

THE

Starduster

JANUARY 1981

MAGAZINE

DEDICATED TO THE ACTIVE HOMEBUILDER



PAGE 1



MISTER DEFENDENT--HAVE YOU STOPPED BEATING YOUR WIFE???

With this type of shyster tactics and innuendo, CBS news, Channel 2 in Los Angeles, last night continued its relentless war against general aviation.

After the San Diego mid air collision between an airliner and a Cessna, CBS was one of the first to blame the Cessna for running down the airliner. One of its newsmen at that time demanded that these private airplanes be banned from airliner territory. For a year or so afterward, they reported a near miss every time two airplanes came within two miles of each other. And each reporting was attended by a diatribe against private aviation.

Last night, at the John Wayne airport, near Los Angeles, a jetliner aborted a landing roll and cracked up. There were no serious injuries. No one was killed.

A CBS news team was johnny-on-the-spot. While the injured airliner was still sitting on the runway, the reporter was talking and showing the wreck. He almost immediately grabbed a bystander and asked for an eyewitness report. The eyewitness said that the plane had swerved to avoid another airplane on the runway and this had precipitated the crackup. IMMEDIATELY, without waiting for more details, the reporter took the ball and ran. He started talking about the dangers of small airplanes around the airport. He commented about the small airplane getting in the way of the airliner. He talked about efforts to restrict the growth of this airport. He implicitly supported efforts to close the airport. He gave general aviation hell for being a danger to airliners.

And then, it turned out that the airplane the jetliner had swerved to avoid was ANOTHER JETLINER, from the same company. It had aborted a takeoff and was taxiing back to its base. The incoming jetliner allegedly had been warned, but apparently the message had not been received, or understood. But that idiot with the microphone did then shut up and quit attacking general aviation.

Of the three network news programs, I rate CBS the best. (By a very slight margin.) At least they have one of the most attractive newscasters, in the person of Connie Chung. But all three news departments propagandize and editorialize quite a bit instead of just reporting the news. And all three are strongly biased against general aviation.

I am just waiting for the day when they apply their irrational logic to the highways. "Good afternoon, ladies and gentlemen. Today we had ANOTHER near miss between a large greyhound bus and

JANUARY 1981

THE STARDUSTER MAGAZINE IS 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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The STARDUSTER MAGAZINE is a quarterly publication. Target dates are January, April, July, and October of each year. Subscription rate is \$6.00 per year. Back issues are \$1.50 each, or \$6.00 per year. Published by STOLP STARDUSTER CORPORATION, 4301 Twining, Riverside, California, 92509. Phone: (714) 868-7943

On our front cover is ye olde ed flying an Acroduster one on the way to Oshkosh last summer. Locale is Glen Canyon, near Page, Arizona. Picture was taken by John Helton.

On our back cover is a picture of the Acroduster Too built by Tom and Richard Greene. It was shown on the cover of the April 80 STARDUSTER MAGAZINE. It now sports an attractive paint scheme.

CONTINUED FROM PAGE 1

one of those small cars driven by an amateur driver who are infesting the freeways and highways, and endangering the lives of interstate bus passengers. It is time the ICC took action to strictly regulate these Sunday afternoon drivers, and confine their activities to the backroads and secondary roads where they belong Etc, etc, etc.

INSTALLING AND HOOKING UP INSTRUMENTS
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By Jim Osborne

Installing the instruments starts with deciding exactly what instruments we are going to install.

Many people try to have the best of all possible worlds by installing gyro instruments in the biplane they are going to use for aerobatics.

According to Bill Otto, of Otto's Instruments, in Ontario, California, this is not a wise choice. He says that the new non-tumbling Artificial horizons and Directional gyros will have the stops damaged if the pitch angle exceeds plus or minus 80 degrees. He says you can roll all day and not hurt them, but exceeding the pitch limitations WILL cause damage to the gimbels.

So, if you want to have IFR capability in your aerobatic biplane it is a good idea to do one of two things. (1) Use caging gyros, which are rebuilt WW2 instruments. The drawback here is that they are big and heavy. (2) Make your gyros removeable. This can be done fairly easily, if the installation is properly planned for. A subpanel, just big enough to hold the gyros, can be installed and held in place with camlocs or dzus fasteners. If the gyros are electrical, quick disconnects can be installed, with enough slack in the line to make removal and replacement easy. Quick disconnects can also be installed in air lines, but they are a little bulkier than electrical disconnects.

In many biplanes, limited space in front of the panel will require side mounting of gyros, or else the gyros will project out of the panel, when mounted. This is not too bad in a removeable gyro installation, as the gyro panel is removed for aerobatics, and thus do not pose a hazard in case of a crash. But the crash hazard remains for cross country flying, and this factor must be carefully evaluated when planning your panel.

When installing a full IFR panel, it is good practice to mix your IFR instruments as regards power. That is, if you use an electric Turn Bank, it is considered good practice to use vacuum powered Directional Gyro and Artificial Horizon. If you lost your electric power in this setup, you would still have your D.G. and A.H. If you lost your vacuum, you could still IFR fly on needle, ball, and airspeed. However, if you make the D.G. and A.H. quickly removeable, it may be better to make them electric, and the T/B air driven. In any case, the pilot serious enough about IFR flying to install IFR capability in a biplane should have a mix.

Shock mounting the sub panel containing your gyros is also done by many competent pilots. It extends the life of the instruments, and, according to Bill Otto, is definitely recommended. Use small Lord Mounts, rated for a 4-6 pound load, in order to mount a subpanel containing two gyro instruments.

However, most pilots planning on doing Biplane aerobatics, will be content with a basic VFR panel. Advantages are light weight, smaller panel required, much less work and less complexity, and a GREAT deal less money. Electric Artificial horizons currently cost about \$1400.00.

In a VFR installation, the instruments can be divided into Flight instruments, and Engine instruments. Flight instruments would be the Airspeed Indicator, Altimeter, and Compass. Engine instruments would be Tachometer, Oil Pressure, and Oil Temperature gages. This is about as basic as you can get.

Normally, the compass is mounted top dead center, either at the top of the panel, or on top of the cowling. The Flight instruments would be mounted on the left side, and the engine instruments on the R.H. side of the panel. For a serious aerobatic pilot, an open space with mounting clips for an arresti chart is desirable for the center of the panel.

In addition to the instruments named above, you will need a gas gage of some type, and magneto switches. I prefer the strictly mechanical type sight gages for gas. In a single seat airplane with the tank directly in front of the pilot, a simple plastic tube running from bottom to top of tank, and routed up the side and around the edge of the instrument panel will give the pilot positive fuel readout at all times. And it never breaks or malfunctions. And it is cheap. However, this type of gas gage is not suitable for a two place biplane. The pilot sits too far from the main tank, and any pitch change in the airplane would affect the fuel readout too drastically.

The best gage for a two placer is generally considered to be a mechanical type "barrel" gage, as sold by "STARDUSTER". It is almost fool proof in operation. The only drawback is that it sticks up right behind the gas filler cap and may require a bit of cooperation from the front seat passenger in order to be easily readable.

If you want a sending unit and a cockpit gage, the best units, in my opinion are VDO. These instruments are made in large quantities in Germany for high priced automobiles. The quality control is excellent, they are good looking, they are accurate, and they are relatively inexpensive. The VDO sending unit is designed for top tank mounting. However, it can easily be modified for side mounting by bending the float wire.

It is probably not a good idea to put a gas gage on the center section tank. Due to the shallow depth, sending units don't work too well, and sight gages tend to be leaky and easily broken.

For airplanes with electrical systems, the "start" type magneto switch is preferred. For hand propped airplanes two toggle switches are cheaper, lighter, and probably more reliable. I have had one friend who suffered an inflight ignition failure when a piece of metal got lodged in his starter switch and shorted both magnetos out. With two toggle switches this is less likely to happen.

Additional flight instrumentation might be a rate of climb, and a "G" meter. R/C's come in 2,4, and 6000 feet per minute grad-

uations. Unless you are going in for unlimited style aerobatics and will be doing a lot of straight up and straight down flying, the 4000 FPM Rate of Climb will be adequate.

"G" Meters are indispensable for an aerobatic airplane, and highly desirable for all airplanes. Get the small 2-1/4" type and mount it where you can keep an eye on it during maneuvers.

For cross country work, a panel mounted clock is real nice. You can always use your wristwatch, but it is very convenient just to glance at the panel and read the time. For airplanes with electrical systems, an excellent choice would be a VDO Quartz chronometer. Extremely accurate, never need winding, attractive and easy to read. And, about half what a mechanical aircraft clock would cost. If course, if you have a handstarted bird with no electrical system, you will need a mechanical clock.

