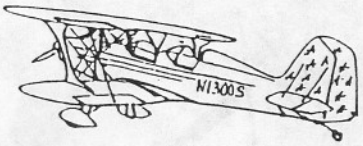
Starduster

MAGAZINE

January
1997

Dedicated to the
ACTIVE Homebuilders



JAN "97"

"COMMENTS " FROM BILL CLOUSE

AGAIN WE BADE FAREWELL TO ANOTHER YEAR. RESOLUTIONS AND PROMISES KEPT AND READY FOR THE NEW YEAR TO CHALLENGE US AGAIN TO MEET OUR GOALS AND SATISFY OUR OBLIGATIONS TO FAMILY, FRIENDS AND COUNTRY.
1996 WAS, AGAIN GOOD FOR STARDUSTER CORP. 40 SETS OF PLANS - KITS AND PARTS CONSTANTLY LEAVE THE BACK DOOR. WE HAD 3 BRAND NEW STARDUSTER TOO'S AT WAUTOMA. A SUCCESSFUL BANQUET - A FIRST PLACE AT RENO AIR RACES. MY THANKS TO ALL OF YOU THAT CONTINUE TO MAKE STARDUSTER CORP A SUCCESS - AND TO "BRENDA" THAT FRIENDLY VOICE ON THE PHONE - THAT KEEPS THE PAPERWORK CHANNELED IN THE RIGHT DIRECTIONS, AND ME INFORMED AND "UP TO DATE"
THE SALE OF "STARDUSTER" DID NOT HAPPEN - SEVERAL INTERESTED PARTIES BUT NONE WHO WANTED TO "WORK THAT HARD" (QUOTE) - GUESS THE PERSON IS "RARE" THAT HAS THE FORESIGHT OF THE SATISFACTION THAT IS GAINED IN MAKING PEOPLE "HAPPY" - NUFF SAID - SEE YOU AT ORRVILLE, CA IN MAY

SINCERELY,

BILL CLOUSE
"B.C." PREZ
PS. CHECK YOUR EXPIRATION DATE ON ADDRESS LABEL

Stolp Starduster Corp.

4301 TWINING
RIVERSIDE, CA 92509
(909) 686-7943
FAX (909) 784-0072
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HOMEBUILT AIRPLANE PLANS
SUPPLIES · COMPONENTS · MATERIALS
BILL CLOUSE a.k.a. "B.C." Prez

JANUARY 1997

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TABLE OF CONTENTS

We would like to thank all of this issues contributors and respond to one and all, for some interesting information and photos.

FRONT COVER - N27ED Starduster Too recently purchased by Skip Waltman, 9616 Streamside Dr., Austin, TX 78736. Rumor has it that this airplane was recently damaged in a landing accident.

BACK COVER - N94JE Acroduster Too also recently purchased by Skip Waltman, Austin, Texas. Ess letters on page 16.

REMINDER : SUBSCRIPTION RENEWAL

Please mail your checks to Stolp Starduster Corporation. They are due by the first of January 1997. Subscriptions run from January to January of each year. Those who subscribe in the middle of the year will receive all four issues for that year. Current subscription rates for 1997 are still $12.00 per year. I don't know how much longer we can do this, due to postage, printing and handling costs. By 1998 we will more than likely have to raise the cost of a subscription. Checks should be made out to STOLP STARDUSTER CORPORATION and sent to 4301 Twining St. Riverside, California 92509. Thanks.

D.C.B. Editor & B.C. Prez

THE EDITOR IS ALWAYS LOOKING FOR TECHNICAL AND EDITORIAL CONTRIBUTIONS TO THIS MAGAZINE, WHICH IS DEDICATED TO THE HOME BUILDER AND SPORT AIRCRAFT ENTHUSIAST. PLEASE INCLUDE YOUR NAME, ADDRESS, TELEPHONE NUMBER AND YOUR "N" NUMBER ALONG WITH THE ARTICLE SUBMITTED

ODDS & ENDS FROM YOUR EDITOR

By the time you read this the Holiday season will be over, and unless you live in Southern California, Arizona, Texas or Florida, you have probably not done much flying.. What you will be doing is looking forward to Spring and the air show season. So it is during this time that we should reflect about our piloting skills and keeping our aircraft in top shape. I as your editor do not wish to nag regarding these items, but I feel it is my job to do so, and if I can prevent one accident by doing this, you will all agree that it is well worth it.

As a pilot that has been averaging 200 hours per year, I am amazed and sadden at the lack of courtesy in all phases of aircraft operation that is afforded by other pilots. Fortunately it is only a small percentage that are in my opinion willfully negligent. As for the rest, it is again my view that many of these pilots do not fly enough to be safe or proficient. I base this on a number of events I have seen over the past several years. These events have occurred primarily around, but not limited to, uncontrolled airports. From non standard traffic patterns, to no radio transmissions while departing or arriving, takeoffs and landings in either direction, irregardless of wind or calm wind runways, altitude incursions, not paying attention to the east west rule. Monopolizing plane to plane and unicom frequencies for non aviation chit chat. I myself have probably been guilty of some of these infractions at one time or another. But for the most part I do what is expected, and as I have said before the best way to stay out of trouble is not to get into it in the first place. Good pilots do not allow themselves to fall into a trap that requires them to use all their knowledge and ability to save themselves. See article paying attention in the traffic pattern, by Wayne Ensey N94WE regarding his mid air. Also the following article on accident statistics and operations at un-controlled airports. Along with the normal pilot proficiency and airplane maintenance **my** biggest problem is complacency, my airplane always starts and has been very faithful in getting me from point A to point B. Do I really look during preflight? Do I always call Flight Service regarding weather and airport information? Do I use my checklist? Do I push my fuel range or the weather? These are the questions we must ask ourselves, and if we give honest answers, they may not be what we want to hear.

Safety can improve, and not by rearranging the accident statistics. The accident reports are filled with pilots who lack discipline, skill and knowledge, but would probably never recognize or admit their weaknesses. One place we can look to for guidance is in the Military Aero clubs. These clubs have safety records that are at least nine times better than those in General Aviation. There is no magic wand or secret at all about their safety and success, it comes from hard work and aggressive risk-management.

They require mandatory monthly safety meetings annual check rides review of the regulations, aircraft performance, and knowledge both in local and cross country flying. There is little hope for the overconfident, under skilled pilot with no sense of responsibility or discipline. It is bad enough that in most cases they take perfectly good airplanes with them. But the real tragedy is the passengers that put their trust in these pilots only to become unwilling victims.

So remember you not only have your self and your aircraft to be concerned about. But you also have your passenger. Lets be safe, knowledgeable and proficient. But, even this without good judgment will not save you. The only one who can do that is you! So lets not add any biplane pilots to these statistics.

D.C.B. Editor

SAFETY AD's and OTHER INFORMATION
Did You Know? or Things To Think About

A recent decision by the FAA has dramatically changed our perception of an important principle of aviation law it is not a change that will be welcomed by aircraft owners.

The FAA has decided that an aircraft owner is responsible for any violations of the F.A.R.'s committed by someone else piloting the owners aircraft. It doesn't matter that the owner didn't authorize or condone the infraction, it doesn't even matter that the owner didn't even know about it.

As far as I know there is nothing like this that pertains to any other mode of transportation, it would be the same as someone borrowing your car, committing a violation or a number of violations and because you are the registered owner - you face the possibility of having your license suspended, revoked, plus a fine or even spending some time in jail.

The implications of this decision, which has already been upheld in court, are staggering, and if the FAA decides to apply it across the board. Just think of the responsibility it places on F.B.O.'s, co-owners, clubs, partnerships and banks or loan companies that are the legal owners, talk about pilots rights and Big Brother.

Another thing that also has some interesting implications and a gray area of interpretation is F.A.R. 91.103. This requires a pilot to become familiar with all the available information regarding the purposed flight.

Most of you know that using an out of date sectional map would be viewed as a violation of this F.A.R.. However, what about your Loran or GPS data base, in the July/August issue of FAA Aviation News it elaborates on this by saying that the use of data base equipment such as GPS without a current data base not only violates this F.A.R., but could also make that navigation equipment unairworthy. And depending on the type of aircraft (I.E. certified) it is installed in could also make the aircraft unairworthy. If this interpretation is true, then it would make most units equipped with data bases, including handhelds unairworthy and a violation of the F.A.R.'s.

The possibility also exists that the FAA could require that during an annual inspection a mechanic could not return an aircraft to service unless it had a current data base. Is it any wonder that most pilots view the FAA with apprehension and suspicion.

D.C.B. Editor

TEXTRON Lycoming

Owner Advisory

DATE: October 16, 1996 **OA527**

Dear Textron Lycoming Engine Owner:

Records obtained from the F.A.A. indicate that you are the registered owner of an engine model which may be affected by a Mandatory Service Bulletin. The affected engine models are listed below.

This Owner Advisory is your notification to review the following information for relevance to your specific engine and comply with the Service Bulletin as required.

If your engine was manufactured, remanufactured or overhauled prior to December 15, 1995 and subsequent maintenance did not involve piston pin replacement, your engine is <u>not</u> affected by this Service Bulletin.

If your have obtained a new, remanufactured or overhauled Textron Lycoming engine after December 15, 1995 you <u>must</u> check the latest revision of Service Bulletin No. 527 for affected engine serial numbers.

If your engine has been field overhauled or maintenance conducted involving piston pin replacement after December 15, 1995, you <u>must</u> comply with Service Bulletin No. 527.

Mandatory Service Bulletin No. 527 has been issued for all Textron Lycoming engines manufactured and shipped from Textron Lycoming, engines overhauled in the field, any cylinder kits which employ P/N LW-14077 piston pins, or spare P/N LW-14077 piston pins that were obtained during the time period December 15, 1995 thru September 17, 1996. Textron Lycoming has determined that a quantity of piston pins (P/N LW-14077) were manufactured which do not meet Textron Lycoming specifications and must be recalled.

<u>Compliance is Mandatory:</u>

Prior to accumulation of 50 hours of operation with affected parts.

Please contact a Textron Lycoming distributor or your maintenance facility for detailed information and accomplishment of Service Bulletin No. 527.

AFFECTED ENGINE MODELS:

All Textron Lycoming O-320, IO-320, AEIO-320, (L)O-360, (L)IO-360, VO/IVO-360, HO-360, HIO-360, AIO-360, AEIO-360, TO/TIO-360, O-540 (except O-540-J1A5D, -J1C5D, -J2A5D, -J3A5D, -J3C5D, -L3C5D), IO-540 (except IO-540-W1A5D, -W3A5D, -AB1A5), AEIO-540, (L)TIO-540, TIO-541, TIGO-541 and IO-720 series aircraft engines.

U.S. Department of Transportation
Federal Aviation Administration

DEC 2 1996

Office of the Administrator

800 Independence Ave., S
Washington, D.C. 20591

LETTER TO PILOTS

Several recent occurrences at non-towered airports (either airports without control towers or airports where control towers do not operate continually) have given rise to concerns about operations at airports without operating control towers. The loss of life from a November 20 collision between an air carrier and general aviation aircraft at Quincy, Illinois, gives us all reason to renew our commitment to vigilance when operating at non-towered airports.

As pilots you have been trained to "see and avoid," and there is no need to remind you of that duty. We need to take stock of our traffic scanning and radio communications techniques, particularly when operating at non-towered airports. Transmitting on UNICOM or on the Common Traffic Advisory Frequency while operating at non-towered airports--particularly during busy periods of operation or during early morning or dusk--can mean the difference between a safe operation and an accident or incident. For aircraft without radios, of course, a pilot's scanning technique at non-towered airports is a necessity and his or her best insurance against involvement in a collision on the ground or in the air.

Information for pilots to review on operations at non-towered airports can be found in the Aeronautical Information Manual (AIM), specifically, paragraph 4-1-9 on traffic advisory practices at airports without operating control towers, and Chapter 4, Section 2, Radio Communications Phraseology and Techniques. There are also three advisory circulars (AC) dealing with operations at non-towered airports and with collision avoidance: AC 90-42F, Traffic Advisory Practices at Airports without Operating Control Towers; AC 90-48C, Pilots' Role in Collision Avoidance; and AC 90-66A, Recommended Standard Traffic Patterns and Practices for Aeronautical Operations at Airports without Operating Control Towers. All of these AC's are free from U.S. Department of Transportation, Subsequent Distribution Office, Ardmore East Business Center, 3341 Q 75th Avenue, Landover, Maryland 20785. You can fax an order to (301) 386-5394.

If you attend a Pilot and Aircraft Courtesy Evaluation (PACE) program, ask the inspector flying with you to examine your scan pattern and radio phraseology. Check with the Safety Program Manager at your local Flight Standards District Office for a schedule of upcoming programs on collision avoidance and/or operations at non-towered airports. Contact the publishers of FAA Aviation News for back issues containing articles on collision avoidance and operations at non-towered airports.

We also would like to remind pilots to report any safety issues to either the Aviation Safety Reporting System or to the Aviation Safety Program's network of Aviation Safety Counselors. With this information, FAA can design and structure new educational programs on collision avoidance and operations at non-towered airports.

