

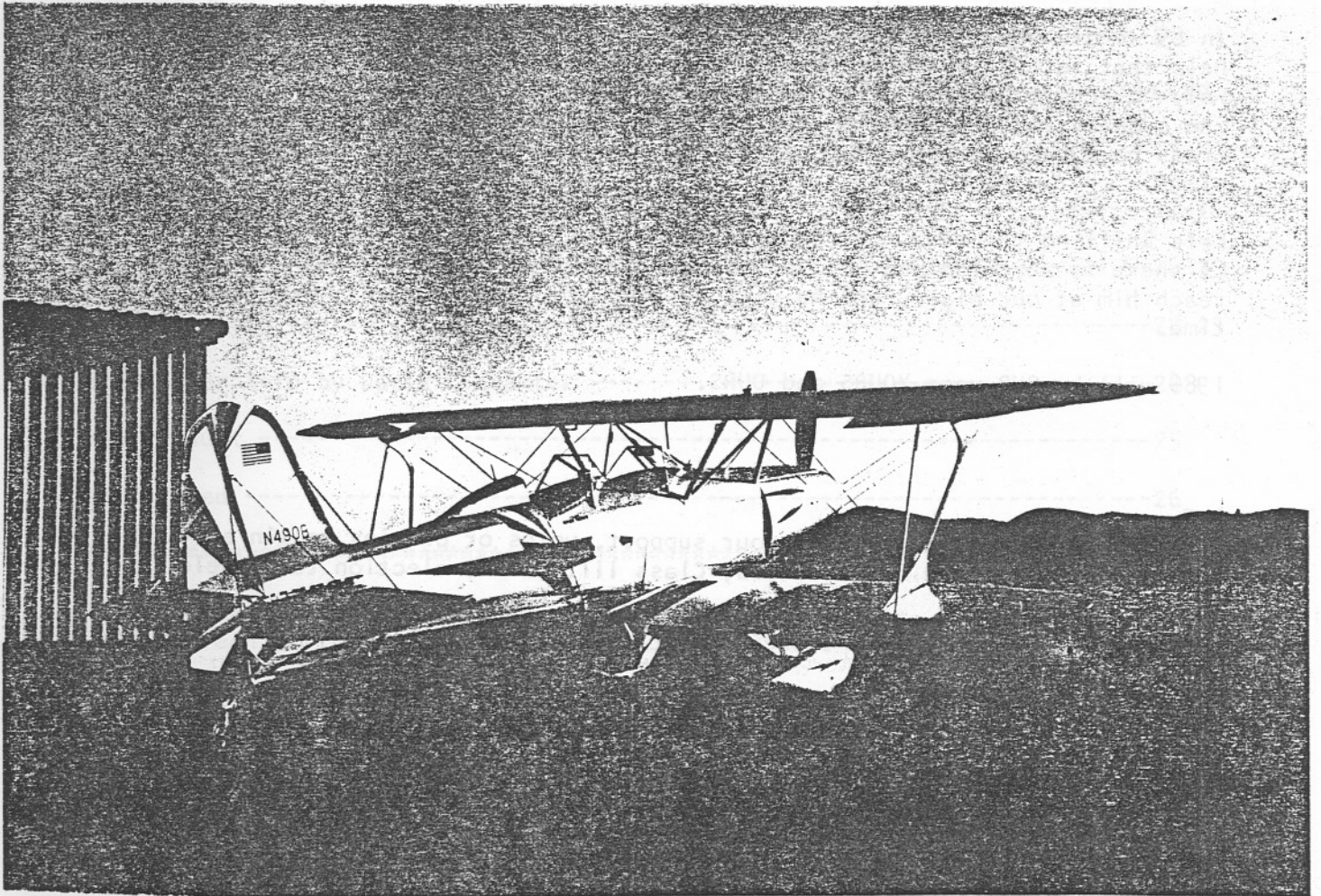
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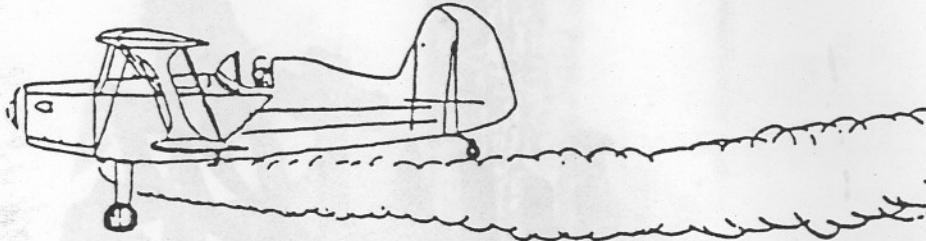
# Starduster

JANUARY 1986

MAGAZINE

DEDICATED TO THE ACTIVE HOMEBUILDER





### PRESIDENTS COMMENTS

"Hello 1986" "Goodbye 1985"

1985 was definitely the year for "Starduster". When we say "Starduster" we are referring to the Starduster Too model biplane. For a few years I guess the SA 300 was a sleeping giant, and last year there was, and still is, a marked increase in sales of plans and kits for the Starduster Too. The giant may have been roused by Bob Wyse's Too at Oshkosh '84" and definitely routed by J. V. Withrow's Reserve Grand Champion at Oshkosh '85". A feature in Starduster Corporation is modestly enjoying this renewed popularity of our product line. In 86 we will continue to try to please those who put their trust in our airplanes and service.

In 85 we did have some trying times, mostly with the attrition of seasoned help that left us for different careers, and supply problems, Spruce, not only "Aircraft Quality", but "Starduster" quality was difficult to obtain in the quantity and time span to satisfy some orders the way we are used to. These areas have been overcome and we look forward to '86" being a good year for all of us.

Eric Shilling the semi retired aviation genius is back with Starduster Corp. If there is anything you want to know, about airplanes or flying, you can reach him at our place, and he will be happy to talk to you. After noon, our time.

1986 will be OUR year YOURS and OURS.

P.S.

Old "B.C." the President needs your support, votes or proxies to win a position on the Board of Directors, Class III, of EAA election to be held August 86..

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STAR DUSTER MAGAZINE

January

1986

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Starduster Magazine acts as an open forum for Homebuilders. The ideas expressed are often those of our Readers, and Starduster assumes no liability or responsibility, either expressed or implied, as to the suitability or accuracy thereof. Anyone using these suggestions or ideas does so at his own risk.

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Front Cover: Oscar Bayer, 250 Stanton St., Arroyo Grande, CA. 93420  
Colors green, silver, yellow. Very beautiful Oscar.

Back Cover: Ron Fenwick, 1719 Dell Ave., Sarina Ontario, Canada  
Colors red, white and blue. This also is very beautiful work.



Dear Bill,

I do owe you a letter giving you the address of the company that sells the Starduster Pins.

V-M Enterprises  
P.O. Box 10  
Belleville, Michigan 48111

In care of Dutch & Mary Ebach.

Well since I left the Starduster air show in May I have been traveling most of the time. I have had some time at home but not much. The horizontal tail section is coming along slowly but hope to be finished by January of 86. I will tell you more about it at another time.

I also am still looking for that 200hp engine as well as hope to get the tubes sandblasted soon. Many things are starting to go together in components, like the instrument panels, ie. Thanks for the quick delivery on those parts.

How is Dave Spence's East coast shop working out? Lerry Kemple of Kemple Enterprises still asks me if he can do business with you. I have said he should talk to you -- has he? Well enclosed is the check for \$112.51, thanks again for your service.

Walt De Groot

\*\*\*\*\*

October 21, 1985

FC-900 FEATHER COAT  
MODIFIED WITH MICRO BALLOONS

Feather Coat may be used to fill very rough composite surfaces faster by adding Micro Balloons for spray application, or as a slurry to spread with a squeegee.

For Application with a Squeegee, Mix:

(By Volume)  
1 Part Feather Coat  
1 Part Up to 1½ Parts  
Micro Balloons

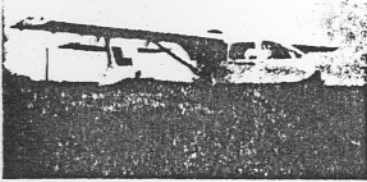
For Spray Application, Mix:

(By Volume)  
8 Parts Feather Coat  
4 Parts Micro Balloons  
1 Part BR 8600 Retarder

BR 8600 is to reduce the tendency for the mixture to "flock" from the spray gun. Drying time will depend on the thickness. We recommend the Micro Balloon slurry be used only to fill rough surfaces, not for "potting" or building fillets. Sanding will be the same as any other filler and produce a smooth surface.

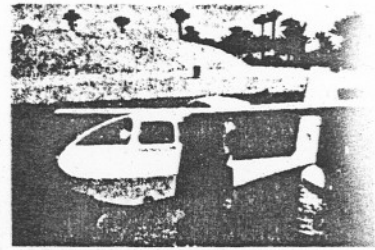
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Thanks for your generosity with our order -- We really appreciate your kindness.

F.Y.I.

The Early Birds of Aviation of which Spence is one of the 19 remaining members and of course is the only one with a current license and Bi-Annun was given a surprise award at the combined E.B.-OV5 Reunion Oct. 18th. They did research and established that Spence "Has the longest active flight record in history", and so stated on the award. He has been flying more years than any other person -- and still flying. I sat in back seat of his B.F.R. and he made 4 of the slickest water landing imagineable. Just a gentle swish as he made contact.

His first ACCREDITED flight was on 2 April 1911. But earlier hang glider flights convinced him real quick that was not the way to fly -- if you didn't want to get hurt. He must have made the correct decision for he is still here after all those years in the air.

Again Thanks

Dale "Andy" Anderson

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ADVERTISEMENT

FOR SALE: Factory built Acroduster Too, 260 HP, 26K, Ca11 714/686-7943 for more information.

