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CIRRUS BUILDERS ASSOCIATION

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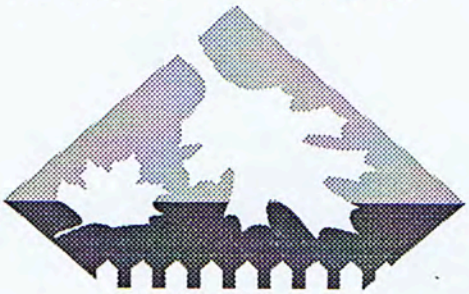


in this Issue

By Dave Doucette...

Letters to CBA

We received word from Jim Patton that he would like builders to submit questions for him to consider answering when he attends the upcoming builders' conference. It is always good to hear from Jim. His insights are invaluable and his experience in early testing of the VK-30 is unmatched. Thanks for your continued support of our builder's group.

Cirrus Buy Back Program

All of you should have received a letter from Cirrus Design Corporation offering to buy back your project. So far four builders have sold their kit back. We are sorry to have those folks drop out of the ranks of Cirrus builders but wish them every success as they consider their next aircraft project be it home built or production. Hopefully they will all be some type of Cirrus owner in the future. For the rest of us now is the time to commit to our project with even more enthusiasm.

On The Spot

Talk about commitment. We put Don Brosie on the spot last issue. We were tired of speculating just how nice it must be in the Watsonville, California area. While we are fighting wind chills of -30 to -50 degrees we know Don must be basking in the coastal California "winter". So Tom Hastings and Jeff Doddridge took it as a challenge to make sure Don's project didn't escape our newsletter. With a rented Cessna 182 Skylane and beautiful California weather enroute those two roving reporters visited Don and filed a full report for this issue. Turn the pages to read about Don's new wing, ailerons, flaps, engine and landing gear from Tom. Jeff's portion of the article nicely describes the details of the new wing and engine installation. Reading his description of the flying conditions made me long for my days of flying in California, especially in the winter.

Your On The Spot!

This newsletter puts everyone reading this newsletter on the spot!. We want every CBA member, every friend of Cirrus, every Cirrus Design person to consider attending the builder's conference in March. We need your input and ideas and enthusiasm.

Bob Long Gets New Wing

Bob Long gives us a report of how his new wing arrived. He is quite pleased with the new wing as has everyone who has received one to date. He outlines some of the items that

are left to the builder to complete. We look forward to Bob's detailed presentation at the builder's conference in March.

Cy and Jim Mehling

Cy and Jim report on their trip from Duluth to Pennsylvania with their new wing. NO gripes in their log book!! They also report on some miscellaneous items as they continue to provide invaluable information that should help all of us when we begin flying our Cirrus. We look forward to seeing them at the builders' conference.

Glenn Elliott

Glenn files a short report about his trip home with his new wing. No major problems except bad weather. We are encouraged by the performance of his new drive line components. Glenn will be at the builder's conference and will discuss flying qualities of the new wing. Can't wait to see him in Dayton in March.

Urs Villiger

Urs is planning on attending the March builder's conference. He will be presenting a discussion of engine fireproofing. Urs has a long way to travel to meet with us. How about you?. Will you be at the conference?.

Tom Westenberger

Stop the presses!!!

We just received an article from Tom Westenberger, one hour before press time. Tom brings us up to date on his recent trip to Cirrus Design. Tom is pleased with the progress on his new wing. Tom is confident he will have his new wing by the end of January 97!

Jim Patton

November 27, 1996

Dear Cirrus Builders,

I think the Symposium next March is a great idea, and I'll be pleased to participate. I recently talked about it with Rick Mills; I was unsure what I could contribute, and he had a good thought.

This: Why don't you, the builders, submit to me questions that you think I might be able to answer? Then I'll do my best to make those answers part of my presentation and meanwhile I'll consider what subjects I haven't written about in the Newsletter or perhaps haven't delt with in sufficient detail.

My address:

Jim Patton
11684 W. Bayshore Drive
Crystal River, FL.
34429
Telephone: (352) 563-1933

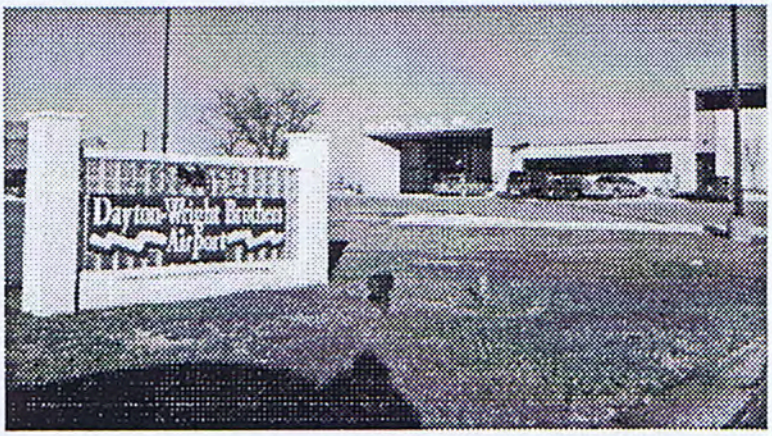
For those of you approaching the first flight in your VK-30, I'd hope that you've found a pilot experienced in complex, high wing-loaded airplanes to do it for you. But whatever, you should read and develop an understanding of what's involved in a flight test program. There's plenty of good literature on the subject, a lot of it pitched pretty strongly toward the technical. I reviewed a book aimed at the homebuilder that I'd recommend:

" Flight Testing Homebuilt Aircraft"", by Vaughn Askue, Iowa State University Press, 1992.

I'll be looking forward to hearing from you.

Jim

Cirrus Builder's Association Conference and Exposition



Dear CBA members,

I think it was November of 93, Tom Logan and I were talking about progress or was that lack of progress on our VK-30 kits. Tom said "I wonder if all builders are streaking along at this same pace". Well, why don't we ask them I said. So began the Cirrus Builders Association.
In the first newsletter Tom defined its purpose: to facilitate direct communication between builders.

The newsletter has been an effective tool, however I believe our group can do more to improve safety.
1996 was a difficult year for the Cirrus VK-30 program. The tragic loss of Bob Overmyer, Al Corey and Roger Carter has had an effect on every member. Some members decided to discontinue their project, a difficult decision I'm sure. The remaining CBA members, I believe, are committed to completing their projects. During the past six months I've had an opportunity to talked to most CBA members. Every member I spoke to expressed the same concerns, **SAFETY!**.

We need to discuss many safety topics as a group, and the best way is together face to face at a builders' conference. Plans for the first annual Cirrus Builders' Conference started to take shape last fall. I had several conversations about the conference with Bob Long, Tom Hasting, Tom Westenberger, and Ramon Pabalan. Everyone had a lot of good ideas. These guys didn't know at the time but they were about to volunteer for conference planning committees. They all volunteered before I had a chance to ask for their help. Thus the planning committee was formed. They have done an excellent job, and we are all grateful for their many hours of work.

We have identified four general Safety topics for discussion at the conference:

- A review of builder construction techniques
- Preparation for flight testing
- Flight operations
- Maintenance

We hope you agree that these topics are important. We are still working on details for the conference. Please call the committee member in your area (see list page 5) if you have suggestions for additional topics.

As of mid January we have invited 6 guest speakers to address CBA members at the confer-

ence. One of the guest speakers is Jim Patton, original VK-30 test pilot. Jim would like members to mail question to him in advance so he can address them at the conference.

In addition to invited guest speakers we invite CBA members to talk about their project. You may have discovered a better way to install a part or found a new supplier, etc.

Examples of members topics:

Angelo Dounoucos -	Insurance issue for the VK-30. Flight training and transition from light single to the Cirrus.
Urs Villiger	Fireproofing system. Electrical system.
Cy Mehling	Making the S-TEC autopilot work in the Cirrus.
Alan Shaw	Lightning protection for the VK-30.
Glenn Elliott	Flying qualities of the new wing.

Presentation are **optional!**. Please no not feel obligated to give a presentation, we want all members to attend and enjoy the conference.

The conference starts on Friday March, 14th. We anticipate CBA members and guest presentations will take place on Saturday. Friday and Sunday will be dedicated to member workshop and group discussion.

Call your committee member and get involved in the planning, after all it is your meeting!.

Sincerely,

Rick Mills
1/24/97

1997 Conference Planning Committee

Tom Hastings	Ramon Pabalan	Tom Westenberger	Bob Long
818 341-2039	941 748-4076	414 691-3733	405 235-6065
Don Brosie	Cyrus Kissling	Angelo Dounoucos	Lillard Christ
Dennis Lyons	Bob Last	Sandy DiFazio	Ben Smithers
Jeff Doddridge	Cy Mehling	Steve Dincognito	Glenn Elliott
	Jim Mehling	Urs Villiger	Bud Brady
	Richard Tems	Rick Mills	Gary Udall
	Alan Shaw	Dave Doucette	

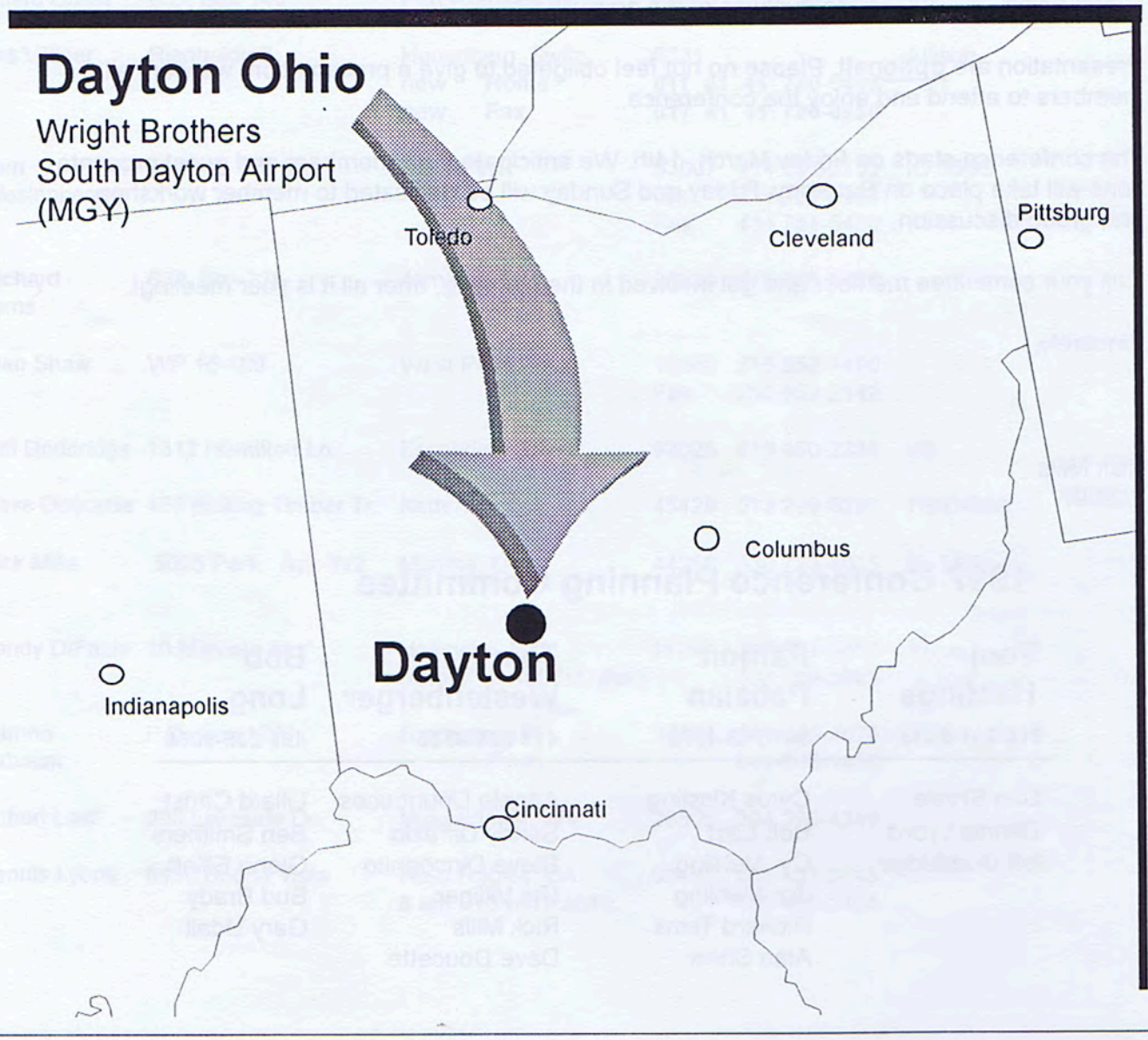
Announcing

First Annual

Cirrus Builder's Association

Conference and Exposition

March 14-15-16, 1997



Cirrus Builder's Association Conference and Exposition

Conference Objectives

- Promote Safety in Building, Flight testing, Flying, and Maintenance
- Share Ideas and Encourage Comradery
- Renew Excitement in Your Cirrus Project

Who is invited?

CBA members, family members, helpers and friends.
Cirrus Design management and employees.
Vendors, Guest Speakers, anyone interested in the VK-30 program.

What

Tom Westenberger and Dave Doucette fuselage will be on display in the aircraft exhibit hall.
Guest Speakers!
Builder presentations!
New Elastomeric Drive system!.
Vendor products
CBA Dinner Saturday Night, Holiday Inn Banquet Hall
Much more!

When

March 14, 15, 16, 1997 (Friday, Saturday, Sunday).

Where

Dayton Wright Brothers Airport (MGY) Dayton, Ohio.
(AOPA 1997 Directory Page 3-432)
Aviation Sales Inc. aircraft exhibit hall.

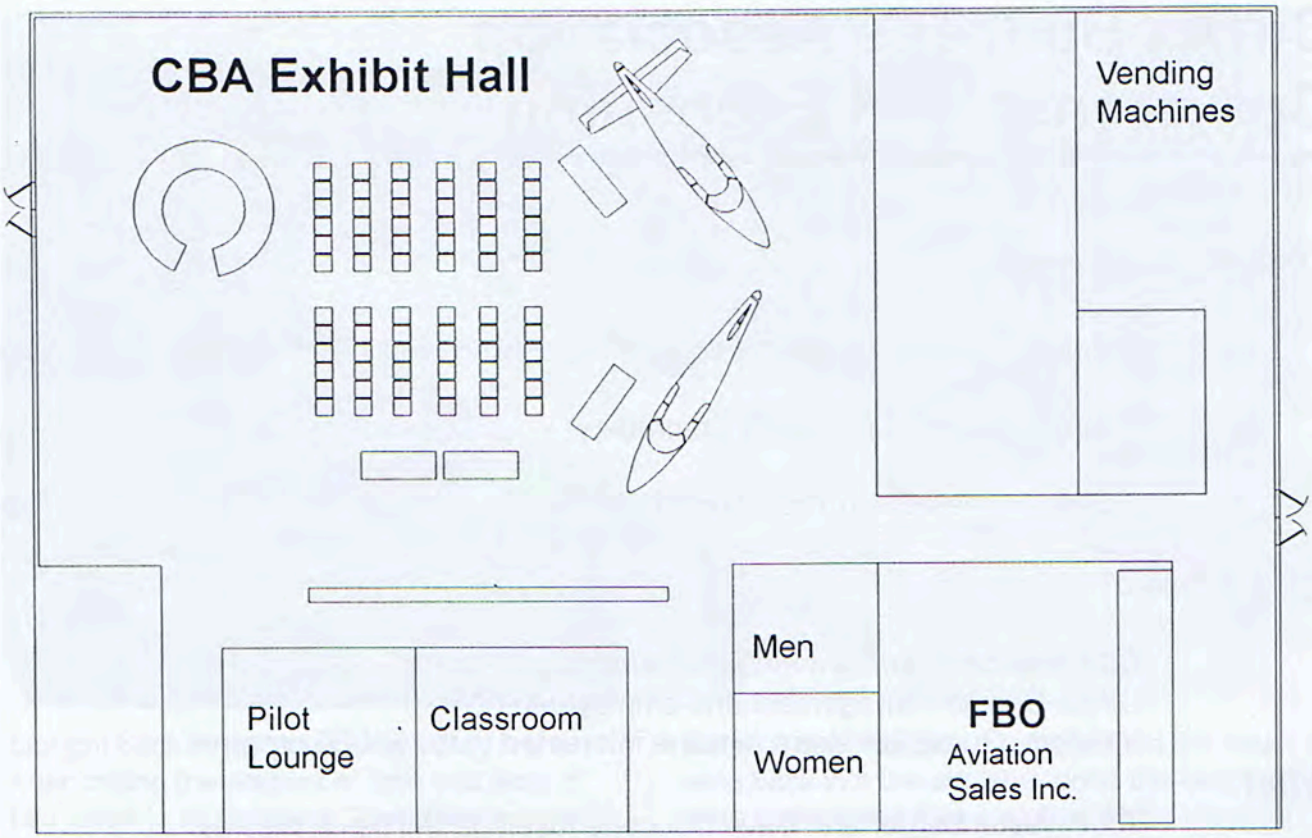
Lodging

Holiday Inn - holidome (indoor pool!!) (2 miles from Airport)

Cost

As low as possible.

