



# Starduster

MAGAZINE



Dedicated to the  
ACTIVE Homebuilders



**July**  
**1995**



PRESIDENTS COMMENTS:

July 95

While the April Issue was in print shop, I was visiting the "Sun & Fun" Flyin, Lakeland, Fl. Early Friday A.M. the field was nearly empty. But there was the beautiful Starduster Too of Dick Miles. Still looking **GOOD!** Saturday, two more Stardusters arrived, after a weather delay, fog. Mike Giaonne arrived in Steve Searle's "Too", built by Dr. Brokaw of "Brokaw Bullett Fame". Jack Cogburn in a "Too" also of Florida. Got to see several friends, builders and flyers. Good ole John Reed and he said "see you at Wautoma". I left Monday afternoon and am sure I missed others that may have shown up later.

The next thing we knew, it was time for annual gathering, which was held in Santa Rosa, CA. Hosted by Chapter 124 at Sonoma Cty Airport. They treated us very well and so did the weather. WX in good old SO. CA. Kept several guys grounded. Oscar Bayer, Harvey Newman, and Bob Phillips made it up from SO CA.

Next subject - "Wautoma" - by the time you read this, your plans should have already been made. If you have the time, come on!! I guarantee, you'll have a great time and housing and transportation will be found. The folks of Wautoma are a most generous and accomodating people.

SEE YOU ALL THERE!

For some, it will be their 3rd visit and for many, their 1st.

Till next time!

"B.C." Prez



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

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**FRONT COVER** - N777DP Danny C. Duewall, 304 ECR 127, Midland, TX 97906. Picture taken by John Hargrove at Bartelsville, OK. during the biplane Fly-in.

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**BACK COVER** - Left to Right - N73R John Morgan Starduster One, N490B Oscar Bayer Starduster Too, N4226Y Les Homan Starduster Too, N7989 Bob Pisani Starduster Too, and N96576 Dave Baxter Starduster Too.  
Second Row - N292EP Dave Heal Starduster Too, N373BG Joe Wiegand Starduster Too.

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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

Well the Starduster Open House 1995 is over and I am looking forward to Oshkosh/Wautoma. We had originally planned on a trip to Georgia after Oshkosh/Wautoma, but my wife Donna wanted to see her sister now, so is currently in Powder Springs. Which means that I have no real reason to go south and have decided to take my good friend Phil Hax up on his offer to visit him in Vermont. So it looks like we will be leaving with him to go east after Oshkosh.

Recently I attended the Old Fashion Antique Fly-in at Concrete, Washington, only one Starduster Too, us! However there were many beautiful airplanes including three Dehavlin Gypsy Moths, "T" sixes, T-28, Yak, Gull wing, Stintson and of course one Skybolt, EAA Biplane Witch Hawk and three Baby Great Lakes. This site is located about 60 miles south of the Canadian boarder in a very beautiful valley. The weather was perfect. My son Dan was some what amazed that in a maximum slip we went from 4,500' to 900' on the 45 as the airport is located in a fairly narrow valley. We had a wonderful time and on the return trip we were able to stop at Pierce County to visit Bob Fay our good friend and Skybolt owner. He is also a pilot with Alaska Airlines. His airplane was apart for annual so we were able to look it over in detail. I was also able to get several good pictures of my airplane here on the ground with Mt. Rainer in the background.

Along with this fly-in, we were able to attend the Merced West Coast Antique Fly-in, something I had been trying to do for the last several years, but was unable to do so because of poor weather. My son Dan and I left Wednesday after work, stopping at Medford for the night then Red Bluff, Nut Tree and Merced. We had originally planned on landing at Chowchilla, CA to visit with friends, but due to severe cross winds, decided to land at Merced as they had a very wide runway compared to Chowchilla which did not.

It was not one of my best landings, but the landing gear is still on the airplane. I had originally planned on a wheel landing, but not having quite enough rudder to keep it straight, I settled for a left wing low drifting three point using almost the entire width of the runway. An airplane that landed after us did not fair so well, bending the landing gear and scraping a wing tip, we were lucky and this incident confirmed staying at Merced.

A call to our good friends Doug & Alison Teal, who had several days earlier offered to put up with us came the 15 miles north to pick us up. Doug also commented that we had made the right decision, as he thought the wind was blowing even harder in Chowchilla. Doug & Alison own a nice Starduster Too. Doug is a spray pilot (Turbine Thrush) and Alisons a house wife and aspiring Acro pilot who has flown her airplane almost 200 hours in the last year and a half. Good friends, food and accommodation with video and pictures shown Thursday and Friday night. On Friday morning, Doug took us back to Merced and after Alison got her kids off to school, she flew her Starduster over to the airshow. Again there were many beautiful airplanes and great weather. Along with our airplanes, six more Stardusters showed up making a total of eight.

Also Scott Crosby's Gee-Bee showed up along with Bill Turner's race planes. Friday evenings dinner found us sitting with flight officer Jon Petty, the Stearman pilot who had attended the Open House at Santa Rosa, what a wonderful character.

Alison was unable to stay as she could not find someone to pick up her kids after school. That evening after dinner at Merced we were able to fly our airplane over to Chowchilla as the winds at Merced on Friday and Saturday were easily handled, and we once again had a great evening with the Teals. The next day it was back to Merced, this time Doug and Alison came in their Starduster and their friend brought their kids in the back seat of a Decathlon. Again great people, airplanes and weather. We left after the airshow on Saturday to spend the night with my daughter Debbie in Redwood City. I made a much better landing at San Carlos under worse crosswind conditions, we landed a little bit sideways but did not roll far, even pretty smooth, lucky again. I guess I haven't had enough cross wind practice lately.

Our trip home the next day was relatively uneventful. We went from Sand Carlos to Red Bluff, but had to go to 10,500' from Lake Shasta to Siskiyou County to get over the top. From Medford north the forecast was bad, but in reality very good, with bases at about 8,500' at Medford to 6,500 broken at Cottage Grove. After contact with flight service a C-206 pilot advised us to go to 122.75 for current weather real time as he was about 50 miles ahead of us. The pilot turned out to be Dick Dixon, an old air force buddy of Bill Clouse's who had not seen him in many years. We had a great conversation about Starduster and Bill along with the weather, he was up higher and with a 15 kt tail wind we climbed up to 8,500 and got the same, thanking them and inquiring about their destination, they were en route from Phoenix, AZ to Anchorage, Alaska for the summer. Due to good winds we were able to go from Red Bluff to Cottage Grove in one hop. Dan and I had a great lunch at the Village Green, you can taxi right across the street from the restaurant, no contest between it and Nut Tree much better food and prices. After lunch and fuel we departed to the north and Hillsboro.

Weather was again deteriorating, but once in the Willamette Valley we could go all the way home a 500' if we had to. There were many heavy rain showers and we were able to miss most of them. But we landed at Hillsboro our home base in the middle of one we could not miss. It was a great trip, I would leave tomorrow if time and money were not an object.

Fly safe, if you have hand prop always tie your airplane down or have a qualified person in the cockpit, never fly in or near a thunderstorm and keep your airplane maintained.

Happy Flying  
See You at Wautoma!

D.C.B. Editor

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**TEXTRON** Lycoming

Reciprocating Engine Division/  
Subsidiary of Textron Inc.  
652 Oliver Street  
Williamsport, PA 17701 U.S.A.

**MANDATORY**

**SERVICE BULLETIN**

**DATE:** October 18, 1994

Service Bulletin No. 505A  
Engineering Aspects are  
FAA Approved

**SUBJECT:** Inspection of Crankshaft ID for Corrosion

**MODELS AFFECTED:** The following Textron Lycoming four cylinder engines which utilize fixed pitch propellers or are installed in rotary wing aircraft:

- All 235 series engines;
- All 290 series engines;
- All 320 series engines; and
- All 180 horsepower, 360 series engines except the 0-360-A4G,-A4J,-A4K,-A4M,-C4F and AEIO-360-B4A engine models.

**TIME OF COMPLIANCE:** **Initial Inspections:**

For new, remanufactured and overhauled engines shipped from Lycoming prior to and including 1984, the initial inspection must be conducted within the next 200 hours of operation or 1 year from date of this Service Bulletin, whichever comes first.

For new, remanufactured and overhauled engines shipped from Lycoming after 1984, the initial inspection must be conducted at the next overhaul or engine disassembly or within 10 years of the original ship date, whichever comes first.

**Subsequent Inspections:**

The inspection must be repeated for all engines at each overhaul or engine disassembly and the time interval between each inspection must not exceed 5 years.

As more experience has been gained with aging engines, it is obvious that calendar time and frequency of use are important factors of service life. With age, the effects of corrosion can result in structural problems for engine components. Reports of crankshaft breakage originating from corrosion pits on the inside wall immediately aft of the pilot diameter have been received for fixed pitch propeller aircraft. To preclude this occurrence, this area must be inspected in the following manner.

- a. Remove expansion plug (P/N STD-1211) (if installed) from end of crankshaft by piercing a 1/8" to 3/16" hole in center of plug.
- b. Measuring in from the crankshaft end, clean the first four inches of the inside crankshaft wall.
- c. Remove surface corrosion only using a suitable tool and fine abrasive cloth (see Figure 1). Prior to removing the corrosion, precaution must be taken to ensure that the material removed cannot contaminate the engine.

**CAUTION**

**SURFACE CORROSION MUST BE REMOVED UNIFORMLY FROM THE CRANKSHAFT I.D. BUT THE I.D. CANNOT EXCEED 1.910 INCHES.**

**NOTE**

Crankshafts with I.D. of 1.910 inches can only be cleaned with Scotchbrite or an equivalent. No additional material may be removed.

- d. Make a visual inspection from the crankshaft flange inward using a flashlight and magnifying glass (power 4x). A small, right angle, dental examination mirror might be helpful. The above defined area should be clear of pit marks and corrosion.
- e. If during visual inspection any pitting resulting from corrosion is found, the crankshaft must be removed from service immediately. Removal of corrosion results in a clean surface that may have an irregular appearance indicated by slight waviness. This condition is deemed acceptable provided the maximum allowable diameter has not been exceeded. Pitting is characterized by holes or fissures of indeterminate depth and direction. If any pitting exists, the crankshaft must be removed from service.

**Do not attempt to remove pits from the shaft by removing material in local areas. This may cause stress risers and promote breakage. Plating over this pitting condition will not improve the structural integrity of the part nor arrest the pitting growth. In all cases, a pitted crankshaft is considered unserviceable.**

Textron Lycoming will not assume any warranty or liability in the event a pitted shaft is placed in service. In addition, Textron Lycoming will assume no responsibility for parts which have had rework attempted by any other entity.

Crankshafts which exhibit the above described pitting on the I.D. may be exchanged for a new crankshaft at a special reduced price. Contact a Textron Lycoming distributor for this price and to arrange the return of the unserviceable crankshaft.

- f. Install new expansion plug (P/N STD-1211) (if removed). Refer to Overhaul Manual, Paragraph 7-62.
- g. Make the appropriate log book entries after each inspection.