14 Jan. 86

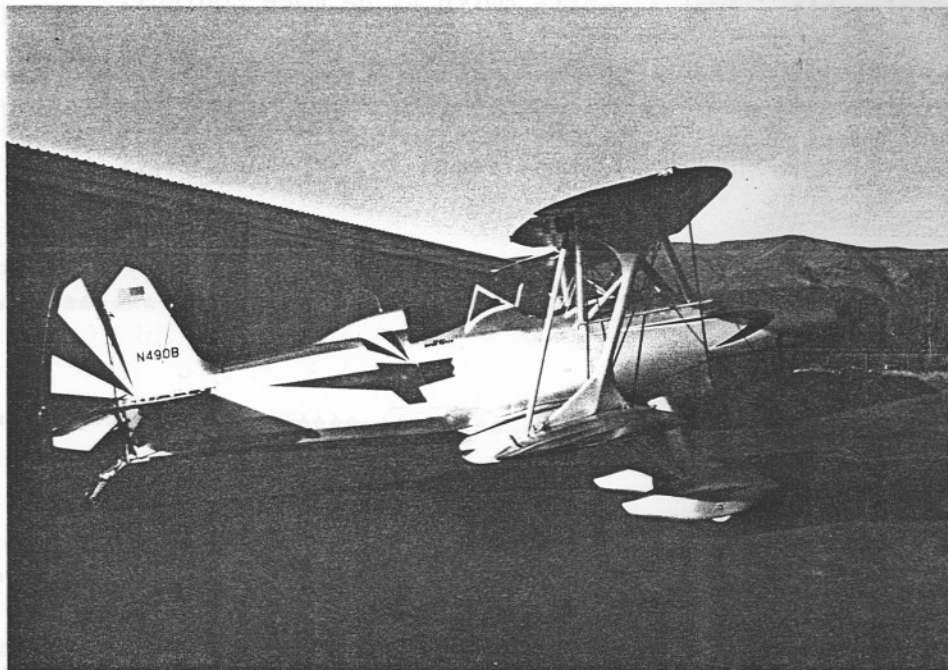
Dear Bill,

Here is the finished machine (yes, the right rear panel is finished just off for inspection.) The engineering inspector is due tomorrow and if he signs off on it, I hope for the first flight on Saturday (weather permitting.) If all goes well, should have the restrictions flown off by your early May Flyin.

Will let you know the progress on the test program and provide you with some numbers as I go along. As soon as you settle on a date for the Flyin let me know as I will need motel reservations for Friday and Saturday nights.

Give me a call if you have any questions.

Regards,  
Oscar



Engine 10-360-B1E (Lycoming)  
Prop - Hartzell Constant Speed  
Empty Weight 1196#  
Gross Weight 1941#  
Fuel Capacity 50 Gallons  
Full Electrical System With Inner-Comm and Escort  
110 Radio

## WOODEN WINGTIP BOWS

By: Jim Fackler

Like many Starduster builders, I've deviated from the plans here and there. During the construction of my Acroduster II., I decided I really didn't like the steel tube wingtip bows. One reason is I'm trying to use as little metal in the wing as possible. One reason is weight, although the real weight saver would be aluminum tubing. Two of the best reasons are resilience and form. My primary objection to the tubing was its inability to match the leading and trailing edge radii.

To begin, lay your wing flat on the table with a piece of cardboard or paper under the wingtips. Sketch the wingtip so it mates with the spar tips, nose and aileron ribs. It is helpful if the aileron is already installed but not absolutely necessary.

Next, cut the cardboard 1/2 to 3/4 inches INSIDE your drawn line. This makes certain there is enough wood on the bow to mate with your ribs and spars. (see figure 2).

Tape the cardboard cutout on a 1/2 inch piece of plywood. The plywood will be your actual jig, so be sure the surface is reasonably smooth by belt sanding or whatever. Draw your wingtip bow on the plywood. Wax or shoe polish the plywood OUTSIDE the wingtip bow radius. Cut about 2 dozen 2 inch lengths of 2 X 4. Position them around the inside of the wingtip radius about 1 1/2 to 2 inches apart. Closer where the radius is short. Be sure to extend the radius far enough past your ribs so there is excess at either end.

One by one, sand the blocks to match their respective radius of the bow. It is an excellent idea to number them. When you think they all match the radius perfectly, sand the corners of the blocks slightly and stop. Nail or glue the forming blocks to the plywood.

1/8 by 1 inch by 6 foot spruce strips are used for the bows, unless you want to use something else. Before using the strips, soak them in water for about an hour and wedge them between a doorjam to pre bend them a little. When dry, the strips should have at least 1/3 their eventual bend radius.

Now the fun begins. You do have about two to three dozen clamps ready don't you? Clamp the inside piece at the ends of the blocks. Get your glue ready (whatever you are using, I used weldwood) the open time will be about 10 minutes. Glue either the piece you are putting on or the male already clamped. Clamp the female (2nd layup) in the middle of the male. Continue clamping towards the ends. Use scrap wood under the heads of the clamps so you don't dent the wood. Don't worry about excess glue as much as you should worry about VERBOTEN gaps.

Once its all clamped, you can relax and have a beer or two while the glue dries. Make the rest of the layups the same way until the tip bow is 3/4 to 1 inch thick.

When it is removed from the jig you will find you have created a graceful, sturdy wingtip bow with little or no springback. Now some fun.....



Fit the bow to the wing by first laying the bow in its new home and trimming the spars so they mate with the inside radius of the bow. Then trim off the excess on the ends of the bow to fit the ribs. Be sure it fits real well as the joints hold the thing on.

Gusset the bow to the rib and bow to spar areas. This done you have some decisions to make. On the top bows, do you want to add na. lites? It is much easier to do now than later. In the bottom bows a handhold can come in handy. (sic)

#### NAV LITES

The nav light area is formed of wood block built up to the outline of the light. Clean up any dried glue and make your inside and outside blocks first. Plane smooth the top and bottom of the bow and add the top and bottom blocks. Using the gasket for the tip light, mark its outline on the end and shape away. Don't be chinzy with the blocks, most of the wood will be drilled out for the bulb sockets.

#### HAND HOLDS

As for the hand hold, one on each lower wing panel is sufficient (unless you plan on carrying wing walkers, in that case the more the better).

I like the area between the aileron, rear spar, and tip bow. It can be gusseted enough to offer plenty of strength. Finish a small box around the area for the hand hold and then finish off the bow.

There is one last decision to make before planning and sanding th bow. Will you fabric cover the wingtip or plywood cover a la Beech 17?

I opted for 2mm birch ply from the last rib on the aileron bay. This entails planning a level on the bow to accept the plywood. It also entails adding a capstrip to the mahogany rib so the tips are convex instead of the concave. You are now ready to glue, nail, clamp, and cajole the plywood to stay on the wing. Start in the middle and work your way out.

To show how insight develops, I thought 45 degrees layups of the plywood would add extra strength. Wrong. The nav light bulge ran diagonally across the wingtip. Feeling pretty stupid I did penance by rebeveling my bows and removing all the old glue (after ruining the plywood getting it off).

Anyway, once the skins, handles, lights, etc., are on you can then plane and sand the bows to your heart's content.

Yes I know it sounds like a lot of work but it makes a beautiful difference. Like wood leading edges, but that is another story.

Dear Bill and Co.,

The wing  
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As you  
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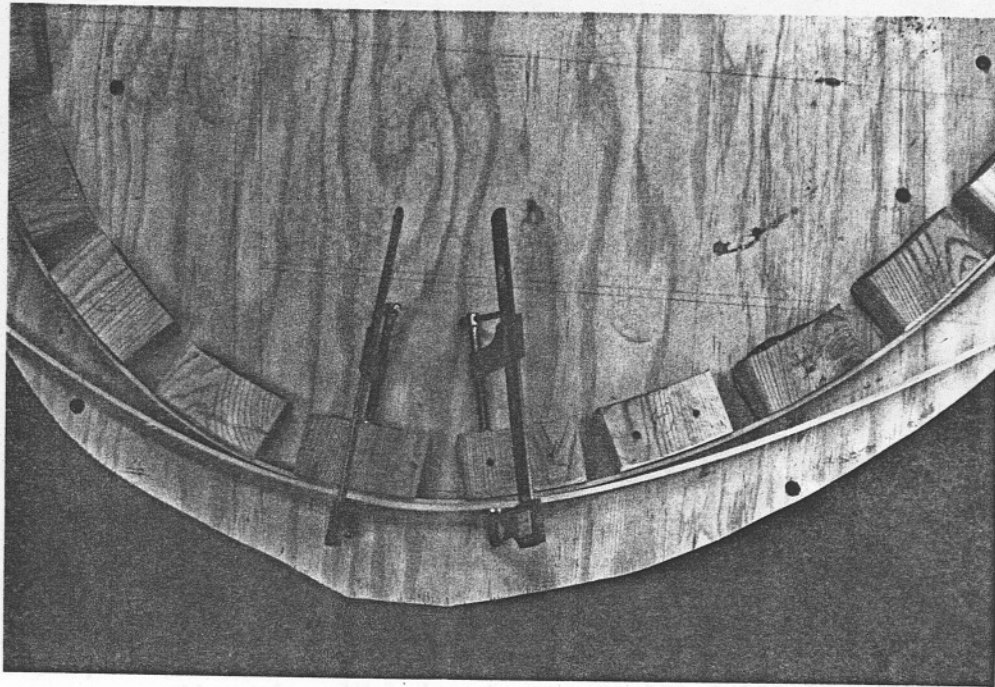


Fig. #1 Form blocks attached to plywood in desired shape. Begin clamping 2nd laminate beginning in the middle of the bow.