Your Airspeed indicator should read about 50 per cent more than the speed of your airplane in level flight. This is only a rough approximation. For a Starduster Too, a good range is 40-200 MPH. For an Acroduster Too, 60-300 MPH, or 50-250 MPH. Since the world is going metric it is nice to have the face read in Knots, as well as MPH. All Air Speed Indicators sold by "STARDUSTER" have dual faces.

Your altimeter should be a 0-20,000 sensitive type, non IFR certified, unless you are putting in the gyros and are going to fly IFR. In which case spring for the extra cash and get the IFR certified type.

For engine instruments, probably the best bet would be VDO oil temperature and oil pressure gages. If you want more, a Westach combination Cylinder head temperature and exhaust gas temperature gage would be nice. The EGT comes in handy for leaning your engine, and the CHT helps monitor the condition of the engine.

Many pilots also like a fuel pressure gage. If you like to run one tank dry before switching to another, this gage can tell you just when to switch. The pressure will drop suddenly when you are out of gas but before the engine quits. Switch tanks and the engine will not miss a beat. They also come in handy when your engine unexpectedly quits running. If you have no fuel pressure you know there is fuel starvation and you may be able to save the day by using your wobble or aux. electric pump.

The most important of your engine instruments is undoubtedly your tachometer. For most engines this instrument should be large and easily readable, and should read to about 3500 RPM. One with an expanded scale, reading from about 7 o'clock to 5 o'clock is best. The A.C. Tachs also give an engine hours readout. This is only approximate, but is accurate enough for the FAA, and is a good feature to have. "STARDUSTER" only sells AC Tachs unless a special order is received.

A cable driven Tachometer should normally be located on the extreme right edge of the panel. In this location, the cable can run along the right side and directly into the Tachometer with a minimum of bending. Located further inboard a right angle Tach adapter would probably be necessary. This adds both weight and

cost. Also it makes an annoying noise when you are taxiing out for takeoff.

For an airplane with a Constant speed propeller, a Manifold pressure gage is mandatory. The full size expanded scale instrument is easier to read than the small units. The surplus units that read to 45-60 inches were originally made for supercharged engines and are not very desirable for modern unsupercharged engines.

Below is a summary of the instruments required for a VFR airplane with minimum instruments and a fixed pitch propeller.

1. SMALL COMPASS
2. AIRSPEED INDICATOR.
3. ALTIMETER
4. TACHOMETER
5. OIL PRESSURE GAGE
6. OIL TEMP GAGE
7. IGNITION SWITCHES

For an Aerobatic machine, add "G" METER. (8)

For an airplane with a C/S propeller, add MANIFOLD PRESSURE GAGE.(9)

More complete instrumentation for VFR flying would be:

- 10.) RATE OF CLIMB
11. CLOCK OR CHRONOMETER
12. CHT/EGT GAGE
13. FUEL PRESSURE GAGE

For emergency IFR capability, add a TURN AND BANK INDICATOR. (14)

For full IFR capability, add DIRECTIONAL GYRO(15) and ARTIFICIAL HORIZON (16) It is recommended that these last two instruments be shock mounted and quickly removeable and replaceable.

The basic kerosene compass is rather unsteady and hard to read. Many people are tempted to install one of the new vertical card compasses, by Hamilton. I tried one in my Acroduster Too. On the first flight I did some mild aerobatics and when I landed the compass was useless. Therefore, this compass is not recommended.

A better compass installation is the remote indicating compass installation. These are rugged reliable units which are almost as good as a Directional Gyro insofar as heading information is concerned. Aerobatics won't hurt them. Disadvantages are weight, cost, and complexity of installation. It is best to install them before the airframe is covered. But they are real nice for holding a steady course over strange terrain when the wind and turbulence is making the kerosene compass bounce all over the place.

You may have noticed that not one word has been said about radios or ELT. Normally, in a biplane, all radio gear is mounted some where other than the panel. And mounting this stuff is a subject in itself and rates a separate article. We are only concerned with the panel mounted instruments.

Most builders plan on doing some flying from the front seat. To that end they install dual controls and some instruments. The most common front panel instruments are four.

1. AIRSPEED 2. ALTIMETER 3. TACHOMETER 4. M/P GAGE

The same rule holds for the front Tachometer as holds for the back one. It is best to install it on the right hand edge of the panel, so as to minimize cable routing problems.

A compass is not recommended for the front panel if you have an electrical fuel sending unit in your main tank. This will mess it up good. A front cockpit compass is generally subject to more errors anyway, because it is closer to the engine electrical system. I tried one in my Acroduster Too and it was unsatisfactory. However, some builders do get a satisfactory compass installation in the front cockpit, so it is an individual matter. If you want one, try it and see.

In mounting your instruments you generally have a choice as to whether to mount them with the bezel ring behind the panel, or in front. Behind is the usual choice. It gives you a smoother panel, and most people think it looks nicer. Drawbacks are (1) it takes up more behind the panel room, and (2) the instruments have to be installed and removed from the rear.

It is perfectly acceptable to mount them with the bezel ring in front of the panel. This gives you more room behind the panel (and it is sorely needed on some airplanes) and also makes it much easier to remove and replace the instruments. A side benefit is that your mounting holes do not have to be as precise for front mounted instruments. Many airplanes front mount their instruments for maintenance reasons, including Hughes Helicopters.

The best way to make your mounting holes is with a hole cutting saw of the correct diameter. Get these saws from your local tool supply house. Lay out your panel, locating precisely your hole centers. Prick punch the centers and drill pilot holes. Clamp your panel to a backing piece of plywood, and, using a drill press, cut your instrument mounting holes with your hole saws.

Make a metal template locating the screw holes and using this template for accuracy, drill your mounting screw holes. Be very careful here. If the screw holes are not perfectly aligned it will be quite noticeable when the panel is finished.

Deburr all holes, using sand paper or crocus cloth on the large holes and a large drill bit for the screw holes.

Clean the instrument panel, twice, using acetone, MEK, paint thinner, dope thinner, or any good solvent. Spray both sides with a good metal etching primer. If you don't want to go to the trouble and expense of using a metal etching primer, ordinary zinc chromate is second best.

After your primer is dry, SOP calls for heating the panel under heat lamps or in an oven turned to low heat, and then spray the visible side with black wrinkle enamel. Spray on generously.

TO BE CONTINUED NEXT ISSUE



ERIC AND P-40 in China, in 1942. Picture taken by Claire Booth Luce for LIFE magazine. Published in "STARDUSTER" magazine in April 75. ERIC SHILLING RETIRES FROM "STARDUSTER"

After 5-1/2 years of loyal and efficient service to Stolp Starduster Corporation, our genial manager, Eric Shilling has retired.

He will continue to be active part time, in running a small machine shop and doing custom machining and some aircraft work. The name of his new business is ESCO ENGINEERING, and friends and customers can contact him at 5641 Carol Ave, Rancho Cucamonga, 91701. His phone number is (714) 987-2174.

Eric had an almost legendary career, serving with Claire Chennault in the original Flying Tigers, and then with the Chinese National Air Transport, flying C-47 Transports across the hump. While many hump pilots only took the hump flying duty as a direct result of Air Force orders, and quit as soon as they had the required 650 hours, Eric, as a civilian pilot, flew the hump as a volunteer for over 6000 hours. He had several brushes with Japanese zeroes and usually escaped by flying into clouds. On one occasion he came out of the cloud and dived to below ground level in a ravine, and flew fifty miles in a twisting mountain canyon to escape pursuit.

Eric comes from a flying family. His father was a WW1 Aviator, and some of Eric's earliest memories were of rides in jennies and standards that his father gave him.

It has been a real pleasure being associated with Eric in business and we are glad that our association will continue on a reduced scale. Our best wishes are with Eric. It is a privilege to know him.

1st ANNUAL STARDUSTER TOO FLY-IN

COME TO THE BAR-G RANCH ON JULY 4th+5th
FOR TWO DAYS OF FUN, FOOD AND FLYING.