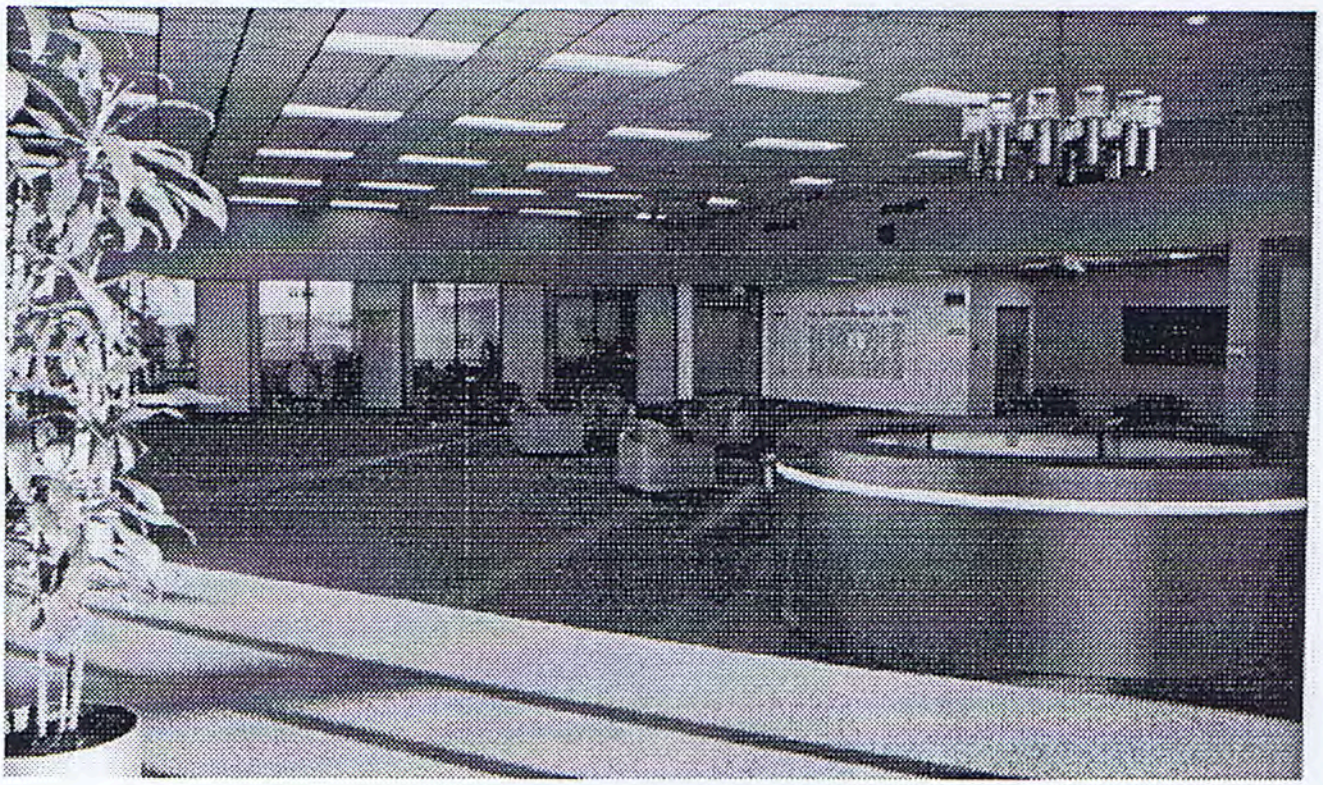
In a few days you will receive detailed information on transportation, lodging, and conference activities.



Dayton Wright Brothers Airport (South Dayton Airport)

Aviation Sales Inc. (FBO) Aircraft Exhibit Hall (approximately 90' x 68')

CBA Conference Room - Aircraft Exhibit Hall



Jim & Cy Mehling

12 Aug '96

CY MEHLING SETS NEW RECORD FOR 94CM-FLIES NON STOP FROM DULUTH, MN TO DOYLESTOWN, PA IN 5:15 HRS.

THE PILOT (A SMOKER) REPORTS GASPING FOR BREATH AT 11,500' OVER THE ORD CLASS B AIRSPACE.

FIRST FLIGHT WITH THE NEW CIRRUS WING IN THE VK-30 A HUGE SUCCESS WITH NO COMPLAINTS WRITTEN IN THE LOG BOOK.

STREAKING ALONG AT OVER 3NM/MIN. PILOT REPORTS THREE HRS + RESERVE FUEL REMAINING IN THE HUGE WING TANKS AFTER LANDING.

UNCROWDED SKIES REPORTED AS PILOT ONLY SPOTS 3 AIRLINERS IN THE NEARLY 1000NM TRIP.

Dear Rick and everyone at Cirrus-

Poo did a fine job of getting the final items done and presenting me with the great gifts in addition to a just wonderful job of replacing that wing. Poo thought that he was stuck with the job of giving me the bill for the extra work you did for me. We thank you for the gifts, I gave the rice to Jim with on of the jars of Jam. We thought the work done for the size of the bill was another generous gift from Cirrus.

I took off at 1:35 your time and climbed to 9500' and set up cruise power. Passed over Wisconsin Rapids, Madison etc. I had flight planned over Joliet, IL and Gary IN. to Fremont OH, but with the clear skies with only puffy cumulous below me I wanted to get a clearance over Chicago in the Class B airspace. Couldn't get a word in edgewise to the controller, so climbed to 11,500' over the top of the 10,000' restriction, then proceeded direct from Madison, WI to Gary, IN to make a big shortcut. As soon as I passed the area I descended to 9500' for the remainder of the trip.

ALT	9500	11,500
IAS	149kt	141kt
OAT	43 F	39 F
MAP	20"	18.5"
RPM	2390	2380
FOB	540lb	438lb
PILOT	200lb	200lb
BLST	50lb	50lb
BAGS	40lb	40lb
PWR	65%	61% Based on 280 HP max leaned to 50 deg lean of peak EGT
GS	184kt	175kt

I am aware that I could have gone slightly

faster with a higher fuel flow at 2500 rpm and leaned only peak EGT. We use the leaner settings for engine longevity and economy and the engine runs great at 2400 rpm.

Approaching Fremont, OH I was on such a high from the glory of flying our Cirrus again for the first time in a couple months and realized that I have pul-lenty of fuel on board, I amended my flight plan, notified the relatives on the ground and proceeded on to Doylestown, Pa, arriving 10 min before sunset at 7:50 Eastern time.

The RH fuel gage never left full ind. until I burned two hrs out of it, then it clunked down to a normal reading of a bit over<<. I think this was due to a few drops of fuel in the vent line and the level had to drop to create the differential pressure and clear the vent line. This would only occur when the tanks are filled I believe. No problem.

I burned the first hr on the left tank, next on the rt etc, finally used the left for the last part of the flt as it filled from the overflow. At no time did I use the lateral trim. (Dale, are you sure it was necessary to put that trim tab out there?)

All items were taken care of by Poo and Brian before I left with the exception of the upholstery in the baggage compt. Neither Poo nor I could find the tube of cement needed for the job and Poo assured me that you, Rick, would drop over this week to complete the job. Pls advise me if you will need a motel or can use one of our 3 guest rooms. If you are too busy, I might be able to handle the job. I am what is known now as common labor and work at $2.50/hr.

I pumped the struts up today and found it

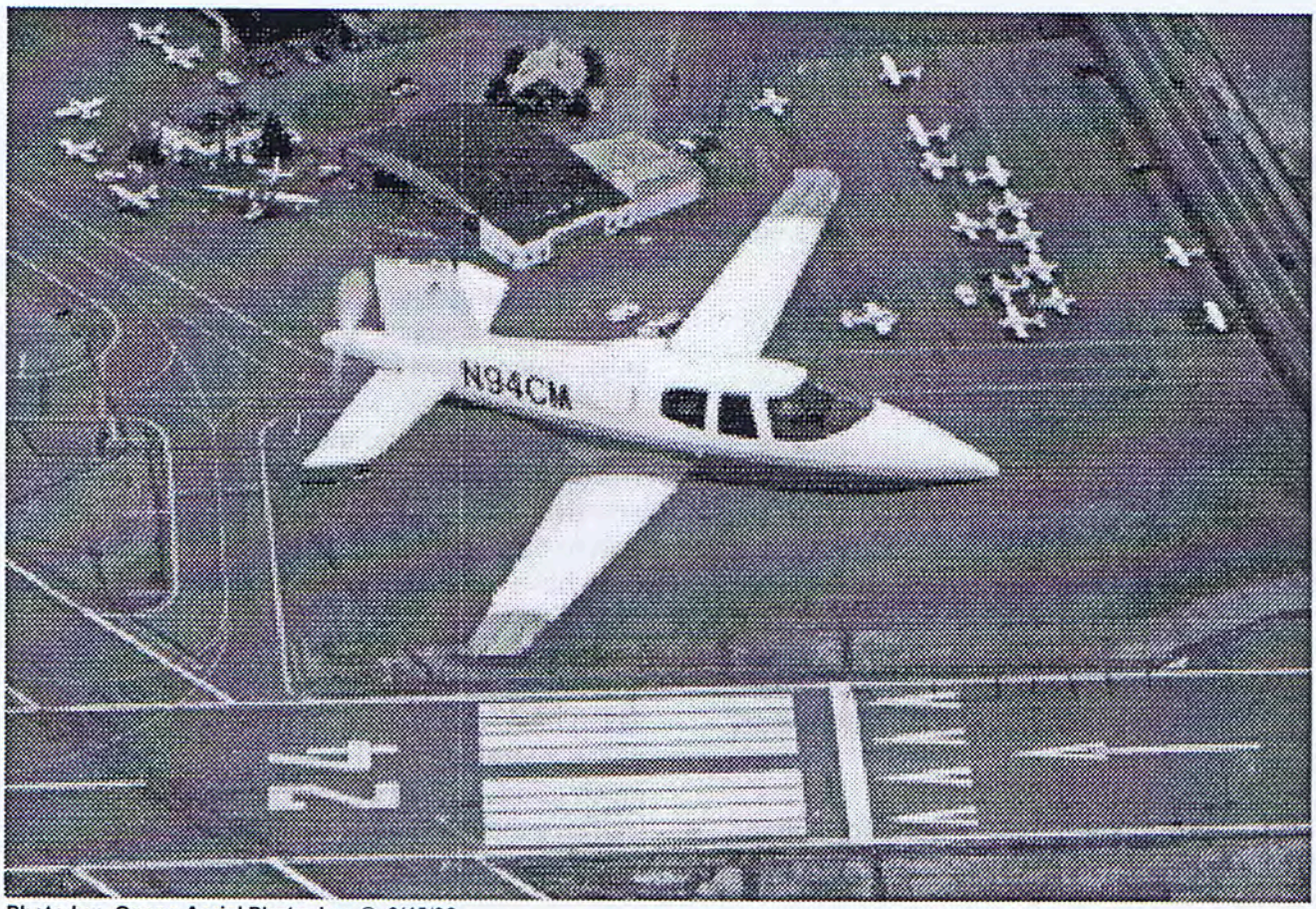


Photo by: Ozone Aerial Photo, Inc. © 9/15/96

took in excess of 700# to raise them. I reported your problem with the regulator on the N bottle to my friend who sell bottles and he said you had a low pressure regulator on your bottle. He says yours sells for perhaps $75 and a good hi pressure regulator sells for perhaps $250, can't imagine Cirrus not supplying you with the proper equipment to do your usual excellent work.

Jim inspected the airplane today and was thrilled with all the work you did. He will be out of town for over a week, but is anxious to fly it.

In conclusion you can compare the performance with the list I gave Eric or Snorri and see that there i no change, however the improvement in lateral trim and the smooth speed brakes are the hallmarks we love. The paint job was superb and the lack of fuel leaks along with the sealed rib between the tanks are just wonderful. All controls are in trail in cruise and the mating of our wing tips was excellent.

We are well aware of the fact that the cost of the wing construction and installation has to approach $100,000 and we intend to tell the whole world what a great company Cirrus is. Thank You just doesn't seem to express our feelings, but we truly mean it

Best Regards, to everyone at Cirrus,

Cy and Mary, Jim and Andrea

8 NOV '96
Dear Rick and Dave.

Thank you for a splendid NL received recently. The photos seemed much better colors than previous.

I received a letter from Tom Bergeron, 3030 McKinney Ave. #802, Dallas TX 75204, ph 214 754-0727 this week asking about the VK-30. He had never heard of it, nor seen any pictures, but learned of us from the S-TEC newsletter. He wants to join our group and learn something and perhaps wait until one is for sale. I shall inform him to send in his $40/yr if it is OK with you. If not, just return his ck.

S-TEC says they have moved on the airport in Mineral Wells, TX with the same 800 no. for service. They were at OSH for the first time in 12yrs and got a great response from homebuilders and they are catering to us like nobody else.

Speaking of good guys, I had a speed brake failure, they would not extend although the motor would run. Talked to Mike and he said the drive spring was broken. He sent me a new one for about $10 and told me how to replace it. It was no fun and required lots of finesse as I had not removed the motor from the airplane. Great folks to help like that, instead of having to remove it, ship it both ways and reinstall it.

I developed a nice long crack in the body putty of the new wing fairing last week. As Steve told me at the factory, there is no way to prevent this happening with the motion between the wing and fuselage. Either you have a nice pleasing line, and let it crack or do not fill and sand it, just leave the glass weave show and it would not crack.

I gapped my plugs for the first time in 175 hrs. The plugs are clean as a whistle, no lead whatever. I use TCP in the fuel and of course lean to 50 deg lean of peak in cruise. I don't even have exhaust stain on the belly or ventral fin.

The recent advertisement of the Gamijectors which more closely match the cly peaks in cruise interested me. However, I wonder how much good it would do on the IO-550-G, since we have the overhead intake system. I think we have a rather great cly matching job as is,

but am not sure without graphing the leaning process.

I have but one current problem on our airplane, the LH main LG ram or actuating cyl leaks on the outboard end and sprays my Dextron III on the flap. Incidentally, there seems to be some difference of opinion on whether to use this or red a/c hyd fluid in the system. I see nothing wrong with the Dextron III and it wipes clean so easy. Cirrus says they hope to have new improved cylinders in the not too far off future.

Glenn Elliott is in DLH to test fly his new wing installation. I am sure we will get lots of news when he finally returns home with his N60GE after all these months. His drive system has operated just perfectly in my airplane. What a Guy!!!

Due to pressing business matters, Jim does not fly the airplane much, but he did fly on Sat., then went to Canada to close up his cottage last month. He reports stopping in Watertown, NY for customs with 4 bizjets on the ground, guess who got all the attention??

Jim and I found some big errors in the Wt and Bal info in the pilots operation manual and submitted some changes to Gary and Rick at Cirrus. They are working on the problem and will come out with some new info after doing some weighing and computing on Glenn Elliott's airplane.

Looking fwd to seeing lots of builders in Dayton (Cirrus Builders Conference and Exposition) and Lakeland in the spring.

Best Regards,

Don Brosie

By Tom Hastings...

Dear Rick Mills, Cirrus Builders Association

At your suggestion Jeff Doddridge and I flew up to Watsonville CA. on Sunday November 10th to visit Don Brosie and his Allison powered VK-30. It was a typical November day here in southern California, by mid morning the temperature was 78 F, winds were calm, visibility exceeded 100 miles, and the only clouds in the sky were the appropriate cirrus-type, wisping away 8 miles above. Jeff left his home port of Palomar airport at 0700 in a rented Cessna 182 RG (Skylane II) in which he had been checked out only the week before. By 0800 he arrived to pick me up at my home field, Van Nuys, which is the busiest general aviation airport in the world. After waiting 15 min for traffic we were cleared to depart at 0830 and headed north along the coast for the 1.6 hour flight to Watsonville.

The trip was picture perfect, hopping from one VOR to the next in an almost straight line all the way up the coast. We cruised at 8500 feet seeing 152 knots on the DME, talked about progress on our own Cirrus's and played with the RNAV and other goodies on this well-equipped 182.

Upon arrival and parking the plane we walked toward the rows of hangers where we were told Don Kept his Cirrus. We turned the corner at the end of the second row to see in the middle of the hanger-way the unmistakable profile of a VK-30, on its gear with the new wing installed. The engine access door was open and we could see an Allison turbine tucked neatly inside.

Don was working just inside the open hanger and greeted us warmly. After hand shakes all around we immediately bombarded Don with praise and questions about his project. Jeff and I could hardly keep our eyes and hands off the almost-ready-to-fly plane. I first asked what he thought about the new wing and any problems he had installing it. Questions popped out from Jeff and me in no organized way as we walked about the airplane and Don tried to answer them all. To present it better here I will just list the various subject discussed and Don's comments on them.

