Falco Builders Letter

Charles Gutzman's machine is painted in that famous Falco red popularized in the mid-80s by a charismatic, bald-headed Californian.

First Flight: Charles Gutzman

At our Falco forum at Oshkosh last year, Charles Gutzman said that he was only a couple of weeks away from flying. Just a few little odds and ends remained to be done. Since Charles had built two airplanes before and is a highly skilled and experienced craftsman, I figured that he would be in the air in short order. It didn't work out that way, but he did get the Falco into the air on April 23. The problem was the paint job, and therein lies a long story.

Charles Gutzman is one of those quiet guys who likes to spend time in his workshop. He is a big man with years of experience making things, and he's got lots of brains in his head. He had built a Steen Skybolt, flew it for a while and then sold it. Then he built a Stephens Akro, flew it for a while in competition and became bored with solo flight, sold it and started the Falco.

Even though he built almost everything himself, he says he found the Falco easier to built than the Skybolt and Stephens

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First Flight: Syd Jensen

Many, many years ago, there was a Falco builder in New Zealand by the name of Syd Jensen. Some of you old-timers over at the old falcs home might even remember him.

Syd was a motorcycle racer who was as famous in New Zealand as Sterling Moss was in England, and Syd raced in all of the big events in Europe. Once in 1955, he got a ride in one of the earliest Falcos and was hooked. Many years passed. Syd gave up racing and returned to New Zealand where he ran Syd Jensen Motors, the sole importers of BMWs in New Zealand.

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In This Issue:

Goings On at Sequoia Aircraft

The main thing that's been going on around here is work on the main wing spar, and just because so many of you seem interested in how we go about things—and also because I'm running low on other things to talk about—I'll give you a blow-by-blow account.

There are two laminating jigs for the main spar. In each case, the jig is made in two pieces, split at the aircraft centerline. The jigs are placed on Gonzales, which is the flattest surface you'll find around here, and aligned with the edge of the table. The jigs are made of baltic birch plywood and laminated with white Formica.

These jigs use a special type of Jorgensen clamp, which have hinged bases that are screwed in place with drywall screws, and the clamp fits into it with a bolt. This lets the clamp fall back out of the way, and a block of plywood cut at just the right angle stops the clamp at 30 degrees. This means that you don't have to reach for a clamp at all. You just pull it forward, slam it down and screw it tight.

There a series of posts on each side of the jig which keep the boards aligned. I made the first ones out of Formica-laminated baltic birch and these were a disaster—the glue stuck to them. I have subsequently gone to UHMW polyethylene blocks, which we wax, and these work beautifully. The hold-down blocks are Formica-laminated baltic birch.

The jig and all of Gonzales are covered in masking paper, using a car-painter's hand masker which dispenses paper and tape at the same time. Over this we throw down layers of newspapers to catch the daily slather of glue.

The actual process of laminating a spar boom is relatively quick. Brenda and I can do one in about an hour, and then I spend about 20 minutes gluing together the scarfed boards for the next day's spar.

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Charles Gutzman

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Akro, simply because the plans were so complete and accurate. The hardest part of the Falco project was selecting the paint scheme. No kidding—he says the subject became so heated it almost broke up their marriage. Charles wanted a red Karl Hansen macho machine. Theresa was adamantly against that because it had already been done. She wanted a metallic grey airplane.

From the outside it was all terribly funny, and we finally resolved the matter by putting the Gutzmans in touch with Lu Matthews who designed the Falco paint schemes. Lu thought that both schemes were equally attractive, but reminded the Gutzmans that metallic paints create problems for the internal antenna system. This raised the possibility that they might end up with an airplane with external antennas, and that was enough to settle the matter.

So what we have here is a red Falco with white stripes and a Nustrini canopy. It's painted in Alumigrip Toreador Red polyurethane, and except for the numbers on the tail—N11ST—you can't tell it from Karl Hansen's machine.

The reason for the delay in getting the Falco into the air was the paint scheme. When Charles spoke at the Oshkosh forum, the Falco was already painted. He had sprayed the paint himself and wasn't particularly happy with it. The finish was a little dusty in places, and so he decided to sand it all down and shoot it again. This time he got a professional painter to spray the plane.

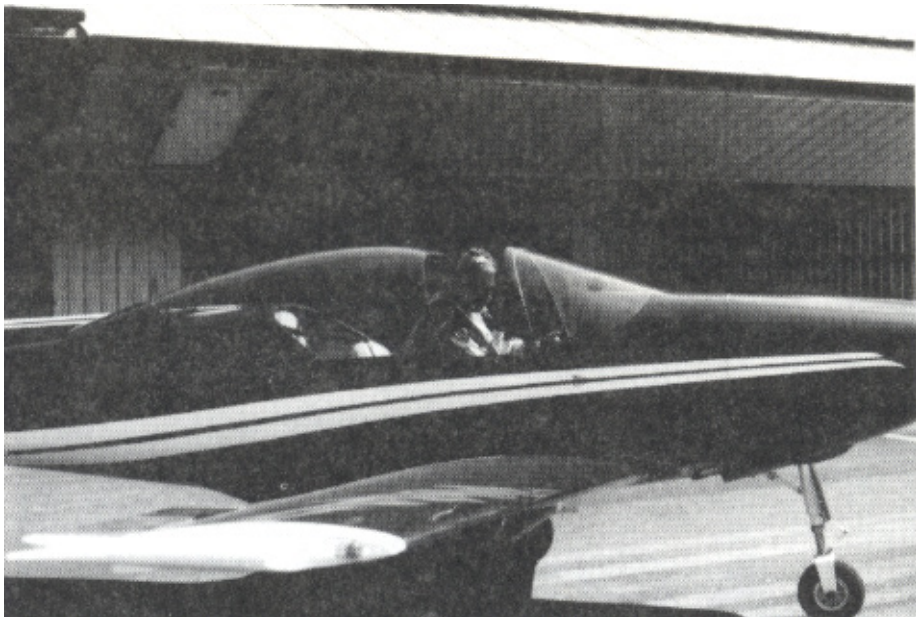
It was a disaster. When Theresa Gutzman walked into the hangar and saw the plane, she literally broke down and cried. There were runs four feet long on the sides of the plane, and it looked so bad that the painter has never had the nerve to send Charles a bill for the work.

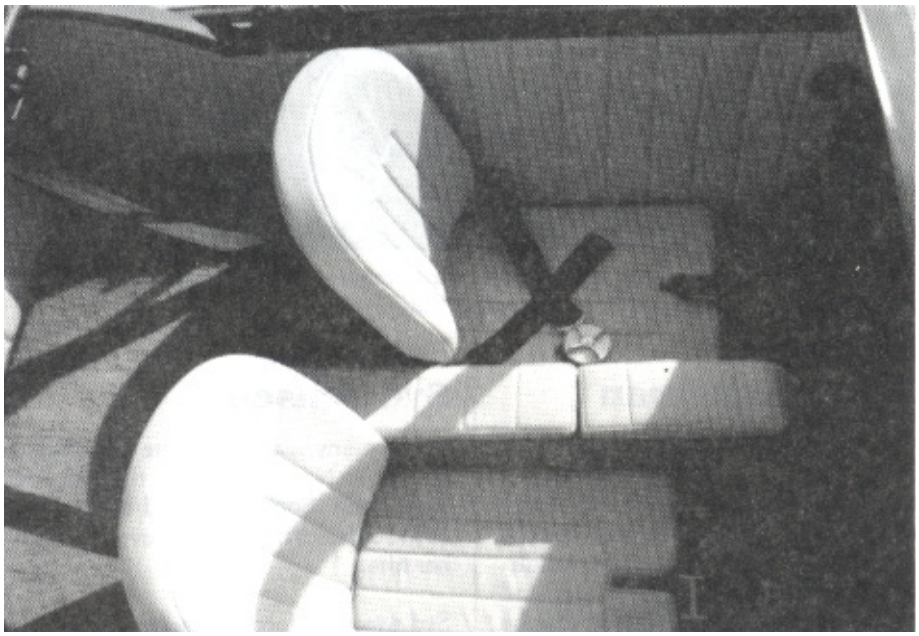
So he broke out the sandpaper and sanded it back down to the primer again. The third spraying was done by Charles Gutzman, and he's still bothered by a few areas that look a little dusty, but this one is the last one.

This Falco came in relatively heavy, weighing about 1300 lbs empty. That's partly because of all the paint, but also because of the interior and avionics.

The instrument panel is spectacular, and it's ironic that this largely plans-built Falco has more avionics in it than has ever been installed in any Falco. There's a full Collins IFR package of dual nav/coms, transponder, ADF, marker beacon, DME, rnav, loran, a Century NSD-360 HSI and a Century I autopilot with tracker tied to the navs, rnav and loran. He's got everything in there but a Stormscope. In order to accomplish this, Charles had to redesign the front fuel tank, and he lost five gallons in the process.

The combination of colors and materials used for the interior is stunning. The instrument panel and console is painted in a flat medium grey paint, and there a slightly darker grey carpet on the floor and luggage compartment floor.





Top: Charles Gutzman starts the Falco prior to the first flight. Bottom: The upholstery is done in medium grey leather and with a slightly darker grey carpet.

The Falco Builders Letter is published 4 times a year by Sequoia Aircraft Corporation, 2000 Tomlynn Street, Richmond, Virginia 23230. Telephone: (804) 353-1713. Fax: (804) 359-2618. Publication dates are the 10th of March, June, September and December.

Subscriptions: $12.00 a year, $15.00 overseas. Available to Falco builders only.

Articles, news items and tips are welcome and should be submitted at least 10 days prior to publication date.