BAR-B-QUE BUFFALO - SAT. NITE
RANCH BREAKFAST — SUN. MORN.
(NO CHARGE WITH RESERVATIONS)

CAMPING AND TIEDOWN AT THE RANCH
SUNDAY FORMATION FLIGHT OVER
KANSAS CITY

DETAILS ON RECEIPT OF RESERVATIONS

GENE BURNETT N4GB DAVE BURNETT

2022 KASOLD, LAWRENCE KANSAS 66044

913

843-6555

843-1923

841-5445

PRODUCT INFORMATION: As expected, a general round of price increases very early in the year. Prices look like

SOMEONE ONCE SAID: BY: BILL (BARNEY) BARNETT

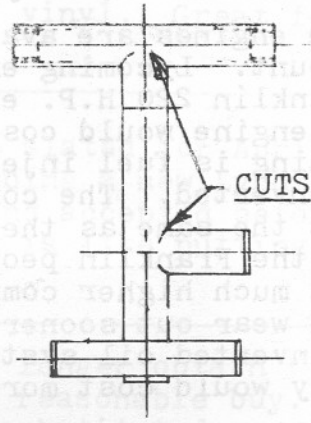
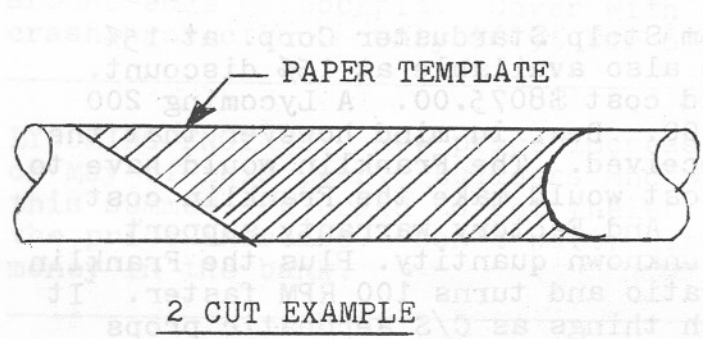
We believe that doing more for ourselves is still the way to go. In Aviation, this means maintaining our aircraft to the highest possible standard. Not an easy task, when most are stored outside.

It means a continual effort to maintain our pilot proficiency, making the best use of our time to develop a natural ability to handle our aircraft in as many situations as possible. Just knowing when to fly and when not to fly are valuable assets. Can we safely make those crosswind landings? Shortfield takeoffs? Can we recognize a near stall condition? Do we have the skills to land on airports that our aircraft can handle?

If we can hack it behind the stick, these are just a few of the things we can do to improve the image of our great love, "Aviation".

PAPER TEMPLATES BY: BILL BARNETT

Many times, during the building of a fuselage, frustrations can be overcome with a very simple paper tube, used as a template.



ACRODUSTER TOO PEDALS

Cut and shape to fit, one piece of tubing. Now, take a piece of paper (File folder, etc.) stiff enough to hold its shape. Wrap around tubing, and tape, to make it into a cylinder. Mark it to match the shape of your cut and fit tubing, remove it, and trim to shape.

You can slip this paper tube over the next piece of tubing, mark it with a silver pencil, (obtain from an office supply store), and use your snippers to trim to shape.

The reward is, you are frustrated only once in order to make eight cuts, in this particular instance.

PRODUCT INFORMATION: As expected, a general round of price increases very early in the year makes last years prices look like bargains. Hilites are below.

CHRISTEN PRODUCTS: The last general price increase was made more than two years ago. New prices are as follows:

844 Manual fuel pump system-----	\$342.00
801-4 Basic inverted system kit-----	\$225.00
801-6 Basic inverted system kit-----	\$227.00
811-A Sump kit-----	\$79.50

FRANKLIN (PEZETAL) ENGINES: In our last issue we commented on the availability of the new Polish version of the Franklin engines. We received some inquiries. The price originally quoted made them attractive.

Since then, We have received furthur information from the importer. The distributor we originally talked to is no longer with the company. The prices we are now quoted are substantially higher than the estimates we were originally given. Due to the fact that the Franklin engines come with a float type carburetor and would require extensive conversion for aerobatic use we no longer think they are a good buy at the current prices. Prices are as follows:

Model 6A-350-C1; 6 cylinder, 220 H.P. -----	\$9500.00
Model 4A-235-B3; 4 cylinder, 125 H.P. -----	\$6400.00
Model 2A-120 ; 2 cylinder, 60 H.P. -----	\$3950.00

Above engines are available from Stolp Starduster Corp. at 15% discount. Lycoming engines are also available at 15% discount. A Franklin 220 H.P. engine would cost \$8075.00. A Lycoming 200 H.P. engine would cost \$10,577.00. Bear in mind however that the Lycoming is fuel injected as received. The Franklin would have to be converted. The conversion cost would make the Franklin cost about the same as the Lycoming. And Factory warranty support from the Franklin people is an unknown quantity. Plus the Franklin has a much higher compression ratio and turns 100 RPM faster. It would wear out sooner. And such things as C/S aerobatic props and inverted oil systems might be harder to find. (and almost surely would cost more.)

We will be happy to sell you a Franklín engine, if you want one. But we do not recommend them.

THROTTLE QUADRANTS: Gerdes has gone out of the business of manufacturing throttle quadrants. So Eric Shilling has designed and is manufacturing one which we feel is better. It is small and light, and the friction locking device is more reliable. This was a source of trouble on the Gerdes quadrants. Price remains at the old Gerdes figures (\$37.15) for a three lever quadrant and \$33.50 for a two lever quadrant.

Pilot and Writer NORM WEIS has written a very good book about his building and flying a STARDUSTER I. It is one of the most entertaining books available on the thrills and adventures of building and flying your own airplane. Name of the book is "THE STARDUSTER" and it is available from any good bookstore. It is published by Prentice Hall and costs \$10.75. Recommended reading.

PRODUCT INFORMATION: As expected, a general round of price increases very early in the year takes last years prices back

HARTZELL PROPELLERS: Hartzell product support service is well and favorably known for its outstanding field service support. Now they have made it even easier to contact Hartzell for your prop needs. They have a new 24-hour service telephone number. If you are out in the boonies and need fast propeller service call 1-513-773-9766. This number is good day or night, weekends and Holidays, from anywhere in the world.

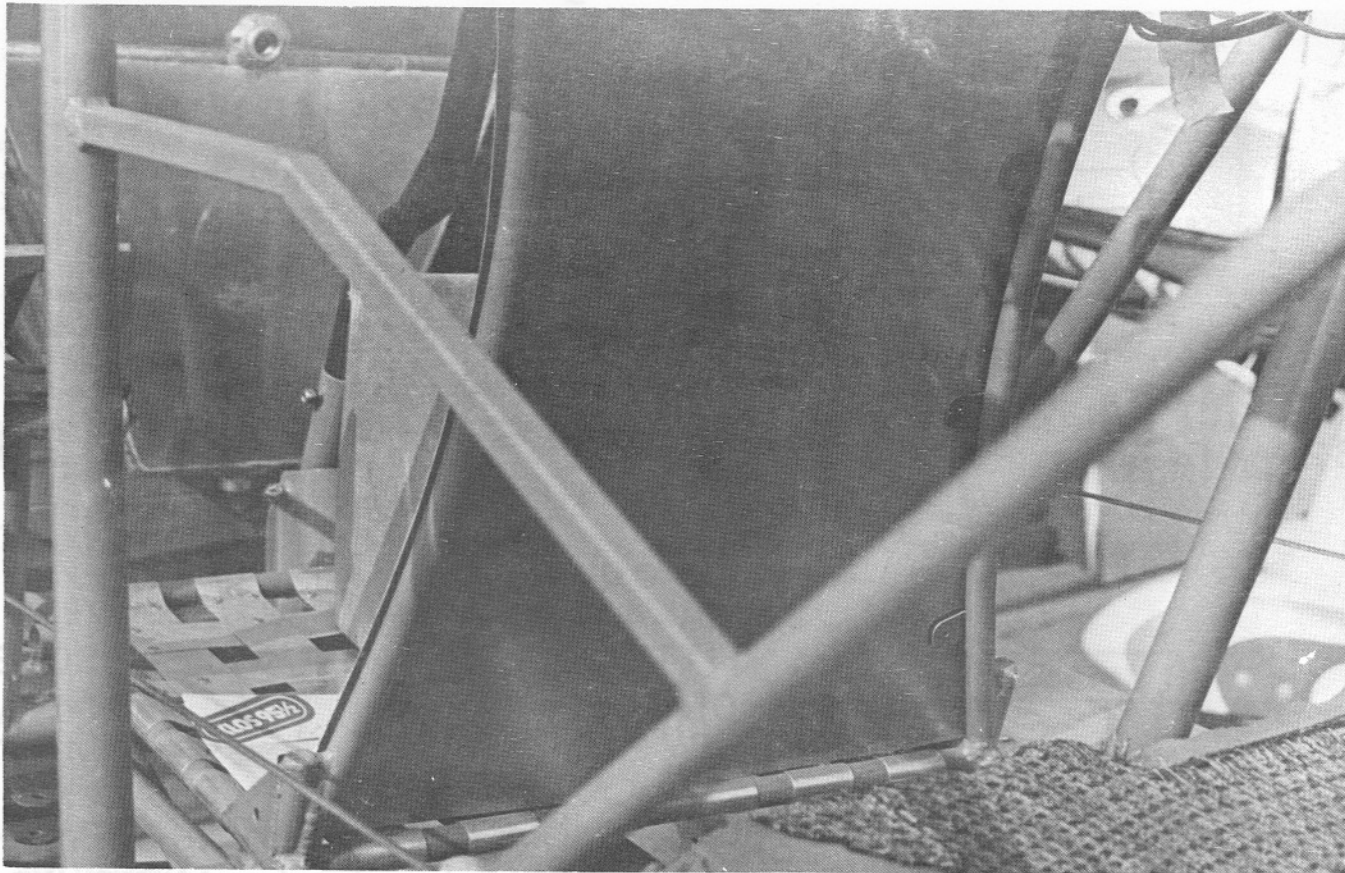
LYCOMING ENGINES: Lycoming now recommends the use of a new spark plug, champion REM 37BY for all o-320 and 0-360 engines up to and including 180 H.P. The reason given is that the newly approved plug tends to alleviate spark plug fouling.

