the drawings on the Pober Junior Ace, the two place, side by side, open cockpit version which also sits in my shop, sitting on the gear, tail group mounted, the wings completed, as well as the struts. I just wish I had more time away from the EAA desk to be involved in some of the things I love most.

In this issue of the ACRO SPORT NEWSLETTER we have some photos of the fuselage tail group, engine mount and engine, that were taken of the airplane just prior to moving it into my shop. Artist Pat Packard has already completed a number of perspective, detailed and cutaway drawings that will be extremely helpful, some of which will be shown in the EAA's new homebuilder publication, the EXPERIMENTER magazine.

Though the amateur built program is on very low priority with the FAA, which is good, FAA has in the mill a review of the 51% rule that governs the amateur built program. In other words, for those of you who aren't familiar with it, to be eligible for certification in the experimental amateur built category, 51% of

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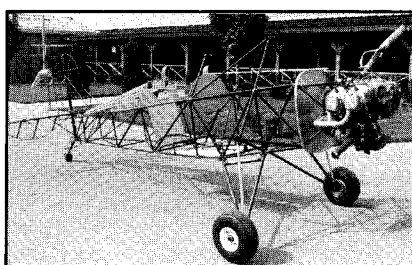
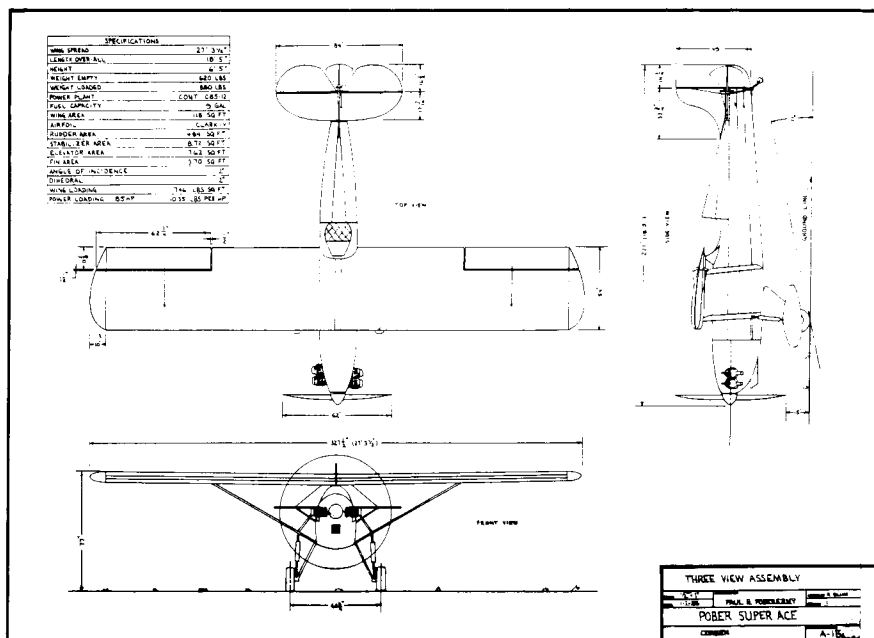
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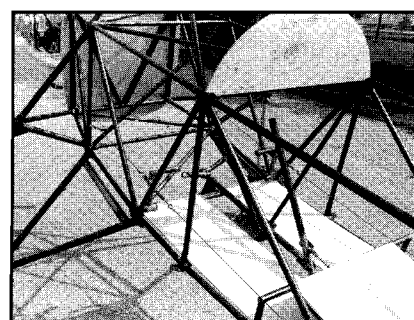
the airplane has to be constructed by an individual or a group of individuals for educational and/or recreational purposes. We have made a lot of improvements in the program and reduced a lot of restrictions that we had at various times through the history of that program. However, with the advent of new kits and, particularly those of the molded or fiberglass type, there is greater concern relative to the builder being able to construct 51%. Fiberglass requires a lot of molds, leaving less to do by the amateur and this has come under study. I will be meeting again with the FAA on this matter sometime during the month of January.

A new welding manual has been put together by EAA Board Secretary Wes Schmid, and soon it will be printed and ready for the builder. And of course, the EXPERIMENTER and SPORT AVIATION magazines will cover its contents, which are quite broad and widespread and will be very helpful for any tube type aircraft.

The annual fly-in at Oshkosh, thus far, hasn't seen too many Acro Sports, though a few are scattered throughout many of the airplanes appearing on the show line. It has been suggested that a first gathering of Acro Sport builders, with their aircraft, be had at OSHKOSH 1988. I am sure that there will again be an Acro Sport dinner gathering for all of you enthusiasts to enjoy an evening together.