Top: Charles Gutzman. Bottom: The instrument panel has everything but a Stormscope. Note throttle quadrant installation.

Some of you may have seen our yet-unfinished construction manual chapter on upholstery. In writing this, I picked the brains of a lot of experts, and came up with a number of conclusions on an overall philosophy as well as detailed designs of the various components. Charles said he agreed with everything in the chapter, and you can see the results in this plane.

The basic concept is to accept that the appearance of the Falco is dominated by the paint scheme on the outside and the instrument panel in the cockpit, and that the cockpit is also part of the outside of the airplane. Thus the upholstery should be monochromatic and should not try to compete for the eye's attention, but rather it should make everything work together visually. The interior in Charles's Falco executes this concept perfectly, and I would particularly like to draw your attention to the way the side panels stop at the front and how the walls and floor in front of that are covered with carpet.

With his experience in the Skybolt and Stephens Akro, Charles was well qualified for the first flight, which he did himself. It all went well, but on subsequent flights he had some problems with the retraction system. The circuit breaker was popping on gear-up, but he re-adjusted the up limit switch, and it now works fine. He has all of the gear doors except for the nose gear bay doors.

Charles had never flown a Falco before but reports that it's a "real agile airplane, but it has no manners when it stalls." He doesn't have stall strips on the plane and reports—as has everyone else—that there's no warning at all.

Well, come on, Charles, do you like it?

"Oh, yeah. It's a keeper."

Charles Gutzman is not a real talkative type, but he did say that he ran into a problem with the flaps. It happened with about 10 hours on the plane. He was climbing out at 85 knots indicated and then when he leveled off, the flaps started humming. He could see the right flap was buzzing up and down. He slowed the plane and that helped a little, but then he put the flaps down a few degrees. This stopped the buzzing/flutter, and he landed without incident.

Charles asked me to warn all of you that the two flap torque tubes must be bolted together to keep this from happening, and then was a little embarrassed when I pointed out that the plans show that. Somehow, he had missed that detail. I find this interesting because I have sometimes wondered in the cross-bolting was superfluous with the way we attach the torque tube to the actuator. It's quite clear from Charles's experience that the bolts are a necessary part of the design.

The only other problem he has is with the cabin ventilation. He put the two scoops on each side and for some reason no air comes in, even when they are wide open. These are the same vents that others have installed on their Falcos and which have worked well, but these are installed one station aft. Charles thinks it may be something to do with the flatness of the floor of the scoops.

This is the 28th Sequoia Falco to fly, and it has a 160 hp IO-320-B1A. The best speed he's seen so far is 198 mph true at 4500' and balls to the wall, but he has had some fuel injector problems and hopes to get the speed up a little. As I write this, Charles has 14 hours on the plane and plans to bring it to Oshkosh.

Charles and Theresa Gutzman live in Petersburg, Illinois, and they keep the Falco at the Springfield airport and the next hangar to them houses John Kerasotas's Falco, so this airport now joins the Grants Pass, Oregon, airport as the only airports in the U.S. with two Falcos based on the field.

—Alfred Scott

Syd Jensen

Continued from First Page

Then when we started selling the Falco plans and kits, Syd had to have one.

The progress he made in those early days was astonishing, even when you consider that he had a hired assistant. That was the time when we were best prepared to assist a slow builder, who took so long a-building that we had sufficient time to get the kits out. Syd and friend ripped through the basic woodwork in record time and would probably have been flying in 1983 if we had all of today's kits available then. But what actually happened was that Syd and friend ran us down and the project then entered a long and mutually frustrating wait-for-kit, install-it, wait-for-next-kit process.

During this process, Syd would take on odd business ventures of little subdivisions and these would take up lots of his time. I've lost track of time, but Syd could easily have flown in 1984, but he didn't rush the plane and then one sad day—literally as he was beginning taxi tests of the Falco—he found himself in the cardiac ward of the hospital. He didn't have a heart attack, but all of the alarms went off on the diagnostic machines. Syd had a triple bypass operation and within months was able to report that he felt better than he had for the past 20 years, but the New Zealand authorities considered bypass surgury as a ground-for-life event.

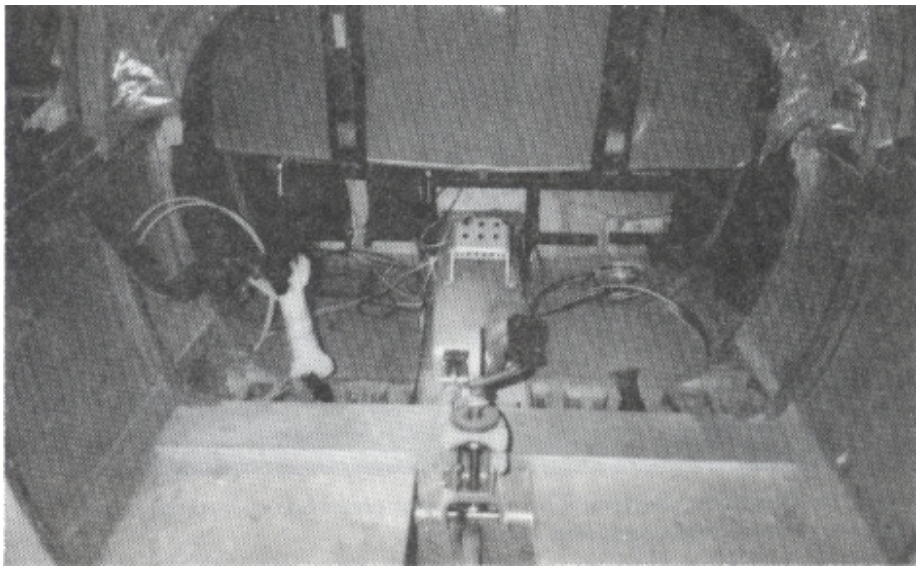
All this was a rather depressing experience for Syd, but recently he has gotten the plane signed off and into the air. I don't know the usual weights and speeds, but Syd says it flies beautifully and climbs at 2000 fpm when lightly loaded. He has a 180 hp IO-360-B1E with helicopter pistons installed for higher compression and more power.

It's remarkable what changes have taken place in communications during this period. For most of the time when he was building the Falco, Syd's telephone was on a manual exchange, so if you wanted to call him, you had to go through a maze of operators and finally ended up with the Kerikeri operator who would say, "Syd Jensen, why sure, love! I saw him just the other day, so I know he's home. I'll ring you through straight-away." Now it's direct-dial all the way through, and Syd and I can exchange fax messages within minutes.

The only problems I can report are some adjustment problems with the retraction system and a bad voltage regulator. Syd had installed the gear-up and gear-down relays on the aft face of frame 6 per our original scheme. This created voltage drop problems and Syd had to move the relays to frame 5 where we install them now. The other problem was with a voltage regulator which didn't work. It was six years old but had never been used, so we replaced it at no cost to him.

Beyond that I can't tell you much. It's a Falco, and it's flying. Last I saw it was white, and we're watching the mail for some photos which will probably arrive by the time you get this.

—Alfred Scott



Goings on at Sequoia Aircraft

Continued from First Page

Except for the difficulty of handling the very long boards and lifting the stack of boards-and-glue into the jig, it would be an easy one-man job.

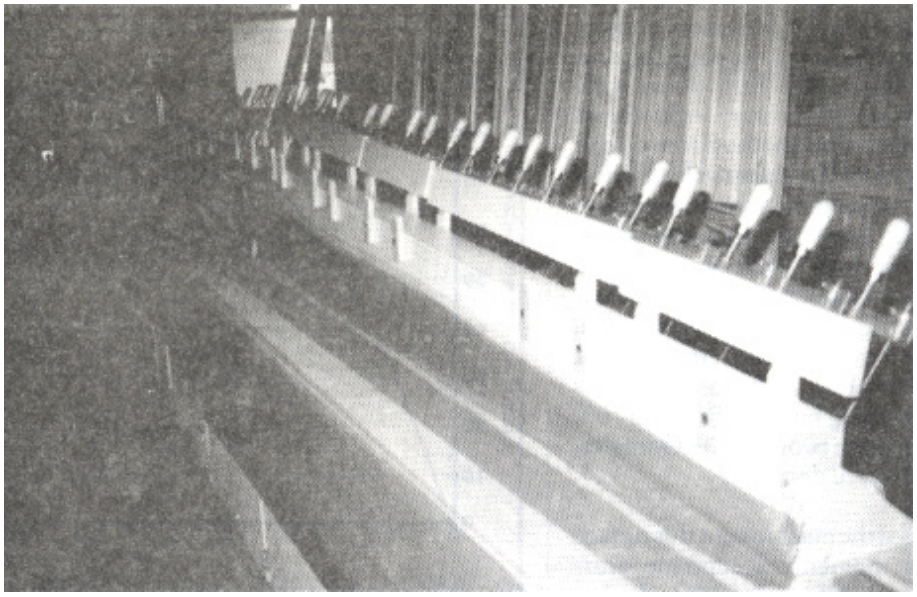
We've been using Penacolite resorcinol for this, and when you are mixing a gallon or so at a time, this glue is easy to use. We already know how much glue to mix so Brenda just measures and weighs the glue and dumps it into a Mixmaster. I brush the glue on with a large brush and one thing I particularly like about Penacolite is how easily it cleans up. The glue is has an alcohol/water base, and it washes easily out of the brush and mixing bowls. It's messy stuff, and we protect our clothes by wearing aprons—you'll be happy to know that we found some red/white/green Italian restaurant aprons to wear.

