The Starduster Magazine

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Published for the biplane builder, the biplane owner, and the aviation enthusiast

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The Starduster Magazine

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Front Cover
This beautiful Starduster Too was built by the Starduster Corp. for Galin Michaels

Inside Back Cover
Glen and Loretta Olsen in their SA750 Over Southern Idaho Homeward Bound From the Oroville Openhouse

The Starduster Magazine

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President's Message

Les Homan, President, Starduster Corp.

The weather seems to be playing a large part in flying related adventures this year. We were at Sun-N-Fun and the weather prevented several arrivals. Weather for the Starduster open house was not good but we had a total of 35 aircraft on the field, not all Stardusters. At Bartlesville the weather was perfect, but elsewhere the weather was not good—prevented several arrivals. I am told the weather for Oshkosh/Wautoma will be perfect. Don't ask me where I received this information because you would not believe it. The source is seldom mistaken except for superbowls.

The amount of enthusiasm for Starduster aircraft across the country is spectacular. I am amazed at how many people we ran into and called us after the Kitplane article came out that did not know Starduster is still in business. I would like to ask everyone interested in Starduster Corp. & Starduster aircraft, whether building, owning or flying, to tell 10 people that we are still here. Starduster is 36 years old this year and we are still going strong.

We have the Starduster Too on AutoCAD now and will have sets available in Oshkosh/Wautoma. For those of you with existing plans they will be half price, and for those who bought sets since May of last year they are available at no charge, except for shipping if required. We will have a booth/exhibit at Oshkosh and will have the 6th annual fly-in at Wautoma starting Friday, July 31st thru Sunday, August 2nd. The Banquet will be held Sunday evening, August 2nd at Wautoma. We are preparing a schedule of events for Wautoma to fax or send out to those interested. I understand we will have some V-Stars and Starlets at Wautoma this year. I am looking forward to this very much. I am hoping to get a single place Starduster and we can get a picture of all the Starduster aircraft. This could be a historic moment in that it would be the first time all 6 models would be together.

We will have catalogs at Oshkosh and Wautoma, our second edition. This edition will be updated again and improved. I will be speaking at a Forum at Oshkosh during the week, but have not received the actual time yet.

The weather has finally broken in this part of the world and flying is good. I hope it is good where you live. There is nothing like flying an open cockpit biplane. My plane is down for recovering and I have been flying Galen Michael's Starduster Too. There is nothing like taking some one up for their first biplane ride or even better their first airplane ride. This is about as close as most of us get to barnstorming.

Speaking of barnstorming, we have been toying with an idea to barnstorm the USA in 1999. The idea goes something like this. We start in California in May after the open house. We then venture across the USA to Bartlesville in early June. We leave from there and travel to Alaska and back to end up in Oshkosh. The idea is to stop by as many Starduster builders and flyers as possible and to have Starduster aircraft, or other biplanes, (no single wing aircraft allowed), join on as many legs of the trip as possible. The intent is to make a great adventure to promote biplane aviation. By joining in on a leg close to where you live you could become part of this great adventure. Please let me know if there is any interest. Keep the wheels off the ground, grass out of the cockpit and dirt off the windshield.

I want to thank Clay Gorton and Glenn Olsen for the Starduster Magazine.

Les Homan

Editorial

Glen Olsen, Editor

I was looking through my wallet the other day and found a card that said "Starduster History" on it. This got my mind going back a few years to about 1988. It was at this time that a friend of mine who owns a Starduster, Dave Silfvast, invited me to go with him to Flabob, CA, to the Starduster open house. I jumped at the opportunity to go.

I was sitting alone at the time, when Dave Baxter walked up and sat next to me. We introduced ourselves and then Dave gave me this card with the Starduster history on it. I have carried it in my wallet to this day. The card is ten years old and I can hardly read it, but it means a lot to me and brings to mind the beginning for me with the Starduster people and how I met such a good friend, Dave Baxter.

At that time Dave and I were both working on our airplanes. He was building his Starduster and I was building my Acroduster. So right from the start we had something in common. I just feel that I have to write about Dave and some of his accomplishments with the Starduster Corporation. And I'm sure all of you feel the same way I do.

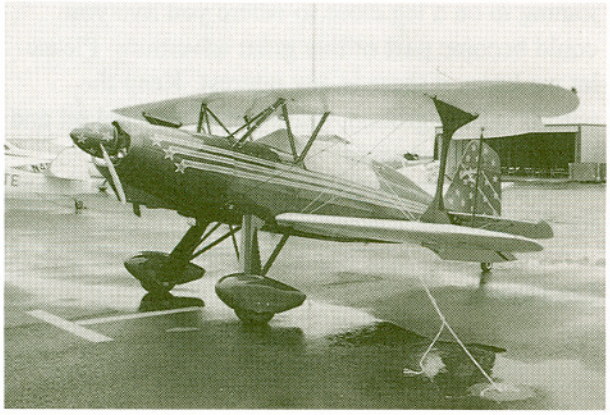
Dave has a few quotes that I'm sure you have all heard, but they have stuck with me and I feel they are so true. "Airplanes bring people together," and "Owning a Starduster will bring the best people together." He has also said, "It just doesn't get any better."

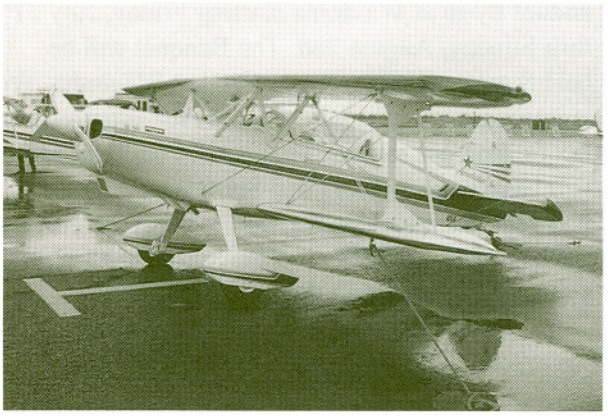
Dave knows more Starduster people, more N numbers, more addresses, etc. than anyone in the world. He has flown his airplane to so many different places all over the United States that he has met and bonded with so many people. Some of these have become life long friends.

I have a lot of Starduster magazines with the articles of Dave's flights and the people he has met. Most of the articles tell how he has helped so many people out by helping them to find planes, get parts or to just give a ride to a very appreciative person. He has touched the hearts of many people.

The articles I enjoy the most are about the flights to and from Oshkosh, Arlington, Sedona and other such places. I will never forget the time when Dave and Donna and Les and Mary flew into Salt Lake City and stayed overnight in preparation for our flight to Oshkosh. Like Dave says, "It just doesn't get any better." Dave writes great articles and has been and always will be a major contributor to the Starduster Magazine.

Dave is such a good example at involving his family with all the Starduster activities. He is the glue on the envelope. Thanks Dave.





18th Annual Starduster Open House

Ray Bell, Event Chairman

Mother nature sort of dampened the event this year, but due to early arrivals on Thursday pm and Friday am, we did have a pretty decent showing of those beautiful biplanes. Thanks to all who braved the elements.

Activities started early Friday afternoon with a large group of folks filling two houseboats hosted by Howard and Karolyn Fairbanks, and Richand Lynn Sutherland. A two-hour tour of Oroville Lake with drinks and hors d'oeuvres was enjoyed by all. Meanwhile, back at the airport, the rest of the troops were trying to prepare for the evening dinner, but mother nature disrupted things a bit in the form of a sudden small tornado that blew our tents over. A quick recovery was made and all functions were moved into the large hangar we had reserved for the dinners (furnished by Tom Newlander and Richard Wood).

Happy hour commenced at 5:30 friday evening followed by a tasty Cowboy BBQ dinner put on by Leonard Sanders and crew who had a difficult time keeping the fires burning in the rain. Leonard topped off the evening with the recital of his cowboy poetry.

Saturday morning was greeted with another famous EAA Chapter 1112 pancake breakfast. With more arrivals on Saturday, we had a good representation of Stardusters, Acrodusters, other biplanes, homebuilts, and other airplanes. Judging was started in the early afternoon.

Saturday evening moved us into another happy hour as the folks gathered for the Starduster Open House banquet. Eighty-six people attended and were treated to a delicious tri-tip dinner catered by Billy Bob's Catering. Banquet festivities started with a historical military overview by guest speaker Herb Ross (who flew in with his beautiful red and white Pitts Special on Saturday). Next, Les Homan, President of Stolp Starduster Corporation, gave a "State of the Starduster" address and followed that up with the aircraft awards presentation.

Sunday morning started off with another pancake breakfast to fuel up the pilots who got a break in the weather which prompted them to pack up, fuel up, and head for home.

All things considered, we managed to have a rather successful 18th Annual Starduster Open House. Thanks to all the pilots and crew who attended and our regrets to those pilots who were unable to attend due to the weather. Thanks also to all who pitched in to make this event happen and make it the success it was. We look forward to next year for the 19th Annual Starduster Open House with the rest of those Stardusters, Acrodusters, and other biplane types in attendance.

Shake-down Cruise To The Oroville Open House

Clay Gorton and Glen Olsen

The test flight of Starduster Too N1923S after its re-build following an upset on the runway (see Starduster Magazine, July 1997) occurred on 23 March, 1998. The airplane had been acquired in February, 1997 by Glen Olsen, Clay Gorton, Don Mortensen and Mike Guarino. On Clay's first solo flight on 27 May, 1997, the airplane impacted water left on the runway by a recent rain and nosed over. The upper left wing tip was crumpled, the rudder bent, the longerons at the attach points of the cabane struts bent, as well as the constant-speed prop.

With Glen's expertise and under his leadership, longerons and rudder were repaired and the top wings and fuselage were re-covered. A new (to us) wing was acquired from the Stolp Starduster Corp. Glen re-did the center section of the upper wing, adding at 15-gal. fuel tank. The original 190-hp O-436 Lycoming engine was replaced by a re-built HIO-360 with the same horsepower, but 95 pounds lighter. This new engine features positive-pressure oil ports directed at the cam shaft bearings, a feature not yet available from the Lycoming factory. The damaged constant speed

Hartzell prop was replaced by a fixed-pitch Sensinich prop, saving another 65 pounds. The lighter engine required a new motor mount that extended the cowling by 1 1/2 inches to maintain weight and balance, so a new cowling had to be fabricated. This modification made it possible to remove the large external air scoop and replace it with an internal Naca scoop, and to remove a bowl on the under side of the cowling that accommodated the battery under the larger O-435 engine, improving the streamlining on the under carriage. The airplane was re-painted with its former black-on-yellow paint scheme—patterned after the Navy Stearman WWII trainer.

By the time to leave for Oroville the airplane had been flown 15 hours, and the break-in oil was exchanged for Aeroshell 15-50. The wing tank was filled for the first time, and the plane made ready for the trip.

Glen and co-pilot Loretta Olsen left for Oroville a day early in their Acroduster Too in case Loretta would need a lay-over in Battle Mountain, NV to recover from the chronic air sickness with which she has been plagued. However, she landed at BAM with no ill effects, so they continued their flight into Oroville. Loretta did not get sick until just before they landed—some sort of an endurance record for her. They made the 250-mile leg to BAM in two hours —the same for the 250-mile leg from BAM to OVE.