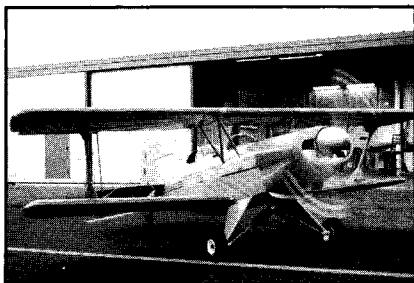
The Pober (Corben) Super Ace project on the gear. A piece of electrical conduit replaces the usual landing gear shock strut.



This shows stick detail of the Pober Super Ace.

## JOHN NATIONS' ACRO SPORT II FLIES!

by John Nations, Boca Raton, Florida.



John runs the airplane up prior to its first flight of 7/3/87.

Let me tell you a short story about N113JN. The plans were ordered in late 1979 (serial No. 113). The airplane was started on 1/80. The sequence of construction was wings, tail section and fuselage. It all sounds pretty straight forward, but it took 7.5 years to complete with its first flight on 7/3/87. N113JN was built from scratch, all welding, woodwork, covering, painting, wiring,



John's Acro Sport II with the cowling and side panels off, ready for run up. Note the fire bottle! His scheme is in yellow with orange sunburst and blue leading edge and fuselage trim.

engine work and metal fabrication was done by me.

Attention was given to weight throughout the construction. No nails or staples were used in the building of the ribs or the wings, all edges are rounded and trimmed, the spray coats for covering and painting were kept to a minimum. This effort paid off when N113JN went to the scale. 1,032 lbs. empty weight (without wheelpants) and the CG was

right on the money. That does not sound too remarkable, except for the fact that the airplane is equipped with a full electrical system, geared starter, Lycoming O-320A3B with a constant speed propeller, full inverted fuel and oil systems, battery mounted below baggage compartment, wing tip strobes and nav lights, basic front cockpit instruments, 760 channel communications unit, Loran and transponder. You can probably tell from the above features that the airplane was a compromise between a puddle jumper and aerobatic aircraft.

Now to the fun part — the flying! The first flight took place with 0.75 hours on the tach with a VariEze piloted by Don Riley in chase and a video recorder capturing the moment. (A side note — if you can get someone to video tape your first flight without being a distraction to the flying task at hand, DO IT!! You will never regret it and others can share the moment from the comfort of your sofa.) The first flight (and landing) was very uneventful. The flight lasted about 15 minutes with steep turns and stalls — it flies beautifully. N113JN is

flown at every opportunity, flight time is about 45 hours to date. It flies hands-off and is a very honest airplane. Aerobatic maneuvers to date — spins (upright, flat and inverted), rolls (slow, aileron and arrel), loops, hammerheads and combinations thereof. No snap rolls have been attempted, mainly due to preserving the constant speed propeller.

I cannot say enough about the GREAT flying characteristics of the Acro Sport II, but maybe the twenty or so persons I have given rides to can help me come up with the right words.

Still to be completed are the installation of wheelpants and the painting of the fairings and cowling. I can not seem to find the time to work on the finishing items; there has been too much good flying weather. I am also looking at installing a double canopy. I have been in Florida too long, it gets cold up there!

Thanks for your patience, help and advice during the building of N113JN. I have included a couple of pictures of my ex-project and now airplane! See you at Sun 'N' Fun!

Happy Flying!  
John Nations

## DETAIL SUMMARY

Acro Sport II — N113JN

Empty Weight — 1,032 lbs.

Right main — 480 lbs.

Left main — 484 lbs.

Tailwheel — 68 lbs.

Empty Weight CG — 73 inch (6 inches forward lower leading edge)

Powerplant — Lycoming O-320A3B (150 HP)

Hartzell 72 inch Constant Speed Propeller

Bendix PS5C and Christen Inverted Oil System

Stall Speed (power off) — 53 (single) to 58 (at gross) MPH

Rate of Climb (at 75 MPH) — 1,400 FPM (single)

1,000 FPM (at gross)

Cruise at 25/25 at SL — 108 MPH

Max Cruise at SL — 121 MPH

Covering — Stits Polytone and Alumathane

Colors — Lemon Yellow, Cruiser Orange and True Blue

Avionics — II Morrow 706 Comm (Antenna mounted in wing tip)

II Morrow 602 Loran

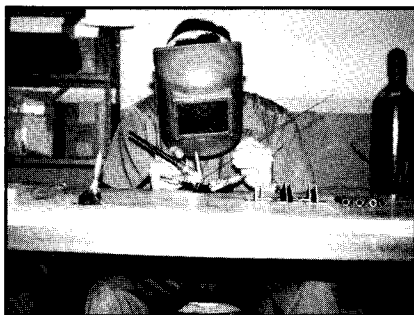
Bendix Transponder

## JIM ROWLEY'S ACRO SPORT II

by Jim Rowley, 163 Elm Street, Meriden, Connecticut, 06450; telephone (203) 237-7179.