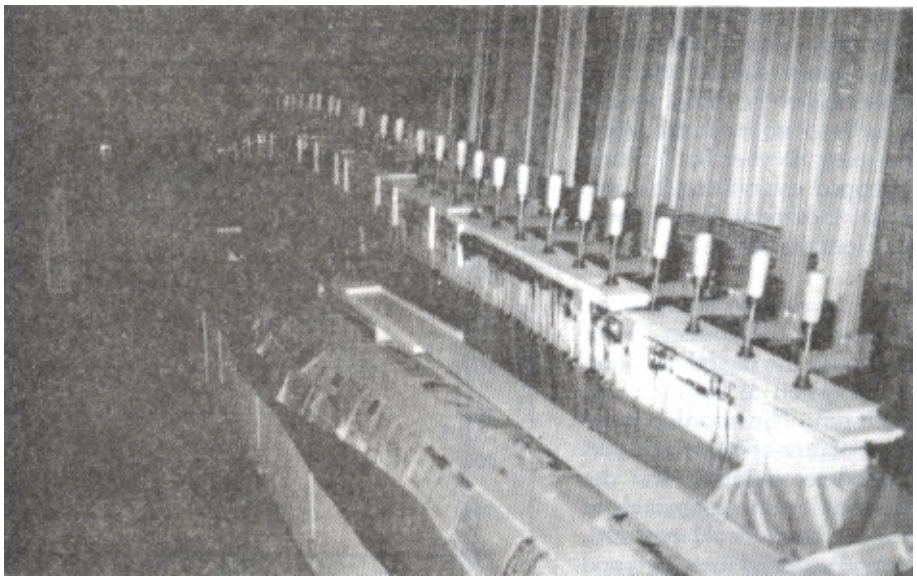
The Tony Bingelis law is that things that you think will be difficult will usually turn out to be easy and the things that you think will be easy are the ones that will give you problems. So it has been with the spar. One part that gave me the greatest problem was scarfing the long boards end to end. I have a nice clamping jig made up with a Formica-laminated board-and-rail with a hold-down block. That works great, but I wanted to keep the glue squeeze-out from coating the flat sides of the boards.

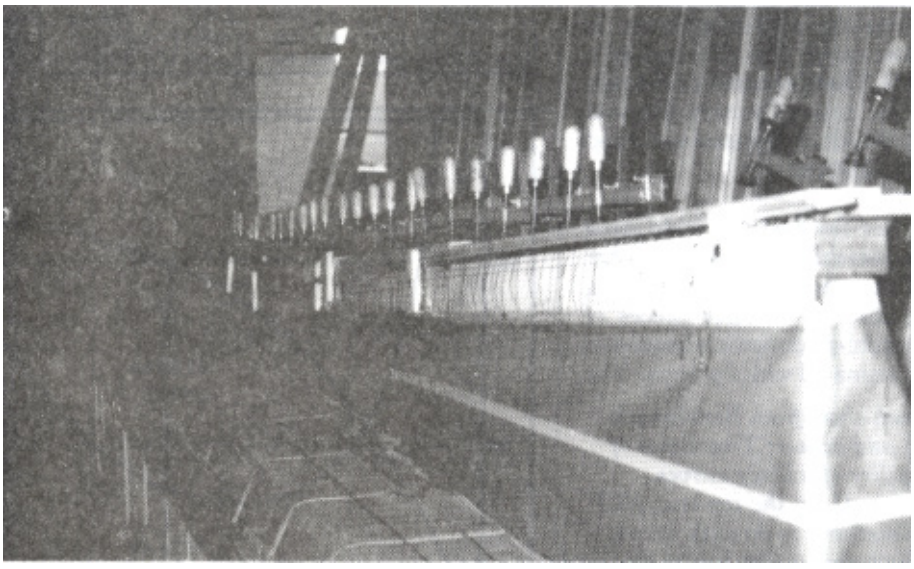
I started out and ended up with crepe-paper masking tape, but my side experiments with clear plastic tape and peel-and-stick labels were disasters. The problem was that the adhesive seems to get stronger overnight, and I ended up spending hours peeling the tape or paper off. There's a lot more technology and convenience in low-tack masking tape than meets the eye.

Another thing that gave me fits was the glue drippings. The jig was waxed with a hard carnauba mold-release wax, and the hardened Penacolite literally fell off of the surface, but it stuck like crazy to the masking tape and masking paper. When you remove one lamination from the jig, you are tempted to drag your finger along the spar and knock all these little stalagmites off. It's fun. You zip along until you hit one that's well-anchored in paper and tape. Suddenly you have a razor-sliced finger, and it's not fun any more.

Once the booms are laminated, they are tapered on the inside face. There are







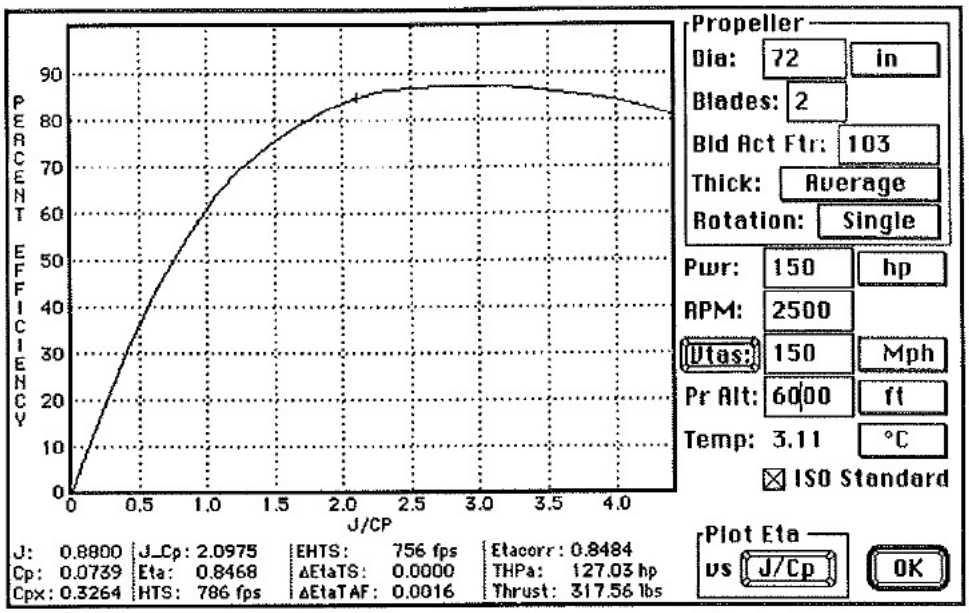
Top: The laminating jig for the upper spar boom awaits its first customer. The boom is made upside-down but that's okay because this is an acrobatic airplane. Center: The boards are in the jig. Note the clamping jigs for the next day's spar on the table in front of the laminating jig. Bottom: This is the laminating jig for the lower spar boom.

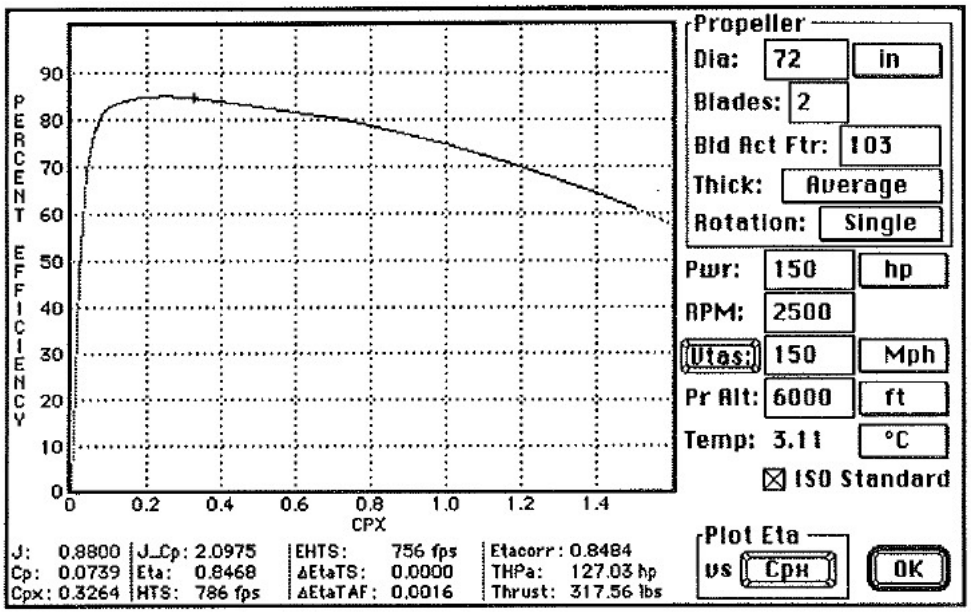
two precision jigs that mount on top of Gonzales (see photo page 13), and the booms are held down with vacuum. It's an amazingly simple process. You put the boom on the jig, throw the dump valve for the vacuum and then shove the boom down until the vacuum gauge needle pegs. Next you raise the cutter head of Gonzales to clear everything, move it to one end, take a rough cut with the "haircut machine" which knocks everything but the final 1/8" off, then make two cuts with Gonzales, and you're done.