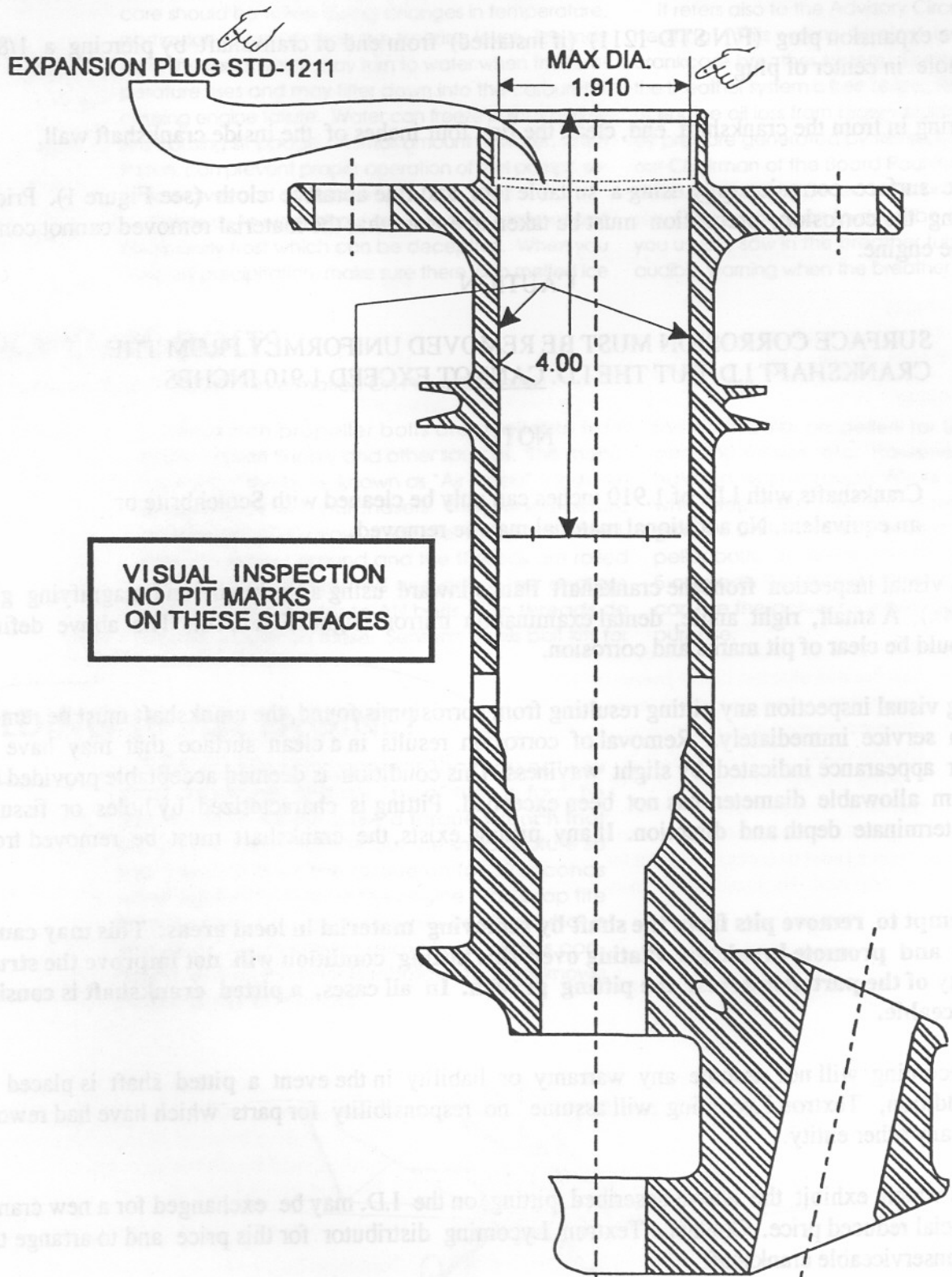


Figure 1. Area to be Inspected



ADs, Service Bulletins and FARs

**More Action Sought on Hoses : FAA May Expand Existing AD Requiring Checks, Replacement of Piper Oil Hoses**

An estimated 25,000 aircraft will be affected if the FAA proceeds with a new airworthiness directive requiring inspections and replacement of engine oil hoses in certain Piper PA-32 series airplanes.

The proposed AD would supercede an existing directive, AD 76-25-06, which requires owners of Cherokee 140s to replace certain oil hoses and to ensure proper clearance between the hoses and the front exhaust stack. In addition to including the PA-28 and PA-32 models, the proposed AD would require hoses to be replaced every eight years or 1,000 service hours, whichever comes first, and clearance inspections and adjustments to be made every 100 hours. The FAA would permit termination of the 100 hour inspection requirement by an installation of an oil hose assembly designed and built to TSO-C53a standards.

The FAA said the proposed action was prompted by over 20 reports of incidents and accidents caused by ruptures or failures of oil hoses in the single-engine Pipers. In many cases, pilots were forced to land their airplanes with smoke entering the cockpit and oil spraying on the windshield, according to the agency.

Some of these hoses could be on your airplane and could require inspection or replacement and if your Starduster is eight years old or has 1,000 hours of flight time, the hoses for both fuel and oil should be replaced.

D.C.B. Editor

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**Water In The Gas Tank**

Each year at this season we can expect a rise in the number of accidents due to water in the gas. It happens most in high performance aircraft and the cause can usually be traced to the fuel caps. Summer rains go right through them.

The modern, flush cap is a simple device, but it does require attention. If the O-ring seal is bad or the tension on the locking tab is out of adjustment, rain will collect in the cap recess and dribble into the tank.

Fortunately, the potential for a problem can be spotted easily by the pilot on a walkaround inspection and the repair is simple. All the pilot has to do is pull the cap and inspect the O-ring and the metal O-ring seat.

The O-ring - which is the black rubber like seal around the circumference of the cap - should be undamaged and pliable.

Test its condition by gently compressing a section with your thumbnail. It should leave a dent which quickly springs back. Inspection should reveal a continuous black line indicating that the O-ring presses against the tank all the way around the cap when it's locked in place.

(Continued Next Page)

NEW BATT The metal at the tank opening where the seal touches, the seal striker, should be smooth with no gouges or nicks. When the cap is replaced you should be able to push the locking tab over with your thumb. If it takes both hands and heavy pressure, the tension is too tight. When removing the cap, you should be able to pull the tab up with your finger.

If your inspection reveals anything suspicious, call a mechanic.

#### After Water Gets In

Needless to say, we strongly advise that you drain fuel from all sumps, prior to every flight, into a container and carefully inspect the contents for water and other contaminants.

If you get a single small bubble of water from a tank sump, its no cause for great alarm. Empty the container and drain a few more ounces. If it's clean on the second check, crank up and go.

But if you get water from the firewall strainer or several ounces of water from a tank sump, you've got big problems. You must not think that repeatedly draining a few more ounces until the water stops is enough.

ELFC When a large quantity of water gets into the system, large quantities of fuel must be drained to completely purge all fuel lines and tanks. At the firewall strainer, for instance, more than a quart of fuel may have to be drained to clear the fuel lines from the tank to the engine.

When a large quantity of water gets into a tank, particularly one of the intergral cells found on most modern aircraft, some of it will often be trapped behind internal tank structure. Should that occur, you may drain the sump until you are getting clean fuel yet still suffer an engine failure on takeoff.

That's because the trapped water does not drain until you taxi out. The sloshing breaks it free and if finally gets to the engine at the worst possible time.

To preclude that, drain until the water stops, then shake the wing tip and drain some more. Its even a good idea to crank up and taxi through some quick turns, shut down and drain yet some more. Continue until you are certain all the water is out. Let's not let the summer rains cause accidents this year.



## Avoid Thunderstorms - Teasing The Beast

If, in spite of all the data, all the accident reports, all the briefings and all else, you find yourself flying when thunderstorms are present, at least consider the following tips to give yourself a fighting chance for survival. They have been summarized from the Airman's Information Manual, one of the best government documents in print containing thunderstorm information:

- Don't take off or land into an approaching thunderstorm.
- Don't fly under one, even if you can see through to the other side.
- Don't fly into an air mass containing scattered thunderstorms unless you have operable weather radar and know how to use it. Circumnavigate the entire area.
- Don't try to judge a thunderstorm by its external appearance. Even a benign-looking cell can kill.
- Avoid big storms by at least 20 miles.
- Don't fly under or near an anvil.
- Remember that any thunderstorm topping 35,000 feet is extremely hazardous.
- Clear the tops of storms by at least 1,000 feet for each 10 knots of wind.
- Circumnavigate the entire area if 6/10ths or more coverage exists.
- If you see frequent lightning in the storm, consider it severe, with all the worst characteristics imaginable.

If thunderstorm penetration is absolutely unavoidable (though I can't understand how that might come about), the AIM recommends that you:

- Secure your seatbelts, shoulder harnesses and loose objects in the cockpit.
- Plan a straight course through the storm and maintain it to spend minimum time inside.
- Penetrate at an altitude either below the freezing level or higher than minus 15 C level.
- Make sure your pitot heat, carburetor heat and or anti-ice are turned on.
- Use a power setting that will maintain the manufacturer's recommended turbulent air penetration speed. VA
- Turn your cockpit lights up to maximum brightness.
- Don't change your power settings once you have properly established them.
- Maintain a constant attitude, and don't try to chase the altimeter. Ride the updrafts and downdrafts to avoid overstressing the airplane.
- Do not change your course. A straight line will generally keep you in the storm for the minimum amount of time.

If this sounds like gritty, life-or-death stuff...that's good - it is! Best to avoid putting ourselves in the situation in the first place. Let's just remember to fly safe...but not anywhere near a thunderstorm.

Can you remember all this stuff?

D.C.B. Editor

## STARDUSTER HISTORY

### N5461 Morgan (Bud) Schrack's Starduster Too

Those of you who in the past have read my book Starduster History will recall the article about Morgan Schrack and his airplane N5461, so along with that I will refresh and add a little more to this story. In keeping with my goal to include all of the historical aircraft associated with Starduster Corporation, I will also add some of the first plans built airplanes.

One of the very first Starduster Toos to fly was Morgan's N5461. It had a 200 HP Lycoming, fixed pitch prop and was painted red & white with black trim and a checkered rudder. It was built by Morgan in Long Beach, California and was completed in late 1967 and brought to Fla-bob for assembly and first flight.

Bob Herendeen did the first flight. Morgan was a captain for TWA on Convair 880s and for many of his airline hours Bob Herendeen was his first officer. After the time was flown off it was flown back to Long Beach. During the time I worked for Lou Stolp. Morgan and Bob would make numerous trips to Fla-bob, which would usually end up in a free airshow. They would arrive and depart in formation, and beat up the place in between. Nobody seemed to be concerned back in those days. As to my knowledge, no action was ever taken against them (Not so today). This airplane was not only the first Starduster Too I ever got a ride in, but was also the first aerobatics other than a spin I had experienced. What a thrill. It took me a long time to get a ride in this airplane as I innocently made the comment that Lou's N1300S looked better than Morgan's N5461. Boy I never made that mistake again.

Morgan was a very accomplished pilot, both in jet airliners and light aircraft, having been a C.P.T. instructor during WWII and who also taught his son to fly.

One day out over the Santa Ana River, near Fla-bob Morgan did a slow roll and went a little negative. The parachute that was not secured very well in the front cockpit ended up in the river bottom mostly sand and Morgan spent all afternoon looking before finally finding it. Morgan, like most acro pilots, was not satisfied with his airplane and its ability to perform aerobatics. So he had been talking to Lou Stolp about an aerobatic version they could co-build. The results of which were the prototype (Super Starduster Too) Acroduster N5462. For Morgan to be able to do this he had to sell his Starduster Too N5461. The buyer was Joe Hamilton of Greenboro, NC, the chairman of the board for Texfi Industries. The sale was made and Joe enjoyed the aircraft in this configuration for many years.

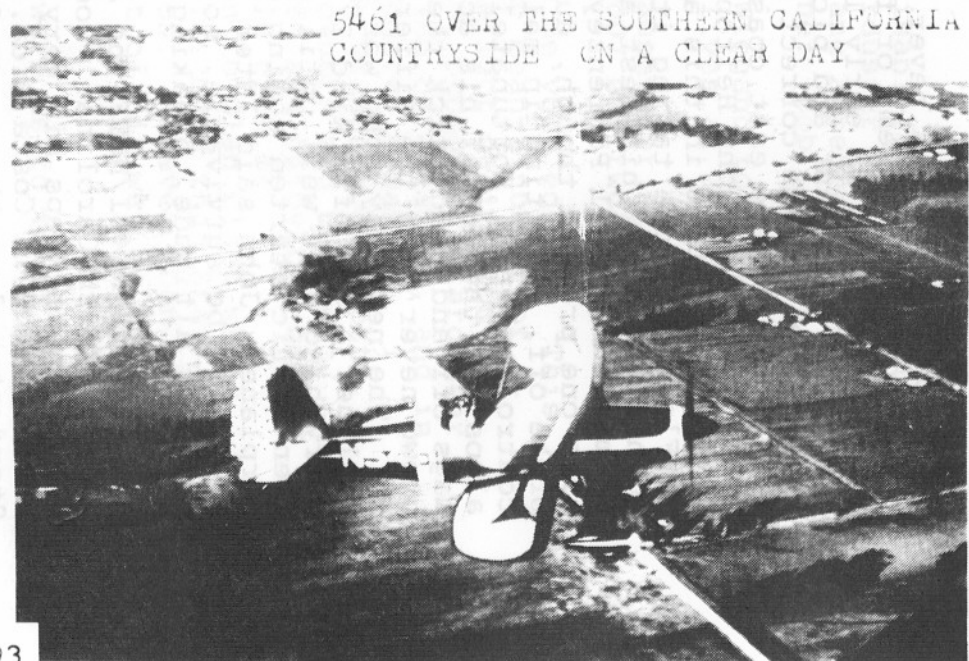
During the late 1970's, Joe had the airplane re-powered with an IO-540 260 HP Lycoming. The installation was done by Piedmont Aviation and not only took forever but cost Joe a fortune. Along with this the airplane was converted to a symmetrical airfoil and was recovered and painted in much the same original colors and re-registered as N8TF.



