

PAGE ONE

THE

Starduster

OCTOBER 1977

MAGAZINE

DEDICATED TO THE ACTIVE HOMEBUILDER



All in all, a very good year. We hope to see you there next year. Jim Chiswick

PAGE ONE



One of the nicest things about being in the airplane business is that annual trip to Oshkosh. Every year we pack up an airplane or a motorhome, or a truck and visit Mecca. This year was my sixth annual visit, and, far from repetition becoming boresome, this year was the finest and most enjoyable annual event that I have attended.

Naturally the big attraction, next to the airplanes themselves, is the old and new friends you meet at Oshkosh. Joe Ferrara and his marvelous italian dinners, cooked in his motor home. Fred Hammer from Huntsville, Alabama, keeping us company on the flight line all week. Diane "Ace" Abramson, Acroduster builder and jet mechanic helping us give rides on the flight line

An unexpected pleasure was having dinner with Ray Cote and T. Claude Ryan one evening after a hard day on the flight line. And also unexpected was receiving an award for my friend, Lou Stolp, for his contributions to Sport Aviation.

On Designers award night it was a real pleasure to Award the Best Two Place Airplane from STARDUSTER award to ROGER ROURKE. It was an even greater pleasure to see him win the GRAND CHAMPION AWARD a night later. Giving Larry Weishaar his award for best single place machine from STRADUSTER was also a pleasure. It would have been even more enjoyable except he left prematurely, thinking the nights program was ended, whereas, actually, only the first half of the evening program was over.

My thanks to Dr. Dean Hall and and Gerald Morrissey, both SKYBOLT builders for helping judge the STARDUSTER airplanes for designers awards. They put in a lot of time and effort just walking and judging.

Attending the VP Pizza party was very enjoyable, as usual. We were all sorry that Bud Evans couldn't be there. This is the first year he has missed, to the best of my knowledge.

As an EAA member, I wish to express thanks and appreciation to PAUL POBEREZNY, AND the rest of the headquarters crew for working so hard every year to continually improve and upgrade our flyin.

And my thanks and sincere appreciation go to ERIC SMILLING and JOHN HELTON, for their long hours of hopping passengers in our ACRODUSTER TOO. Both of these fine gentlemen worked long and hard every day taking up as many of our builders as they could manage.

And JANET HELTON, John's daughter was there with her father, helping passengers strap in, and checking their harness. Janet, 14 years old, is well on the way to becoming the youngest Acroduster pilot. She has 20-25 hours of dual, and is proficient at cross country flight, as well as doing a very nice slow roll and loop. Her Dad predicts she has quite a future as a pilot.

All in all, a very good year. We hope to see you there next year.

Jim Osborne

THE STARDUSTER MAGAZINE- DEDICATED TO THE PROPOSITION THAT THE ULTIMATE IN SPORT AIRCRAFT WAS REACHED WITH THE DESIGN AND DEVELOPMENT OF THE OPEN COCKPIT, TAIL DRAGGING BIPLANE-- AND THAT EVERYTHING ELSE HAS BEEN DOWNHILL--EVER SINCE

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On our front cover is a beautiful picture of the STARDUSTER TOO belonging to JOHN ADOLFSON, Box 65, Lakeville, Pa., 18438. It was finished on Dec. 15, 1976, and the 50 hours were flown off ob July 15, 1977. John has a 150 H. P. Lycoming. It weighs 1150 pounds with electrical system, and cruises 117 MPH.

On our back cover is a picture of the 1977 Oshkosh GRAND CHAMPION STARDUSTER TOO built and Flown by ROGER ROURKE, of Torrance, California. Pictured with the TOO is some of the trophies it has so deservedly won. One of the very best TOOS ever built. Our congratulations to Roger and Mrs. Rourke.

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V-STAR ADVENTURE

By Larry Weishaar

Thursday, June 16, was a rather warm, humid day in central Illinois, but not as muggy as the past few days. It was just beginning to cool off in the late afternoon, when, after 4-1/2 years, I came to the realization that there were no longer any compelling reasons why I shouldn't attempt the first flight of V-STAR N2LW.

The past week had been a fairly concentrated frenzy of activity. Jack Schmeltzer of the Indianapolis EMDO had been there on Tuesday, and given the bird a more or less clean bill of health. I never would have believed he would find a pair of bolts on the aileron pushrod attachment, in full view of anyone glancing into the cockpit, without nuts. But he did, and that's the kind of thing that can happen when you're in a hurry, and getting a lot of well-intentioned help from your friends, as we shall see.

As Jack drove off, I popped the top on a can of Pabst, kissed the pretty little pink slip, surveyed the gratifyingly short punch list (aside from that one big boo-boo), and contemplated the job of getting all the miscellaneous pieces back into formation from the inspection strip-down. There she stood, zippers, buttons, and makeup in disarray, and socks down around her ankles, but still a mighty purty sight to her old Dad.

Everything went smoothly the next couple of days and evenings and, with the help of the ever faithful coterie of fellow homebuilders who had contributed so much to the project, Thursday's declining sun saw us make one more fingerprint-wiping walk around, and declare the job done. Oh yes, the new spark plugs to replace the borrowed set arrived just about then, and we made a four-man ten-minute job of removing the cowl and doing a plug change. Are you beginning to smell something?

One of our little clique's favorite remarks on jumping into areas where experience is lacking is "you'll never learn any younger," and, accordingly, they helped me

strap it on, flipped the lycoming to life, and collectively goosed the summer sky with a three barreled thumbs up salute. With taxi clearance (Negative Stage 3-- I'm not gonna get far enough away for your ghost sniffer to pick me up--), we boogied briskly out the mile or so to the end of 22, and switched to tower. "2LW cleared for immediate takeoff", came thru the magneto noise and, swiftly but accurately making a final count of the wings, I fed in the stinger and watched the tire marks accelerate under the lower panel. Pretty soon I could see over the nose, and then, wonder of wonders, we were up.

My plan, previously worked out with the tower, was simply to orbit the patch at 3000 MSL while I cautiously assayed what happens as you push the lever here and there, and how the assembly reacts when you get it too far back, and after half an hour or so, to return triumphantly to terra firma, and the tumultuous welcome of my three-man throng. Passing thru about 300 AGL I sheepishly remembered I hadn't, in my enthusiasm to get airborne, made a formal runup before takeoff. With 5000 feet or more of concrete still ahead, I figured "better late than never", and backed the key off one notch. No readable drop-swell- but it really should do better than 2250, come to think of it. Another notch (right mag) and BANG, SHAKE, SHAKE. My undershorts went suddenly tight as all the slack sucked up into a convenient crevice, and, cagily deducing that something was awry, I returned the key to "both", which cleared the worst of the problem. I was now keenly aware, however, that the engine was, at best, rough and doggy, and had been from the start. My 5000 feet is now mostly gone, and in spite of the momentary power loss, had been traded for another 200 feet of altitude.

Disguising my normal rich baritone with a sort of tenor vibrato, I informed the tower I'd like, if I may, to make a 280 degree left turn, and land on 30. "Shore," they said, "but be advised the wind is 180 degrees at 12 to 15." Well, it was still running reasonably well, and I knew I could make four or five landing attempts on 22's 8000 feet, so I elected to go on around. Made as good a landing as any I've made since, too. (How is that for hedging?)

We had the offending mag off in a jiffy, and bench checked by the next morning. It pulled about a mile and a quarter spark from every hole. Back on the airplane, it ran like a sick lawnmower. I know you're way ahead of me but, anyhow, I can take credit among the group for finally having sense enough to trace the leads and determine that the bottom left plugs were reversed.

More about flying later. This all began at the 1972 Oshkosh Goat Ropin', when I became suddenly, and completely, enamoured of a sassy looking, spindley-assed little blue and white biplane- Those elliptical wings, that sensuous rear deck curve, and those cute little puppy feet said "STARDUSTER," but there was somehow a grace and elegance I hadn't noticed in the proportions of Lou Stolps other designs, lovely though they are. A tall gent with an aura of quiet dignity seemed to be fielding questions about the airplane, and that was the beginning of a fine friendship with Jim Osborne, designer of this particular bit of fluff, and Lou's successor at Stolp Starduster Corporation. Within minutes, a modest check changed hands, and I had proprietary rights to plans Set #6, for the SA 900.

The first weld was made in October of that year, and construction of the iron parts of the bird went forward rapidly. A lively correspondence began, by mail and telephone, between Illinois and California, with me whining piteously for additional plan sheets (although materials and hardware were always delivered promptly), and Jim adroitly fielding questions about the plans, and approving or vetoing the numerous changes I proposed.

Changes I succeeded in getting past him were-

- (1) Using the O-290-D2, a little heftier than the engines having designer

approval.

(2) Shortening the ailerons one bay, and providing an additional pair on the top wing.

(3) Using foam/fiberglass for leading edges, aileron wells, tips, etc., in place of sheet metal and tubing.

(4) Converting drag bracing in the lower panels to diagonal tension in place of compression, and mounting the aileron control horn pushed below the wing instead of above.

(5) Changing the rigid bottom stabilizer braces to tension wires.

I also, without consulting Jim, went to ball-ends on all control rods and wood bushings on the control stick torque tube, installed an elevator trim tab, and built a stabilizing cradle about halfway along the rather lengthy elevator pushrod. The plans are reasonably complete, but possibly a little sketchy here and there for a rank beginner. Two or three bloopers appeared, as may be expected in the development stage, but all were corrected with full distribution to plans holders.

1974 was wing construction year, and I got pretty sick of that job. No real difficulties, just too much of a good thing. Late in the year I put together what I had finished, measured for rigging wires and I-struts (one of the bloopers) and, weighing the whole, (with weight and arm estimates of the remaining components) calculated the required engine mount length. By then I was 90 % done, with only 90% to go. (No, that ain't a misprint.) Where in the world the next two and a half years went, I'll never know, but it took that long to cover and finish, get the project to the airport, hang it together, get the engine running, and conduct taxi tests.

Which brings us back, approximately, to the beginning of this story. After I whipped the magneto problem, further initial flights were at least without dramatic value, although the whole planned testing regime has been thrown out of whack by a persistent oil cooling problem. Not a critical one, but I couldn't use normal power settings without seeing that damnable gage get up there and nudge the red line--- not over, just worrisomely close. Because I was determine to get it to Oshkosh, and had less than six weeks to build the 50 hours, I just couldn't take time to make any major changes. So, I fooled around with mostly ineffectual minor fixes, and contented myself with grinding around the test area at about 18" and 2200 RPM with the oil temp at the top of the green. I have, since Oshkosh, pretty well whipped the problem with the installation of an additional oil cooler (now have two Corvair-type coolers in series), but as a result of the delay, I still do not have any really definitive figures on full-power rates and angles of climb, inverted performance, etc.

HERE ARE THE CHARACTERISTICS I HAVE PRETTY WELL TIED DOWN.