Don Brock, an experienced tail dragger pilot, agreed to come along on the trip to keep Clay out of trouble in case any more water was encountered on the runways. Clay and Don took off on Friday at 6:30 AM. Don had wrapped a towel around his neck as a substitute for the traditional white scarf, but shortly after leaving the pattern it blew off and lodged on a bolt extending from the underside of the stabilizer. This disturbed the air flow under the elevator, making it difficult to maintain altitude, so Clay did a 180 to head for the recently departed runway. However, before completing the turn, the towel tore itself away and the aircraft normalized itself, so the turn was extended to a 360 and the trip was continued. Next, it was time to switch to the wing tank, which we did about 10 minutes out. When the wing tank was switched on the engine quit. Clay began looking for a straight segment of road and began fussing with the throttle, while Don pulled the mixture to full rich. The engine caught, and the flight was continued. Interestingly, this was the only time the engine faltered when switching tanks.

The flight to BAM took the Starduster 2 1/2 hours. After refueling we continued, crossing the Sierras at 10,000 feet and following the Feather River to Oroville.

The flight home was a different story. Sunday morning dawned with a ceiling over the Sierras at 7,500 feet. Nevertheless, we took off to see if we might find a break in the clouds, but to no avail, so we returned to Oroville. Flight service reported that the low ceiling would remain for three or four days, so we decided to try a circumnavigation to the north. Glen and Loretta led the way in their Acroduster and we followed as close as prudence allowed. Prudence allowed us to follow quite closely in order to keep the Acro in sight as Glen led us through rain showers not too high above the beautiful wooded hills of Northern California and Southern Oregon. The weather continued to look threatening toward the east, so we headed for Klammath Falls, OR to re-fuel. (Interestingly, though we flew through moderate rain, neither Don nor I got wet. Seems like the air flow in this particular Starduster—unlike some others I know—carries the rain past the cockpits rather than into them.)

This far north it appeared that we could head east. As we did so, the skies continued to improve and we made it to Mountain Home, ID by 7:30 PM. After a night of almost continual rain, it stopped long enough Monday morning for us to get off the ground, and we made it to Salt Lake City in 2 1/2 hours.

Before the fortuitous upset on the runway last year, the maximum speed we could achieve in the Starduster was 100 MPH. After relieving the airplane of some 200 pounds during the re-build and improving the streamlining by removing the external air scoop and battery bowl, and with the aid of the re-pitched Sensenich prop, the aircraft speed has been dramatically increased. We now do 115-120 MPH at 2500 RPM and 125-130 MPH at 2600 RPM. We may now have one of the faster Stardusters pulled by a 190-HP engine. Glen's Acro and our Starduster keep apace with him at 2400 RPM and us at 2600 RPM.

(See photo inside back cover)

The 1998 National Biplane Fly-in, Bartlesville, OK

Les Homan

I did not get to fly this year but got to travel by land. George Frazier, my wife Mary and I arrived in Bartlesville on Thursday afternoon, June 4th. People from the National Biplane Association welcomed us and treated us well. It is the most enjoyable fly-in we have attended.

On Thursday evening we attended a dinner and program with Travis Hoover as guest speaker. Travis was the pilot of the second aircraft off in the Jimmy Doolittle raid on Tokyo—a very interesting speaker.

The weather was great in Bartlesville for the second year in a row. Weather elsewhere was not so good and people as close as Kansas City drove because of weather. Friday evening I spoke as part of the "State of the Biplane Nation" forum. There were many people interested in Starduster and we kept busy. Oscar Bayer helped in our booth and we want to thank him. Larry Rydburg arrived on Friday and promptly set about providing Stardust-er aerial adventures. Many happy customers, big smiles and grand memories resulted from these flights.

The NBA banquet was held on Saturday evening and was spectacular. The highlight of the event was the wonderful group that provided musical entertainment and wandered through the gathering providing personal serenades. It brought tears to many an eye as they played music from the 30's, 40's and 50's. A standing ovation was in order and well deserved. Charles Harris and the National Biplane Association have put together another outstanding air show. We want to thank them for letting us be part of it.

Les Homan

What the Starduster Corporation Has For You!!

- ✔ Plans for the Starduster One, Starduster Too, Acroduster Too, Starlet, V-Star and Super Starduster.
- ✔ Raw material including, plywood, spruce, glues, covering supplies (Poly Fiber and Ceconite), 4130 steel tube—rectangular and square, aluminum tube, angles, shapes and sheets, aircraft bolts and nuts, AN hose fittings and hoses, rod ends, cable and fittings, electrical wire and terminals, wheels brakes and tires, tail springs, batteries, bungie cords, throttle quadrants and all hardware items to make your Starduster come together.
- ✔ Material kits to fabricate all components for each aircraft.
- ✔ Tack welded and completely welded kits.
- ✔ Wood related kits with all parts shaped and wings ready to cover.
- ✔ For the Starduster Too we offer a fast-build kit. All welding done, all materials included, and shaped, wood parts and pieces ready to glue together. You need to assemble and cover.
- ✔ Windshields, straight, wrap and bubble. Canopies in both single and double place. Canopies with the Starduster turtle shape. Special canopies and shapes—clear, tinted, green and other shades available.
- ✔ Our newest product:
  —A bolt-on canopy kit for the Starduster Too with standard turtleback. This canopy is ready to bolt on when you receive it. The canopy pulls back, is raised and locked in position. It is locked down in four points. Can be jettisoned inside or outside. Easily removable for open cockpit flight.
- ✔ Other new products:
  —Baggage pod for mounting under the Starduster Too.
  —Contoured seat for comfort to set into existing seat.
- ✔ Projects we are working on:
  —Chevy V-8 powered Starduster Too.
  —Fairing kit for the Starduster Too.

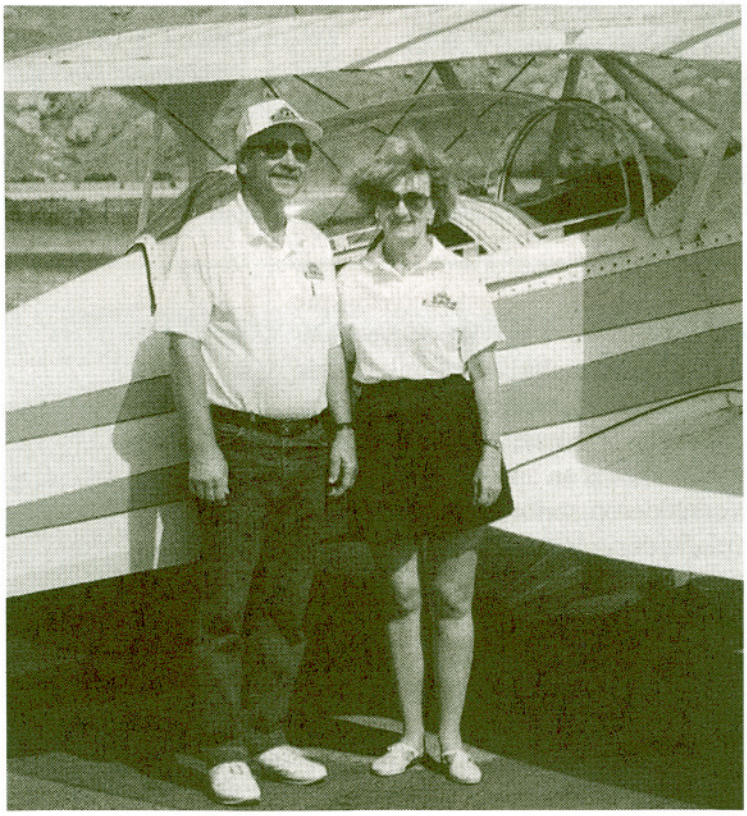
Hometown Hit

Kenny Ware's Starduster is a Show-Stopper

Kitplanes, July 1998

By Jennifer S. Gwashof

The first time I saw Kenny Ware's Starduster it was mounted on top of a flatbed truck. His was the first airplane I had ever seen in a town parade. Because it is such a fine piece of work, he was asked to represent Flabob Airport in a local parade in Riverside, California. Kenny marched alongside one wingtip and Jane, his wife and co-builder of the airplane, strode beside the other. When the Wares initially purchased the kit they couldn't imagine that it would actually be finished one day, let alone be in the town parade!



With 25 plans sold just this year, the Starduster Too is an airplane that continues to have strong appeal. Since Stolp Starduster Corporation's debut 37 years ago, a total of 2500 plans have been purchased, including all five of the designs the company offers: the V-Star, Starlet, Starduster Too, Acroduster and the Super Starduster. The company has recently come under new ownership, and plans are underway to revitalize the Starduster campaign.

Some History

Lou Stolp designed the plans for the Starduster Too in 1960, and completed construction of the first aircraft a year later in his garage in Compton, California. The name Starduster conjures up images of a machine that flies to great heights to brush wingtips with the stars, but Stolp actually named his creation after a comic strip character who sold vacuum cleaners called Stardusters!

Today, more than 900 of the company's airplanes are completed and flying. Of all the company's models flying, about 700 of them are Starduster Toos. An equal number of kits are in the works as are flying. Some kits have been built in as little as 9 months, and others are still in the building process after 20 years.

Les Homan of Oroville, California, recently purchased the company from Bill Clouse. Clouse had no previous home-building experience when he bought the company 17 years ago, but he had been around aircraft his whole life, including time as an Air Force B-52 master sergeant who flew 166 missions over southeast Asia. After nearly two decades as the owner, Clouse accumulated a wealth of Starduster technical expertise and will be staying on as a consultant. Homan moved the operation to Oroville Municipal Airport. An open house was held on May 1st. I asked Homan why he decided to purchase the company: "It's been a dream of mine to be involved in aviation ever since I was a young kid. I've been flying a Starduster Too since 1981, and I think the Starduster is one of the best, prettiest

biplanes ever built. I figured that by purchasing the company I would have a great opportunity to support, expand and revitalize interest in Stardusters. My goal is to generate more enthusiasm for the Starduster and sport aviation in general." Homan has a number of ideas to achieve his goals. First, he is in the process of modernizing inventory control with new computers. Also, the company is coming out with some new products this year including updating the AutoCAD drawings and putting together new builder manuals. A brand new web page is also being developed. To draw new customers, Homan is tracking down every Starduster pilot and builder he can find using direct mail survey forms sent to all existing EAA chapters. With these responses, he will organize a database of owner/builder contacts.

Finally, Homan is looking for a certified flight instructor to coordinate a training program at the new company headquarters in Oroville. This CFI would be able to offer checkouts to builders in all flight regimens including pattern work, air work and even aerobatics. Homan is also developing vacation packages for families to come visit the Oroville area. The package will include accommodations at either a bed and breakfast or on a houseboat. Families will be able to visit the company's headquarters, enjoy flights in a Starduster and enjoy the local area. Homan is very excited about not only making the company more accessible to prospective buyers but also linking the local community and citizens with aviation and the Starduster company.

The Starduster Magazine is another resource for builders. It is published four times a year and costs $12 (now, $18) for a year-long subscription. The magazine, edited by David Baxter, is full of information for Starduster builders and fans. It includes letters and pictures from other builders, classified ads, news about fly-ins and other information selected by Baxter, who is also the operations manager for the company.