N5461 AND MORGAN (BUD) SCHRAK AT  
FLA-BOB DURING THE LATE 1960s



N8TF IN NORTH CAROLINA 1993



5461 OVER THE SOUTHERN CALIFORNIA  
COUNTRYSIDE ON A CLEAR DAY

Joe however was never really satisfied with the fuel and electrical systems or for that matter the covering done by Piedmont. So in early 1984 he invited Bill Clouse and Brenda to come east and pick up the airplane and take it to California for the correct repairs. This was done prior to its return to the east coast. The pilot for that trip was none other than John Helton. John was invited to fly an aerobatic routine in this airplane at the Sun & Fun Fly-in in Florida before taking it back home to North Carolina. John flew one of his best airshows in this airplane as commented by Paul Pobrenzey who was in attendance. John did have one problem though, during the airshow an exhaust pipe broke off, resulting in melted throttle mixture and prop control cables. Fortunately it was at full throttle and almost at the end of his act. This allowed him to shut the mags off and dead stick the airplane ala Bob Hoover. The crowd never knew the difference.

The next day John was asked to fly another home built biplane, a one of a kind 2/3 rds scale Baby Stearman. Everything went well until about halfway through the show when fabric started coming off the upper wing of this airplane. John said later that he thought the ensuing crash would not be survivable, so he jumped out of the airplane at very low altitude, breaking both ankles, but surviving to fly again.

As for N5461/N8TF the airplane was repaired and flown back to North Carolina. Joe stills flys it on occasion. His business keeps him very busy. He also has a business and property in Costa Rica. He plans on taking his Starduster down there someday.

Another interesting story about Morgan was told to me many years ago. I have been hesitant to write about it because of the people involved and the accuracy of the information. However it was related to me again by one of the people involved, so I believe that it did happen. This is how the story goes...

Most people are now aware that Morgan, not only had one of the first Starduster Toos to fly, but what most people don't know is that after Morgan's retirement he moved up to the Watsonville, California area, and being interested in aerobatics made many trips to Christen Ranch at Hollister, California. Most of you know about the Christen Eagle. Morgan was hired by Frank Christen to do the early flight testing on the prototype Eagle N2FC, along with giving the aircraft an aerobatics evaluation. During this time he was also getting kit parts and was building an Eagle. His airplane was ready to fly about the time Frank was promoting the Eagle airplane kit for sale in the late 1970's. This kit was and still is the envy of most kit manufacturers even today.

Anyhow, Frank was down to the canopy installation and was having a hard time getting consistent parts, so that builder's canopies would fit every time, and he did not want to ship any parts that did not fit perfectly. Morgan's airplane was complete except for the canopy, and after waiting several months for Frank to get the bugs worked out, decided to install a modified Pitts canopy.

You have to understand Frank was a stickler for everything to be perfect, and Morgan wanted to go fly, besides this indiscretion. The Schrack Eagle wasn't even painted like the other Eagles. When Frank found this out Morgan was fired. Morgan also had a partner in the airplane, which Frank made such an obscene offer of money too and then was half owner in the airplane and after much arguing, Frank finally bought the other half from Morgan for big dollars. Frank then had Bob Herendeen fly the airplane from Watsonville to Christen Ranch, where he pulled the engine and then burnt the airplane not wanting this half breed out in the publics eye to cramp the sale of top quality Eagle kits. You have to understand these were strong willed individuals. However several years later when Morgan was dying of cancer, Frank came to see him in the hospital. Which allowed the re-newing of their friendship prior to Morgan's death in 1983.

I will always remember my ride with Morgan in N5461 at Fla-Bob as a young low time pilot.

#### D.C.B. Starduster History



AIRCRAFT OWNERS AND PILOTS ASSOCIATION  
421 Aviation Way • Frederick, Maryland 21701-4798

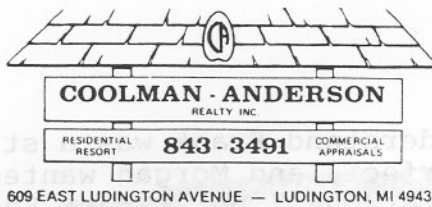
**Phil Boyer**  
President

February 21, 1995

Mr. Baxter...

Thanks for sending us a copy of your letter to the FAA relative to Part 61 and 67 (medical rules) of the FAA regulations. Your comments are being shared with other AOPA staff and the AOPA Medical Advisory Board for consideration as AOPA compiles its comprehensive filing to the docket. Pilot magazine will convey the continuing information on this issue.

Your taking action on this issue is appreciated.



How does one know if it is lust or true love or just a passing fancy? After over 19 years I still have the burning passion, only now, I have a new love. That doesn't mean that I no longer desire the old gal, she has been so dependable, always there when I needed her. We have so many memories, some wonderful moments and a few not so wonderful. It is just that my new one is so exciting, her touch, her feel, that sensuous look, the way she seems to purr, the challenge. Oh yes, the challenge.

I have owned OL' 97 Fox with my partner Hal Madden, since November 1974. Not only was I fortunate to have an interest in a great airplane but I have had one of the finest partners one could ask for. We bought the 1967 Mooney Executive (N3297F) while My private license still had wet ink, I had a total of 77 hours in my log book. Most of the 1800 plus hours accumulated over the years have been in the Mooney with a couple hundred in various styles of Cessena, Piper, Beech, et al. All of which had a Wheel on the nose. Transitioning from a tricycle to conventional gear is indeed a challenge.

Permit me to back up a little. For as long as I can remember I have had to look up every time I heard an airplane go over. I can't ever remember, not wanting to fly. I can remember being about 5 years old and being in total awe of a Capital Airlines DC 3 at the Flint airport, and my first airplane ride when I was 18. So I think this is not a passing fancy. My new love is unlike anything I have ever experienced before.

A couple of years ago I got the urge to own another airplane but I wasn't sure what it was I wanted. I wasn't looking for transportation as I had my Mooney for that. I had taken some duel aerobatics a few years ago and wanted to pursue additional training in that aspect of flying. The vision started to become more clear as I continued read flying magazines, Trade a Plane and the classified adds. Once I got the clear picture there was no compromise. It had to be a Bi-Plane capable of mild aerobatics. Then the search began in earnest, along with the process of elimination. Some were eliminated because of budget, some just didn't have the sex appeal (beauty is of course in the eye of the beholder). The two airplanes that I began to focus on were the Skybold or Starduster 11. After a couple of unsuccessful attempts at purchasing a plane over the phone I decided to attend the annual skybolt fly-in in Marion, North Carolina in May 93 and to make certain the my intentions were perfectly clear I wore a tee shirt that had the following printed on the back "HAVE \$\$ - WANT SKYBOLD". It was a great trip and met some neat people but no sellers.

In the third issue of May Trade a Plane there was an add for a Starduster 11 that was located in Indiana. I called and made arrangements to meet owner, Dennis Hackbarth at the Napanee airport to look at the plane the following Saturday. I had arrived a few minutes before him. When he taxied up I fell instantly in love. After a brief introduction and typical niceties he offered to take me for a ride. It lasted no more than 10 minutes, I declined his offer to show me how it rolls and loops as I was just getting over



a flu bug. I kicked tires for a few minutes. It had been over 18 years since I had actually purchased my last airplane so I wasn't sure just what to do next. I decided to just make an offer, he declined, and we parted each agreeing to think about it. I awoke Sunday morning knowing that I had to own that beautiful little bi-plane. I called and told him I wanted the plane, ask him what was the bottom line, he said, I said sold. He ask, what about the pre purchase inspection and title search and all that jolly rot that I had said I had to have. I said I would waive them if I could talk to the guy who did the last annual. I did, felt comfortable, and sent him a deposit and made arrangements to pick up N12DP on June 10. I don't recommend this procedure to anyone. I took a calculated risk based on the visual inspection of the airplane, the mechanic and my personal feelings about the integrity of the seller.

Now the fun begins. Bringing 12DP home to Ludington Michigan was one of those wonderful experiences that we all dream about. Everything, including the weather was picture perfect. I called on OL'97 Fox to take us to Indiana. I had Zero time in a taildragger so my friend, Dave Johnson offered to fly her back. I'm not sure who had the biggest grin as we flew side by side in the clear blue sky for the next hour and a half, me in the Mooney or Dave in my gorgeous green and white Starduster 11, but I know which one lasted the longest because mine is still there.

There is no way to verbalize what it is like to sit out in the breeze of an open cockpit bi-plane equipped with nothing more than the bare essential instruments and flying with a stick and rudder just as the pioneers of aviation did in the good old days of barnstorming.

It's November and in Northern Michigan it's time to seriously consider putting an open cockpit bi-plane to rest for the winter. I have had so much fun that it's OK. I managed to accumulate over 90 hours in N12DP, gave rides to 46 people (the list for next year is incredible). I had the wonderful opportunity to meet with Bill Clouse the owner of the Stolp Starduster Corporation in Watoma, WI along with Dave Baxter editor of the Starduster Magazine and many others of the Starduster family. We did a fly-by at Oshkosh with 12 Stardusters during the EAA convention. After landing at Oshkosh, I had the pleasure of meeting Doug Pfundheller, the gentleman who build my airplane in 1975. He had several stories of interest, including why "TA DUM" is painted on the tail (each time he completed a component as he was building the plane he would proudly show it to his wife and say TA DUM so she suggested he display it on the completed project).

I don't know if it is a passing fancy, lust, or true love, but I know the passion has always been there and there is enough for both of the old gals.

HAPPY FLYING!!!!!!!!!!

Douglas L. Shoup, licensed pilot since 1973, currently holds a commercial pilot license, with an instrument rating and lives in Ludington, Michigan.

1995 STARDUSTER ORISKANY HOUSE  
SANTA MONICA, CALIFORNIA

LETTERS

Dear Dave,

3-18-95

Thank you very much for all those beautiful pictures. I really appreciate all the research you did for me. It will help me a lot. I will be going to Sun and Fun, can I take any Starduster pictures for you there?

I've made copies of my weight & balance. As you can see I am carrying a 33# weight on the starter boss. I also have modified my propeller to weigh about 50# total. [engine is a O320 from a Tri-Pacer]

This airplane N66SJ [my wife's initials] was originally built in the 60's and 70's by a good friend of mine. After only 50 hours he had a pretty good ground loop accident. The airplane sat until 1985. He gave me the airplane in pieces with no paper work. What a gift!

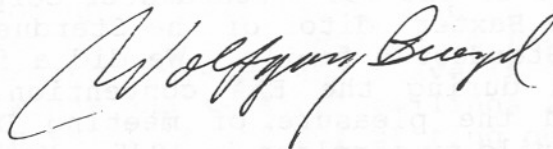
I rebuilt it with a new tail cone, new gear and registered it as a new homebuilt. I have 133 hours on it since the rebuild. [grade "A" cotton]

My other airplane, my original Starduster project, now 20 years and going is N55WG, my initials. Lower ailerons only, no electric, no interior and W670 engine. I hope to start the mount soon. I hope to keep the empty weight down to about 1250#.

If you do decide to come this way during the summer, we have an extra room, space in the hangar and a 3,000' grass runway. It is on the Detroit Sectional as "Bloecher Farm" about 14 NM on the 150 degree radial of the buff vortac.

I hope to go to Oshkosh, but it will be in my Tri-Pacer, since we camp out and carry a lot of junk. Thanks again.

Sincerely Yours,



P.S. Enclosed is a check for \$29.95, please send me a copy of your book. W.G.

LETTERS

Starduster Corporation

Jan 10-95

Bill,

You just know there isn't enough time in the year!  
Enclosed are some pictures of the Starduster Too I purchased last April. At the time I was taking private pilot training with about 65 hours in a C152.

The plane was purchased from the deceased's widow and brother - co-owners of the plane. -33DJ- was completed in 1984 and had only flown 78.17 tach hours in 10 years!

A life long friend of the previous owner, Tom got me checked out in the Duster while switching myself in and out of the Cessna 152. It took till August 6 to get my private, and after that I got an official 10 hours of dual with the local instructor and now have the tailwheel endorsement. That was signed off in October.