The airplane gets off easily in 400 feet (concrete), and full power gives 28" (at 600 MSL) at 2450 RPM and about 70 MPH IAS. The "up" gage pegs and holds at 2000 FPM in that format, but I have some reason to believe it may be hyping itself a little. It do climb good though.

I can now cruise continuously at about 22" (2400 RPM) without exceeding 200 degrees on the oil, and measured ground speed at 3000 MSL is approximately 115 MPH. Full power (oil Temp be damned) at that altitude gives 24-25", and 2800 RPM, and movement at the rate of 132-133 MPH. A swell loop can be made from level flight (flat out) without loss of altitude. (Now do I know? Well, it got away from me once or twice.)

On the low end, I don't know how slow it goes, but it hangs on until the IAS is below the scale. I'm guessing 45-48 TAS. It pays off gently, and recovers nicely in response to the proper stroking. Approaches feel good at 70, with maybe 60 over the fence. The angle of descent at these speeds is fairly flat, and it may be I could safely knock off 10 MPH, because it is, frankly, kind of a floater when you get in ground effect.

With this large, (well, fairly large) range of speeds, trim forces become really objectionable if the elevator trim is just left at cruise, particularly at high high speeds where you really have to hold forward pressure to keep the R/C centered. I'm real glad I put in the trim control; it ain't much, but I can trim to neutral pressure at speeds between 75 and 125 MPH.

Elevator pressures are, to my mind, rather heavy, at least in high plus g modes, but that is probably a safety factor against overstressing things. I have a good bit of mechanical drag in the aileron system, but the air loads seem about right, maybe a touch too light. The full deflection rate of roll is very fast, I think. I haven't much to compare it with, but it is substantially quicker than a Yankee, for instance. The rudder touch seems to match the ailerons fairly well, and there is enough of it available to make a pretty deep forward slip. No spins, or negative g maneuvers yet.

Stability in all axes is surprising. This may not be too desirable in an aerobatic airplane. When I was building time, I routinely left my hands in my lap for extended periods of time, maintaining heading and roll control with the rudder. Once I even spiraled down from 9000 feet in 12 full circles, changing rotation about half way down without ever touching elevator or ailerons.

On the ground, my first reaction was that it was a handful. Some of that may have been attributable to tight shorts, and an unaccountable obstruction in my throat, however. Visibility ahead, of course, is nil until the tail comes up, but takeoffs are no sweat at all anymore. I can usually keep the dotted line between the wheels until liftoff. Rollout is another matter entirely. It has never gotten completely away from me, but unless the touchdown is perfect the next few moments always holds my undivided attention, and I often have the feeling that I lucked out again. It is just a short-coupled little mother with the wheels perhaps a tad too far ahead of the C.G., which, in a decelerating condition, leads to a natural tendency to swap ends, and one must simply learn to love it anyhow.

No "I built an aeroplane" story is complete without a list of Thank-yous; Besides Jim, Hanako, and the crew at Stolp, my project owes a lot to my friends and fellow homebuilders, Lee Williams, Bill Bernard, Bill Wilkin, Bob Rutledge, and the Wagner Twins (Tweedledum and Tweedledee), who majored the engine. My long suffering spouse, Betty, put up with the noise, dust, and noxious odors emanating from the basement with remarkable forbearance, although sometimes only thru obviously difficult self-control. I learned, for instance, that the color mauve is accurately generated by a slightly apoplectic complexion with a bit of yellow overspray added.

It will come as no surprise that I am immensely pleased with the "MAYFLY" (git it?) and I hope to see other examples of the SA900 design start showing up. I would be pleased to talk to or correspond with other builders, if I may be of assistance.

LARRY WEISHAAR
1924 North 6th Street
Springfield, Illinois
67202

YOUR STARDUSTER GAS TANK

by jim osborne

On of the most crucial and basic pieces of equipment on your airplane is your gas tank. It must be made right, installed right, and maintained right, to give you satisfaction over the life of your airplane.

To begin with, any main tank for a STARDUSTER TOO, or an ACRODUSTER TOO is set up for inverted flying. A tank built for either upright or inverted flying presents special problems.

Problem number one-- How to insure that your pickup tube will pick up gas, and not air, under any aerobatic condition.

The basic solution is simple enough. Attach your pickup tube to a flop tube, and, presumably the flop tube will go where the gas is. See figure 1.

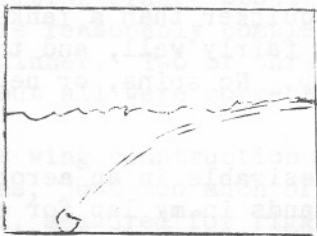


Figure 1--Std Tank

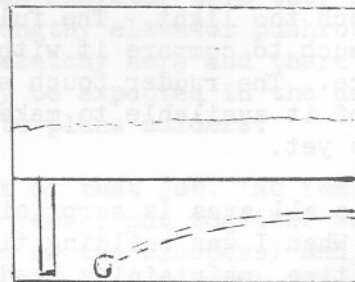


Figure 2 --Starduster Tank

However,, if the tank is less than full there is a good chance that the gyrating flop tube will suck air at some time in your gyrating career, and this is not conducive to peace of mind and a healthy blood pressure. Therefore, our tanks are made as per sketch two. That is, we build a main tank and a reserve tank. The reserve tank is smaller. It is filled by a standpipe from the main tank. This standpipe runs to the bottom of the main tank, and is, therefore, one way. The reserve tank will fill, but it will not empty under negative g's. Also, the reserve tank will be continuously full, as long as useable fuel remains in the main tank.

Problem number two--- Venting. In effect, we now have two tanks. So we also have two sets of venting problems.

The vent for inverted flying is the easiest. In such flying, we only are feeding fuel from the bottom tank. Therefore, a vent line to the bottom of the reserve tank will take care of inverted venting. See figure 3. We normally run this vent line to the top of the cabane struts.

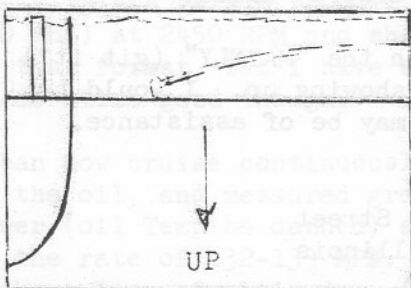


Figure 3-- Inverted vent

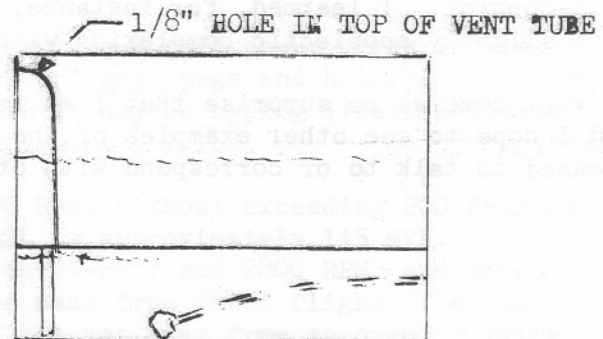


Figure 4-- Upright vent

The upright vent is a little more complicated. As long as there is gas in the upper tank, and the lower tank is full, the lower tank does not need a vent. As gas is used out of the lower tank, it is replaced by gas from the upper tank.

However, there are two conditions under which the upright vent to the lower tank functions. One is when the lower tank is being filled from the upper tank. As the fuel rises in the lower tank the air must have an escape route. This is provided by the upright vent to the lower tank. The other condition is when all the gas has been used out of the upper tank, and the gas is being used up out of the lower tank. There must be a path for air to enter the lower tank. Again the upright vent functions.

We can use one vent line to vent the top of both the upper and lower tanks. See figure 4.

In addition to vent lines we must provide a fitting for a pressure carburetor return line, for those of our customers who are using pressure carburetors. This is the middle of three female welded fittings on the front top of our tanks. If you are not using a pressure carburetor, please plug this fitting.

For a complete sketch of our tank, please see figure 5.

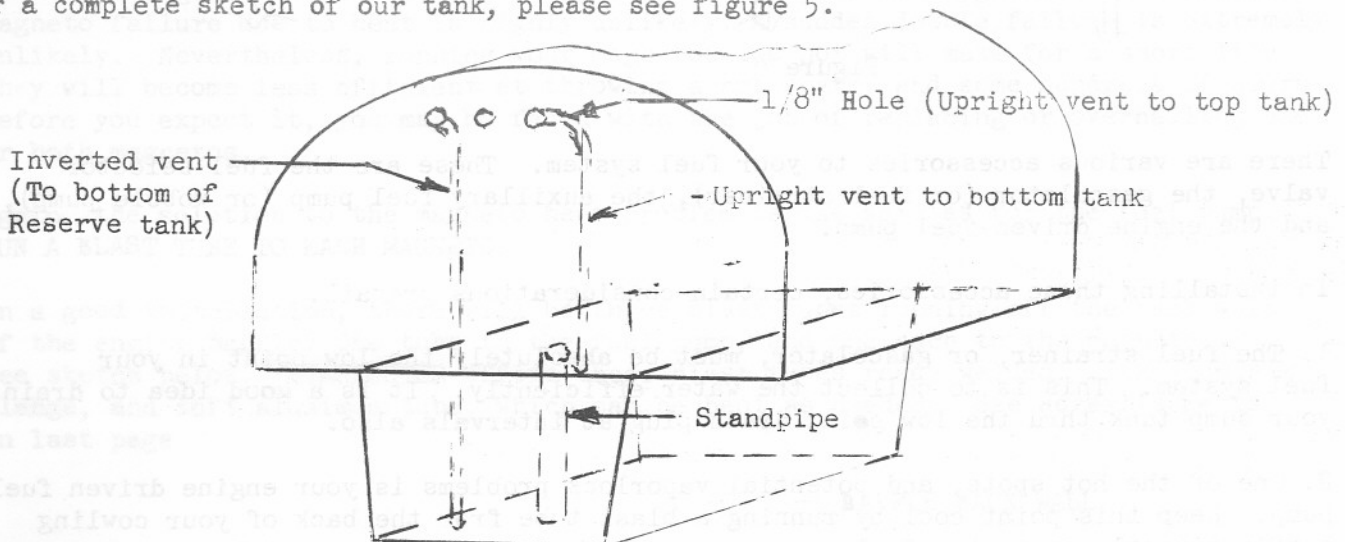


Figure 5- Complete tank.

Before installing your tank, it is a good idea, to wash it out thoroughly, with a high pressure water hose. This will get rid of any residue of metal dust, or any foreign matter which may have gotten inside your tank. Then, we suggest that you slush your tank with slushing compound. Do this not once, but twice. This is not to seal any pinhole leaks, (although it will), but mainly to seal any remaining dust or debris which might still be hiding in the seams of your tank.

After your sealant is dry, (allow a couple of days) your tank may be installed in your airframe. Be sure it is completely cradled in neoprene rubber. The tank should NOWHERE touch the metal airframe. The tank mounts should have neoprene rubber on them, and the holdown straps should have neoprene between the tank and the strap.

