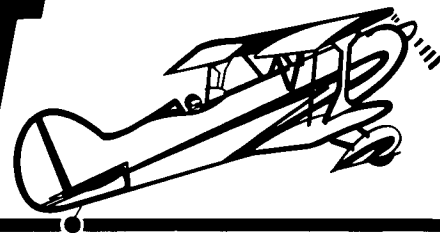


ACRO SPORT Newsletter



No. 28

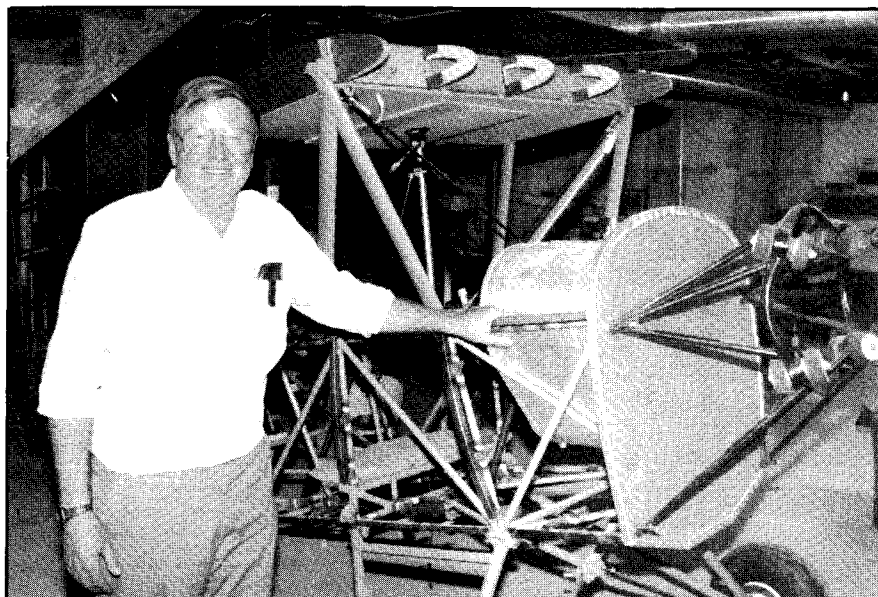
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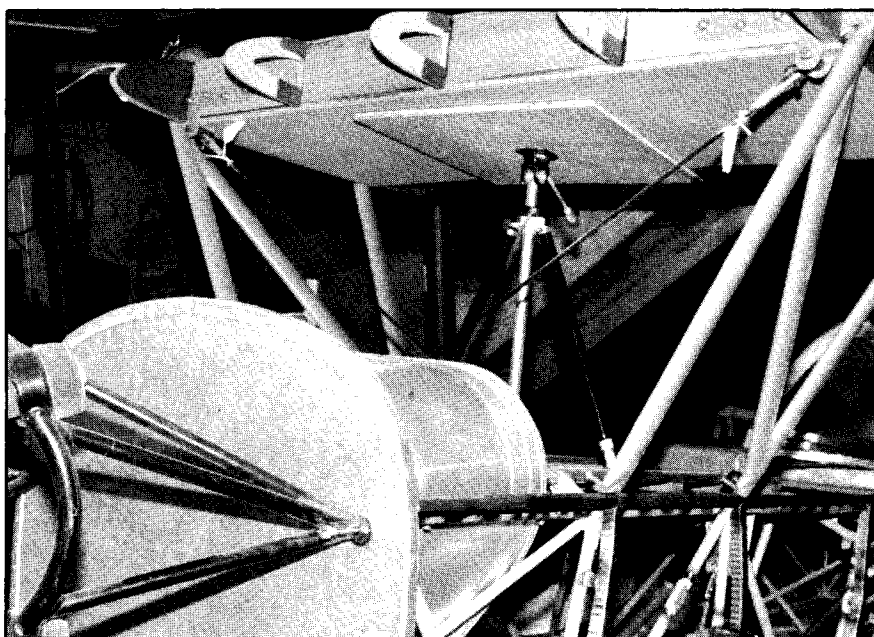
June 1989

BOB CALLIS' ACRO SPORT II



Bob Callis and his Acro Sport II project under construction at his home. Bob's Address: Robert S. Callis, RR 2, Bedford, Connecticut 40006-9802, telephone (502) 255-3576.