We all know we must "see and avoid," but a review of our skills makes us better and safer users of all aspects of the National Airspace System, including non-towered airports. Let's work together for zero accidents at all airports.

Sincerely,

Linda Hall Daschle
Acting Administrator

Do you own a high-time piston engine? Use this checklist to help determine its conditio..

The following is from Textron Lycoming Key Reprints.

As an engine builds operating hours and approaches TBO (time between overhauls), questions arise concerning the decision to either continue flying, order a top overhaul or major overhaul, or exchange engines. Here is a quick checklist to help make those decisions, followed by a brief explanation of the nine points.

1. Oil consumption — any unusual increase?
2. Engine history and calendar age.
3. How has the engine been operated?
4. Pilot's opinion of the engine.
5. Maintenance — what kind has the engine received?
6. What does the oil filter tell?
7. What has been the trend in compression checks?
8. What do the spark plugs show?
9. Refer to the engine manufacturer's service letter for engine life and recommended overhaul periods.

As an engine manufacturer we would like to share our experience by discussing the nine points:

Oil consumption

The operator and maintenance people should know what has been the general history of oil consumption during the life of the engine.

A possible danger signal concerning engine health is a definite increase in oil consumption during the past 25 to 50 hours of flight time. The oil screens and filter should be carefully observed for signs of metal. Maintenance personnel should also take a good differential compression check at this time. They should also look in the cylinders with a gooseneck light or a borescope to detect any unusual conditions in the combustion chamber.

If you haven't looked at your air filter lately, it's a good idea to carefully inspect it for wear and proper fit. This is all the more important when operating in dusty areas, and it definitely could be a cause of increased oil consumption.

History and calendar age

If a powerplant has been basically healthy throughout its life, this would be a favorable factor in continuing to operate it as it approaches high time. Alternately, if it has required frequent repairs, the engine may not achieve its expected normal life. The engine logbook should contain this accumulative record.

Another important aspect of an engine's history would be its calendar age. Engine flight time and calendar age are equally important to the operator. We have observed that engines infrequently flown do tend to age or deteriorate more quickly than those flown on a regular basis. Therefore, Textron Lycoming recommends both an operating hour limit and a calendar year limit between overhauls. Service Instruction 1009 gives these recommendations, but other items in this check list will help to determine if an overhaul or engine exchange is needed before the engine reaches these recommended limits.

Pilot's opinion of the engine

The pilot's opinion of the powerplant, based on his experience with it, is another important point in our checklist. He will have an opinion based on whether it has been a dependable powerplant, and whether or not he has confidence in it. If the pilot lacks confidence in an engine as it approaches the manufacturer's recommended limits, this could be a weighty factor in the decision to continue flying or to overhaul it. He should consult with his maintenance personnel concerning their evaluation of the engine's condition.

Operation

The basic question here is how the engine has been operated the majority of its life. Some engines operating continuously at high power or in dusty conditions could have reduced lives. Likewise, if the pilot hasn't followed the manufacturer's recommendations on operations, the engine may experience problems and reduction of life. This becomes a more critical influence on a decision in single-engine aircraft, and also for single- or twin-engine planes flown frequently at night or in IFR conditions.

Maintenance

Good maintenance should aid in achieving maximum engine life; alternately, poor maintenance tends to reduce the expected life. We notice among those powerplants coming back to the factory for remanufacture or overhaul that the smaller engines in general have had less care and attention, and in a number of instances have been run until something goes wrong. The higher powered engines have generally had better maintenance and show evidence that the operators do not wait until something goes wrong, but tend to observe the manufacturer's recommended operating hour or calendar limits to overhaul. The engine logbook should properly reflect the kind of maintenance provided the engine or engines. The technician who regularly cares for an engine will usually have an opinion about its health.

What does the oil tell?

Clean oil has consistently been an important factor in aiding and extending engine life. A good full-flow oil filter ha... a most desirable application here. W... ...e filter is exchanged, ask the mechanic to open it and carefully examine for any foreign elements, just as is accomplished at oil change when the engine oil screen is also examined for the same purpose. Just as the spark plugs tell a story about what is going on in the engine, so the engine oil screen and the external oil filter tell a story about the health of an engine. Whether the engine is equipped with an oil filter or just a screen, oil changes should have been accomplished in accordance with the manufacturer's recommendations. These oil changes should have been recorded in the engine logbook.

If oil is analyzed, it should be done at each oil change in order to establish a baseline. Analysis is a tool that only gives useful information when a dramatic departure from the established norm occurs.

Compression checks

What has been the trend in compression in at least the last two differential compression checks? The differential compression check is the more reliable type and should be taken on a warm engine. If the differential

check reveals 25% loss or more, then trouble may be developing.

Some operators are confused by the compression check and its application. A compression test should be made anytime faulty compression is suspected, anytime the pilot observes a loss of power in-flight, when high oil consumption is experienced, or when soft spots are noticed while hand-pulling the prop.

Many maintenance technicians do a compression check at each oil change, and it is also considered part of the 100-hour engine inspection and the annual inspection. Most experienced maintenance technicians feel that the differential compression check is best used to chart a trend over a period of flight hours. A gradual deterioration of charted compression taken during maintenance checks would be a sound basis for further investigation.

Spark plugs

The spark plugs, when removed and carefully observed, tell the skilled mechanic what has been happening in the cylinders during flight. This information can be a helpful factor in deciding what to do with a high-time engine:

✓ Copper run out and/or lead fouling means excessive heat.

✓ Black carbon and lead bromide may indicate low temperatures, the type of fuel being used and possibly excessive richness of fuel metering at idle.

✓ Oil-fouled plugs may indicate that piston rings are failing to seat, or excessive wear is taking place.

✓ The normal color of a spark plug deposit is generally brownish gray.

✓ In high compression and supercharged engines, a cracked spark plug porcelain will cause or has been caused by preignition.

Recommended overhaul life

Service Instruction 1009 is the Textron Lycoming published recommendation for operating-hour and calendar-year limits until engine overhaul as they apply to each specific engine model. The amount of total operating time on an engine will be a basic factor in any decision to either continue flying, change, top or major overhaul the powerplant. Operators should be reminded, however, that the hours of service life shown in the service instruction are recommendations for engines as manufactured and delivered from the factory. These hours can normally be expected, provided recommended operation, periodic inspections, frequent flights and engine maintenance have been exercised in accordance with respective engine operator's manuals.

If an operator chooses to operate an engine beyond the recommended limits, there are factors to consider. The cost of overhaul is likely to be greater as engine parts continue to wear, and the potential for failure may also increase.

Operators who have top-overhauled their engine at some point in the engine life invariably want to know if this extends the life of the engine. This is an important question. The chances are that if the operator applies the checklist we have been discussing and comes up with favorable answers to these questions about his engine, he can probably get the hours desired — with only a few exceptions. But a top overhaul does not increase the official life or TBO of the engine.

We are surprised from time to time to have owners tell us they top-overhauled their engine at some point less than the major overhaul life for no reason other than somebody said it was a good idea. Unless the manufacturer recommends it, or there is a problem requiring a top overhaul, this is a needless cost. If the engine is healthy and running satisfactorily, then leave it alone!

One other point deserves attention here: There is no substitute or cheap route to safety in the proper maintenance or correct overhaul of an engine.

Conclusion

Apply all of these basic nine points concerning your engine or engines and then make a decision whether to do a top overhaul or major overhaul, exchange engines or continue flying.

SOME THOUGHTS ON BOLTS AND WELDING ROD

by Richard Finch, Technical Counselor #1143

Editor's Note: This is a response to the letter from Mr. Vogelsong in the May 1995 issue of Sport Aviation, which was in response to Dick's article on welding rods in the March 1995 issue of Sport Aviation.

I must clarify a statement in Mr. Vogelsong's letter. Grade 8 bolts are not more brittle than AN bolts. I have bent a 3/8 inch grade 8 bolt into a very tight 90 degree bend, and the grade 8 bolt is every bit as ductile (bendable) as an aircraft bolt.

- Grade 8 bolts are 160,000 PSI tensile strength.
- AN bolts are 160,000 PSI tensile strength.

AN bolts were developed during the early WWII years, and Grade 8 bolts were developed during the 1960's. There is no evidence that AN bolts are more flexible than Grade 8 bolts.

Now for the example that a FAA inspector can make a builder of an experimental take out non-aircraft bolts, that is just not true. Calvin Parker built "Jeanies' Teenie" with hardware store pop rivets; Molt Taylor built his "Paper Airplane" out of office supply store cardboard and fiberglass; Burt Rutan built his "VariEze" out of insulating foam and fiberglass, and all of us who put auto engines in our airplanes, use Grade 8 bolts to hold the cylinder heads on the engines, and to hold the crankshaft main bearing caps on the cylinder block.

There are inferior brands of Grade 8 bolts, just as there are inferior brands of AN or other aircraft nuts and bolts. Right now, we are having a major AD on Lycoming aircraft engines because somebody furnished a batch of bad rod bolts for Lycoming engines.

Enough about Grade 8 bolts, let's examine 1990's welding rod compared to 1930's welding years almost as fast as computers and avionics have improved. Copper coated steel welding rod is like using an adding machine to design an airplane, when you can just as easily use a modern CAD drawing system. Especially if you are TIG welding, the new vacuum melted, metallurgically pure welding rod is many times better for welding your structural 4130 steel airframe parts. The good, modern welding rod flows like butter with no cracks, whereas the copper coated rod tends to crack and bubble because it contains basic impurities. Why would anyone want to spend $30,000 for a new aircraft engine and only $3 for the welding rod to build the engine mount that holds that expensive engine on the firewall? If you build the engine mount with the new vacuum melt, metallurgically pure welding rod, the rod will cost about $40, and that is a minor price to pay for airframe insurance. It might be a good idea for those companies who sell welding rod to experimental aircraft builders, to offer both grades of welding rod to their customers.

The really important aspect of my article about grades of welding rod is that metallurgy has improved in the past several years, just like nuts and bolts have improved, and just like electronics have improved, and we EAA people ought to be willing to look at the new technology in welding.

For more information about vacuum melt, metallurgically pure welding rod, you can contact the manufacturer:

United States Welding Corporation
3579 Highway 50 East #104
Carson City, NV 89701-2826
Phone: 1/800/423-5964

SAD NEWS
N7691

Aviation offers some wonderful friendships as does being editor of Starduster Magazine, which brings me to my point. The most unpleasant task as editor is writing about accidents that have fatal results, and as I have said before, it is doubly hard when these accidents involve friends. Anyone who flies knows the risks and anyone who has been in aviation for any length of time has lost some friends due to these accidents. We as pilots wonder as to their cause and in most cases they are obvious, but in some they are not. Could we have done something to prevent them? Who knows.

So with this in mind I regret to inform you that on October 13, 1996, both Terry Thayer and his brother Lynn, were fatally injured in the crash of N7691, Terry's Starduster Too. The crash occurred on the take off from the Skyway Estates Air park near Lansing Michigan and resulted in a fire at impact. I have no other details at this time. The news paper clipping and letter from Matt Kerr of Bay City Michigan is all that I have. I had met both Terry and his brother Lynn on several occasions over the last several years. This airplane was also profiled in the April issue of Starduster Magazine under Starduster History. I had also flown with Terry on several occasions between Oshkosh and Wautoma, and given him a ride in my airplane, as he wanted to see the difference between the O540 and O-360 powered Starduster Too. He also wanted to see the difference between the old and new style gear. He and his brother Lynn attended the Starduster banquet at the Wautoma radio station restaurant several times over the last couple of years. Much of our conversation was about flying and landing techniques , and about flying across Lake Michigan. He would do it in his Beech Bonanza, but not in the Starduster. His normal route was north over the Straights of Makinac and down into Wisconsin, going around the north end of the lake. Terry was engaging and pleasant conversationist and very much enjoyed talking about his personal experiences with owning and flying the open cockpit Starduster Too. He also gave my son Dan a very interesting and enjoyable ride in his Starduster at Wautoma several years ago.

I called and talked with Harry Delicker, the builder to N7691, regarding the accident. He had just recently found out about it himself, as one of his friends noticed it on the Internet. His comment was that the airplane was 25 years old and had been flown by many pilots, some with experience, and some without, and even thought that if there were some problem it certainly would have shown up by now, he even said that several people learned to fly in the airplane. Neither of us could come with a plausible explanation as to the cause.

So if any of our readers find further information regarding this accident please let me know.

Both Terry and Lynn were the kind of people you enjoyed being around and they will be sorely missed, especially to their families during the holiday season. They are also the kind of people that we want and need to be involved with Stardusters. The airplane N7691 and the Thayer brothers will never fly again, but will be remembered, our care and concern go out to their families. I consider it a privilege to have known them and am truly sad about their passing.

Sincerely - D.C.B. Editor

BAY CITY, MICH
10/17/96

DAVID BAXTER
LAKE OSWEGO, OR.

DAVE —

I AM SENDING YOU A CLIPPING FROM THE BAY CITY TIMES NEWSPAPER OF MON. OCT. 14.