Singled Out

Kenny Ware and his wife, Jane, say they decided on the Starduster Too design after seeing it in a magazine and agreeing that, "It was the prettiest of all the biplane designs we had ever seen." It took them approximately three years and 3500 hours of construction time to complete the project. They worked on the airplane almost all day every day, five days a week at the corporation's headquarters at Flabob Airport. Though building time obviously varies depending on how frequently a builder works on the project, Homan advises prospective builders to expect to spend about 2000 hours working on the project. No matter how much time a builder spends on construction, however, there is much satisfaction, and the Wares say their fondest memories of building their plane include "all the new friends we met while spending so much time at the airport." A highlight of the Ware's Starduster experience was flying their airplane to Oshkosh. However, instead of landing at Oshkosh, the Wares went to Wautoma, Wisconsin, 40 miles west of Oshkosh, to meet with 20 other Starduster owners. This is one of the Starduster owners' annual meeting spots. There are other gatherings coordinated throughout the country during the year where Starduster builders can get together and compare the successes and challenges of the projects. In 1996, the Ware's Starduster was awarded the Grand Champion Trophy at the Wautoma gathering.

Getting Built

The Starduster is constructed of traditional materials: a basic steel-tube frame with wood wings. No machining is required by the builder. Lou Stolp said that he wanted the design to be easy for amateurs to build. The covering is Poly-Fiber. The canopy is a full two-place model that allows for conversion to an open cockpit in 2 hours. As for paint, the Wares used a two-part polyurethane by WLS Coatings located in Los Angeles. They decided on the blue-and-white paint scheme after being influenced by a picture of a 1930's vintage GeeBee Sportster. The personalized N-number is a combination of Kenny and Janes birthdates and the first letters of their first names. The Wares noted that "the easiest part of construction was the final assembly and rigging, and the most difficult part of construction was the canopy design and fabrication."

Sky High

My first flight in a kit airplane was my flight in the Wares' Starduster. Just prior to my flight, I had received 10 hours of instruction in a tailwheel airplane, and I felt that I was ready to meet the challenge. When I arrived at Flabob Airport I was

treated to a tour of the company's headquarters.At any one time there are about four or five Starduster kits in various stages of completion. The hangar was alive with the sounds of work in progress and numerous Starduster parts hung from the walls and ceiling of the workshop. The rear cockpit panel has all the basic VFR instruments plus a gyro-run artificial horizon. The radio stack is located between the pilot's legs. I got a chance to look around the cockpit. It was quite comfortable, and I could imagine myself being content enough with my comfort level to fly all the way to Oshkosh. The panel in front of me looked a little bare, having only an altimeter, airspeed indicator, compass and an inclinometer. His panel behind me was more fully equipped, including a full gyro panel and a Garmin 95 portable GPS. Taxiing to the runway, I noticed that the airplane's moderately tail-low attitude makes taxi visibility far better than that of the average tailwheel aircraft. Accelerating down the runway, we rotated at 55 knots. The 180-hp Lycoming 0-360-AIG6 engine and Hartzell constant-speed propeller combination allowed for a 1500 fpm rate of climb. We headed northeast of the airport to put the airplane through its paces.

The in-flight visibility was quite good, considering this is a biplane. The airplane cruises at 125 mph at 65% power. It was very docile to fly and easy to maneuver. It burns 10 gph in cruise, and it stalls at 49 mph. A memorable moment occurred at altitude: I looked down at the plywood cockpit floorboards, and noticed I could see the ground through a small slit in the floor. It made me smile because the real charm of flying a home-built aircraft struck me fully for the first time. Here we were flying in a handcrafted airplane! On return to Flabob, Ware flew downwind at 100 mph, base at 90 mph and brought it in on final at 80 mph. We only used 800 feet of runway to bring our short flight to a pleasant end.

Summing Up

This airplane is a fine acrobatic platform, and the Wares have also found it to be an enjoyable cross-country aircraft too. It has an empty weight of 1270 pounds and a gross weight of 1950 pounds. It carries 40 gallons of fuel, allowing for a range of 600 miles or 4 hours. Baggage storage space is behind the rear seat and allows for 25 pounds of bags.

Construction plans sell for $175, and a full kit costs $15,000. The average engine costs $12,000, and people who know a thing or two about Stardusters tell me to advise prospective builders to plan to spend an average of $25,000—$30,000 before the entire project is through. But every builder knows that it's not the price that ultimately determines the decision to embark upon such a momentous project. It's the joy of cruising through the sky in something that you built with your own two hands.

The Fickle Flame of Fame

Verne Reynolds

". . . And the Custom Built GRAND CHAMPION is Starduster November 2 Mike Romeo!!" Roger Rourke skipped down the aisle, hooting, leaped up on the stage at the Oshkosh ceremony, and became an instant celebrity! This was the summer of 1977, and Roger had just been awarded the prize every homebuilder covets. But few people are willing to sacrifice the time and effort and money it takes to enter that winning circle. Few people have Roger's tenacity and skill.

Even now, looking at pictures of STARDUSTER 2MR, it continues to awe the people who knew the events leading to the trophy. And pictures are all that's left of that GRAND CHAMPION. It was flown into oblivion, totally destroyed, by the hapless builder who walked away from the wreckage that slued across a California canyon wall.

Roger didn't know how to fly when he started building 2MR. But he knew he loved the lines of a STARDUSTER TOO, he knew he had the technical skills to build an airplane. He knew he could master whatever he had to learn. And he did it. He built the STARDUSTER. He taught himself how to fly it (with just a tad of dual instruction.) He taught himself by stretching the envelope of the

plane in aerobatic maneuvers. He became not only proficient, he strained for perfection. And then he crashed it. The first time.

Not his fault. He was at 1600 feet over the Santa Monica shoreline on a busy beach day, Saturday afternoon, June 15, 1974. His engine swallowed a valve. Instant quiet, except for Roger's heavy breathing. He found an empty stretch of beach and planted the STARDUSTER at water's edge. It flipped once and rested upside down, with no injuries to anyone except for a cut above Roger's eyebrow.

Almost immediately, a crew of fellow EAA members passed the word and met at the beach. Within a couple of hours, they had removed the wings and hoisted the fuselage on a flat bed, for delivery back to Roger's garage. The landing gear was shot, the engine was shot, some tubes and ribs needed replacement. Roger looked at the mess and made a careful decision: he would rebuild 2MR. He knew what he had learned from the first building process. This time, he'd go for the best that was possible. He'd go for perfection.

It took three years to do it. He majored an IO-360-AIA engine. He installed ball bearings throughout the control system. He moved the landing gear. He recovered, repainted, recovered, repainted until he had it right. He matched the exterior paint with cockpit upholstery. He installed a stereo system. He tweaked and fiddled and dinked and chromed until it was time to fly his marvelous creation to Oshkosh.

And then he wowed the judges with his GRAND CHAMPION.

Then, when the applause died down, he went back to California. Back to his private airstrip in the foothills near Maricopa. Back to running his machine shop in Los Angeles, commuting in 2MR. Entertaining guests who wanted to see the CHAMPION in action. Continuing to teach himself aerobatics. Continuing to stretch the envelope of his own endurance and skill.

Then it happened. One Sunday afternoon, in the foothills near Maricopa, Roger was demonstrating the airborne beauty of his beast to some guests at his ranch. He had flown his routine for them, and to conclude his flight, he thought he'd show them his new accomplishment.

I wasn't there for this demonstration, even though I had followed the progress of 2MR through its convoluted lifetime. I had flown with Roger a hundred times, in screaming fake dogfight competition, in tight formation, in lazy cross-countries, in photo ops, celebrating our fantasies, as older boys celebrate with their toys. But I wasn't there that dreadful Sunday afternoon. So I must tell it like Roger told it to me:

"Even though Lou Stolp had not designed the DUSTER to be flown that way, I learned that I could hook a series of snap rolls together before I ran out of steam. This time, I was going to make sure I impressed those turkeys on the ground, and I flew up my runway at low altitude (going uphill), snapping, snapping, snapping.

As I leveled out of my last snap roll, I could see that I had drifted away from the runway, to the right. In almost slow motion detail, I recognized that I was now in a very small boxed canyon, with no altitude, no airspeed, and no way out. I only had time to yank the throttle, yank back on the stick, and pancake into the upslope. I smeared into that hillside at stalling speed, and the landing gear and the wings took the brunt of the crash. My GRAND CHAMPION became an instant pile of junk, but it saved my life as it collapsed. I took of my helmet, crawled out of the cockpit, scrambled down the hillside to a dirt road and waited for my wife, Marilyn, to come and get me. She had heard me slam into the canyon wall, but couldn't see where I had gone down. By the time she and the other guests had raced to my location, I was standing by the side of the road, waiting for them to pick me up. I didn't like any of it. Much."

The airplane was never rebuilt after that. Marilyn died, and her ashes were scattered over the hillside. She was the M in 2MR, and so the N number was retired. Roger went on to fly a series of Pitts in aerobatic competition; he is now judging other competitors as they strain for accolades. He continues to fly, to build aircraft components in his machine shop, to enjoy his memories of fame. Sometime, he still hears the applause, still sees me alongside, in my beloved 23 SKIDOO.

(See photo, page 18)

Correspondence

Dear David, 31 March, 1998

It has been quite a spell since we corresponded—all my fault for being too busy!

I wanted to tell you how much I enjoy the new paper—format, printing and super great pictures in the new Starduster Magazine. It is a great improvement!! Keep up the good work.

My SA300 is still coming along, but very slowly. I guess like most retired folks, I just can't say "No". I'm trying to establish a "flying & hands-on" museum here. We have initiated the "Air Bear" program for school kids—kindergarten to 3rd grade, the "Young Eagles" program for high schoolers, plus tail wheel and spin instruction in an Aeronca Champ as well as keeping my L-19 tug and Blanik glider in good working order. And, as you well know, there are always my car and motor cycle plus mom's car to keep running, while I paint the house and mow the lawn. Whew—how do we do it all?

Regards,

Willy Schauer Honolulu, Hawaii

Dave Baxter 22 April, 1998
Operations Manager
Starduster Corp.

Dear Dave,

Just dropping a note to you in case you've been wondering when I was going to bring down my firewall template and Continental 0-47OR engine cradle. Between the weather and helping Hap (first with his wings, and then changing out his old radio), I will just bring it when we head for Oroville on Thursday 4/30. You can work on it after the fly-in whenever you can get to it and just ship it back to me then.

I think the wings and rudder came out very good on Hap's plane (you'll have to be the judge) and are definitely shinier than before. Hap has to get used to the new bungees on landing, since it sits a little higher now and is definitely more "springy".

I talked him into getting rid of his old Terra radio (and his old Garmin GPS) since the transmission wasn't so great and he had to change frequencies with a pencil eraser. (Can you imagine how much fun that has to be?) Since he had a couple of Icom IC-A3 handhelds, we decided to hard wire it to the aircraft power and old intercom. Well, after three davs of trying that with no luck and concluding that the old intercom was specially made for the Terra by a friend of Al Hooper, I went and got Hap a Flightcraft 403mc panel mount intercom for $125 (from Pacific Coast Avionics at Aurora—a good deal I thought).