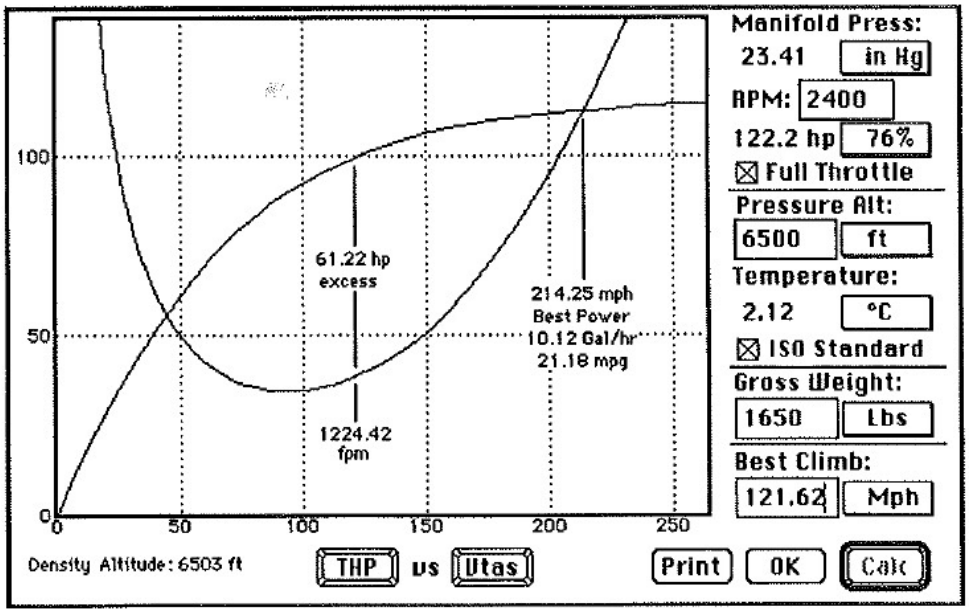
To see the machine cut this surface is a moment of supreme anti-climax. A friend of mine who has followed the machine from its earliest stages when I was designing it, through the construction and assembly of the thing, wanted very badly to see it cut the tapers on the spars. So when I called him, he dropped everything he was doing at his office and rushed over to see Gonzales do the cut.

All you have to do is lower the cutterhead to the correct height indicated on the digital read-out, turn the switch to Forward, and watch it run. The machine chugs along so matter-of-factly, and cuts the wood so smoothly that the excitement level is comparable to staring at a bowl of cold spaghetti. My friend watched three cuts and left. Life, particularly when you are dealing with machinery, is almost never like the end of a movie. There's no music or sunset, just the noise of motors, fans and cutterheads, flat-planed wood and lots of sawdust.

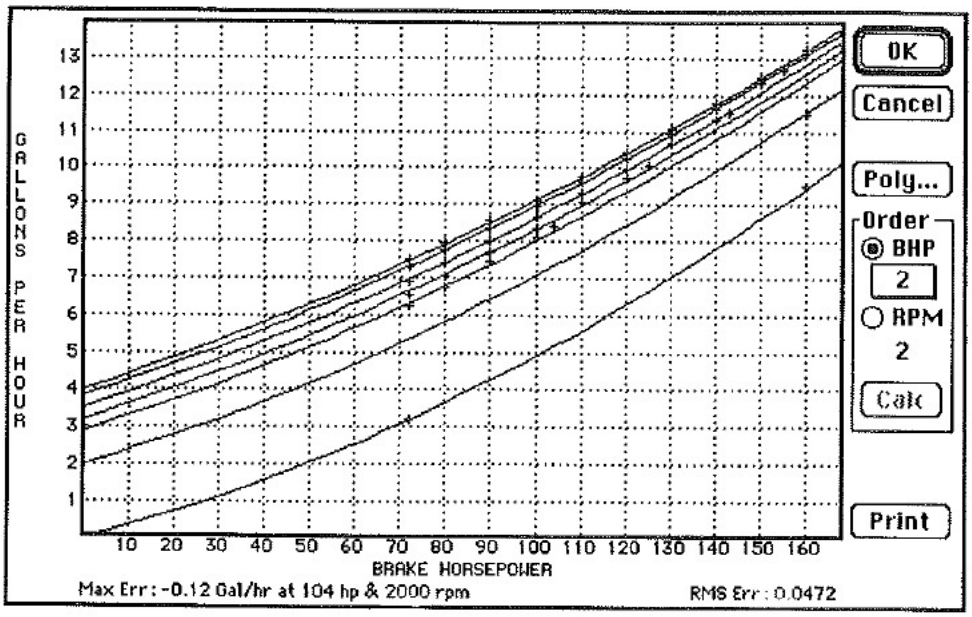
I've just finished the main wing spar assembly jig. Like the other jigs, this sits on top of Gonzales, and consists of three pieces of industrial-grade particle board that are laminated with Formica.

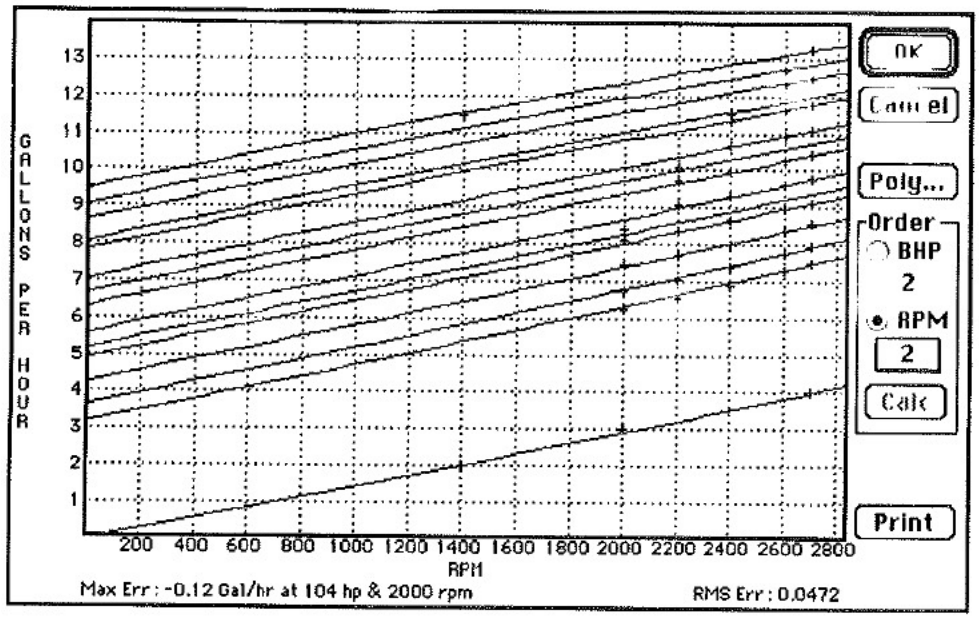


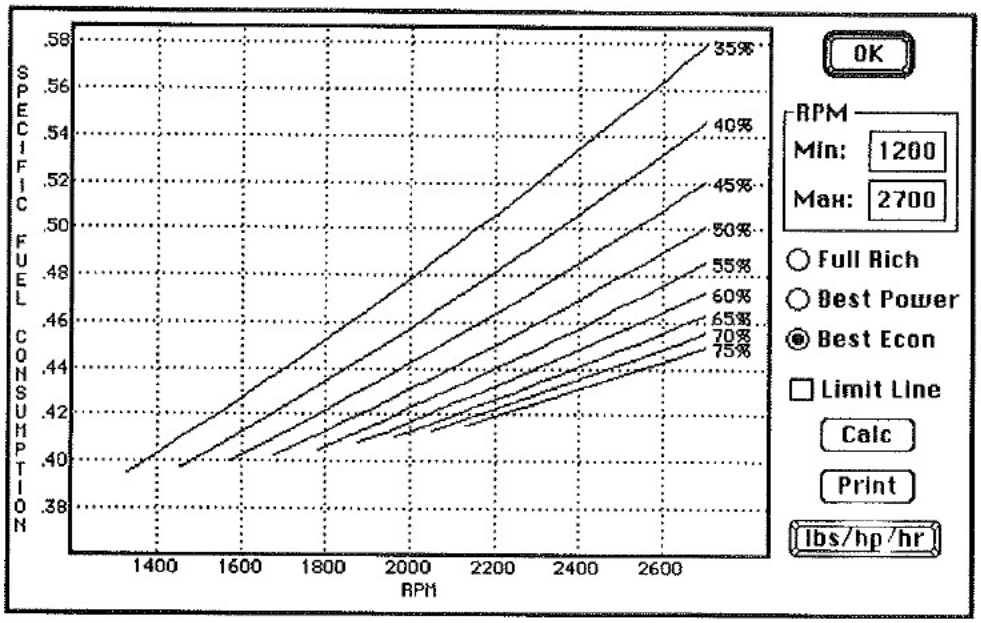




Screen shots from Benchmark. Top and center: Two views of propeller efficiency curves. Confused? In the top one, J/CP is something to do with speed, while below it Cpx has to do with the amount of power put into the prop. Bottom: Benchmark's speed calculator plots curves of power required and power available.







The spar is drawn on the Formica with drafting ink, and the positioning part of the jig is simply a fence of two pieces of 3/4" baltic birch plywood, which is glued to the Formica with carpenters glue, and then screwed from below with countersunk drywall screws. I hope to be assembling the spars in about a week, and hope to finish the first spars by the first of July.

By the way, we will be drilling the holes in the spar for the landing gear fittings. We have a large aluminum drill jig being made at this time, and it will be pathetically easy to drill the holes with this gizmo.

The only other mildly interesting jig is one that I made for making a diagonal cut down the center of a sheet of plywood. You can't see much from the photo (see page 9), but I ripped a piece of 3/4" fir plywood into two 2'x8' pieces which I glued together and then mounted a one-by-ten board on top, about a half-inch above the plywood surface, and the half-inch plywood that supports this board is cut at 45° to position the square sheet of plywood.

Like everything else, I just threw this on top of Gonzales, used the router on Gonzales to make the board absolutely straight and then just cut plywood with our SkilSaw. In an afternoon, I cut all of the initial hankerchief-cuts in the plywood for 50 tail spars and 20 wing spars.