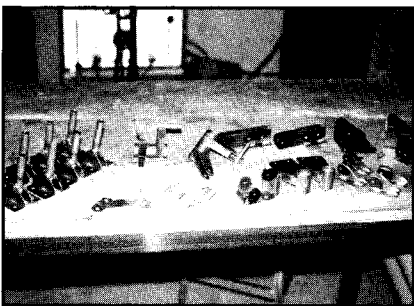
Jim has tacked and glued the leading edge down and is bending the leading edge around the ailerons.



Jim Heliarcing his aileron fitting.



Rowley's Acro Sport II on the gear.



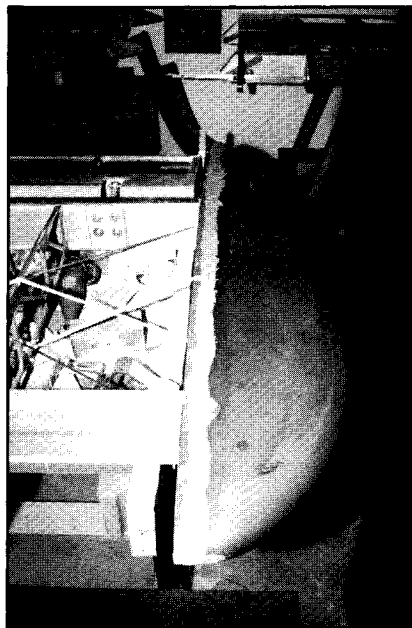
Acro Sport II welded fittings.

Jim started building this airplane in November of 1985 and has completed the ailerons, all wing mounting hardware, all wing ribs, rudder, stabilizer and elevator. Most of the small brackets and stand offs for stringers are done also. Jim says, "Your plans are the best I have seen for any aircraft. I will send more pictures in the months to come because now I am working on building the motor mount. My occupation is a tool and die maker. I would be happy to help any fellow builders in any way possible." Keep up the fine work, Jim!

## TIPS AND HINTS

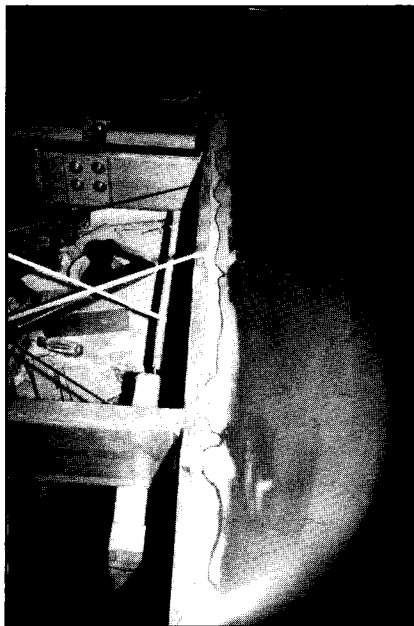
by Tony Hohenwalde, Contributing Editor

EDITOR'S NOTE: I am very pleased to introduce you to Tony Hohenwalde, Contributing Editor. Welcome aboard Tony!



Micro-Putty on wingtip before sanding.

A good way I have found to fill the gap, cover the screw heads and smooth out any uneven spots where the fiberglass wingtip joins the end rib is by using Stits "Micro-Putty". Strong, flexible and easily sandable, it is also excellent for final contouring in areas of the nosebowl where it is desired to obtain a snug, flush match between the nosebowl flange and cowl cheek. (See photos.)

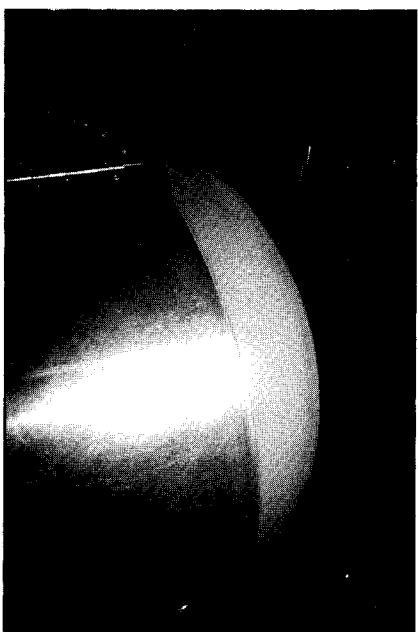


Micro-Putty after sanding and blending with rib contour.