After the tank is installed, hookup the vents, and carb return line, if applicable. Use soft aluminum 1/4" tubing. Be sure that the vent lines are properly placed in reference to the airstream. Heading them directly into the airstream will result in excessive pressurization in the tank and will tend to make it balloon. This bulging and subsiding will sooner or later result in a tank leak. Also, whatever

you do, do NOT position the vent opening so that it draws a vacuum. This could lead to vapor lock, and an unscheduled forced landing. One homebuilt airplane from Flabob recently had this problem. The upright vent was run down the landing gear strut and the vent hole faced the rear. Two inflight engine failures, and one dead stick landing resulted within the first three hours of flight. The vent was repositioned so that a positive pressure resulted. This cured the problem. As a check, a test line was placed in the same position as the original vent. A suction gage was attached to the other end. At a cruising speed of 110 MPH, the vent had been putting 5" of suction into the tank.

The best positioning of the vent opening is as shown in figure 6. A 30 to 45 degree angle with the slipstream is about right.

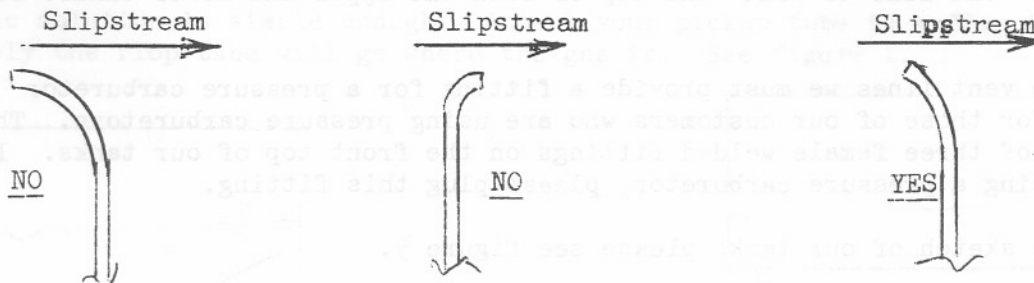


Figure 6

There are various accessories to your fuel system. These are the fuel selector valve, the gascolator (or fuel strainer), the auxillary fuel pump (or wobble pump), and the engine driven fuel pump.

In installing these accessories, certain considerations prevail.

1. The fuel strainer, or gascolator, must be absolutely the low point in your fuel system. This is to collect the water efficiently. It is a good idea to drain your sump tank thru the low point drain plug at intervals also.
2. One of the hot spots, and potential vaporlock problems is your engine driven fuel pump. Keep this point cool by running a blast tube from the back of your cowling baffle directly on to the fuel pump.
3. Insofar as possible, mount the selector valve, the aux fuel pump, and the gascolator behind the fire wall. This sometimes presents a problem with the gascolator which must be the systems low point. In a roomy installation, such as a 4-banger in a Starduster Too, this is not much of a problem. However, in a tight highpowered installation, such as 260 H.P. in an Acroduster Too, it may be best to cool the gascolator with an airblast, if mounted ahead of the firewall.
4. Forward of the firewall, we recommend that you use the highest quality steel braided line. The steel braid reflects heat, and your fuel stays cooler. In routing this line, stay away from hot spots. Keep it as far as possible from the exhausts, for instance. If you must rout it close by, consider installing a stainless steel heat reflector shield.
5. During your ground run, check your fuel frequently for contamination. Before the first run, drain fuel into a container until it runs absolutely clean. Check it carefully before very flight in your test program. Clean the gascolator filter after 25 hours, or earlier if indications are that it is needed.

KEEPING COOL

One of the most annoying things to have happen is to have your engine quit while you are airborne. If you are too far from the airport when this happens, it could ruin your whole day. This spring, at Flabob airport, a Starduster Too and a Skybolt have both experienced vapor lock very early in their flight test program, and two unscheduled forced landings resulted.

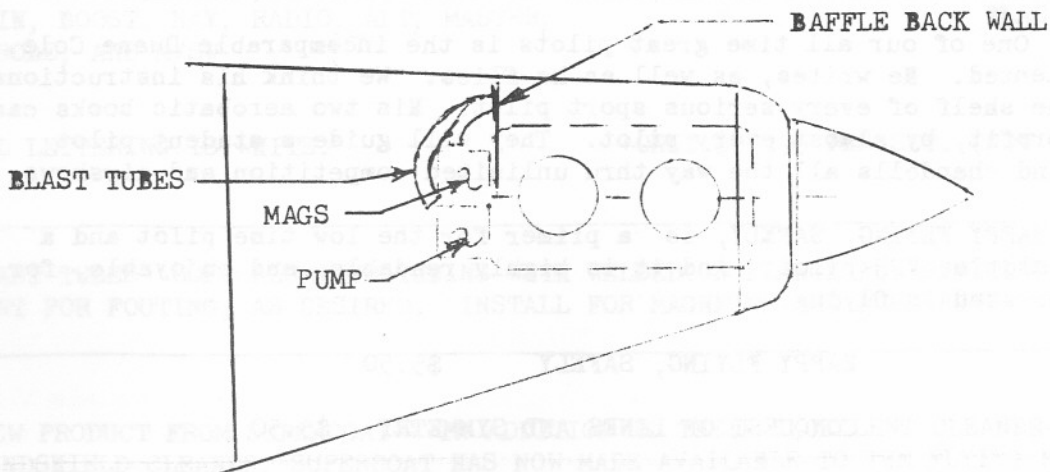
One hot spot in your fuel system is your engine driven fuel pump. Being attached to the engine, it soaks up heat like a sponge. On a very hot day, even on a very good installation, it is not unusual to have to use your aux fuel pump in order to get your engine to run smoothly.

One way to improve the operation of your mechanical fuel pump, and cut down on the probability of vapor lock, is to cool the pump. This is best done by installing a blast tube. This blast tube should run from the upper back side of your engine baffle direct to your fuel pump. This blast tube will immeasurably improve your chances of happy flying on a real hot summer day.

Two other engine accessories which may run hot are your two magnetos. Now a sudden magneto failure due to heat is highly unlikely. A sudden double failure is extremely unlikely. Nevertheless, running your magnetos too hot will make for a short life. They will become less efficient at throwing a hot spark, and some hundreds of hours before you expect it, you may be faced with the job of replacing or overhauling one or both magnetos.

Again, the solution to the magneto heat problem is the same as for the fuel pump. **RUN A BLAST TUBE TO EACH MAGNETO.**

In a good installation, there will be three blast tubes running off the back wall of the engine baffle. One tube to the fuel pump, and one each to the magnetos. See sketch below. STARDUSTER offers these blast tubes ready welded, with aluminum flange, and soft aluminum tube, which can be bent as needed. See advertisements on last page



NEW PRODUCTS

"STARDUSTER" is happy to announce that we have been appointed distributors for a new parachute. It is designed specifically for the Sports-Aerobatic type pilot who wants a thin, lightweight chute for emergency use only.

Our new chute is the thinnest on the market, and as light as any, (16#). It is made for us by a California Company that has been making sport Parachutes for many years. The canopy is nonporous, 23' in diameter, and has a descent rate of 16 feet per second under a 200 pound load on a standard atmosphere day. It is fully jump tested, TSO'd, and can be delivered in three to four weeks after order. In a few months, we hope to be able to offer seven day delivery, or immediate delivery in a standard color.

The leg straps and chest strap are fully adjustable. The shoulder straps, which should fit loose, are non adjustable. They are sewn into a vesttype back, and will not fall off your shoulders, as so many shoulder straps do. If you are five foot, six, or under, order the standard model. From 5'6" to 6'2", order the long model. Over 6'2", order the extra long model.

Colors available are red, gold, black, blue, and orange. All chutes will be trimmed in black. Seat cushions are of special, firm, extra comfortable foam.

Included in the low price is a carrying bag of matching color. Only \$435.00
SPECIFY SEAT PACK OR BACK BACK.

DUANE COLE BOOKS- One of our all time great pilots is the incomparable Duane Cole. And he is multitalented. He writes, as well as he flies. We think his instructional books belong on the shelf of every serious sport pilot. His two aerobic books can be studied, with profit, by almost every pilot. They will guide a student pilot from lazy eights and chandells all the way thru unlimited competition and airshows.

His newest book, HAPPY FLYING, SAFELY, is a primer for the low time pilot and a reference for the oldtime VFR pilot. And it is highly readable, and enjoyable, for almost anyone interested in flying.

HAPPY FLYING, SAFELY \$5.50

IN STOCK

CONQUEST OF LINES AND SYMMETRY \$5.50

IMMEDIATE DELIVERY

ROLL AROUND A POINT \$5.00

COFFEE MUG- WITH A COLOR PICTURE OF STARDUSTER TOO, ACRODUSTER TOO, V-STAR, STARLET, STARDUSTER 1, OR ACRODUSTER 1. ALSO WITH YOUR PERSONAL "N" NUMBER, AND YOUR FIRST NAME. A QUALITY PRODUCT. ALLOW TWO WEEKS FOR DELIVERY. ONLY \$5.95



GLASSES- EITHER BEVERAGE GLASSES, OR COCKTAIL GLASSES. NOB HILL PATTERN, BY LIBBY. HAS FASHIONABLE STACKABLE ROCK BOTTOMS. BEVERAGE GLASSES, 12 OZ. HI-BALL GLASSES, 9OZ. A SET OF SIX, FEATURING FULL COLOR PICTURE OF EACH OF OUR AIRPLANES. ONLY \$9.95 PER SET.

COASTERS- SET OF SIX, MADE TO GO WITH ABOVE GLASSES. FEATURES FULL COLOR PICTURES OF OUR SIX AIRPLANES. THREE AND ONE HALF INCHES IN DIAMETER. ONLY \$9.95.

SIGN SET- MADE TO DRESS UP THE INTERIOR OF YOUR TWO COCKPIT BIPLANE. LETTERS ARE 1/4" HIGH, ON THIN FORMICA, AND HAVE PEEL OFF, STICKY BACKING. THROTTLE, PROP, AND MIXTURE SIGNS MATCH OUR THROTTLE QUADRANT COLORS. SIGNS ARE AS FOLLOWS:

SIGN	QUANTITY	COLOR (BACKGROUND)
CLOSED ← THROTTLE → OPEN	2	BLACK
LO RPM ← PROP PITCH → HI RPM	2	BLUE
LEAN ← MIXTURE → RICH	2	RED
NOSE UP ← TRIM → NOSE DOWN	1	BLACK
FUEL SELECTOR C-S	1	BLACK
RES MAIN OFF		
SOLO, REAR SEAT ONLY	1	BLACK
WARNING, T.O./LANDING AND AEROBATICS ON RES. POSN ONLY	1	RED
EIGHT SIGNS, SMALL, AS FOLLOWS, MAIN, BOOST, NAV, RADIO, ALT, MASTER, STROBE, AND M/SW	8	BLACK

ALL LETTERING IS WHITE. ONLY \$29.95 PER SET. (NOT SOLD SEPARATELY)

BLAST TUBES- SOFT ALUMINUM TUBING WITH WELDED ON FLANGE FOR RIVITING. CAN BE BENT FOR FOUTING, AS DESIRED. INSTALL FOR MAGNETOS AND FUEL PUMP ONLY \$2.50 EACH.