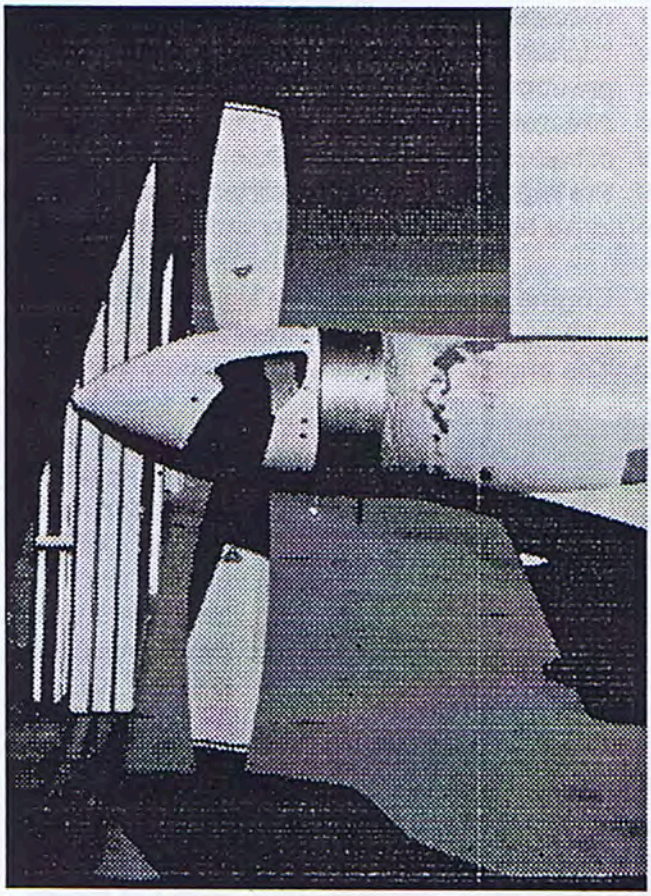
New Wing: Don told us he dedicated the previous week to installing the new wing. He stated that Cirrus Corporation offered to send personnel to help him install it at their expense, but he declined their offer. In general the quality is very good, but he believes the main gear trunions are slightly misaligned, and the aileron trim tab was poorly constructed. Jeff and I agreed. When I later mentioned this to Rick Hagberg at Cirrus he immediately sent a new one out to Don without waiting for him to request it or any prodding by me. It is my opinion that one of the goals of the "new" Cirrus design Corporation is the successful completion of all our VK-30 projects. They have never given me reason to doubt that commitment. Don also explained that he removed the new and larger

fuel sumps from the new wing to install even bigger ones to help feed his turbine engine. (More on that later). He was working on installing his old wing tips to the new wing when we arrived. This requires a bit of fitting and adjusting but can be done/ must be done since Cirrus intends for us to use our old tips. Don was concerned about the angle of incidence of his wing and was to discuss this with Cirrus to get the exact number it should be. Don intends to work exclusively on his VK-30 for the next 6-8 weeks to get it flying.

Ailerons: Generally good fit, light in weight, made new counterbalance weight assemblies instead of trying to modify the old ones. The right one had the trim tab installed and though the servo system looked adequate, the tab itself had been extended to increase its area by splicing another piece of aluminum next to the first. This had the effect of stretching the metal and no matter how we tried we couldn't get it to lay flay / straight.

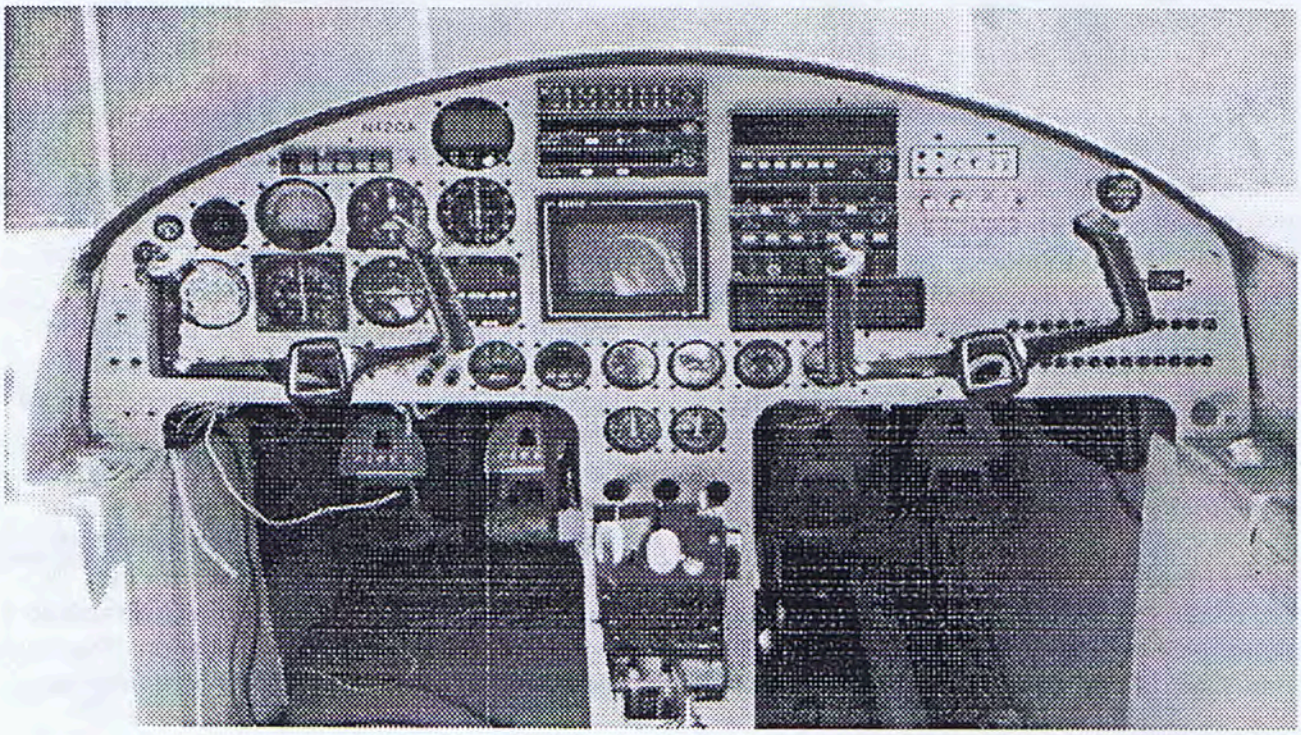
Wing Flaps: Good quality, did not like the old cruise flaps anyway and says he had a flutter problem with them in the old wing. The new flaps of course are designed without the cruise flap portion and Don says they are noticeably stiffer which is good. He feels the flap drive motor was barely adequate in the previous installation but thinks it should work better with this new design. He also added / constructed some new teflon like washers for the flap tracks, and Jeff will talk more about in his half of this report.

Engine: Don has reinstalled the Allison 420 turbine removed from his previous VK-30. The engine develops approximately 420 shp and though he purchased it used, it is still a very low time engine. Don elected not to have the engine rebuilt since the crash of his original VK-30, which he talks about later. He reasons that the light impact forces of his off field landing(?) through the trees, the fact the engine had been shut down (no power), the design of the Allison turbine (not direct connection between the power compressor and the drive gear box) and a through visual inspection with subsequent ground runs gives him the confidence his engine is airworthy. Besides all that, Allison Co. wanted $30,000 just to open it up and look at it. Don declined. An interesting feature of this engine for us builders considering the new drive coupling system developed by Glenn Elliott is that Allison supplies a similar elastomeric coupling attached to the output shaft of the turbine. What's good for the goose...! Don has installed a new full feathering MT prop sized for this installation. The main engine air inlet is located centerline on



the belly at about mid cabin. Don has installed a retractable deflection flap directly in front of the intake that comes up and down with the gear in order to prevent any debris kicked up by the nose gear from entering the intake / engine. As mentioned before Don installed very large fuel sumps in the wings to prevent the fuel intakes from unporting even in uncoordinated flight. Don suspects this is what happened before and that he still had fuel in the tanks then. He wanted to use the same shaft he had but the fuselage of this plane does not extend as far aft as the previous one, so he constructed a metal ring between the fuselage and the spinner to close the gap, approximately 6 inches. *(see photo left)* He said that sometime in the future he may go with a carbon drive shaft and in that case he will size it to eliminate the spacer ring.

Landing Gear: Hope to get new hydraulic rams before flying. Has built inner main gear doors. Is not looking forward to bleeding the brake lines, a difficult, long, messy job (Oh boy, I can't wait). He did ask some local piper mechanics advice on this and



they suggested he just loosen the cap fittings on each cylinder, back fill it and just let them overflow, lay down lots of towels. He welded up some nifty homemade aircraft jacks out of inexpensive parts. The main gear drag braces rub when retracted and Don blames this on the trunions as mentioned before, and he has not finished adjusting this with shims yet.

Empennage: Don used the same horizontal assy, elevator and rudder from the previous plane, the only major structural components salvaged. He is somewhat concerned about trim position and elevator authority as he had some problems in this area before.

Fuselage: Made extra large wing cutouts to clear his extra large sumps. Side mounted intake scoops for cabin vent and engine cooling, no scoops on the engine access doors. Has installed a built in oxygen system but generally plans on flying in the low teens. His instrument panel is well endowed. The picture will describe it better than I could. The interior wasn't finished yet. Even on his first plane that part of the construction process wasn't complete.

Flying and "The Incident". After putting up with us for more than an hour, Don allowed Jeff and me to take him to lunch at the local FBO restaurant. We hardly gave him a chance to eat, prodding him for information on his first experiences flying a VK-30. To begin with, after the initial flight was done by a local test pilot, Don's first flight at the controls of his VK-30 was also his first time ever flying a turbine powered aircraft. Talk about a steep learning curve!. All his first solo flights were lightly loaded and he kept the speeds down. He soon became accustomed to the turbine and its peculiarities and started to get comfortable with the airplane. That is until he started increasing the gross weight.

With the plane loaded for simulated passengers and fuller tanks, it became very difficult to rotate for takeoff, which brings us back to his concerns about elevator authority and trim positions. Don had his test pilot check it out under similar conditions and he said if he hadn't been warned to expect it, he would have aborted the takeoff.

Oshkosh time was rapidly approaching. Don got as much experience as he could and when the time came he packed up his wife and baggage and headed for Wisconsin. They flew along more or less with some friends in another plane, and with only minor glitches along the way made it to Oshkosh. The plane was a big hit at the show being the first customer built VK-30. After the convention it had been arranged for Don to fly his plane to Baraboo to have Cirrus fix some problems which included fuel leaks and calibrating his wing tanks.

After arrival and an inspection by Cirrus Don took one of the Cirrus personnel for an evaluation flight and to reduce some of the remaining fuel load They flew around the Wisconsin country side for a short while and then headed back. As they approached the airport back at Baraboo and turned to line up on the runway centerline, the Allison engine coughed several times and died. The plane was equipped with a Cirrus standard MT constant speed prop which does not have feathering capability. As Don knows now but did not know then, this Allison Turbine design cannot be restarted in flight without the prop being feathered. They continued, as Don related to me , pretty much straight ahead until clipping the tops of some trees on the back side of a shallow ridge, touched down in a short clearing and then into and through the bottom of a small grove of trees before coming to rest. The airplane was intact, the occupants shaken but uninjured. The relative lack of structural damage to the plane is remarkable and a testament to Cirrus Design. As Don described it, the low mounted wing on the VK-30 just sliced through and cut off 6-8 inch diameter trees like so much kindling. One

tree caught the nose pretty much head on. At no point on the wing has so much as the front spar been penetrated. Remarkable! The plane was soon moved to Baraboo and the next couple years were spent in negotiations with insurance companies and salvaging what could be salvaged.

The brings us back to this very pleasant afternoon in central California where we all walked back to the hanger for more pictures. Jeff and I soon said our good-bye's to Don and wished him luck and smooth building. We both admired his perseverance and dedication through all he has been through. This is what home-building is all about. Jeff and I, back in the Skylane, quickly departed Watsonville, reversed course and headed for home. Our enthusiasm to finish our own VK-30's renewed Jeff and I couldn't wait to get back and get to work. Just wait till we get our wings Don, We'll be right behind you.

Sincerely

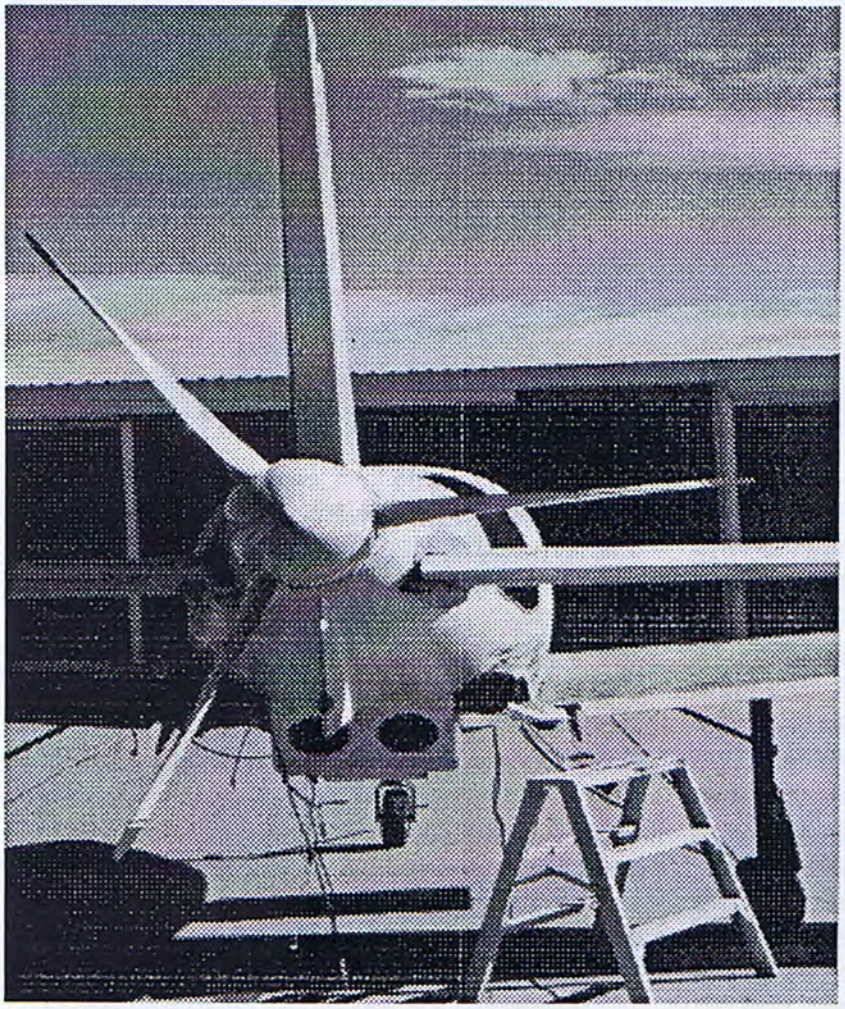
Tom Hastings

Trip to Watsonville

By Jeff Doddridge...

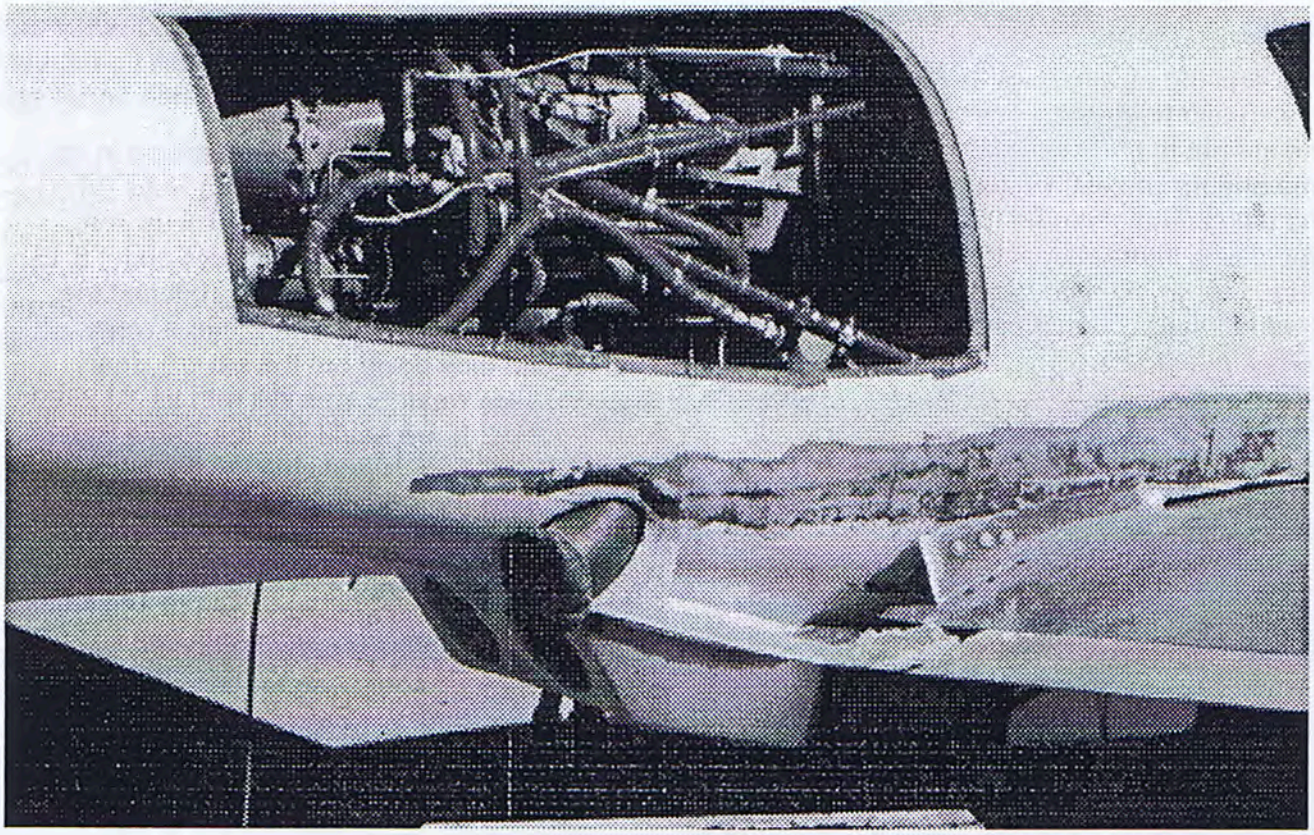
I remember reading the last C.B.A. newsletter where the spotlight for the next letter was to be focused on Don Brosie. I thought, how are they going to do that? The ever mysterious and elusive Mr. Brosie as some of us know, quietly goes about his business without much attention or fanfare. That's about the time the phone rang. Tom Hastings was on the other end and we talked about the newsletter a bit, very interesting, nice material, etc. The part about Don's spotlight came up and I said something like "how are they going to get an article from him, he really keeps to himself." Apparently from what I gather Tom was sort of given this assignment to put an article together and he wanted to know if I would help. After all I had been to his hanger once in Watsonville (WVI) many years before when he had the first plane under construction and was with in about 2 months from flying and I had talked to him a couple of times on the phone since. Oh yes he had actually been to see

my airplane at Gillespie (SEE) on a trip to El Cajon and he heard there was a Cirrus here so he set out to find it. Luckily he did stumble into me and my project, yet as we spoke I realized he didn't remember me from before. So much for lasting impressions. Inspite of that we talked Cirrus for awhile and had a great time. We both traded telephone numbers and he left. That was about 3 years ago. From that it was decided I had this special connection, so Tom and I were chosen for this mission.