The design and construction of the jigs is an interesting task, but my main problem with the wood kit production is that if you have done your homework on the jigs, the actual production of the parts is incredibly boring.

One thing that *is* interesting is the nights-and-weekends work on my Benchmark performance testing analysis program. This thing has

More Benchmark screen shots. Top and center: These are two views at the best power fuel flow curves for the Lycoming IO-320-B1A that you get when fitting curves to the data. Bottom: In this chart, the specific fuel consumption is plotted against engine RPMs.

turned into a large program, now over 400K and growing—said another way, it weighs about two pounds when I print the whole thing out. I've got a number of people testing the program now and will probably start selling the program at Oshkosh.

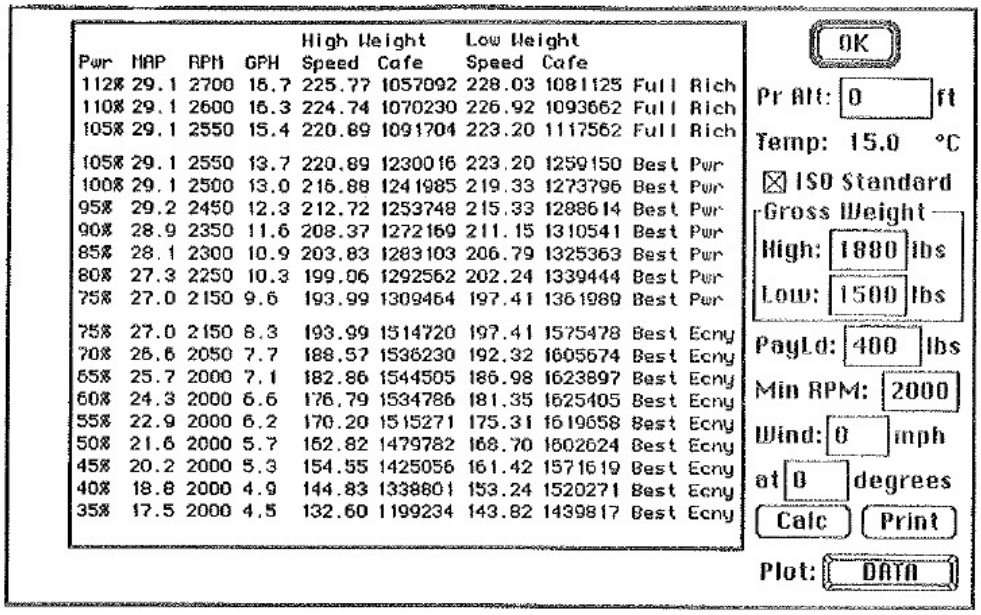
A lot of the program has to do with typing in data and entering numbers, which is boring but necessary. The real fun begins when you start fitting curves to data and then can start "flying" the airplane. The speed calculator draws the curves for power required and power available on the screen. My latest addition is the miles-per-gallon charting capability.

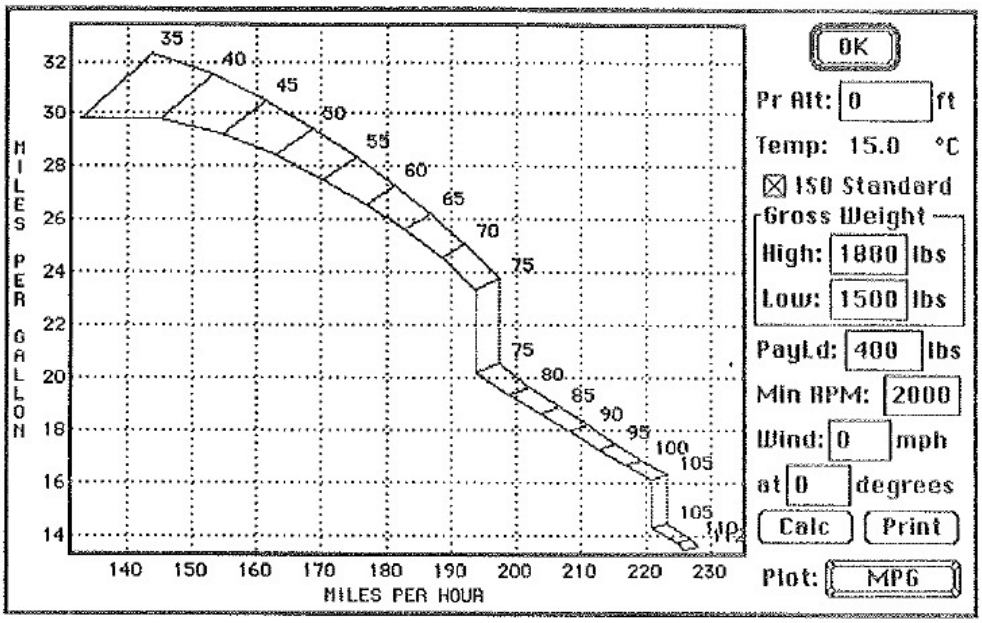
The miles-per-gallon chart shows the most efficient power setting for a given altitude, temperature and aircraft weight and plots the miles per gallons against the aircraft speed. I've added a couple of wrinkles to the standard type of miles-per-gallon chart: you can change the temperature, wind speed and wind direction, and can also plot the CAFE 400 score against the aircraft speed.

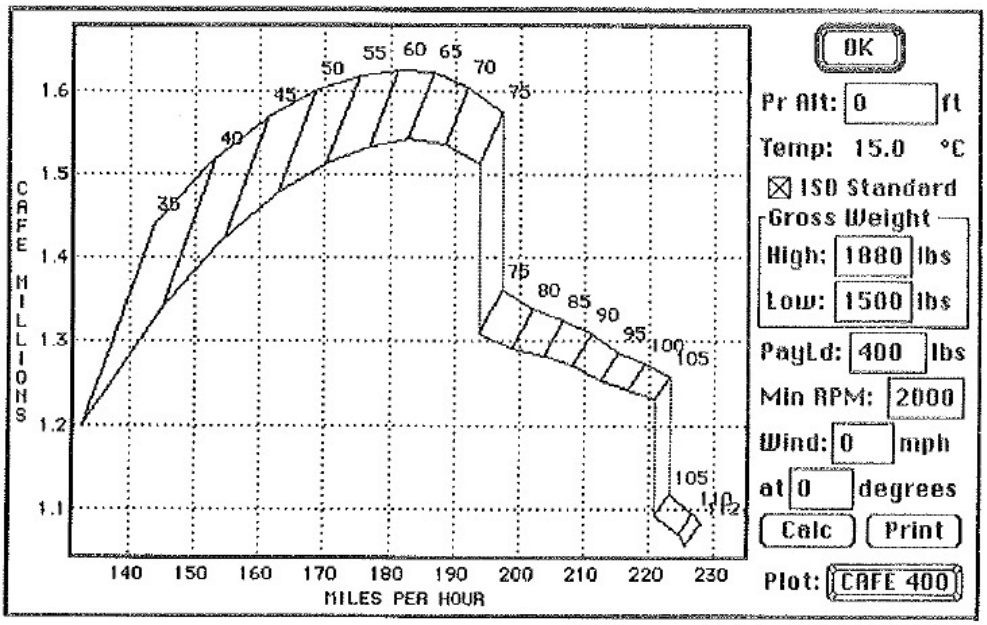
This is really neat stuff, because it means that you can crank out these types of charts for your specific airplane, not some factory-average machine. But the other thing that is remarkable is that the program completely divorces you from the mind-numbing mathematical complexity of this process and actually makes it fun to use. Arcane things like charting specific fuel consumption vs rpm, or the shape of your engine's fuel flow curves suddenly become interesting, and you begin to learn things about your airplane and engine that you would never have known otherwise.

—Alfred Scott

More Benchmark stuff. Three presentations of the same information for the Hansen Falco. The top view shows the numbers—the induction system ram recovery accounts for the high power settings. Center: MPG vs MPH for two aircraft weights and three mixture settings. Bottom: The same information plotted for CAFE 400 scores.







Construction Notes

Terry Smith reports that he made a new set of main gear wheel well doors. These doors are flatter and have a hinge with the bulb slightly out in the air. Terry doesn't know which of these things made the difference, but these doors work much better and the gear will come up all the way most of the time. When the circuit breaker does pop, the crank only takes another 1/4 turn.

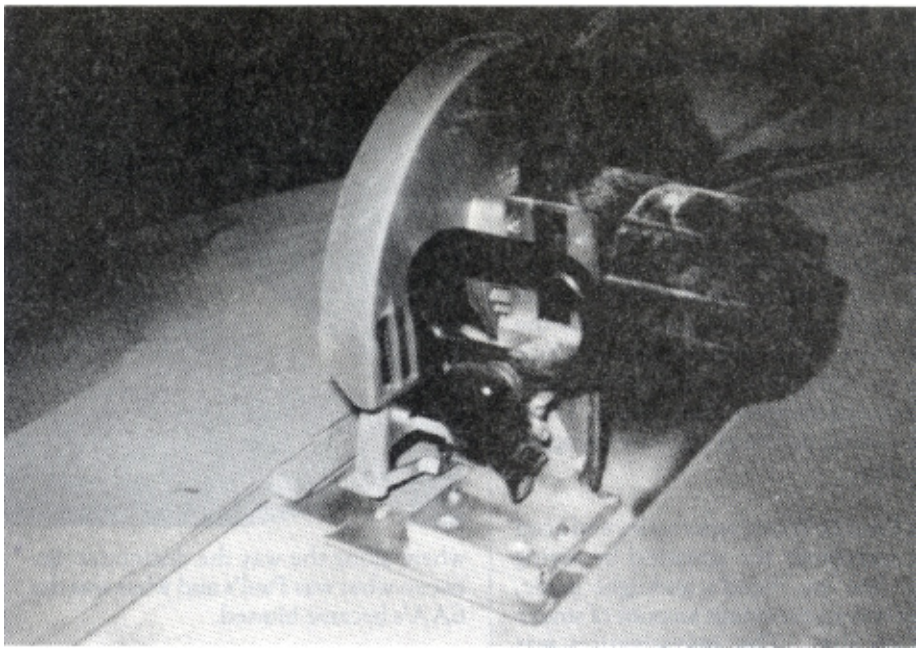
Terry reports that is consistently getting 165 knots indicated in normal cruise and often sees 2000 fpm on the VSI when lightly loaded and by himself.