BELOW IS FAIRINGS FOR SPRING LANDING GEAR TO FUSELAGE JUNCTION DEVELOPED BY "STARDUSTER".

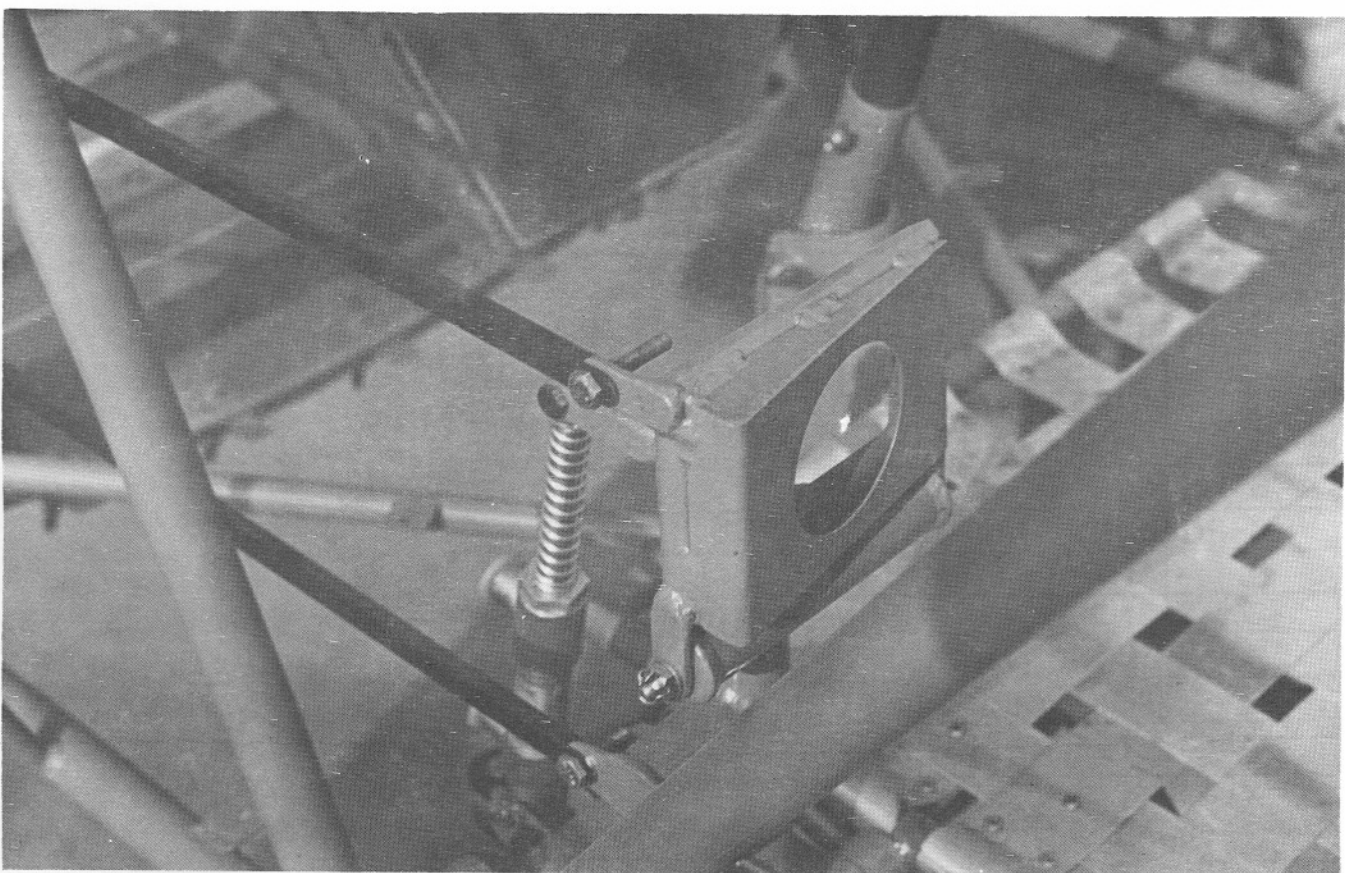
THESE ARE AVAILABLE READY CUT AND NEEDING ONLY TRIM AND DRILLING FOR INSTALLATION ON YOUR ACRODUSTER TOO OR STARDUSTER TOO.

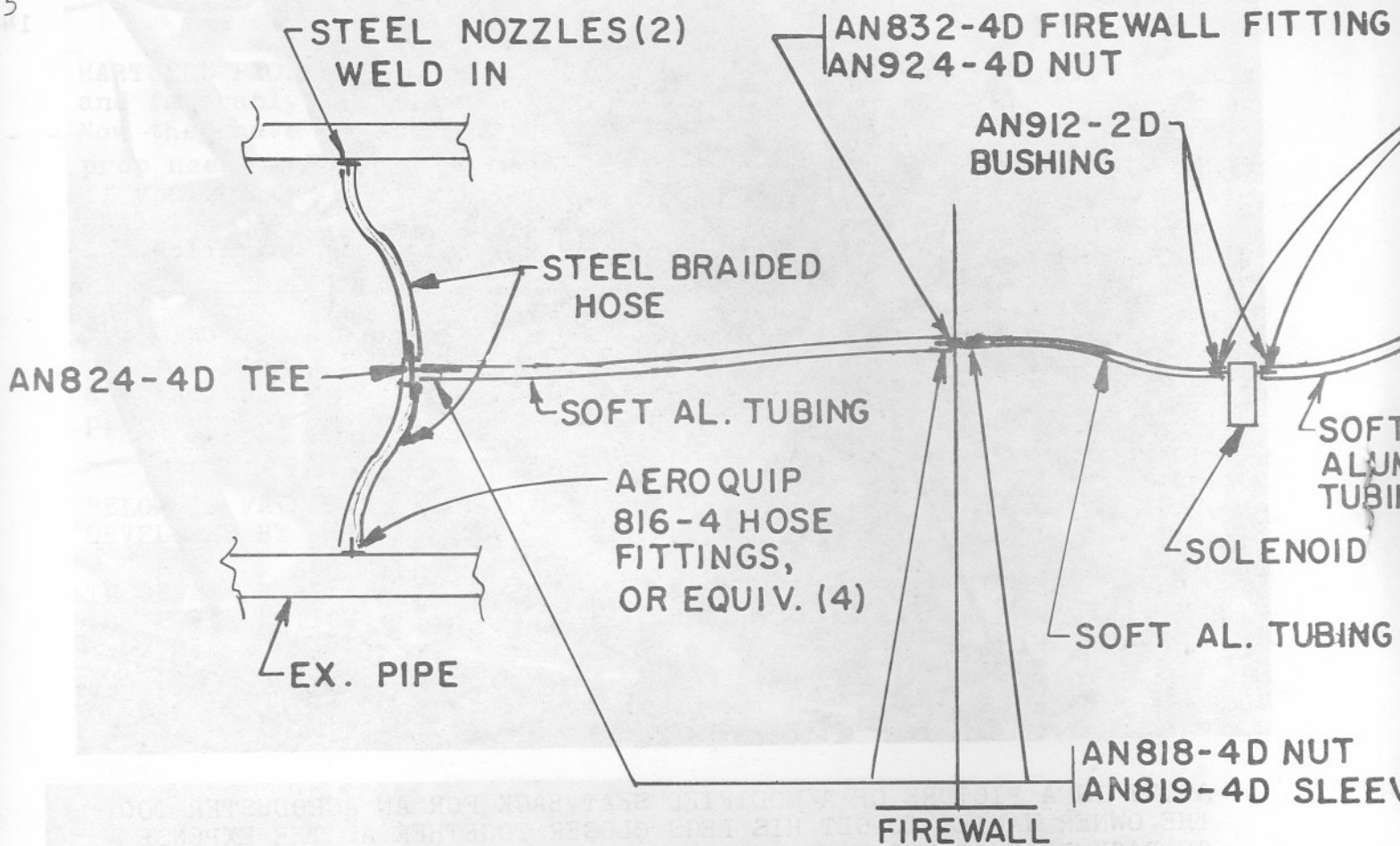
AVAILABLE FOR THE LOW PRICE OF \$22.00 PER PAIR.