I HEARD THIS REPORT ON THE RADIO MONDAY MORNING. — A HOMEBUILT AIRPLANE CRASH AT EATON RAPIDS MICH., TERRY THAYER AND BROTHER LYNN KILLED

I THOUGHT I REMEMBERED THE NAME, AND I LOOKED AT THE APRIL ISSUE OF STARDUSTER MAGAZINE AND THERE IT WAS — "TOO FOR THE ROAD" N.7691.

I MET TERRY AND HIS BROTHER AT THE CHESENING MICH. DAWN PATROL THIS PAST SUMMER. I WAS THERE WITH MY STARDUSTER TOO N159MK. I WAS STANDING IN THE BREAKFAST LINE WHEN THEY CAME IN. THEY MADE A BEAUTIFUL LANDING ON CHESENING'S GRASS STRIP. AFTER BREAKFAST I WALKED DOWN THE FLIGHT LINE AND SAW TWO MEN STANDING BY MY AIRPLANE DRINKING COFFEE.

TERRY AND LYNN WERE GREAT GUYS, WE HAD A GOOD DISCUSSION ABOUT STARDUSTERS. I'M SORRY IT ENDED THIS WAY.

MATT KERR N159MK
904 FRANK ST
BAY CITY, MICH. 48706

OCTOBER 14, 1996

Brothers killed in plane crash

EATON RAPIDS TOWNSHIP (AP) — Two brothers were killed when their single-engine biplane crashed on takeoff and caught fire, police said.

The crash occurred about 3 p.m. Sunday off a grass airstrip at the Skyway Estates Airfield.

Both men were pronounced dead at the crash site, said Eaton County Sheriff's Sgt. Howard Reist.

The identities of the men, both from Eaton Rapids Township, were being withheld pending notification of the family.

"They were apparently taking off and, as of this time, we don't know what caused the crash," Reist said. "The plane was fully engulfed in flames on impact."

The plane was a homemade, two-passenger model called a Duster II that is classified as experimental, Reist said.

The plane came to rest off the west end of the airstrip in a field of hay stubble. It scorched a path about 75 yards long before stopping, upright, with only the skeleton of the wings and fuselage remaining.

The Federal Aviation Administration was to begin an investigation Sunday night, Reist said.

Autopsies on the men were scheduled for today at Sparrow Hospital, a standard procedure with an FAA investigation.

N9116*Yankee RACING AT RENO 1996*

One may ask the question, why build a small biplane? Most answers have to do with aerobatics, however an answer I would give includes racing at Reno. This has been a long time dream of mine, thanks to Norm Weiss and his adventures in the Starduster One of years gone by. My Starduster Too was not fast enough, (by far) and being a Starduster type of person I could not become a trader and get involved in a Pitts. When I heard about the Super Starduster it peaked my interest. A trip to Hamiliton Montana to visit the prototype started a yearning which was finally realized on April 20, 1996 at 8:25am.

Dick Heath currently owns the prototype and provided me lots of assistance during the building and preflight flight characteristics of the Super Starduster. The most important was pitch sensitivity. I'll save the first flight adventures for another time. After about 40 hours I pulled the ailerons and rebuilt them. Result was a roll rate which made me happy. I believe as fast as the Pitts S2B. I had ordered a propeller for racing and was getting my paper work and insurance in order for Reno.

With the Starduster fly-inn at Oriville out of the way painting and aileron work was undertaken. Next came the trip to Flabob and then back to Watoma (Oshkosh) for those Starduster types. Lots of flying and fun then down to southeast Kansas to visit relatives. California was never so close in my Starduster Too. The best example of speed difference between the two planes was from Battle Mountain Nevada to Livermore, 3 hours and 18 minutes typical versus 2 hours and 4 minutes. Gallons per hour were the same in both cases. The canopy sure was nice. It was 38 degrees when I left out of Rawlins and I was not cold inside.

When I arrived home there was lots to do and little time to do it in. As normal the prop I had hoped to race with did not arrive until less than a week before race time. I had been talking to U. S. Propeller in Stockton and had a special prop they are building set up.

I had heard how racing required 4 to 6 G's in the turns so lots of practice going around a farmers field had been undertaken. I fly out of the Byron California airport, near sea level. On the straight always, approximately a mile long I was indicating 180 to 185 . I practiced at altitude, hoping to approximate Reno's, 5,000 foot. Adjusting, trimming, fairing in, timing runs and runs on the GPS. Speeds seemed in the 180 range, looking good, or so I thought. Lots to learn coming up.

The first rule of great adventures is that adventure is made, it don't just happen. The Reno air races this year were Thursday, September 12 through Sunday the 15th. We had to be in place for briefings on Sunday the 8th. I wanted to get a good start so we were going to travel to Stead airport, were the Reno air races are held, on Saturday the 7th. Mary and Mike waited for me to get airborne and they started the four hour drive in our loaded down S-10 pickup. Now 16Y has a small gas tank and it is not full so I need fuel. Rio Vista is some what on the way so I drop in to get fuel. Some of the guys from the Livermore EAA chapter stopped in to get fuel also. Good chat, fill the tanks and

ready to go. It takes me a while to get into the chute, into to plane and while thus involved everyone departs. Turn the old key and the starter moves the prop every so slightly, lots of humming and winning but no turn. Voltage OK, Starter seems to be having a problem. I had forgot to tell you Rio Vista is an unmanned airport, card key fuel and away you go, well some people do. After a couple of hours and remembering how to hand prop a hot, flooded engine I got it going. I still beat them to Reno.

The first order of business was changing out the starter. Had a spare just in case. Everyone was very friendly and a good time was had by all. The briefings on Sunday were for first time racers biplanes, first time racers all types, and for all racers. Other Sunday adventures included Tech inspections.

Monday adventures included that delightful meeting with the FAA, Papers in hand for the 16Y and me. I was extremely delighted and if all meetings with the FAA went like this I could start to have different thoughts about them. In case they are reading this I want to thank them very much for their help. The next adventure was pushing out and getting in line for new pilot testing and going around the course. My nerves were wound up tight. Density altitude 7,700 foot? What does that mean? Testing consisted of some formation flying and then flying in the prop wash of Mike Stubbs Pitts. Just like taking off with Dave Baxter, him lead and me drifting into his prop wash. Well that is another story. Now it is pylon time. There were two new racers this year so they told us to go around as long as we wanted.

One thing we were told is to keep the pylons in site at all time while rounding them and when you come out fine references to help target the next pylon. 16Y allowed for excellent visibility and it did take a while to find those references. The track is 3.011 miles long with 6 pylons, and a home pylon. Time around the track was in the 65 to 70 second time frame.. Straight away's are approximately 1 mile with a change in elevation of 175 foot. going around the # 4 pylon took a while to learn, you are moving fast, low the ground, turning left, pushing forward on the stick and applying left rudder. If you don't you climb. The biggest suprize was G's needed for the turns. After Practicing Monday, Tuesday, and Wednesday I found that 1 3/4 G's were all that were required. Any more and you slowed down, big time.

I was shocked to find my around the track speed was 162 to 163. I Qualified at 162.3 On Wednesday night we put the U. S. Propeller prop on and tested it. It was balanced and ready to run. A word about props. I have three props for 16Y, a metal Sensich 76 x 66, a Prince P-tip and the US prop. The first to have static RPM's for 2,400 RPM approximately and it is all you can do to hold the brakes. The US prop has a static RPM of 2950 and light pressure on the brakes is all that is required. The first two props max out at 3,000 RPM, US prop at 3,200. At about 140 you can feel the US prop dig in a away you go. Indicated air speeds were 165 to 168 at end of straight always and 155 out of the turns with the Prince prop. With the US prop I was seeing 185 at the end of straight always and 168 out of the turns.

Thursday was the most intense day yet, race day. Heat races. There are three classes, Gold, Silver and Bronze. Biplane races have a standing start, three planes in the

first row, 2 planes in the second row and 2 or 3 planes in the third row with a 4 second lapse between starts. I had qualified third slowest so was in the Bronze class. A total of 7 planes were ready to run. I was originally scheduled to start in the second row pole with the two slowest planes up front. One plane did no start and the other asked for outside. That moved me to pole. Flag dropped and away we went. I worked had at staying low, inside, straight lines and no bobbles, no wasted motion. After the 2nd lap I leaned it out and waited for someone to pass. We race a total of 6 laps, 5 of which are timed with the 4 second start lapse subtracted from the plane in front. You may finish first and the plane 3 seconds behind may still beat you. On the back side of the last lap I stole a quick glance at the far straight away and saw the Pitts. I also looked at the CHT riched it out a little, sure put me forward in the seat. As I rounded the last pylon and headed for home I was still waiting to be passed. It did not happen, we had won. I taxied in and shut down, this was great. Bill was several inches above the asphalt and lots of pictures were taken.

As adventures go, ours and others, two planes in the silver heat had a mishap on roll out and were out of the race, no one hurt, physically anyway. One on the Pitts behind me Bob Blackwood and Myself had raced in the heat races faster than some of the silver and because of the mishap we were bumped into the silver. We did not got to race again as the silver class turned into the ***RACE THAT NEVER WAS.*** This was a result of diode communications and things that can go wrong sometimes do.

As a result of my heat race time I was awarded 6th place, presented a trophy and a nice little check. What a time. I am going to do this next year, shoot for the gold though. See you in September At Reno.

I want to take time to thank Bill Clouse for sponsoring me at the Reno air races. He was a tremendous help and inspiration. Bill also played a part in my pit crew. This adventure took a lot of help, my wife Mary and Mike Rowan son-in-law played a big part keeping the plane tapped up and ready to run. Fritz Eisenbizer and his friend from back east also helped and I want to thank them all. I need to thank U. S. Propeller and Champion Spark Plug and the Reno Air Race Association.

SUNDAY, SEPT. 15
At Reno, Nevada

BIPLANE SILVER
Six laps

90, Guy Paquin, Mong Sport, Buzz Job, 5:17.8, 176.154, Torrance, CA.

20, Cris Ferguson, Pitts, Let the Good Times Roll, 5:22.2, 173.732, Sunnyvale, CA.

10, Del Schulte, Perkins, Pitts, Thunder Chicken, 5:25.6, 171.945, Redding, CA.

13, Robert Jones, Pitts, One Arm Bandit, 5:27.3, 171.041, Tranquility, CA.

11, Charlie Chambers, Smith Mini, Stinger, 5:31.0, 169.114, Bend, OR.

95, Les Homan, Super Starduster, Dawn, 5:32.6, 168.3, Pleasanton, CA.

111, Bob Blackwood, Pitts S1S, After Sex, 5:36.0, 166.607, Sonoma, CA.

TOP PICTURE Taken at Grants Pass, Oregon at the EAA Chapter #725 Fly-in and Airfair. Starduster Toos - N96576, your Editor and N49BC, Bob Cavras newly completed airplane.

BOTTOM PICTURE A beautiful picture taken of North Bend, Oregon, it's airport and the surrounding area. Great flight, wonderful weather with wingman Mike Mattei.

LARRY A. MOSES
31822 Carmen Lane
Cottage Grove, OR 97424

Telephone 541.942.3376

Starduster Magazine
David Baxter, Editor
5725 S.W. McEwan Rd.
Lake Oswego, OR 97035

Dear Dave,

Thought I better write and let you know my new address. I don't know if you recall, but I was building a Starduster Too up in Toledo, WA. and you came for a visit to Kelso when we started up a new EAA Chapter there. Well, I've moved to Cottage Grove, OR. so there's been a little delay in working on the plane. Before I moved I was just ready to start welding the fuselage sides together. Boy, I tell ya, it's no easier finding any hangars or shop space down here! If you know of anybody in this area that might be able to help let me know! If your passing through let me know. The FBO at Cottage Grove sells fuel pretty reasonable and you can actually taxi right across the street from a restaurant and park.

By the way, I came across a picture of your plane while browsing through a clip art software package that I purchased. The N number is blurred out but by the paint job and just what I can see it sure looks like yours. I'll send a printout of it along.

Well I better sign off for now. Let me know if you know of any other builders around my area. Be real nice to meet them.

Sincerely,

Larry A. Moses

Robert E. Kulp, Jr.
P. O. Box 1102
Roswell, GA 30077
Phone: (770) 998-1794
Fax: (770) 992-8841

David Baxter
5725 S. W. McEwan Rd.
Lake Oswego, OR 97035

Re: Starduster Wanted

Dear David,

A gentleman by the name of Bill Kolb, from Post Mills, VT, suggested I write you. Bill said you are the "Grand Guru" of the Starduster airplane. I saw a picture of Bill's green Starduster and his friends red Starduster on the Internet and I wrote him asking if they were for sale.

I am in the market for a new sport plane and I really like the looks of those two airplanes. I have owned 2 Midget Mustangs and have over 500 hours of tailwheel time in those two airplanes. My most recent plane was a Glasair I RG, which I just sold.

If you know of a really nice Starduster II for sale, with an enclosed canopy, please write or call me collect. I would gladly pay you a finder's fee if you helped me locate an aircraft I ended up buying. If you have any general information on the Stardusters, I would appreciate hearing from you as well. I will buy an information pack, if one is available.