I now have 100+ hours in the Starduster and I am looking for more. This winter I have decided to rework the I.P. in the rear and add a G.P.S.

Enclosed are some drawings of the panel and how it is positioned in the cockpit. All the switches were on the left behind the throttle quadrant and with my long arms quite out of reach. There is also a center console with the NAV/COM (Escort II) and transponder.

I also want to let you know I'm still working on my tailwheel. I'm showing that plane off every chance I get. I have met some other Starduster owners. One at a chapter flyout to "Exit 3" about 40 miles west of Toledo, Ohio and another "Rex" from Cheasing, MI (only 130 hours in 19 years).

I'll be back flying by the end of March!  
Say Hi to all the "Dusters"

Jim Moore  
Sterling Heights, MI

Starduster Too  
Builder: Del Ireson 1984  
Engine/Prop: Lyc IO-360 200 HP / Hartzell C/S Aerobatic  
Inverted fuel & oil  
Wt 1,344  
16 gal Wing Tank  
Full Electrical System  
Nav Lights/taxi/landing/wingtip strobes

Total time Airframe/Engine/Propeller: 101.28 Tach

Enclosed

Rear Tail Spring	\$48.00
Starduster Magazine	<u>\$12.00</u>
	\$60.00

Bill, See you this summer!

Jim Moore

DEAR BILL,  
WELL I GUESS IT'S  
36 OF 1950  
YOU A YEAR AGO.  
I BOUGHT N77DP  
IN A HANGER AT GELISH  
TACH SERVICE. I GOT  
3100 HOURS. I GOT  
PIONEER PILOT TRAINING  
HOME WE TOOK TOOL  
REBEK TODAY 3454E  
TO CLEAR 1910030BEV  
SOLVED 197031 81



DOUG SHOUPs N12DP AT WAUTOMA WI 1993  
SEE LETTERS THIS ISSUE OF S/D MAGAZINE



WOLFGANG BUERGELs N66SJ AT BLOECHERS  
FARM SOUTH OF BUFFALO NY



JIM MOOREs N33DJ AT STERLING HEIGHTS MI 20

266 SAMANTHA WAY  
WINDSOR, CALIFORNIA 95492  
707/838-0261  
FAX: <CALL FIRST>

May 8, 1995

Bill Clouse  
President  
Stolp Starduster Corp.  
4301 Twining  
Riverside, California 92509

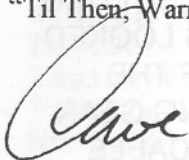
Dear B.C.:

**WOW!** — Did we have a great time or what! The weather finally did its usual California thing (i.e., warm and sunny), everyone flew safely, and no one got sick from all of Bill Cannam's amateur cooking. Our Chapter members truly enjoyed seeing the 20 or so *Stardusters* on the line and getting to meet real aviators — you know, the ones with the big grins and bugs in their teeth. I do believe that a couple of the attending antique and classic car enthusiasts got the *Starduster* bug as well.

All kidding aside, the membership of EAA Chapter 124 was delighted to host the 15th Annual West Coast *Starduster* Fly-In. We hope you will again consider Sonoma County Airport for next year's fly-in.

I'm looking forward to seeing you and my *Starduster* friends at Oshkosh / Wautoma '95 — if not sooner.

“Til Then, Warmest Regards —



Dave Heal

Starduster Too N292EP

c: Dave Baxter — Starduster Newsletter

DEAR BILL,

WELL I GUESS IT'S ABOUT TIME I WROTE THAT LETTER I PROMISED YOU A YEAR AGO.

I BOUGHT N777DP IN MAY OF 1993 OUT IN SAN DIEGO, IT HAD SET IN A HANGER AT GELISPE FIELD FROM 1981 UNTIL I PURCHASED IT. THE TACH SHOWED 132 HRS. SINCE NEW. I TOOK MY SON, CLINT WITH ME IN AUG OF 93 TO FERRY THE AIRCRAFT BACK TO MIDLAND TEXAS, OUR HOME. WE TOOK TOOLS AND SPENT TWO DAYS GETTING THE PLANE READY TO FLY. WE HAD TO REWORK THE TAIL WHEEL SPRING SO AS TO CLEAR THE RUDDER. ONCE WE HAD GOTTEN THAT PROBLEM SOLVED, IT WAS TIME TO RUN UP AND CHECK OUT THE ENGINE. AFTER I WAS PLEASED WITH THE ENGINE, IT CAME TIME TO FLY N777DP. IF YOU REMEMBER, I CALLED YOU FOR ADVICE, SINCE I HAD NEVER FLOWN A STARDUSTER BEFORE. YOUR WORDS OF CONFIDENCE ASSURED ME I COULD DO IT.

I TAXIED OUT TO THE WEST RUNWAY, DID MY RUN UP, TOOK SOME DEEP BREATHS, CALLED THE TOWER READY. THE POWER CAME UP NICELY, GOOD RUDDER RESPONSE, NEXT I FEEL IS FLIGHT. IT WAS AS IF I HAD JUST SOLOED. THE FEELING WAS GREAT. BUT NOW FOR THE LANDING, THE TOUCH DOWN WAS FINE, IT WAS THE ROLL OUT THAT ABOUT DID ME IN. THE TAIL WHEEL SHIMMED VIOLENTLY, I ALMOST LOST IT. AFTER COMING TO A STOP, I THOUGHT, WELL MAYBE THIS TAIL WHEEL AIRCRAFT IS DIFFERENT. SO I CALLED YOU AGAIN. YOU ASSURED ME THE PROBLEM WAS IN THE ANGLE OF THE VERTICAL AXEL OF THE TAIL WHEEL, IT WAS, THAT REPAIRED, I FELT GOOD ABOUT THE NEXT FLIGHT.

THE NEXT DAY, CLINT AND I SET OFF FOR POINTS EAST, WE CLIMBED TO 7500 FT. AND INDICATED A GOOD 135 MPH. WE LANDED IN EL CENTRO FOR FUEL AND LUNCH. IT WAS A 120 DEGREE, NOT A PLACE TO STAY LONG IN AUGUST. THE NEXT LEG WAS ON TO CASA GRANDE, WE SPENT THE NIGHT DUE TO STORMS ON EASTWARD.

UP EARLY, WE SET OFF FOR DEMING N.M. THE LANDING THERE WAS A PROBLEM, THE BUNGES WERE SO BAD FROM YEARS OF SETTING AND AGE, WHEN I SET DOWN THE LANDING GEAR AND WHEELS LOOKED LIKE THEY BELONGED ON A ME109. I RAN OFF TO THE LEFT OF THE RUNWAY, AND THE SAFETY CABLE BROKE ON THE LEFT LANDING GEAR. THIS IS WHERE I CALLED YOU AGAIN AND YOU SAID, "GET SOME CABLE AND CLAMPS FROM THE LOCAL HARDWARE STORE, TIE IT UP AND GO ON HOME." THE NEXT LEG TO MIDLAND TOOK THREE HOURS, I WAS SO TIRED BY THEN I DID NOT CARE WHAT HAPPENED, BUT THE LANDING AT HOME BASE WAS HEAVEN SENT. WE PUT N777DP IN THE HANGAR AND GOT OUT THE COLD BEER.....

PENNYE (MY WIFE), MY SONS, BILLY AND CLINT, AND LOTS OF FRIENDS, ALL SPENT THE NEXT THREE MONTHS WORKING ON N777DP. I HAD A BURNED EXHAUST VALVE IN NO. THREE CYLINDER, REPLACED

ALL LANDING GEAR BUNGES, INSTALLED A KX125 AND EXPONDER NEW TIRES, REPLACED ALL HOSES UNDER THE COWLING, PUT IN AN AIRSPEED, ALT, RATE OF CLIMB AND MANIFOLD PRESSURE IN THE FRONT COCKPIT. HAD TO DO ALL AD'S ON THE MAGS AND GO THROUGH THE FUEL SELECTOR, AS IT WAS VERY STIFF FROM YEARS OF NONE USE. BUT ALL IN ALL FOR AN AIRCRAFT TO HAVE SET FOR AS LONG AS IT DID, SHE WAS IN GOOD SHAPE.

I HAVE BEEN TRYING LIGHT AEROBATICS. THE ROLL RATE WAS SOME WHAT SLOW, SO I TOOK TEFLON STRIPES THE LENGTH OF THE AILERON, TWO INCHES WIDE AND 1/32 THICK, AND SUPER GLUED THEM TO THE WING SO THAT THE GAP BETWEEN THE WING AND AILERON IS SEALED ON TOP OF THE WING. IT MADE A NOTICEABLE INCREASE IN THE ROLL RATE. THEN I SEALED THE RUDDER AND ELEVATOR WITH DOUBLE SIDED TAPE. THE AIRCRAFT WILL ROLL AND LOOP FROM LEVEL FLIGHT, WITH THE POWER SET AT 25 SQUARED, INDICATING 142 MPH. THE ENGINE IS A LYC. IO 360 A1A, 200HP. MIDLAND IS 2890 FT, ABOVE SEA LEVEL. SO I GUESS I AM WORKING WITH ABOUT 160 HP.

I CAN'T SAY ENOUGH ABOUT MY SA-300, EXCEPT THAT BEFORE I GET IN THE FALCON-20 AIRCRAFT I FLY FOR A LIVING AND GO TO WORK, I GET IN MY STARDUSTER AND GO PLAY!!

THANKS BILL FOR ALL THE HELP

*Sincerely*  
*Danny C. Duewall*

DANNY C. DUEWALL  
304 ECR 127  
MIDLAND, TEXAS 97906  
915-682-1520



1995 STARDUSTER OPEN HOUSE  
SANTA ROSA, CALIFORNIA

As usual I take two weeks off during this time and do so to allow for weather and to visit the many friends I have made over the years. Also as usual the weather is always the biggest challenge to flying a light airplane around the country, and this trip proved to be no different.

During the last six years of flying my airplane to these events, I have only had two trips that didn't require waiting for conditions to get better.

On this trip in some areas the Flight Service briefings were good, Oregon McMinville, California Red Bluff and Ukiah. However in others Rancho Murettia California the briefings left a lot to be desired.

So we had planned on leaving Friday the 28th of April, but due to the unusual conditions in Oregon and California as well as the rest of the country we did not get off until Sunday the 30th, and then we only made it south to Medford, Oregon.

We were able to stay with friends there as well as visit my good friend Bob Cavaras, a Starduster Too builder from Grants Pass, Oregon. He has a beautiful airplane that should be ready to fly later this summer. These visits were made easy due to the fact we were there two days waiting for weather conditions to improve.

By noon the 2nd of May the weather in southern Oregon and Northern California had improved enough to let us head south. I had originally planned on visiting friends in Northern California during a leisurely trip south, but due to the weather we were four days behind schedule. So we elected to go straight to the Bay area to visit our daughter Debbie, son-in-law Dave, and grandson Matt. We did however stop at Red Bluff and Livermore before landing at San Carlos, California. Red Bluff for fuel and Livermore to see Mike Mattei, Bob Pisani and Les Homan. We go to San Carlos because it is the closest airport to my daughters house in Redwood City. We had an enjoyable time with our family, I did however pick my son up, he had flown down on the airlines Wednesday evening. I then decided to fly my airplane back to Livermore Thursday and leave it there as the forecast of high winds and marginal ceilings for Friday morning made for the possibility of not getting out of San Carlos. Besides we all wanted to leave Livermore together on Friday.

The weather at San Carlos was marginal that morning and the wind was certainly hooking it, 28 gusting to 35. But as it turned out the wind was gusting pretty much down the runway and I could have gotten out. Anyhow we did some more visiting with Mike Mattei that Thursday evening and was able to use one of Les Homan's cars for the trip back to my daughters and then back to Livermore Airport Friday morning.

That Friday morning was gray, cloudy and windy, pretty much what the weather channel and Flight Service were forecasting, along with poor weather for the rest of the weekend. Bob, Les and I had hoped that Jeff Chambliss would get the few problems left on his new 300 HP O540 engine installation solved so that he could go with us to Santa Rosa, but that was not to be.



We left as a flight of three. Bob had some problems with his cockpit cover and had to return and make some changes. We, Les and I, circled west of Mt. Diablo waiting for Bob to rejoin us. When he did we headed northwest to Santa Rosa, across the Moth Ball Fleet, over Martinez, Shellville and into the Sonoma Co. Airport at Santa Rosa. Les landed first, then Bob and then us. The weather improved and continued to do so that afternoon, much better than what had been forecasted. We were of course the first arrivals. The locals, Dave Heal, Bill Cannam and Joe Wiegand were there to meet us. A number of airplanes continued to show up. That afternoon, two airplanes that I didn't think would make it, due to the weather, did.