Getting an interview over the phone and having him send a few pictures really wouldn't do justice to the effort that Don has put into this. After all this was a great opportunity and we wanted to make sure it was done right. It was decided that we would fly to Watsonville and do this so called interview in person.

I left McClellan - Palomar (CRQ) airport in my rented 182RG at 7:00 AM for Van Nuys (VNY) and arrived 45 minutes later to pick up Tom. We both launched out of Van Nuys about 8:15. The Santa Ana winds that had produced the terrible fires in L.A. and San Diego a week earlier had died down but the severe clear weather was still with us. At 8500 ft. we could see the Santa Barbara island chain to the left and the San Jaquine valley to the right, a span of over 200 miles, a perfect day to fly. The DME was hovering around 145 to 155 knots all the way and before we knew it we could see Watsonville airport from the Salinsa VOR as though you could reach out and touch it. However it was still 25 miles away. An expeditious cruise decent put us in the pattern for runway 20 an 1000ft. At. 10:15 we heard the final chirp of the tires and taxied to the FBO. After picking up 45 gallons of fuel I asked the line boy if he knew Mr. Brosie where he responded "who", then I said the guy building that big homebuilt, "oh yeah, he's over behind those hangers, can't miss him." Both Tom and I crossed the tarmac with the anticipation of what we might see. My plane had it's wing in it before that fateful call from Cirrus to remove it and dispose of any parts that were considered composite, over 2 years ago. We both walked around the other side to see a sight that I haven't seen for quite awhile, a Cirrus standing on it's wheels with it's wing attached. We greeted Don and his dog "rodger", they seemed glad to see us. Rodger is posted as Don's horizontal sentry under the right wing just in case there may be unwanted intruders.



The first thing you notice is the color of the wing, no longer that dingy grey primer that we have become so familiar with but a new dingy green \ brown, which is an indication of the stronger epoxy resin within. This isn't meant to be a cut but quite the contrary, its very reassuring if only in perception that this unit is much safer from a structural standpoint. Also there is no gel-coat to have to sand off if you need to bond things like wing fairings. I have to say the overall finish is very good from the smooth well contoured skin on the wing, flaps and aileron to the inspection hatches underneath exhibiting nice crisp defined edges where the hatches meet the wing. I remember when I did the leading edge contour on the first wing, it took me almost 2 months to get it right. Some areas were off by as much as 1/4 inch. It took two of us with a long stroke board hours upon hours to fill and sand, fill and sand, glass, fill , sand, fill, sand, sand, sand. You get the idea, hard dirty, dusty work that seemed to never end. Our new wing as many of you may know has preform leading edge that has been bonded to the front of the wing. When I saw how nice and perfect this was in comparison to the first wing, well I got a little emotional, There is a joggle line or joint about 4 inches behind the edge as a bond line that has to be filled on both the upper and lower sides but this is much easier to fill than contouring the leading edge by far.

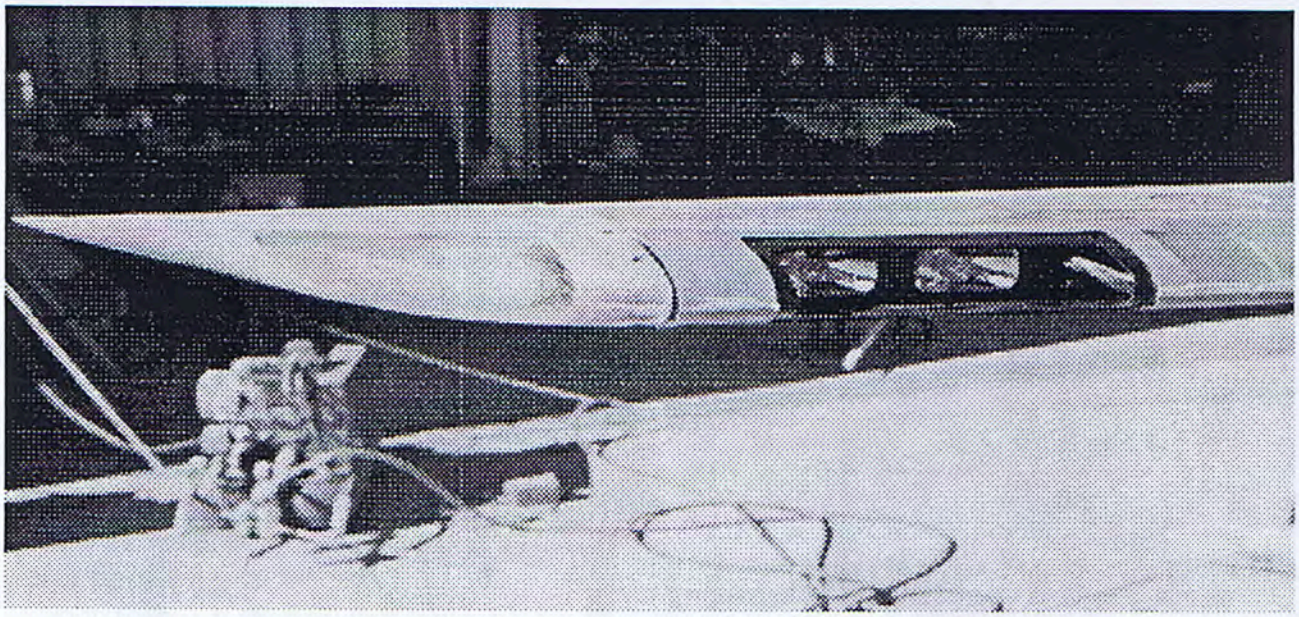
The flaps were another difficult piece to build and ended up quite heavy with the cruise flaps and hardware installed. Here again the finish of the flaps was done as though a professional had done them, very smooth and well finished. Gone from the trailing edge was the cruise flaps which I am glad to see gone, they just added weight and complexity for very little in return. This has got to save some weight but I hear that the new wing is about the same or more. Never got to see the flaps extended. The fit in the retracted position seemed good with only a slight waviness of the trailing edge of the wing at the juncture. Maybe some kind of stiffener would help. I'll check this out when

mine arrives. Don says the flap track bushings to keep the flap track guides on both sides of the track from scuffing should be changed to a better quality material.

Aileron's again very well done, good smooth glassy finish with a nice tight gap at the trailing edge of the wing and the articulating contour of the aileron. Counter weight position was done well with the movement through the wing very smooth and clearance of same just right. Roll trim is accomplished by a trim tab on the right side with a servo motor built inside. The servo motor is built into the access door on the bottom of the aileron which as a small rod that connects to the trim tab. The trim tab is fastened to the trailing edge of the aileron with a piano hinge

top of the skin there is the joggle of the hinge just laying there, it has that after thought look to it. Don was well aware of this and said the Cirrus people were sending him another trim tab for replacement. I talked to Rick Hagberg about this and he said Don's replacement is on it's way. Being Don's wing is one of the first, upgrades will be in future wings.

In the new wing the tips are not supplied so you have to use your existing tips if you have made them. Trying to fit the tips off of an earlier wing to the new one would seem to be a hassle if everything didn't line up. Don's old tips were on and fit fairly good, top and bottom actually fit flush to the wing and the trailing edge matched the aileron well. However, the



and rivets. To be honest I wasn't real impressed with the way the trim tab was attached or locked. The size of the tab was about 2" by 12", and was made in 2 pieces 6" each and being connected in the center by a T bracket that attached the small rod to the servo. The problem is that over squeezed rivets can warp thin aluminum which is what happened here. So when you look down the tab it is very wavy and uneven. Also the way the piano hinge attached to the aileron the rivets had to pass through the top skin, the mill fiber that bonded the skins and the bottom skin giving the rivet an area that looks like "V". Where the piano hinge lays on

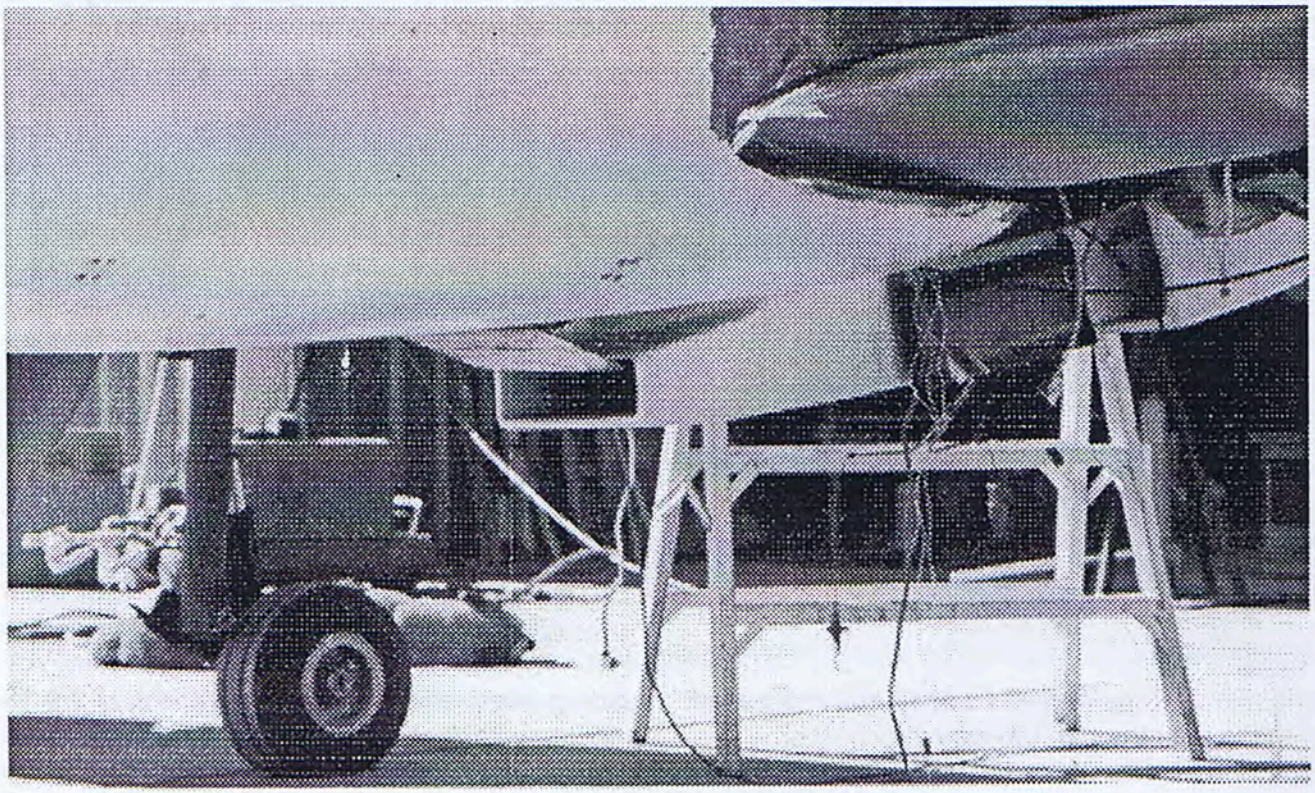
leading edge radius did have a 1/4 inch to 3/8 inch gap with the tip jutting forward of the wing. Don says he will repair this situation by filling or blending to the wing. Don may have lucked out or this may be a typical way they all will fit, but I could see where there could be some that wouldn't snug up real good and new tips would have to made.

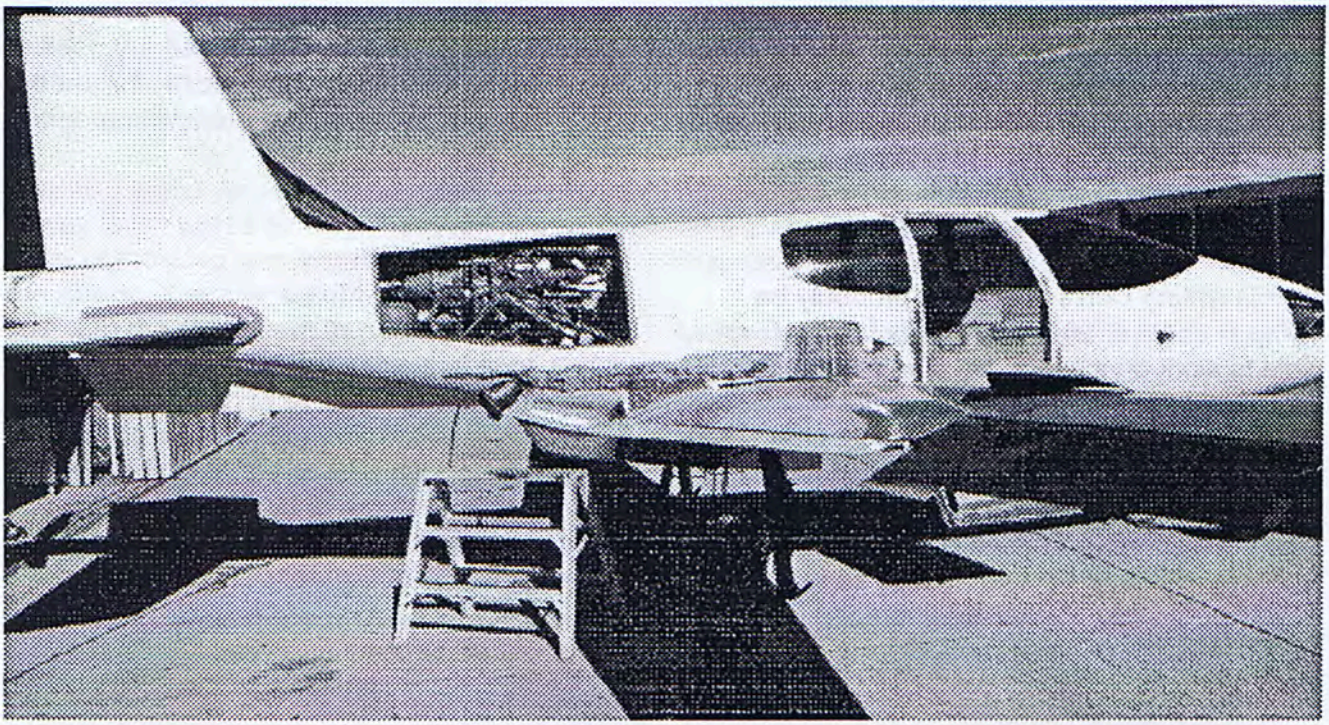
Moving to the very inboard section of the wing you look up and see all the typical hardware, cables, flap motor, up locks, electrical lines, fuel lines and pumps, attach brackets all mounted to the aft side of the spar. You know,

that hornets nest we take all those pictures of at Oshkosh for the time we will have to deal with this and sort out. Apparently Cirrus has modified the fuel sumps quite a bit by making them much larger. Unporting the pick up in any engine is bad news as we all know but in a turbine it's especially worrisome so Don constructed a single giant sump under the wing off the center to the right that takes up all the space between the bottom of the wing and the floor. Looks to be about 5 gallons of kerosene. He had a small incident with this awhile back and doesn't want to repeat it.

I asked Don about the installation of the wing and how difficult it was to fit. He said he had no trouble sliding the wing in place in fact he did it by himself but the total answer to this is one of those "good news, bad news" things. The good news is that the old wing attach brackets that mounted on the fire wall went in well, with the level and wing tip to nose measurement aligning perfectly. For the bad news for those of us that had already mounted a wing before, the forward attach plates protruding from the front spar do not fit the old brackets mounted on the side wall of the aircraft. The actual measurement of the brackets from old to new is slightly different and the wing incidence has also changed a bit which adds up to a bunch of tearing out old brackets and remounting. Talking to Rick Hagberg he said there is an AD on this that we will receive this in the mail shortly.