Thank you so much for taking the time to read this letter and for keeping it on file for future reference.

Sincerely,

Bob Kulp

LETTERS

Dave Baxter
5725 S.W. McEwan Rd
Lake Oswego, Oregon 97035

11/2/96

Dave,

I will never own an airplane, why should I. I work for an airline, I get to travel for free. Who needs the expense? Then in the early summer of 1996 it happened. A fellow pilot post a picture of his SA-300 and it was up for sale. For three weeks I couldn't get it out of my mind, what a fine aircraft this is. I did my homework, and found out everything I could about Stardusters. Finally I called a good friend of mine who works for the same airline and I told him about the Starduster I found. Guess what? he's been looking at the same airplane. So, we have the owner fly to Austin, TX, and its everything he said it was and our mechanic concurred. N27ED, has an IO-360, with inverted fuel, oil, smoke and also has new owners. I have 14,000 hours in F-4's, B-727, B-737 etc. etc., and this Starduster is by far the most fun I've ever had in an airplane. My yard doesn't get cut, my truck doesn't get cleaned, I spend all of my free time flying N27ED. I can tell you every time I get out of this airplane, I have this silly grin on my face.

Well I've joined the EAA, the airplane has been going to all the local fly-in's, I've made new friends and they all have stories. One story was of a fellow by the name of Jerry Garrison from Dalton, GA who had completed in August 1994, an Acroduster II. Jerry sold N94JG to a friend Don Henson. Don loved the airplane but had a desire to own a Stearman. Oh well here we go again, I need to see this airplane. I can't believe my eyes, its beautiful. It has an IO-360, with 100 hours SMOH, 100 hours TTAF, Christen Inverted, electronic ignition, C/S prop and it flies every bit as good as it looks. The weather is perfect and I fly it back to Austin. I'm hooked, so you'll see me someplace, maybe Oshkosh. Better sign me up for the Starduster Magazine.

Skip Waltman
9616 Streamside Dr.
Austin, TX 78736
((512)288-8411

Editors Note: So from reading this letter you probably have figured out that Skip owns two biplanes, one N27ED and Starduter Too along with N94JG an Acroduster Too, boy is he hooked! (DCB)

November 5, 1996

Hi Dave,

Glad to get the next issue of Starduster as always. I'm enclosing $12.00 for next years subscription, don't want to miss any. I sure enjoy reading them but I get depressed because I'm not at the fly-ins I read about, so I go out and work on mine, hoping to get it done sooner. It is coming along very nice since you saw it last. I did pick up an IO-540 at the Arlington fly-in. That should make it get-up and go! I do need an engine mount for that engine and also a cowling if you know of any.

We were very pleased to see next years Starduster's Open House back at Oroville. We had a great time there and are making reservations again. I hope you get the word out about Oroville so more Stardusters show up. I'm sure we'll be spectators there again.....darn!

Keep up the good work, Dave Mercer, N377JB

5001 SOUTH VIEW
KLAMATH FALLS OR 97603
541-882-9598

Dave Baxter
5725 S.W. McEwan Rd.
Lake Oswego, OR 97035

Dec. 19, 1996

Dear Dave:

Thanks so much for the information on

My impression of the airplane was as you cautioned me...Too much in the airplane!! It was obvious the engine had been over-temped when first flown.

Also, when I went to the trouble and expense to go see the airplane, the owner offered to 'take me for a ride', putting me in the front with **no stick**. I told him I don't fly in any small private aircraft unless I have controls at my fingertips.

I also felt there were too many homemade things done to the airplane that were after-thoughts.

The airplane was nice.....but not for me.....also didn't like the remains of the canopy.

I returned home and called the owners of 1923S, and we have reached an agreement of $19,000 delivered to me with a new annual. I have a good feeling about this airplane. If I have to overhaul or replace the engine (which I may not have to), I am acquiring the airplane reasonable enough to not end-up with more in it than it would be worth to me...I know paint doesn't fly an airplane, but I love the way this starduster looks....it's clean, and I should be able to clean-up the cockpit and panel with paint, etc. to look like the outside. Anyway, I am pleased and anxious to start with it.

Thanks again for all your excellent advice....I thought you would appreciate the enclosed information sheet they sent me on the airplane.

Best Regards,

Edward M. Jeppson
3457 E. Magic View Dr.
Salt Lake City, Utah 84121
(801) 943-6789

To: Dave Baxter
From: TJ Murray

Starduster Too N573TM, empty weight 1142lbs, Lycoming O-360-A4K, Sensenich wood prop.

Add N573TM to the population of flying Stardusters here in the northeast.
My project was signed off by the FAA on Monday 7/22/96. A squawk free inspection of the airframe, builders manual and logbooks resulted in the coveted airworthiness certificate. First flight occurred the same day and lasted about 35 minutes. The plane is based at Hampton Airfield, a 2,100 ft grass strip, that for all intents and purposes has been frozen in time since the forties.

I have about 600hrs total time, virtually all tailwheel, 100hrs plus are in various biplanes and I have remained reasonably current, therefore I took on the responsibility of flight test.
I am fortunate to have a friend, Gary Platinack who owns a Starduster Too (N238DC) which is similar to mine. He generously allowed me access to his plane for ideas during construction, and showing true courage and poor judgment, he insisted that I fly his plane prior to my first flight. The benefit of this experience is self evident, and I am truly grateful . Thanks Gary!

After several preflights and last minute checks, the plane, as far as we could tell, was ready to go. Blue skies and a light wind were obviously not a restraint, so...
Roll in of full power, correct for drift, break ground from a three point attitude, nothing to it.
I'd like to say that it flew hands off, but the reality is I was pretty well puckered up during that first flight. Believe me the fact that it could be flown straight and level, fast or slow was about the level of finesse I was aware of. On a subsequent flight I was able to recognize a slight left wing heaviness which has since been corrected. Other than watching most of New Hampshire disappear from view during the flair, the landing was uneventful. The wide gear and the turf runway conspired together to make it easy.

To date I have about 50 hours on the ship and I am really enjoying loops, rolls, cubans etc. I am impressed with the slow speed handling and short field capabilities, stall speed seems to be about 52 IAS (mph) ,top speed level flight at 2700 rpm is 138, normal cruise around 120-125. All in all I'd say like it, I like it allot!

On a related note:
We held the first Hampton Airfield Biplane Fly-in on June 15th, twenty biplanes flew in. Stardusters were represented in fine style with four examples. Americo Mazziotti from Portland Maine flew his O-300 continental powered Duster, Gary Platinack form Newburyport Mass, and Larry Fisher of Braintree Mass flew in with his O-540 powered Starduster. My plane was a static display. There are by my count 14 Stardusters in the New England area, hopefully more will attend next year.

I am contemplating converting the Starduster to radial power this winter. If anyone has some insight or info on radial installations I'd love to hear from them. I am probably headed in the 160hp Kinner direction, although a Continental 220 installation is a possibility.

I will be selling the complete firewall forward that I have now, Lycoming O-360-A4K, 1,100SN, starter, 60a alternator, accessories, SS exhaust, Sensenich propeller, Spinner, 24 inch motor mount, baffles, nosebowl and cowlings. Asking Price $12,000 OBO.
Looking for a Kinner any leads?

As you can see I'm not much at writing, but Dave asked for a short write up in return for some assistance he gave me on round power. Thanks again Dave, I look forward to every issue.

Tom Murray
4 Pine RD, North Hampton NH. 03862
603-964-9743, Murratj@naesco.com

LETTERS

Dave Baxter
5725 S.W. McEwan Rd.
Lake Oswego, Oregon 97035

Harry Mackintosh
8 Savona Close
Wimbeledon
London SW19 4H7

9-28-96

Dear Dave,

I have delayed replying to the receipt of the book "The Starduster" by Norm Weis until I had some pictures of my Starduster. This took a little longer than expected to organize. I have enclosed a couple of photos of the mighty machine.

I just completed the annual inspection, no problem, should be flying again by the time you receive this.

I would like to know more about the "Range Duster" N26AH. Do you have any more information about this airplane? I will always be interested in its location and activity status, that sounds like a bit of EAA ease to me.

Just finished an annual and tech flight on a friends Luscombe 8A, hadn't flown one for a couple of years and had nearly forgotten what a rudder airplane it is.

Still thinking about Oshkosh next year, but no decision as yet. Starting to turn Autumnal here, Fall to you.

Thanks for organizing the Starduster History and the book for me.

Best Regards & Happy Flying,

Harry

TOP PICTURE N40D single place Starduster One over Wimbelton, England. Owned by Harry Mackintosh. Letter on opposite page.

BOTTOM PICTURE N573TM Starduster Too just recently completed by Tom Murray of North Hampton, New Hampshire. Letter on page 21 of this issue.

WILD BILL'S AEROPLANES

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Canaan NH 03741
Phone and Fax 603-523-4170
E-Mail: wildbill@endor.com
Web Page: http//www.endor.com/~wildbill/home.html

December 28, 1996

David Baxter
5725 S.W. McEwan Rd.
Lake Oswego, OR 97035

Dear David,
As per usual I'm writing my yearly missive on a lousy rotten day but this time I'm going to be care full because you have a nasty habit of printing every thing I write. I hope you and yours had a Merry Christmas and havent been troubled too much by the nasty storms I've seen on TV from your neck of the woods. Phil and I are both healthy, he's got his ski's on and made one flight.(maybe two) I tried to get mine on the other day but it was just too damn cold and raw for these old bones.

You probably know by now that I have referred a bunch of people to you from my web page. I'm beginning to think I'm running a Starduster page. Cant remember who they all were. One was from England and I think another from Australia. Spent some time with George Beckner whose got a real nice looking Duster. He's one of a few that have inquired as to the best diameter and pitch for a fixed pitch prop for a O-360 powered Duster. You might expound a few words of wisdom on the subject in the next issue.

Myself and a associate have devised a method for checking for the steel gear oil pump with out disassembling, if I get a chance I'll outline separately. (Phils going to kill me if he reads this before I tell him as he had already tore his down to check his) Fortunately when I overhauled I installed a new Superior pump which ended up having the right gear.

Some thing I've gotten into that might interest Starduster owners. I am reselling solid mahogany scale models of ones own airplane in their colors and numbers. All hand painted and no decals, $125. I should have a couple of pictures on my page by the time of this issue.

Now my annual free dual. For the Starduster owner wanting a "cheap" IFR Duster!

INSTRUMENT FLIGHT

The Cat and Duck Method

1. Place a live cat on the cockpit floor. Because a cat always remains upright, it can be used instead of the artificial horizon. Simply watch which way the cat leans to determine if a wing is low, and if so, which one.

2. The duck is used for the instrument approach. Because any sensible duck will refuse to fly under instrument conditions, it is only necessary to hurl your duck out of the plane and follow it to the ground.

Limitations to the Cat and Duck Method

1. Get a wide-awake cat. Most cats don't want to stand up at all. It may be necessary to carry a large dog in the cockpit to make the cat pay attention.

2. Make sure your cat is clean. Dirty cats spend all their time washing. Trying to follow a washing cat usually results in a snap roll followed by an inverted spin.

3. Use an old cat. Young cats still have many of their nine lives left, but an old cat has just as much to lose as you do and will be more dependable.

4. Avoid cowardly ducks. If the duck discovers you are using the cat to keep the wings level, it may refuse to leave without the cat. Ducks are no better in IMC than you are.

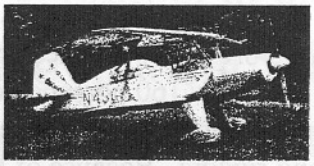
5. Make sure your duck has good eyesight. Nearsighted ducks may fail to realize they are on the gauges and go flailing off into the nearest mountain. Very nearsighted ducks may not realize they have been thrown from the plane and will descend to the ground in a sitting position. This is very difficult to follow in an airplane.

6. Use land-loving ducks. It is very discouraging to break out and find yourself on final to a rice paddy, especially if there are duck hunters around. Duck hunters suffer from temporary insanity after sitting in freezing blinds and will shoot at anything that flies.

7. Finally, choose your duck carefully. It's easy to confuse ducks with geese because many waterfowl look alike. Geese are competent instrument fliers, but they seldom go where you want them to. If your duck sets off for Canada or Mexico, you can be sure you've been given the goose.

There are Old Pilots and there are Bold Pilots
There are "NO" Old Bold Pilots

Keep the shiny side UP



Bill Kolb

STARDUSTER HISTORY

The Award Winner

N77BG - 1974 Grand Champion EAA

N77BG was built by Bud Giffen. Bud worked for the Trane company, which specializes in air conditioning units and is located in Seattle, Washington area. By chance, Bud's boss was a former Navy pilot who had watched Bud's interest in model building and suggested that he build a real airplane, saying they are just like models only bigger.