Well, then another week went by trying to adapt the wiring schematics in the plane and hook everything up, with no success. Frustrated, I then decided the following week to rewire all original connections myself to my own terminal blocks, so I could trace and clearly mark all the wires myself. Well, the intercom worked beautifully, as did the reception of outside transmission and we could initiate a carrier on transmit but no voice transmit (and no side tone).

After a couple of calls, I found out that the mic jack plug going into the radio was the wrong type (a two point connection instead of three) which most aircraft people know, but I was learning everything the hard way. Well, another trip to Pacific Coast Avionics (by C-150) and we purchased the adapter plug that is available for the radio ($69.00). Hap did all the soldering on the leads and did these as well, since my soldering needs practice, but not on someone else's plane. Anyway, to make a short story long, we got it to work after finding a bad mic transmit connection and it works fine. There is still some tweaking to do on the intercom, but it sound better than the old radio and is far, far easier to use. And I got quite the education in the process (even though it took 3 1/2 weeks)!

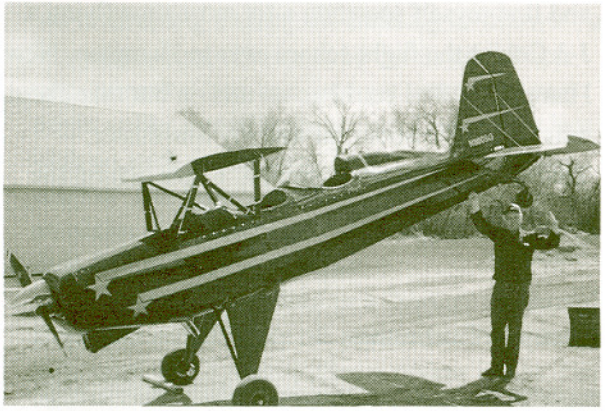
Hap's Rangeduster flys great hands-off with the first flight and no more aileron trim tab on the

left upper wing! Now he just has to get used to the new, springier bungees, but we should be winging our way down on Thursday, 4/30, weather permitting. I was able to borrow a Cherokee 180 from a friend (first low wing check out for me) since Bob (my father-in-law) insisted on something more comfortable and faster than the Cessna C120. Let's hope for blue skies! See Ya !!

Bob Wampler — Portland, OR

Dear Glen, — 30 May, 1998

Thanks for the video, I really injoyed it. Enclosed is a picture of my Starduster after we painted it a couple of months ago (See photo, page 22). Also enclosed is a picture of the world's strongest Starduster pilot.



Since these were taken I've put the wings back on and taxied it around the yard. I'm still waiting for the ailerons to come back from the paint shop. I hope to have it flying by Wed. June 3. I don't think I'll be going to Oklahoma as I want to do a little testing first before any long cross counries. Hope to see you guys in Wautoma in August.

Charlie Krabbenhoft — Sabin, MN

Les— — 30 April, 1998

It was fun to talk Starduster talk at Sun 'n Fun '98. The Starduster Too you had on display was beautiful!

I have gathered some pictures of my V-Star and have included them. I had forgotten about some of the changes I had made until the pictures jogged my memory.

Have also another V-Star which is based in eastern Kentucky. I see it often at local fly-ins.

If you are serious about V-Star improvement I would be glad to write what amounts to a "product review" for your consideration. Recognize that it would only be one person's opinion.

Good luck with your new venture!
Regards,

Art Morgan, Lexington, KY (See photo, page 19)

Mr. Baxter — 26 April, 1998

Enclosed are photos of the 1968 Starduster One I talked to you about. It has 1013 hours on a Lyc. 0290GN, 135 hp. The plane came from Arizona in 1991. It's been hangared all its life.

I just found the owner a nice '66 Cessna 182. He wants to sell the Starduster. He's taking offers over $13,900.

Dave & Marysharon, — Lawrenceville IL
618.943-5038 — (See photo, page 19)

Mr. Gorton — 6 June, 1998

Enclosed is my check for the advertisement to be published in the July '98 issue of the Starduster Magazine. I am also enclosing a photograph of N10BT just in case someone is interested in knowing what the airplane looks like. Thanks.

Everett Laird — Bryan, TX
409.774-4454 — (See photo, page 20)

Starduster Magazine — 20 May, 1998

I have just completed a quarter size Starduster R/C model, powered by a 35 c.c. gasoline engine. It is shown alongside my full scale Starduster Too. I thought you would be interested in another photo like the cover of the January issue.
Sincerely,
Matt Kerr, Bay City, MI (See photo, page 18)

Dear Glen,

18 May, 1998

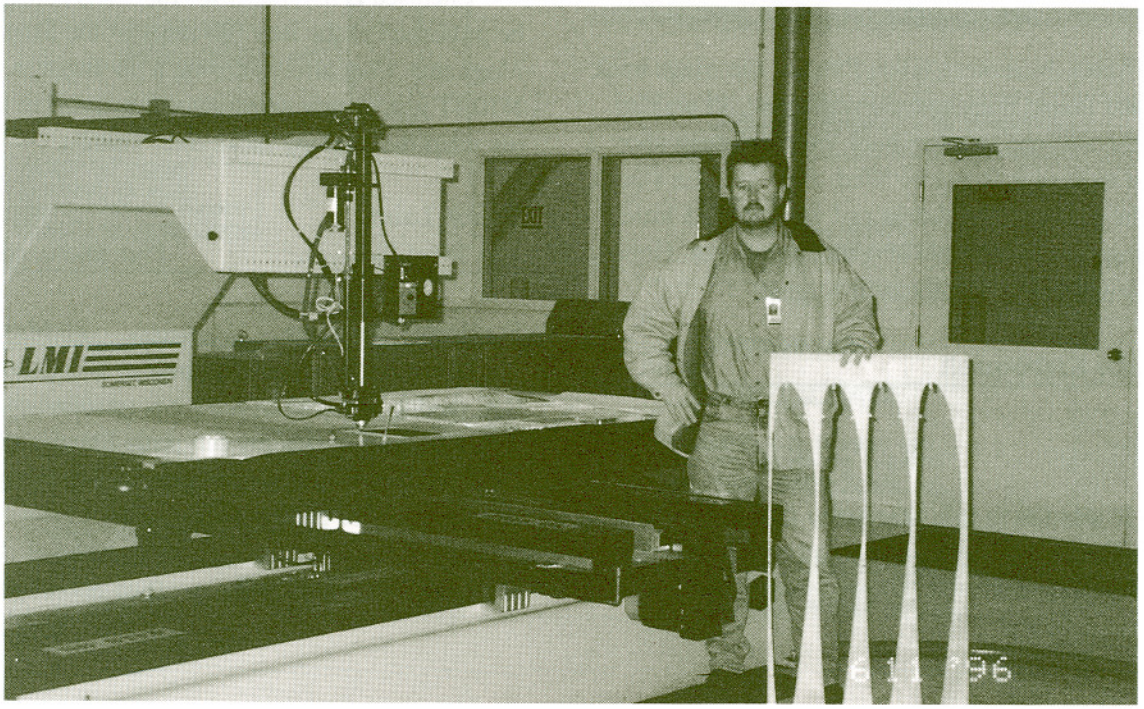
I would like to thank you for your interest in me and my Starduster. I'm not sure how my story would fit into your magazine but I will try to explain. First of all I put my heart and soul into building my first Starduster way back in 1968. About four years later it was nearly complete and ready for cover. However, a divorce court judge upset my plans to finish the project. I had to sell it as the money was a more important issue. I held on to my drawings with the hope that maybe I could build another Starduster after the dust settled.

Happy Days arrived three years ago (23 years later) when I finally got started on project #2. I found that a great deal had changed and many modifications had been made to the Starduster II. And also, the cost to fabricate is much more than it was the first time. Living here in New England makes the project more difficult too, as parts are not all that available, so I'm always shipping from all over the USA. At this time I have completed the fuselage, landing gear, control surfaces, tail and I am assembling the wings. I bought the plywood for the wing ribs from a supplier in Baltimore, Maryland. To cut the wing ribs, my son made a computer disc with all the rib sizes loaded into it, he then used a laser machine to cut the ribs. It worked beautifully. I got the spar material from Aircraft Spruce & Specialty Co. in California. I'm installing an IO-540 and a 3-bladed C/S prop. I hope to complete the project by May 1999. Like every one else I have problems with devoting enough time to the project. Even tho I work at home and own a welding and machine business, in some ways I feel I could probably get more accomplished if I worked away from home and had only the aircraft here to work on.

On top of all this, for the last year and a half I've been working to get my private pilot's license and find myself spending a lot more time flying a J-3 Cub at the flight school over in Hampton, New Hampshire. So I could go on and on but that about tells most of it about me and my Starduster. Thanks again for your interest. I love getting the Starduster Magazine.

Sincerely,

Henry P. Fairbrother



To the Editor of the Starduster Magazine

Sometime last year my enthusiasm ran away with me as I was enticed by two "good men" to consider being a partner in the purchase of a biplane. I'd never flown one or even considered flying one up to that time. (In fact, I hadn't flown much since the late sixties when I met a young lady, who, after becoming the Mrs., revealed that flying wasn't even on her list . . . much less on the top of her list!)

After several planes were considered, one seemed to emerge victorious and my two "good friends" went off to "see the wizard" and returned a few days later with a Starduster.

One afternoon, after sufficient preparation on their part, I was allowed to come see the baby they both had given birth to. There it was, a yellow biplane—tired, quiet, and still. "Get up there and get in," both of them said with conviction. Well, at 6 ft. 3 in., it wasn't exactly a ballet they witnessed . . . it was a bad experience: a very poor introduction to an airship that was itself innocent of any wrong doing or mean disposition.

I said nothing, but I felt all the enthusiasm drain down an invisible pipe and into the unseen world of forgotten dreams. I knew I could never fit inside this pleasing little ship, nor would my knees ever be able to clear the instrument panel.

Months had passed and I had purchased a partially completed RV-8 kit and my attention was beginning to shift from the biplane that I would never be able to fly to another plane . . . that I might never be able to build!

Being a school teacher and a track coach allowed no time to even read the instructions on the RV-8, but the others were happily having fun with the Starduster, unaware of my unspoken gloom. Without going into the history of all the activities the little Starduster endured, we (four of us now) began to re-fabric and refurbish the entire plane. On one afternoon, we removed the wings and all of the fabric, and the entire little plane was down to its metal frame with a set of pathetic wheels poking out the bottom . . . much like a naked young kid having his first grown-up physical with a strange new doctor.

I was more discouraged than ever; I knew nothing about how to repair any part or portion of an airplane. I was pushing the limit in repairing sprinklers! But, the others remained confident and enthusiastic; and I, with concealed reluctance, bravely followed along.

The Fall and Winter passed with bursts of activity; the vision remained clear to all of them, but I still was having trouble focusing. And then, the fabric was applied and the little ship began to resemble an airplane again . . . It was a little strange to see a portion of its personality return; but it wasn't a definite personality; at least nothing that I could detect by thinking about it. I still knew I wouldn't fit in it no matter how it turned out . . . and so, try as it might, and it did its best, the little plane knew that I was not convinced! The rudder pedals were moved forward a bit, and the seats modified a bit, and this and that altered a bit, but I wasn't going to be drawn into letting that little plane trick me into thinking that I would ever be a part of its real future . . . no matter how "cute" it was beginning to look. (I would never say "cute" of any plane but a biplane . . . believe me!)