My good friend Hap Schase and Scotti Orr left from Scappoose, Oregon that morning and after a little scud running near Eugene and the coast range were able to come all the way down the coast with relatively good weather. The other airplane was Glen Olsen, who had come all the way from Salt Lake City, but had to go way south to St. George UT to Las Vegas, to Dagget, CA, Los Banos, CA and then finally to Santa Rosa for a total of 10 hours flight time or more in his Acroduster Too.

Bill Cannam of Santa Rosa, a Starduster Too builder and member of EAA Chapter 124 did a great job with the food Friday night, Saturday morning and with the banquet that evening. He of course had help from the local members and volunteers. The weather that morning turned out to be beautiful. Saturday was the best turn out and standing on the ground wondering which airplanes would or would not show up is always an enjoyable experience. Only one Starduster showed up from southern California. Due to the weather and he had an interesting trip as a flight of two out over the ocean and back inland. The pilot and new owner of N5317Q was Harvey Newman, his wingman was Bob Phillips in a C-182.

Also several airplanes were able to attend and go home each day due to being based locally. I gave a number of rides as did many of the other pilots. The rides were mostly for other builders and their families as well as to the members of the local car club who had brought their cars to display along with the airplanes.

Our original intent was to put together a formation flight over the Golden Gate, however only a few wanted to try, and the airplanes and the pilots were a mixed bag with slow and fast airplanes: a Stearman, an Acroduster and three Starduster Toos, plus a C-182 camera plane made for a difficult join up and successful picture taking event. We did get a few good shots with flight officer Jon Petty in his Stearman at full power and Glen Olsen hanging on his prop with all the Starduster Toos in between. It made for a lot of work, but we had a great time. After dinner that evening the awards were announced.

Grand Champion was awarded to Harvey Newman for his beautiful 540 powered Starduster Too N5317Q. This airplane was originally built by Bob Phillips and was flown by Hank Schmel during our formation picture taking attempt. Harvey lives at 660 Silver Valley, Walnut, CA 91789.



GRAND CHAMPION AWARD TO HARVEY NEWMAN  
FOR HIS BEAUTIFUL STARDUSTER TOO N5317Q



FIRST PLACE AWARD TO BOB PISANI FOR  
HIS BEAUTIFUL STARDUSTER TOO N7989



SECOND PLACE AWARD TO JOE WIEGAND  
FOR HIS BEAUTIFUL STARDUSTER TOON3738G

First Place was awarded to Bob Pisani for his beautiful rebuild and excellent work on his Starduster Too N7989. His story and letter regarding this airplane appeared in the April 1995 issue of Starduster Magazine. Bob lives at 610 Nevada Ave., San Mateo, CA 94402-3314.

Second Place was awarded to Joe Wiegand for his beautiful Starduster Too N373BG. Joe lives at 2014 Great Highway, San Francisco, CA 94116.

Third Place was awarded to Jim Causey for his beautiful Acroduster Too N787JC. Jim lives at 1007 Driftwood Ct., Suisun, CA.

The True Grit Award was given to me your editor. This award is given by Bill Clouse, and can mean a number of things. If you are building it can reflect dedication and persaverance. If flying it can reflect promoting Starduster Corportation, the airplane and this kind of aviation, and in my case includes being editor of Starduster Magazine. I certainly appreciate the award but the greatest and most enjoyable award for me is to see you owners and builders finish and fly your airplanes many safe and enjoyable hours. This is truly the best reward you could give me.

Farthest Distance Flown was given to Glen Olsen who's straight line distance was only 30 miles more than Stan Fitz, who came from Olympia, Washington. However when you added up the distance he had to go out of his way to get around the weather he won hands down.

The owners and builders who attended were as follows:

N4226Y	Les Homan	Livermore, CA	Starduster Too
N8121B	Mike Mattei	Hayward, CA	Acroduster Too Bldr.
N248DW	Dick Waltermire	Alameda, CA	Starduster Too
	Bob Wampler	Portland, OR	Starduster Too Bldr.
N292EP	Dave Heal	Windsor, CA	Starduster Too
N373BG	Joe Wiegand	San Fransico, CA	Starduster Too
N787JC	Jim Causey	Suisun, CA	Acroduster Too
N490B	Oscar Bayer	Arroyo Grande, CA	Starduster Too
N28LJ	Bob Dwyer	Tuscon, AZ	Starduster Too Bldr.
N34LG	Glen Olsen	Sandy, UT	Acroduster Too
	Frank White	Estacada, OR	Starduster Too Bldr.
N74650	John Petty	Rohwert, CA	Stearman
N26AH	Hap Schanse	Scappoose, OR	Range Duster
	Bob Phillips	Walnut, CA	C-182
N5317Q	Harvey Newman	Walnut, CA	Starduster Too
N7989	Bob Pisani	San Mateo, CA	Starduster Too
N2612H	George Haggerman	Castro Valley, CA	S/D Too Bldr.
	Hank Schmel	Riverside, CA	Starduster Bldr./Pilot
N22PF	Patric Fitzpatric	Citrus Heights, CA	S/D One Bldr.
N73R	John Morgan	Vallejo, CA	Starduster One
N94TM	Tom Morris	Martinez, CA	Starduster Too
N224M	Lee Morris	Sonoma, CA	StepFairchild 22
N102E	Bill Ewertz	Sonoma, CA	Starduster Too
N311JK	Kenny Ware	Huntington Beach, CA	S/D Too Bldr.
N35RL	Dick Logston	Aberdeen, WA	Starduster One
N323SF	Stan Fitz	Olympia, WA	Starduster Too
	Richard Herdedia	Gilroy, CA	Acroduster Too Bldr.

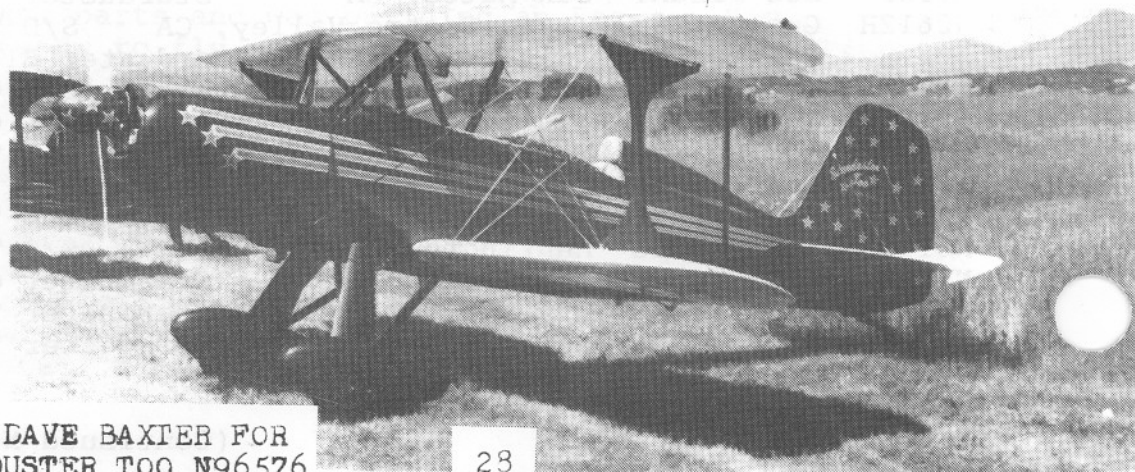
(Continued Next Page)



THIRD PLACE AWARD TO JIM CAUSEY FOR HIS BEAUTIFUL ACRODUSTER TOO N787JC



FARTHEST DISTANCE FLOWN AWARD TO GLEN OLSEN FROM SALT LAKE TO SANTA ROSA VIA LAS VEGAS NV



TRUE GRIT AWARD TO DAVE BAXTER FOR HIS BEAUTIFUL STARDUSTER TOO N96576

N38PM    Patty & Maynard Ingalls    Morgan Hills, CA    S/D Too  
          Lee McGee    Fremont, California    Acroduster Too Bldr.  
          Lou Hagler    Langley, WA                    Starduster Too Bldr.  
 N84RA    Fred Daleiso    Santa Rosa, CA        Starduster Too  
 N96576    David & Donna Baxter    Lake Oswego, OR    S/D Too

I was somewhat disappointed by the turn out as only 20 airplanes showed up, but what with the forecasted weather, the big weather cell stuck over Nevada and unseasonably poor weather in southern California, I guess its no surprise that the turn out was lower than expected.

There were also a number of other people who attended, if I forgot to mention your name or aircraft, I'm sorry it was not intentional.

Our guest speaker was Oscar bayer N490B a Starduster Too builder, owner and pilot, who during his trip to Oshkosh/Wautoma last year included a trip around the border of the United States, an interesting and rewarding trip that was well received by all.

I was very pleased to see several of my old Starduster friends show up, including Patty & Maynard Ingalls, along with Stan Fitz and Dick Logston.

We, Donna and I were one of the last aircraft to leave Santa Rosa Sunday afternoon. Everyone who attended seem to have a wonderful time, and there was much discussion as to doing it again here in Santa Rosa next year.

Our trip back to Livermore and San Carlos was uneventful. The weather was great on Monday, which allowed Dan and I to visit Gary Van Dyke a Starduster Too owner & builder at Van Dykes, a private strip just north and west of Sacramento, California. We were also able to visit with Scott Crosby at Lincoln, California, the builder of the "E" model Warner powered Gee-Bee. Scott had lived just a few blocks from me here in Oregon when he started building this replica 1930's Air Racer. I had wanted to visit other people during our trip, but weather again became a problem, as Tuesday had rain for the Bay area and severe thunderstorms for northern, California.

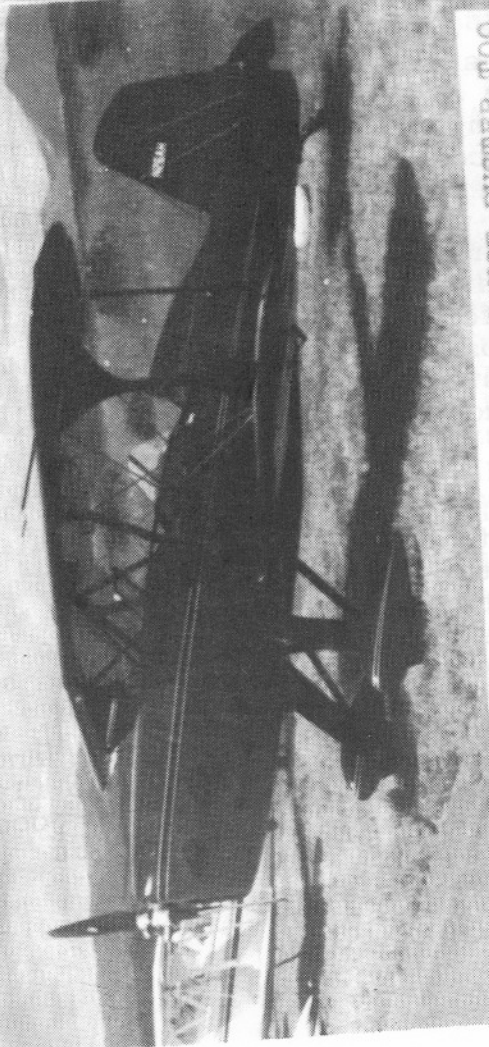
My wife and I left San Carlos mid morning for Orroville, CA and Aero Pines to stay with Marv Smith a Starduster One builder, again wonderful people and great hosts, Marv & his wife.

It rained again that evening and Flight Service at Rancho Murietta was of little help, based on their information a trip straight west to Ukiah looked to be our best bet at the time. However after landing and talking with the local briefer, he suggested we go back into the valley as things up the coast were going IFR sooner than expected. We fueled and went back east across the coast range landing at Red Bluff for more weather briefing information and by then the weather had followed us over and was getting worse. Redding was still VFR, so we left to fly the 20 miles north in light rain showers, as we had our good friends Charles & Pam McDermott who had offered to put us up.