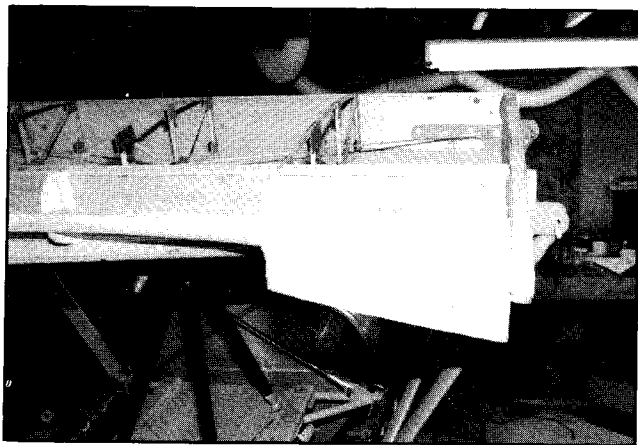
This photo shows a very ingenious use of a photo tripod to hold the center section in place while jiggling it up.



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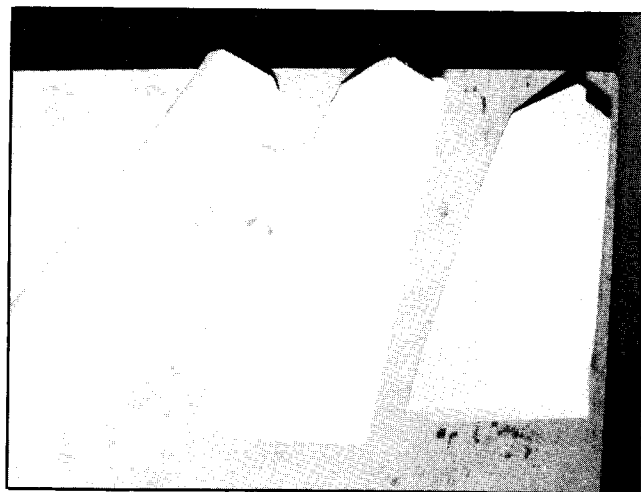
Bob Callis' Acro Sport II



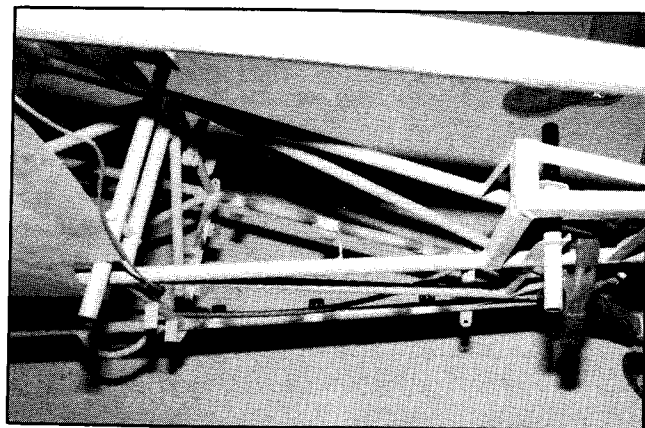
This photo shows two of the blocks in place. It should give you a good idea how to handle this area.



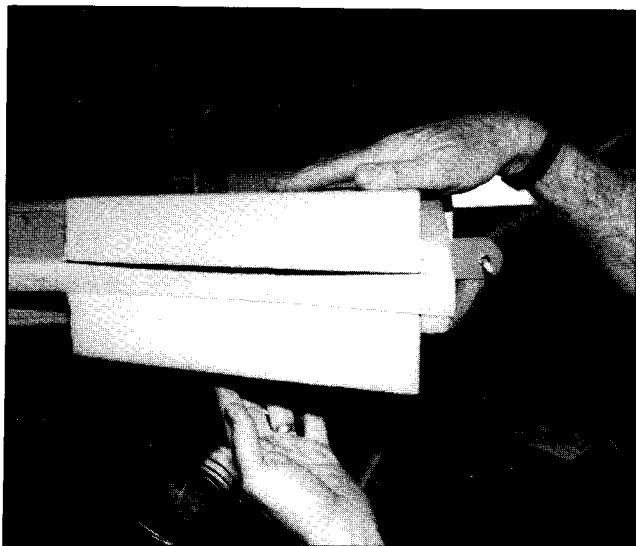
Bob put his aircraft together with T88 using a scale for measuring the glue. T-88 is 1:1 by volume — a little different by weight.