NEW PRODUCT FROM SUPERCOAT-- IN ADDITION TO THEIR EXCELLENT CLEANER-POLISH, AND WINDSHIELD CLEANER, SUPERCOAT HAS NOW MADE AVAILABLE TO THE FLYING PUBLIC A CLEANER AND PRESERVATIVE FOR LEATHER, PLASTICS, AND RUBBER. WIPE ON/WIPE OFF. REMOVES ALL DIRT AND MOST STAINS. PREVENTS OXIDATION AND GREATLY REDUCES SMOG DAMAGE TO YOUR EXPENSIVE TIRES. LONGLASTING. ONLY \$3.00 PER 8-1/3 OZ. BOTTLE.

NEW YEARS EVE PARTY

In the downtown section of Riverside lies a national historic monument. It is the famous Mission Inn. Patterned after the California Missions, it was the place to stay when in Riverside. Presidents stayed there. W.M. Taft had a special chair made for his use when there. Richard M. Nixon visited there on his honeymoon.

It is full of antique art treasures, including an entire chapel, built in Mexico in the 1790's and bought and moved intact to the Mission Inn

In the Inn's heyday, it featured an exotic nightclub, called the LEI LEI room. This room is oriental in concept, with a waterfall, a giant Bhudda, and the most intricately carved chinese sculpture I have ever seen.

STARDUSTER has reserved this nightclub for a new Years eve party. Our customers and friends are invited to be our guests. No admission charge. Free drinks, snacks, and music. Live small orchestra from 9:00 til 1:00. Recorded music from 7:00 til 9:00. Please join us for this party.

For our friends from out of town who may wish to attend, we will be happy to arrange Lodging and transportation. Just call us ahead of time. See you there.

STARDUSTER TOO GRAND CHAMPION

At Oshkosh this year, Roger Rourke, of Torrance, California, continued a winning tradition by winning the Grand Champion, Homebuilt, award at OshKosh. His beautiful machine also won the best two place design from STARDUSTER. He well deserved both awards.

Roger and his wife actually built this machine twice. The first time it was built, it was flown for approximately a year when an engine failure occurred over the ocean off Santa Minica beach. Gliding in to shore Roger landed in a rough area to miss the beach crowd, and turned his machine over. It was pretty well totaled out.

He then spent several years rebuilding it, the way he said he wished he had built it the first time. It is complete with a beautifully finished interior to match the exterior, and a rather full instrument panel. The outside finish is outstanding, the paint job featuring flames straking back from the engine compartment.

This is the third time in the last four years that a STARDUSTER TOO has won the Grand Champion award. Bud Giffens, of Phoenix, Arizona, won in 1974. Dr. Jim Young, of Los Angeles, won with BIG RED in 1975. And now Roger wins in 1977. What happened in 1976, all you STARDUSTER BUILDERS?

Best Single place design from Starduster was won by Larry Weishaar, with his V-STAR. Larry has favored us with a very interesting story on the construction and flight test program of his bird. It is in this issue. We hope you enjoy it as much as we did.

I had the pleasure of flying Larry's V-STAR at oshkosh, and I was delighted with its pleasant flying characteristics. It is very gentle and docile, and yet quite responsive. I believe this airplane should do quite well in SPORTSMAN Aerobatic competition. I slightly disagree with Larry on two matters. I would estimate the stall speed at 35-38 MPW. And I thought the landing characteristics were delightful. After a little practice, I'll bet Larry agrees with me.

-NEW DRAWINGS-

Our center pages this month feature a new drawing of sheet number 27, for the Acroduster Too. Differences are as follows:

1. A very slight revision in rib lengths, in order to better mate with the trailing edge that we are tooled up to produce. The ribs are very slightly shorter. This is a change which any builder can do himself. Just trim the ribs slightly to fit.
2. A new nose rib has been added. This is needed to stiffen the leading edge between -20,21 hinge and -18,19 Horn.

In addition to drawing number 27, number 28 (aileron drawing for upper wing) has also been revisited. The revision consists of slightly shorter ribs. No new nose rib has been added to this drawing.

In order to add the nose rib in drawing number 27, it was necessary to modify the fittings on Drawing number 29. Optional trim lines have been added. These trim lines are necessary for the fittings adjacent to the added nose rib. At all other locations they are optional.

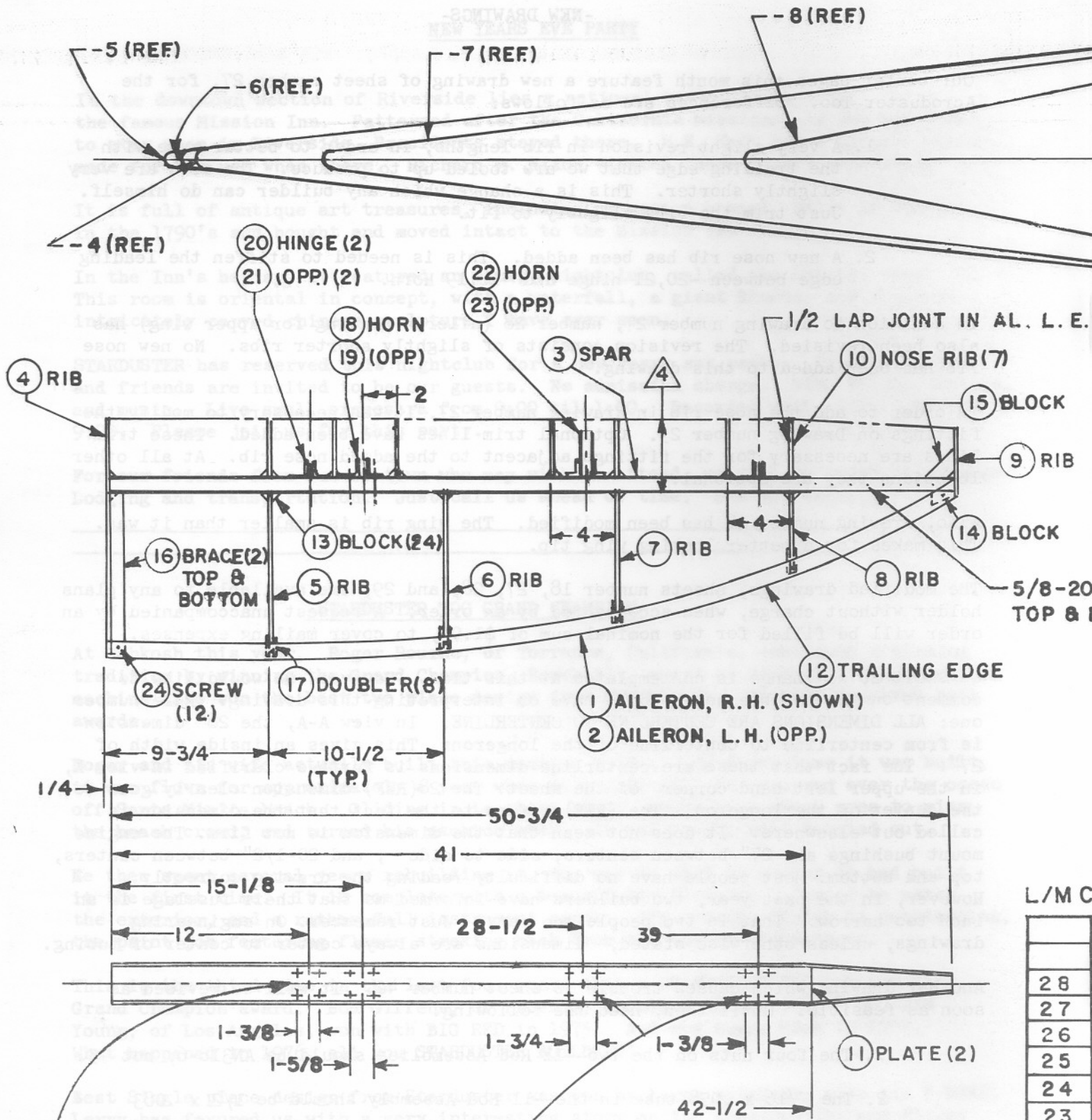
Also, drawing number 18 has been modified. The wing rib is smaller than it was. This makes for a better looking wing tip.

The modified drawings, sheets number 18, 27, 28, and 29, are available to any plans holder without charge, when accompanied by an order. A request unaccompanied by an order will be filled for the nominal sum of \$1.00, to cover mailing expenses.

On sheet 2, no change is contemplated at this time. However, we would like to comment on the trouble some people have on interpreting this drawing. Rule number one: ALL DIMENSIONS ARE CENTERLINE TO CENTERLINE. In view A-A, the 28" dimension is from centerline to centerline of the longerons. This gives an inside width of 27". The fact that these are centerline dimensions is further clarified in view K, in the upper left hand corner of the sheet. The 28(REF) dimension clearly goes to the center of the longeron. The (REF) refers to the fact that the dimension is called out elsewhere. It does not mean that the dimension is not firm. The engine mount bushings are 27" between centers, side to side, and 20-1/2" between centers, top and bottom. Most people have no difficulty reading the drawing correctly. However, in the past year, two builders have informed me that their fuselage is an inch too narrow. That is two people too many. Just remember. On engineering drawings, unless otherwise stated, dimensions are always center to center of tubing.

Another drawing which causes trouble is sheet number 42. It will be revised as soon as feasible. Until then, heed the following.

1. The four nuts on the two -11 Rod Assemblies should be AN316-6, not -5.
2. The 7/16 x .058 tube in the -11 Rod Assembly should be 1/2 x .083
3. On detail -17, Trunnion, only four are needed, not six. The landing wires do not normally require a trunnion.
4. CAUTION-- On -12 Rod Assemblies, be sure you adhere to the 1/2" center line to leading edge dimension. This is a MAXIMUM dimension. Exceeding this dimension could result in spar interference upon installation.