Even when metal was cut, new pieces welded, and a different engine hung, the little guy never whimpered; maybe a sigh at the end of a long day of having the guys pulling and bending, fitting and tightening . . . but never a whimper.

And then, one quiet morning while I was on my way to see the guys get her ready to take off for Oroville and the Starduster Corp. open house, I had an experience unlike any other. I didn't know exactly when Clay and Don had planned to leave, but since the airport was right on the way to the high school where I teach, I thought it would be fun to share their enthusiasm and see them off. I was too late; for just as I approached the end of the runway on the road to the airport, the little yellow plane lifted off the runway, right in front of me.

(The following is an attempt to express the euphoria of that moment)

Early, early morning, overcast, gray, still . . . and I was nearing the airport to watch the little plane fly over the mountains. But I was late and it was coming down the runway and began to lift off directly overhead. It wasn't even aware, I thought, that I had come to wish it well. It may not have even cared, for it knew that I didn't believe.

And then, without me, it climbed and arched right over my earthly appointment. As I gazed upward, it seemed to have found a track in the sky of which only it knew and had been waiting to seek out.

What a strange sight, a wonder! The little plane had acquired power, the power to carry two mortals away, and it alone knew where they were to be taken.

The plane rose without effort; it was being received by the morning sky like a familiar spirit. In that moment, I was given to sense that it was not to remain with us. I was not sure I would ever see the ship again.

Then, the little plane looked down and I sensed its quiet being. I felt assured of its nobility. I was the creature who had doubted. Even when it was striped and naked, it never forsook its destiny.

The whispers I was hearing, stilled. The little plane banked west toward the white-tipped mountains, squared its wings with the earth and left me there . . . watching!

Clay . . . now I see why I felt the awe of the moment . . . as you have already discovered: the scene is without mystery—it is a metaphoric representation of the resurrection and reception of mankind in "streams of glory." I had not known this until writing down my impressions . . . Thanks for your interests.

Mike G. Sandy, UT

Hello Glen and Clay, 24 June, 1998

I began my Acroduster II project March, 1996 and finished the 31st of March, 1998 with the FAA's arrival the next morning, April 1st. "No foolin". The Lycoming IO-360-A1A, 200 hp, turns a Hartzell c/s prop which provides 160 mph at 75% cruise. Empty weight is 1106 pounds. It was an interesting and very rewarding two years. I am extremely happy with the Acroduster II's performance and flying characteristics.

I plan to fly aerobatic competitions, attend fly-ins and air shows, displaying the airplane with pride and professionalism. I would like to thank everyone at the Stolp Starduster Corp. for making the project a dream come true. If I can be of any help or assistance, do not hesitate to call me at 770.761-5518.

Fred Myers III, Conyers, GA (See photo, page 20)

OROVILLE OPENHOUSE AIRCRAFT JUDGING AWARDS

GRAND CHAMPION

Ray Siefker, Albany, OR
Starduster Too, N1YW

FIRST PLACE

Wayne Ensey, Albany, OR
Acroduster Too, N94WE

SECOND PLACE

Tom Morris
Starduster Too, N94TM
(Photo not available)

THIRD PLACE

Bob Pisani, San Mateo, CA
Starduster Too, N7989

Roger Rourke & Verne Reynolds In Their Toos Over Southern California

Matt Kerr's N159MK And Offspring

V-Star N18AM Art Morgan, Lexington, KY

Starduster 1, N198DB Dave & Marysharon, Lawrenceville, IL

Acroduster Too

Fred Myers, III
Conyers, GA

SA300 N10BT

Everett Laird
Bryan, TX

SA300 N860SG

Charlie Krabbenhoft
Sabin, MN

Fuel Management

By Barry Schiff
AOPA Pilot, April, 1998

An engine fails for one of four reasons. The first is component failure, which, thankfully, is relatively uncommon. Critical components ordinarily do not break when engines are maintained and operated with care.

The remaining three reasons involve depriving an engine of spark, air, or fuel. An engine failure caused by an ignition malfunction is rare, primarily due to redundance. Choking an engine of air is almost always the result of carburetor or induction icing. This, too, is an uncommon cause of power failure. An attentive pilot can usually combat it successfully by applying carburetor heat or selecting the alternate air source (when operating a fuel-injected engine.)

The fourth cause of engine failure is by far the most common but also is the most easily avoided: fuel mismanagement. A predictable number of airplanes and lives are lost every year simply because pilots are insufficiently judicious about ensuring uninterrupted fuel flow to the engine. This is perplexing because the vast majority of engine failures due to fuel exhaustion or starvation are caused by the pilot. Unfortunately, such traumatic events will continue to occur with regularity (but only to the other guy, right?).

Over the years, I have gleaned from experienced pilots some useful advise that I would like to pass along. Hopefully, these tips will be helpful in ensuring that you are never involved in a fuel-related engine failure.

There remains, however, some confusion between fuel starvation and exhaustion; they are not the same. *Starvation* occurs when an engine is deprived of fuel while there is still some available (usually in one or more unselected tanks). *Exhaustion* means that all fuel has been depleted.

A recent study concluded that adopting the following procedures and advice could prevent the majority of fuel-starvation accidents:

- During every preflight inspection, determine that all fuel vents are clear of obstructions. A clogged vent can result in reduced air pressure in the fuel tank(s) and eventually inhibit flow to the engine. Should this occur, switch to another tank, regardless of the quantity remaining in the original tank, and land as soon as practical. A clogged vent could eventually affect the second tank as well.

Personally determine the fuel quantity in each tank, as well as its type and purity. Never take the word of another—important advise for those who rent.

- The before-takeoff checklist for most aircraft suggests selecting the fullest tank during runup. This, however, might be too late. Instead, select the appropriate tank before engine start and use it exclusively for taxi, runup, and departure. This affords a longer opportunity to test the integrity of fuel flow from that tank. Switching tanks shortly before takeoff does not provide that luxury. You can, shortly before takeoff, select a tank with impeded fuel flow to the engine and have just enough in the lines to only get off the ground before the engine fails.
- When selecting fuel tanks (at any time), note the integrity of the detents. A worn detent, or an excessively easy or difficult-to-move selector-valve handle warrants maintenance.
- Speaking of detents, do you know what happens to fuel flow when the fuel selector is placed halfway between a tank and the Off position? It might take awhile, but in most aircraft the engine will sputter, stammer, and then stop.
- Switch tanks en route only when within gliding range of an airport with long runways, just in case.
- Do not rely on memory to change tanks. Instead, purchase a battery-powered timer alarm clock. They are small, inexpensive, and available in many pilot-supply shops. The alarm beeps so loudly and persistenly that it can be heard in the cockpits

of truly noisy aricraft. Use it as a reminder to switch tanks at predetermined times. You might be amazed at how many accidents result from pilots' failing to switch to the fullest tank prior to an approach and landing. This indicates that many pilots fail to use a before-landing checklist.

Two years ago, I mentioned in this column one of my early instructors who drummed into me that there was absoslutely no excuse for running out of gas. He obviously was right, even though numberous pilots offer excuses for doing so every year. If they are honest, pilots interviewed after experiencing fuel exhaustion usually admit that they had become uncomfortable about their remaining fuel quantity some time prior to fuel exhaustion; it rarely comes as a surprise. Preventing such a trauma, therefore, can be more the result of a state of mind than a calculation of fuel remaining.

When any doubt develops about whether a pilot has sufficient fuel to reach his destiantion, that is the time to plan for a landing at an alternate airport irrespective of how much inconvenience this might cause. It should not matter that this might necessitate an extra night en route, missing an important engagement, and so forth. Imagine the consequences of a fuel exhaustion accident, and then ask yourself how much inconvenience you might endure in order to avoid destroying your airplane and harming your passengers.

Do this and you'll never run out of gas.

Laser Light Hazards and the Law

California Pilot, March 1998

Laser illumination of aircraft in flight is becoming an increasing hazard to safety. The intensity of laser beams directed at aircraft can cause serious disabling effects to the vision of pilots, including temporary vision impairment, temporary vision loss, flashblindness, after-image and glare, and even permanent eye damage.

There has been an increasing number of reported incidents of laser illumination of aircraft in the Las Vegas and Los Angeles areas, and elsewhere. Many of these incidents have occurred during critical phases of flight resulting in temporary blinding of pilots. In many cases, the source of these laser lights has not been determined and they can pose a serious threat to aviation safety.

Currently, there is no federal law or regulation prohibiting the illumination of aircraft by lasers. Laser devices are regulated by the Food & Drug Administration (FDA). In some cases where the source of the laser lights has been determined, the FDA has cooperated with FAA by shutting down laser shows that have been deemed hazardous by the FAA.

California has enacted specific statutes to deal with the discharge of lasers at aircraft. Section 247.5 of the California Penal Code makes it a misdemeanor or felony to "willfully and maliciously" discharge a laser at an aircraft, whether in motion or in flight, while occupied. The severity of damage or injury caused by the discharge determines whether the crime is charged as a misdemeanor or felony. The law may be enforced by any law enforcement agency or officer.

In addition to the Penal Code, California Public Utilities Code Section 21646 states that it shall be a misdemeanor for any person to ". . . release or fly or cause to be released or flown within five miles of any airport, any moored balloon, kite, unmanned rocket, or unmanned free balloon which might be ingested by an aircraft engine or *might cause a pilot's view of the airport and zone approach to be obstructed,* or which could be used to suspend an object capable of endangering airborne aircraft or impairing a pilot's vison."

The lack of a national law prohibiting the illumination of aircraft and the absence of such laws as California's in other states leaves pilots unprotected beyond the borders of our state. This is a problem that should be addressed before an incident results in a serious accident or fatality.

An Introduction To Air Traffic Control

Joel Hamm, *Flight Training,* July 1992

Flying is sometimes a frightening affair, which is just fine. A scared pilot is a safe pilot. He's aware of his limits, appreciative of Mother Nature's power, and alert for any appearance of the mischievous Mr. Murphy. But, one source of concern is counterproductive—that unholy dread we harbor of having to talk to somebody, like an FAA air traffic control (ATC) facility.

This FAA anxiety is uncalled for because air traffic controllers and the FAA exist for the sole purpose of serving folks who fly. Like all prejudices, FAA-phobia is the product of misconceptions about who the other fellow is and what he does.

Despite the hoopla about enforcement and compliance, controllers are not policemen. Their job is directing traffic, not catching scofflaws. And like pilots, controllers can be "violated." Pilots who commit a boo-boo may get written up and might suffer a certificate action. Controllers live with no such uncertainty. Under the unblinking stare of The Snitch Machine, a computer sounds an alarm the instant two radar targets drift closer than five miles to each other.

A controller involved in a "system deviation" is yanked immediately off positioin, stripped of his pink card, and hauled before a review board. His fate is subject to the whims and political considerations of the facility manager and regional higher-ups, but it invariable involves retraining, complete recertification, and, occasionally, time on the street. Compassion, not dread, is what pilots should feel for their controller counterparts.

If controllers are not cops, neither are they lawyers. They are versed, of course, in airspace and FARs, but they aren't experts. That is something every pilot should be, and when a questionable directive is received, it's his right and duty to question it, particularly if it contradicts airplane operating procedures or places him at risk.