For those who are concerned with extra security in fastenings, particularly in the control system, Aircraft Spruce and Specialty Co., Box 424, Fullerton, CA 92632, supplies an elastic stop nut that is also castleed for use with a drilled bolt and cotter key. Designated "MS 17825 — self locking castle nut", they provide dual-protection against loosening. They are, however, not cheap (read "VERY EXPENSIVE"), ranging in price from \$.83 each for -3 (10-32) and -4 (1/4-28) all the way up to \$1.53 for a A-7 (7/16 -20).



Nosebowl flange built up with Stits Micro-Putty.



Showing match-up of cowl side cheek and nose bowl achieved by use of Micro-Putty and hours of build up and sanding.

If this added security appeals to you, this would be a good way to go. The

control system only uses 3/16" and 1/4" bolts, requiring the least expensive of these nuts, which even at almost \$1.00 each represent but a very small percentage of the total aircraft cost.

Incidentally, while we are talking about hardware, I have known builders who have attempted to use "hardware store" bolts in place of "AN" Aircraft Hardware. DON'T EVEN THINK ABOUT IT!! It is OK for preliminary assembly while under construction (no point in scratching the cadmium plating of expensive hardware at this stage) but not (read "NEVER") for final assembly.

An interesting test is to take an aircraft "AN" bolt and a hardware store bolt of the same diameter and length, chuck the head in a vice, put a nut on the end and torque it until the bolt shears. Convinced?

I cannot overemphasize the importance of varnishing the wing structures as soon as they are completed. The experience of a friend of mine is a case in point. His wings were finished, drag wires installed and the wings trammed, true and square — but not varnished. After many months of varying temperature and humidity, they no longer trammed true. The ideal moisture content of aircraft grade spruce is 12% to 14%. Prolonged storage in an unprotected state with temperature and humidity changes can drastically alter this. 'Nuff said!

#### HELP WANTED — ALL YOU BUILDERS OUT THERE!!

We need questions, answers, tips, photos, articles, etc. This is your forum for the exchange of ideas and information. Let us hear from you! Addresses to submit to follow:

Ben Owen  
EAA Wittman Airfield  
Oshkosh, WI 54903-3086  
(414) 426-4800

Tony Hohenwalde  
3550 Jackson Way  
Thornton, CO 80233  
(303) 452-4180

#### MAINTAINABILITY AND ACCESSABILITY

by Tony Hohenwalde, Contributing Editor

These are two long words to remind us that if you can't get to it, you can't fix it or inspect it. I don't know how many of

you have ever seen a factory built (a.k.a. Spam Can) aircraft opened up for an annual inspection, but when all the access and inspection plates have been removed, the aircraft looks as if it had suffered a blast from a giant shot gun.

Fortunately, most homebuilts, and in particular, our Acro Sports and Pixies, don't have the systems complexity of Wichita Iron; also, homebuilders are more adept at using the "KISS" system (Keep it Simple, Stupid!) of design and construction.

The time to think about and plan for this is during construction. For example, when installing the aileron control system in the wings, you will need to provide access to the bellcrank and idler assembly. Also, the drag wire ends, flying and landing wire terminals, aileron hinge fittings and the pitot-static line fittings.

A good place to make the connection between the pitot-static lines in the wings and the lines in the fuselage to the instruments would be in the area between the butt rib and the fuselage side — this is then easily inspected when the wing gap cover is removed.

Another suggestion — although a failure or problem with the aileron bellcrank is extremely remote, it might be a good idea to put the bolt holding the bellcrank to its mounting bracket in upside down, otherwise, removal of the bolt will require cutting a hole in the fabric on the upper surface of the wing. I know this violates the standard practice of bolt heads on top and facing forward, but sometimes exceptions have to be made.

A good idea might be to mark your plans as construction proceeds at the places where access will be needed. Then, when covering starts, they won't be overlooked.

Keep in mind, anything that moves can wear out, any fitting can crack or break. Can the part or fitting be inspected, repaired or replaced without damaging the covering?

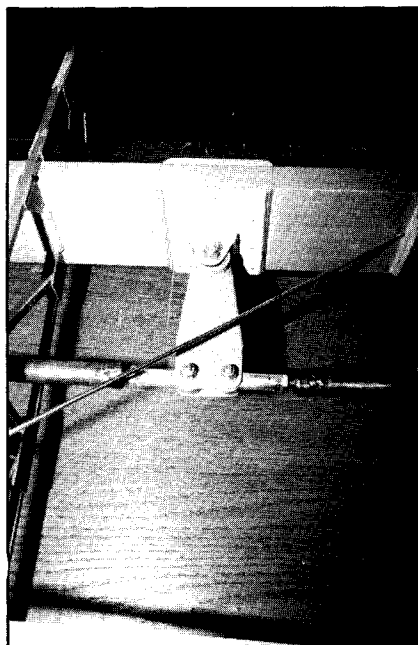
Access in fabric covered areas is normally provided by plastic rings doped to the fabric, the fabric within the ring cut away and the opening covered with a metal snap-in plate. (A word of caution — any access plates on the upper surface of the wings should be held in place with screws, as the tight flow of air and the negative pressure on this surface could lift off a snap-in plate.) Many builders do not cut the openings at initial construction, but rather wait until the first annual inspection is due.