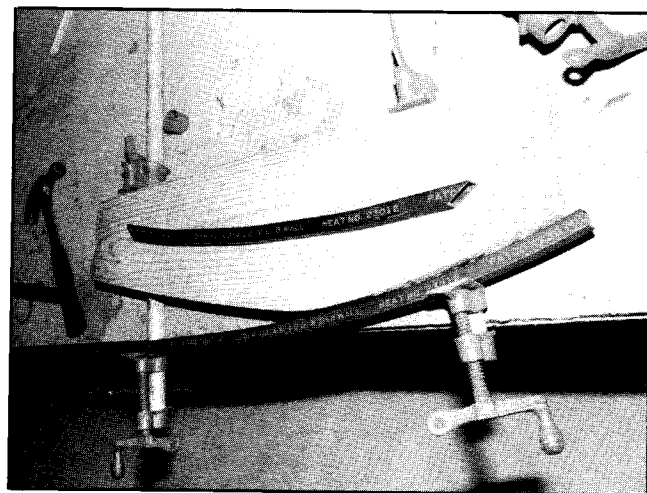
These show the foam pieces that Bob cut out to fill his space in the upper wing trailing edge at the root.



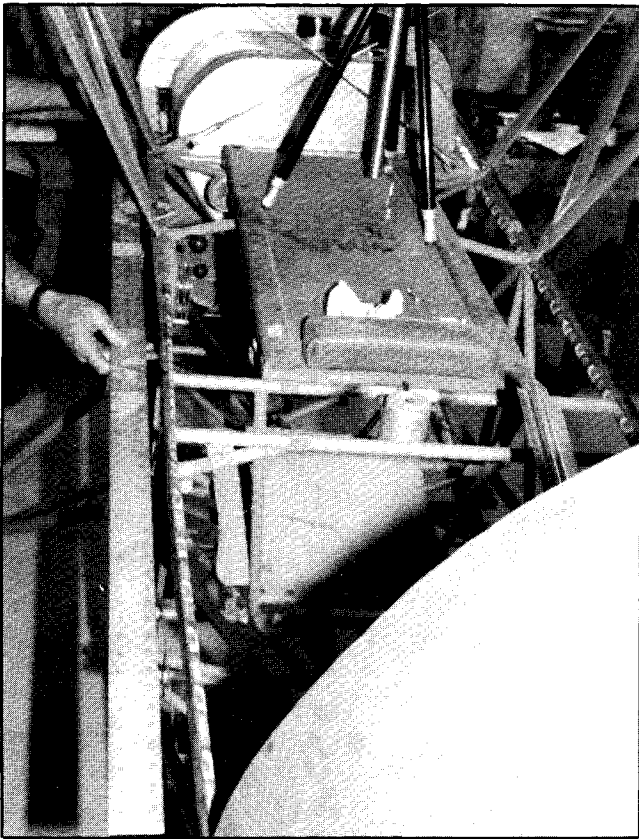
This shows the horizontal stabilizer supports and the nice work Bob has done in this area. This is a rather busy section of the airplane and requires some thought. He has put tabs on the bottom longeron so he will have a large inspection plate from the bottom up.



Bob holds all three of the blocks in place. They will be glued in place and then sanded to shape.



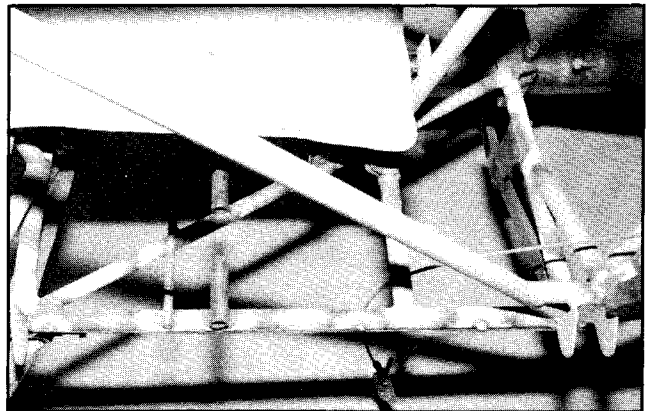
A bending guide for forming the square channel, making up the top and bottom of the I strut. He found it works quite well. The pipe clamps are tightened down slowly and the metal is bent cold.