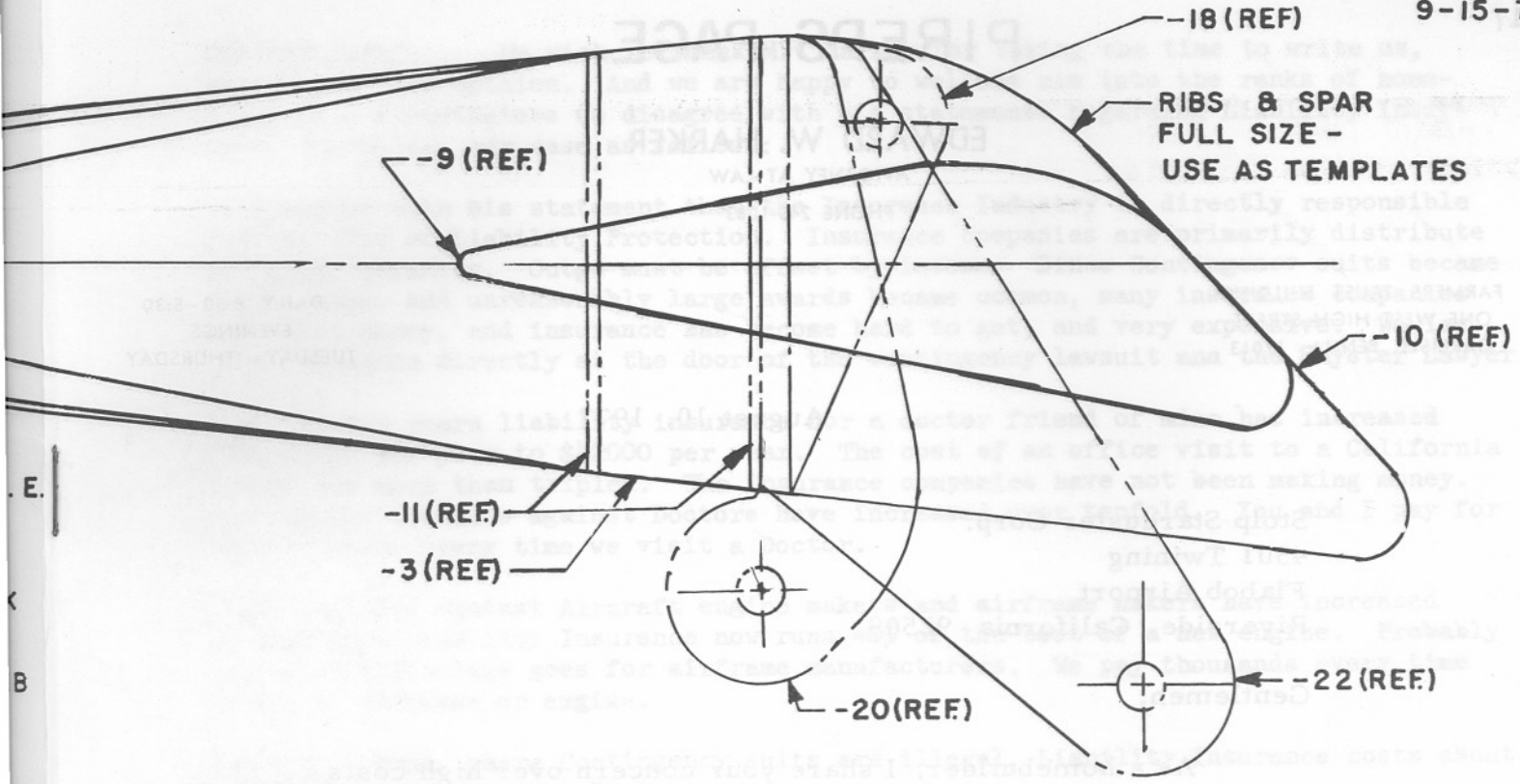


L/M C
28
27
26
25
24
23
ITEM

- 25 AN4-14A BOLT (16)
- 26 AN960-416 WASHER (16) △ 2
- 27 AN970-4 WASHER (16) △ 3
- 28 AN365-428 NUT (16)

- △ 6 MAT'L CALLED OUT ON S 5 CUT HOLES IN AL. L.E. A
- △ 4 COVER L. E. WITH .016 202
- △ 3 INSTALL ON AFT SIDE OF
- △ 2 INSTALL ON FWD SIDE I-REDESIGNED & REDRAW

MATCH DRILL WITH MATING HINGE OR HORN AS REQ'D - 4 PLACES



-20 CEMENT COATED NAILS - 1" SPACING -
& BOTTOM OF SPAR


22	2	HORN		-29-5
21	4	HINGE		-29-4
20	4	HINGE		-29-3
19	2	HORN		-29-2
18	2	HORN		-29-1
17	16	DOUBLER	1.5 MM BIRCH PLY	-27-17
16	4	BRACE	1/4x1x11 SPRUCE	-27-16
15	2	BLOCK	3/8x1x2-1/2 SPRUCE	-27-15
14	2	BLOCK	3/8x1x1-1/2 SPRUCE	-27-14
13	48	BLOCK	3/8 x 3/8 SPRUCE	-27-13
12	2	TRAILING EDGE		-34-4
11	4	PLATE	1.5 MM BIRCH PLY	-27-11
10	14	NOSE RIB	1/4 MAHOG. PLY	-27-10
9	2	RIB		-27-9
8	2	RIB		-27-8
7	2	RIB		-27-7
6	2	RIB		-27-6
5	2	RIB		-27-5
4	2	RIB	1/4 MAHOG. PLY.	-27-4
3	2	SPAR	SPRUCE	-27-3
2	1	AILERON, L.H.	OPPOSITE	-27-2
1	1	AILERON, R.H.	SHOWN	SA750-27-1

CALLS OUT MAT'L FOR TWO AILERONS

6	NAILS	5/8 - 20	
6	AL. SHEET	.016 2024-T3	
32	NUT	AN365-428	-27-28
32	WASHER	AN970-4	-27-27
32	WASHER	AN960-416	-27-26
32	BOLT	AN4-14A	-27-25
24	SCREW	AN550-2-2	-27-24
2	HORN		-29-6

8	2	RIB		-27-8
7	2	RIB		-27-7
6	2	RIB		-27-6
5	2	RIB		-27-5
4	2	RIB	1/4 MAHOG. PLY.	-27-4
3	2	SPAR	SPRUCE	-27-3
2	1	AILERON, L.H.	OPPOSITE	-27-2
1	1	AILERON, R.H.	SHOWN	SA750-27-1

SHEET NO. 7 LIST OF MATERIALS
AS REQUIRED FOR CONTROLS & HINGES.
2024-T3 AL. ALLOY - NAIL TO SPAR ONLY.
OF SPAR, UNDER NUT.
OF SPAR, UNDER BOLT HEAD.
OWN IN JUNE 1975

LIST OF MATERIALS			
SCALE: 1/8	AILERONS - LOWER WING SA750		
DATE: 7-10-73			
DRAWN: <i>J. Osborne</i>			
STRESS: <i>J. O.</i>			
CHECKED: <i>J. O.</i>	STOLP STARDUSTER CORPORATION		SHEET NO. 27

PIREPS PAGE

EDWARD W. HARKER

ATTORNEY AT LAW

PHONE 243-1083

FARMERS TRUST BUILDING
ONE WEST HIGH STREET
CARLISLE, PENNA. 17013

DAILY 8:30 - 5:30
EVENINGS
TUESDAY - THURSDAY

August 10, 1977

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

Gentlemen:

As a homebuilder, I share your concern over high costs and continuing inflation. As a practicing attorney, however, I believe your page one editorial condemning the legal profession for these problems is both misleading and inaccurate.

The insurance industry, a highly profitable non-charitable enterprise, is directly responsible for the cost of liability protection. Why assist it by passing the buck? Contingency suits are the salvation of tens of thousands of people who cannot afford to pay for legal services. The occasional headline jury award does not reflect the vast majority of honest claims and accident victims helped by such litigation. Certainly shysters exist. Every field of endeavor, including aviation and insurance has its share of unscrupulous practitioners.

I suggest that each state adopt rules making attorneys personally liable for the expense of any suit not brought in good faith. The filing of nuisance suits or conspiratory litigation would thus be risky for attorneys as well as clients. Similar rules should apply to insurance companies and claims adjusters who force litigation by refusing to pay just claims.

Legislation is in process to limit product liability awards and prevent other abuses. Let it be known that such efforts are being undertaken primarily by members of the legal profession.

Sincerely,

Edward W. Harker



STOLP STARDUSTER CORPORATION
SHEET NO. 27

EDITORS REPLY: We wish to thank Mr. Marker for taking the time to write us, and express his opinion. And we are happy to welcome him into the ranks of home-builders. Nevertheless we disagree with his statements regarding Liability Insurance. We detail our case as follows:

We disagree with his statement that the Insurance Industry is directly responsible for the cost of Liability Protection. Insurance companies are primarily distribute the risk companies. Outgo must be offset by income. Since Contingency suits became fashionable, and unreasonably large awards became common, many insurance companies have lost money, and insurance has become hard to get, and very expensive. We lay this situation directly at the door of the contingency lawsuit and the Shyster Lawyer.

Item: In six years liability insurance for a doctor friend of mine has increased from \$6000 per year to \$42000 per year. The cost of an office visit to a California Doctor has more than tripled. The insurance companies have not been making money. Contingency lawsuits against Doctors have increased over tenfold. You and I pay for this nonsense every time we visit a Doctor.

Item: Lawsuits against Aircraft engine makers and airframe makers have increased so much that Liability Insurance now runs 40% of the cost of a new engine. Probably a similar percentage goes for airframe manufacturers. We pay thousands every time we buy an airframe or engine.

Item: In Canada, where Contingency suits are illegal, Liability Insurance costs about 1/10 what it does in the States.

ITEM: In the wake of the great Tenarife Island double 747 tragedy, where so many people lost their lives, fee splitting shysters are now hard at work trying to do to the airline industry what they have already done to the medical profession. If they succeed you may expect the cost of an airline ticket to go so high that train riding may become popular again.

Item: Contingency liability suits are even beginning to hit lawyers. In the California State legislature, (dominated by lawyers), a bill was recently introduced that would make the statute of limitations for lawyers only one year, while leaving it two years for people who don't happen to be lawyers.

Thought: Anyone who has a legitimate case will somehow raise the fee necessary to hire a good, or not so good lawyer, in order to prosecute their case. A plaintiff unwilling to risk anything is merely a gambler, gambling for high stakes, with your and my money.

Question: What is the difference between a Lawyer and a Shyster? A Lawyer recognizes as implicit in his profession, an overriding duty to Society. A Shyster recognizes in his psyche, an overwhelming duty to himself. A Lawyer endeavors to secure justice for his client. A Shyster endeavors to obstruct justice for his client. A Lawyer gives some of his time to help clients who cannot afford to pay. A shyster represents some penniless clients in contingency lawsuits. If he wins he takes 33% to 50% of the award away from his client. A Lawyer charges a fair and reasonable fee for his services. He is a professional man, getting paid for his professional services. A Shyster is a gambler, pure and simple. He will take a case purely on the probability of getting a large settlement. Justice does not enter into his reasoning. The possibility of a large sum of money at the settlement, however obtained, is his sole motivating force. If he loses, he loses time. If he wins, he wins large chunks of your and my money.

I stand by my editorial. I do not believe Society can afford fee splitting shysters. I recognize the differat opinions held by Mr. Marker and others. I thank him for his letter. And I invite anyone else to express his opinion on this topic.