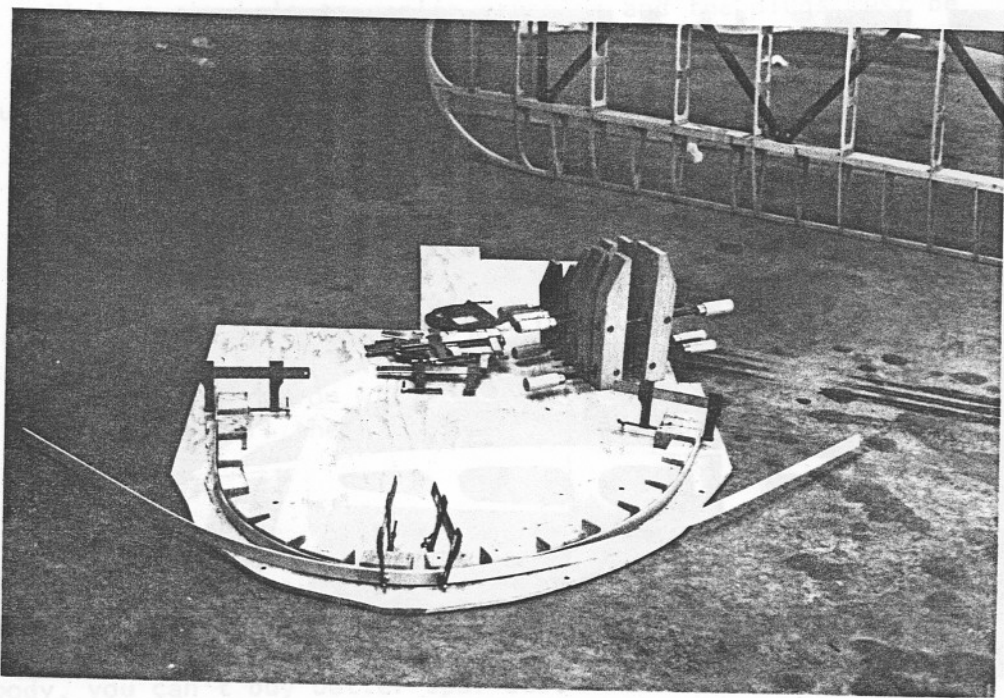


Fig. #2 All the clamps should be ready and waiting at this point.

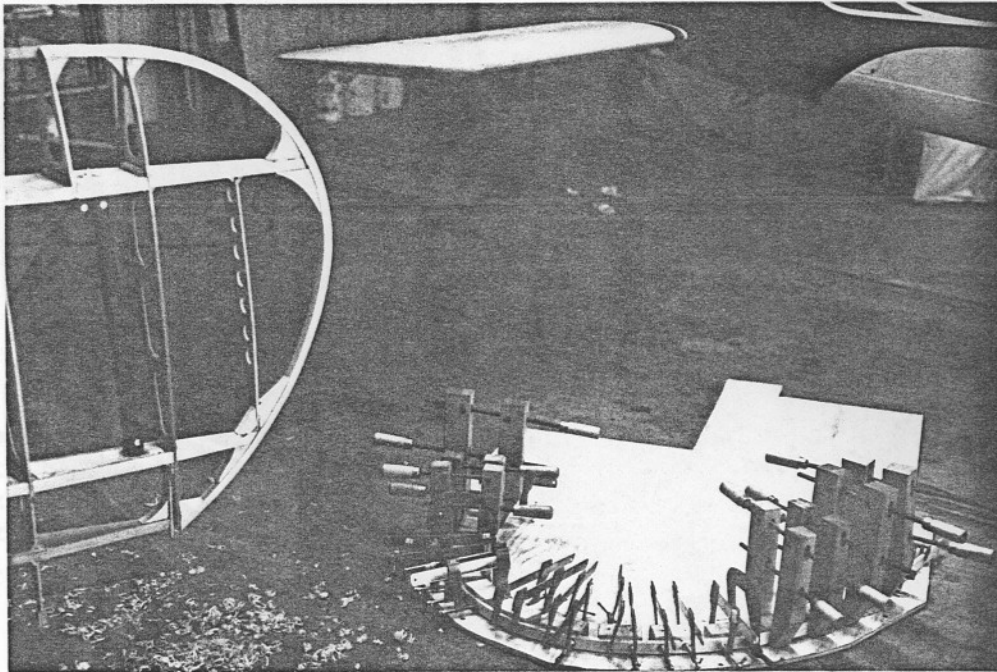


Fig. #3 Each laminate will be clamped like this. Note gussets from spar to bow on wing.

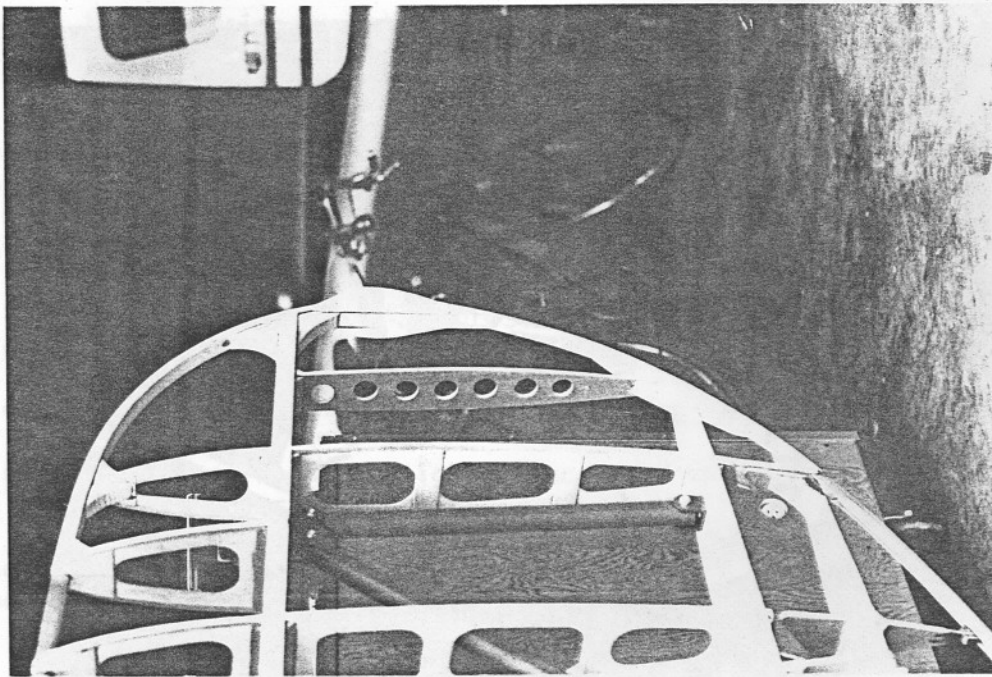


Fig. #4 Finished bow showing built up area for nav light.

9



Dear Bill and Co.,

The wingtip bow article should be in your hands by Dec. 31 (guess which year).

As you know, I am substituting aluminum bolts for the steel ones in portions of my wings. This will certainly cost more but I estimate I'll save several pounds on my Acroduster. What I discovered after some sample destruction tests might interest other builders.

First, I was not absolutely certain where the weakest link in the drag truss load path was, so I constructed a mock spar/drag truss assembly sans ribs, for destructive testing. As a result of this testing I have some cautions and suggestions to others.

It should be understood the purpose of the drag/anti-struts is to maintain parallelism and squareness of the wing spars. Since the effective load on the truss is to force the front spar outboard relative to the rear spar, the clips which attach the drag tubes are connected using bolts in tension, while the actual tube to clip bolts are in shear. The weakest link was my use of aluminum bolts (2024) aircraft grade in tension as these failed under a relatively low load. Observation #1: Do not use aluminum bolts in tension applications, they are poorly suited to this.

- A: Use no smaller than  $\frac{1}{4}$ " bolts to secure the tubes to the clips 3/16" steel bolts are more than adequate to take the shear load, but they would concentrate this load in the tubing increasing the likelihood of elongation in the tube.
- B. Epoxy the wood plugs in the tubing ends instead of just varnishing them. Naturally the grain in the wood should be parallel to the bolt to resist crushing and the plugs must be an interference fit inside the tube.

Aluminum AN hardware is not easy to find. I received mine from:  
LAWRENCE ENGINEERING & SUPPLY INC.  
BOX 30C  
500 S. Flower St.  
Burbank, Ca. 91503 PHONE: 213/849-1341

Before anyone accuses me of being crazy for going to all this trouble (and expense) bear in mind aluminum bolts have been used in Stearmans for years. Also, weight reduction (but not strength reduction) should be an obsession with the builder since weight KILLS aircraft performance. All these small "saves" add up (down?)

Cheers-  
Jim Fackler

P.S. After seeing the spar stock you have, I would highly recommend builders buying spars from Stolp Starduster. I had formerly bought some spar stock from Aircraft Spruce which was not nearly as good. Everybody, you can't buy better spar stock than Bill has.



# Starduster

## BBQ



WHEN : MAY 3, 4, 1986

WHERE : FLABOB AIRPORT



WHY : EAT, DRINK AND SHARE STORIES



WE WANT TO FILL FLABOB WITH BI-PLANES, STARDUSTER'S, ACRODUSTER'S V-STAR'S OR STARLET'S. WE WANT YOU HERE WITH YOUR PLANE. WHAT'S REALLY HAPPENING IS OUR 5th ANNIVERSARY. SATURDAY-NIGHT WILL BE Bar-B-Q BANQUET TIME. COME JOIN US FOR A WEEKEND OF FUN. TROPHIES TO WINNING AIRCRAFT. 4301 Twining Flabob Airport Riverside, Calif. 92509

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## A LOW-COST HOBBY

(The following statement by Charlie Webber does not represent official policy of EAA Chapter One. Each member is free to form his own opinion. Charlie says he would be happy to expose his controversial ideas to other EAA chapters. If possible, he would like to debate with another person. We can promise that it will be a lively meeting).