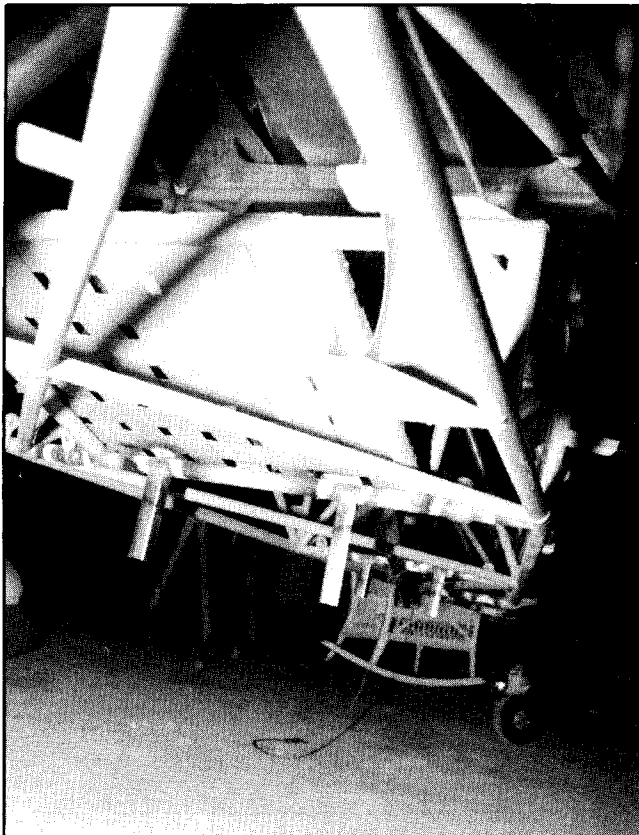
This shot shows the photo tripod in place on an unused auto creeper. It also shows the method Bob uses to line up the stringers on the side with a long straight edge.



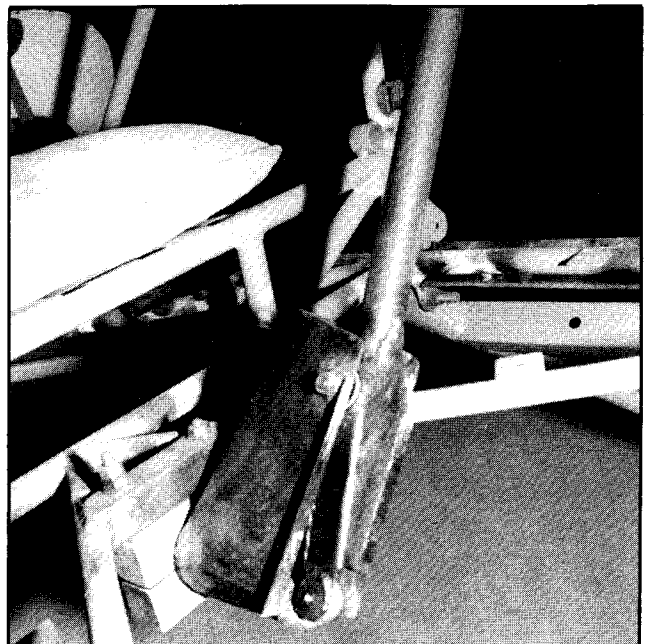
As the plans show, the hydraulic reservoir for the brakes in back of the front seat on the top cross member.



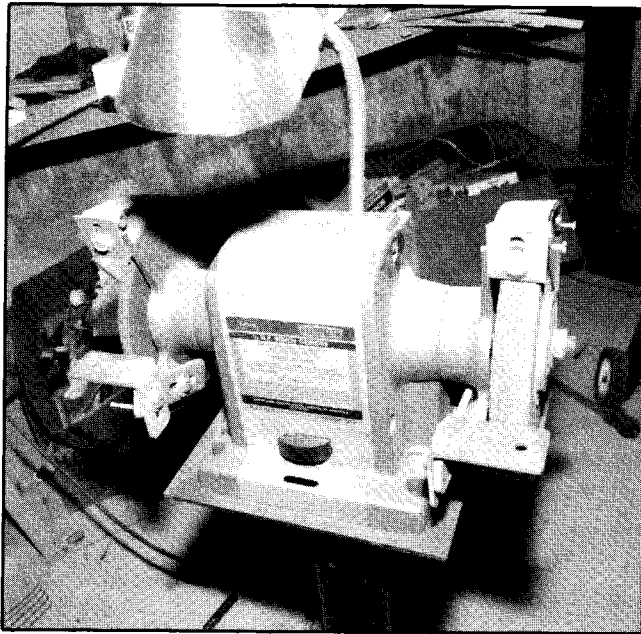
This shows the welding in the rudder pedal area. Bob has constructed the aircraft to plans and hasn't had a great deal of difficulty with pedal installation.