JIM OSBORNE

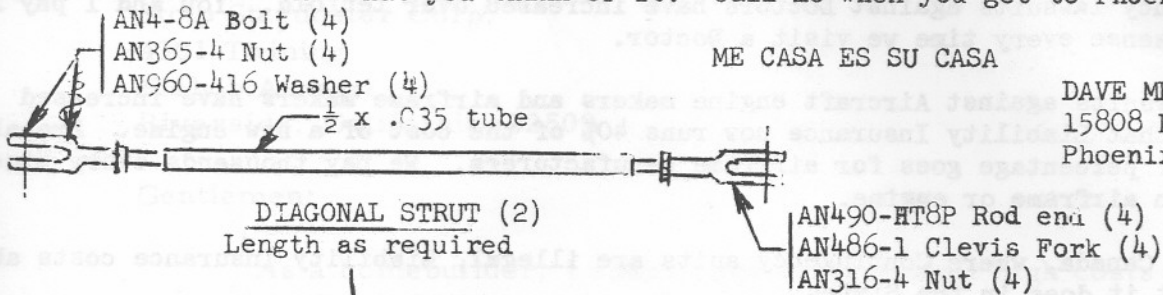
Dear Jim,

Sorry am I that time and weather did not permit me to fly your new Acro 11 at Oshkosh----maybe soon-----I'm looking forward to the experience.

Please send me a pair of the pin clamps for my exhaust system. I'm growing weary of heliarcing the stainless steel ears back on.

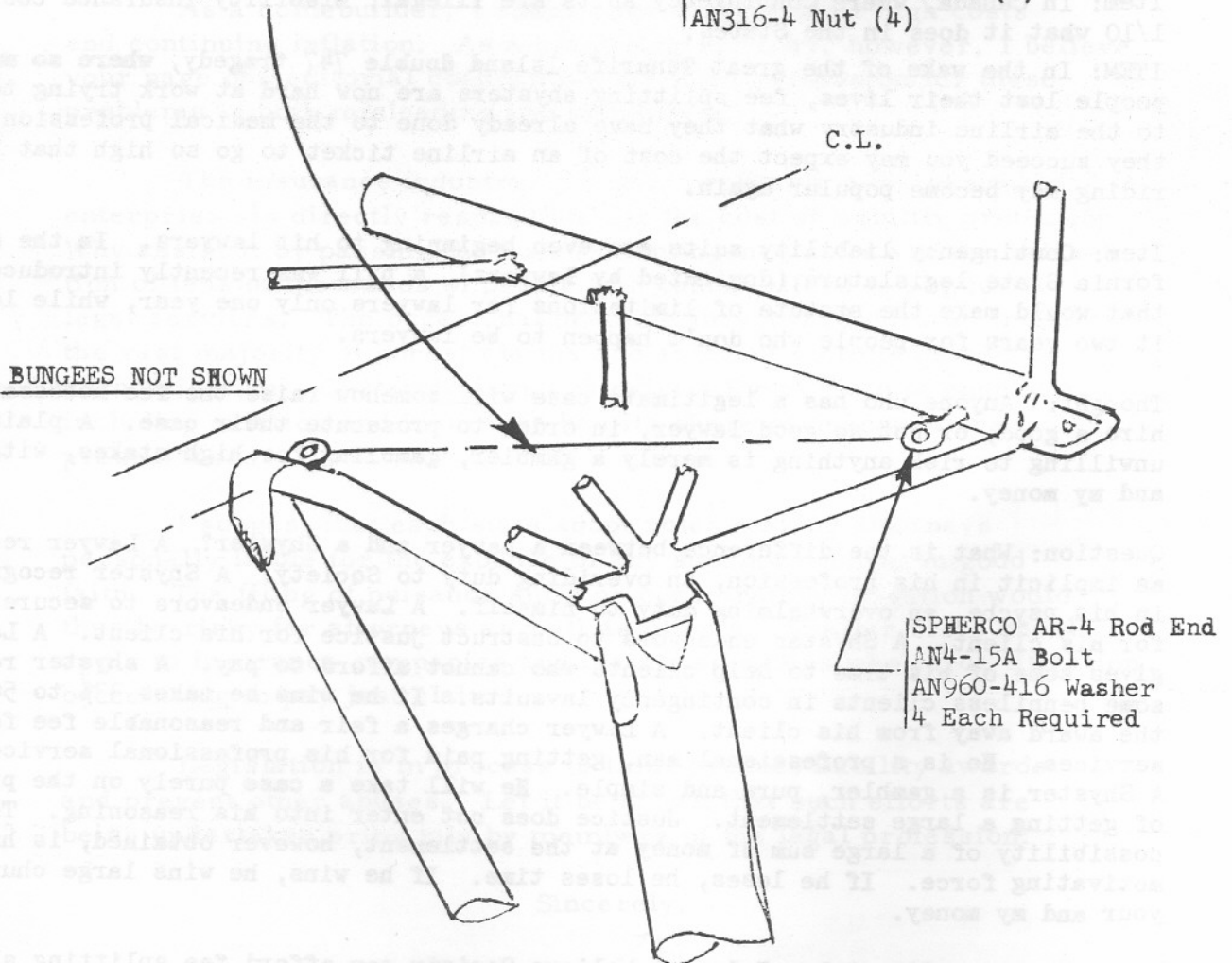
Our STARDUSTER TOO performed fantastically on the Oshkosh trip--19 $\frac{1}{2}$ MPG Eastbound and 12.5 Westbound. Average ground speed 131 MPH. Not bad for a two winged bird slicer.

Enclosed is my approach to the main landing gear diagonal brace change. I managed to get it all inside the aircraft, so that nothing is sticking out in the 140 MPH breeze. Let me know what you think of it. Call me when you get to Phoenix.



ME CASA ES SU CASA

DAVE MEADE
15808 N. 46th St.
Phoenix, Az. 85032



Dear Jim,

Just a note to thank you for letting me ride in the Acroduster---with John Melton while at Fon du lac. I've never even been close to an Acroduster, so it was really a treat. It's a lovely plane, and I can see why people are always complimenting it.

John is a wonderful fellow, and I'm delighted for both of you that he placed 3rd in intermediate. He flies beautifully, but has had some bad luck. Yet, he never leaves that wonderful smile behind.

Beautiful article in SPORT AVIATION about the Nieuport. In my ignorance, I didn't know such a thing existed. What fun it must be to fly it.

I am deep into the systems of the Cessna Citation. The poor Pitts has been shoved in the Barn again, but I figure this will be the only time I'll ever get to fly/learn about a Jet, and I'm noy going to pass up the opportunity. It really is fascinating, though I am struggling.

Marijane Nelson sends her best wishes. She leaves the islands in about a week, and will certainly be missed by all IAC members.

If you get to Hawaii, please look us up. It's a great place, especially in Winter.

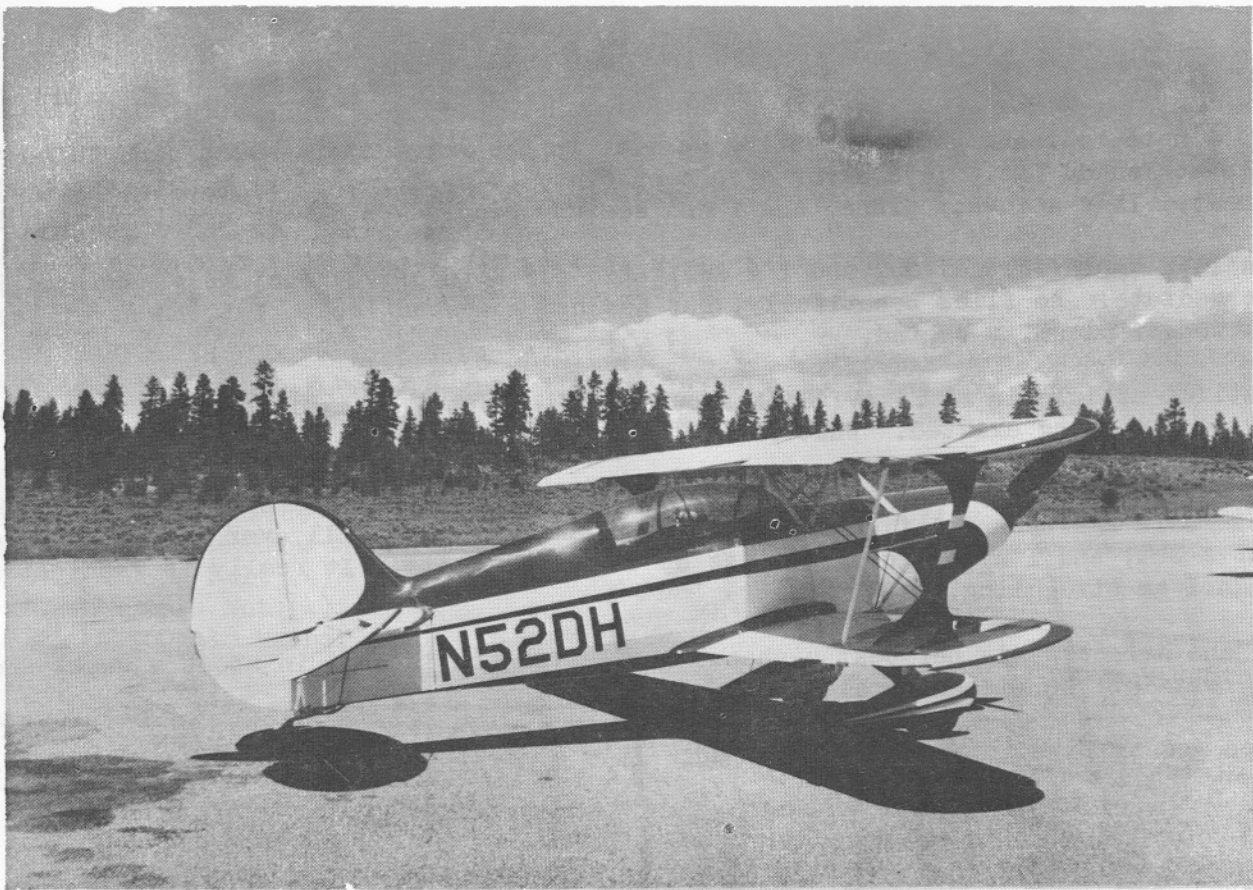
Thanks again,

JANE KELLY

EDITORS NOTE: Since Fondulac John Melton has placed 2nd in the Vaccaville, California Aerobatic contest, flying our Acroduster Too, in the ADVANCED Catagory.



A BEAUTIFUL "TOO", BY VINCE MOSTETLER, OF COLORADO SPRINGS. WAS FIRST FLOWN IN DEC. 75, AND NOW HAS 160 HOURS ON IT. LYCOMING O-435-1 ENGINE. VINCE HAS WON FOUR AWARDS AT VARIOUS FLYINS, WITH THIS BEAUTY.