At first Bud paid little attention to this suggestion. At some point his boss showed him a magazine that had a picture and article about the Starduster Too. He could not get over the effect this airplane had on him. The elliptical wings, the graceful lines and curves, and the romance of the open cockpits. He shortly discovered EAA chapter 26 in Seattle, of which the local builders encouraged him to get started. So in June of 1969, the plans arrived. His serial number was #867. The usual problems and concerns about building, a borrowed welding set, help from a number of builders, lower panels followed by uppers, the center section with its fuel tank, just like a model only bigger his boss had said.

As the fuselage progressed, Bud like many builders wanted the airplane to be perfect. So everything was done as exact as possible. Just like on the wings with craftsmanship being superb. Still not trusting his welding, he got one of the EAA designees to do the finish welding after he would cut, fit and tack each component. Then with the basic fuselage and the wings pretty much finished he was offered a promotion in the company. The promotion involved a transfer to Phoenix, Arizona, a great place to expand an air conditioning business, plus the title of sales manager.

So what will I do with the airplane now? He thought about selling it, but his wife Dottie convinced him to keep it, and move it to Phoenix with all their household goods, especially after all the work he had invested in it. The airplane was moved like so many, an adventure in moving U-Haul. A house was located with a garage big enough to build the airplane, and with this building started again, now focusing on the stringers and sheet metal.

Bud made many trips to Southern California on business and almost always stopped at Fla-Bob and Starduster Corporation. During one of his many trips there he met Mac McKenzie (of Skybolt News and Firebolt fame) Bud was not looking forward to the wiring of his airplane. So he decided to truck it to Fla-Bob Airport in Riverside California where Mac could do the wiring , and Stits covering. The engine installation was also done at Fla-Bob. Bud had originally planned on installing the 180 horsepower Lycoming, but ran across a deal on a new 160 horsepower Lycoming that he just couldn't pass up. With the airplane nearing completion, it was returned to Falcon Field at Mesa, Arizona for the finish painting and rigging. Because of Bud's lack of current experience a friend and local duster pilot, Bill Robinet became the test pilot for the airplanes first flight. The airplanes first flight was on February 1, 1974. Although the airplane handled very well in flight, it was a real handful on the ground. Bill checked Bud out, and with a few minor engine problems, the new airplane and pilot were doing well, although ground handling was still a problem.

LEFT AND BELOW N77BG Grand Champion Award Winning Starduster Too at Oklahoma City, Oklahoma.

RIGHT Cockpit area of N77BG. These pictures were supplied to me by Jim Roberts a former owner of this beautiful airplane.

All sorts of things were tried, but nothing seemed to work. (Editor's Note: This was a problem with many of the early four cylinder powered Starduster Toos, because the landing gear was to far forward and the engine mount to short) It was decided to take the airplane back to Fla-Bob, where a new gear was built that moved the wheels back. After this was completed, Eric Shilling test flew the airplane, and announced that the problem was solved. The airplane was then returned to Phoenix, where the rest of the time was flown off in preparation of its trip to Oshkosh. On Sunday, July 28, 1974 with Bud's friend John Taylor in the front cockpit, they left for Oshkosh, with stops at Phoenix, Albuquerque, Tucumcari, Liberal Kansas, Dodge City, Lincoln, Ft.Dodge and La Crosse, Wisconsin. This is the home for the Trane Co. that Bud worked for. Here he spent most of the day giving rides to company employees, as well as Bud Simpson who was president of Trane at the time. None of his passengers had ever been in an open cockpit airplane before and were really impressed with their ride.

The next morning they arrived at Oshkosh, which was followed by a very busy week, that was topped off by the presentation of the 1974 Grand Champion Award for Home Built Aircraft. At the time Bud gave credit to Bill Robinet, Mack Mckenzie and George Evans, the people who had helped make it happen. Bud also considered a larger engine after his trip and later in N77BG's history was repowered with an IO-540. I talked with Jim Roberts an Airforce pilot who once owned the airplane many years ago at the Merced California Airshow, and his letter along with the NTSB Accident Report accompany this article. The current owner of N77BG is Jerry D. Fletcher of Midland Texas, and as far as I know, is in good shape and in good hands.

Starduster History - D.C.B.

SPORT AVIATION

OCTOBER 1974

Grand Champion Awards

GRAND CHAMPION CUSTOM BUILT —
H. A. "Bud" Giffen, Phoenix, Arizona for his Starduster II — N-77BG. Sponsored by Beech Aircraft Corporation.

FORMER GRAND CHAMPION —
L. L. "Jim" Butler, Norwalk, Ohio for his Butler Midget Mustang — N-14LB. Sponsored by EAA Chapter 166, Hartford, Connecticut.

GRAND CHAMPION ANTIQUE —
Dick Buck, Tom Leonhardt and Jud Gudehous of Lambertsville, Michigan for their Fairchild 24R — NC-77661.

GRAND CHAMPION CLASSIC —
Edmund Gorny, Livermore, California for his Swift GC1B — N-2459B.

GRAND CHAMPION ROTORCRAFT —
Michael Brescia, Jr., West Milford, New Jersey for his Scorpion II.

GRAND CHAMPION WARBIRD —
John M. Ellis III, Kalamazoo, Michigan for his North American T-28A — N-100JE.

STOLP		
N-2581	Starduster I	Eugene D. Coppock, Algonquin, Ill.
N-32345	Starduster I	Drew Peterson/Jess Myers, Las Vegas, Nev.
	Starduster I	Ray Locher, New Ulm, Minn.
N-1HG	Starduster Too	Harry Grabsch, Annandale, Va.
N-5EM	Starduster Too	Elmo Maurer, Tulsa, Okla.
N-7X	Starduster Too	Wil Neubert, Long Beach, Calif.
N-8TJ	Starduster Too	G. J. Smith/T. J. Smith, Dallas, Texas
N-33MH	Starduster Too	James R. Maris/Hoover-Maris, Lafayette, Ind.
N-65TC	Starduster Too	Leonard Funderburk, Selma, Ala.
N-729BL	Starduster Too	Stan Beaven/W. T. Lemen, Frankfort, Ind.
N-72TD	Starduster Too	Eugene Brown/Tim Brown, Lanhan, Md.
N-77BG	Starduster Too	H. A. (Bud) Giffen, Phoenix, Ariz.
N-84CB	Starduster Too	C. Bourgeois, Santa Barbara, Calif.
N-101TJ	Starduster Too	Thomas Jekyll, Sunnyvale, Calif.
N-211GW	Starduster Too	George Wright, Grand Rapids, Mich.
N-300TJ	Starduster Too	Timothy J. Brown, Overland Park, Ks.
N-1300S	Starduster Too	Dan Carey/Ralph Rina, Hawthorne, Calif.
N-1698	Starduster Too	Fred Meyer, New Hartford, Conn.
N-1969S	Starduster Too	John Morrissey, Ft. Leavenworth, Ky.
N-2369	Starduster Too	Don Bates, Kansas City, Mo.
N-3168	Starduster Too	Norman Logan/Dean Moon, El Paso, Texas
N-3263	Starduster Too	Joseph R. Maridon, Aliquippa, Pa.
N-3289	Starduster Too	Richard G. Maddux, Milton, Fla.
N-3531	Starduster Too	John Meyers, Kent, Wash
N-3566	Starduster Too	Don Corning, Fond du Lac, Wisc.
N-3949	Starduster Too	Don Narde, Horseheads, N. Y.
N-9738	Starduster Too	Ron Reimer, Odessa, Texas
N-30110	Starduster Too	A. C. Pietsch, Minot, N. D.
CF-AND	Starduster Too	Joe DePippo, Toronto, Ont., Canada
N-445W	Starlet SA-500	J. D. Hiller, Montgomery, Ohio
N-2300	Starlet	Jim Stargel, Silver Spring, Md.
N-9LS	V-Star	Bill Clark, State College, Pa.

LETTERS

9 June 86

Dave,

Enjoyed talking to you at Merced. Here are some photos and the latest news on N77BG. I talked to the current owner Mike Allen, who is the second owner since my partner sold the plane. The guy Mike bought it from was a low-time pilot who had a couple of hard landings, and eventually collapsed the gear. He says he'll also recover and repaint the plane for resale (asking $30,000) Mike is an FAA pilot at Oklahoma City and A & P mechanic, so I think he'll do a good job. Who knows maybe I'll buy it back.

Good Luck with N96576
Jim Roberts

NTSB ACCIDENT REPORT

Status	Date	City, State / Airport Name	
Public ACC	6/23/84	Oklahoma City, OK: On Airport/Expressway (2EJ)	**N77BG**

Aircraft Make / Model / Damage	Type of Operation	Operator	Injuries
Griffin Trane Inc./Starduster Too/Substantial	Personal		None

Description of Accident

Aircraft touched down hard after 4 unsuccessful landing attempts at Stroud, OK. Pilot added full power and returned to Oklahoma City suspecting gear damage. Visual check by another aircraft revealed no apparent gear damage. Upon touchdown at Expressway Airpark, the main gear collapsed. Aircraft slid over the runway lights and into the grass. Pilot reported 14 1/2 hours of flight experience in this make and model tailwheel aircraft.

Cause

Hard Landing - Landing - flare/touchdown
Judgement<>Poor<> Pilot in command
Proper Decent Rate<>Exceeded<>Pilot in command
Lack Of total experience in type of aircraft<>Pilot in command
Recovery from bounced Landing<>Improper<>Pilot in command
Main Gear Collapsed - on Landing-Flare/touchdown
On Ground Collision with object - on landing

Paying Attention in the Traffic pattern
By Wayne Ensey, N94WE - Acroduster Too

If you're like me, during those endless hours of work building your plane, a little thought kept creeping uninvited into your mind. How would I feel if I wrecked my plane? But like me you probably told yourself that only other pilots make those kind of stupid mistakes. Well, let me tell you, I did make a stupid mistake and it doesn't feel good.

It was mid-October. In Oregon that means that you have to take the good flying days when you can. Rusty (RV-4), Jim (172) and myself, flying my almost new Acroduster II (150 hours) with my ten year old son Craig in the front seat were doing just that. We left Corvallis airport for the ten minute flight to Albany airport for the traditional French toast breakfast. We took off at about 8:00 on Saturday morning. Corvallis had some light low level fog but the rest of the valley was clear. While Jim headed straight for Albany, Rusty and I broke off as usual for a few rolls and other fun stuff. After a few minutes I headed for the airport while Rusty fell in behind.

Albany airport is an uncontrolled field with a published left-hand pattern. Just after I called in on a three mile 45 for runway 34 I heard Jim call base for the same runway. This base call and the assumptions that I made set me up for what was to happen in a couple of minutes. With out really thinking I mentally put Jim about two miles ahead of me on a LEFT base. I later found out that he was on a Right base and not nearly as close to landing as I thought from his base call. We called downwind, left base and final as we continued our approach. I fly the pattern at 90 MPH and final at 80 MPH. On short final I commented to Craig, " We've really got this one nailed." Some approaches I fly in a slip for better forward visibility and some I fly straight on. Of course, for no particular reason this was a straight on approach. Before I continue, I need to stress that up to this point in the approach everything seemed perfect. I was landing at an airport that I had been to many times. Every thing seemed normal.

About ten seconds from landing, after a seemingly perfect approach my plane suddenly became virtually uncontrollable. At a very low altitude we began rolling violently in both directions. I was sure we were going to hit a wing tip and cartwheel. I briefly considered going around. However, the only explanation that I could come up with is that something on the airplane had broken. I decided that it would be better to put it on the ground from ten feet than from a thousand. That's what I did.

For those of you that don't fly a bi-plane of the Starduster or Acroduster type, you should know that the forward visibility during the approach and flare is non-existent. Just as I was touching down I saw a flash of brown on the right and white on the left, felt a hard lurch to the left and then ..... nothing. In that tenth of a second everything was crystal clear. I was going to hit the back of Jim's Cessna 172. The next thing that I knew I was facing the wrong way on the runway and holding my head. When I came to, Linda who was a passenger in the Cessna, was standing outside of my plane. At this point I didn't think that I had been knocked out. After checking that my son was OK, calling my wife on my cell phone, getting out of the airplane, the sick feeling began.

I had answered the question of how I would feel if I wrecked my airplane. After an examination of the plane and talking to witnesses I pieced together what actually happened. Of course the rolling was the Cessna's wake turbulence. As my wheels were just touching down my top right wing at the I-strut fitting impacted the Cessna's rudder about a foot from the top. This started a swing to the right which caused me to hit my head on the left windshield edge. The impact knocked me out and resulted in a three inch cut over my right eye. As the plane swung right it broke the Cessna's entire tail off just in front of the horizontal stabilizer. My turning propeller cut through the left wing, severing the rear spar and coming to rest in the wing root. Our luck began to change when my left I-strut hit the Cessna's left aileron. We were lucky because that is what kept my prop from going into the Cessna's cabin. The I-strut impact was so hard that the engine mount was permanently bent to the left. We continued to swing to the right as the Cessna rolled away. At this point the plane tipped up onto the left wings high enough to break the left wheel pant and main rim. We finally came to rest and I came to my senses facing the opposite direction.