Long ago, ATC applicants had to be commercial pilots, but anyone hired under those rules has long since retired. Although many current controllers are pilots and flight instructors, most are not, and they generally know less about flying than pre-solo students. They may need some occasional on-the-spot education as to why a pilot cannot comply with a particular request.

This brings up an important point: Controllers are not infallible, nor are they in charge of flyng the airplane. "Radar Contact" does not allow the pilot-in-command to relax his vigilance or absolve him of the ultimate responsibility for the flight. If anything goes wrong, he's the one who will have to answer in court or to his Maker.

Controllers are just average people. Most work for the FAA, but some facilities are staffed by military controllers, and others are manned by private air traffic control companies under contract to the local government. Regardless of who pays them, the controller's authority and the FAR mandated compliance with their instructions are the same.

The FAA hires most of its troops "right off the street," i.e. without prior experience. After screening and suitability testing, candidates get most of their academic training by attending the FAA's Oklahoma City Acadamy.

Controllers mostly learn their jobs the way pilots learn theirs—by doing. They get most of their training on-the-job, using simulators and live traffic under The Master's watchful eye. Earning journeyman status can take several years, and constant checkrides offer the opportunity to wash out at any time.

As on an airline flight deck, each subordinate staffer is in some phase of training on his way to the left seat of his own sector. The centers are also being updated and are slated to receive new radars, computers, and an assortment of weather detection gear to help pilots avoid the hazards of their calling.

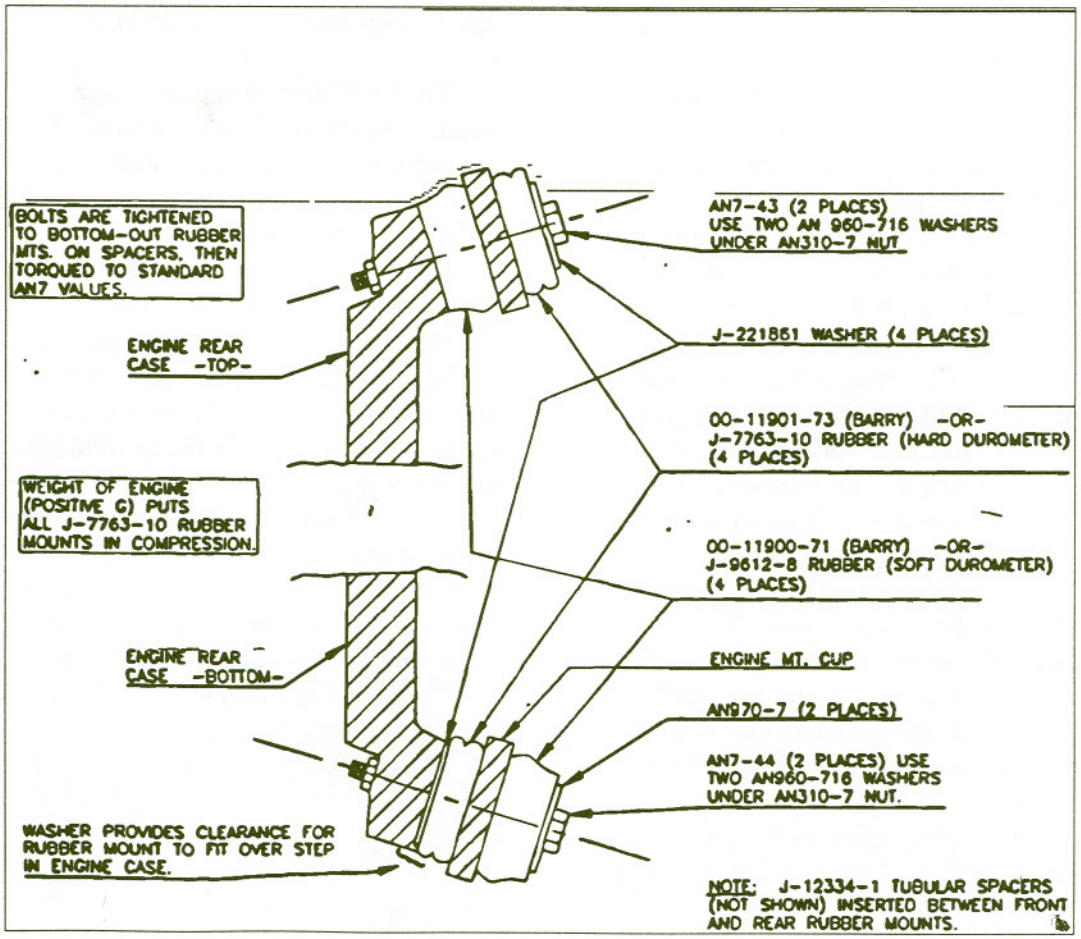
The best way to become comfortable with ATC is to fly frequently and use the service all the time.

Vibration Mount Installation

From *RV Aircraft*, Submitted by John Huie, Clifton, VA

The drawing below is that of a typical Dyna-Focal engine mount installation. The exact part numbers are for sample purposes and may differ for your installation. Several "vibration dampener" mounts can be used, including the LORD J-9613-40, and J-9613-49, and the BARRY CONTROLS #94011-20. All are similar in external appearance and agree with the representations in this drawing.

The drawing (based on LORD drawing #5-6021) shows their recommended installation. Each set of mounts consists of a thick rubber mount (J-9612-8) and a thinner rubber mount (J-7763-10). The key to their installation is in knowing that the J-7763-10 is made of harder rubber than the J-9612-8, and thus the harder mount biscuit is placed so that it is under a compression load due to engine weight. This requires that the bottom installation be opposite that of the top. The bottom has the harder biscuit (also thinner) on the front or engine side of the mount, and the top has the harder biscuit on the back or firewall side. The thick washers, J-2218-61 in this instance, always accompany the harder mount biscuits. These washers are critical on the bottom mounts where they provide a flush surface for the rubber mount to fit over a tab on the engine case.

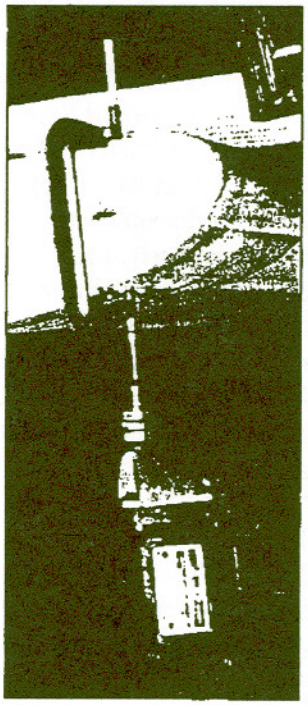


Drilling Long Holes Accurately

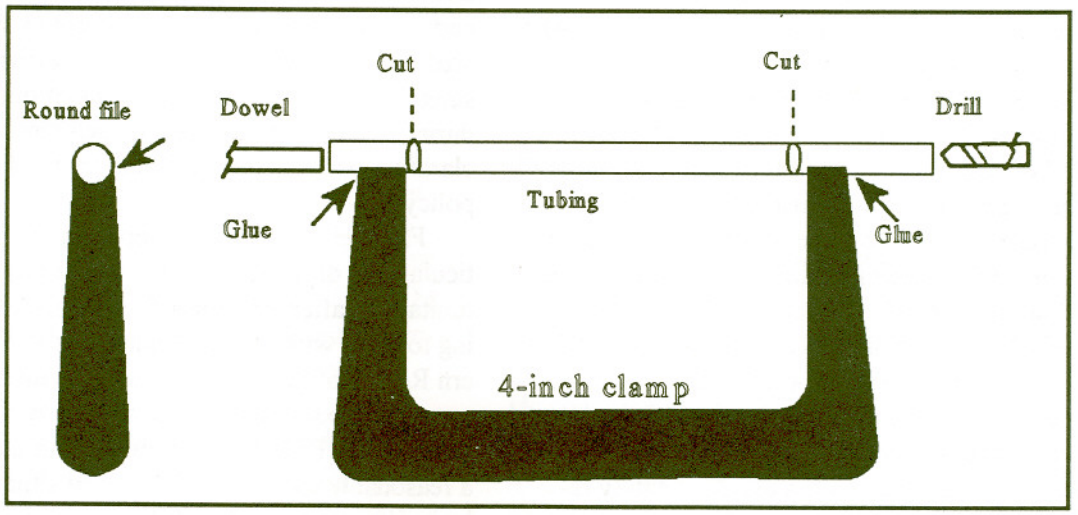
Ken Knight EAA 351571

From *Sport Aviation,* October 1994

When faced with four inch long holes to drill in the ends of my spars, I created the following jig that put the other end of the hole right where I wanted it! Using an old four-inch clamp, I removed the threaded part and using a round file, cut out a seat on both ends of the clamp, as seen in the diagram. My holes were to be one-quarter inch round so I used quarter inch *inner* diameter .062 steel tubing. I epoxy glued (or braze them if you wish) the tubing to the seats made in the clamp and, after the glue set, carefully cut and removed the inside tubing. I found that a long drill bit passed between the sections of the tubing easily. I inserted a piece of quarter inch dowel in the other end and I was ready to go!



I fit the wing sections together and drilled shallow holes through the fittings on both sides of the wing. I then through-drilled using the jig. Presto! A perfectly drilled hole every time! Of course, you can make a jig of any size using different sized tubing and clamps.



Experimenting With Homebuilt Overflights

Extracted from *AVflash@a1.ipcc.com,* May 25, 1998

In the past few weeks homebuilt owners at California's John Wayne Airport have been contacted by the Long Beach FSDO and warned they may be violating FAR Part 91.319(c). That's the reg that prohibits experimental category aircraft overflying densely populated areas "unless otherwise authorized by the Administrator." Apparently the inspectors at the FSDO were either ignorant of, or chose to ignore, a longstanding FAA policy which states that amateur-built aircraft can operate over populated areas once certain conditions were met. Many parked their aircraft rather than risk a violation.

As a result of EAA intervention, and with their cooperation, the FAA has issued a bulletin clarifying limitations for experimental amateur-built aircraft flying over populated areas. The EAA has asked FAA HQ to "reiterate to local and region offices that FAA Headquarters should establish policy for U.S. airspace," in order to prevent a crazy-quilt of interpretations and regulations. The EAA reports it is continuing to work with the FAA to clear up problems at SNA.

The Experimental Aircraft Association (EAA) and its members in the region had requested the clarification after confusion over operating limitations arose among local pilots and FAA officials in the Los Angeles area. The confusion over proper operating procedure threatened to slow or halt flying activity as pilots were reluctant to fly their Experimental "homebuilt" aircraft for fear of being found in violation of regulations or FAA policy.

"EAA always maintained that FAA had established its policy on amateur-built overflights of populated areas more than 25 years ago," EAA President Tom Poberezny said. "That policy was based on homebuilt aircraft's excellent safety record after the test period. Although this situation grew out of a singular case regarding an experimental exhibition aircraft, it's important to reiterate current policy for amateur-built operations."

The FAA bulletin states that once flight testing is completed in a homebuilt, an Experimental amateur-built aircraft may "operate over densely populated areas, both en route and during takeoffs and landings, and operate within congested airways of the National Airspace System (NAS)."