Don's plane hangs that very expensive but very impressive Allison B17 turbine engine. As with such an installation there are plenty of mods incorporated to compliment the pairing of the Cirrus to the Allison or any other engine combination for that matter. Because of the light weight of the Allison, it was moved rearward about 12" for C.G. considerations. Likewise for the firewall bulkhead giving the passenger area quite a bit more room, making the engine access doors smaller and moving them back also. Since the firewall mounted the wing attach brackets and the wing remains of course in it's same position, a pair of stub walls were built into the inside of the fuselage where the old firewall was.





I remember when I first saw Don's first plane in 1990 the exhaust exit for the turbine dumped out well behind the wing and below in a pair of augmentors that looked like two watermelons hanging on the side. In his new configuration the exhaust dumps right at the trailing edge of the wing root fairing and blends with it nicely. At the time we were there it wasn't totally finished as yet but you could see that it will look very attractive and well thought out. It just goes to show that building a second Cirrus gives you a chance to improve the things you wish you would have done on the first.

Getting air to that turbine was accomplished by means of a P51 style scoop on the bottom and between the wheels. There are actually three inlets to this, one being the large center scoop that feeds the turbine inlet and two smaller ones that service the oil cooling heat exchanger. The smaller side ducts are again split into a 2/3, 1/3 configuration where the bottom 2/3 of this feeds the oil cooling and the upper 1/3 provides cooling to the ambient around the engine. For ground operation the oil cooling section has two fans mounted on the aft side of the scoop arrangement that pull air over the cooling fins and out the back. I was quite interested in how he did this because I have sort of the same arrangement in my plane and I know how hard it is to fit all this between the wheels which allow only 12" form tire to tire. I abandoned the idea of the P51 style scoop for lack of room, but Don seems to have worked all this out very well still keeping the lines and style of the Cirrus intact. The one thing that certainly was interesting was this horizontally mounted door in front of the big scoop. Don has gone to great pains to protect the turbine from ingesting any foreign objects from entering the scoop from the front nose wheels kicking up anything in take off or landing. This door mounts about 12" in font of the scoop at a 30 degree angle and articulates with the landing gear. If you didn't know what it was for you could mistake it for a speed brake. The second line of defence is a fine mesh built into the scoop just behind the inlet.

It never ceases to amaze me at all the clever ideas that find there way into these airplanes, and this one is no exception. From the scoop arrangement that I mentioned to the inboard gear doors and the accompanying linkage to retract them, to the aluminum shroud or fairing that blends the larger spinner of the full feath-

ering MT prop, to the nifty flip up arm rest cubby holes for placing in it maps, or whatever. I don't think I mentioned the built in oxygen system where the 2 bottles are mounted in the nose and the fittings for it pop out in the arm rest. Everywhere you look is another feature or modification to attract your attention.

At this writing Don says he will probably be flying in about 6 weeks given the fact he is now able to work on it every day. The things that still need to be finished up are numerous like the upper wing fairings, some wiring, final connection of cables for ailerons and flap follower, bond the floor, and of course much filling and sanding. I called Don just 2 days ago, 12/6/96, and he said he was firing up that turbine tomorrow. We talked about the Cirrus Builders fly-in and he intends to be there with his plane. If you get a chance don't miss this one, its quite an interesting machine.

It was getting late but we had enough time to grab a Mexican meal at the field restaurant and talk more Cirrus. Don has some good stories to tell. Maybe at the fly-in you could get him to tell some. After all Don is the first Cirrus builder, the first builder to fly, and now finishing up on his second plane and has installed his third wing. Quite and accomplishment.

After some more pictures and all the good byes Tom and I left Watsonville about 2:00 to arrive at Van Nuys about 4:00. After I dropped Tom off I had the sky to my self to think about what a good day this was and how seeing another Cirrus project really energizes your drive to get back to work on your project. Touched down at Palomar at 4:45 tied the plane down, "mission accomplished".

Jeff Doddridge

Dave Doucette

To my fellow builders and friends of Cirrus I wish a very happy and prosperous new year. New Year's Day is never a very happy time for me as it is the day that my father passed away when I was just four years old. As I strain to remember anything about my father I always remember one experience quite vividly. I had taken apart an appliance and laid it out on my bedroom floor. It was early in the morning and dad had not left for work. He came in my room to find me unable to put the appliance back together. I remember him sitting on the floor with me and explaining as he helped me reassemble that appliance. It was my earliest recollection of my building anything and one of only a few recollections I have of my dad. My hope is that this new year may bring you rich building experiences that will form lasting memories.

Despite sub zero temperatures and horrendous wind chill numbers yours truly has been working hard on his Cirrus. Rick Mills tells me that no one works slower than me when it comes to my Cirrus. Maybe it is because it is the only thing I do that isn't according to someone's schedule. In between seeing lots of patients, delivering lots of babies and doing lots of gynecologic surgery I find myself working in Hangar 50 at Dayton Wright Brother Airport. By now, you've all had the frequent visitors that ask the usual questions- "When will you have it finished?" or "Will you make it to Oshkosh" or "What engine will you use" or "What color will you paint it". The newer visitors can always be identified by the "Where does the engine go?" or "Is it a jet?" question. In memory of the late Roger Carter I always chuckle at his answer to when he will have his project done to which he always answered, Tuesday. Well, I don't know which Tuesday or Sunday or Thursday I'll finish my Cirrus but I will finish it. I called Alan Klapmeier this week and told him I wouldn't sell back my airplane. He insightfully commented that he knew I wouldn't because he knew from our conversations over the years that I enjoyed building it too much.

I cannot let another newsletter issue go by without writing this article. You see, I, like many of you have had soul searching moments about the future of my Cirrus project. In the wake of major life claiming mishaps one would be foolish if he/she didn't reflect on many aspects of this project. I won't bore you with vivid details of friends and acquaintances I have seen after their final flights that ended their flying forever. Nor will I bore you with personal real life "ER" like experiences of people who met their ends as a result of motor vehicles , farm implements, assailants, smoking too much, or simply bad diseases. I once read a satirical book about "killing as few patients as possible." It was meant for physicians and presented a candid view of many aspects of our profession. One of the chapters dealt with relative risk and was titled "if you drink, don't drive; If you smoke, don't bother wearing a seat belt." Such is the case with flying. I still believe that the most dangerous part of flying is the automobile trip to the airport, but if you want to eliminate all risk of

flying, you better join Coach John Madden on Amtrack and pray all the way for no derailments.

So what about the relative risks of this Cirrus we all own. First of all , I must tell you that I believe in the VK-30 and I believe in Cirrus Design. The VK-30 is a fine aircraft and no less safe than many aircraft I have flown, military or civilian. Lots of airplanes behave badly in adverse situations whether they be inadvertent bad situations like weather or planned bad situations like test pilots would find themselves. Someday I would like to ask Art Scholl or Bob Overmyer or Chuck Hilliard about their adverse conditions.

The other fact I believe about airplanes is that they're never in their final design. What model Cessna 172 do we have now-172P or Q? So I truly believe that if there was a 500th VK-30 it would have refinements to the original design. This is the subject of the rest of my article. I and many of you have been working of refinements to the VK-30. Most of my revisions have been in conjunction with designs of Rick Mills. Some of the potential changes to my VK-30 are as follows.

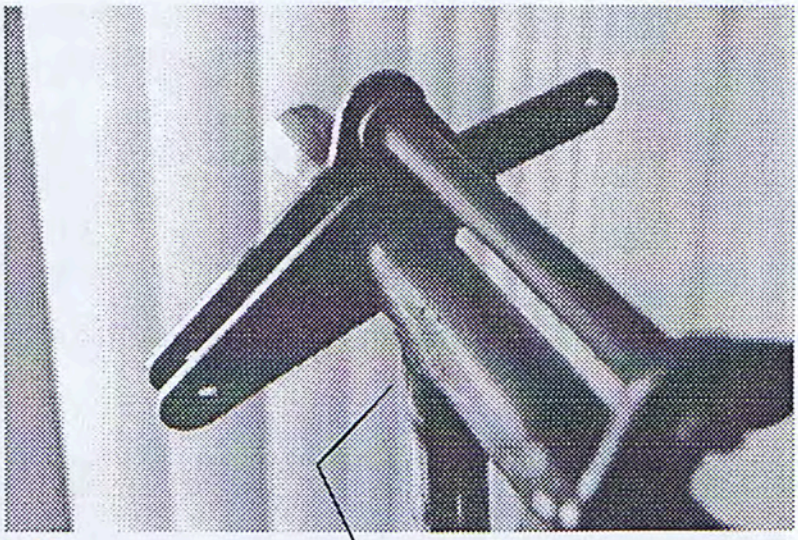


Photo 1

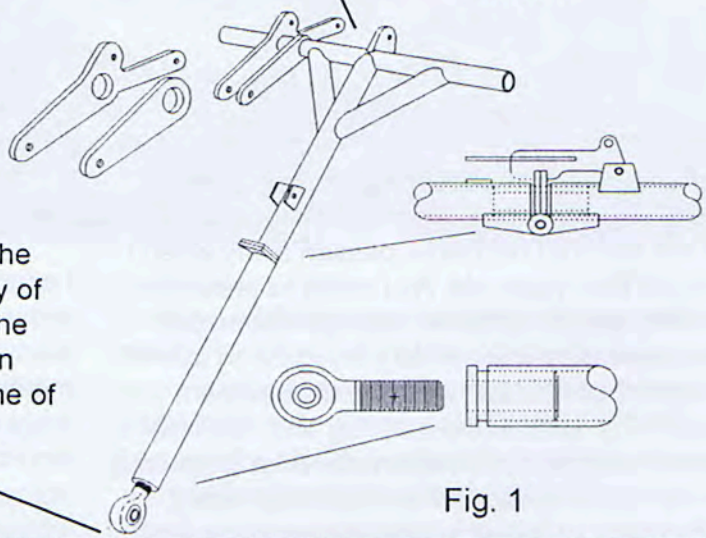


Fig. 1

New Nose Gear Design:

The original nose gear is an almost exact copy of a certified Piper design. Unfortunately, the design is for a much different aircraft. The weak link is the amount of chrome tube extension. Some have had problems with deformation (bending) of the chrome tube. R. A. Mills Corp. new design adds strength to the chrome tube, a longer outer canister, and tougher parts resulting in a beefier gear. The drag brace is much better and tougher and looks better, too.

(see photo right) The added weight is in a place where many are using

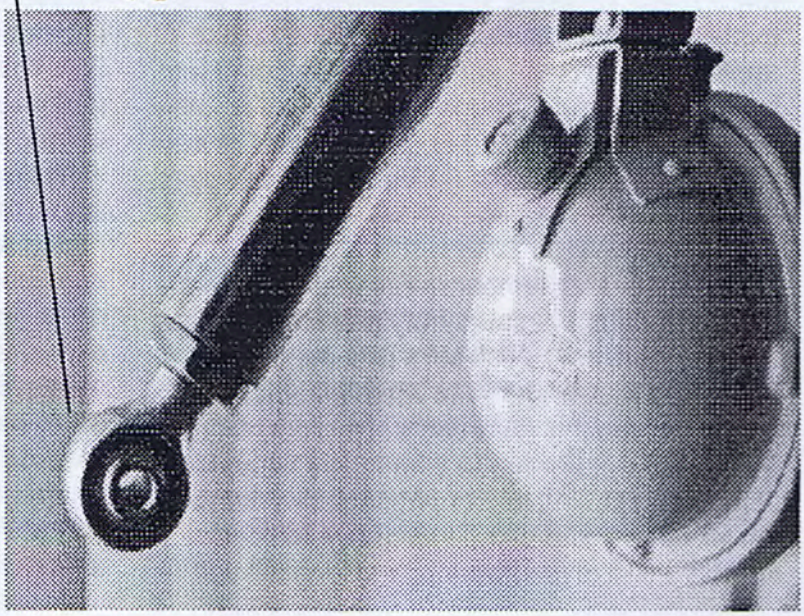


Photo 2

ballast anyway and should present no problems. The attach points are the same as the original gear so no modification to bulkhead #1 is necessary.

Drag brace:
The new nose gear includes a high quality rod end bearing for the drag brace to canister attach point. (see photo 2 & fig. 1) We were able to find, after a long search, a rod end with a 5/8" diameter shank and 5/16" through hole. Standard rod end bearing would have 5/16" hole and 5/16" shank. The new rod end has two ball bearings replacing standard bronze bushings. The penalty for such quality, the price - $75.00 each!.
The hydraulic lever arm (see photo 1) has been simplified, two laser cut parts replace 4 parts in original design. Improvement to the knuckle joint (see photo 3) include precision ground ears and a much wider hinged surface. The drag brace tube diameter has been increased from 1" to 1-1/4".

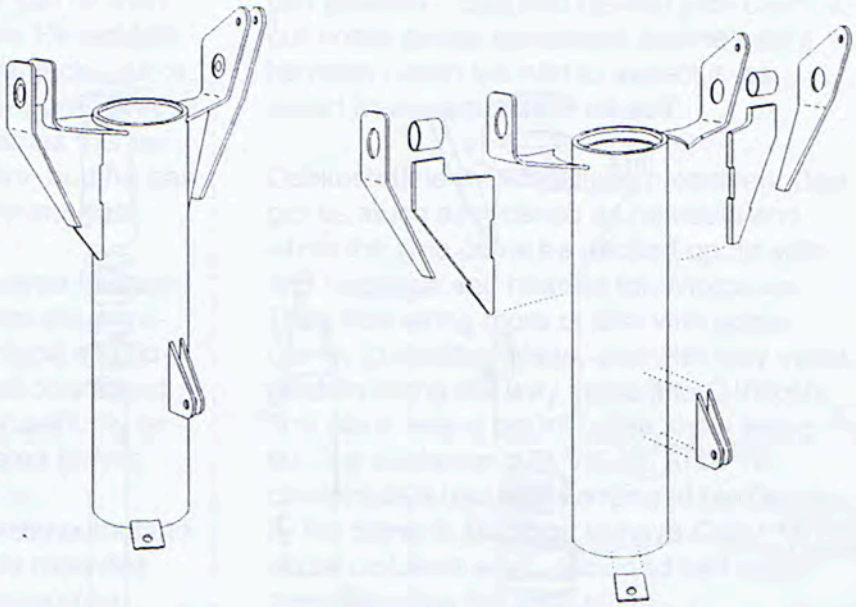


Fig. 2

Wall thickness is now .090". The new gear looks very stout!.

Canister:

The new canister features a simplified design combining laser cut parts welded to a 3.25 dia. main tube. The torque tube type lower bearing has been replace with a thrust bearing for thrust load and a large needle bearing for radial loads. Again very stout appearance. (see fig. 2 above & fig. 3 right)

The new inner canister is approximately 2" longer than the original design. The extra length will improve support for the chrome tube. The chrome tube diameter has also been increased to 1.75".