Guess who wrote this:

When Steve Wilkinson discovered that the nylon bearing inserts for the rudder pedals are slightly oversize and won't fit onto the rudder-pedal support tubes, he bought a roll of industrial Teflon tape with which to make his own bearings. (This tape is entirely unlike Teflon "plumber's joint tape"; it's 10 mils thick and sticky-backed, designed for shop and factory use in situations where dry lubrication is needed.)

Unfortunately, the smallest quantity available was a 36-yard roll one inch wide: $80.00. Wilkinson estimates that he used about two feet's worth for the rudder-pedal bearings and will use another couple yards to line his ailerons and flaps where they bear against his sheet-aluminum trailing-edge hinge-gap fairings. Since that doesn't leave enough to entirely cover the wings in order to achieve greasy-slick laminar flow, and since the only other use he could think of was to build temporary air-show wingwalks so that the brain-dead spectators who feel free to clamber all over parked homebuilts would fall on their asses, he's offering the remaining 99 percent of the roll for the needy, homeless and bearingless.

Let him know if you'd like enough to build your own rudder-pedal bearings, and he refuses to charge anybody for that small a quantity. If you're intrigued by the airshow-wingwalk idea and want a considerably larger quantity, send $2.25 for each yard you want and whatever you estimate postage will be. He says snug rudder-pedal bearings can be made from a base thickness of a wrap or two of plastic electrician's tape on the rudder-pedal support tube and two perfectly cut thicknesses of Teflon tape atop it. He's Stephan Wilkinson, Box 455, Cornwall-on-Hudson, New York 12520, 914 534-7601, fax 914 534-5101.



Here's the jig to cut plywood at 45° for the initial hankerchief-cut.

Hmmm. That writing style has a familiar wring to it. Actually, the problem with the tight fit on the rudder pedal bearings is due to Dave Thurston's failure to account for the outside diameter tolerance of 4130 steel tubing—in that size it's normally three to five thousandths oversize. In the kits we are now shipping, the pedals are bored to a larger size, and you shouldn't have the problem.

Stelio Wilkinson noted that Piper recently issued a service bulletin regarding the fact that the 90° fitting leading from the block to the oil-pressure transducer hose on certain Tomahawk Lycomings was "not of the restrictive type" and that it should be replaced with one that is designed to prevent catastrophic loss of oil in case of a transducer-plumbing failure. He wanted to know if we should do the same.

That was a new one on me so I asked Frank Christensen about what they do out at Christen Industries. Frank said that on the Eagle kits, they do not use a restrictor fitting, but on all production aircraft they use a restrictor fitting as a matter of policy. It is a practice that was started years ago on the Pitts and was adopted so long ago that he doesn't have the foggiest notion what sort of reasoning that went into this practice. All they do is press an aluminum plug into the fitting and then drill a 1/32"Ø hole in the plug.

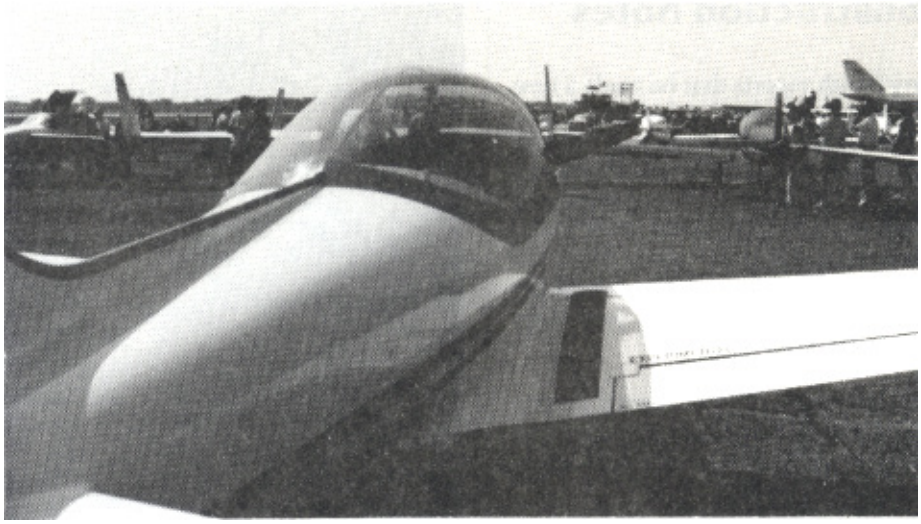
Pawel Kwiecinski reports that after a few years of relatively heavy acrobatic flight, he is starting to develop some minor leaks in his fuel tanks at the welds. He is having these removed and re-welded. Also, he reports that the flap torque tube mount and motor mount screws have been working loose. If others have been having this problem, then perhaps we should use some washers under the screw heads to spread the load.

Gary Wilburn sent some notes of how he is making the fuselage frames. He is using the method described by Jerry Ward in the December '85 Builders Letter, but with a few simplifications. Gary located W.L. 0 and the aircraft centerline at the middle of a sheet of 1/2" plywood, and then laid out all of the 15mm thick frames (except those at stations 2, 3 and diagonal 6) because these frames will all nest within each other.

Once the shapes were drawn on the 1/2" plywood, Gary clamped the 1/2" plywood to a sheet of 3/4" plywood and used one-inch drywall screws with the screws on 5" centers and about 3/8" out from the mold lines. The screws serve as alignment pins so that the 1/2" plywood can always be put back in exactly the same place—when I make a jig I use steel dowel pins for this purpose.

Gary then removed the screws, and band-sawed the shapes out of the 1/2" plywood so that each fuselage frame mold was a separate ring about two inches in width. Gary said that when he gets around to laminating the frames, he will remove alternate molds to make about four of the frames concurrently.—*Alfred Scott*

The EAA: A Problem with Appearences



A friend of mine tells the story of being awakened in the middle of the night by the smoke alarm. Smoke was coming up the stairs, and they could see that the entire first floor was filled with smoke. Fire. His wife called the fire department while my friend scooped the kids out of their beds and rushed them down the back stairs. Smoke was everywhere. Once they got the children safely on the lawn, they started to explore the problem. There was, in fact, no fire at all. Just a clogged chimney.

The Ernst & Young report is in, and I can best summarize the situation by saying that, like my friend's midnight panic, there was an enormous amount of smoke but no fire. The investigation was thorough, impartial and very professional and answers all of the allegations to my complete satisfaction. Nothing illegal was done. There were a few petty improprieties. But most of the allegations boiled down to a series of events and transactions with insiders which were legal and proper—but they were also acts of incredibly poor judgement when you consider the effect they had on appearances.

I believe this situation bears a resemblence to the famous Byrd Machine of Virginia. For about 30 years, the Democratic party under the leadership of Senator Harry F. Byrd dominated Virginia politics to a degree that was astonishing. I was raised being told by my father that the Byrd Machine was one of history's few exceptions to Lord Acton's famous quotation, "Power tends to corrupt and absolute power corrupts absolutely."

It was true that these aristocratic southern men were never touched by financial scandal. For one thing, most of the men were already wealthy and weren't tempted by money, and they were very careful to avoid even the appearance of impropriety in all of their dealings. They were, he said, totally devoid of corruption.

Try telling that to blacks, who would happily have seen the public coffers pillaged than to have been deprived of education and opportunity. The men of the Byrd Machine contracted a case of moral myopia. Their vision became blurred, and they didn't see what they were doing.

I think that is what happened to Paul Poberezny. He started the EAA, built it up into a large organization, and somewhere along the way the distinction between what was Paul's and what was the EAA's became blurred.

I believe the problems can be traced to the 1981 sale of a J-3 Cub, which was donated to the museum and needed restoration. Paul sold the aircraft to Jean Kinnaman, a personal friend of his who doesn't fly, and then Paul permitted the aircraft to remain in the museum shop where it was restored by EAA employees on their own time. Paul had encouraged them to do this, and the employees thought they were restoring an aircraft for the museum. After it was finished, they discovered that the aircraft belonged to Ms. Kinnaman and felt betrayed. I believe that Paul knew exactly what he was doing and was so ego-blinded that he thought it was all right to do it.

This act of impropriety cost the EAA essentially nothing, but it cost Paul Poberezny a lot in personal reputation. This event was followed by a long series of other transactions with insiders that, while legal and proper, gave the appearance of impropriety, particularly when accompanied by almost no financial disclosure, an imperious, autocratic management style that somehow mixed religion in with all of the rest, and a personal life that differs so greatly from the public-relations image that wrapped Paul in the American flag. Add to this a self-righteous, threatening, in-your-face response to criticism, an unwillingness to receive bad news, and a general defensiveness on financial matters, and the entire series of transactions seems like a textbook case of how to *create* suspicions.