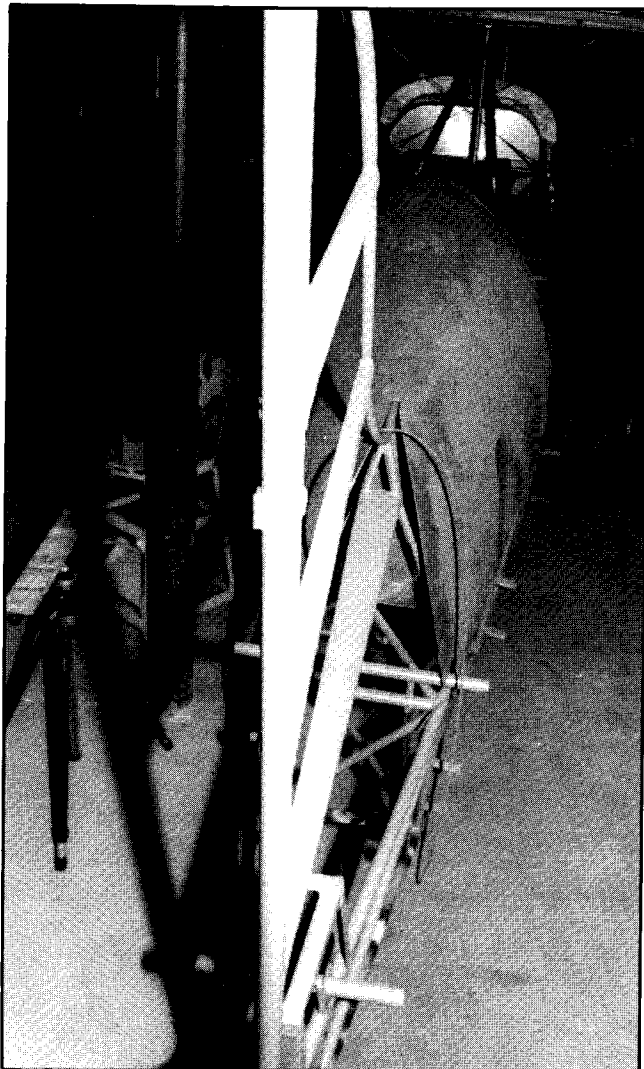
This shot is from the bottom up. Notice the stringer stand offs, welded in place, but not yet cut. The mount is in place for the Christen fuel pump.



This shows the proper construction of the stick and the fact that the push pull tube through the torque tube is very close to the bottom of the torque tube for proper results.



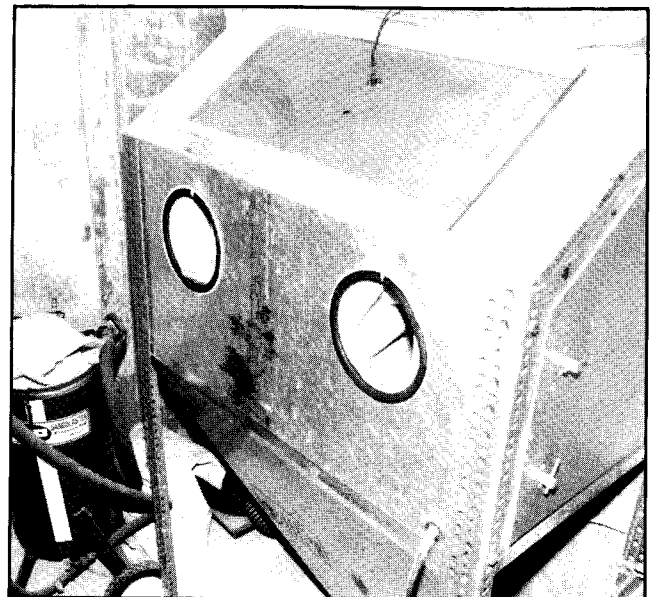
On the left hand side of Bob's grinder is a small wheel for forming the tubing joint. A large wheel is not practical for this.



This tail shot shows the fin offset. You've never heard any Acro Sport II builder complain about having too much leading edge fin offset to the left, so make the fin offset as large as possible.



Bob holds the ailerons and a clever little U-clamp of plywood shown attached to the aileron. He made a number of these to hold the back of the leading edge plywood down to the spar while it was drying. He reports that they work quite well.