This is OK, but I would advise painting the plates when the aircraft is painted to be sure of having an accurate color match.

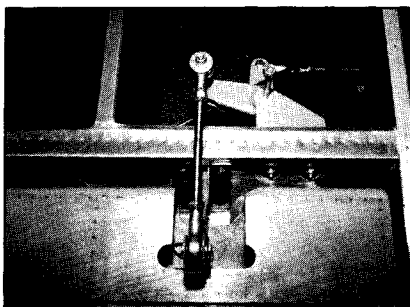
Access to the metalized portions of the aircraft is by means of metal plates fabricated to cover an opening, such as at the cabane mounting fittings. A word about sheet metal screws — start with the smallest size which is practical, say a No. 6. Holes have a way of becoming enlarged as screws are removed and replaced, and if you begin with a No. 10 screw you may eventually need a 1/4 inch bolt. Loose or partially disengaged screws are not only unsightly, but can be dangerous if one were to jam in a control hinge or fitting. My own preference is to use nut-plates or riveted Tinnerman nuts. However, when you hold one of these in your fingers and then let go, it falls to the floor — therefore they do weigh something. Builder's choice.

I don't believe it is a good practice to re-torque a bolt if it is already properly torqued. (A possible exception to this might be where fittings are bolted to a wood structural member.) One way to tell if nuts have loosened is to put a dab of brightly colored paint on the side of the nut and on the adjacent washer, fitting or bolt end. If, upon inspection, the paint lines haven't moved relative to each other, the torque valve and tightness of the bolt has not changed. (It ain't broke, so don't fix it.) A bright red fingernail polish works well for this.

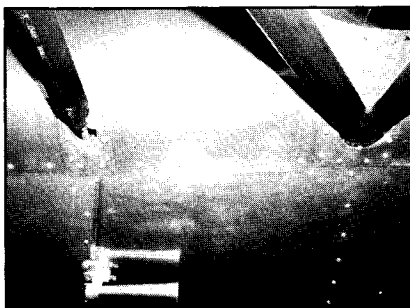
In conclusion, the accompanying photos illustrate some of the maintenance and inspection points discussed. There are many more — can you find them?



Aileron idler assembly viewed from bottom of wing.



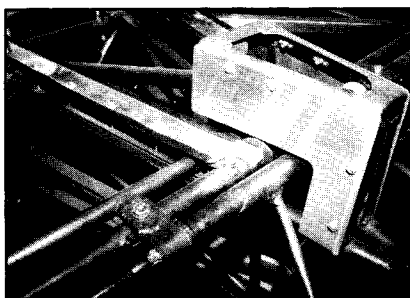
Aileron bellcrank and pushrod assembly. Note holes cut in well cover to give access to bolts holding bellcrank bracket.



Access plates at wing cabane attach fittings.



Stabilizer attach bolt can be inspected without removing gap cover. Similar opening in bottom of cover for access to nut.

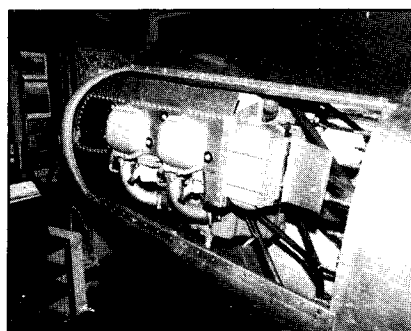
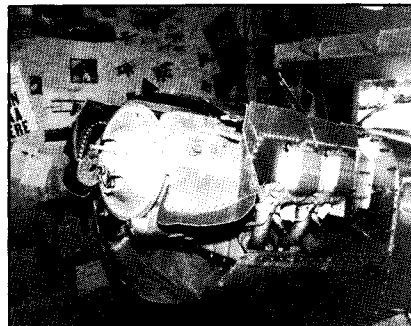
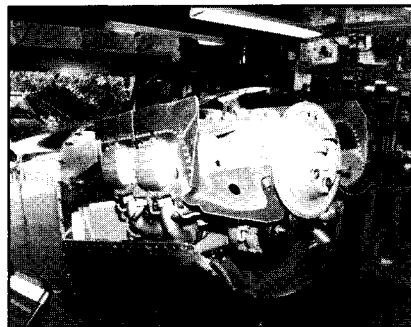


Elevator horn access box with inspection cover in place.