All of the spars in the left wings were broken, requiring a complete rebuild. The left I-Strut was bent in half. The right wings were not damaged as badly but were stripped and inspected. The left horizontal stabilizer and rudder were bent slightly. The bent motor mount was the only damage to the fuselage. All in all, were lucky to be in such a strong airplane. As of this writing the wings have been rebuilt, covered and are waiting for paint. I am waiting for a new 200 HP engine and constant speed prop to arrive. Craig and I will have it at Oroville in the spring.

If we are honest with ourselves I think that we would all have to admit to times when we skipped a position call in the pattern, entered the pattern with a non-standard approach or continued on our approach after failing to find reported traffic. Sometimes it may not be good enough to assume that we are clear of traffic just because we can't see it. Next time, if it will save a little time to fly a non-standard pattern, just remember that you may know exactly what you are doing, but others may make incorrect decisions based on what they think you are doing. Also, remember that our airplanes are very quick and agile. When we combine this with our limited visibility we must not become complacent. Our airplanes are built for fun and nobody has more fun than I do. I'm sure that you'll find me at Rusty's 6 o'clock chasing him through the beautiful valleys of Oregon this summer, but when I'm flying near any other airplanes or airports, you can bet that my flying will be straight and level and by the book. Finally, anytime you see N94WE on final approach - ***It will be in a slip.***

My plane is coming along really good. Ray has the welding done and all four wings glued up. He's really working fast.

sincerely

wayne

TOP PICTURE N94WE with both LH wing panels damaged. Very lucky, easy repair with very little damage done to the rest of the airplane.

BELOW N9579H C-172 very major damage done to the LH wing, aileron and flap area.

ACCIDENT STATISTICS & OPERATIONS AT CONTROLED AND UNCONTROLLED AIRPORTS

The following information and opinion shows that there is no substitute for vigilance (I.E.) looking around in the traffic pattern, especially on base to final. Plus the recent collision between a regional Airline Beech 1900 and a corporate King Air at Quincy, Illinois. Also the recent mid air of an Acroduster and C-172 (article elsewhere in this issue). These accidents serve to remind us how deadly or how lucky we can be. Editor's Note: See Starduster Magazine's October 1992 issue under Sad News.

In this article I'm not going to go into great detail on how to fly the whole pattern. For that you'll need to read FAR 91, AIM and the FTM. But I will try and point out some particularly dangerous areas of pattern flying, especially the final approach, where most accidents occur. "Final" is probably the most dangerous area of the pattern that's where airplane tend to converge. A mid air collision is most likely to happen at an uncontrolled airport where pilots don't scan continuously for other traffic and don't make full use of advisory calls on Unicom. Most collisions occur within one mile of the runway, sometimes right at the touchdown point. Failure to see and avoid, along with at least one of the pilots not using the radio are generally to blame.

If you look over the records of traffic pattern collisions, you'll find that, as noted above, the majority occur on final approach. Two airplanes headed for the same airspace, a lack of communication plus a lack of "look around" can spell disaster when they arrive at the same place at the same time.

Even with tower radar, the controllers don't necessarily identify each and every airplane converging on that final approach zone during VFR conditions and assign safe spacing. And they may not be able to provide you with adequate spacing behind that "heavy" airliner that's leaving a lot of vortex turbulence in its wake either.

Several recent accidents, including some "runway incursions," point out the excessive workload on some tower controllers. You just cannot count on tower personnel to prevent you from having a close encounter. You have to LOOK, LISTEN, and TALK. And maybe make your own decision to go around or make the 360° turn for spacing.

Enough about the hazards for a while; let's explore the guidance provided by the FAR's, the AIM and the FTM. Getting to the meat is difficult to find in these publications. But let's start with the regulations:

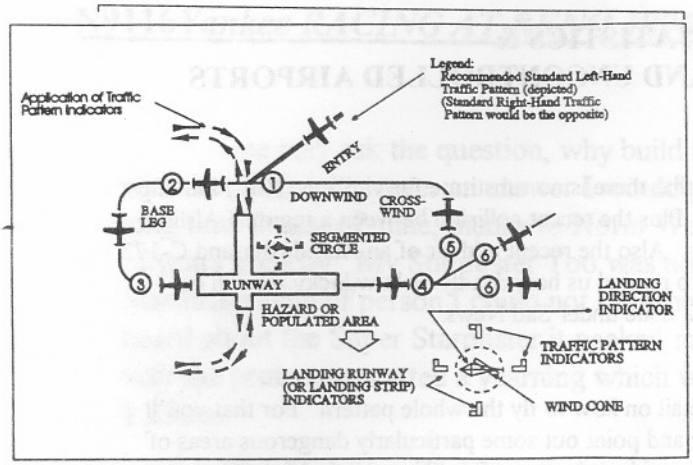
FAR 91.126(b) says that in Class G airspace (without an operating control tower), make all turns to the left "unless the airport displays approved light signals or visual markings indicating that turns should be made to the right." Sounds simple doesn't it? Make all turns to the left unless otherwise designated. So no more right base legs, even if you announce what your doing on unicom; it's illegal when the standard direction is left!

There is more about traffic patterns in **FAR 91.127** (Class E airspace, **91.129** (Class D) and 91.130 (Class C). But your real guide to VFR traffic patterns in uncontrolled fields in **FAR 91.126** and its "all turns to the left" (unless otherwise designated) criteria.

Sure a straight-in approach is legal, as far as the FAA is concerned, but you had better not be observed (visually or on radar) making a right turn to line up for a runway with left traffic.

The AIM kicks off its discussion of traffic patterns with some good cautionary advise: "Increased traffic congestion, aircraft in climb and descent attitudes, and pilots preoccupation with cockpit duties are some factors that increase the hazardous accident potential near the airport. The situation is further compounded when the weather is marginal. However most midairs occur with only two airplanes in the pattern and on a day that has good visibility (I.E. complacency).

In my copy of AIM, I have to turn two pages to find another diagram that shows the "standard" 45° entry to the downwind leg and recommended departure paths at uncontrolled airports.



The AIM recommends that the traffic pattern be entered on a 45-degree angle to the midpoint of the runway at pattern altitude: 1,000 feet AGL, unless otherwise designated.

There is no indication of what altitudes to use in the pattern, and the accompanying verbiage is vague: "At most airports...traffic pattern altitudes for propeller driven aircraft generally extend form 600 feet to as high as 1,500 feet above the ground." Later there's the warning that "traffic pattern altitudes should be maintained unless otherwise required by the applicable distance from cloud criteria."

The only regulatory guidance is in **FAR 91.129**, which says that large (12,500 pounds) or turbine powered (jet, turboprop) airplanes must enter the pattern at no less than 1.500 feet above the airport elevation.

Well okay, but that still leaves the question: At exactly what altitude should you enter the downwind at your airport?

The FAA approved" Airport Facility Directory does not list a traffic pattern altitude for every airport. AOPA's Aviation USA does. (AOPA uses the FAA's aircraft facilities directory and sends questionnaires to airport owners/managers to obtain TPAs for every airport in the book.)

The AOPA directory, flight guide, or something like it, is a necessity in the cockpit. The pattern altitude comes under **FAR 91.103** requirement for preflight familiarity with "all information concerning that flight." If you should happen to enter the pattern at 800 feet and have conflict with somebody else who is flying at the specified 1,000 feet, you could incur the wrath of the FAA - even though you did not violate any specific regulation!

Now, on to the Flight Training Manual (AC 61-21A), the way outdated reference that's being extensively revised and soon is to be reissued as the two volume Airplane Flying Handbook.

Chapter 7 covers "airport traffic patterns and operations." Again, we are told to fly a rectangular pattern with "square turns," rather than the often seen oval with 180 degree turns at each end. The handbook offers some very good guidance on pattern entry: "Generally, the traffic pattern should be entered at a 45 degree angle to the downwind leg, headed toward a point a beam of the mid point of the runway to be used for landing. Arriving airplanes should always be at the proper traffic pattern altitude before entering the pattern and should stay clear of the traffic flow until the established on the entry leg. Entries into traffic patterns while descending, create specific collision hazards and must be avoided at all times. That's good advice. The visibility from almost all of our GA airplanes leaves much to be desired, especially while turning. Thus, the "square" turns (more or less 90 degrees, depending on the corrections for the wind drifts) at each corner of the pattern, so that you have a chance to look around, with wings level, before going "blind" in the next turn.

The FTMs recommends that a pilot approaching an uncontrolled airport get a glance at the "segmented circle" with its L shaped markers denoting traffic direction, plus the Tetrahedron and wind sock. (Remember, the tetrahedron may be tied down for some reason and not agree with the wind sock.) At an unfamiliar field, its hard to find these markers from a downwind leg position; you really have to "overhead" the airport to find and interpret the ground markings and the wind. Per the FTM, you can fly, "well above generally used pattern altitudes" to get this overhead view, but you must then "proceed to a point well clear of the pattern before descending to pattern altitude" and setting up for a 45 degree entry to downwind.

There is some relatively good guidance on how to actually fly the pattern in the old FTM. For instance, it explains" the downwind leg is a course parallel to the landing runway." A course, not a heading. If there is a cross wind at the pattern altitude, your expected to crab to maintain a ground path parallel to the runway. Same for the base leg: it should be a course perpendicular to the runway; again, crab as necessary and don't get "blown" onto a long final approach.

How far out should you fly the downwind leg? The FTM states "Approximately one half to one mile out from the landing runway." Okay, but what's a half mile to the average pilot? Well, its half of a 5,000 foot runway, and you should be able "to eyeball" that. This distance will probably not work for the biplane pilot.

As close in base to final would be more appropriate. And with a tight close in pattern and steep decent you may not be in the area where most pilots expect you to be.

When you start the base turn start a gentle descent from abeam your intended touchdown point. Plan on turning base when the downwind end of the runway is somewhere behind your wing tip. Midway through the base leg is the last good time to look for those possible midair collisions. With wings level (and maybe even a little wing rock), check for aircraft on a wide base or final, but also check inside your base leg for the hod rodder who's playing fighter jock, and cutting you out with a tight, low, continuous base leg turn. Eyeball that final approach, both outside your own pattern and inside. Better to see these people now; once your established on final, any "incursions" into your own pattern are likely to be from behind, above or below you – in your blind spots.

Additionally, the AIM offers a portion of the **FAR 91.113**, which specifies that the lower of two airplanes approaching to land has the right of way. But it does not mean they can cut in.

If you have "played" downwind position the "wideness" in your base leg, your altitudes, your "crabs", and your turns properly you should be able to make a normal turn to final (20 degrees' bank, with 30 degrees' maximum) and the distance remaining to the runway should be sufficient to give you about the same time (in seconds) that you would fly on a no wind day. You should have sufficient altitude to fly the same through the air glide path angle as you would in no wind conditions (IE, the same rate of descent), although your ground reference glide path will be steeper in high head winds. No discussion of "patterns" would be complete without touching upon the straight in approach. The AIM makes no mention of the straight in approach and recommends only the 45 degree entry to the downwind.

But, there's an FAA advisory circular, 90-66A, which states that "straight end approaches are not prohibited and may be operationally advantageous." So, maybe they're "legal", but I still do not think they are very smart.

One other pattern entry that I fly on occasion that is not mentioned in the AIM's, FARs or the FTMs is the cross wind entry. I think that in some cases it is even a safer way to enter the pattern. However, they make no mention of it being legal or acceptable. The same for the right or left base entry, as well as the military overhead approach. A case can probably be made for all these approaches. But, it doesn't say so in the FARs. The confusion may be that at a controlled airport pilots may have asked for and received one of these types of approaches and because of that,rationalized that it is also okay to do so at an uncontrolled airport. But as you can see, this would not be the case.

Lessons learned: Don't put complete trust in a Unicom operator (or even a tower controller) or a tetrahedron. Get a gander at the wind sock, or ask for a "wind advisory." Another point concerning winds: you do not have to accept the "active" runway at either controlled or uncontrolled airports. If the cross wind component is going to tax either you or your airplanes capabilities ask for a different runway or go elsewhere.

One other collision hazard we haven't talked about. While on the ground, anytime there are two or more aircraft moving on the airport at the same time, the possibility of collision with each other exists. There have been a number of taxi accidents, mostly of hi performance multi-engine aircraft, colliding with smaller aircraft, while the pilot was preoccupied with cockpit checklist, and with the aircraft moving towards the departure runway. So it would pay to be particularly vigilant as our tail wheel biplanes, with limited forward visibility are particularly susceptible to these types of accidents.

Along with your editors comments parts of the preceding article were reprinted from several aviation publications in the interest of safety. Fly safe and please pay attention in the traffic patterns.

D.C.B. Editor

		COMMUNICATION/BROADCAST PROCEDURES		
FACILITY AT AIRPORT	*FREQUENCY USE*	*OUTBOUND*	*INBOUND*	*PRACTICE INSTRUMENT APPROACH*
UNICOM (No Tower or FSS)	Communicate with UNICOM station on published CTAF frequency (122.7; 122.8; 122.725; 122.975; or 123.0). If unable to contact UNICOM station, use self-announce procedures on CTAF.	Before taxiing and before taxiing on the runway for departure.	10 miles out. Entering downwind, base, and final. Leaving the runway.	
No Tower, FSS, or UNICOM	Self-announce on MULTICOM frequency 122.9.	Before taxiing and before taxiing on the runway for departure.	10 miles out. Entering downwind, base, and final. Leaving the runway.	Departing final approach fix (name) or on final approach segment inbound.