---

I retired at an early age. From full-time engineering I went to part-time consulting, and then to full-time retirement. Perhaps, when I reach 65, I may really retire and go back to work.

All this leisure called for an economical hobby. I decided that a physiological study of our form of government would be just the thing. The FAA was a superb and convenient cadaver for dissection studies.

Ben Franklin estimated that our system of government could survive at most fifty years before a major change would be implemented. We are still surviving without change after 200 years. This is probably because, as James Madison predicted, that while many participants would corrupt our freedom, more (such as myself) would try to preserve it.

By dissecting the FAA, I have been able to learn how participants in government can corrupt freedom. I also learned that the key to the success of our system is that it contains many opportunities for the individual and his organization, i.e. EAA/AOPA, to preserve freedom for himself while at the same time preserving that of others.

The Constitution mainly establishes limitations placed upon the federal government. Congress can only legislate laws that are compatible with these limitations. The aviation law is a good example. While this law did give birth to the FAA, Congress carefully defined the FAA's mission and limitations. The FAA was authorized to fill in the nitty-gritty details by means of the FARs which were to be compatible with this law.

It is obvious, at least to me, that this did not happen. I have come to the depressing conclusion that the FAA evolved into a monster whose prime objective is its expansion, and whose secondary and merely incidental objective is public benefit. Naturally, this is not representative of everybody in the FAA. There are many people in the FAA who sincerely try to implement the public benefit. Quite often, their efforts are frustrated.

In his letter to Phil Denham, Paul Poberzny says incorrectly that it is a criminal act to violate an FAR even if there is ample reason to consider it contrary to the governing aviation law. Paul forgets that almost every day we learn through the media how a law is thrown out by a court. The law was challenged by an individual and tested in a court. Even if the law survives the test, the individual is rarely branded a criminal. The court can decide that he was merely "in error". His next violation will be considered a criminal act.

Strangely, we never hear about a court throwing out an FAR. The reason for this is quite obvious. No court has ever been given the opportunity. The FAA always retreats before a challenge reaches the test phase. My challenge of the FAA's Class 3 medical (AJ, Dec. '85) is a perfect example of this. While I can ridicule the FAA for lacking the conviction of their regulations they have the dubious satisfaction of knowing that they can frustrate my tactic of forcing a fight. But there are always many current FAA prosecutions of "easy" defendants which involve significant issues. The EAA could quietly take over the defence, letting the FAA fall through (you know what)



and hang itself. The ARSA situation is a perfect example of opportunity to use the courts. Each ARSA is a separate situation involving specific improprieties by the FAA. For example, in Buffalo, the television news crew from NBC affiliate WGRZ-TV was ordered by the FAA official running the ARSA meeting to turn off its camera. If EAA or AOPA was on the ball, it might have obtained a court order forcing the FAA to reschedule the ARSA meeting as well as making certain that proper notices were sent to everybody. Can you imagine what the next ARSA show would be like? The FAA would have to hire a football stadium. There would be national TV coverage displaying the bloodthirsty cussing the FAA would get.

Petitions can be presented to the FAA requesting a change in the FAR's. These petitions usually get the runaround, but after awhile, the courts can decide that the FAA has been procrastinating and will rule on the matter themselves. By threatening the FAA with a postdated court complaint, you can always force the FAA to make a decision. If your petition is rejected, then you are allowed to go to court without questions.

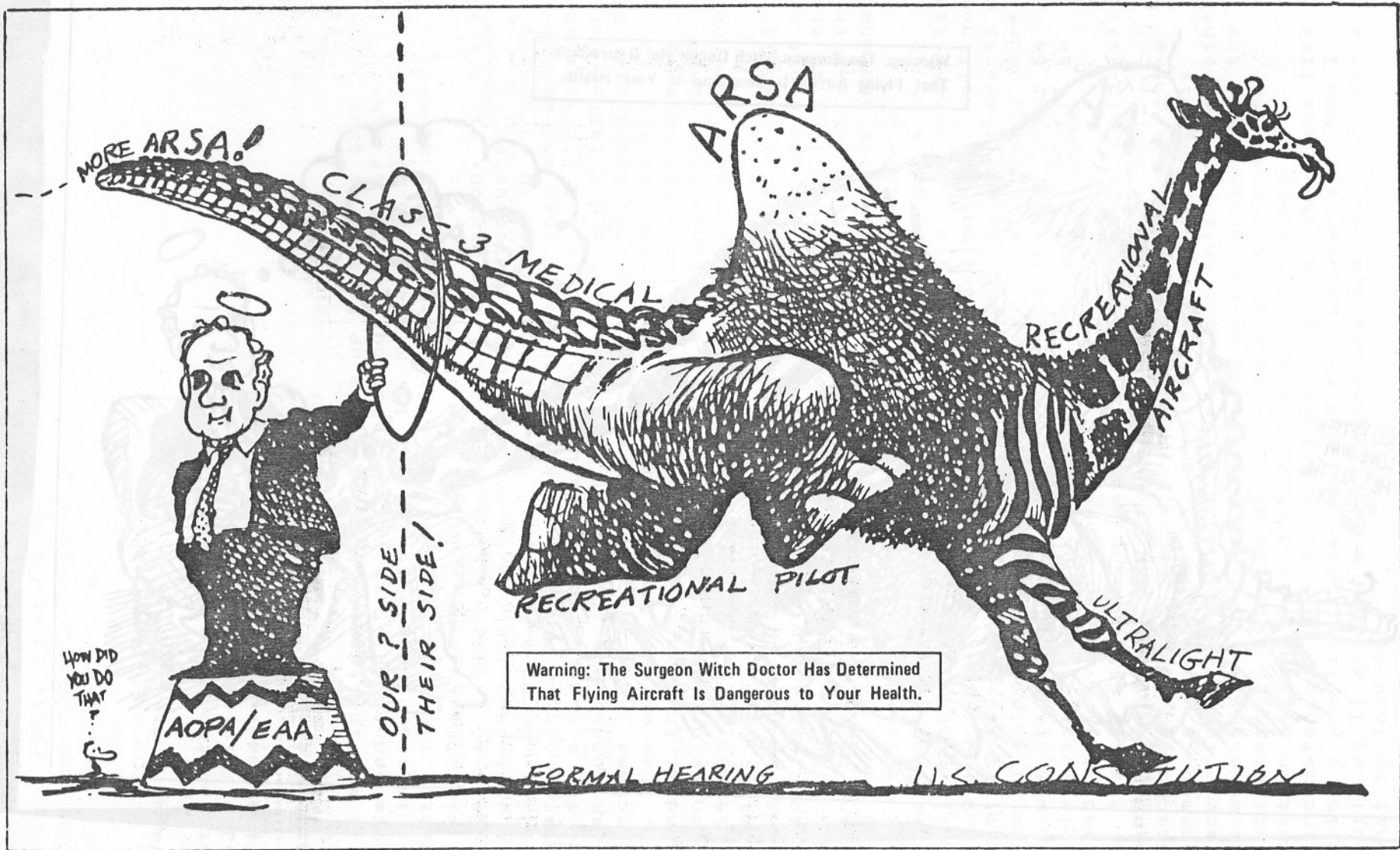
You have now seen some examples of how those in government corrupt our freedom. They make fraudulent regulations that usurp power so they can build their empires. These regulations are enforced only on the people who do not know how to fight, and only to intimidate the others. Safety in air commerce justice are not factors. Since I know how to fight, the FAA will ignore me, sweating out the embarrassment and ridicule I can direct briefly towards it. The FAA knows they will win in the end because eventually the public will lose interest and forget all about it.

The FAA does not like to go to court. Its own attorneys lack experience in the federal courts and the FAA is obligated to first seek the help of the Department of Justice. This can be a disaster. In the FAA's enforcement manual, FAA Order 2150.3, their dilemma is expressed neatly in the words of Par. 1202e(4): "...in order that unfortunate precedent-making decisions resulting from a misunderstanding of a case on the part of the court or the U.S. Attorney handling the case be avoided." If the FAA loses incourt, it really loses big. Our attitude can be philosophical : we lose small, we can come back again.

As Paul said, it is EAA (as well as AOPA) policy not to use the courts. They feel that getting along with the FAA is the only approach. All the goodwill they have built up as a result of this policy would be lost the first time they went to court. I believe that EAA and AOPA are utterly wrong. They are losing on all the big issues. Just look at how the FAA handles the ARSA program, ignoring all the imploring of EAA and AOPA. Look how the FAA puts the AMA Fox in charge of its medical chicken coop.

The only thing that will change EAA/AOPA policy is real proof that many of their members agree with me. Such proof can be found only in proxies. EAA/AOPA will be impressed if a substantial percentage of their members from just this Los Angeles region support my unorthodox approach with their proxies.

Charles Webber



MORE ARSA!

ARSA

CLASS 3 MEDICAL

RECREATIONAL AIRCRAFT

RECREATIONAL PILOT

ULTRALIGHT

Warning: The Surgeon Witch Doctor Has Determined That Flying Aircraft Is Dangerous to Your Health.

OUR ? SIDE - THEIR SIDE!