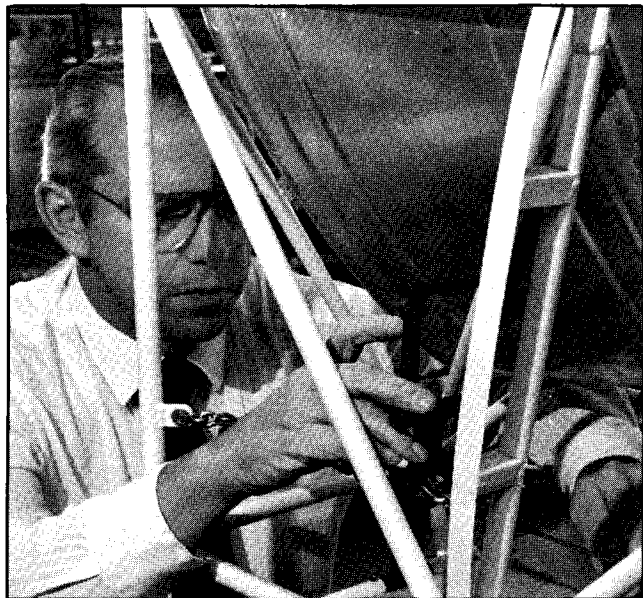


Bob gets some nice results using the sandblasting cabinet he built from plans supplied by the manufacturer of the sandblasting tank. The company is "Skat Blast", P.O. Box 2739, Youngstown, Ohio 45507, telephone (216) 743-9733.

Notices

NOTES FROM THE EDITOR

Ben Owen



OSHKOSH FORUMS

The Acro Sport I and Acro Sport II forum will be held on Monday, July 31 from 1:00 to 2:15 p.m. in tent no. 8. All are welcome, and these informal forums can be participated in by any builder or interested enthusiast. Some of the presenters will include Bud Judy talking about flying the aircraft; Maynard Engel - building and flying; Tony Hohenwald - building; and Ben Owen.

The Pixie forum will be held on Wednesday, August 2 from 10:00 to 11:15 a.m. in tent no. 8. Dr. Hartwell Jewell and John Leitus will be presenters. Both men have built and flown Pixies.

The Pober Corben Jr. and Sr. Ace forum will be held Wednesday, August 2 from 11:30 to 12:45 in tent no. 8. The presenters are yet to be determined.

OSHKOSH DINNER

The dinner will be held at Robbins Restaurant off Highway 21, one block east of Highway 41 at 1810 Omro Rd., Monday, July 31st. Cocktails at 7:00 p.m. and the dinner at 8:00 p.m. with awards following.

JEAN'S NOTE

Jean Kinnaman, President of Acro Sport Inc., would appreciate hearing from any Acro Sport owner who is using the aircraft in aerobatic competition. We would also like to hear from any of you flying the aircraft in sport aerobatics as to any hints and tips you may have. By sharing techniques, we can help improve the airplane.

PAUL'S NOTES

Paul would like any Acro Sport, Pixie, Pober Corben Jr. and Sr. Ace builders to send any pictures that they may have of their children helping on the aircraft. To start this off, we're including a picture below. Paul would also like to remind Acro Sport builders that by keeping very detailed records of the work they do, it is possible to obtain an A&P by building an amateur built aircraft. For further information on this, you can write to Ben Owen at EAA headquarters.



Neil Sidders' Acro Sport II project. Neil's daughter is getting some basic education on the use of a file. Neil hails from Monroe, Louisiana, home telephone (318) 343-3885.

OSHKOSH VOLUNTEERS

We want to thank those who volunteered in previous years working in the workshops at the Stits Tent on the various Acro Sport, Pober Pixie and Pober Corben aircraft. We would like to invite you to return to help out again in those workshops at the 1989 convention.

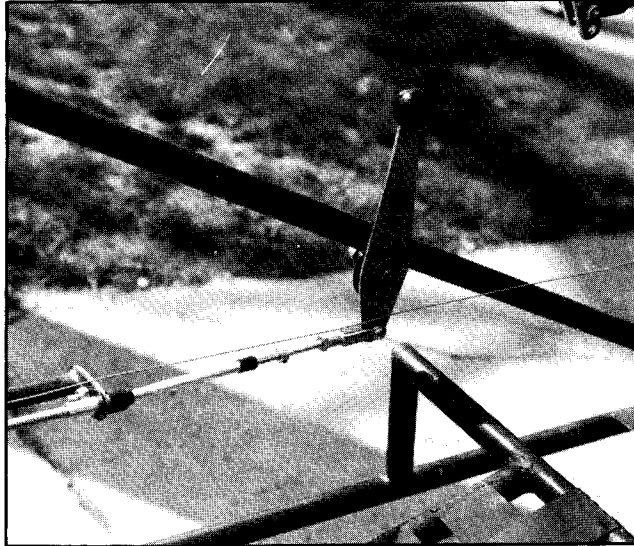
ACRO SPORT HISTORY

As of this date, approximately 2,000 sets of Acro Sport II plans have been sold. This is the most popular of the Acro Sport Inc. plans and is a milestone of sorts for us. Additionally, pilot Wayne Parrish of Apex, North Carolina reports that Mandville Rogers, the original airshow pilot of the Pitts "Sampson", purchased an Acro Sport II and is flying it at his home in Florence, North Carolina.