The transactions should be judged on three levels: legality, propriety and good judgment. It is quite clear to everyone who views the record that nothing illegal was done. The acts of impropriety are few and involve very little money. But the number of transactions with insiders is astonishing—*The Aviation Consumer* article on them stretches for 12 pages. And the final report by the Foundation's own law firm—even after an elegant choice of words to put the best face on things—is a terribly embarrassing document for the EAA. I can well imagine that these transactions have inspired a whole new genre of ethnic financial jokes within the privacy of the EAA's accounting and law firms.

I asked a number of dispassionate friends to read the documents and comment on them. One man said he thought it was very sloppy management with respect to appearances and was distressed that the board had allowed things to progress to the point that my letter to the board was necessary. A lawyer friend of mine, who recently won a landmark Supreme Court case, thought the report "looks like a whitewash," agreed that there was nothing illegal, thought the directors had put the organization's tax-exempt status in some jeopardy, and playfully suggested that we could really have some fun running the directors around. Perhaps the best summary came from a man who said, "I think what you have here is a little Caesar who let his ego get away from him and who treated people so imperiously that they took partial information, let their imagination or conversation with others fill in the blanks and came to believe these things."

Part of the perception problem has been caused by a general lack of knowledge of airplane ownership and arrangements. Some directors seemed to be unaware of the details of Paul's King Air and T-28 which were leased to the association (following my letter of allegations, both air-

craft were sold). Many directors thought, as I did, that "Paul's P-51" belongs to Paul Poberezny. It doesn't. It belongs to the Foundation. It always has, and even the president of the Warbirds of America who sits on the EAA board of directors thought the plane belonged to Paul.

I come away from this with a mixed view of Paul Poberezny. I like the organization he created. I'm thankful for the work he has done. The part I don't like is the imperious attitude, a tendency to wear his religion on his sleeve, and an insecurity that drives him to belittle, intimidate and abuse those who work for him. And I've never cared for the all-good-news cult of personality and the never-ending photos of Paul, ranging from the famous half-page picture of Paul and his Harley hog—"Paul likes corresponding with EAAers who like motorcycles"—to a staged public-relations photo of a crashed-and-burned homebuilt with a head-lowered Paul being consoled by his priest.

I also have harsh words of disapproval for the EAA and EAA Foundation directors. To my mind, the root cause of all of these problems is the failure of the directors to function as a board is intended to do. As the EAA grew, the directors have coasted along as an old-boy network and mutual admiration society with management. They remind me in a way of one of those scenes painted by television's Saturday afternoon how-to-paint instructors, with a happy-little board of a happy-little association. I'll bet that at least half of the directors let out a quiet sigh of relief when the report came in. These wounds are all self-inflicted, and if the directors had been doing their job, none of this would have happened.

A board of directors should be able to discuss literally any subject calmly, rationally and without rancor, and yet in this little crisis, the directors have turned on each other in irrational ways, shown a reluctance to hear bad news, continued to cling to secrecy, been reluctant to discuss distasteful topics at their meetings, and seem to be motivated more by blind loyalty to a single individual than to the organization. They tend to see people in polarized terms, mentally toggling between loyal/disloyal, and this semi-fascist thinking caused one director to ask "Is he a traitor?" when my letter of allegations first reached the board. Yet such a band of Paul-loyalists comprise the executive committee and effectively run the show.

They seem paralyzed to act on the growing evidence of a drinking problem in Paul, which is a legitimate concern to the EAA only as it applies to the operation of Foundation aircraft. In the course of these matters, I've received numerous first-hand accounts of Paul operating Foundation aircraft while intoxicated, including one man's account of flying in the back seat of the Foundation's P-51 during an airshow routine and being hit with the smell of booze when Paul pulled the canopy forward. In the event of an accident involving an airshow crowd, the liability to the EAA and its directors would be enormous and could shut down the entire organization. Yet they dither.

What especially angers me about the board is how they have failed to protect their employees from abuse and how they seem to show more interest in protecting a mother, apple pie and American flag public-relations image than compassion for an employee. When a woman finally reports a long history of sexual harassment, it is truly Neanderthal to bark at her, "The first time should have been the last time"—as if it's her fault. Then a director deceives the rest of the board by reporting that a long-standing practice of feel-their-breasts-and-kiss'em was a matter of "misinterpreted hugs and kisses" while a group of other directors, who had already been given a full detailed briefing by the woman, didn't even have the personal courage to speak up.

There is, however, one person on the EAA side who earned my respect and admiration. While so many others were putting their foot in it, attacking each other and making threatening noises at me, Tom Poberezny rose above such antics. In dealing with the press, he was open and dealt only with facts. Although he had every reason to be angry, it never showed, and he never got vindictive. He stayed cool through it all, and his instincts served him well.

The main thing that we should all do is to look to the future. In that vein, I'd like to apologize for all statements regarding the Pobereznys' integrity, especially relating to Tom, who has kept his finances separate from the EAA, has himself avoided even the appearance of impropriety, and has conducted himself with integrity.

The complete package of the report and my response to the board stretches for some 37 pages. It is an interesting set of documents and is available to anyone for the asking. But let's not get carried away with the mistakes of the past. They are all too obvious, no purpose is served in dragging them around behind us, and I am confident that they will not be repeated.

I'm glad—and in a way proud—that I lit this fire under the bottoms of the EAA directors. I believe that nothing but good will come out of these events. Paul Poberezny and the directors have been through a painful experience that I'm sure they're anxious not to have repeated. The EAA's freedom from scrutiny is now a thing of the past, and we'll all have a better organization as a result. This investigation comes at a time when management is changing over to a new team, and it serves to clear the air for them and has accelerated the pace of change. And I can imagine that attendence at the Oshkosh annual meeting will be up this year—that's something the directors have always tried to encourage.

But best of all—for me, at least—I hope these events have served to put Tom Poberezny firmly in charge of things, and I wish him well.

—Alfred Scott

Sawdust

• Cobra to strike again. According to *Flypast* magazine, the unflown second prototype of Stelio Frati's F.400 Cobra is to be found at the Persan-Beaumont Airfield north of Paris, where a French homebuilder is completing it as a private project. If I'm not mistaken, this aircraft was to be known as the F.460 Cobra and had four seats.

• Shoot'em. South Carolina State Senator David Thomas introduced an amendment to the state budget that would have legalized the hunting of lawyers. Under the bill, lawyer-hunters would be barred from imitating the sound of an ambulance or using calls of "whip-lash" or "free scotch" to attract quarry, and it would be illegal to hunt attorneys within 100 yards of a BMW or Mercedes dealership. No restrictions would have been placed on the hunting of a specific type of lawyer—those elected to public office—and the bill, which was later withdrawn, would have protected honest attorneys as an endangered species.

• And speaking of lawyers, how about this bozo, somebody-else's-fault logic? A guy builds a Christen Eagle, likes the plane so much that he gives it to his wife and builds another. Then one gusty day—a 172 pilot who landed just before reported difficulty in maintaining control—the pilot brings his Eagle in low over the trees, hits the treetops, crashes and burns to death. The NTSB ruled pilot error, but a lawyer is claiming that, because the latest certification regs require a secondary firewall around fuel tanks in the cockpit, Christen should have redesigned and retrofitted the planes with a kit to bring it up to the latest regs. Right. And while you're at it, retrofit Stearmans for noise abatement and equip Staggerwings with lightening protection. Let's sue the old dirigible manufacturers for not wrapping the hydrogen envelope in .015" stainless. And what about the Vatican—they'd better rip out all of that lead-based paint Leonardo da Vinci used and replace it with modern acrylics.

• Sniff no glue before its time. *The Wall Street Journal* reports that a third of the cost of Lockheed's new Palmdale composites manufacturing plant is for proper ventilation and other health controls.

• Watch out Zippo and Buck Knives, here comes David Clark. In the nether world of Zippo's unlimited warranty and Chuck Buck's you-break-it-we-replace-it policy comes the David Clark Company. My eight-year-old headset was developing a scratchy microphone and a problem with one of the plugs, so I sent it back to David Clark with the request that they give it a once-over and charge it to my credit card. The headset came back two weeks later, with the plug repaired and the microphone replaced—get this—"under warranty".

• Oh dear me no. Meredith Scott is just back from London where, among other things, she and a friend had a private tea with the Speaker of the House of Commons. When informed that Meredith's husband had his own aircraft company, the Right Honorable Mr. Weatherill turned to Meredith and asked, "Your husband's company, Mrs. Scott—is it *Boeing*?"

• I told you so, I told you so. It was all done very quietly, but a couple of months ago, Porsche issued an announcement that they were getting completely out of the aircraft engine business but would continue to support the engines in the field.

• The first annual Falco West Coast Fly-In is set for September 8 and 9 at Grants Pass, Oregon. Any west coast Falco/SF.260 owner who doesn't come is going to get his tires slashed. Karl Hansen is the chief organizer/troublemaker and plans white-water rafting on the Rogue River, wine-tasting, barbeque lunch and private dinner. Harns, Slaton, Hume, Hansen, Purkiser, and Burgoyne are sure things, and when you add in the possibles of Burholm, Wohlers, Neuman and mid-west fanatics, it could be quite a crowd. Best arrival is Friday evening or Saturday AM. Not-yet-flying Falco builders are welcome, too, but they need to know who is coming, so please RSVP to Ray Purkiser, 601 Laurelwood Drive, Rogue River, OR 97537, telephone: 503 582-4420.

• UFOs over NYC. On the night of April 5, 1990, S. Wilkinson reports seeing a large "UFO" moving slowly across the night sky. He said if you listened very carefully and knew what to listen for, you could just barely make out the hum of the engines of the six ultralights, each with a spotlight facing down, flying in a wide formation at 6000'. No wonder people drink so much booze in that city.