### BAFFLE INSTALLATION

by Tony Hohenwalde, Contributing Editor

The baffles are cut from 2024-T3 aluminum, .032" thickness using patterns given by Tony Bingelis in his article in the October 1986 SPORT AVIATION magazine.



Acro Sport II Baffling

### MAKING WINDSHIELD FRAMES FOR MY ACRO II

by Tony Hohenwalde, Contributing Editor

Following a fruitless search through ten years of SPORT AVIATION magazine, EAA builders tips, and other reference materials at hand, I finally picked up the phone, called Ben Owen and slowly, desperately cried HELP! As always, he did. Although Lou Stolp is no longer associated with the Starduster Corporation, they sent me an article Lou had written, which is presented below:

**HOW TO INSTALL WINDSHIELDS** by Lou Stolp. **READ ONCE COMPLETELY BEFORE STARTING!** One of the most frustrating jobs for many builders is fitting the windshield and especially the band around the lower attachment to the cowl. Lets approach the problem step by step. Like many problems, there may be better ways to do the job, but this one works very well.

*The first thing to do is fit the windshield to the cowl. It is advisable to have a smaller cockpit hole in the cowl than you intend to end up with so as to give*

support when fitting the windshield and forming the band. The same basic windshield will fit many airplanes so they must be individually fit. First remove the protective coating, then hold the shield in approximately the position you want it and eyeball where to cut the majority of the trim. Next, place reference marks on the cowl to position the windshield to the cowl. Measure from rear cockpit bulkhead forward and the same distance up from the longerons. Mark the final windshield trim with a felt tipped pen. This is done by placing a small spacer under the pen and holding it flat against the cowling. After final windshield trimming, all edges must be smoothed by sanding or similar method. Next, mark a line 1/2" up from the bottom of the windshield so it parallels the longer edge. Divide this line starting 1/2" from the tail of the windshield into approximately 2" divisions. Using a high speed (fast turning) drill motor, drill some #10 or 3/16 inch test holes in a piece of scrap plex to make sure it does not crack the plexiglas. **DO NOT DRILL PILOT HOLES** as they can cause the larger drill to grab when it goes through. When you are satisfied you are drilling a smooth hole in the scrap, drill the holes in the windshield. After drilling all the holes, slightly chamfer the edges of all holes. When this is done, you are well on the way to becoming a hero.

Now all that we have left is to install the attach band. Make the band from .040" aluminum "O" condition, but lets make a pattern first. Poster cardboard is good to make the pattern but Bond paper works very well. Hold the pattern material against the outside of the windshield and draw a line around the lower edge. On the pattern, draw parallel lines 1" from this line, both sides. This is your pattern. Now cut this from the .040" soft aluminum. Using skin clamps, secure this aluminum to the lower edge of the windshield making sure to center the band. Drill No. 30 holes with the No. 10 holes in the glass. The windshield has larger holes so there will be no bind on the glass causing it to crack. Start from the center when drilling the band and cleco each hole if you have them available; if not, use bolts and nuts. Do not overtighten. After the band is drilled it may be removed and countersunk, if you want to use flush rivets. Check fit and smoothness, then install a piece of plastic electrical tape to the band where it will come in contact with the windshield. Next, using 1/8" soft countersunk rivets, again starting at the center, remove the clecos one at a time and using a large O.D. washer against the plexiglas, rivet the band to the windshield. Now you are almost a hero. All you have to do is bend up the flange.

Clamp a short length of approximately 1 inch diameter hardwood Dowel in the vise. Hold the windshield upside down and index the flange over the Dowel approximately on the center line of the flange. With a rubber hammer, gently form the flange to approximately the proper angle. It takes very little forming. Now a second person is handy. Hold the windshield on the cowl and using a short length of 1 inch hardwood Dowel and a hammer, complete the forming. It is a help to buck up under the cowl while forming the flange. Drill attach holes as necessary and again facing the mating side with electric plastic tape, the shield is ready to install. Make final cockpit trim and install the windshield. You are now eligible for a hero badge. How about that!