Technical Tips

ACRO SPORT II TRIM TAB IDEAS By Michael E. Finney

Michael E. Finney, 3008 Imperial Lane, Muncie, Indiana 47302.



This photo shows the cockpit lever that actuates the push pull tube.



This shows the other end of the cable operating the trim tab.

The Trim Tab control on the Acro Sport II as depicted in the plans, allows for a cable that attaches to the aircraft with a jam-nut on either end of the fitting at each end of the cable, as shown on the plans ref; Sheet No. 3 Zone C-2 and sheet No. 4 Zone A-4.

When I received my cable, it was not at all like the one on the prototype in that it did not have threads on it at all! Upon looking over later built aircraft, they too have the cable with the ends like mine. It appears that the cable manufacturers have changed the way they produce the cables.

Since the cable manufacturers do not include any instructions on how the new type is to be attached, builders are coming up with as many ways to attach the cable as there are airplanes. This might be O.K., except I saw one where the builder merely attached the cable to the airframe with hose clamps wrapped around the cable and steel tube! If this were to come loose, even a little, it could flutter!

I also have noticed that some builders don't incorporate any limit stop to the trim tab system, except to let the binding of the cable at its most extreme travel limits do that job.

I would like to get your attention on how important the "Balance Tab" we have on our aircraft is and how potentially dangerous it can become if not set up and properly adjusted, including limit stops.

I submit to you my simple changes that work well with this cable as well as the early cable, as shown on our plans. If you choose not to use my method, maybe it will at least inspire something more than . . . EGAD . . . Hose Clamps?

The first thing I think you should do is read an article in the August 1982 SPORT AVIATION page 19. It tells about the cover aircraft, a Skybolt which uses virtually the same trim tab as our aircraft, that did not limit the travel and almost gave the authors their last wild ride.

With that done, you should be in the frame of mind to give this installation some respect. I have made a drawing, which I have made available, that shows the simple changes that need to be made to the attach fittings as well as the fantastic limit stops I "found". They are 3/16 inch DU-BRO model aircraft wheel collars (85¢ for 4, at your local hobby store including Allen wrench). You merely slip these on the cable before you put the clevis on (both ends) and tighten the Allen screw.

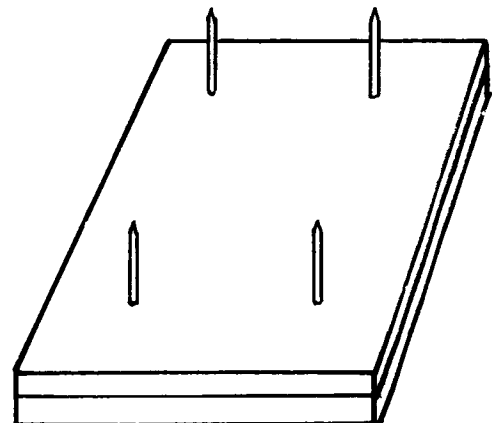
After flying the aircraft and determining that the "stops" are in the proper location, a little shot of Loc-Tite should hold them nicely.

A catch for building the trim tab out of steel (drawing a fitting and trim tab on the same sheet) to be covered with fabric, designed by myself, is available from Ben Owen at EAA headquarters.

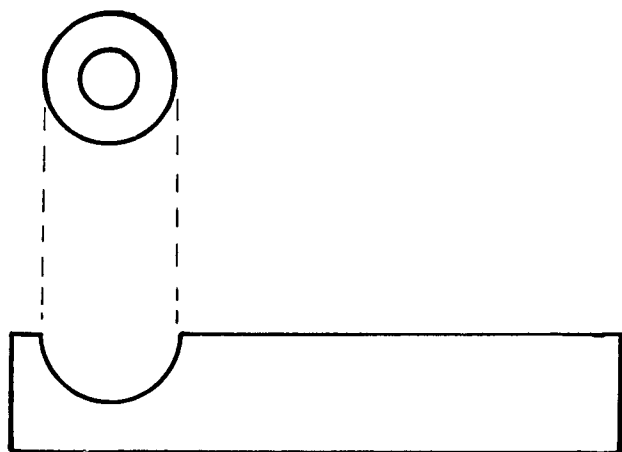
TECHNICAL TIPS

From K. N. Christian, Route 1, Lakewood Acres No. 4, Moberly, Missouri 65270, telephone (816) 263-7937.