ABOVE IS A PICTURE OF A MODIFIED SEAT BACK FOR AN ACRODUSTER TOO. THE OWNER WANTED TO GET HIS LEGS CLOSER TOGETHER AT THE EXPENSE OF BACKWIDTH OF THE FRONT SEAT BACK. APPEARS PLAUSABLE. BELOW IS A PICTURE OF MODIFIED RUDDER PEDALS IN ACRODUSTER TOO. THE FACE OF THE PEDALS ARE GIVEN AN INBOARD 10 DEGREE TILT, IN ORDER TO MAKE THE FOOT-ON-THE-PEDAL POSITION MORE COMFORTABLE.

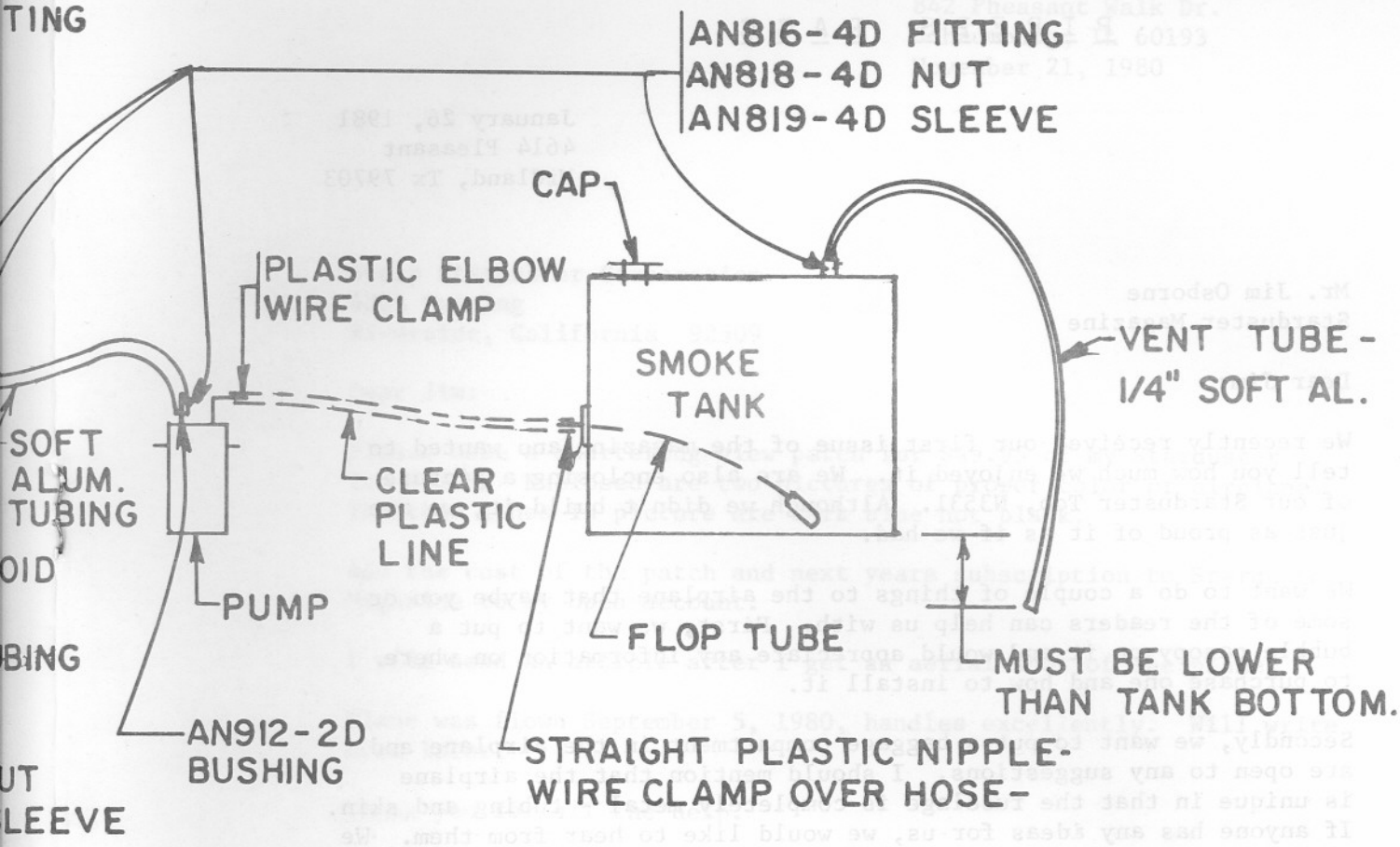




LIST OF MATERIAL

NO.	REQ	ID	NAME
1			TANK
1			FLOPTUBE ASSY
1			PUMP KIT
1			SOLENOID
2		STEEL	INJECTOR NOZZLES
4		AEROQUIP	HOSE FITTINGS
1		AN824-4D	TEE
1		AN832-4D	FIREWALL FITTING
1		AN924-4D	NUT
6		AN818-4D	NUT
6		AN819-4D	SLEEVE
4		AN816-4D	FITTING
3		AN912-2D	BUSHING
4'			CLEAR PLASTIC LINE
8'			SOFT ALUM. TUBING
4'			STEELBRAIDED HOSE

TING



INSTALLATION

- 1-INSTALL SMOKE TANK AFT OF FIREWALL- INSTALLATION HARDWARE NOT FURNISHED.
- 2-INSTALL FLOP TUBE & VENT LINE- VENT TUBE OUTLET MUST BE LOWER THAN BOTTOM OF TANK.
- 3- MOUNT PUMP-INSTALL PLASTIC FITTINGS & CLEAR PLASTIC LINE - USE WIRE CLAMPS OVER PLASTIC LINE.
- 4-INSTALL SOLENOID-INSTALL. HDWE NOT FURNISHED. INSTALL SOFT AL. TUBING TO FIREWALL.
- 5- WELD STEEL NOZZLES INTO EX. HEADERS. LOCATE ABOUT 3"-6" BELOW A MOUNTING FLANGE.
- 6- LOCATE TEE - MAKE UP & INSTALL TUBE & HOSE ASSEMBLIES.
7. INSTALL ELECTRICAL SWITCH IN CONVENIENT PLACE. USE NO. 16 OR LARGER WIRE- HOOK UP SOLENOID & PUMP IN PARALLEL CIRCUITS.

STARDUSTER SMOKE SYSTEM
 (Buy yours today)

P I R E P S P A G E

January 26, 1981
 4614 Pleasant
 Midland, Tx 79703

Mr. Jim Osborne
 Starduster Magazine

Dear Jim:

We recently received our first issue of the magazine and wanted to tell you how much we enjoyed it. We are also enclosing a picture of our Starduster Too, N3531. Although we didn't build it, we are just as proud of it as if we had.

We want to do a couple of things to the airplane that maybe you or some of the readers can help us with. First, we want to put a bubble canopy on it and would appreciate any information on where to purchase one and how to install it.

Secondly, we want to put a baggage compartment in the airplane and are open to any suggestions. I should mention that the airplane is unique in that the fuselage is completely metal - tubing and skin. If anyone has any ideas for us, we would like to hear from them. We have a Continental 230 engine and constant speed prop, so weight and balance should not be a big problem, just space.

Looking forward to our next issue.

Richard and Trish Osborn

Buy bubble canopy kit from "STARDUSTER".

Baggage compt. is a do it your self job. Try directly back of rear seat, under turtle deck.

Thanks for letter and picture. A great looking airplane



842 Pheasant Walk Dr.
Schaumburg, IL 60193
November 21, 1980

18

Stolp Starduster Corporation
4301 Twining
Riverside, California 92509

Dear Jim:

Please make a quartering view patch for \$49.95 of my Starduster
Too N32GR. Enclosed are two pictures of proper color of airplane.
The thin lines in picture are dark blue not black.

Add the cost of the patch and next years subscription to Starduster
Magazine to my open account.

I will send an article after I get an aerial shot of the plane.

Plane was flown September 5, 1980, handles excellently. Will write
more later.

Thank you for all the help.

Gerry Ruschke
Gerry Ruschke



December 2, 1980

JIM OSBORNE
C/O Stolp Starduster Corp.
4301 Twining-Flabob Airport
Riverside, Ca-92509

Dear Jim,

Concerning the Fokker crash in Las Vegas, Nevada, mentioned in the October issue of STARDUSTER MAGAZINE, I believe the culprit in the incident was the classic accelerated stall, accompanied by a violent and exaggerated snap roll and rapid descent.

I don't believe a Nieuport could produce enough "prop wash", (I assume you are referring to wing tip vortices) to roll an aircraft that is under proper control.

The slip stream turbulence could, however, contribute to the aggravation of an already near-imminent accelerated stall.