EAA also asked FAA Headquarters to reiterate to local and region offices that FAA Headquarters should establish policy for U.S. airspace, to prevent a patchwork of regulations that might vary throughout the country.

The situation began when FAA's Flight Standards District Office (FSDO) in Long Beach, Calif., contacted experimental aircraft owners operating at John Wayne Airport in Orange County, Calif. Representatives from that FSDO informed those airplane owners that they may be in violation of FAR Part 91, which prohibits Experimental category aircraft over populated areas "unless otherwise approved."

That was in conflict with FAA policy established in 1972, which stated that amateur-built aircraft could operate over populated areas once certain conditions were met. The policy was created because such operations are not deemed a safety concern, but rather a means of limiting risk during the initial test phase of such aircraft. This clarification by FAA Headquarters reinforces that policy nationwide.

FAA requested EAA's input on the issue, particularly in drafting a clarification for operating limitations after initial test flights. EAA is continuing to work with FAA Headquarters and its Western Region offices to solve the particular situations regarding operations at John Wayne Airport. The Long Beach FSDO is also involved in the issue, so a reasonable solution to the current situation can be implemented quickly. EAA has also asked FAA to clarify the same issue for experimental exhibition aircraft.

Editor's Note:
EAA's success in resolving the issue of Experimental overflights is reported in the June 1998 issue of *Sport Aviation*, as excerpted below:

EAA Action Update

FAA headquarters has released an internal bulletin to local FAA officers which clarifies the issue of experimental amateur-built flight over congested areas. The bulletin states that, once flight testing is completed and the aircraft meets the requiremnts of FAR part 91.319(b), a special operating limitation may be issued to experimental aircraft to permit them to operate over densely populated areas, both enroute and during takeoffs and landings, and to operate within congested airways of the National Airspace System.

Further, the guidance specifies that "aircraft that have successfully completed Phase I flight testing to meet the requirements of Section 91.319 (b), and were issued special operating limitations authorizing takeoffs and landings over densely populated areas prior to the date of this bulletin, may continue to operate over densely populated areas under the authority of the original authorization. Those operators need not reapply to the FSDO, MIDO or MISO for additional authorizations."

The FAA Headquarters' bulletin reiterates the agency's policy statement on this issue, established more than 25 years ago. That policy allows overflights by amateur-built aircraft once certain "flight testing" is completed. Since 1972, that guideline has helped establish a high standard of safety for amateur-built aircraft, which now make up more than 20% of the nation's single-engine general aviation fleet.

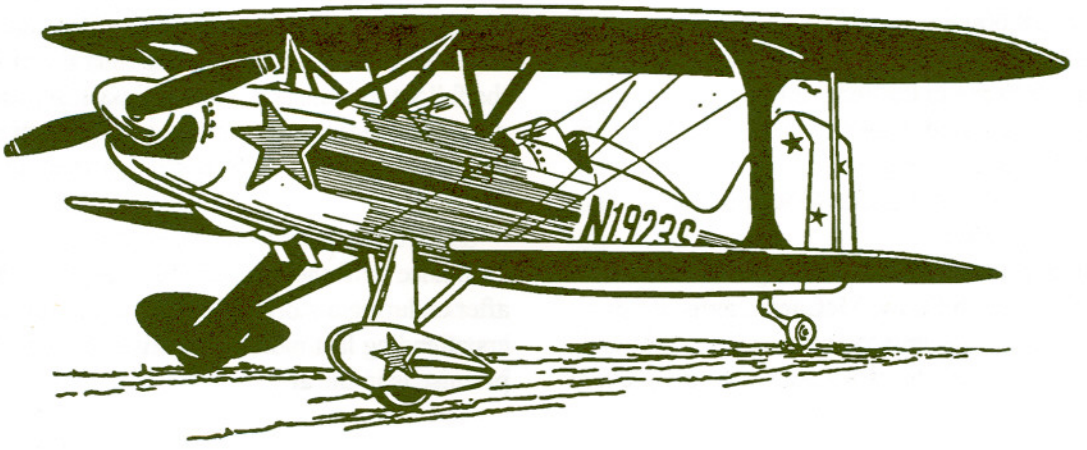
Hartzell Announces AD-eliminating Prop Upgrade

Hartzell's upgrade that would eliminate the requirement to comply with airworthiness directive 97-18-02 is now available.

The new MV-shank propeller kit converts the double-shoulder design of the previous X- and V-shank blades to a single-shoulder design. Resulting are propellers similar in configuration to the company's steel-hub turbine propellers. New blade-retention clamps with a beefier design are required to accommodate the single-shoulder blade.

The upgrade will be applicable to HC-A or -D hubs. Those with HC-1 or -8 hubs will need to purchase the A- or D-style hub and associated parts. The upgrade increases the recommended TBO to 2,000 hours or five years.

Blades, clamps, and hubs, as well as complete MV propellers, are included under a special half-price plan in effect until September 1999. Hartzell says that a two-blade propeller in good condition may be upgraded for about $4,000. A three-blade prop with a l- or 8-style hub and unserviceable blades could cost more than $10,000 to convert. Several replacement propeller STCs from Hartzell and McCauley are available to owners of affected aircraft. For more deails, contact Hartzell at 937/778-4379.



Chico CA Airport Encroachment

Valley flyer, May 1998

Members of the NPVA (Napa Valley Pilots Association) are requested to exert their opinions to the Butte County Board of Supervisors before the May 12th meeting. On the agenda is an appeal of the Planning Commission's decision to deny the Stephens Project, located just west of the Chico Airport. This project has the potential for 335 dwelling units to be located under the downwind and base legs of runways 13R and 13L, and the climbing crosswind leg of 33L.

Approval of this project would locate residents (R-2 Zoning, medium density residential) within 3500 feet of the short runway. Obviously, noise issues in the near future could seriously influence operations at Chico Muni. This is a classic example of airport encroachment based on politics and misconceptions.

Fortunately, the other Commissions in Butte Co. responsible for identifying airport land use compatabilities have done their job. Both the ALUC (Airport Land Use Committee) and the Planning Commission have recognized the poor planning that is represented by this project. The final say will be made Tuesday.

It is our job as pilots and members of the community to explain to our decision makers how significant CMA (Chico Muni Airport) is to the economic well being of Butte County, and that the role of airports will become more important as the world becomes more dependent on airborne services.

Nevada Airport Responds to Noise Complaints

Nubar Deombeleg, *California Pilot*

Clark County Commissioners, who govern the greater Las Vegas region, announced a proposed ordinance in late April that would expand the designated noise impact area around McCarran International Airport and the nearby Nellis Air Force Base. Officials of McCarran and Nellis want property owners who experience an average of 60 decibels of noise from air traffic to disclose that fact to prospective property buyers. They would also be required to soundproof any additions to homes and businesses to further reduce interior noise levels to 35 decibels.

About 8,000 homes and businesses exist within the proposed 60 db zone around McCarran and another 9,000 are in the zone drawn around Nellis, county officials said. Property owners close to the airports are already required to disclose sound levels to prospective buyers if they are within the current 65 db zone.

Pointing to a 20 foot stack of public noise complaints, Jacob Snow, McCarran assistant director for planning, environment and general aviation said, "*We don't think we should let people live around this area without letting them know what they're getting into.*"

Predictably, the affected property owners reacted with angry protests at the commissioners' meeting. Realtor Audra Lang declared that the ordinance would lower property values. She said recent prospective home buyers insisted that she not show them homes after she told them of their proximity to McCarran Airport.

The proposed ordinance to require disclosure of airport noise impacts follows a similar action taken last year by Raleigh-Durham Airport in North Carolina. In that situation, 150 home owners had earlier brought a lawsuit against the airport. In the fallout that ensued, local officials imposed an umbrella noise disclosure requirement over an area that encompassed 9,000 property owners around that airport.

The Clark County Commissioners tabled the ordinance until their upcoming May 20 meeting, after enduring a storm of protest from home owners attending last month's meeting. Talk of a compromise is in the air.

Burbank Airport Wins Court Victory

California Pilot

Los Angeles Daily News, 2/19/98. - A judge handed a major victory to Burbank-Glendale-Pasadena Airport, ruling that it can acquire 130 acres of land to build a new, larger terminal—without the approval of the City of Burbank, which opposes the expansion.

The ruling by Los Angeles Superior Court Judge Carl L. West keeps on track the airport's $250 million plan to build a new 190-gate terminal on former Lockheed property by Spring 2002, airport officials said.

"Had the case gone the other way, it would have threatened to derail the terminal project," said Victor Gill, a Burbank Airport spokesman. "This way we can continue our process on schedule without interruption."

When the case was heard in court January 30, lawyers for the city argued that to protect the public's interest, a State Public Utilities Code gave the city the right to block the airport's takeover of land for expansion.

But West wrote that the city delegated its power to veto airport land acquisition when it agreed in 1977 to form the Burbank-Glendale Airport Authority, which runs the facility.

The agreement, reached to create the tri-city authority, "expressly and unequivocally grants to the Authority the right to acquire land for the operation of the airport," West wrote.

Although West in October 1997 ruled that the city's veto power was legal under federal law, the latest ruling states Burbank cannot use the power because it forfeited it when the Authority was formed.

Dismayed by the ruling, city representatives said Burbank would likely appeal it to the State Court of Appeal, saying West misapplied the law.

"The law does not allow for any delegation (of power) of this nature," said Peter Kirsch, an attorney for the city.

Even if the airport ultimately were to prevail, it still would need to obtain the necessary zoning, grading and building permits from the city—a process that can take time, Kirsch said. He added that the airport and the city are still engaged in other lawsuits over expansion that could delay the project. The city has been trying to obtain guarantees that a larger terminal would not increase pollution, traffic and noise for residents.

Santa Monica Pilots Sue City

California Pilot, March 1998

The Santa Monica Airport Association (SMAA) served notice on city officials that a Part 16 Complaint would be filed with the FAA for its continued violating of the 1984 Airport Agreement. The agreement between the city and the FAA called for a minimum of 590 tiedown spaces, at least three full-service fixed-base operators, limits to non-aviation use of airport property, and specified limits on noise measuring equipment, among other items. SMAA cited 24 specific violations of the agreement in its notice to the city last February, all of which were denied by the city in its official response.

Jim Barton, a key figure in the action, stated that the city continues to hire consultants to make plans for use of airport land for other than aviation purposes, continues to appoint airport commissioners with no aviation experience and a demonstrated animosity toward the airport, has added more noise monitors than agreed to and changed the basis for measuring noise violations, and refused to support a long-term lease to attract a fixed-base operator. He said the city-appointed airport commissioners have continuously tried to extend airport curfew hours, shorten the runway, implement user fees, and restrict the airport from any increase in aviation activity.