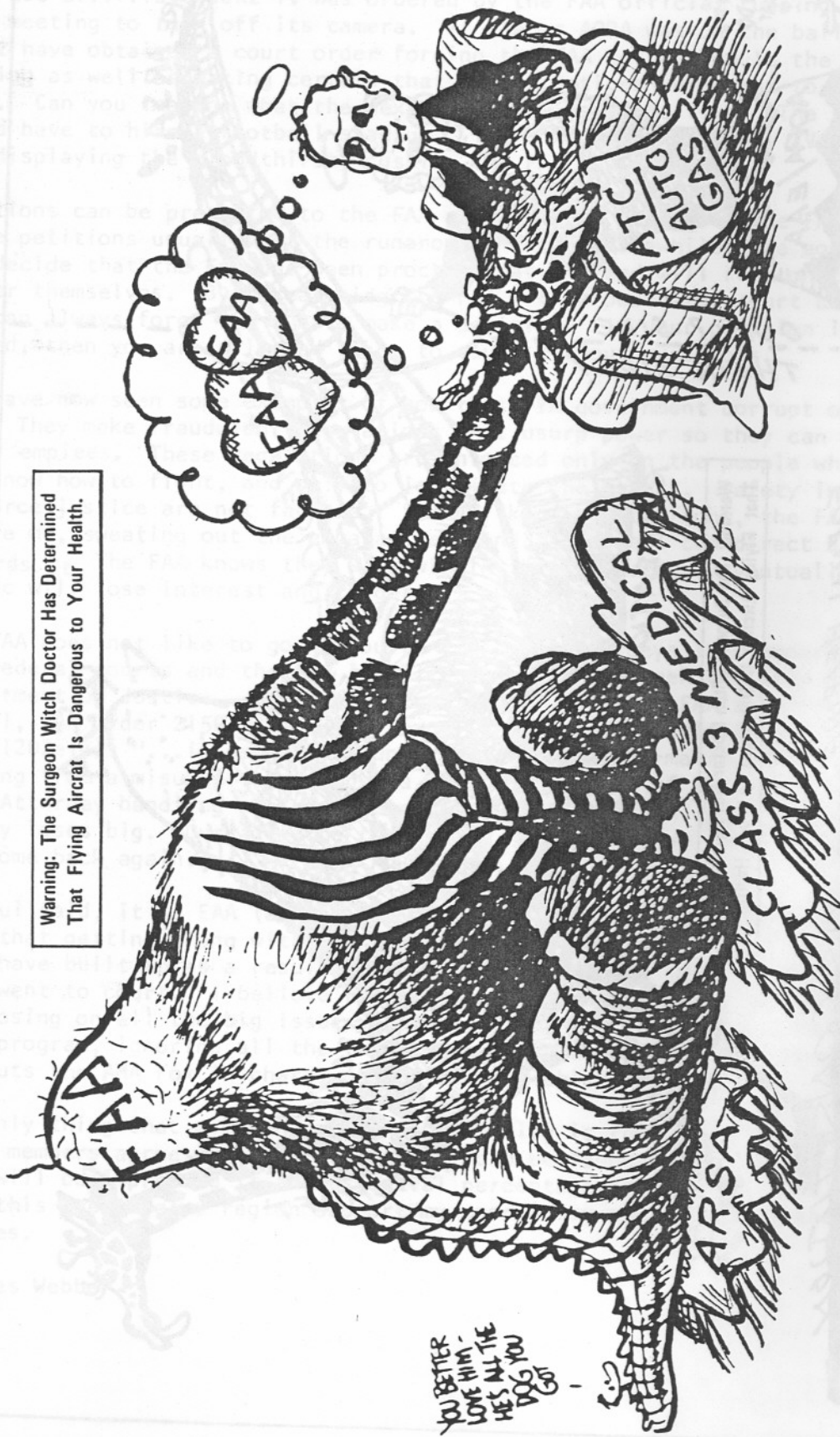
AOPA/EAA

HOW DID YOU DO THAT...?

FORMAL HEARING

U.S. CONSTITUTION

Warning: The Surgeon Witch Doctor Has Determined That Flying Aircrat Is Dangerous to Your Health.



YOU BETTER  
LOVE HIM -  
HE'S ALL THE  
DOG YOU  
GOT -



January 6, 1986

Stolp Starduster Corp.  
4301 Twining, Flabob Airport  
Riverside, California 92509

Bill Clouse

I am finally getting this wrote up to send to you, intended to do it in mid December but ran out of time. This is in regards to a Starduster II, N1214 which did reside at Ritter field North Carolina prior to this great adventure. I will try to keep a long story short.

Back in October, got a call from Clark Saxton, his plane is just down the row of hangers from my Starduster II, N4226Y. Seems a friend of his was interested in purchasing a Starduster II but did not know much about them and wanted to go for a ride. This was Saturday night about 8 o'clock, at 10am Sunday morning we met at the airport and I talked Herb Ketchums leg off about what a great plane the Starduster II is. Then we went up into the wild blue yonder to try his hand at the controls. I believe he was impressed because upon returning he asked me to call the people that owned 1214 and talk to them to find out the details only some one familiar with a II could ask.

Well Sunday afternoon I made the call and it sounded like a good deal. Now Herb was working at a new job and could not get away so Clark was going to go up and take a look at the plane before final arrangements would be worked out and then fly the plane home. Well after various phone calls and what not it sounded like Clark was going to have quite an adventure but at about 8 pm Sunday evening I got a phone call, Clark had to call off going and would I be interested in going, leaving Oakland at 11 am Monday morning. Well now Letttts see, work is kind of slack right now and there is a few advantages of being self employed, so after many hours, or was it fractions of a second, I said that it might be able possible to work something out or was it I will be ready to leave in 3 minutes.

Any way keeping the pace up, Monday I was in a big silver bird heading east and by Tuesday before lunch had Starduster 1214 in site. Before I left Herb had said the Cosmetics were of not the greatest importance (Herb is recovering a J-3 Cub in his Garage) but this was the point at which my brain finally got back on the ground from the excitement of actually going to look at this plane for another person. Well what do you do under these circumstances. Well first I took a look at the plane like doing a preflight inspection and then got serious. Now I built my II and had a fairly good starting point as far as what to look for.

N1214 has a 180 horse Lycoming, Carbureted with a constant speed prop. Fuel is from a tank in the fuselage. The landing gear is presently about 4 inches behind the fire wall, originally in the info with the plane it was at 1 5/16 inches behind the fire wall; this plane has had a couple of hard landings resulting in landing gear damage. The ailerons are standard except here are no stops; mine has stops to prevent aileron locking during tailslices but without the stops roll rate seemed to be greater; more travel and at the extreme ends of the aileron travel Adverse yaw was noticeable.

The windshields are of the bubble type; mine are of the straight formed type. I have always liked the looks of the straight formed type but after setting behind the bubble type now have a set ordered for my II. Setting behind the bubble type is much less turbulent than the straight formed and there is more room to move around without getting into the air stream.

The trim tab set up on my II is set up as a servo and keeps the stick pressures light from stall thru redline however 1214 is set up with the trim only as a trim. The trim tab after an initial problem proved to be effective and was more comfortable than mine. However to start with (until I got used to it) the adjustment was backwards and the knob was hard to get to. Prior to my first flight I had been checking all the mechanics, lubricating ETC. and had adjusted the trim tab to where I thought it had been prior to adjusting. After takeoff the plane flew tail heavy, so I made an adjustment on the trim tab; not much change so I adjusted some more; reaction TAIL HEAVY, HEAVY; two hand tail heavy; think; adjusted wrong way dummy; adjusted right way; now only one and a 1/4 hand tail heavy but adjusting knob was against the trim tab stop. Well a word to the wise and the lucky; the problem was two fold; trim tab direction improper and most importantly some play in the trim tab linkage. If I had adjusted it in the proper direction things would have been ok; but after going the wrong way it would not even return to it's original position let alone the position necessary to prevent the tail heavy condition. Another word of note about the trim tab set up is as this plane slowed down the tail became heavy mine stays light.

Another area of problem was the tail wheel mounting bracket at the bottom of the tail post. The plate was broken on both sides. The first side load put on the tail wheel would have resulted in the tail wheel bending into the rudder. A possible reason for this condition was that the tailwheel spring retainer bracket as called for on the prints had been replaced with just a flat plat. The people at the Grover Aircraft Corporation were most helpful in

Engine Model	Aircraft Application	Cylinder P-Stroke N-Stroke	Maximum RPM	New Engines	Rebuilt Engines	Remanufactured Engines
0-225-M1-P1	Grub, Gyrolog	N	125	\$11,500.00	\$10,750.00	\$ 7,200.00

getting this problem corrected and I was almost ready to head west.

Saturday morning waiting for the clouds to clear I drained the fuel from the tank. Now in the weight and balance at one point the tank was listed at 23 gallons and at another it was listed at 30 gallons. With a stick we measured the fuel level and marked the stick as we put 29.6 gallons back in the tank. The gas gauge worked great on the trip.

After the initial problems, several of which are not mention due to trying to keep a long story short. I headed west. The plane flew great, very stable with just a slight left wing roll off. The plane did not have a radio so a Terra 720 was strapped into the cockpit, had great reception but never did transmit to any one on the ground. The first part of my trip was across country and my navigation was now going to be tested. Since getting my private license most of my long trips have been in the 4 to 500 mile range. The first 40 miles following the ground with compass reference indicated either a cross wind or the compass was off, must be a cross wind (so said the dummy) with a new plane I did not like flying low and with a thin (repeat thin) layer of clouds decided to climb up and get some altitude. Now this is great, visibility unlimited ground with just a slight haze and on I go. Some time later the ground is not here, 180 find hole and go below, well now where is I at? Ah Ha theres the lake and the power line, lets just follow the compass to that major interstate highway where the airport is. Well to those of you that have been here you know how embarassing it is to land and to nochantly try to find out where in the world you are while the tank is being filled.