THE OUTSTANDING STEEN SKYBOLT BUILT BY DEAN HALL, OF FULLERTON, CA. TOOK HONORABLE MENTION AT OSHKOSH AND WAS A STRONG CONTENDER FOR GRAND CHAMPION. HAS MANY SPECIAL FEATURES. CRUISES 155. RANGE 550 MILES. FULL IFR. HEAT. AUTOPILOT. DOUBLE CANOPY. ANTENNAS BUILT INTO WING. COWL FLAPS. INTERNAL RUDDER TRIM. 200 H.P. LYCOMING.



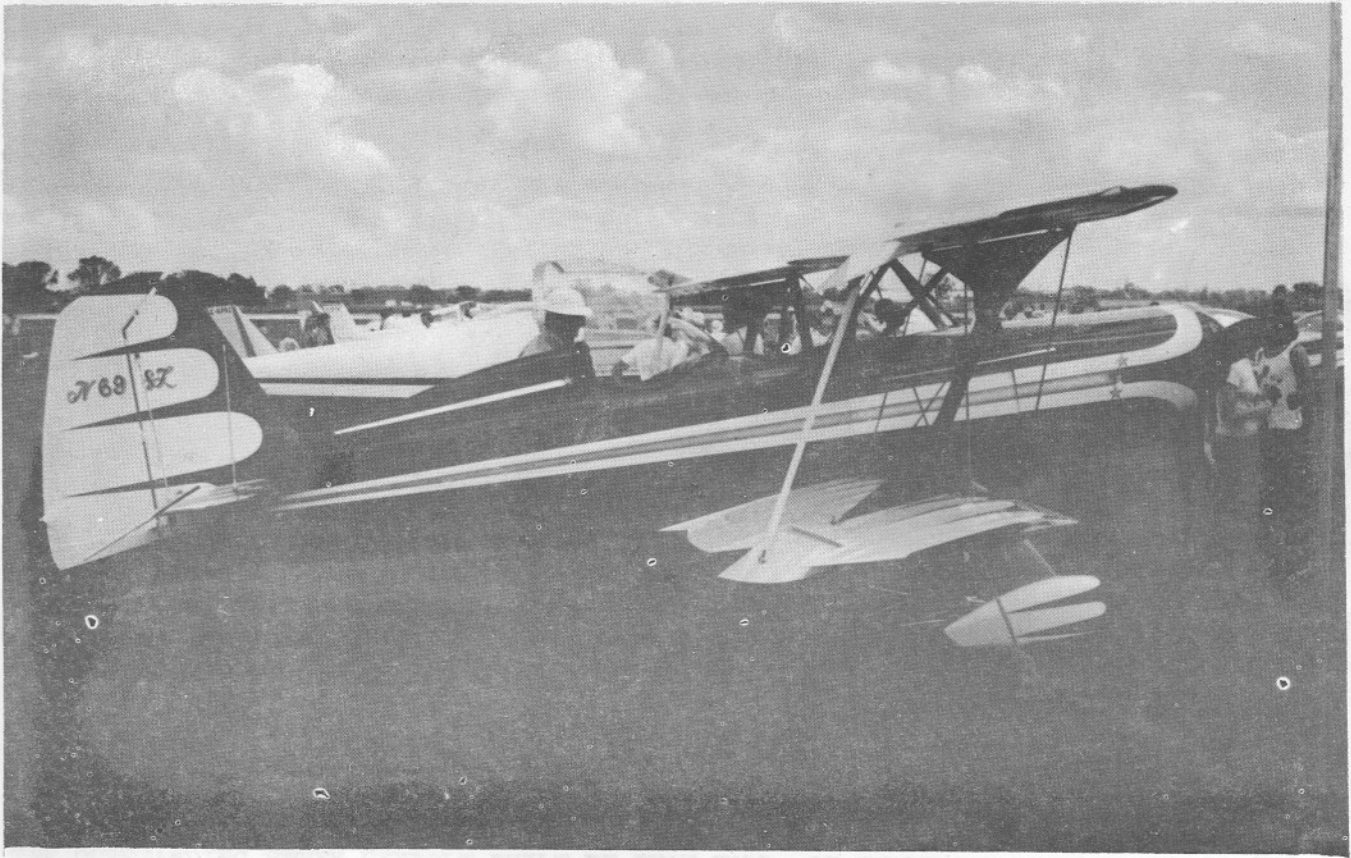
A VERY ATTRACTIVE "TOO" BY F. H. MATISON, OF HANNIBEL, NEW YORK. MILITARY PAINT.



ONE OF THE MOST BEAUTIFUL TOO'S AT OSHKOSH. BELONGS TO DAVE MEADE, AIRLINE PILOT FROM PHOENIX, ARIZONA.



A BEAUTIFUL "TOO", BY DANNY BLACKWELL, OF PITTSBURGH, PENNSYLVANIA



A BEAUTIFUL 180 H. P. STARDUSTER TOO, BY STAN MARKEY, OF CONCORD, CALIF.



THIS BEAUTIFUL TOO TOOK HONORABLE MENTION AT OSHKOSH. IT IS A CREDIT TO THE TALENT AND DEDICATION OF PARKER SCHERRER, OF CLEVELAND, OHIO



Dear Jim,

Enclosed are the two photos of you and your airplane which I took at Fondulac. They are pretty good, if I do say so myself.

I'm planning to go to the last two or three days of the National Contest in Texas next week. Will see you there, if you will be attending.

Sincerely,

BOB HERENDEEN

Dear Jim,

Please list my ACRODUSTER 1 as stated below in your for sale ads of the STARDUSTER MAGAZINE.

ACRODUSTER 1- New 10 360 A4A, new sensenich 76 x 56 prop- all new Christen systems. Buy it now, completed, new, signed off, but unflown, or with 50 hour limitation flown off. Phone (612) 432-1023.

CORDIALLY YOURS,

ELBON BOOSE



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9-23-77

Dear Jim,

Enclosed is a pic of myself and my partner, Jim Braden, who passed away in June, as I wrote you earlier.

This pic was made in my upstairs den, in January. As you can see, we had three outer panels stacked against the wall, and were working on one on the horses. The center section is finished also, but not visible in the pic. By turning the panels sideways, I have 1-1/4 inches to get them down the stairs. I'm planning on finishing the bird by myself, but I sure wish Jim were here on finishing to flip a coin to see who would test fly her.

I thought you might want to use the picture in the STARDUSTER Magazine.

C.A.V.U. to all.

Regards,

BOB KNOX



August 18, 1977

Mr. Jim Osbourne
 Starduster Corp.
 4301 Twining Flabob Airport
 Riverside, Calif. 92509

Dear Jim:

Well, my Starduster Too is finished and flying. Have been trying to take some pictures and have finally done so.

Enclosed please find two pictures for your files. The aircraft flies beautifully and the rigging has not needed any correction. What luck.

Performance is about 2,000 ft. per min. Rate of Climb, and cruising speed is 140 mph with a power setting of 21" and 2100 rpm.

I am also enclosing a copy of my Weight and Balance Data. You will note that even with the 250 hp Lycoming, the Empty weight is only 1320 lbs.

After almost five years of work, the results were well worth the effort.

Best regards,

Ed
 Ed Jungemann
 President

Happy Flying!
 NOT RECOMMENDED FOR THIS BEAUTIFUL STARDUSTER TOO.
 DEN BARTLETT



AN AUTOGRAPHED PICTURE OF VERNON PAYNE WITH ONE OF HIS FAMOUS KNIGHT TWISTERS. IN HIS LATE 70'S, VERNON IS STILL AN ACTIVE DESIGNER AND HOMEBUILDER.

Leonard P. Barrett
 Rt. 1 Box 477
 Mt. Shasta, Ca. 96067

Dear Jim,

I have recieved all of this years issues of Starduster Magazine this month and am very pleased with them. I wish it had been available or if it was, wish I would have had it when I built my SA-100. The info is great, there is so much help in it that I had to learn the hard way.

My aircraft was in this months issue on page 24. I appreciate the credit for the beautiful Mini-plane in the top picture but alas I can't. The caption somehow must had gotten mixed up, my bird is the one in the lower photo with Luftwaffe colors.

A note of interest for you folks. We have about nine homebuilts flying in our immediate area. Three are Starduster too's and of course my SA100, a pretty good showing I'd say.

Could you send me some prices on cataloges etc. A friend of mine is going to retire soon and wants to build an Sa 100, Im going to try to get him to build an Acroduster instead. Also do you have any info on building or buying smoke set ups?

Happy Flying,
L.P. Barrett
 Len Barrett

910 Loganwood
Richardson, Tx
75080

28

Dear Jim, Eric, and all,

Enclosed is a picture of my STARDUSTER II, N6JS, S/N 826, started 6 years ago, and first flown in July of this year. With regard to the first flight, I had read the pros and cons of the "low speed, short hop" technique, vs the "make sure everything's the way you want it and go fly it" philosophy, and I definitely vote for the latter. Everything went just super on the first flight.

The II is powered by a Continental 10-360D with a constant speed propeller. It has full electrical system and inverted fuel and oil. The covering is Stits process all the way, and it turned out very well once I found out where to disregard the Stits instructions. Empty weight is 1332 pounds, heavy.