The accelerated stall is one of the least taught and understood maneuvers, although the physics of it are quite simple. It seems that most instructors just don't take the time to force their students to perform them correctly, thus making them aware of the consequences of doing one inadvertently.

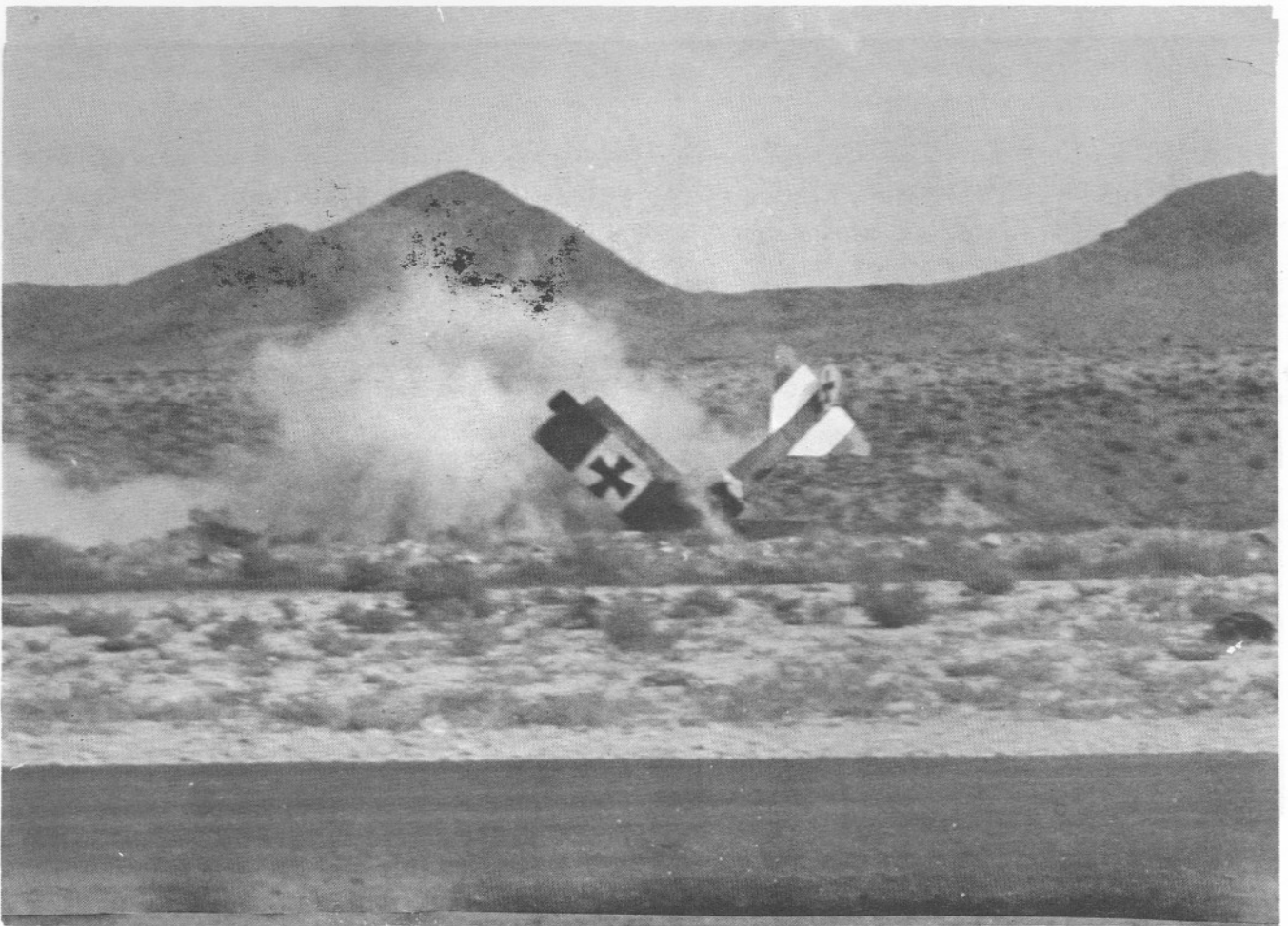
The fact that Mr. Appleby was flying a tri-plane, with its high drag coefficient, plus the fact that he was performing a "tight turn", plus he was probably in your turbulence, most likely led to this unfortunate occurrence.

Mr. Appleby is extremely fortunate to have survived this incident, let alone to have sustained no more serious injuries than he did.