The AIM recommends the use of multicom frequency 122.9 MHz at airports without either a control tower, flight service station or other designated unicom frequency.

Surreptitious Straight-In

"I had the right of way, but if he was deaf, I figured he might be blind, as well."

I was doing touch-and-goes in my Cherokee 6 on a good VFR afternoon. There were scattered clouds at 4,500 feet and light winds. I was announcing my position on the CTAF (common traffic advisory frequency). I entered downwind and base. As I was about to turn final, I saw a Malibu farther out on final, doing a straight-in. I called him on the CTAF and got no response, so I went around. I was lower and closer in, so I had the right of way, but if he was deaf, I figured he might be blind, as well.

After I landed, I approached the pilot of the Malibu and requested that he observe the traffic pattern and announce. He laughed and said he *was* announcing, but on the frequency for a different airport. He added that "these things happen at uncontrolled fields."

My final point to him was that if you see traffic in the pattern and don't hear them, check your own radio. These things happen because people get sloppy.

Freq Accidents

I'm a low-time pilot and fly a rented Cherokee 140 out of one of suburban Chicago's tower-controlled (Class D) airports. Recently, I went out to the airport to do some full-stop/taxi-back takeoffs and landings. As is common in Chicago, the patterns can get jammed full when the winter weather breaks. This was just such a day.

Halfway through my first takeoff roll, I heard an unusual noise coming from the engine. It didn't sound all that bad; it just didn't sound "normal." As I approached rotation speed, I reached up and turned down the volume on Comm 1 to eliminate the frequency chatter so I could focus on the noise and determine if I needed to put the plane back on the runway, which was growing shorter. I decided to continue flying. By the time I reached pattern altitude and was beginning my downwind, the noise had disappeared and I was comfortable that I didn't have an engine problem.

I was surprised that I hadn't heard from the tower regarding which aircraft I would be following, so I gave 'em a call. No answer. At 45 degrees from the approach end and wanting to begin my base turn, I saw a Cessna on final. I had not seen him approaching. It was a good thing I hadn't started my base, or I could have turned right into him.

Once I determined there was no other aircraft behind the Cessna, I began my base and continued calling the tower. Still no answer, and on midfinal, it finally (no pun intended) dawned on me that I had a radio problem. I glanced over at the tower, which was quite a distance away, and didn't see any light-gun signals. At that point, I remembered that pearl of wisdom all flight instructors drill into students: "Fly the airplane first." I decided to forget the radio and land. I expected that the tower was aware of my position in the pattern and could see I intended to land.

As I made the turn-off and stopped clear, I realized that the radio volume knob was still turned down. I immediately called the tower. They asked me what the problem was, stating that they had tried calling me five times. I had to red-facedly tell them that "it helps if you have the volume turned up, sorry about that."

The learning experienced didn't end there, though. As I continued several more full-stop taxi-backs, I heard another pilot, who had taken off from the airport earlier, dutifully giving pattern positions at an uncontrolled field 20 miles west. But he had forgotten to dial in that airport's CTAF; he was still on our Class D frequency. The tower asked a westbound departing aircraft to ask the pilot to change his frequency. After about 20 minutes, the Class D frequency was back to normal, and the tower commented, "I can't wait to talk to *that* guy when he gets back."

Between that other guy and myself, we must have driven the tower nuts on that very busy day. They deserved our apologies that day. Everybody makes little mistakes, but the safety implications of our screw-ups that day are obvious.

Two's Not Company

As I started through the before-takeoff checklist on the day I chose for a check ride, my examiner asked for the microphone and called unicom to inform them of three people walking down the side of the runway. One of the "pedestrians," using a hand-held radio, came back that they were checking the lights for the airport operator.

I then dialed up the ATIS for the local major airport for the weather and altimeter setting, and completed the checklist. Just before I announced entering Runway 20, I heard the name of our field on the radio. I thought it was just another transmission from the trio of walkers. I announced that I was entering Runway 20, looked and taxied out.

As I shoved in the throttle and headed down the runway, I heard an excite voice say, "There's two planes on the runway!" The throttle went to idle, and the brakes went on in time to see the other plane take off and pass overhead. The other pilot then came on the frequency and apologized. I don't know why we didn't hear his transmission about entering Runway 2 or why he didn't hear us "taking" Runway 20. Maybe since we couldn't see each other at the opposite ends of the runway, our "line-of-sight" transmissions could not reach each other, either. Those three people walking down the side of the runway proved to be a valuable safety factor that day.

The bottom line is that it sure shows what those emergency drills are for. And we all have to be alert at uncontrolled airports!

And, yes, the examiner did pass me on the check ride, though he did comment that he had never had an experience like that before. His suggestion was that one should dial up ATIS early on and avoid leaving the airport CTAF during before-takeoff checklist procedures.

Going Against the Grain

"Halfway through the takeoff roll, I heard the other pilot call short final in the opposite direction."

I was taking my sister flying one afternoon around northern Virginia. Prior to taking off from a local uncontrolled airport, I heard a Cardinal pilot call Unicom for an airport advisory. After two or three unanswered calls, I attempted to tell him which runway was in use. I was sure that my radio was working, but he never acknowledged my response. I made several more attempts to tell him the active runway was 14 before taking the runway for takeoff.

After a few more calls, I checked the area and rolled onto the runway. With no response from the Cessna and no visual contact, I assumed he had decided not to land. Halfway through the takeoff roll, I heard him call short final for Runway 32, the opposite direction! Already committed for the takeoff and still with no visual contact with the Cardinal, I decided that I had enough runway to abort. I cut the power and braked heavily onto a high-speed taxi-. As I cleared the runway, I saw the dinal pop up from behind some trees and land on Runway 32.

I don't understand what he could have been thinking. I have always been taught to fly over the airport above pattern altitude to check the runway in use and general airport conditions. The bright orange windsock was pointing right down Runway 14, and my airplane is painted one of those blinding-white colors. A friend who was at the FBO at the time said they all heard my radio calls.

Understanding that aircraft that are landing have the right-of-way over those taking off, where do we draw the line? I am just lucky I had enough runway and a brave sister. Needless to say, she has lost her interest and confidence in general aviation.

Overflight at Pattern Altitude

"Suddenly, the instructor grabbed the yoke and threw the plane into a violent diving left turn."

Last April, I was sitting in the left seat of a Cessna 172, with an instructor in the right seat, completing Phase V of the FAA "Wings" program.

We had flown from Buchanan Field, Concord, Calif., to Rio Vista, Calif. to do some touch-and-goes. I had called Rio Vista Traffic when I was 10 miles southwest and had followed recommended communications procedures at uncontrolled airports, calling as I made a 45-degree entry to the downwind for Runway 25 and again to announce my downwind.

Suddenly, the instructor exclaimed loudly, grabbed the yoke and threw the plane into a violent diving left turn. I looked over to my right to see what was happening and was just in time to see a helicopter flying directly toward us from our four o'clock position, at pattern altitude.

The pilot apparently was not on the CTAF frequency as he overflew the Rio Vista airport at pattern altitude.

Had I been alone, focusing on flying my downwind, I would not be alive to write this report.

The moral: Expect the unexpected at non-towered airports, and expect the worst.

inside the Cardinal and lands ahead of it, with the Cardinal less than 300 feet behind.

Later, a Cessna 172 completes his run-up, takes the runway and starts his takeoff run. There are a couple of large dogs on the runway. The 172 has to abort and brake hard to avoid them. If he had looked, there is no way he could not have seen the dogs. But it looked, to me, like he just wasn't paying attention. Three incidents in three hours, same airport.

May 11 ◆ Englewood, Colo.: A Sukhoi Su-29 cleared to make a left base and land on Runway 17L at Centennial Airport landed on that runway on top of a homebuilt **RV-4** that was cleared to make a right downwind and land on Runway 17R. The collision occurred at 1134 in VMC. The Sukhoi pilot was not hurt, but the RV-4 pilot was killed.

July 2 ◆ Stillwater, Okla.: A **Cessna 152** and a **Cessna 421B** collided at the intersection of Runways 17 and 22 at Stillwater Municipal at 1045. Damage to both airplanes was substantial, but no one was hurt. The 152, with a solo student aboard, was doing touch-and-goes on Runway 22. The 421, with two occupants, was making a full-stop landing on Runway 17 after a maintenance test flight. The report noted that the uncontrolled airport has a unicom.

ANALYSIS OF A NEAR MISS

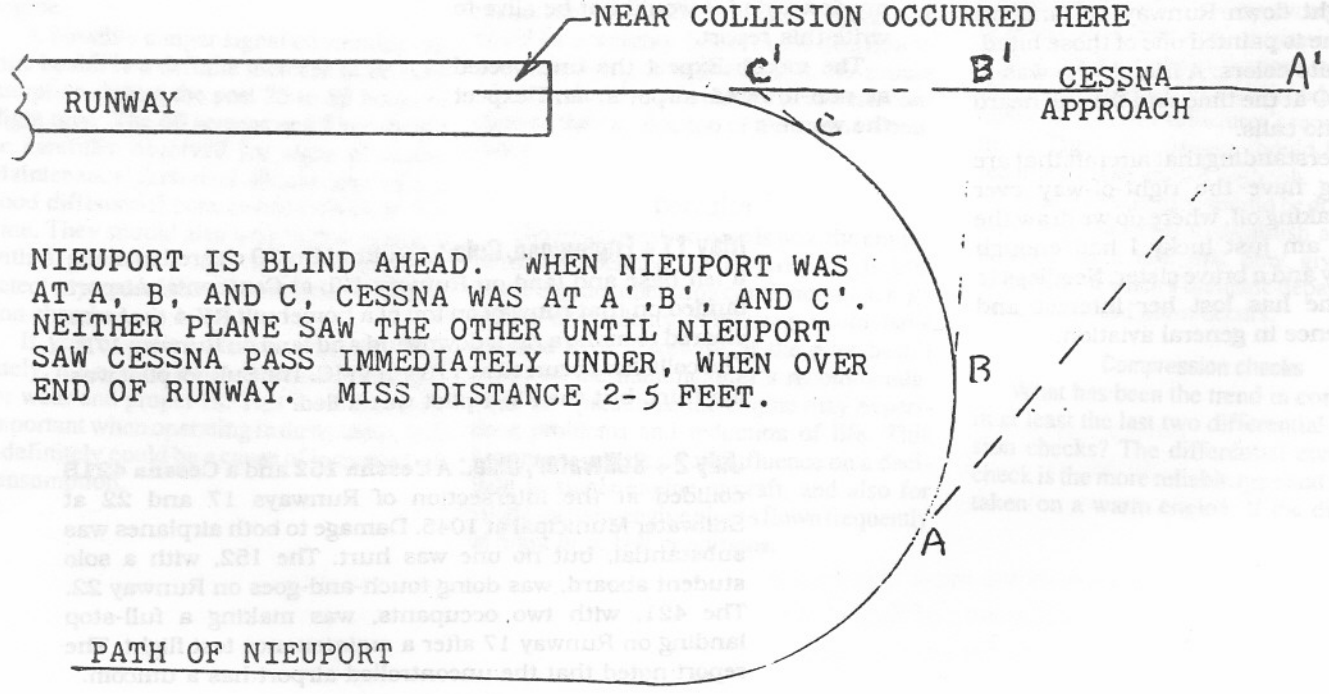
by jim osborne

Most of us have had the chilling experience of suddenly finding our selves much nearer a plane in flight than we would like to be. This experience is usually completely unexpected, and rather nerve shaking.

These incidents usually happen in a crowded traffic area, mostly around an airport. In such areas it behooves us to fly in such a manner that a near miss (or mid air collision) cannot happen.

A few weeks ago, a rather dumb pilot who shall be nameless,(but who flies a Nieuport 28), entered the downwind leg of the Flabob traffic pattern behind a Cessna 170. The 170 made the standard 90 degree turn to base and then another 90 degree turn to final. The D.P. in the Nieuport liked to make 180 degree fighter type approaches, so he tilted the wings up in a 30 degree bank and held it until he had completed 180 degrees of turn and was flared out over the end of the runway. Because the D.P.'s hangar was at the far end of the field he was landing long, and was therefore high. About 30 feet high over the end of the runway D.P. was looking over the side of the Nieuport at the edge of the runway, when a white cessna flew under him, clearing his wheels by 3-6 feet. D.P., full of shock and outrage, opened the throttle and flew down the runway beside the Cessna, which was painted a chalky white. As the cessna turned off the runway, the Nieuport pulled up, made a carefull circuit and landed.

In talking to the cessna pilot, D.P. learned that the cessna driver had never seen the Nieuport, either during landing, rollout (when the Nieuport was off the wingtip, or during taxiing. The cessna pilot was an old man, retired military, with over 30,000 hours. He had been making a long straight in approach behind the cessna that D.P. had been following in a tight landing pattern. The 180 degree turn of the Nieuport had apparently exactly tracked the motion of the cessna so that it was constantly dead ahead and in the Nieuports blind spot. See sketch below.