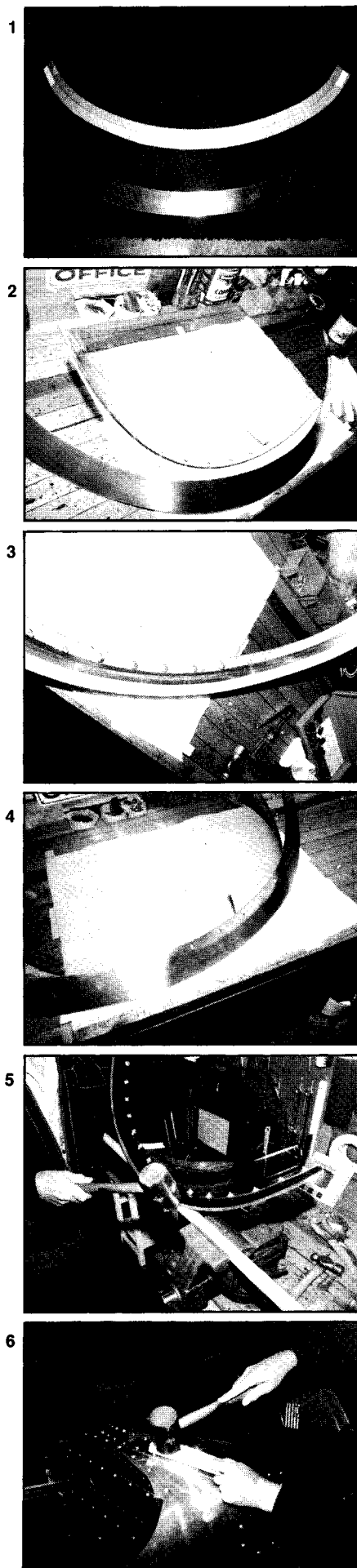
I deviated from Lou's instructions almost immediately — I read it more than once! Seriously, I found his article very helpful. There were some step-by-step photos with the article, but they were copied from another copy, and would not reproduce very well again. Therefore, I have included some pictures of my own installation.

As Lou's article states, I made a cardboard pattern and then cut the frame from .040 inch 6061-0 aluminum. (See Photo 1.) I deviated from the article in that I drilled 5/16 inch diameter holes in the plexiglas and 3/16 inch diameter holes in the frame. I then used 1/2 inch 10-32 machine screws to mount the frame to the windshield. (See Photos 2, 3 and 4).

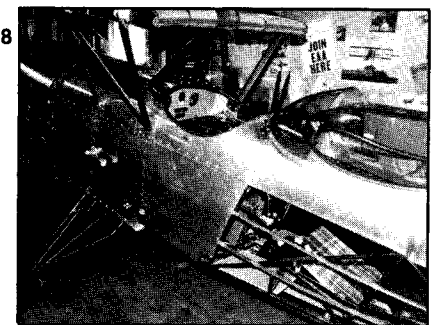
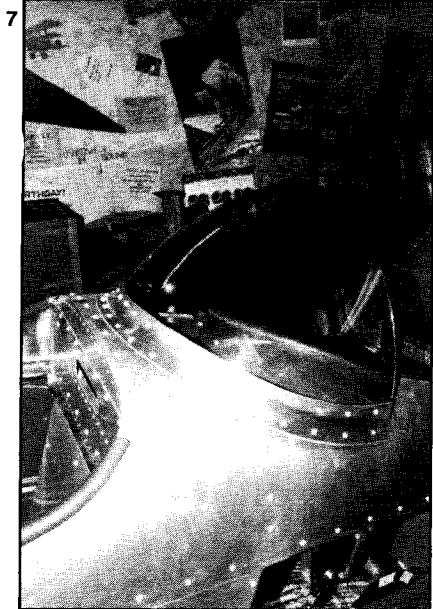
In Photo 5, you can see the plastic electrical tape on the back of the frame. There is also a thin, rubber washer between the plexiglas and the metal washer and nut. Photo 5 also shows the forming process using the hardwood dowel and mallet. Gentle taps is the key word here. Aluminum in the "O" condition is very easily formed and "Gorilla" tactics are taboo.

Photo 6 shows the final "Dress-up" forming with the windshield on the aircraft. Lou is 100% right about the extra pair of hands. This is a very tedious task to attempt alone. The hands in the pictures belong to my good friend, Ernie Welborn, aviation enthusiast and retired Sheet Metal Worker and Technical Illustrator for Martin Marietta Corporation.

Photos 7 and 8 show the windshields installed on our Acro II. I purchased the windshields from "The Airplane Factory, Inc." They included some helpful hints on the care and feeding of plexiglas, presented below:







## TECHNICAL TIPS FOR ACRO SPORT I AND II AIRCRAFT

When building your Acro Sport I and II ailerons and are cutting out for aileron hinges, we suggest you try the 1/4 inch wide socket on the aileron bolts after you have bent the first hinge up to make sure they are wide enough to accept a socket. If not, you can build them slightly wider and use washers to be sure the rod end is tight.