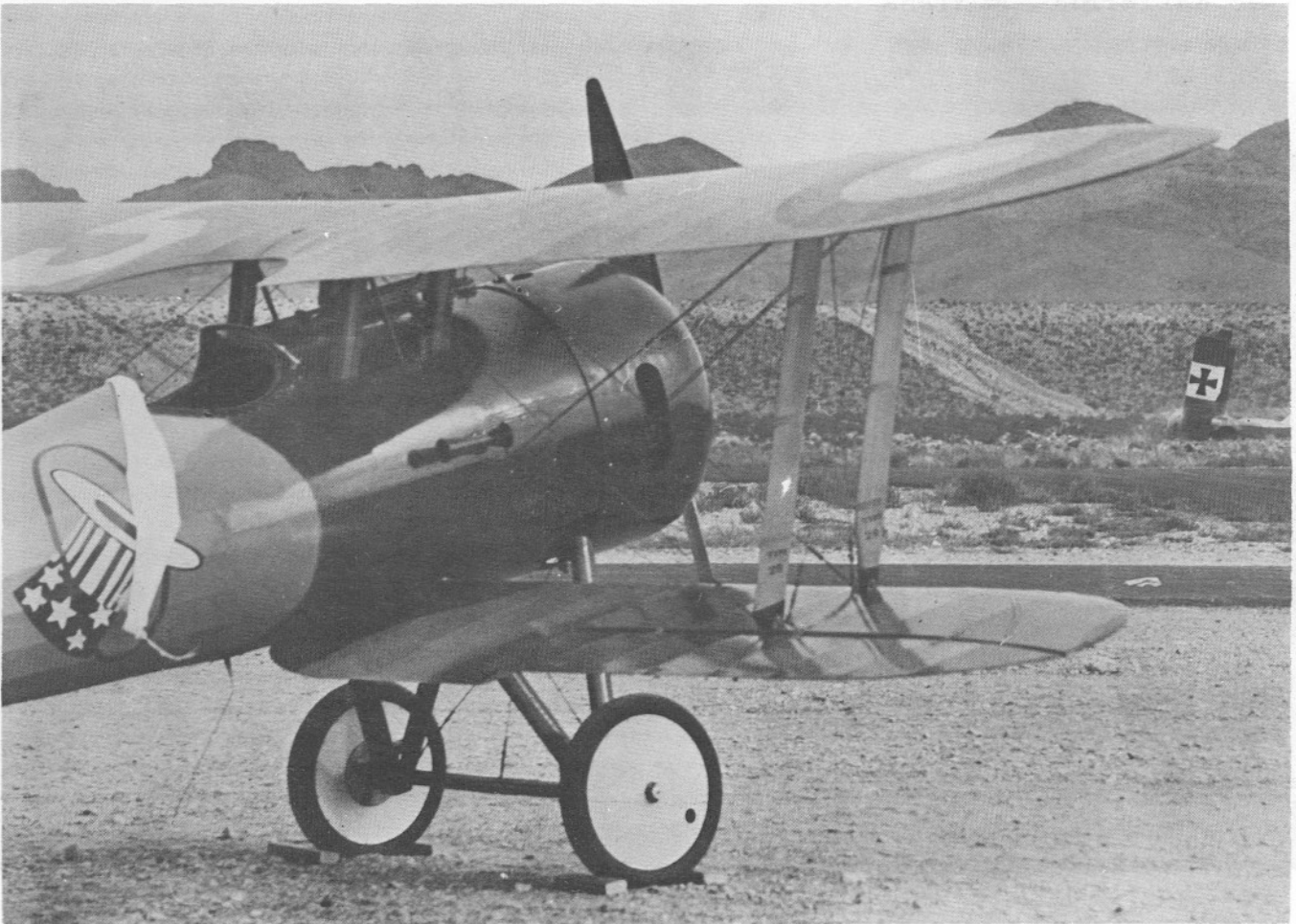
Yours very truly,

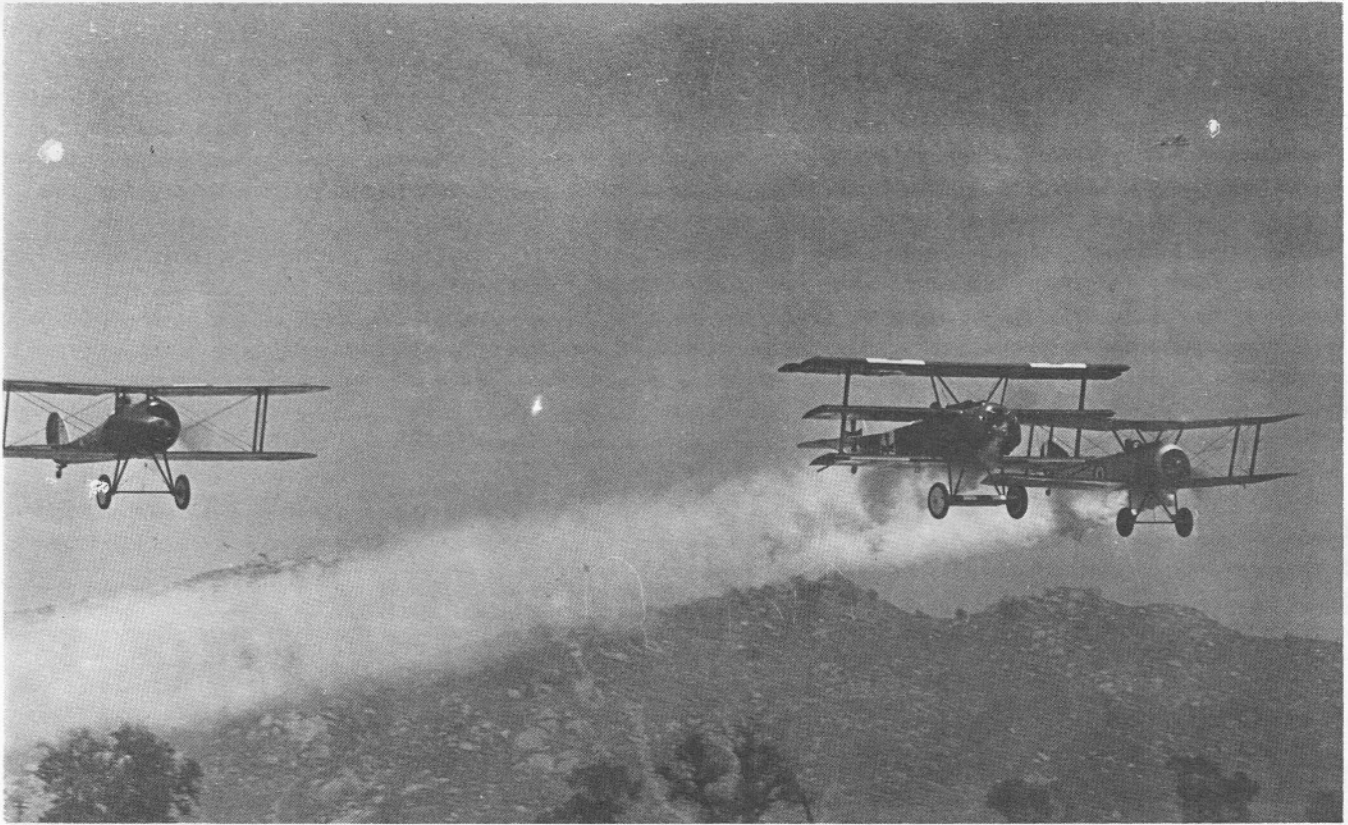
JOHN W. PAFFORD, JR.
430926394 CFI

A well written letter. Mr. Appleby concurs that he is indeed fortunate to have survived the crash. On the facing page is a picture of the crash as it was occurring. A photographer snapped the picture as the Fokker was still tumbling. On the bottom is a picture of the wreck after the Nieuport landed.



AT TOMBOW AIRPORT, IN HAPPIER TIMES, (BERG'S LAS VEGAS) BELOW IS THE BEAUTIFUL STANDUSTER TOO BELONGING TO RAY SANDERS





ABOVE, THE NIEUPOINT, FOKKER TRIPE, AND SOPWITH PUP MAKE A LOW PASS AT FLABOB AIRPORT, IN HAPPIER TIMES, (BEFORE LAS VEGAS)

BELOW IS THE BEAUTIFUL STARDUSTER TOO BELONGING TO RAY SANDERS OF KALISPELL, MONTANA



Hello Jim,

As you may recall, I gave you a picture of ACRODUSTER N121RM, which you helped Randy Mccoy to build in 1975.

On 25th of August, 1980, I became the proud owner of it. Enclosed is another picture I am sure you will enjoy seeing.

I bought 121RM from Dr. John W. Wally, who was the second owner since Randy. I am now the third proud owner.

Two things I'd like to check with.

First, is there any way I could get the names of the builders that have had their aircraft (ACRODUSTER TOO'S) actually certified and are flying, including their addresses.

Second, during the annual inspection we found the lower left front horizontal stabilizer support strut rusted thru. The other lower three are O.K.

What would be the price of one to replace it? One can be manufactured locally, but I thought it would be quicker to just buy one already manufactured, if you have one on hand.

The first item I am asking about is not too important. I'll find out some, one way or another. I sure would like to know about the second, as soon as possible. Thanks.

Sincerely, M.F. "PERRY" PEREZ



3412 Prince Williams Drive
Fairfax, Va, 22031

Dear Jim, and Mrs, of course:

I hope that you don't mind my informality in business matters. Since retirement from the FAA a year ago, I have attempted to find a little humor in everything. It shows up in the most unlikely places.

I received the nine piece shipment. The mail man delivered your letter at the same time the shipment was being unloaded. I was delighted to learn that the error in favor of me was made. It was like a Christmas present that had been lost in the mail.

Please don't bother with sending a check when you receive my cashiers check from the freight company. I would prefer a credit slip. This will take some of the sting out of my next buying spree.

Progress on the T00 is slow. I have spent most of my available time making my garage, which is integral with the house, into an all weather shop. It is insulated better than the rest of the house, heated from the regular system, and lighted as well as most hospital operating rooms. It's a crowded but ideal place for an old fud to putter.

My old A & P skills, instorage since late 1941, are returning faster than expected, especially the profanity. After building a cart for the gas bottles, and a welding bench, I tried an elevator. Presto! The welding is surprisingly good, and it required only a couple of dozen hammer blows to make it fit the stabilizer! If I had known this in advance I would have cheated you out of the engine mount and stabilizer order.

I finally got around to a complete inspection of the 90% completed lower wing panel which had been built from the STARDUSTER wing kit that I purchased in Kansas City. I, unfortunately, learned something about the young man who assembled it, and later lost his life in an ACRO. He was a young man in a hurry, which is fine, but also impatient, which is deadly. There is nothing seriously wrong, but I am going to have to do much of it over, to bring it to a high level of workmanship. This will probably take more time than constructing the other three panels, but will produce a good unit.

The packages arrived in good shape. I haven't unpacked them yet, and probably won't, for a while. If everything is not in order, you will hear my screams.

By the way, I'll accept a bourbon and soda for the little Too Too, at the riverside hangar, one of these days.

Kindest regards,

ROGER BOGGS

I wish to thank Roger for his letter. His remark about accepting a drink at the Riverside Hangar is right on the Beam.

TO: STARDUSTER MAGAZINE----From: DAVE FARZLEY, age 10

A couple of days before Christmas I got the best Christmas gift I could receive. I got to fly in Jim Osborne's Acroduster Too. Me and my Grandpa was talking to Jim in the office when Jim said; "David, would you like to go flying?" I said, "I sure would." So Jim said, "let's go."

We went over to the hangar and got the Acroduster Too out. Jim checked everything. He strapped me in the front cockpit and put the helmet and goggles on me. He explained what we would do while we were flying.

We took off and climbed to about three thousand feet. We flew over the dry river bed and over Rubidoux. We did several turns, and I had the greatest time. We flew about 15 minutes.

I really want to thank Jim Osborne for the opportunity to go up in the Acroduster Too. I am very anxious to get our Acroduster Too finished also.

ON THE RIGHT
IS A
PICTURE OF
DAVE
AFTER HIS
FIRST
RIDE IN A
SPORT
AIRPLANE





ABOVE-FLYING TO OSHKOSH IN AN ACRODUSTER ONE-10,000 FEET ABOVE
SEA LEVEL-50 FEET ABOVE GROUND LEVEL
BELOW- A PICTURE OF A BEAUTIFUL STARDUSTER TOO, OWNED AND FLOWN BY
CHARLES JENSEN, 912 NIOBRARA, ALLIANCE, NEBRASKA, 69301



Dear Jim,

After three years of construction and a lot of help from all the people at STARDUSTER, it FLIES!

A special thanks to Bill Clouse for driving here to help me out on my motor mount problem.

Weather permitting an FAA final, I will bring it down in December.