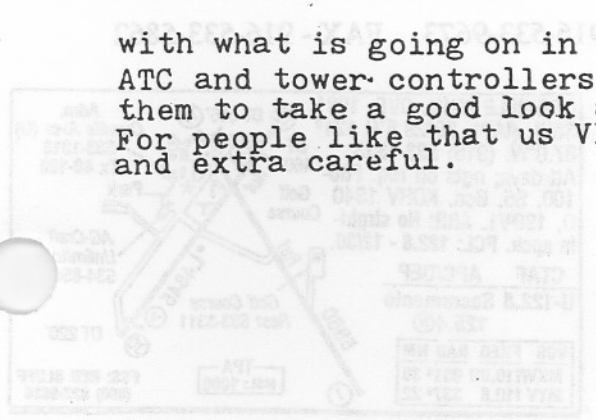
Last summer a jovial and friendly biplane pilot called Ed Carrol was killed in a mid air collision with a Cessna at Rialto, California. Ed jokingly claimed to be the "WORLD'S GREATEST FIGHTER PILOT", and his favorite landing pattern was the overhead 360 degree approach. He claimed it was the safest approach, since you could see where you were going all the way down. He was flying a skybolt in a 180 degree variation of his favorite landing pattern, and he almost exactly duplicated the setup with the Nieuport and Cessna. Except that Ed was involved in a collission instead of a near miss, and two people died.

In a near miss or collision there is usually enough blame to go around. I do not mean to imply that it is all one sided. The cessna pilot involved with the Nieuport was an old man who was following his landing path and was looking nowhere but straight ahead. He had on a cap with a bill that shaded his eyes and he didn't bother to tilt his head and look up. He didn't look out the side at any time, either. But it takes too to tango, so we should fly so that we can pick up any errant pilot, regardless of whether or not the other pilot sees us. Its called defensive driving, and applies to driving airplanes as well as driving cars.

I think the moral of the above two stories is that steady turns or steady straight and level flight both are dangerous when flying an airplane that is blind ahead. In order to be safe we need to S turn in flight and landing pattern turns should be restricted to no more than 90 degrees. If the D.P. in the Nieuport had made two 90's in place of the one 180, the Cessna would have run out from behind the nose blind spot.

In another incident, which happened to a friend of mine, pilot one fell in the landing pattern behind pilot two. Pilot two announced his presence and position and called his turns to Flabob Traffic over Flabob Unicom. Pilot one did likewise. Pilot one followed pilot two at a safe interval and was all set to land when a third airplane flew out from under his wheels, perhaps twenty feet lower. Pilot one had never seen the third airplane and has no idea where it came from. He assumed that he was next to land behind pilot two, and received extra comfort from the fact that they were both using radio to call out their positions. But the third pilot was not using radio, was not hearing them, and was on his own final approach and was pretty careless about looking around. Pilot one not only had a near miss but greatly upset his wife, who was riding right seat. I don't know yet whether or not he has convinced her that flying really is safe.

Some of the biggest offenders in this matter of dangerous flying are high time pilots with instrument ratings. They are too concerned with what is going on in the cockpit. They are used to relying on ATC and tower controllers, and somehow it doesn't seem to occur to them to take a good look around when they are landing or taking off. For people like that us VFR biplane types have to be extra vigilant and extra careful.



THE NUGGET

"City of Gold" EAA CHAPTER 1112

Presidents Corner

by Howard Fairbanks

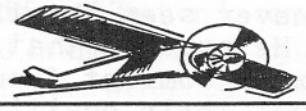
As we reflect on 1996 we must appreciate the fact that due to the efforts of our chief engineering officer, Dan, we are a chapter with a fine building site. I trust that one of our main goals in 1997 will be to follow his lead and with some good fortune and much personal initiative be able to get a permanent meeting place started! Due to the generosity of Dix and Elizabeth we have had and will continue to have a warm and comfortable place to meet as we move into the new year.

As a chapter, one of our first responsibilities will be to host the Stardusters open house May 2 - 4, 1997. I am certain that, as we did last year, we will give these folks the kind of event that will leave them with positive memories for a long time to come. We will start preparation meetings very soon! We have a record of last years event so the wheel will not have to be reinvented.

Gary Willoughby, our Young Eagles Coordinator, will hold his event the second Saturday of each month. All who can support these fine efforts are welcome and needed.

We are looking forward to the new year and the many activities available to our EAA members. We will look forward to programs sponsored by talented members of our chapter and others to generate and maintain excitement during our meetings. Keep thinking about our fine location for a Western Regional site. If each of us brings a new member into the chapter this year, think what a pool of fine additional talent we would have. The opportunity and responsibility is ours - let's make 1997 a memorable year for our Chapter.

Howard



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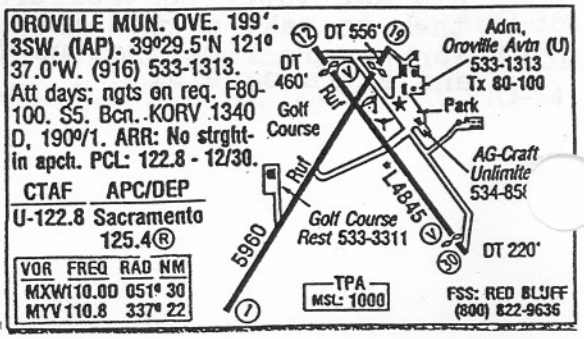
Travelodge 800-578-7878 or 916-533-7070 FAX 916-532-0402
Villa Motel (AAA) 916-532-0402
Grand Manor Inn Best Western 800-528-1234 or 916-533-9673 FAX - 916-533-5862

Lets have a safe and enjoyable event so please no low passes or unusual attitudes in the vicinity of the airport or over the City of Oroville.



17th ANNUAL
STARDUSTER OPEN HOUSE

When : May 2nd, 3th and 4th of 1997

Where : Oroville Municipal Airport (OVE)

in Northern California approximently 60 NM north of Sacramento, California and 20 NM NE of Sutter Butte.

Tenitive Scheduel of events:

Friday May 2nd - Early arrivivals parking and registration. Members of EAA Chapter 1112 will be on hand to assist and greet.

Friday May 2nd - Evening 5:00 to 9:00pm. Local EAA Chapter 1112 host hopefully a dinner cruise an a house boat around Lake Oroville Friday Evening.

Saturday May 3rd - Early Morning. Dawn patrol from Oroville to Willows Glenn Co. Airport (WLW) for a special Starduster breakfast. Briefing at 5:45am, take off at 6:00am, breakfast at 6:30am.

Saturday May 3rd - Mid Morning to Mid Afternoon. More arrivals local flying, rides, also an informal get together of aviation knowledge and folklore also food drink and brunch? For those unable to make the dawn patrol. Tentative plans are for an organized flight over the city and up to Lake Oroville and back to the airport. This hopefully will include a photo mission.

Saturday May 3rd - Afternoon. For those not interested in all the aviation events, a tour of some of the more interesting points around Lake Oroville will be available departing from the airport in the afternoon. We will need to have an idea of how many people would attend.

Saturday May 3rd - Evening 6:00pm. Banquet and awards. Place to be announced. Food: chicken or steak, salad, garlic bread, desert and drinks approximate cost $14.00 per person. Early reservation for those planning on attending are a must. After dinner there will be awards and entertainment hopefully a colorful speaker regarding aviation knowledge and folklore. This should be a very enjoyable experience.

Sunday May 4th - Mid Morning. More rides for the locals. Say our good-byes and launch for home. Perhaps some orgianized departures.

Please Note EAA Chapter 1112 and a number of sponsors from the City of Gold Oroville, California will be co-hosting this event. And not only do they want us to come they will be doing everything in their power to make our visit an enjoyable one. So please thank all the locals and let them know you appreciate their effort.

For additional information please contact:

Howard Fairbanks 916-533-8303 or FAX 916-533-6244 Events Chairman EAA Chapter 1112 City of Gold
Bill Clouse 1-800-833-9102 President Starduster Corporation
Dave Baxter 503-639-8792 Editor Starduster Magazine

ABOVE PICTURE N51826 Acroduster Too owned by Jim Van Dyke of pleasanton. CA but flown to Wautoma / Oshkosh by president Bill Clouse.

BELOW PICTURE N85RC another beautiful example of The Starduster Too flown to Oshkosh / Wautoma by its owner Randy Mckinney of Indianapolis, IN. Pictures taken at Wautoma, WI August 1996.

CLASSIFIEDS

ADVERTISING CLOSING DATES : DECEMBER 1, MARCH 1, JUNE 1 AND SEPTEMPER 1.
CLASSIFIED ADVERTISING RATES $3.00 PER COLUMN INCH, MINIMUM CHARGE $3.00.
MAKE CHECKS PAYABLE TO STOLP STARDUSTER CORPORATION. THANK YOU.

STARDUSTER TOO PROJECT - Fuselage assembly completely welded, landing gear complete, rear rudder assembly welded, cabane struts finished, gauge and instrument panel, main fuel tank installed, upper center section finished, all wing ribs completely assembled and stress checked, control assemblies fabricated and installed, other parts included: misc instruments, brake system, fuel system fitting, filter, bolts, nuts and hinge pins, leading edge formed aluminum, misc. cables and spruce. Complete blueprints. Assembled by a 30 year Lockheed Aircraft Engineer. $8500 or offer (need to sell) Doug Adams (503) 362-9015.

STARDUSTER ONE, single place biplane project, needs lower left wing and TLC. If you are thinking of building an airplane you should consider this project. Call Gary Melton, eves. (310) 694-3098 or email gmelton@ccgate.hac.com.

STARDUSTER TOO: If you're serious about a Starduster, you must see 80T: 180hp, 772TT, a crowd pleaser, $26,500. (360) 928-2150.

STARDUSTER TOO, fuselage, rudder and landing gear. Framework only. $750. (770) 867-4744 evenings.

ACRODUSTER TOO, 75%+ COMPLETED, fuel tanks, flying wires, engine mount and much more. $9500 OBO. (520) 634-8802.

STARDUSTER TOO, NEW FRANKLIN 220 hp engine, new Hartzell constant speed prop. Fuselage ready for covering. Exceptional workmanship, instruments, hundreds of parts and materials. $18,000. (201) 262-5419.

1980 ACRODUSTER TOO, 830 TTSN and SMOH, IO540, full inverted, great condition. $34,000/ OBO. Bob, (303) 828-3529.

ACRODUSTER TOO, FUSELAGE, rudder, turtle deck, project welded and primed, asking $950.00. (904) 761-2145, any aircraft related trades considered.

STARDUSTER TOO - 85% comp. Lyc. 160 hp. Red Stits, also Enduro go carts 3 engines, building a house. Call Danny (805) 823-9310.

SUPER STARDUSTER ONE, factory built, highly modified, excellent acro, 325 hrs TT, 200hp+, see this one before you buy a pitts. $23,500 offer/trade. (602) 870-1627 evenings. OR AIRFRAME ONLY

STARDUSTER ONE, COMPLETED 1992, Lycoming 0290G, 135hp, Stits fabric, $11,000. (573) 756-4502.

1972 STARDUSTER TOO, O-470-B Cont., 450 hrs. TT, sell $22,000 or trade. 1 (864) 877-2804.

WANTED: STARDUSTER TOO OR Skybolt w/full canopy. Call evenings or weekends, Joe, (702) 322-0338.

WANTED: STARDUSTER TOO, with 180hp or bigger, Constant speed, inverted oil and gas with smoke, must pass prebuy inspection, will trade 1966 Citabria GCAA, new paint, new custom interior, O320 800 SFREM, polished prop and spinner, chutes available. Chuck, (218) 789-7250, eves.

STARDUSTER TOO, PROFESSIONALLY built,)360 w/inverted fuel and oil, 328 TTAF and engine smoke, 2 fuel tanks, power sliding rear canopy, full instr. And lights and heat. Good preformance, fresh annual. Outstanding airplane. Price $34,000. Phone (619) 772-3668, FAX (619) 772-3671.

STARDUSTER TOO, 200HP Lycoming injected, w/CS prop, 400 TTAF, new radios/ Mode-C, gyros, canopy, heat, red, $35,000. (317) 293-2383.

1979 STARDUSTER TOO SA300, 880 TT, 380 SMOH on Lyc. IO-540, 275HP, King KY196 Com, KT76A, Northstar M1A, full gyro panel, Christen inverted system, tuned exhaust, aerobatic prop, beautiful no damage Starduster! Call Don Patch, Northeast A/C Sales, (207) 774-6318; eves. (207) 883-4976; FAX (207) 775-5018.

ACRODUSTER, 990TT, O-360 A4A, Christen inverted fuel/ oil, gel cel, smoke, Mode-C, parachute, set up for competition aerobatics, $21,500. (801) 775-0707.

AS ALWAYS YOUR ORDERS WILL RECEIVE OUR PROMPT ATTENTION. QUALITY PRODUCTS AND WORKMANSHIP AT A COMPETITIVE PRICE.


N94JG