Well, that I know where I is, this should be a snap except two hours later and time to fill up again following the old reliable compass, sure a funny cross wind thought calm on the ground and strong at 1000 feet. This time the fellow at the gas pump was an old timer type aviator and he caught on to the fact I was not were I was supposed to be. He suggested we swing the plane with the run way and check the compass. Now 30 degrees east/west and 25 north/south didn't seem like much but I am told that compasses should not be off quite that much.

Well things went smooth then until one day in Oklahoma, although I did get a respect for towers and even looked for them on the charts. Talk about flying, the great midwest has got to be the best, well back to Oklahoma. Now I will not go into great detail but I want you to know that playing around in my II, slow flights, low flights in the hills south of town, non standard traffic patterns and the designers of the best aircraft around have a lot to do with me being here to write this article. The Starduster II has a very good slow

\* See Ordering Information, Note 10 and Optional Equipment, Aerobics, etc.





speed handling characteristics and this was for real not playing, not practicing. Well 1214 and I made a landing in a field and in 180 feet were touched down and turned to get onto something a little harder than the soft dirt we were on. If this had been full stop 150 feet would have been sufficient, these distances were stepped off the next morning from the tire tracks. Now this landing took place after dragging across two fences and a road and other items too numerous to mention, at slow speed.

Well after this things improved and at Tucumcari New Mexico, we landed (1214 and I became good friends after Oklahoma) in a 50 MPH head wind, gee those numbers are sure passing by slowly, had to have the plane held down so I could get out and hold it while fuel was being added. 1214 spent the night in a hanger and the next morning we flew formation with a Stearman on our way over to Albuquerque, this day ended at Barstow/Dagget and thursday we flew into Tracy California where shortly after landing Herb arrived to see his new plane.

Later that afternoon I took my Starduster II up for a few minutes, listened to the sound in the wires and remembered the hours just spent in 1214 and thought of the future hours I intend to spend in 26Y. My thanks have to go out to those people initially involved in the design of the Starduster II and to all those people who have contributed over the years, many happy hours of flying.

Sincerely,



Les Homan

P.S. pardon my rambling on, but There are some fine folks back in Hendersenville North Carolina at Aerolina and I would like to thank them for there help, and in a little town in Oklahoma there are some very nice people that I would like to thank for there help and support.

\*\*\*\*\*

**Tom Johansen** of Los Batos will be flying down for our May Fly-in BBQ Hope to see you there as we'll have alot of fun.

Engine Models	Aircraft Application	Cylinders: S-Steel N-Nitride	Horsepower Rating	New Engines	New Engine Exchange	Remanufactured Exchange
O-235-M1,-P1	Grob, Gyroflug	N	118	\$11,880.00	\$10,215.00	\$ 7,790.00
O-320-A2B (Fuel pump & prov. for vac. pump)	Piper Cherokee, Bede, Robinson	S	150	13,595.00	11,730.00	8,980.00
O-320-A2C	Varga, Robinson	S	150	14,535.00	12,540.00	9,595.00
O-320-A2C,-A3B,-A3C	Piper, Mooney, Lake, Dinfia, Aviamilano	S	150	14,535.00	12,540.00	9,595.00
O-320-B2B,-B2C	Piper, Beagle, Aero Boero Urapula	N	160	13,690.00	11,810.00	9,040.00
O-320-B2B,-B2C (Fuel pump & prov. for vac. pump)	Piper Cherokee, Robinson	N	160	13,925.00	12,005.00	9,175.00
O-320-B3B,-B3C,-D1A	Piper, Aerospace	N	160	14,535.00	12,540.00	9,595.00
O-320-D2A,-D2G (less gen.)	Piper Cherokee, RAM	N	160	13,595.00	11,730.00	8,980.00
O-320-D2A (with gen. on remfg. only)	Robin, Fuji	N	160	14,025.00	12,085.00	9,255.00
O-320-D1D	Grumman Aviation	N	160	14,850.00	12,805.00	9,790.00
O-320-D2B,-D2C,-D1F	Beech, Beagle, Wassmer	N	160	14,850.00	12,805.00	9,790.00
O-320-D2J	Cessna	N	160	15,015.00	12,915.00	9,850.00
O-320-D3G	Piper, RAM	N	160	14,420.00	12,445.00	9,020.00
O-320-E1A	Sud	S	150	14,595.00	12,580.00	9,615.00
O-320-E2A,-E2B (less gen.)	Piper	S	140/150	13,380.00	11,535.00	8,810.00
O-320-E2D,-E2H	Cessna	S	150	13,120.00	11,315.00	8,650.00
O-320-E2A,-E2C,-E2G,-E3D,-E3H,-E1F,-E1J,-E2F	Seems, G.E.M.S., S.O.C.A.T.A., Beech, Piper, Wassmer, Grumman Aviation	S	150	13,925.00	12,005.00	9,175.00
O-320-H2AD	Partenavia, S.O.C.A.T.A.	N	160	14,515.00	12,515.00	9,095.00
O-320-H2AD	Cessna	N	160	13,710.00	11,815.00	8,560.00
IO, LIO-320-B1A	Piper	N	160	19,155.00	16,520.00	12,585.00
IO-320-B1C	Wing	N	160	19,240.00	16,580.00	12,665.00
IO, LIO-320-C1A (for exh. turbo)	Piper	N	160	20,975.00	18,065.00	13,805.00
IO-320-B1B,-D1A,-D1B	M.B.B.	N	160	18,410.00	15,880.00	12,140.00
IO-320-E1A,-E2A,-E2B	Champion	N	150	17,500.00	15,105.00	11,535.00
AIO-320-A,-B,-C	M.B.B. Monsun	N	160	22,840.00	19,685.00	15,030.00
*AEIO-320-D1B	H.A.L., CNA	N	160	18,820.00	16,195.00	12,335.00
*AEIO-320-E1B,-E2B-E2A	Bellanca, Champion	N	150	17,725.00	15,275.00	11,670.00

\* - See Ordering Information, Note 10 and Optional Equipment, Aerobatic Kit.

2 11

Engine Models	Aircraft Application	Cylinders: S-Steel N-Nitride	Horsepower Rating	New Engines	New Engine Exchange	Remanufactured Exchange
O, LO-360-A1G6D	Beech	N	180	\$16,680.00	\$14,400.00	\$11,015.00
O-360-A1A,-A1D, -A1F,-A2G,-C1A, -C2A,-C2E (12V), -A1AD,-B2A,-A1H	Piper, Mooney, Lake, Beech, Call Air, Bede, Wassmer, Doyn, Neiva, Dinfia, Partenavia, Aero Boero 180, S.O.C.A.T.A.	N	180	15,775.00	13,595.00	10,425.00
O-360-A1A,-A2E (24V)	Beech, Saab, Siai-Marchetti	N	180	16,195.00	13,970.00	10,680.00
O-360-A1F6,-A1F6D	Cessna	N	180	16,660.00	14,370.00	10,985.00
O-360-A1LD	Wassmer	N	180	16,285.00	14,130.00	10,810.00
O-360-A2A,-A3A (less gen.)	Piper Cherokee, Pitts	N	180	15,150.00	13,080.00	10,000.00
O-360-A4A (less gen.)	Piper Cherokee, Pitts	N	180	15,800.00	13,635.00	10,430.00
O-360-A3A,-A3AD	C.A.A.R.P., Robin, S.O.C.A.T.A.	N	180	15,840.00	13,660.00	10,440.00
O-360-A4G,-A4J, -A4K,-A4M	Beech, Piper, Grumman Aviation	N	180	15,105.00	13,040.00	9,980.00
O-360-A2D	Mooney, McCulloch	N	180	15,685.00	13,535.00	10,355.00
O-360-A2F,-A4N	Cessna	N	180	15,545.00	13,370.00	10,190.00
O-360-A5AD	Fuji	N	180	15,915.00	13,725.00	10,505.00
O-360-C1E,-C1F,-C2E	Bellanca	N	180	15,415.00	13,295.00	10,180.00
O-360-F1A6	Cessna	N	180	17,375.00	14,940.00	11,395.00
IO-360-A1A,-A2A, -A1D (12V-24V)	Siai-Marchetti, Mooney	N	200	20,050.00	17,295.00	13,230.00
IO-360-A1B	Lake,Beech	N	200	20,270.00	17,485.00	13,355.00
IO-360-A1B6, -A1D6	Beech, Scottish Air, Saab, Robin	N	200	20,820.00	17,945.00	13,710.00
IO-360-A1B6,-A1B6D	Cessna, Partenavia	N	200	20,600.00	17,765.00	13,585.00
IO-360-A1B6D, -A3B6D	Mooney	N	200	20,820.00	17,945.00	13,710.00
IO-360-A2B	Beech	N	200	19,820.00	17,085.00	13,055.00
IO-360-B1A (Simmonds)	Beech	N	180	Not Available		
IO-360-B1B,-B1D, -B4A,-B1F,-B2F (Bendix)	Beech, United Consultants, Pitts, Fuji, Utva	N	180	18,705.00	16,110.00	12,325.00
IO-360-B1E	Piper	N	180	18,190.00	15,685.00	11,990.00
IO-360-C1B	S.O.C.A.T.A.	N	200	20,170.00	17,400.00	13,280.00
IO-360-C1C	Piper	N	200	19,695.00	16,995.00	12,980.00
IO-360-C1D6,-C1C6,	Aero Commander, Piper	N	200	20,820.00	17,945.00	13,710.00
IO, LIO-360-C1E6	Piper	N	200	21,415.00	18,460.00	14,095.00
IO-360-C1F	Miller	N	200	22,585.00	19,280.00	14,740.00
TO-360-C1A6D	Rockwell, Partenavia	N	210	27,285.00	23,535.00	17,985.00
TIO-360-C1A6D	Partenavia	N	210	28,570.00	24,575.00	21,425.00