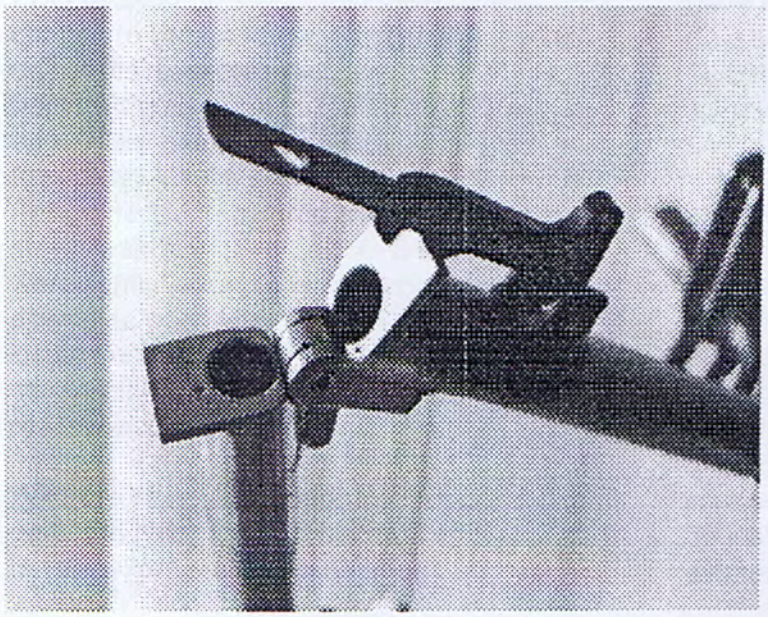


Photo 3

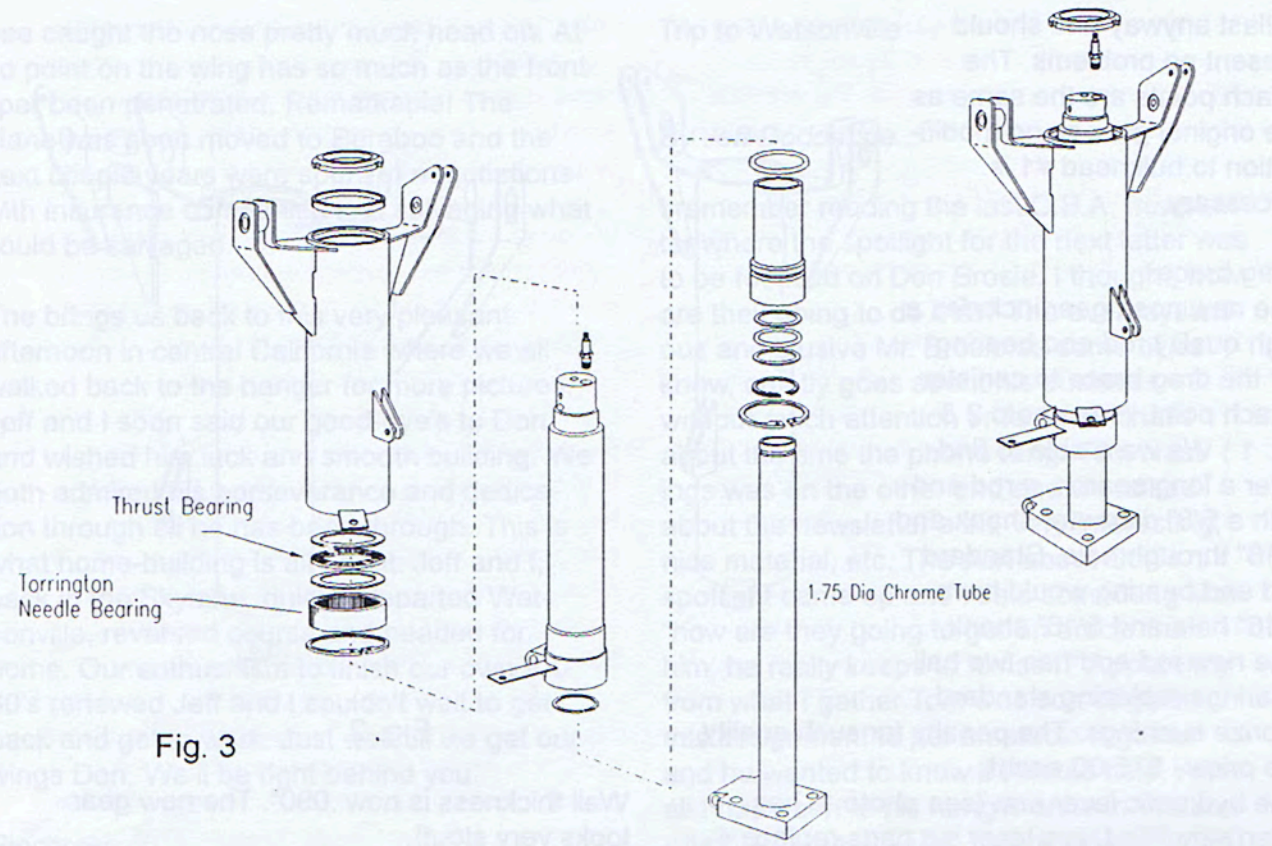

Thrust Bearing
Torrington
Needle Bearing
1.75 Dia Chrome Tube

Fig. 3

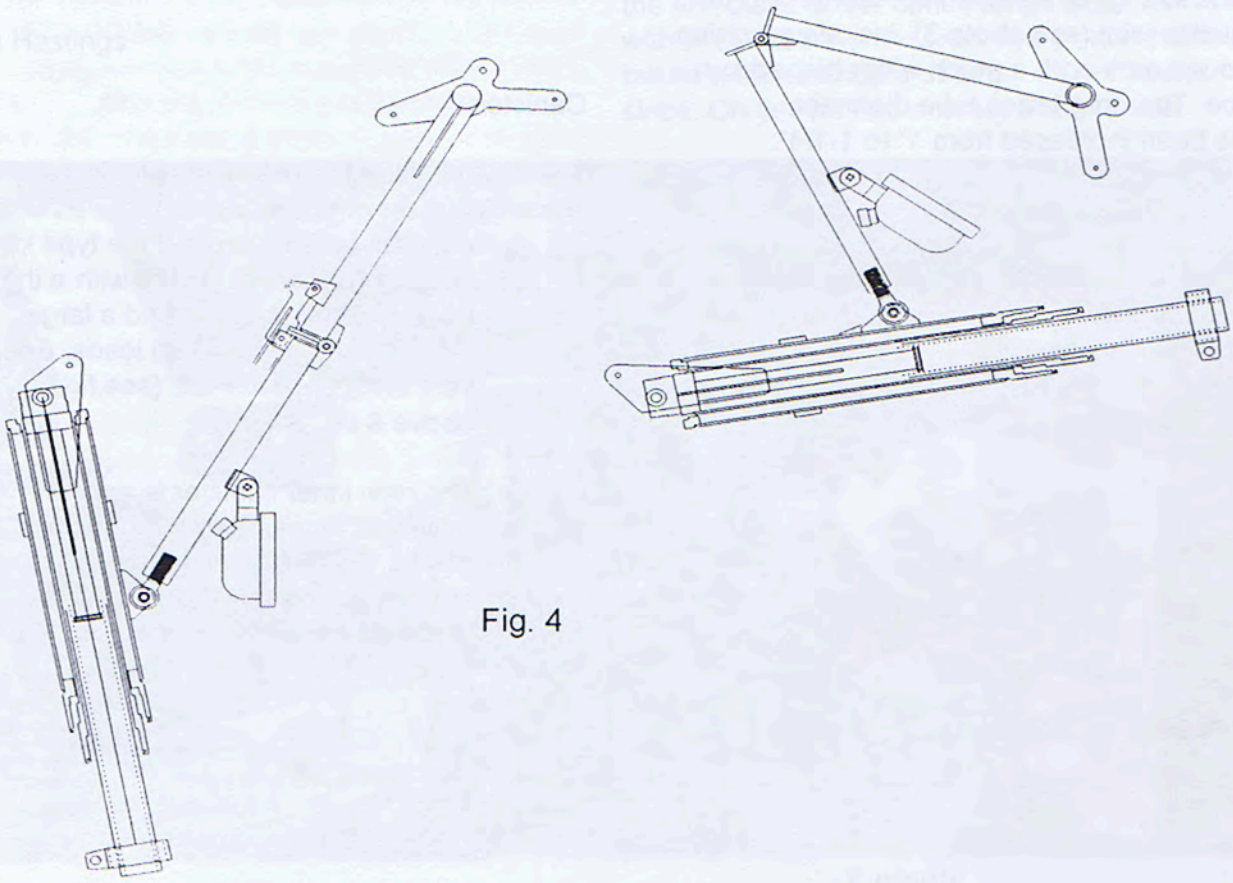


Fig. 4

New Elastomeric Drive Line:

I do not want to get into a long discussion about the flexdyne and flex packs. Every design has its advantages and its proponents.

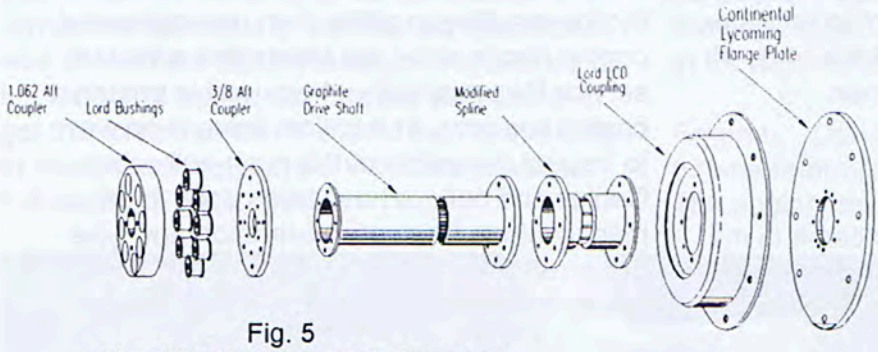


Fig. 5
New VK-30 Elastomeric Drive Line

Glenn Elliott and others have convinced me that there is a better design than the original. (see fig. 5) The current drive line parts (Glenn Elliott's design) that Rick Mills and I are working on are a sensible alternative with much better built in safety factors. It may not have the advantage of being tunable to every possible engine available but it seems to have a much improved service life and safety factor. No new modification is without its hard work. For instance, one of the drive line parts is a flange plate. (see fig. 6)

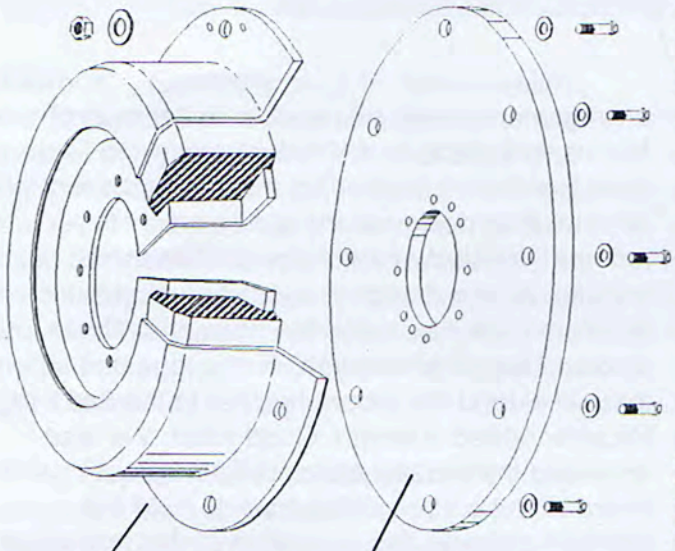


Fig. 6
LCD Coupler and Flange Plate

A simple 14" diameter 9/16" thick plate with some holes drilled into it. Can you say labor intensive. Start with a 5/8" thick saw cut round stock piece of 2024-T6. True it up on a lathe after drilling a center hole. Face it off to near final thickness but watch out for vibration (chatter) and, by the way, how many passes does it take to face off the plate. Then put it on a mill and locate, center drill, final drill, ream, and chamfer each hole to within a few thousandths. Final machining is a relief chamfer (rounded, not flat) to allow the plate to mate up with the engine flange. Next, find someone who has the equipment to precision grind each surface of a nonmagnetic aluminum plate and guarantee the results to within a few thousandths. Rick found a company in Cleveland to do the aluminum grinding with excellent results. Now find an expert in metal finishing and listen for a half hour as he explains the relative advantages (and economics) of a page full of coating processes. Oh, and by the way, what color do you like for the anodized surface. What do you think that simple looking plate is now worth and how long did you think it would take to make it? While at the anodize I also learned that there are a myriad of coatings that would provide corrosion resistance, not interfere with vulcanized rubber, would match the anodized aluminum plate, etc., So, what the heck. We really didn't want to mask and prime and paint those Lord couplers anyway. So for $50 a piece, go ahead and treat those couplers too. Oh, those couplers. You think they came almost finished from Lord. Guess again. Turns out they won't make them with a custom hole size and won't even make them with no hole pattern. Their hole pattern is used to fix the part in their vulcanizing process. So once you get their part you have to tram in the center and relocate the holes for our application without getting too close to

their hole pattern. Then it will match up with the coupler plate and other drive line components. Now you can decide on that finish coating! I'm excited about this newly designed complete drive line that has reliability, elegance, and serviceability with impressive safety factors built in to it. I believe you will really want to consider this arrangement after you inspect the parts at the builder's conference display area.

Aileron Cable System:

My push-pull cables for the rudder came to me with a tag which specifically recommends against aircraft installation. My rudder control system will use those push-pull cables, though. When it comes to the ailerons, however, there is definitely a better way than push-pull cables. Roger Carter had cables and pulleys in his aircraft. The installation was simple yet elegant. There was no significant resistance. The potential problem with a balanced push pull cable system is the internal friction within the push-pull cable itself. Those with lots of experience flying the Cirrus noticed these abnormal control forces. Bends produce friction and there is no internal mechanism to reduce this friction resulting in stiffer than natural/normal control forces and I would imagine a limited service life, especially when used in primary control surfaces. In addition, there is no way to inspect the inside of the push-pull cable. Cables and pulleys have been used in primary controls for every generation and type of aircraft with reliability. I believe this is a better, more serviceable and more durable arrangement which will result in better control feel as well. Rick, Tom Westenberger and I have teamed up to develop the aileron control system. Rick designed the pulley brackets mounted inboard of the outboard flap track. (see fig. 7) The design includes two aluminum plates mounted between the main spar shear web and the aft shear web. Tom suggested that we extend the mount bracket to the flap track for added strength. Good idea!. We also extended the parallel aluminum plates outboard of the outboard flap track to hold the aileron bellcrank. The aluminum plates make it easy to keep the pulley and cables in the

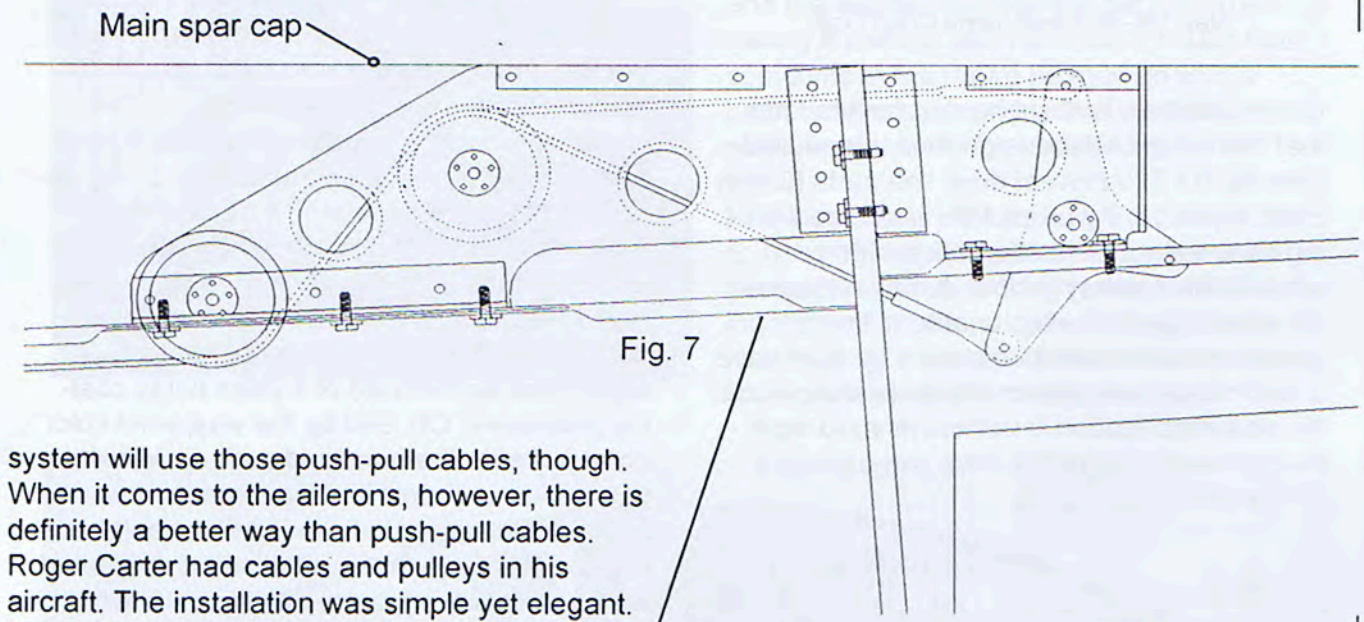
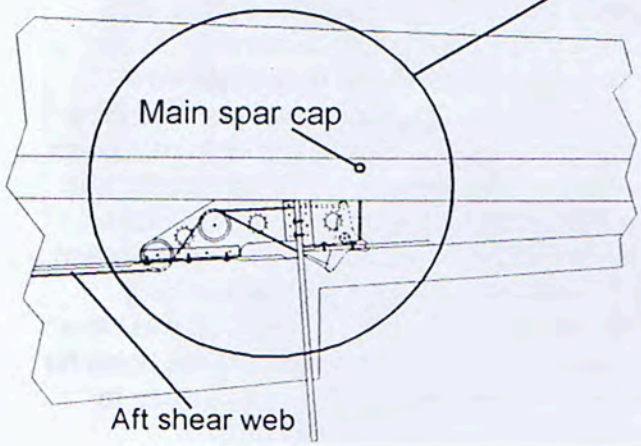


Fig. 7



same plane with the aileron bellcrank. The cable follows the aft side of the aft shear web. The cables meet at a pulley plate below the aft shear web and above the center longeron in the fuselage.

Tom Westenberger will receive his wing late January, without push pull cables and aileron bellcrank ribs. Rick will machine the aluminum plates from the cad drawings. Tom will then, with minor adjusting, be ready to mount the aileron control parts in his wing.

New Tail Housing Development:

The original tail housing seems to work but many have reported shortcomings. It leaks oil, it run hot, etc.. I recently had the opportunity to inspect a torn apart tail housing at Rick's shop. I was not impressed with much of what I saw. When we did the article about Roger Carter a few years ago he expressed some concern also. In medicine we have a saying in surgery. It is "the enemy of good is better." sometimes you just leave well enough alone and forget about trying to improve it. Such might be the case with the original tail housing if it was an off the shelf already built part. But, unfortunately, there are no more tail housings. I never received a tail housing and the original manufacturer, I understand, is not making any more. So either we builders or Cirrus Design would have to make new one anyway. Why not improve on the original design. I could go on and on about problems I see with the original tail housing. And no, I don't even like the color. We are in the process of redoing the tail housing. It will be machined from solid aluminum then heat treated then final machining. Therefore it will, for starters, be much stronger than a casting. It will have many improvements that will make it superior. The new tailhousing will be machined on a CNC machining center (Okuma cnc lathe). The quality must be seen to be appreciated. Come to the builder's conference and we hope to show you what I mean about improved quality of second generation parts.