N94GV GARY VANDYKES STARDUSTER TOO  
OVER THE RICE FIELDS OF NORTHERN CALIF

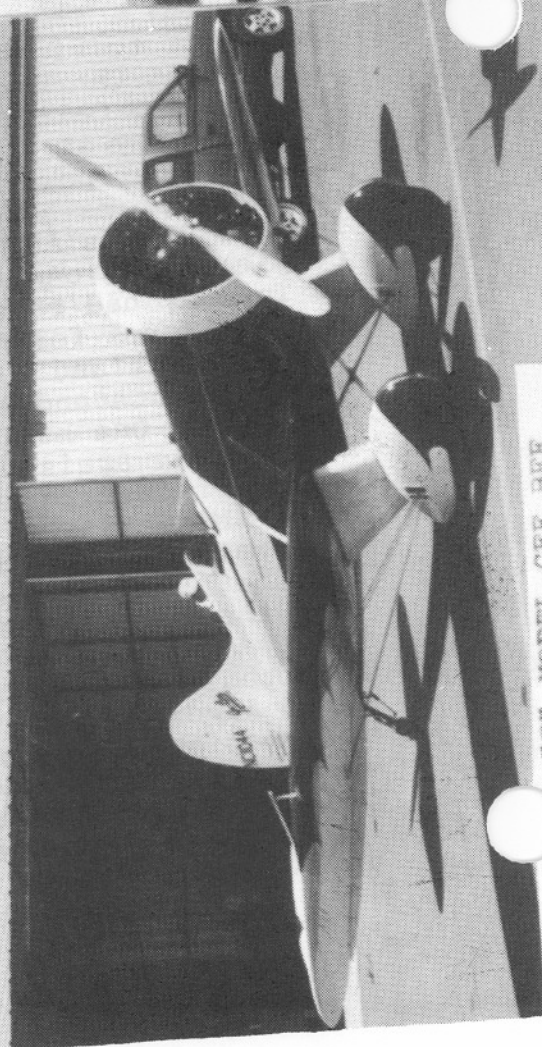


N26AH HAP SCHANSES RANGE DUSTER TOO

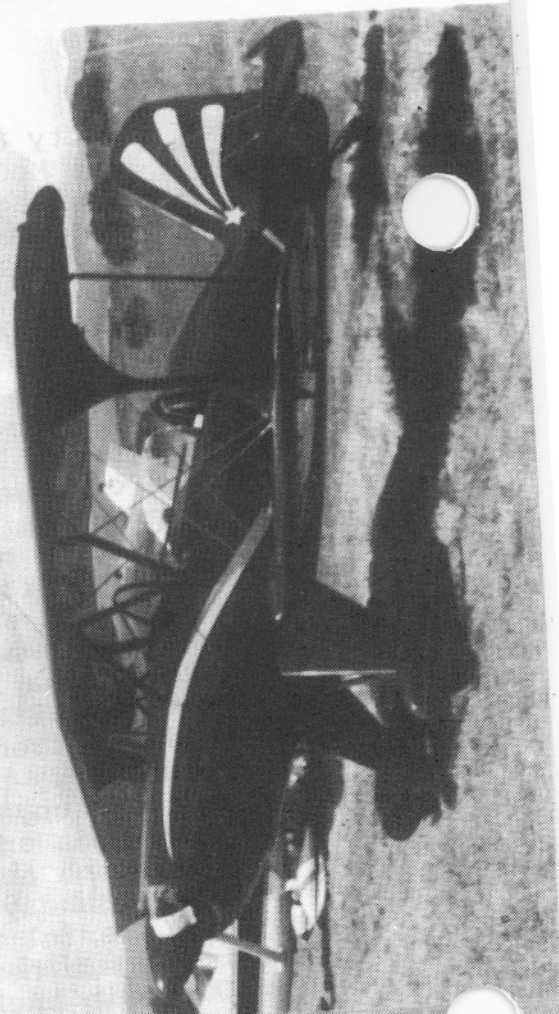


OTHER AIRPLANES ATTENDING OPEN HOUSE

MAYNARD & PATTY INCALLS 1980 & 1983  
OSHKOSH RESERVE GRAND CHAMPION S/D TOO  
IT WAS WONDERFUL TO SEE THIS AIRPLANE  
N38PM OUT ON DISPLAY AGAIN



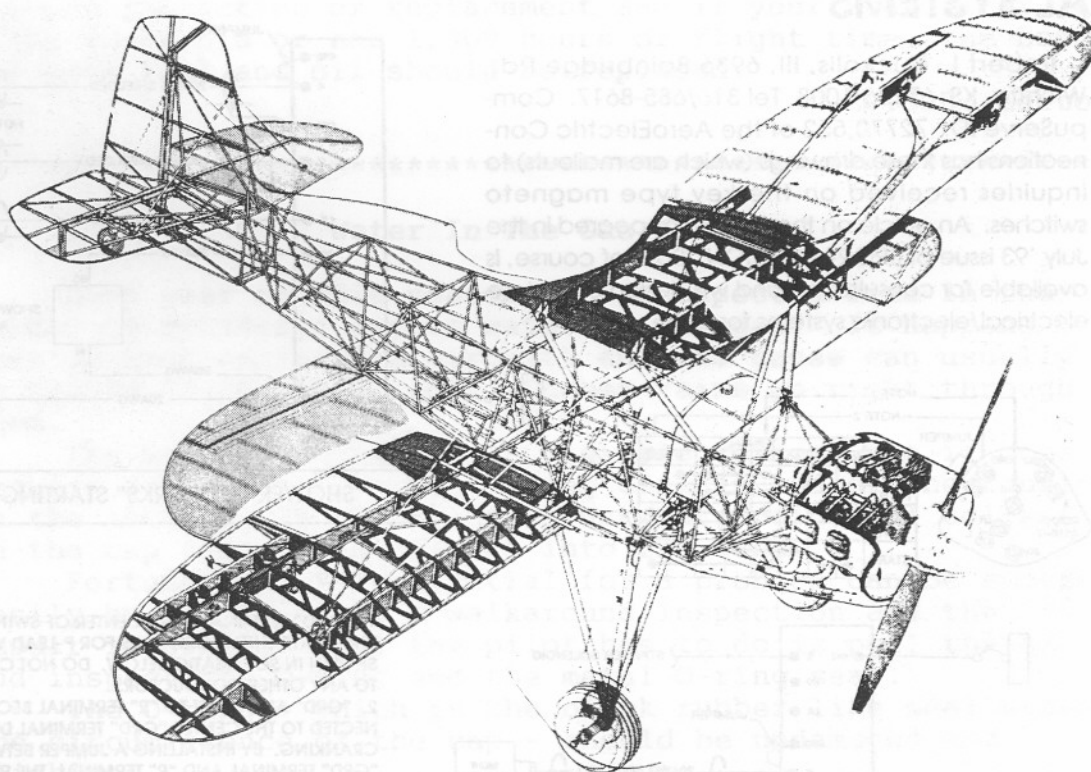
SCOTT CROSSLANDS "E" MODEL GEE BEE  
STARDUSTER N11044 AT LINCOLN CALIF



The next morning it did not look that good from Redding, CA south. But to the north from under the overcast, we could see Mt. Shasta. Once again Flight Service at Rancho Murietta was not very helpful, with VFR not recommended and all sorts of flight precautions. The trip north from Lake Shasta proved to be smooth and uneventful. The reason Flight Service may have not been helpful was several days earlier, on Tuesday a Helio Couier had shed its wings during a thunderstorm near Red Bluff. The young, low time pilots were on their way to Alaska to be bush pilots and apparently thought they could circumvent the worst areas of the storm.

We landed at Medford for fuel and breakfast. From there it was to our homebase Hillsboro, Oregon. A great trip with an additional 26.2 hours of flight put on N96576 during the two weeks we were gone.

D.C.B. Editor



A Picture  
worth A Thousand Dreams

# NEW BATTERIES — GASEOUS RECOMBINANT

This new style battery which has actually been around for the last 15 years is also known as a "starved electrolyte". These batteries have at least twice the cranking amperage of standard wet or gel-celled batteries. These batteries are similar to those used in the F-117 Stealth. The batteries need no service because there is no liquid acid to spill out in case of a mechanical rupture. Technical Counselor C. L. "Bud" McHolland of Sheridan, WY says that they have several of these batteries (known as RG-25 types) in service in a Long-EZ, a Beech Baron (two batteries), an XPA-11 and others. All of these pilots report exceptional cranking (especially in cold weather). These batteries are used in some of the aerobatic planes with big engines. One pilot with an IO-540 of 300 hp uses an RG-12 size for cranking power. Bud uses that size in his XPA-11, 0-200, 100 hp and it sure does spin the prop.

We have had several ads in SPORT AVIATION magazine for these batteries. The cost is slightly higher

than a wet battery, but does not have to be shipped as a hazardous material as there is no acid to spill and the cases are sealed. This cuts the cost of the shipping bill. They also need no battery box or any venting system to use these batteries, and they can be installed in any position. Bud's is mounted on its side. The only important item in its use is the charging voltage which is 14.0 vdc.

DNC Specialty products, a long-time advertiser in SPORT AVIATION, has a line of these batteries.

For pictures of the Gaseous Recombinant type batteries, please look in the following pages of SPORT AVIATION:

SPORT AVIATION, Back of front cover, February '94 — This would be the best.

SPORT AVIATION, April '94, page 41

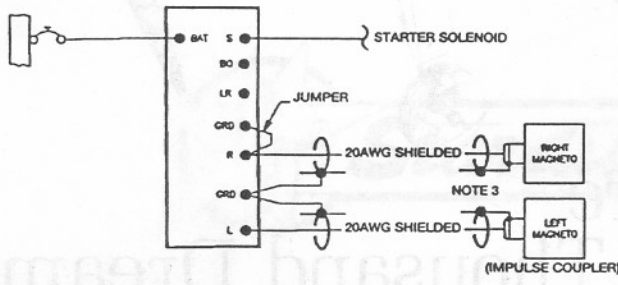
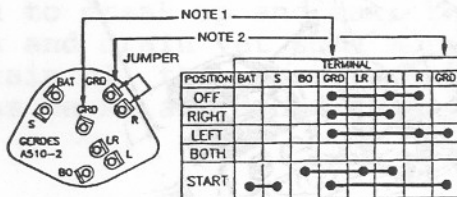
SPORT AVIATION, June '94, page 3

SPORT AVIATION, August '94, page 3

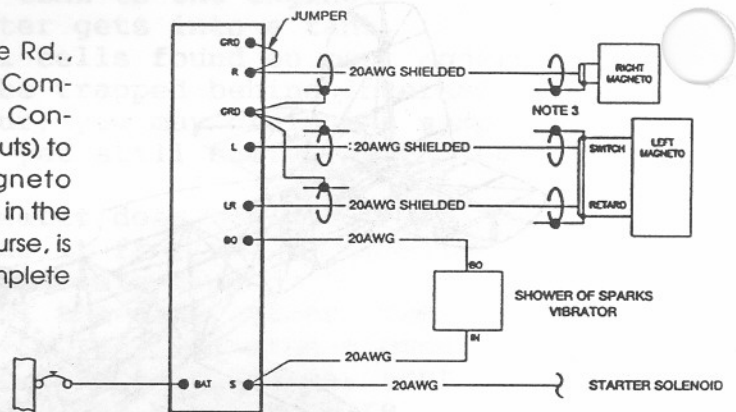
Thanks to Bud for bringing this to our attention.

# ELECTRICAL SYSTEMS

Robert L. Nuckolls, III, 6936 Bainbridge Rd., Wichita, KS 67226-1008, Tel 316/685-8617. CompuServe ID: 72770,552 of the AeroElectric Connections has these drawings (which are mailouts) to inquiries received on the key type magneto switches. An article on the subject appeared in the July '93 issue of SPORT AVIATION. Bob, of course, is available for consultation and will design complete electrical/electronic systems for a fee.



IMPULSE COUPLER STARTING SYSTEM



"SHOWER OF SPARKS" STARTING SYSTEM

### NOTES

1. "GRD" TERMINAL NEAR CENTER OF SWITCH IS USED TO TERMINATE SHIELD GROUNDS FOR P-LEAD WIRES AS SHOWN IN SCHEMATIC BELOW. DO NOT CONNECT THIS TO ANY OTHER CONDUCTORS.
2. "GRD" ADJACENT TO "R" TERMINAL BECOMES CONNECTED TO THE CENTER "GRD" TERMINAL DURING ENGINE CRANKING. BY INSTALLING A JUMPER BETWEEN THIS "GRD" TERMINAL AND "R" TERMINAL, THE RIGHT MAGNETO IS DISABLED DURING ENGINE CRANKING. IF THE RIGHT MAG IS FITTED WITH AN IMPULSE COUPLER, THE JUMPER IS NOT USED.
3. MAGNETO P-LEAD SHIELDS SHOULD BE CONNECTED ENGINE GROUND ONLY AT THE MAGNETO END.
4. TERMINALS "LR" AND "BO" ARE USED WITH A "SHOWER OF SPARKS SYSTEM." SEE ABOVE.
5. THESE DRAWINGS ARE SUPPLEMENTARY INFORMATION TO AN ARTICLE ON MAGNETO SWITCH WIRING WHICH APPEARED IN SPORT AVIATION, JULY 1993, PAGE 56.