Engine Models	Aircraft Application	Cylinders: S-Steel N-Nitride	Horsepower Rating	New Engines	New Engine Exchange	Remanufactured Exchange
AIO-360-A1A	Special Aerobatic	N	200	\$23,865.00	\$20,575.00	\$15,710.00
AIO-360-B1B	Special Aerobatic	N	200	24,770.00	21,345.00	16,290.00
O, LO-360-E1A6D	Piper	N	180	16,740.00	14,450.00	11,030.00
TO, LTO-360-E1A6D	Piper	N	180	22,460.00	19,325.00	14,850.00
HIO-360-A1A	Hughes	N	180 to 3,900 ft. Alt.	20,975.00	18,080.00	13,815.00
HIO-360-B1A (12V-24V)	Hughes	N	180	20,215.00	17,425.00	13,325.00
HIO-360-C1A,-C1B	Enstrom	N	205	20,710.00	17,850.00	13,635.00
HIO-360-D1A (12V-24V)	Hughes	N	190	24,470.00	21,110.00	16,125.00
HIO-360-E1AD,-E1BD	Enstrom	N	190	24,405.00	21,050.00	16,070.00
HIO-360-F1AD	Enstrom	N	190	29,590.00	25,450.00	19,415.00
*AEIO-360-A1E	Pitts	N	200	21,315.00	18,335.00	13,970.00
*AEIO-360-A1A, -A1B,-A1D	Aerotek, Pitts, Mudry	N	200	20,270.00	17,480.00	13,355.00
*AEIO-360-A1B6	Valmet Oy	N	200	22,320.00	19,190.00	14,630.00
*AEIO-360-B1F (12V)	F.F.A.	N	180	19,590.00	16,885.00	12,910.00
*AEIO-360-B1F (24V)	F.F.A.	N	180	20,190.00	17,405.00	13,300.00
*AEIO-360-B2F,-B4A	C.A.A.R.P.	N	180	18,925.00	16,320.00	12,470.00
*AEIO-360-B4A	Aerotek	N	180	18,925.00	16,320.00	12,470.00
*AEIO-360-B4A (Less Alternator Bracket, Alternator & Belt)	Aerotek	N	180	18,750.00	16,175.00	12,355.00
*AEIO-360-B1G6	Great Lakes	N	180	22,380.00	19,295.00	14,750.00
*AEIO-360-H1A	Bellanca	N	180	19,860.00	17,125.00	13,095.00
O-540-A1A5,-A1B5, -A1C5,-A1D5,-A4B5	Piper, Helio	N	250	22,525.00	19,415.00	14,850.00
O-540-A1D,-A2B	Aero, Dornier, Helio	N	250	23,915.00	20,615.00	15,755.00
O-540-A3D5	Piper (Navy Aztec)	N	250	24,335.00	20,980.00	16,025.00
O-540-B1A5,-B1B5	Piper	N	235	22,195.00	19,145.00	14,650.00
O-540-B2B5,-B2C5 (12V-24V)	Piper, Imco, Aero, Chincul	N	235	22,010.00	18,985.00	14,515.00
O-540-B4B5	Piper Cherokee	N	235	22,015.00	18,990.00	14,525.00
O-540-E4A5 (12V-24V)	Siai-Marchetti Piper, Aviamilano	N	260	22,585.00	19,470.00	14,890.00
O-540-E4B5	Piper Cherokee	N	260	22,050.00	19,020.00	14,530.00
O-540-E4C5 (24V)	Britten-Norman	N	260	23,060.00	19,535.00	15,210.00
O-540-G1A5,-G2A5	Piper	N	260	22,615.00	19,530.00	14,935.00

\* - See Ordering Information, Note 10 and Optional Equipment, Aerobatic Kit.

Engine Models	Aircraft Application	Cylinders: S-Steel N-Nitride	Horsepower Rating	New Engine	New Engine Exchange	Remanufactured Exchange
O-540-H1B5D,-H2B5D	Embraer	N	260	\$23,025.00	\$19,875.00	\$15,215.00
O-540-J1A5D	Maule	N	235	23,210.00	20,015.00	15,290.00
O-540-J3A5D,-J2A5D	Piper	N	235	23,190.00	19,995.00	15,275.00
O-540-J3C5D	Cessna	N	235	23,100.00	19,925.00	15,220.00
O-540-L3C5D	Cessna	N	235	25,405.00	21,910.00	16,740.00
IO-540-A1A5,-B1A5, -B1C5,-E1A5,-E1B5, (24V)	Riley, Aero, Dornier, Doyn	N	290	30,210.00	26,035.00	19,880.00
IO-540-AA1A5	Piper	N	250	35,525.00	30,550.00	23,280.00
IO-540-C1B5	Piper	N	250	26,435.00	22,790.00	17,410.00
IO-540-C1C5	Riley	N	250	26,965.00	22,970.00	17,755.00
IO-540-C2C	Helio	N	250	25,670.00	22,115.00	16,895.00
IO-540-C4B5,-C4D5D (12V-24V)	Piper Aztec "C" and "D", S.O.C.A.T.A.	N	250	25,445.00	21,930.00	16,755.00
IO-540-D4A5	Piper Comanche	N	260	25,115.00	21,640.00	16,545.00
IO-540-G1A5,-G1B5, -G1C5,-G1D5,-G1E5, (12V-24V)	Smith, Aero Star, Doyn, Helio, Bellanca, Pilatus, Aero, Tehno Import, CNA	N	290	31,455.00	27,110.00	20,710.00
IO-540-J4A5 (for exh. turbo)	Piper Aztec	N	250	27,615.00	23,790.00	18,170.00
IO-540-K1A5,-K1A5D, -K1D5,-K1K5,-L1A5	Piper Cherokee, A.A. Mexicana	N	300	31,350.00	27,020.00	20,650.00
IO-540-K1B5	Britten-Norman, Transavia	N	300	31,910.00	27,525.00	21,020.00
IO-540-K1C5 (24V for exh. turbo)	Riley	N	290	32,885.00	28,340.00	21,650.00
IO-540-K1E5,-K1F5, -K1F5D	Bellanca, Smith, Aero Star, Embraer	N	300	31,790.00	27,420.00	20,945.00
IO-540-K1G5,-K1G5D (12V-24V)	Piper Cherokee or Brave	N	300	30,620.00	26,405.00	20,170.00
IO-540-K1J5 (24V)	Aerostar	N	300	31,755.00	27,370.00	20,910.00
IO-540-K1J5D	Embraer	N	300	32,155.00	27,660.00	21,075.00
IO-540-M1A5	Piper	N	300	31,580.00	27,215.00	20,795.00
IO-540-M1B5D	Eagle	N	300	32,470.00	27,920.00	21,280.00
IO-540-N1A5	Piper	N	260	26,205.00	22,595.00	17,280.00
IO-540-P1A5,-S1A5 (prov. for turbo)	Aerostar	N	290	32,690.00	28,180.00	21,510.00
IO-540-R1A5	Piper	N	260	28,660.00	24,700.00	18,875.00
IO-540-T4B5D,-V4A5D	Rockwell, Edgley	N	260	25,930.00	22,355.00	17,075.00
IO-540-W1A5D	Maule	N	235	26,600.00	23,415.00	18,255.00
*AEIO-540-D4A5, -D4B5	H.A.L., Siai-Marchetti, Omnipol	N	260	26,475.00	22,840.00	17,450.00

\* - See Ordering Information, Note 10 and Optional Equipment, Aerobatic Kit.

Stolp Starduster Corp.  
4301 Twinning Flabob Airport  
Riverside, Calif 9250  
Attn Bill Clouse President

Dear Bill,

How are things at S/D. Enclosed you will find a check for \$26.00 for back issues of S/D magazine thank you for sending the ones I need.

I have just received from the FAA my list of S/Ds by make and model on micro film and am in the process of decoding and listing them by "N" number. In briefly viewing them their appears to be way over 600 A/C. However some of them are unfinished and are not flying.

This list is suppose to be current as of Nov. 1985 but I have already found several inaccuracies. It will still be the most current as far as registered owners and number of planes in existance are concerned.

Thanks again

*David C Baxter*

David C. Baxter  
5725 SW McEwan Rd.  
Lake Oswego, Ore. 97034

P.S. I have over 300 S/D toos listed at this time will send you more info when complete.

\*\*\*\*\*

YOU WILL NEVER BE SORRY

For thinking before acting  
For hearing before judging  
For forgiving your enemies  
For being candid and frank  
For helping a fallen brother  
For being honest in business  
For thinking before speaking  
For being loyal to your church  
For standing by your principles  
For stopping your ears to gossip  
For bridling a slanderous tongue  
For harboring only pure thoughts  
For sympathizing with the afflicted  
For being courteous and kind to all.

Morning Glory



# DURETHANE POLYURETHANE ENAMEL FINISHING SYSTEM FOR FABRIC COVERED AIRCRAFT

1. Install fabric cover over framework in usual manner using nitrate adhesives.
2. **Do not** coat entire fabric envelope with nitrate dope.
3. Heat shrink fabric as required, using hot irons.
4. Install all necessary rings, grommets, reinforcing tapes, etc., as required, using nitrate dope. Apply dope **only** to those areas where these items are installed.
5. Spot prime all nitrate dope areas **only** with a **single coat** of DAS-1980 Del-Seal that has been mixed as follows: 1 gallon of DAS-1980 Del-Seal and 4 ounces of DX-369 Flexative. Heavy coats detract from flexibility. Allow sealer to dry a minimum of one (1) hour, but no longer than one (1) week.
6. Mix Durethane Primer as follows:
  - 2 gal — DPU-35 Base Component
  - 1 gal — DPU-301 Catalyst
  - 1½ gal — DX-369 FlexativeMix thoroughly.
  - 1 gal — DTU-801 Reducer
7. Spray apply 3 full coats of mixed Durethane Primer allowing a 15 - 20 minute flash time between coats. Allow to dry overnight or 12 hours and lightly sand if necessary. If additional fabric filling is required, apply additional coats of mixed Durethane Primer.
8. Mix Durethane color as follows:
  - 1 gal — Durethane color
  - 1 gal — Durethane Catalyst
  - ½ pint — DX-369 Flexative
  - ½ - 1 gal — Durethane (DTU) Reducer. (adjust amount as necessary to get best application characteristics)Mix thoroughly.
9. The Del-Seal and Durethane Primer usually provide more than enough hiding power for adequate UV radiation protection, however, if additional protection is required, a coat of Durethane Black, prepared as in 8 above can be applied prior to the regular Durethane color coats.
10. Spray apply 2 or 3 full wet coats allowing 15 - 20 minutes between coats.
11. Allow to dry 5 - 6 hours before taping for stripes and second color.