Improved Seat Design:

I don't have seats. My only alternatives are rebuilt old design seats or new designs such as were on display at Oshkosh that are designed to replace original seats. Fortunately there is an alternative. Rick Mills has been working on seat designs for a long time. Rick designed and manufactured the seats used in the prototype

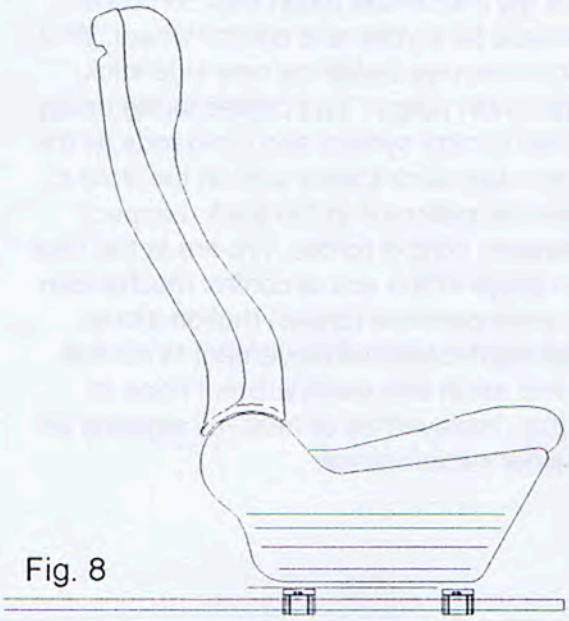


Fig. 8

Cirrus SR-20 for the past two plus years. They are extremely comfortable and good looking. Rick has designed a new safety seat for his VK-30 and other airplanes. The new seat is unique in that it is designed to reduce vertical impact force plus be ergonomically effective. The bottom 10" of the seat contain multiple layers of a material that progressively collapse under extreme force. In a near vertical impact, such as low altitude stall, the seat will absorb energy. The seat is one part of the safety system. It would be effective only when used with the full seat belt restraint system. (see fig. 8)

The seat slides on a set of (4) linear bearings. (Linear ball bushings in the back and ceramic coated bearings in the front). The seat bearings glide on precision ground tubes located below floor level.

Getting in and out of the Cirrus has always been a challenge. Climbing between the front seats to gain access is awkward at best. The new front seat slides all the way to the back seat (see fig. 9) to allow the pilot easy access. The new seats are just one part of a completely redesigned interior.

Side Stick Controls:

What if my instrument panel was completely uncluttered by a yoke and control wheel. Well it will be when we install my new side stick controls. With pulleys and cables to the newly designed control system and push rods all the way from side stick torque tube in the front to the elevator bellcrank in the back. I expect very smooth control forces. We are in the final design stage of the actual control mechanism which must combine fore-aft motion along with left-right rotational movement to control pitch and roll in one mechanism. I hope to have this displayed on or near my airplane at the builder's conference.

Horizontal Stabilizer:

The most disturbing part of this aircraft is the horizontal stabilizer. Our hope is to redesign the horizontal with a 20 pound reduction in weight. I believe that any effort to move weight out of the aft CG position in this airplane is time and money well spent. Rick is working on a new horizontal attachment system using formed heat treated aluminum parts. The new design will include a bolted bearing package designed for this application. Considerable weight saving can be realized by reducing total weight of the elevator. Every pound removed from the trailing edge of the elevator is possibly 2 - 3 pounds less counter-weight!.
We hope to have more information about the horizontal project at the conference.

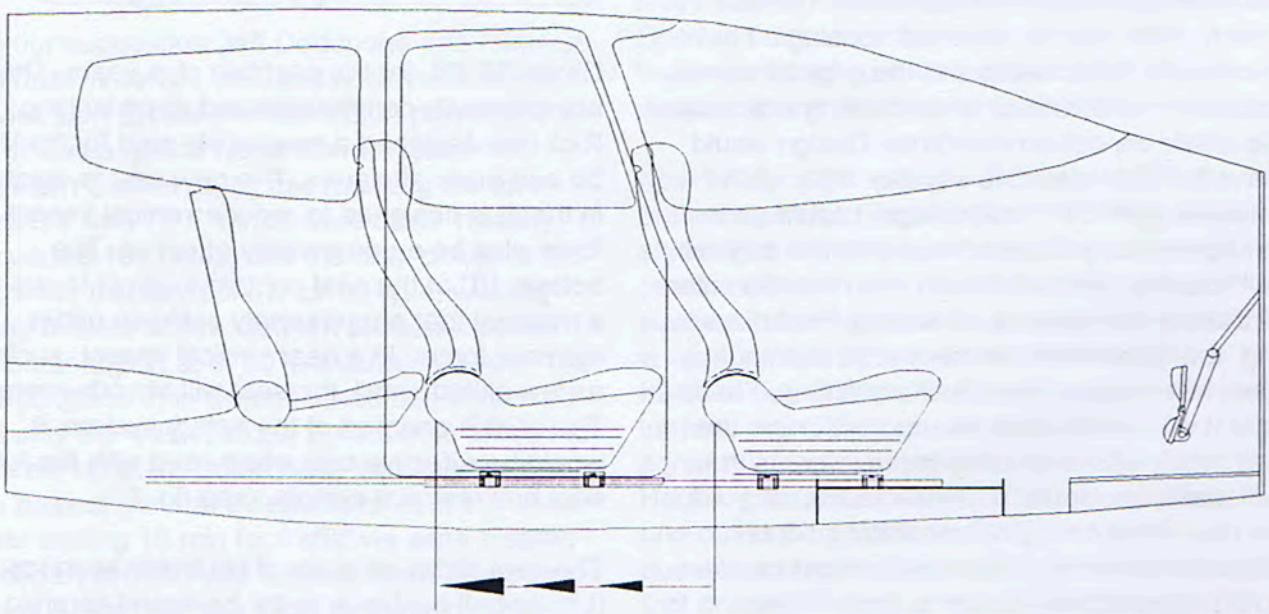


Fig. 9

Front seat slides all the way to the rear seat, easy in and out!

Summary:

As I stated earlier, many of these improvements or changes might have come about if many more kits had been produced. Look at the Glasair or Lancair products. To Cirrus' credit I think some of their original designs still out perform even second and third generation designs of other companies. Now, I believe we must be the force that pushes this aircraft to better design and safety standards. Not change for expediency or whim, but change for improved safety, improved service life, and improved reliability. Cirrus Design has redesigned and remanufactured newly designed wings partly out of necessity and mostly out of conscientious business decision-making at a financial loss to their company, to be sure. There will always be skeptics and there will always be self-righteous attitudes that would suggest that there was no other for them to proceed. And for a company that intends to make a major impact in revitalizing general aviation there is no other way to proceed than to build a reputation of building quality products and then standing behind those products. But for many other homebuilders the companies they dealt with weren't conscientious, weren't willing to take a loss to do the right thing. (by the way, Rick and I both have some Prescott Pusher parts we'd be happy to sell you at a significant discount) I can't wait to get my new wing and I can't wait to be part of making some significant improvements to an already great airplane. I look forward to seeing as many of you as possible at the builder's conference in March.

Hope to see you at the conference.

Dave Doucette

Tom Westenberger

A Welcome Visit to Duluth

After talking to Rick Mills about my recent trip to Duluth, he suggested I write a brief article reviewing the highlights of my trip. I guess this would qualify as being my turn at "your on the spot!"

On Wednesday the 15th of January I found myself in Ironwood, MI on business with virtually a day's worth of canceled appointments. Normally this would be quite aggravating to any businessman, but alas, Ironwood, MI is a mere two-hour ride east of Duluth. Without hesitation I did what any other member of the CBA would do... I fueled up, pointed my car west, and drove.

I pulled into the parking lot at Cirrus Design at approximately 10:30 am. During my drive over I mapped out in my mind exactly (or what I thought was) what I wanted to do, what I wanted to see, and who I wanted to talk to. In other words, I basically planned this visit and its agenda. Allowing some extra time for the unexpected, I planned to visit for approximately three to four hours. I walked in and asked the receptionist to contact Rick Hageberg. Before I was even signed in, badged, and safety glassed, Rick was at my side.

This was the beginning of only my second visit to the "new" Cirrus home since they moved to Duluth some three or more years ago. My first visit along with my then-fiancee (now wife) Deb, came this past September when again I was in Ironwood, MI on business (HMMMMM, seems to be a pattern here).

As Rick and I are walking to his desk, I'm noticing the walls seem to have moved in on everyone -- or is it that they're just squeezing more people and desks and such into the same floor space? A few minutes at Rick's desk and what has now become common place with every visit is the phenomena of constantly running into people I know and whom I wished I had all day to talk to. This time it was Rich Cutting. WOW, the knowledge and information this guy has and is so eager to share is unbelievable. I believe his expertise in aircraft electrical systems and avionics will be a true benefit to me in my airplane. I had planned to use Rich's services to design and build the entire electrical system of my VK-30. After a simple "Hi, Rich" it was all over. Within minutes Rick, Rich and I were deep in electronics. I just can't say how eager he seemed to be. I had asked him about sourcing a square, lighted, push-button on/off switch for my instrument panel and within a minute he had three or four catalogs in front of me and asked "is this enough?"

I really think this exemplifies the support I've been given not just from Rich, but from everyone at Cirrus Design going back some four and one-half years now.

On with the story. It was soon obvious to me that if you let him, Rich would share with you any and all the information you needed to familiarize and tackle the electrical system in your airplane. For me, Rich volunteered to design the electrical system for my plane as well as provide full schematics and component selection, and source and manufacture a complete wiring harness ready to pull through the airplane and hook up. Like I said earlier, WOW. Guess who I'm using?

Before I knew it Rich and I had been gabbing for nearly half an hour or more. Not that I

minded, but I had other things on my mind. You see, this trip wasn't by accident, it was definitely planned and the plans couldn't have worked out any better.

As it is always inspiring for me to visit my friends at Cirrus, you can imagine the motivation and excitement of knowing that they're in the process of building my new wing. It was now time to quit talking about electrical systems and go see my new wing.

Like I said, the timing was perfect. By the time Rick and I went out to the shop, the wing construction crew (most of whom I don't know) had just completed the step of bonding the forward lower wing skins to the main and front spars, thus closing in the fuel cells. This step is done as is most of the wing construction while in the upper wing skin mold. I noticed these skins were slightly different than the wing skins of the past due to the fact that the center section, now called the sump section, is a separate piece and at this time was not yet bonded to the spars. This provided plenty of viewing into the fuel cell area.

One of the first things I noticed about the new wings, and this goes back to when I was in Duluth in September when I saw Glenn Elliott's wing being installed into his airplane, was the overall cleanliness and superior craftsmanship. Everywhere I looked and everything Rick had pointed out had brought a smile to my face. This was like Christmas for me.

The construction crew was now finishing the flap actuation installation, readying it for closure, and did they do a great job! Everything about this new wing couldn't be better. From the hardware to all the composite work -- everything looks great. Everyone working on the rewing program seems to take the same pride in their work as I have had on my entire kit. Unlike the wings in the past, everything here is clean and precise. Just the way it should be.

Another new component of the wing, although not from Cirrus but rather from Rick Mills (RA Mills Corporation), is the new main gear trunions. If you haven't seen these, they are fantastic. The first thing one notices is that the slip-on, bolt through ring design of the former trunions has been changed to a double wheel bearing type nut assembly. I'm sure this will be far better. This was an offer made only through Rick. If you haven't made the arrangements yet, do so. You won't be disappointed.

I must have spent an hour or so with Rick going over and talking about my wing. Another friend comes by, Steve Pampooh, nicknamed "Pooh" came over and offered a warm welcome as well as answers to my many questions. He informed me that after they close out the flap system they'll be removing the wing from the mold to finish things like the front and aft attach plates. The lateral gear brace trunions, gear uplocks, flap fitting, leading edge cuffs and sump section bonding, as will as other procedures and test, will all be completed out of the mold.

Next up, Alan Klapmeier and soon after Dean Vogel came by like magnets to steel. It's always good to see these guys. After a brief discussion which started with my satisfaction with my new wing and some discussion of snowmobiling, it was off to lunch with Rick.

During lunch we spoke of my progress on my airplane, Cirrus's massive expansion plans with the SR-20, and Rick's hobby of rebuilding wrecked snowmobiles. Another hour passed by!

Upon return to Cirrus we went to one of the hangars they rent and use for storage space. Once inside with the lights on we headed for the SR-20 mock-up. I wanted to see the recently designed interior I had seen pictures of in last months AOPA.

The interior is unlike any I've ever seen in an airplane before. It reminded me of the curvaceous, luxurious interior commonly found in a

Mercedes or perhaps a Lexus automobile. I took a minute and sat in it. Keep in mind that day the temperature was a minus 8 degrees. It was a fast, cold treat. I soon got out. As we were headed for the door I was distracted by an airplane I hadn't seen in quite a while, proto III, NVK-33. For me this airplane has some fond memories. About the time I first got my kit, the guys at Cirrus were just building proto III, and it was during this time that I used to visit Cirrus quite often as they used to be a two-hour drive or 45 minute flight from home. Proto III is also the airplane I've got the most time in after suckering the guys for another ride. Now, proto III is mothballed. Although I've heard there is a new wing scheduled for her, I'm a little uncertain it will ever be installed and flown again. That would be a shame. Come on Alan and Dale -- don't close the coffin on this one!

Pressing on, Rick and I went over to the newly acquired sheet metal shop to see Dennis Schlieckau. Dennis has been a little disappointed lately. On its maiden trek into the northwoods of Minnesota, (did I say snowy northwoods?) Dennis's new snowmobile came in brief yet devastating contact with another snowmobile (due to a narrow trail) which rendered it unusable with only 35 virgin miles on the speedometer. A broken heat exchanger was the culprit. Surely a simple fix for Dennis. After some time in his shop we were off to the fabrication area for the UAL project.

The UAL project for Cirrus is something new for them. Cirrus is now one of approximately 150 subcontractors working on the construction of prototype computer/remote controlled military surveillance airplanes. I've seen some artist renderings of this bird and I can honestly say that I've never seen anything like it before. A B1-wing design, composite wings, aluminum fuselage and I believe rear engine (where have I seen that before?). Cirrus's effort is simply to produce the airframe. Although now they're just building one at a time, I've heard if the program is successful this could develop into a multi-unit production contract for Cirrus. Although this may not be the primary focus of Cirrus Design, when I asked Alan & Dale they both replied "it really helps pay the bills".

By now the clock was reading about 4:30-5:00 and I hadn't even made the parts room yet. So off we went where I could obtain the supplies I had on my want list.

After the parts room tour was over it was goodbyes to everyone. Hard as it was to leave the warm confines of Cirrus Design, I had to go. Earlier in the day when I had arrived it was just starting to flurry; by mid-day I thought it had increased to what I would usually call a steady snowfall. I was corrected by Rich Cutting who said that it was still only flurries. Well it was now 6:30 and most of the Cirrus people had left. What was once flurries had now definitely changed over to heavy snow and the Duluth forecast was for I believe 4-8 inches with the winds picking up to 30-40 mph. I had to go. I had to return to Ironwood, MI where the forecast was for 13 or more inches of snow, temps, down to 17-20 below zero and wind chills from 60-80 below..., your basic BLIZZARD.

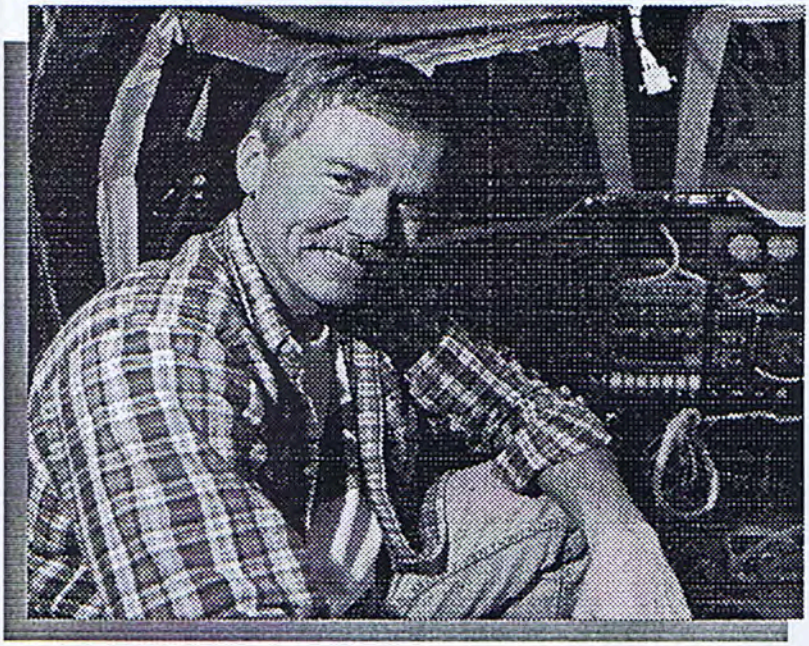
Although it was cold and snowy outside, I had a lot of warm ideas which kept my mind occupied for the drive back. If you haven't been to Duluth, you're really missing out and you will surely be surprised by what has changed.

That's it for now.

Hope to see you all in Dayton!