# SPRUCE VS. DOUGLAS FIR — INFORMATION

Characteristic	Spruce		Douglas Fir		Compared with Spruce Douglas Fir is:
	lbs./in. <sup>2</sup>	kg./cm. <sup>2</sup>	lbs./in. <sup>2</sup>	kg./cm. <sup>2</sup>	
<b>STATIC BENDING</b>					
Fiber stress at prop. limit	5300	37.3	5900	41.5	11% stronger
Modulus of rupture	9400	66.1	10,900	76.5	16% stronger
Modulus of elasticity, E <sub>1</sub>	1,380,000	9701	1,480,000	10,404	7% stiffer
<b>COMPRESSION PARALLEL TO GRAIN</b>					
Fiber stress at prop. limit	3530	24.8	4220	29.7	19% stronger
Max. crushing strength	4700	33.0	5600	39.4	19% stronger
<b>COMPRESSION PERPENDICULAR TO GRAIN</b>					
	740	5.2	1020	7.2	38% stronger
<b>SHEARING STRENGTH PARALLEL TO GRAIN</b>					
	990	7.0	950	6.7	4% weaker
<b>TENSION</b>					
Strength parallel to grain	9400	66.1	10,900	76.6	16% stronger
Strength perp. to grain	170	1.2	140	1.0	21% weaker
<b>WEIGHT</b>					
	27 lbs./ft. <sup>3</sup>	.434 gm./cm. <sup>3</sup>	34 lbs./ft. <sup>3</sup>	.545 gm./cm. <sup>3</sup>	
	348	152		140	8% weaker per lb. or kg.

## FUEL PUMPS

By Melvin C. Shaffer of Richmond, VA and Taken From *The Coupe Capers*

On my way to the airport, I had the thought that a good way to check the fuel pump would be to turn on the electric boost pump (which pressurizes the system) and check for leaks around the mechanical pump and plumbing. I will never fly a Coupe again without doing this.

After turning on the pump, I immediately smelled gasoline. A quick look at the pump showed it dripping fuel. The culprit turned out to be that little screw which is used as a capture point for the safety wire to the cap bolt. For reasons unknown, it was loose.

I did not check to see if this screw is on the suction or pressure side of the pump, but neither would be good.

Moreover, in a Coupe with only the mechanical pump, there is no way that this device can be checked under pressure in a pre-flight. Prop wash would blow the fuel away before it would become visible, even if you were foolish enough to stand in front of the whirling prop to take a look. Chalk up another advantage for getting rid of that fuselage fuel tank and installing the electric back up pump.

## REFUELING DANGERS

By Wayne G. Anderson From the *170 News*

There are very real hazards in refueling your airplane. I had a gas can explode while filling it from a gasoline station pump. The grounding wire in the hose was probably broken. They would never tell me. I was filling my 5 gallon cans on the back of my pickup truck when I heard a whomp! Gas blew 15 feet out of the can on everything except me. The station employees tried to put it out but their four extinguishers didn't work. Another patron put it out.

Things I did wrong:

I didn't place the cans on the ground, thus static electricity couldn't discharge — instead it built up.

Never refuel in or on a vehicle.

I let the fuel fall down the center of the can.

Gasoline falling through the air builds static. The fuel nozzle should touch the lip of the can at all times with the least free fall of fuel.

When transferring fuel to an airplane:

Cans must be on the ground when using a pump. Fuel hose in can should be at the bottom.

If you pour gas (I don't recommend), ground plane and can to reduce static buildup.

Make sure the hose is in the fuel tank and can for no free fall of gas.

Technical Counselor News 7

# ADVISORY CIRCULAR 43-16 "WINTER OPERATIONS"

This Advisory Circular is a good one. Copies are available to all Technical Counselors who write in. It covers several subjects including draining sumps. Extra care should be taken during changes in temperature, particularly when it nears the freezing level. Ice may be in the tanks which may turn to water when the temperature rises and may filter down into the carburetor causing engine failure. Water can freeze in lines and filters causing stoppage. A small amount of water, when frozen, can prevent proper operation of fuel pumps, selector valves and carburetors.

It goes on to warn about snow and ice removal and particularly frost which can be deceptive. When you clear off precipitation, make sure there is no melted ice

that can refreeze on surfaces which can cause a problem. Water freezing in control surfaces has caused an unbalance of control surfaces in the past.

It refers also to the Advisory Circular 91-13C on preheating. This warns against ice freezing in the crankcase breather system. During preflight, be sure the breather system is free of ice. Reports are common of engine oil loss from blown crankshaft seals caused by pressure generated by frozen breather tubes. (Ask our Chairman of the Board Paul Poberezny about this because it has happened to him in the past.) This Advisory Circular goes on to describe a "whistle slot" that you usually saw in the breather tube to provide some audible warning when the breather tube is frozen.

## PROPELLER BOLTS

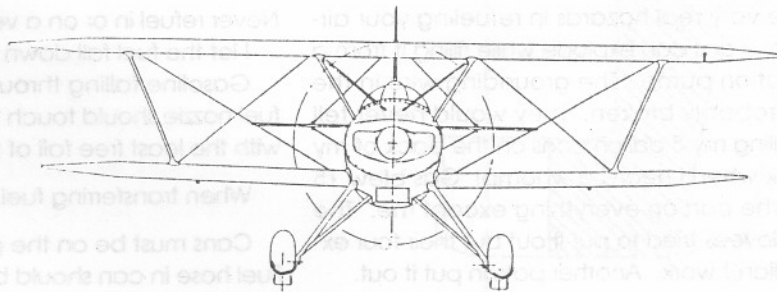
*Nat Puffer of Co-Z Design (For Information On Propeller Bolts)*

Sensenich propeller bolts are available from Wicks Aircraft Supply and other sources. The manufacturer of the bolts, known as "Air Fasco", does not deal directly with purchasers. They manufacture bolts out of 8740 alloy which are first heat-treated, then centerless ground and the threads are rolled on. The bolts are plated and drilled last and are much more superior to AN bolts. The threads do also run longer on these. Sensenich sells bolt kits for

their particular propellers for \$10-\$20 per bolt depending on size, etc. However, homebuilders will have to work through Wicks and other suppliers who keep these. Nat is concerned with the use of grade 8 bolts which he feels are too brittle for propeller bolts. Some people have used either grade 5 or grade 9 bolts out of necessity. It is best if you can use the actual propeller bolts designed for that purpose.

## BUILDING UP AN ENGINE?

Neal Sidders recommends that you not use torque wrenches that are "snap" tite. In fact, he recommends that you use a torque wrench that has a direct readout without the snap feature so that you can hold the torque on for 30 seconds when tightening bolts in the engine. The snap tite feature doesn't allow for proper crush or what is known as "embedment relaxation." This is confirmed reading the engine rebuilders manual known as the "Skyranch Manual."



# Pilot Alert: Help Stop Avionics Thefts

If someone were so inclined, could they break into your aircraft and run off with your avionics stack? How much would the haul be worth, and how would you recover from the loss? What can you do to reduce the chances of an avionics theft?

Approximately 70 pilots met at the Aurora Aviation maintenance hangar on January 24th to consider these and many other questions. Law enforcement and insurance experts were on hand to answer questions and offer advice. The meeting was organized by Bruce Bennett, manager of Aurora Aviation, and Harper Poling, an Aurora tenant, to draw the attention of the aviation community to an ongoing rash of avionics thefts afflicting airports in both Oregon and Washington.

The avionics thefts have typically involved breakins to one to five aircraft at a single airport. Many airports have been hit, including Siletz Bay, Sportsman, and Chehalis. Thefts have occurred both in hangars and on the ramp.

How can you defend against the threat of avionics theft? Some of the many suggestions offered include:

- Engrave your avionics units with your driver's license number (e.g., "OR1234567DL"). A conspicuous engraving on the front of the unit can effectively deter theft; engravings elsewhere can make it harder to sell hot avionics, and may help a future mechanic identify the stolen property during installation or routine service.
- Park in an open place with good lighting.
- Keep a current record of the make, model, and serial number for all your avionics. Keep a copy separate from your aircraft, and send a copy for safekeeping with your insurance agent. Along with this, keep a current photo of your panel.
- Don't leave headsets, logbooks, charts, and handheld avionics in your unattended aircraft. Not only do they accommodate a thief's need to "get in and out quickly", they also are often not covered by insurance policies.
- Consider a theft deterrent system, such as a locking bar that makes it difficult for thieves to remove avionics, or an electronic alarm with siren and/or flashing lights.
- Some recommend locking the entry door, others suggest leaving it unlocked. As with most cars, a locked door provides only a brief delay to one determined to get inside, and the process of getting inside can produce costly damages.
- Become more vigilant when at the airport. Look for suspicious activity or strangers and be nosy enough to scare away potential thieves. Ask strangers who they are, what they are doing, and write down license plate numbers and times. Know who to contact for law enforcement at your airport,

and call them if the activity is particularly strange or threatening. An added thing to deter night thefts...if you are at or passing near the airport, spend a few minutes to "patrol" the ramp or hangars.

- Don't buy someone else's losses. If it's a good deal, it may be stolen. If able, get the model and serial numbers and do a trace through the Aviation Crime Prevention Institute (ACPI) list of stolen avionics.
- Help everyone stay informed of theft activity. The more knowledgeable pilots and airport employees are about recent thefts, the more likely they are to help law enforcement catch the thief or thieves. If you are aware of a theft, please forward the information to Betty Stansbury, Oregon State Airports Manager, at 1-800-874-0102. She has ensured that the information will be distributed to other airport personnel throughout the state.

For more information about preventing avionics thefts, ACPI, and "Airport Watch", phone/fax Harper Poling at 678-1972. AREA CODE 503

## Pilots: Endangered Species?

by Nubar Deombeleg

It is not just the infamous revocation of Bob Hoover's pilot certificate, or the unwarranted proposal by the Aviation Medical Examiner to tighten pilot medical standards that have us concerned for aviation's future. These recent developments have only added to our concerns over the continuing decline in the position of General Aviation as a whole. We are concerned in CPA not only with the loss of airports, but of pilots as well.

Consider that the number of active pilots in the U.S. has steadily declined from a high of 827,000 in 1980 to approximately 660,000 last year - a drop of over 21%. In the heyday of the '70's new pilots were being turned out at the rate of 180,000 a year, and new airplanes reached a production high of nearly 18,000 at the end of the seventies. Piston-powered aircraft production hit an all-time low since before World War II last year.

John Rodgers, director of FAA's Office of Aviation Policy, Plans and Management Analysis, recently reported that the active general aviation fleet fell to about 176,000 aircraft in '94, down from a peak of over 210,000 in the salad days of the early eighties. According to Rodgers, most of that decline is due to the retirement of aging single-engine planes, whose average age in the GA fleet is 29 years. Similarly, the number of hours flown annually by GA has gone down more than 23% since 1983.

In contrast to these figures, the number of commercial pilots increased from 69,000 in 1980 to 120,000 last year, and more turbine-powered new aircraft are being produced than ever before. This would seem to indicate that while commercial aviation continues to expand, private flying is contracting.

Well, what happened to that 21% of "lost" pilots? Apparently, the pipeline of new pilots got plugged up in the early eighties, and most theories of why point to economics. New student starts are up this year, and that is the first hopeful sign in years.

What has us puzzled is the widespread lack of interest in aviation by so many young people, even the offspring of pilots. Those of us who wanted to fly as long as we can remember seem to have come out of another generation. We asked some of the offspring of pilots, now into their 30's and 40's, why they did not follow in their parents' footsteps. They expressed an indifference to flying, or said it was too expensive, and yet they had plenty of disposable income, preferring to indulge in expensive cars, motorcycles, boats, bungee jumping, booze, sex, etc. If money is not the problem, then is it the perception that flying is too complicated, too regulated, too dangerous, or just not fun? If the sons and daughters of pilots are not interested in becoming pilots, where are we headed, and why? What can be done about it?