JIM AND DONNA VAN DYKE

P.S. Sending extra picture

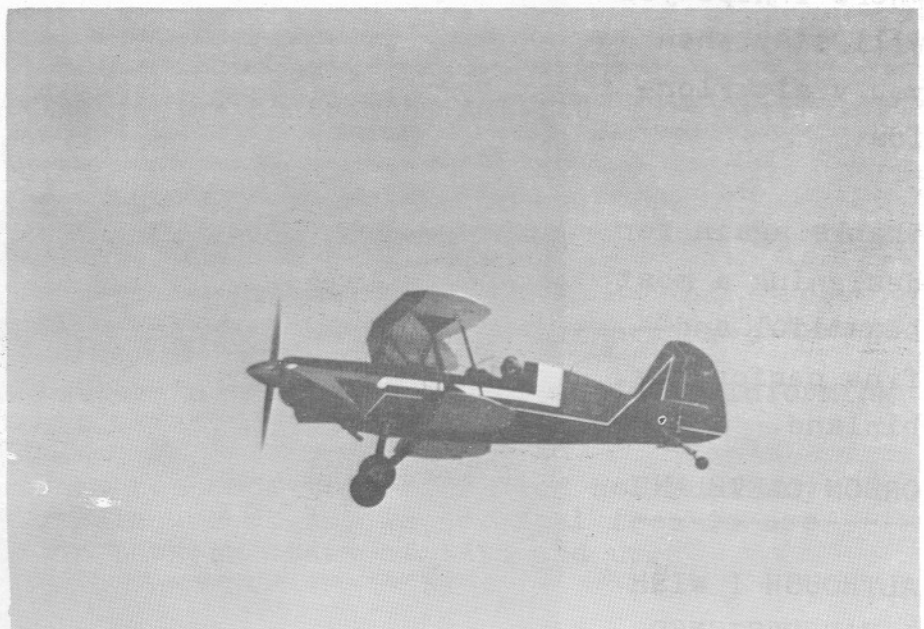


JIM VAN DYKE &
HIS NEW ACRODUSTER
TOO-

250 H.P. LYCOMING
C/S PROP

STARTED JUNE '77
FIRST FLIGHT ON
APRIL 12, 1980

IN FLIGHT
WILL LOOK
MUCH NICER
WHEN WHEEL
PANTS AND
FAIRINGS ARE
INSTALLED.



Jim Van Dyke

December 15, 1980

Dear Jim and Eric,

The enclosed pictures were taken at Spruce Creek Airpark, near Datona, at an Aerobatic meet in November. That's me waving in the front seat on a high speed flyby.

I have been building things all my life, but never have I built anything that has created so much happiness for so many people, as the STARDUST-ER seven nine charlie.

They always come down with a big grin on their faces.

By the way, the fourth picture was taken from my patio, of the beautiful Indian River, at sunset where I hope you will stay when you visit Florida.

Thanks again for designing a most beautiful and fine performing biplane.

ORSON CLEVELAND

ALTHOUGH I WISH
I HAD DESIGNED
THE STARDUSTER

TOO, CREDIT GOES TO LOU STOLP.

Jim Osborne



The following letter is reprinted from the "DESIGNEE NEWSLETTER" November 1980, issue.

Mr. Ben Owen, Aviation Safety
Experimental Aircraft Association, Inc.
P.O.Box 229
Hales Corners, Wi 53130

Dear Mr. Owen:

As more and more homebuilt projects are inspected by Federal Aviation Administration (FAA) personnel, certain unsafe practices become somewhat of a common occurrence and therefore should be highlighted in your Designee Newsletter publication as areas to be aware of, and to avoid. The most recent "common problem" comes from the FAA General Aviation District Office in Birmingham, Alabama and is concerned with the use of self-locking nuts (fiber insert) on bolts that have been drilled for cotter pins. FAA advisory Circular 43.13-1A, paragraph 230, states that bolts 5/16 inch diameter and above may be used with self-locking nuts provided that the bolt holes are free from burrs. Good practice also precludes the use of self-locking nuts on bolts that are subject to rotation.

Apparently the hardware kits sent with certain models of homebuilts contain drilled bolts less than 5/16 inch diameter and self-locking nuts for use on these bolts. The plans and instructions for certain model aircraft do specify the drilled bolt/self-locking nut combination; however, it should be avoided in sizes below the 5/16 inch specified above.

Sincerely,

W. F. HORN (signed)
Chief, Engineering & Manufacturing Branch, AGL-210
Department of Transportation
FAA Great Lakes Division
2300 East Devon Avenue
Des Plaines, Illinois
60018

We publish the above letter in the interests of as fully informing our readers of pertinent safety matters as possible.

Our ordinary practice has been not to use drilled holes of any size with fiber insert nuts. However, we now feel free to use drilled bolts with fiber butts in sizes of 5/16 and up.

DAN FALKOFF

26 Travis Road
Natick, Mass. 01760

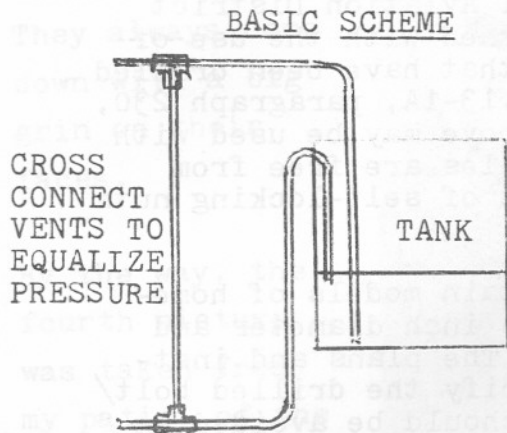
Dear Stolp,

Two Things: (1) Change of address-- My new address is as above. I think I am still a paid up subscriber to STARDUSTER MAGAZINE. (certainly want to be.) The project is on hold at this moment.

(2) IDEA ON FUEL TANK VENTING:

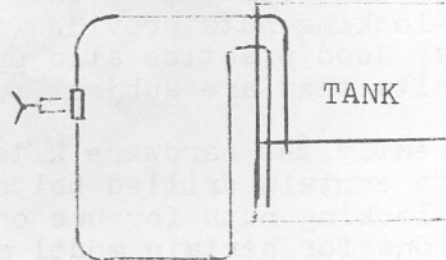
I've read possibly everything you've published on fuel systems and venting. What bothers me is the need to balance the air pressure on the upright and inverted vents. (At the risk of losing fuel out the vent with the lower pressure.)

Couldn't this problem be solved by either of the modifications shown below?



#2(Variation)

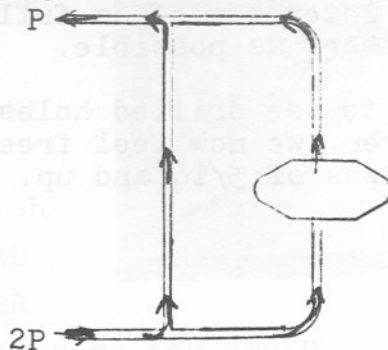
Vent may be located at any height so long as vent lines go above and below tank.



Your designs look ingenious, Dan. Number 2, however, definitely would not work. The single outlet, placed where you show it, would drain the tank down to the height of the outlet, while it was sitting on the ground. Go upside down and it would drain even faster.

The basic scheme looks very interesting and I am not real sure of what I am going to say, unless it was tested.

Nevertheless, I don't believe it would work. Consider the two vents feeding into a tank. You can consider it a closed loop, as shown in the sketch below, with high pressure coming in and lower pressure going out. The added line merely gives another, parallel line for the pressure to move in. I don't think it would do any good. But thanks for the ideas. (And I may be wrong.)



Cordially,

JIM OSBORNE

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ORDER BY PHONE:

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SMALL GEL CEL BATTERY FOR POWERING RADIOS & SMOKE PUMPS. 6 AMP HOURS. Weighs 5.7# 6"x 3"x 3-3/4". Made by GEL CEL. \$49.95 FROM STOLP STARDUSTER CORP.

BUILD AND FLY THE WORLDS EASIEST-TO-BUILD, AND HOTTEST PERFORMING AEROBATIC BIPLANE----THE ACRODUSTER ONE.

BROCHURE-----\$5.00
 COMPLETE KIT--\$7800

PADDING FOR COCKPIT COAMINGS--1-1/4" O.D. x 7/16" I.D. SOFT RUBBER PADDING. INSTALL OVER SMALL DIA. METAL TUBING AND COVER WITH LEATHER OR PLASTIC. EXCELLENT CRASH PROTECTION FOR THE HEAD. ONLY \$6.95 FOR 6' LENGTH. FROM "STARDUSTER"

Buying from STARDUSTER is like making love to an old maid. We are very grateful; and you can't overdo it.

Thank you all.

NEW WINGS--FOR STARDUSTER TOO'S. 23012 AIRFOIL----BETTER PERFORMANCE INVERTED. FASTER & LIGHTER AILERONS. AVAILABLE READY BUILT ONLY---FROM STOLP STARDUSTER CORP. \$6000.00 READY FOR COVER

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