Unfortunately, I don't have pictures, but from the Starduster Newsletter from a contributor identified only as Bob H., an idea to use an automotive engine stand as a painting stand for wings. You will need to make a fixture to fit the root fittings, and in between the fixture and the root rib is placed a short stick of wood so that the wing is actually cantilevered out on the motor mount and can be turned in many directions for painting of trim, etc. If you work it right, this shouldn't place an undue load on the root fittings.

## ACRO SPORT II REAR INSTRUMENT PANEL, FRONT HEAD REST AND FRONT INSTRUMENT PANEL

We do suggest that cardboard patterns be cut out for these before you start forming sheet metal. It is also an excellent idea to run either strings or tape over the top of the cowlings, from the nose bowl all the way back to the instrument panels to make sure everything is lined up nicely. On the aircraft we have uncovered in the museum, the front headrest and front instrument panel had worked out. We used the dimensions given on the plans, however, due to tolerances on the rear instrument panel, that particular dimension of 26-1/4 inches went to 26-3/4 inches. We do suggest you check this carefully before cutting sheet metal and before making jigs.

## ACRO SPORT PLANS CORRECTION

ACRO SPORT II, SHEET 3, ZONE D-4: The aileron stop dimension of 2 inches was found to be 2-5/8ths on our aircraft in the museum, and you may wish to check this before installing the stops for the ailerons.

NOTE FROM BOB CUNLIFF, ACRO SPORT BUILDER: On the fuel system for the Acro Sport II, the vapor return line to the gauge must dip around the cutout for the cockpits, but do try to keep it gradual so fuel won't collect in that area. Sheet 17 shows a straight line. This is not correct.

## PROJECTS FOR SALE

ACRO SPORT II, 80% complete, for sale for \$6,000.00 from Jody Taylor, Box 272, Kaycee, WY 82639; telephone (307) 738-2581.

ACRO SPORT II, complete, for sale. This project is covered, painted yellow, white and green. It has two parachutes of the old military style, a disassembled O-290 B-4 of 140 HP, no prop, some instruments and an extra case, a PS5C carburetor, cleveland wheels and brakes. Contact Dan Massopust, Rt. 3, Box 544, Menomonee, Wisconsin 54751; home telephone (715) 235-8186, and work (715) 839-8484. He has \$15,000.00 invested in it and is asking \$10,000.00.

ACRO SPORT II, completed and flying, for sale. N35DQ from Daniel Quebedeaux, Jr., Rt. 1, Box 501, Arnaudville, LA 70512. The story on this aircraft appeared in Newsletter #10. He has 43 hours total time on the aircraft and has lost his airstrip. He has \$25,000.00 invested and this is his "bottom" price.

## NOTICES

### CAMERA NEEDED DURING CONSTRUCTION

We suggest that any builder purchase a Polaroid camera, as you are going to need one anyway. Some of the new requirements for amateur built aircraft are photographs taken at various times during construction. EAA suggests that you take photographs of yourself working on the aircraft. The primary purpose of this and the written log of your day by day activities is that this is what is used to determine that you did, indeed, build over 51% of the aircraft. It is suggested that a three ring binder with lined pages be used for this running diary of work, photographs, bills of sale, etc. At the end of the construction period, you can purchase one of the smaller aircraft logs, like those sold by EAA, so that you won't have to carry the heavy builders log in the aircraft itself. You can make one final entry in the construction log carrying it over to log book 2, and then make this a small aircraft log to carry with you.

Another advantage of a camera such as this is that you can take pictures of your project from time to time to send on to us for publication in the ACRO SPORT NEWSLETTER! Possibly you could also send on some technical tips or articles that we can use.

## TECHNICAL TIPS FOR ALL AIRCRAFT

1) The welding rod used on steel tube welding is Ox-Weld No. 7 or any similar rod, which is a mild steel. We suggest you do not use copper coated rod unless you have a problem with your rod crusting in the location where it is stored. Ox-Weld No. 32CMS is only for 4130 steel tubing that will be heat treated afterward. This is not necessary on the aircraft sold by Acro Sport, Inc.

2) From John Zark of Streamwood, Illinois comes this note: I spoke to a technician at Chem Tech (T-88 Epoxy) Inc. As I am using their adhesive and am using garnet sand paper and aluminum oxide sanding disc on my wood. He said these are fine as long as the dust is removed from the wood by wiping with the edge of a piece of glass. He also said to clean up any wood that is very rough and hairy (cut with a dull blade) as the epoxy tends to stick to the hairs and does not give a good bond. At least, not as good as it could be. He also advised against using regular sandpaper, which I know, and wet or dry paper, which I didn't know. It seems wet or dry leaves a residue which can cause a poor bonding. Thanks for listening. — John R. Zark.

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