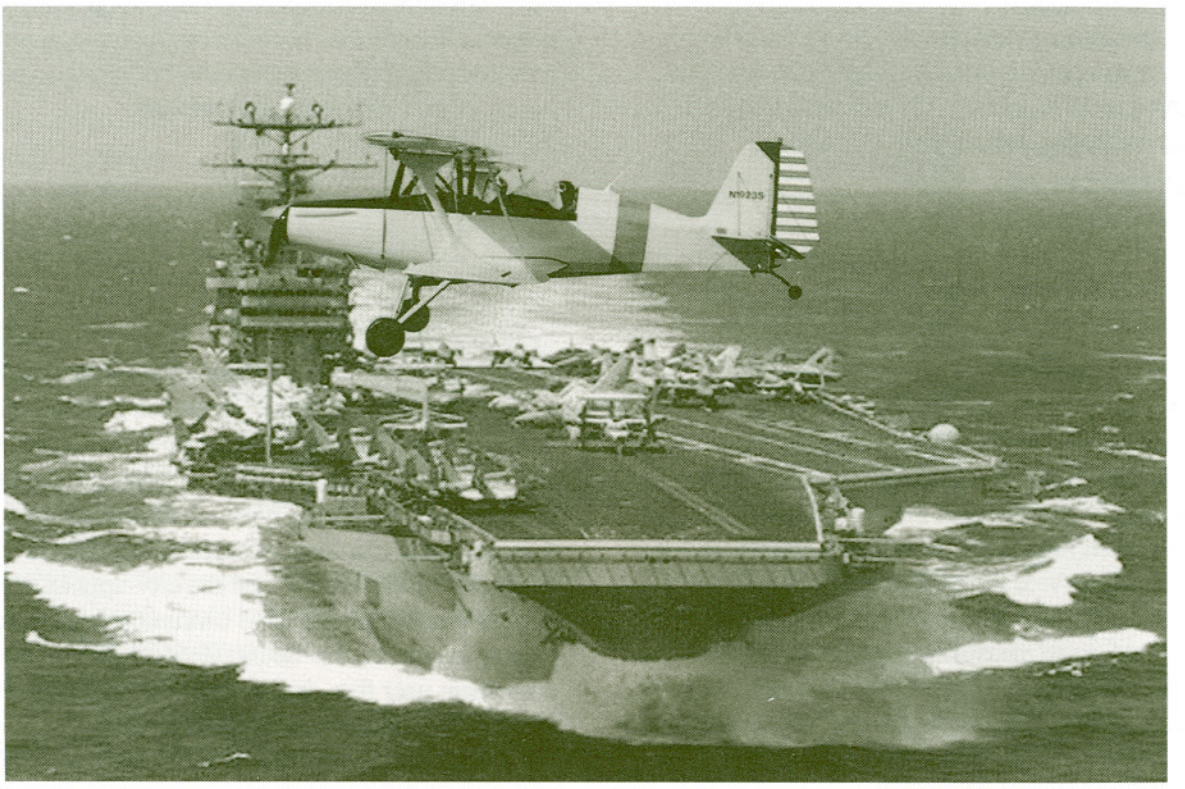
Barton stated that the Part 16 Complaint will be reviewed by the FAA, and once certified by the latter can be brought before the 9th Circuit Court.

The SMAA needs contributions to its legal fund to carry this action forward.

Race to Kitty Hawk
Cross-country Air Race, September 4-6, 1998

John Dawson, President, *Adventure Air Racing, Inc.*

Adventure Air Racing, Inc. has scheduled it's first benefit race for the 1998 season. The "Race to Kitty Hawk" will start on Saturday at Concord Regional Airport (JQF) in North Carolina and pass over several airports en route to Kitty Hawk (FFA). Aircraft will be refueled at Manteo (MQI), NC, where the participants will be able to tour the Wright Brothers Memorial. Aircraft will race an alternate route back to the finish line at the Charlotte Motor Speedway in Concord. The total flying distance of the race is 550 nautical miles. The cross-country air race is open to all certified normally aspirated aircraft up to 700 HP. Each aircraft will fly a handicap-timing course on Friday for the purpose of assigning a handicap speed. The aircraft that farthest exceeds their handicap speed will be the winner of the race. Several other events and functions will make this a "not-to-miss" aviation event. Aviation sponsors and supporters are urged to contact the race committee for marketing opportunities. A portion of each entry fee will benefit the Church of God Children's Home of North Carolina. More information can be faxed or mailed to you by calling Concord Regional at 704.793-9000, or by calling 804.752-7466. E-mail the race committee at royj@erols.com. Race kits will be available January 1 and entries will be accepted starting February 1, 1998.



Verne Reynolds (rear cockpit) and Clay Gorton in the N1923S Doing Touch And Goes on the Carrier USS Enterprise

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FOR SALE

Starduster Too SA300, 573 TTSN A/C, engine & prop. Lyc IO-360 (200 hp), Hartzell CS prop, Navcom, Xponder w/encoder, intercom, dual controls, always hangared. 409.774-4454. (See Photo N10BT, page 22.) 983

Starduster Too, Low time AF, Lyc.O-360, Sensenich, Clevelands, Spring gear. $32,000. Hezter. 503.399-0809. 983

1966 Starduster SA300. 90 TTAF, 90 TTE, IO-360-A1A, 220+ hp. C/S prop. New canopy, Terra pkg. w/encoder. Christen inverted system. Everything new. $39,500 or trade for cross-country airplane. Joe. 304.245-8858. 983

1970 Stolp Starduster Too, disassembled for recovering. 500 TT. Set-up for O-470. Newer wings. Complete except engine. $14,500, obo. 513.539-9362. 983

Starduster Too biplane project. On gear, close to completion. Majority of parts to finish. $8,500. 208.452-3149. 983

Starduster Too, O-360-1AD. 450 SMOH. C/S prop, canopy, Xponder w/encoder, Narco Navcom. Heat. $33,000. 717.938-1307. 983

Starduster Too, 337 TT. Lyc. O-435 190 hp, Hartzell prop. Spring steel landing gear. Ceconite cover. $25,000. SE Ohio. 740.984-4222. 983

Starduster Too, 210 TT. 150 hp, inverted fuel & oil. Narco Com 810. Garman GPS 90. Tape player. Recent paint, leather interior. Over $10K spent on beautiful refurbish. Absolutely nice, no-excuse airplane. $34,500. Don at 319.582-1293, after 6 pm, 608.763-2707. 983

Acrocuster Too, 1981. Factory welded fuselage. IO-540, 260 hp Lyc. Full inverted system. 300 TTAF, 900 TTE. KX-125 Collins Xponder, Mode C, NAT. Intercom. D/C headsets, helmets, security parachutes. Built w/ Oshkosh award-winning expertise. Always hangared & always loved. $42,000. 760.434-0923. 983

1973 Starduster Too. 650 TT, 53 SFREman, IO-360A4M. Inverted fuel & oil. New Airflow Performance FWF. New 1996 spring gear, . Hookers. Beautiful airpane. 904.760-2524. 983

Starduster SA100. 60 TTAF since complete rebuild. O-290D Lyc. Full electric. Seat pack chute. Asking $17,000. Gene 931.635-2325. 983

'80 Starduster V-Star SA900 biplane. Lyc. O-290D 125 hp, 3" G-meter. EGT, CHT, vernier throttle, full electric, Maul tailwheel, new radio, new prop. 2-98 annual. 450 TT. 450 SMOH. Very nice. $16,000. 203.756-0340. Call after 6 pm EST. 983

Starduster Too. 69 TT. 200 hp IO-360. Hartzell prop. Com. Xponder, encoder & lights. $42,000. 503.838-2021. 983

Acroduster Too aerobatic biplane. IO-360 Lyc. 250 TTA&E. Damaged right gear & lower wing. Must be trailered. $20,000 as is. Call Fred 817.535-5130. Texas. 983

Starduster Too. 870 TTAF SMOH. Lyc. IO-360, 180 hp. C/S prop. Inverted fuel & oil. KX-155 Navcom. KT76 Xponder w/encoder. Instruments front & rear. Stereo intercom /tape player. New

nav lights and landing lights. 40 gal. fuel. Spades, electric trim, Cleveland wheels & brakes. Maul 3200 tailwheel. Sliding canopy. $38,000. 615.774-3311 days. 615-774-3387 evenings. 983

'77 Starduster Too. 489 TT. 90 SMOH. Lyc. O-360 A3A. Hartzell C/S. KX 197. Canopy. Helmets w/headsets. $22,500. 206.363-5941. 983

Starduster Pet for sale. Two open cockpit biplane. N76NP. Lyc. O-360. Auto fuel. $27,000. 812.422-5516. 983

Starduster Too, totaled. Parts available. Center section w/tank $800. Cabane struts $400. Some parts slight damage. 607.669-4401. 983

Starduster Too, beautiful aircraft. Completed 1985. 762 TT. O-360. $30,500. 501.372-3131, or 835-6703. 983

Starduster Too. Basic fuselage with seats and cabanes welded. $2500. Call Cap, 760.947-2414. 982

Starduster TOO. Completed 1989. 390 TT, 275 SMOH on 200 hp Lyc. IO-360A1A, 275 SN on Hartzell aerobatic prop. King KT-76A Trans - ponder/Mode C & KLX-135A Comm/GPS/Inter-com. Clevelands, Hooker harnesses, Scott tail wheel. Always hangared. Full inverted fuel and oil. A&P built. Stitts fabric. Open cockpit. $34,000. 602.978-0881 or e-mail 71612.3110@compuserve. com. 982

1976 Starduster Too - Up to date dynafocal & landing gear. Lycoming O-360 engine. 825 total hours on engine. Nov. 97 annual. $27,000. Mary Jane Reed 812.422-5516. 982

STOLP Starlet airframe with complete empennage, professionally welded, no damage, early model designed for VW or 65-75 HP Continental engine. Steal it for $600.00 206-431-9732 982

STOLP Starlet project, complete airplane with damaged fuselage, includes completed wings thru Silver, both tanks, gear with wheels and brakes, wing lift struts, everything you need. Repair fuselage, put together and fly. $1,900.00 Also have available zero time OH'd Lyc. O-235 machined for dynafocal mount. Engine will cost you extra. 206-431-9732 982

Starduster TOO. Completed 1989. 390 TT, 275 SMOH on 200 hp Lyc. IO-360A1A, 275 since new on Hartzell aerobatic propeller. King KT-76A Transponder/Mode C & KLX-135A Comm/GPS/Intercom. Clevelands, Hooker harnesses, Scott tail wheel. Always hangared. Full inverted fuel and oil. A&P built. Stitts fabric. Open cockpit. $34,000. 602-978-0881 or e-mail 71612.3110@compuserve.com. 982

Canopy for Starduster II $200.00. Frank Johnson 805.239-3124. 982

1983 Starduster SA300, 220 TTA, 220 SMOH on 180 hp Lyc. O-360-A1A with fixed pitch prop. Looks like Pitts S2A. Recent KY197A Com, Magellan GPS. Hangared aircraft. Offers. Call Joel, 941.643-2500. 982

1981 Starduster Too. 420 TTAF. Fresh annual, 200 hp Lyc. injected engine, fresh OH, new constant speed Hartzell prop, inverted fuel/oil, full canopy, intercom w/stick switch, KY197, Nav-12, portable GPS, ELT, IFR, full panels front/rear, new lights & beacon, prize winning paint, aux. tank, 3 new tires, $42,250. Call Gordon 440.238-3053. 982

Stolp Starlet Kit, 49% complete w/factory new 60 hp Franklin certified engine, fuselage, tail feathers, gear & struts all welded. Wings & center section wood assembled. Cleveland wheels & brakes. No dope or fabric. Custom Sensenich prop. $8500. 909.734-2046. 982