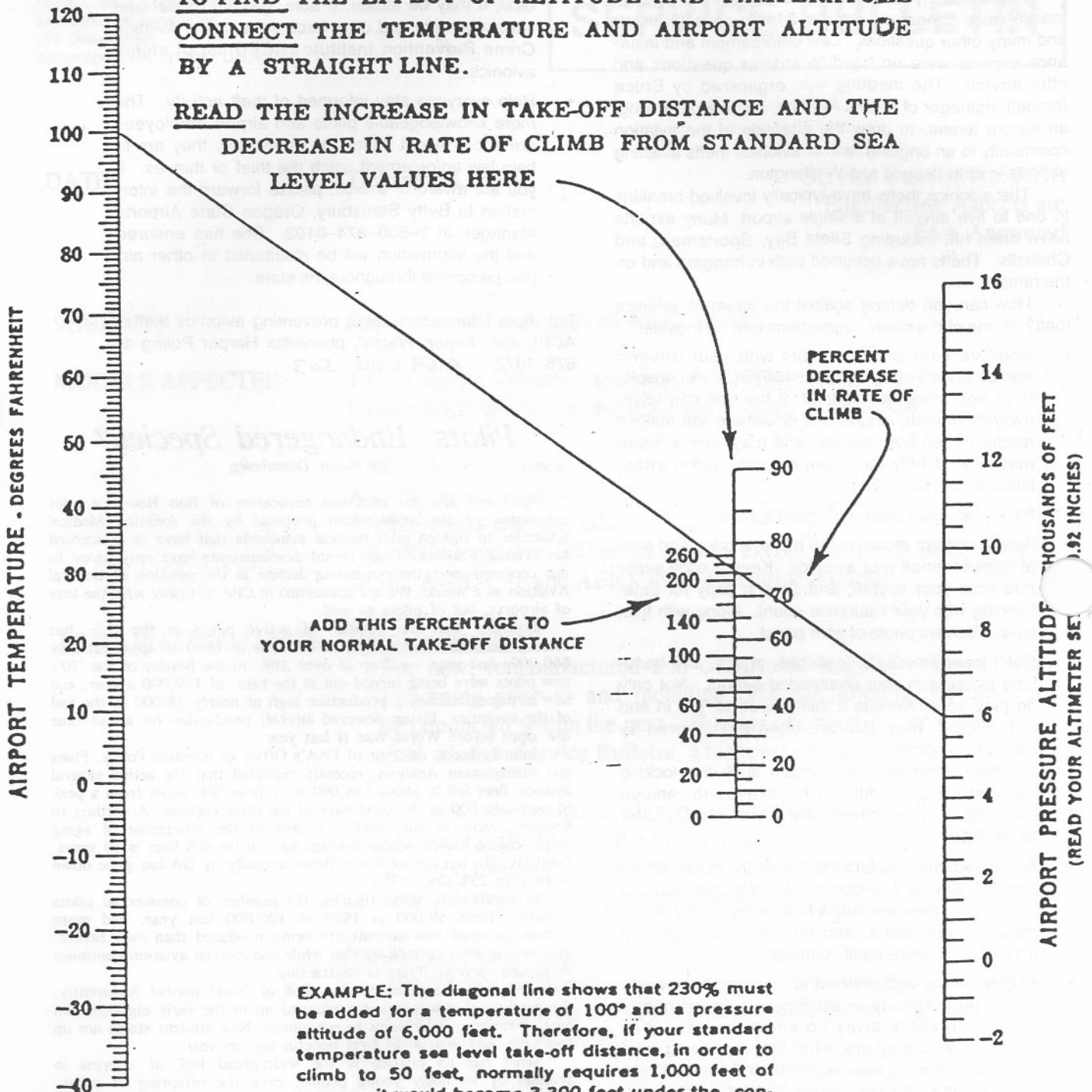


P.O. Box 2126  
Beaverton, Oregon 97075

# THE KOCH CHART FOR ALTITUDE AND TEMPERATURE EFFECTS

**TO FIND THE EFFECT OF ALTITUDE AND TEMPERATURE  
CONNECT THE TEMPERATURE AND AIRPORT ALTITUDE  
BY A STRAIGHT LINE.**

**READ THE INCREASE IN TAKE-OFF DISTANCE AND THE  
DECREASE IN RATE OF CLIMB FROM STANDARD SEA  
LEVEL VALUES HERE**



**EXAMPLE:** The diagonal line shows that 230% must be added for a temperature of 100° and a pressure altitude of 6,000 feet. Therefore, if your standard temperature sea level take-off distance, in order to climb to 50 feet, normally requires 1,000 feet of runway, it would become 3,300 feet under the conditions shown. In addition, the rate of climb would be decreased 76%. Also, if your normal sea level rate of climb is 500 feet per minute, it would become 120 feet per minute.

This chart indicates typical representative values for "personal" airplanes. For exact values consult your airplane flight manual.

The chart may be conservative for airplanes with supercharged engines.

Also remember that long grass, sand, mud or deep snow can easily double your take-off distance.

# OSHKOSH / WAUTOMA



**WHEN:** From Thurs, July 27th, 1995 to Wed, August 2, 1995

**Where:** Wautoma Municipal Airport, Wautoma, Wisconsin

**Why:** Eat, Drink and Share Stories

We would like to fill Wautoma with biplanes, Stardusters Acrodusters, V-Stars, Starlets or any other homebuilt enthusiast. We would love to see you here with your airplane. Come help us celebrate our 3rd anniversary. Please join us for a week of fun. Trophies will be awarded to aircraft in various categories.

If you haven't made reservations for Oshkosh or Wautoma by now there probably aren't any as rooms there are tight; good camping sites available at airport.

Super Eight Motel (414) 787-4811, talk to Barb Diekfuss for alternate rooms. She guarantees assistance.

Pecks Plantation Hotel (414) 787-3301

Birdsong Bed & Breakfast (414) 622-3770

Berlin (15 miles) (414) 361-4411 Travelers

Berlin (15 miles) (414) 361-2383 Riverside

MT Morris (414) 787-2919

Please let us know if you plan on attending.

Bill Clouse 1-800 833-9102



# CLASSIFIEDS

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

SA-750 - Landing Gear, Standard Conventional plans built - By builder. Ready for immediate shipment from Starduster. Contact Bill Clouse for price 1-800-833-9102.

Franklin Geared 425 6 cyl no starter, gen or alt otherwise complete. (4) Fresh Military overhaul 0 time. \$5,200 each or offer. Contact Dana Andrews, 1710 Douglas Blvd., Roseville, CA 95661, (916)782-2185.

STARDUSTER II - 600 TT airframe, Lyc. O-320A, about 1300 SMOH, constant speed prop, Cessna gear, out of an annual, needs fabric. \$12,000. (916)726-5486.

STARDUSTER II WANTED - Prefer flying, but will consider one needing fabric or engine OH. Leave message, John (707)539-5816.

1974 STARDUSTER - 1325 A/E, AEO 360, Inverted fuel & oil, Heat, Lights/landing & navigation, Mark12A Electric Rear canopy. \$39,500. Call Bob Watts Jr. (916)455-8464 or Becky Watts (916)924-5908.

ACRODUSTER TOO SA-750 - Basic fuselage on landing gear, tail feathers, wheels & brakes, wing kit with ribs finished, controls, \$8,500 OBO. (703)955-2016.

STARDUSTER TOO - VIRGINIA, on wheels, fuselage/tail/center section complete, wood for wings, 250 HP, extras. Incredible quality. \$13,500. Days (203)356-2274, nights (201)327-8360.

STARDUSTER TWO - 384 TTAF, Restoration sarterd, good airframe, two tanks, needs fuselage fabric, engine mount, wiring and plumbing completed. No engine or prop. \$11,500. Call Bob (406)628-2367 eves.

STARDUSTER TOO - N90X, 245 HP Jacobs, complete thru cover. Must see. \$17,500. Call (212)229-7518.

STARDUSTER II - TTE 440, 180 HP Lycoming, polished Hartzell aerobatic constant speed prop, full Christen inverted, 2-place canopy, Cleveland W & B, beautiful plane. (205)943-6407. \$26,500 or offers.

STARDUSTER TOO - 100 hrs airframe, 245 Jacobs engines, enclosed canopies, 45 gal. tank, Cessna gear. Silver & Green, always hangared. \$40,000 OBO. (503)458-6140.

STARDUSTER II SA-300 - TTAF 659, TTSC-MOH 71. 180 HP O-360 A1A, Sigtronics intercom. David Clark H1030's & caps, ARC-400 transponder w/encoder. Narco Comm-11B, \$23,500. (214)223-4301.

STARDUSTER II - SA-300, Fuselage in white & ready to cover, 1995 specs, wings fully covered, UV'd, aluminum spring gear on Cleveland wheels & brakes, aux. fuel tank, full instrument panel. Built at Starduster Corporation. To include fabric, plans, throttles, control columns, etc. \$14,500 OBO. (909)781-6528 or FAX (909)683-6445.

ONE OF A KIND STARDUSTER II - 220  
Cont., 140 SMOH, Cleveland W&B,  
Xpndr/encoder, \$40,000, trade?  
(713)538-1594.

Lost Medical Must Sell - 1979  
STARDUSTER II, 180 HP, 325 TTSN, 900  
SMOH, Custom avionics, panel, KX155  
Transponder, Flybuddy, \$30,000 OBO.  
(805)529-1748.

STARDUSTER II - Lyc. O-360, 600 SMOH,  
x/over exhaust, Clevelands, Scot, aux. fuel,  
Nav/Com, Loran, intercom, ELT strobes,  
landing lights. Hooker Harness, Stits, f/cpt.  
cover gorgeous paint, hangr'd, \$26,000.  
(702)656-2420.

STARDUSTER II - 700 SMOH, O-360, Stits  
cover, new paint, black/silver starburst, radio,  
transponder, intercom, encoder, inverted  
fuel/oil, pressure carb, etc. \$32,500.  
(417)926-4221.

1992 STARDUSTER TOO - Just reduced to  
\$30,000. Professionally built, 80 hrs. TT, 1330  
TT on Lycoming O-360, 3 light stobe & nav  
lights, Garmin GPS transponder & encoder,  
Icom ICA2, 4 cyl. EGT, 2 fuel tanks 42  
gal.total. (603)964-8413.

STOLP V-STAR BIPLANE - Single place,  
135 HP Lycomming, 373 TTAF & SM, 4  
aileron, double flying wires on tail. Full  
electric open cockpit, 25 gallons fuel, inverted  
fuel/oil. \$14,500. Flown weekly.  
(317)293-2383.

STARDUSTER II - 500 TT, Lyc.O-360, 500  
SMOH, C/S prop, rear sliding canopy, front  
cockpit cover, smoke, Nav, Com, ICS,  
headsets, Nav Lights, strong sea chutes, fresh  
repack. Fresh annual, \$21,500 OBO. Call Ron  
(412)837-7511.

ACRODUSTER II PROJECT - Fuselage, tail  
feathers complete, on gear, with controls.  
Cleveland brakes, most struts, O-540 engine  
mount, complete plans. Ford 3.8 engine  
available. 2 chutes and many extras. \$5,800  
OBO. (209)683-0365

1975 ACRODUSTER II - 475 TT, 200 HP  
Lycoming, C/S prop, \$25,000. (414)538-4000.

STARDUSTER II 1983 - 250 HP, 475 TT,  
475 SMOH, \$26,000 OBO. Must sell this  
month. (209)585-0948.

1981 ACRODUSTER ONE - Single place  
biplane, 211 TT, 211 SMOH, 180 HP  
Lycoming O-360-A1A, pressure carburetor,  
inverted oil, nice aircraft, always hangared,  
\$16,900 OBO. Steve (414)231-9772.  
Oshkosh.

STARDUSTER PROJECT - Lycoming  
IO-540 engine with yellow tagged Hartzell  
propeller, Wings, fuselage, and control  
surfaces are covered and painted. 80%  
complete, (703)236-9502.

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AIDS - Flight Monitor System: VFR and IFR  
cross country flight management cards,  
expense, maintenance, usage, and frequently  
visited airport cards. Small enough for any  
cockpit. Headset strain relief clips. Open  
Cockpit Safety Lanyards. Limited edition  
prints of 1930's air racers. Wicker seat  
restoration or construction. Send \$1.00 for  
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