## Special Note:

If a fabric covered aircraft has already been finished with a Nitrate/Butyrate Dope System up through the 'Silver Coat' and the finisher wishes to complete the job with the Ditzler System

— it is possible, as follows:

1. Seal entire aircraft with Flexible DAS-1980.
  2. Apply 1 wet double coat of Flexible Durethane primer, allow to dry and sand lightly.
  3. Apply 2 - 3 wet coats of Flexible Durethane.
- While this finish will be much superior to a regular Nitrate/Butyrate Dope job, it will not be as good as the full Ditzler System. —

## Caution:

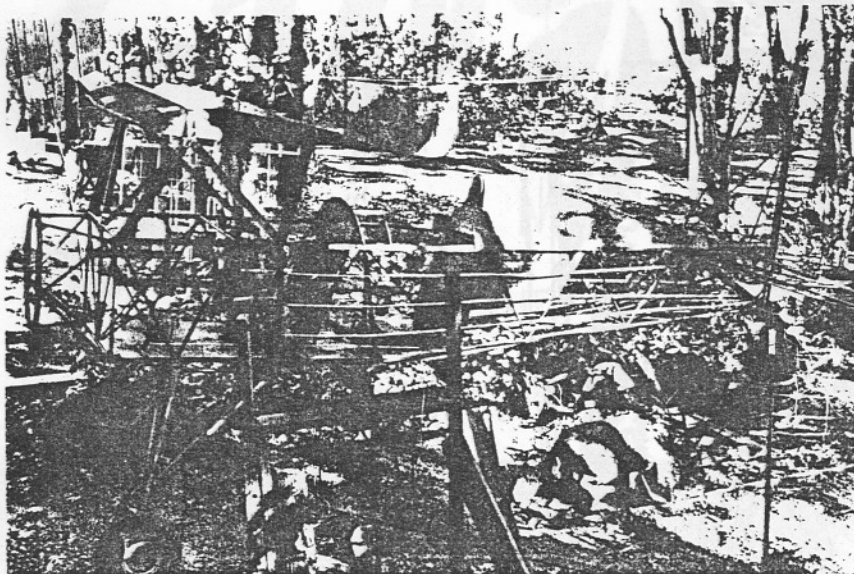
Be sure to read and follow all safety information and health warnings found on the labels of all products mentioned herein.



PPG INDUSTRIES, INC.  
P.O. Box 3510  
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Troy, Michigan 48007-3510

# Classified Ads

ADVERTISING CLOSING DATE: JANUARY 1, APRIL 1, JULY 1, OCTOBER 1.  
 CLASSIFIED ADVERTISING RATE: \$3.00 PER COLUMN INCH - MINIMUM CHARGE \$3.00  
 PLEASE MAKE CHECKS PAYABLE TO STOLP STARDUSTER CORPORATION. THANK YOU.



## S/D II Project

Serial #1796, wings assembled, air frame on landing gear, wheels and brakes and motor mount for construction.

Asking \$5,500.00 OBO

Randy Heinke  
 1626 Jaramillo Lane  
 Paradise, CA. 95969  
 916/877-2286

Lead Ballast, 62# fits perfect under front of Lycoming 0-360. Asking \$100.00.

502/7542544 or 754-3904  
 (Evenings)

S/D I Project  
 Complete welded assembly, fuel tanks firewall.

Call Bill Clouse  
 714/68 6-7943

Lycoming 0540 260HP  
 560 Hrs. since reman complete ready to install in Starduster II or Acroduster II \$6,000  
 Call Bill Clouse  
 714/686-7943

90 to 95% Complete SA-750

Stolp welded fuselage & gear  
 A/C is completely covered w/Stits w/exception of color.  
 All component parts manufactured to fit w/exception of wind screens &/or canopy, and eng. cowl.  
 Christen inverted fuel & oil sym.  
 New Hartzell C/S aerobatic prop, gov, spin.  
 Re-manned IO 360CIC, OSOH  
 Numerous instrut. & hardware  
 Call, No collects.  
 Steve Lorenz

1977 Starduster I  
 115 Lycoming 0235, 260 Hrs. TTE w/1300 Hrs 260 Hrs. since topped. Just annuled compression in high 70's. Terra Panor Mounted TP 720 Transceiver. Always hangered.  
 Asking \$8,900.00

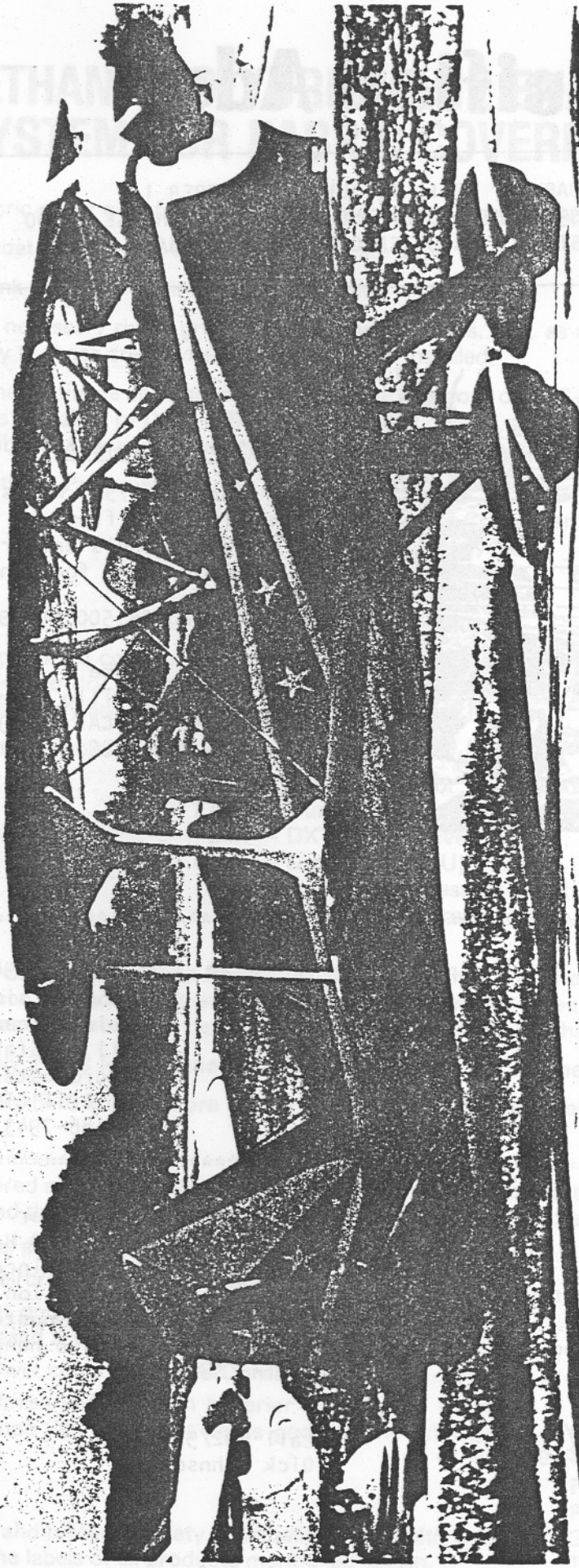
Call 602/957-8376  
 Dick Johnson



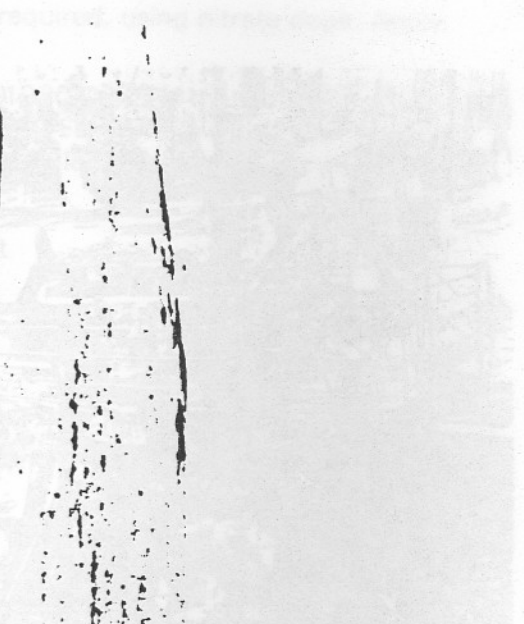
# DURETHAN SYSTEM

# FINISHING SYSTEM FOR AIRCRAFT

1. Install fabric
2. Do not coat
3. Heat-shrink
4. Install all
5. Spot prime
6. Mix Dure
7. Spray ap
8. Mix Dure



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302/32424 or 72  
(E)

we should do more  
30 to 325 complete

steps which have  
are completely

All component  
the work

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Chrysler inven

required 10,000  
thousand parts

the 100,000  
200,000,000

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