Mr. Christian, a technical counselor, reports on his holder for painting small parts. Materials: any 3/8 inch or 1/2 inch plywood or wood. Drill holes for small nails.



Tool for installing shim washers made of scrap aluminum .032 inches thick, 4 inches long by 1 inch wide, use a round file removing necessary area for washer to stay secure. Slide the tool and washer in place to install on a bolt "in very close corners".

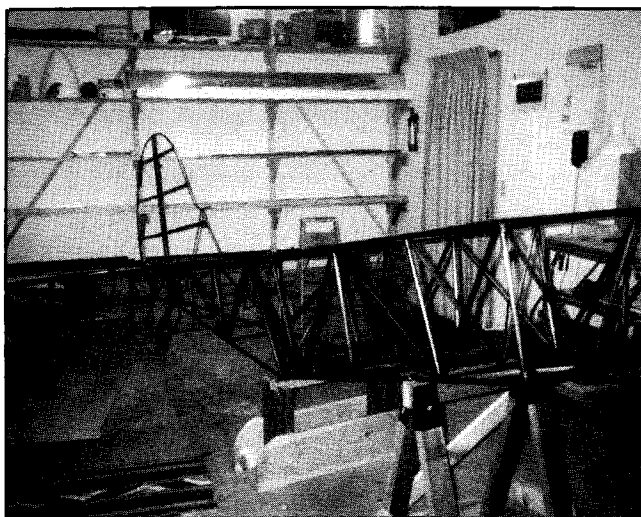


Dust cap for 5.00 X 5 wheels "Cleveland". Use plastic aerosol caps approximately 3 inches in diameter and 2 inches deep. It may be necessary to place 2 or 3 narrow strips of double back adhesive tape to help retain the caps. A depth gage for use on drill bits: just use a strip of 1/2 inch to 3/4 inch wide masking tape at distance desired from drilling in. Wrap tape and leave a "tab" about 5/8 inch long.

BILL BERICK'S ACRO SPORT I PROJECT

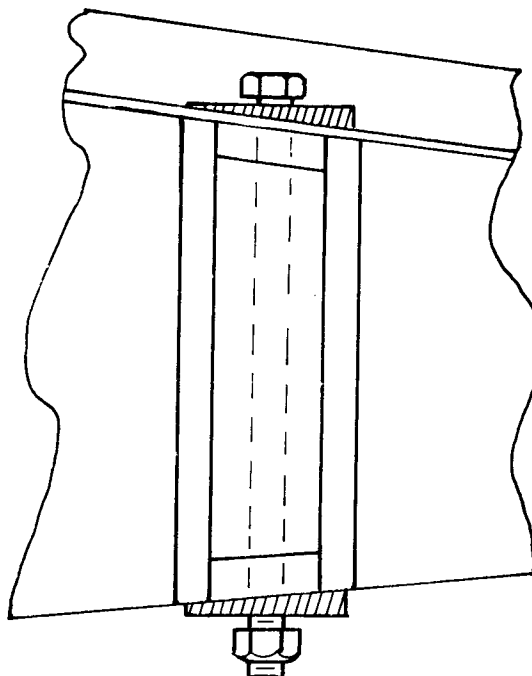
Bill is from 1108 Hunter's Cove, Omaha, Nebraska 68123.

Bill states that he began building the Acro Sport I in 1975 with plan no. 750 and a material kit from Wag Aero. The project was on hold for the past 14 years due to moves and other responsibilities in the Air Force. It is now his top priority since his retirement in June 1988. He hopes to have it completed in 1990.



"WEDGE WASHERS"

We have had a number of calls from builders inquiring about whether wedges should be placed under the bolt head and nuts for the vertical bolts through the spar. This is indeed a good idea to help the bolt carry tension and compression loads better. C. L. "Bud" McHolland, 1432 Big Horn Ave., Sheridan, Wyoming 82801, telephone (307) 674-8451 has used these wedges on his Acro Sport I that makes such an excellent display in our museum. If the bolt carries only shear loads, it may be acceptable to not have the surface under the heads or the nuts flat. If they are to carry any appreciable tension or compression loads, you should have wedges underneath this area.



RANDY SMITH'S PIXIE PROJECT

Randy hails from 539 Counsel Grove, Houston, Texas 77008.

This current picture of Randy's project shows him moving along on the painting and hoping by fall to have the aircraft complete.



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