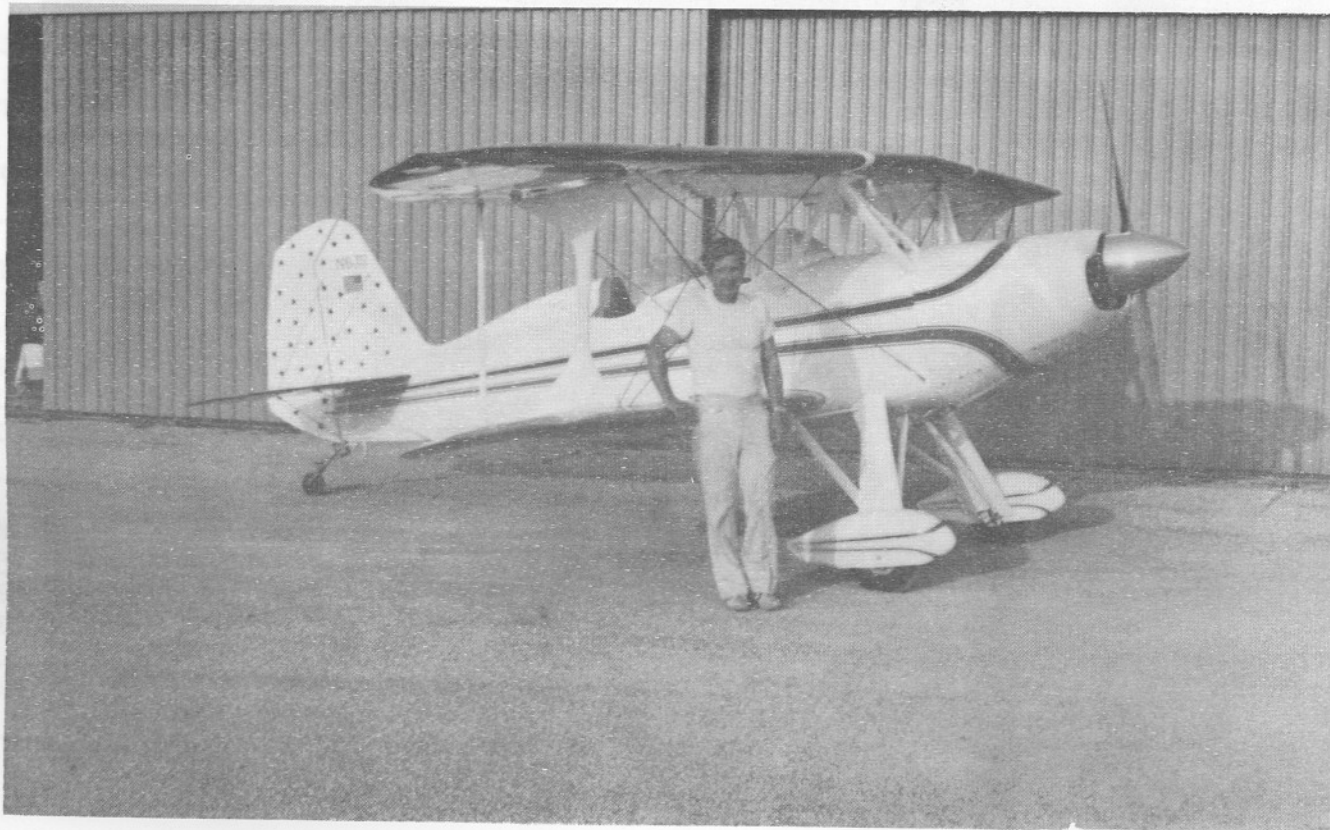
The small tail numbers were permitted because the FAA (here) says the STARDUSTER II is representative of Aircraft produced 30 or more years ago. The small numbers really improve a paint scheme.

Many thanks to you and your organization for the assistance, materials, and prompt service provided me. You folks are doing GOOD.

Sincerely,

John Snyder

P.S. Enclosed is a check for renewing my subscription to your fine magazine, the "STARDUSTER MAGAZINE".



JOHN SNYDER AND HIS BEAUTIFUL STARDUSTER TOO.



Our Good Friend, Roger Baumert, and his beautiful new Marquardt Charger. First Flight was made at Flabob Airport during June, 1977. Power is 150 H.P Lycoming.

AN SUPER-SPEED PICTURE OF VERNON PATNE WITH ONE OF HIS FAMOUS KNIGHT TWISTERS.



JIM APPLEBY, of ANTIQUE AERO, just recently finished his FOKKER TRIPLANE. Here he strikes a heroic pose as he scans the sky for enemy fighters.

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
MAKE CHECKS PAYABLE TO STOLP STARDUSTER CORP. THANK YOU.

FOR SALE

BUILD AND FLY THE WORLDS EASIEST-TO-BUILD, AND BEST PERFORMING BIPLANE- THE ACRODUSTER 1. BENDING & SHEARING OPERATIONS PERFORMED FOR YOU.

BROCHURE-\$5.00
COMPLETE KIT-\$5950.00

ACRODUSTER 1-NEW 10360 A4A NEW SENSENICH 76 x 56 PROP, ALL NEW CRISTEN SYSTEMS, BUY IT NEW, COMPLETED, SIGNED OFF BUT UNFLOWN, OR WITH 50 HOUR LIMITATION FLOWN OFF. PH (612) 432-1023

IN STOCK-IMMEDIATE DELIVERY (2) ACRODUSTER TOO BASIC FUSELAGES-PER PLANS-SM 2. A GOOD FOUNDATION ON WHICH TO BUILD -ONLY \$875.00

IN STOCK-IMMEDIATE DELIVERY (3) COMPLETE WELDED ASSYS, STEEN SKYBOLT. INCLUDES FORMERS, BRKTS, & STANDOFFS. ALSO TRIM CONTROL AND SMOCK CORDS. ONLY \$2950.00

IN STOCK-IMMEDIATE DELIVERY (3) STARDUSTER TOO COMPLETE WELDED ASSY'S. INCLUDES FORMERS, BRKTS, AND STANDOFFS. ALSO TRIM CONTROL AND SMOCK CORDS. ONLY \$3050.00.

NEW SPORT PARACHUTES- SEAT PACK OR BACK PACK ONLY 16 #. THINNEST AVAILABLE. COLORS AVAILABLE ARE RED, GOLD, BLACK, BLUE & ORANGE. BLACK TRIM. INCLUDES CARRYING BAG OF MATCHING COLOR. DELIVERY WITHIN 30 DAYS \$435.00 "STARDUSTER" CORP.

DUANE COLE FLYING BOOKS- FOR THE VFR CROSS COUNTRY PILOT, AND FOR THE AEROBATIC BUFF. THESE BOOKS ARE OUTSTANDING. THEY BELONG IN EVERY PILOTS LIBRARY.

HAPPY FLYING, SAFELY.

-ONLY \$5.50 -

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ROLL AROUND A POINT

-5.00-

ORDER FROM STARDUSTER

COFFEE MUG-**HI** QUALITY-COLOR PICTURE OF STARDUSTER TOO, ACRODUSTER TOO, STARDUSTER 1, ACRODUSTER 1, V-STAR, OR STARLET. ALSO YOUR OWN "N" NUMBER, AND FIRST NAME. ONLY \$5.95

GLASSES- NOB HILL PATTERN, BY LIBBY. EITHER BEVERAGE (12 oz) OR HI-BALL (9 oz). STACKABLE ROCK BOTTOMS. A FULL COLOR PICTURE OF ONE OF OUR AIRPLANES ON EACH OF SIX GLASSES. ONLY \$9.95 from STARDUSTER.

COASTERS- MATCHING SET FOR OUR GLASSES. SET OF SIX, WITH PICTURES OF OUR AIRPLANES. ONLY \$9.95 /set.

LETTERING SET- FOR TWO PLACE BIPLANES. INCLUDES ALL SMALL COCKPIT SIGNS NORMALLY NEEDED WHITE, $\frac{1}{4}$ " LETTERING. PEEL OFF STICKY BACKS WILL STICK ON ALMOST ANYTHING. \$29.95/SET

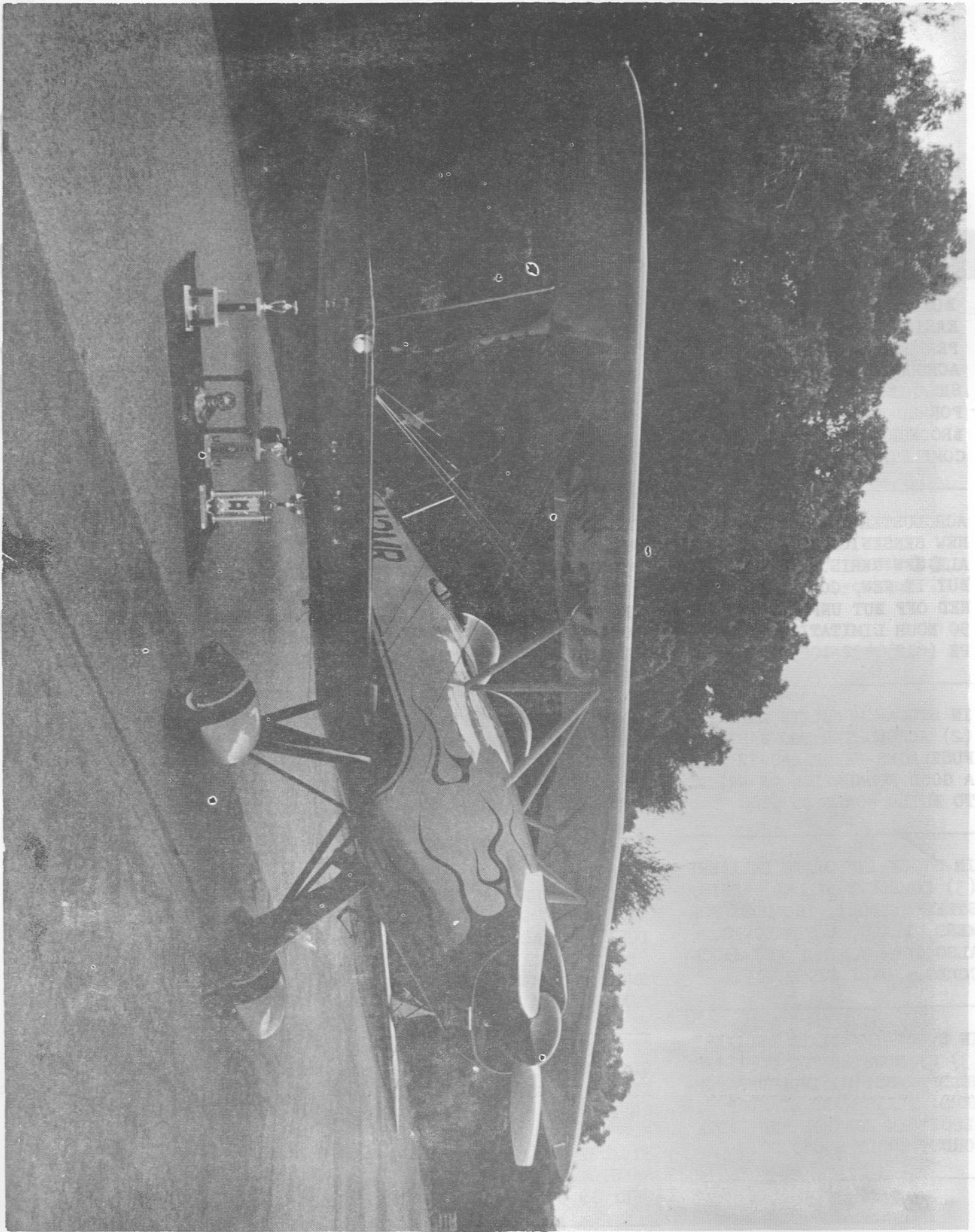
BLAST TUBES-SOFT ALUMINUM WITH FLANGE FOR RIVETING IN PLACE. SHOULD BE FOR TWO MAGNETOS AND FUEL PUMP, ON EVERY AIRPLANE. \$2.50 EACH

PROTECT YOUR TIRES, LEATHER, & PLASTICS FROM SMOG, DIRT & GREASE. WIPE ON/WIPE OFF. SUPERCOAT LEATHER, PLASTICS, RUBBER TREATMENT. \$3.00 FROM "STARDUSTER"

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FACTORY NEW STEWART WARNER OIL COOLERS-CERTIFIED FOR AIRCRAFT USE-GUARANTEED-LIST PRICE \$146.00
OUR PRICE \$95.00
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FOR QUALITY, PRICE AND SERVICE- FOR TOTAL VALUE- BUY FROM STARDUSTER CORPORATION



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