Happy Building

Tom Westenberger



Bob Long

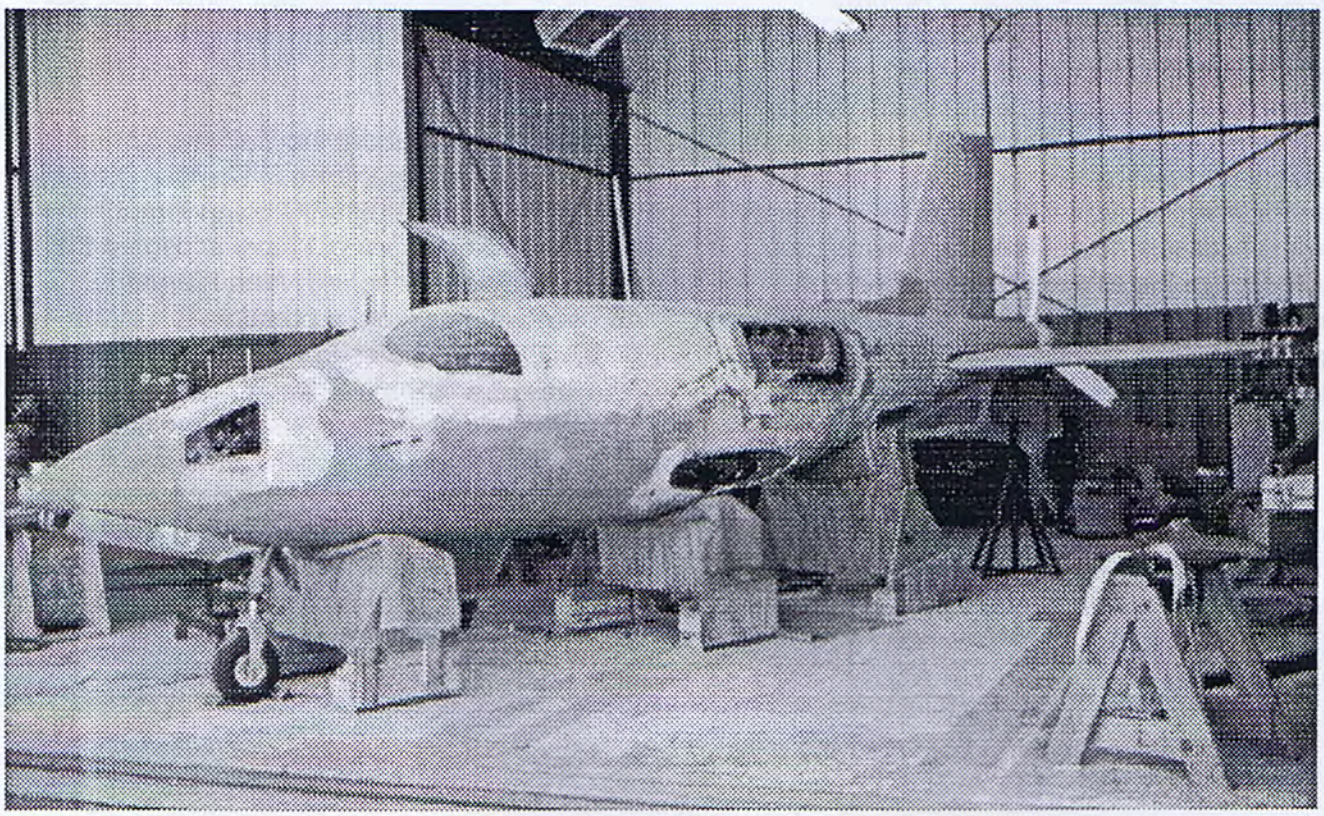
Dear Cirrus Builders,

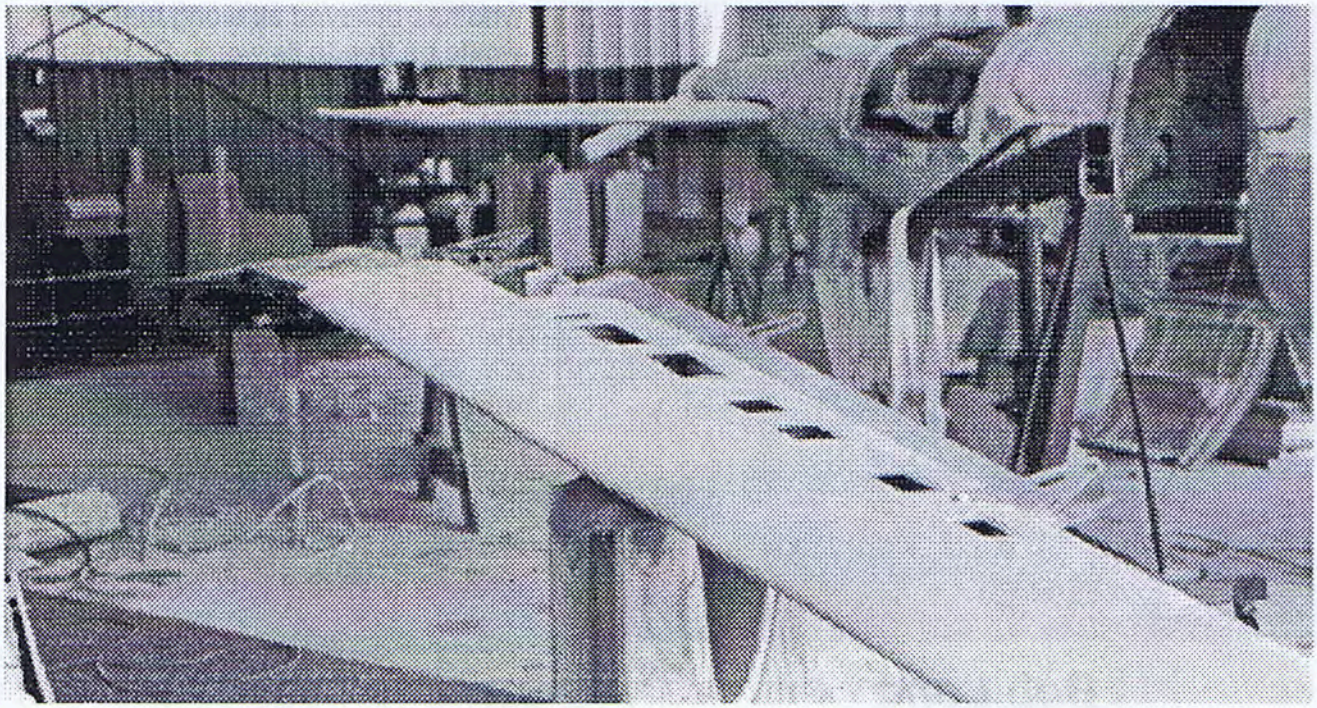
It's hard for me to believe that my wing actually arrived on October the 8th. I am one of those who has believed all along that Cirrus would be true to its word. So for me the issue has never been if I would get a wing, but when!

One day when my son was helping me sweep the hangar (He was ten then, 13 years old now.), he asked me, "Dad, do you think this thing will ever be done in time for me to enjoy it?" There have been times when I have started to wonder.

I think you'll be very pleased with the wing that you receive. From what I am able to see, the construction appears to be of a very high quality.

Though the wing is in a much more completed stage when it arrived this time than the first time, I was a little surprised at the amount of things that were still left to be done by me. I previously had my wing installed, and everything was done, and I knew the original stated intention was for each builder to be





brought back to the point where they were. After seeing the amount of time and work it has taken to fix Cy's and Glen Elliott's wings, I knew that was not going to be possible for all of us homebuilders out in the field.

Sometimes I think we forget how much money Cirrus has already spent in this re-wing program, and I know it would be very expensive to send people out in the field for the same amount of time that it has taken to work on these first two airplanes. However, I was a little surprised when I had to re-make all my hydraulic lines, re-make landing gear uplocks, re-install speed brakes and cut holes in the top of the wing. No body work for priming is done to the wing; it will come to you raw. The ailerons were only partially done, and the top skins were not on them. And I received four wing tip skins and was told that I had to re-make them myself. Cirrus has promised to send someone out the first week in December to help me with re-attaching the wing at the proper angle of attack. But beyond that I'm not sure how much more they will do.

I did disconnect everything from my wing and pulled it out. To date, I have placed the new wing back into the airplane, done the body work and primed it, re-installed all the electronics and systems, reconnected the landing gear, installed lights, and now I am waiting for Cirrus help me attach the wing so I can continue on with flaps, rigging ailerons, etc. When you get your wing, I am sure that like me, you will be very pleased.

I am really excited about the Builders Conference that we are organizing in Dayton, Ohio in March. Since I am presently going through the re-installation of my wing, I have accepted the responsibility of talking with Alan Klapmeier and Cirrus and making a presentation at the Builders Conference as to what you can expect in the way of a "completed wing" and additional help from Cirrus. Cirrus is very committed to finishing this re-wing program. They are producing them as fast as they can right now. So by March, we should be able to have a very clear picture as to how and when the re-wing program will be completed. I really look forward to seeing you in March.

Bob Long

Glenn Elliott

Dear fellow Builders...

A brief update on the new wing!.

Flew home with new wing, everything was fine except the weather. I spent three days in Huron SD. due to a front.

The airplane seems to be more responsive at slow speeds and also aileron forces seems to be lighter at cruise speed. N60GE might be a little faster?. Have not tested stalls yet, I have noticed that the plane wants to float more on landing than before.

Hours on the new wing, 12+.

I noticed the gas line seems to have picked up a lot of contaminates from the old filter, I installed Cy Mehling marine filter in gas line.

The only negative so far is the wing root faring has developed small cracks. Not a big deal but I will need to fix it later. It sure is nice to fill the tank and leave it in the hanger and not have fuel leaking out. Also nice to be able to hit a 2g bump and not worry about the wing breaking in half.

I m looking forward to seeing everyone at the Cirrus builders Conference March 14- 16, 1997. My presentation topic will be a discussion of flying qualities of the new wing.

Glenn

Association Members

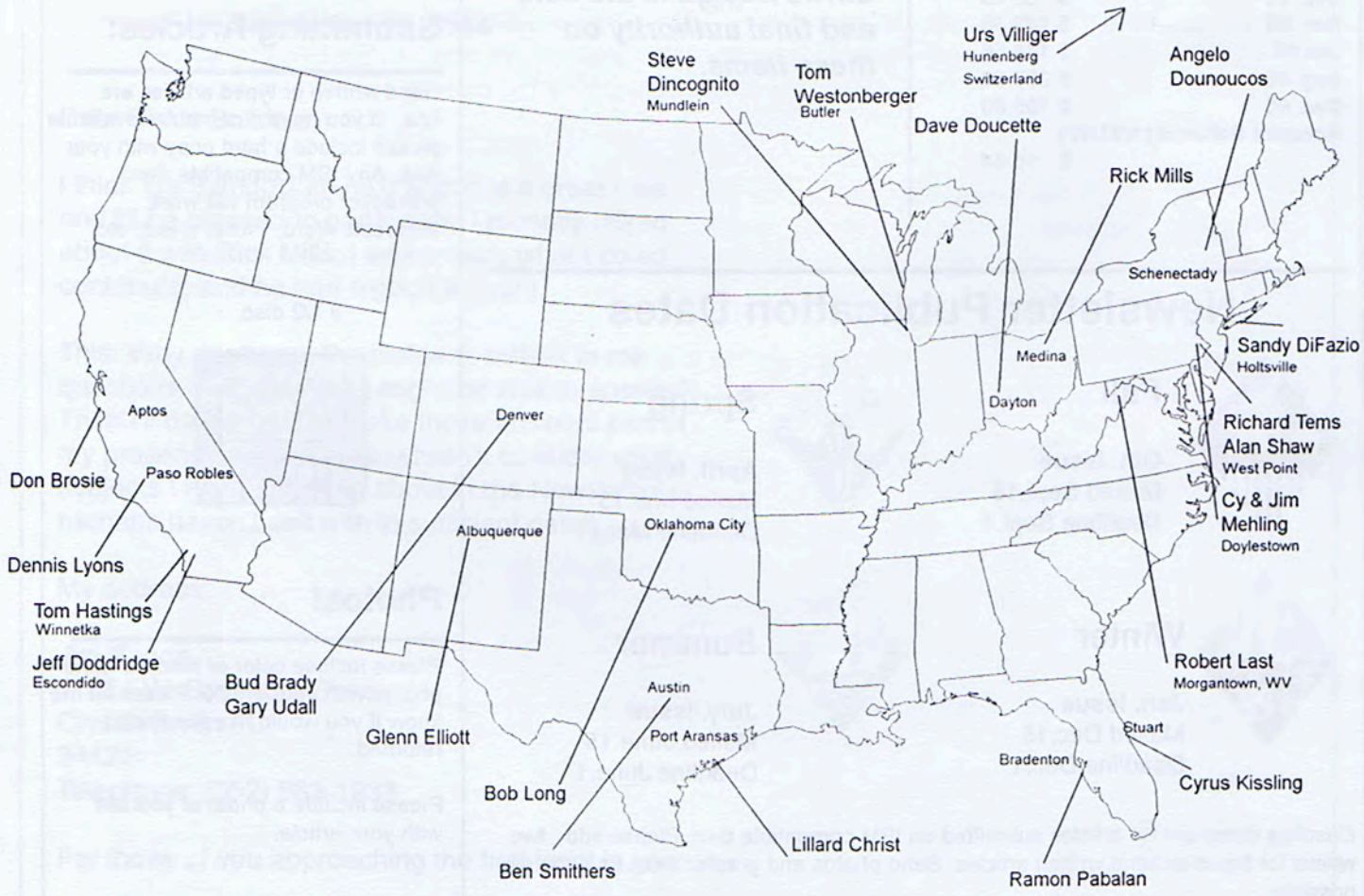
Cy Mehling	5393 Ridgeview Dr.	Doylestown, Pa.	18901	215 348-8134	IO550
Jim Mehling	Box1	Buckingham, Pa (Wk)	18912	215 794-5850 609 951-1951	
Glenn Elliott	817 Loma Vista N.E.	Albuquerque,NM	87106	505 266-7612	TSIO550
Don Brosie	Century 21 Lab 9047 Soknel Dr.	Aptos, CA	95003		Allison
Bob Long	1501 N.W. Cassen	Oklahoma City, OK.	73106	405 235-6065	Lyc. TIO540
Angelo Dounoucos	720 St. Davids Ln.	Schenectady, NY.	12309	518 377-5465	TSIO-550
Tom Hastings	8344 Oso Ave.	Winnetka, CA.	91306	818 341-2039	IO550
Lillard Christ	P.O. Box 146	Port Aransas, TX	78373	512 749-5072	V8
Urs Villiger	Riedhalde 3	Hunenberg, Switz **new Home** **new Fax**	6331	**011 41 41 780-5443** **011 41 41 780-8650**	Allison
Tom Westenberger	4623 N. 124 St.	Butler, WI.	53007 Wk. Fax	414 691-3733 414 781-5484 414 781-5420	IO 550G
Richard Tems	P.O. Box 276	Jamison, PA.	18929	215 345-8228	
Alan Shaw	WP 16-100	West Point, PA.	19486 Fax	215 652-7400 215 652-2142	
Jeff Doddridge	1312 Hamilton Ln.	Escondido, CA.	92025	619 480-2330	V8
Dave Doucette	457 Rolling Timber Tr.	Kettering, OH.	45429	513 299-6292	TSIO-550
Rick Mills	5005 Park. Apt. W2	Medina, Ohio	44256	330 723-4615	IO-550
Sandy DiFazio	10 Mineola St.	Holtsville, NY. Before 10 AM Est. (fax)	11742	516 654-9080 516 289-2549	Allison
Ramon Pabalan	P.O. Box 1771	Bradenton, Fl. (FAX)	34206	941-748-4076 941-745-1470	V8 ?
Robert Last	200 Lakeside Dr.	Morgantown, WV	26505	304 296-4249	
Dennis Lyons	6450 Buena Vista	Paso Robles, CA. 8 am - 10 pm Pacific	93446	805 467-3148 805 467-2434	

Association Members

Ben Smithers	2130 Melridge Place	Austin, TX	78704	512 447-2012	
Bud Brady	5823 S. Drycreek Court	Greenwood Village CO.	80121 Fax	303 741-2332 303 290-8138	Allison
Gary Udall	1100 Stout Street Suite 680	Denver, CO.	80204 Fax	303 575-9100 303 575-9004	
Steve Dincognito	0267 Lakeview Dr.	Mundelein, IL	60060 Fax Wk.	708 566-4294 414 857-6443 414 857-7296	
Cyrus Kissling	# 4 Mindoro Street	Stuart, FL	34996 Fax	407 221-1242 407 221-1249	

Associate Members

Doug Taylor	5800 East Lake Dr Apt 406	Lisle, IL	60532
Jim Patton	11684 W. Bayshore Dr.	Crystal River, FL	34429



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Cirrus Builders Association

Newsletter is published by:

Dave Doucette
457 Rolling Timber Trail
Kettering, Ohio 45429

Rick Mills
5005 Park Drive
Apt. W2
Medina, Ohio 44256

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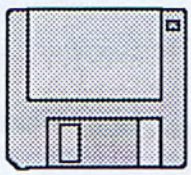

Photos!

Please include color or black & white photos with your article. Please let me know if you would like the photos returned.

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Newsletter Publication Dates

Fall

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Spring

April. Issue
Mailed Mar.15
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Winter

Jan. Issue
Mailed Dec.15
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Summer

July. Issue
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Deadline June.1

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