• After years of begging and wheedling for SF.260s from the factory and dealing with disreputable third-world military types, Frank Strickler's Fox 51 company finally has arrived. Frank has signed an agreement for 60 new SF.260Ds, nine of which are to be delivered to the USAF as a candidate for the T-41 replacement. For years, Agusta had pretended that its Philadelphia office of 180 strong was in charge of marketing the plane, but I don't believe they ever sold a single machine, while Frank's tiny rag-tag band imported about 50 planes, half of which they've sold again as they've changed hands.

Brenda's Corner

As much as I hate to admit it, it's time for Oshkosh. I was determined that I wasn't going this year, but it looks like I'll be there.

The show runs from July 27 through August 2 this year. The builder dinner will be held on July 31 at Martini's Restaurant in the Midway Motor Lodge in Appleton. Our private bar opens at 7:30 and dinner will be served at 8:30. As in the past few years, they will serve the queen cut of prime rib for $14.50, or the baked halibut or chicken Cordon Bleu for $10.00 These prices include taxes and tip. Just stop by the booth and let me know how many will be in your party.

We have a block of rooms reserved at the Paper Valley Hotel in Appleton. This year they are requiring that a deposit be made by July 1. If you would like a room there, please let me know the dates of your arrival and departure and either send a check or a credit card number for the deposit. The rates this year are $71.28 for a single and $83.16 for a double (tax included). The deposit will be refunded if a reservation is cancelled two days before the arrival date.

There is some good news and some bad news about the propeller governor. First the bad news: the tooling wore out for the governor that Woodward was making, and they decided that it would be too expensive to have new tooling made. They wanted us to change governors which might not have been so bad but the delivery time was 53 weeks.

We said thanks, but no thanks. We checked with Mooney and found that they had switched to a McCauley governor, which is a clone of the Woodward, so we're switching brands. The good news is that the McCauley governor is $375 less expensive than the Woodward governor.

See you at Oshkosh!—*Brenda Avery*

Mailbox

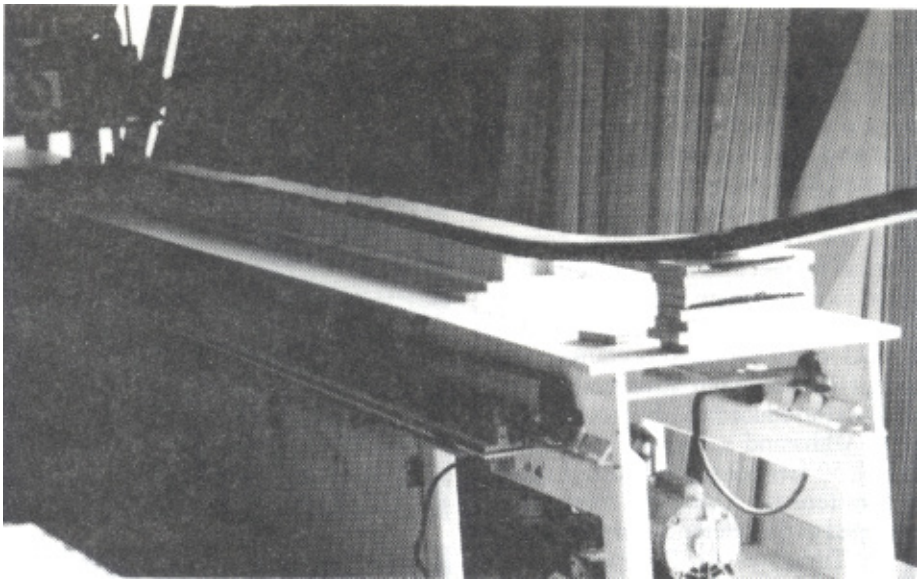
I have been making a few flights to Las Vegas lately and on one of the flights we had to come back well after dark. Being a mountainous area, we went through the pass at Mammouth Lakes area, and it goes above 12,000' on either side. To make a long story short, it is nice to have some night vision to see the outline of some of the terrain. Generally in the valley I have the interior lights up high, and there are plenty of city lights so that night vision is not much of a factor.

In this case, Jeff taped some candy wrappers over the lights that were on to reduce the glare. The problem is mainly the lighter colored lights such as Master, however they are all very bright when a night vision is established. When I started to put the gear down, the in-transit light was actually painful for the eyes. The real problem would be in IFR at night when you break out and are getting set to land, the night vision would be zip.

I would like to see something like a plastic cap that would slip over the light cover and leave a ring of light around the base, probably translucent that would reduce the intensity of the light a considerable amount. It would be worth a buck apiece to have something like that. I know a dimmer would be an awesome task. I thought I should mentiion this to you as I kind of ignored the problem until I encountered the conditions that really brought it to my attention. I will figure out something temporary for myself, but if you come up with a standard product, I am a customer.

Karl Hansen
Roseville, California

I keep hoping that some common everyday device—like a cap for a felt-tip pen—will turn up that would fit the bill perfectly. The only thing that I can come up with that makes sense is to cut nylon or polyethylene tubing into short lengths, split it on one side, glue an end-plate on it and then paint or dye the device. You can dye nylon easily with Rit fabric dye. It seems to me that if you can build an airplane, you can also make some shove-on night-caps for the indicator lights.
—Alfred Scott



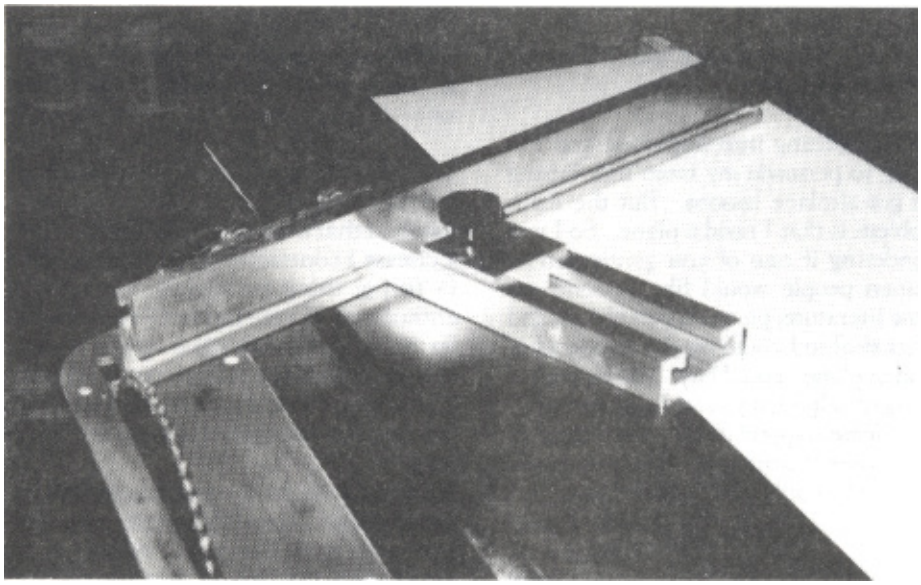
Tapering the lower spar boom. The vacuum pump is below the table.

My Falco is doing well, with over 600 hours and going strong. Still no main wheel doors and doubt if I'll ever install them due to an undersized breaker, and rewiring requirements. I saw Larry Black's bird recently in Los Gatos, and it looks great. He has one of the best interiors I've seen to date. He is moving again to Redding area so may be a while before flying.

As you may recall, I had a problem with static noise and a fluctuating ampereage. I thought it may be the voltage regulator after much trouble-shooting. I even had the alternator overhauled and the engine Chadwick balanced, installed a new regulator and finally isolated the problem at the alternator switch. I hardwired it until I got a new switch, which was the end of the problem until recently when it started again. This time as I was about to replace the switch again, I found the problem was a weak/intermittent ground of the switch to the panel ground. I hope this may save someone hours and hours of trouble shooting.

John Harns
St. Maries, Idaho

I read with interest an article in the April issue of *Kitplanes* on gust loading and turbulent air penetration speed, which we have discussed on one or two occasions. As you are aware, the Falco brochure mentions "maneuvering speed," which is the speed at which an abrupt, full, aft deflection of the stick will result in a stall before structural failure will



If you've got a table saw, here's an interesting little device. The Miter-Matic attaches to your miter gauge and is made of two pieces of aluminum extrusion. A long bar extends the miter gauge, and you can move it left-to-right so that the bar can be close to the saw. The second piece is an adjustable stop, which you can remove or move along the entire length of the long bar. As I remember, the Miter-Matic costs about $60.00 and is available from Paragon Industries, Hwy 1110, Whick, KY 41390, telephone (606) 398-2790.

occur. As I understand it, the turbulent air penetration speed—under the old certification regulations—was the speed at which the wing and other components could withstand an instantaneous 30 feet per second gust. I don't know that this speed had a lot to do with stalling before structural failure, and I believe it mostly related to the strength of things like the engine mounts, etc. Under the newer FAR 23 certification procedures, the concept of maximum structural cruise speed was introduced and the requirement was to withstand a stronger, but more gradual, 50 feet per second gust. I guess my questions is: Using the formula as developed in the referenced article, what are the Turbulent Air Penetration and Maximum Structural Cruise speeds of the Falco?

William G. Knight
LaGrangeville, NY

Dang if I know. I've read the April Kitplanes, *and I can't make hide nor hair out of that "simple" formula. Yet another engineer who writes an article that no one but himself can read. If anyone out there can figure this one out, please drop me a note.—Alfred Scott*

The Falco is doing fine. I did the annual inspection last month. Boy does time fly. I have a Pietenpol under construction to keep busy, and it should fly this summer. I enjoyed your EAA editorial and am glad to see someone say what many people have been thinking. I also relate to your discussion of introverts.

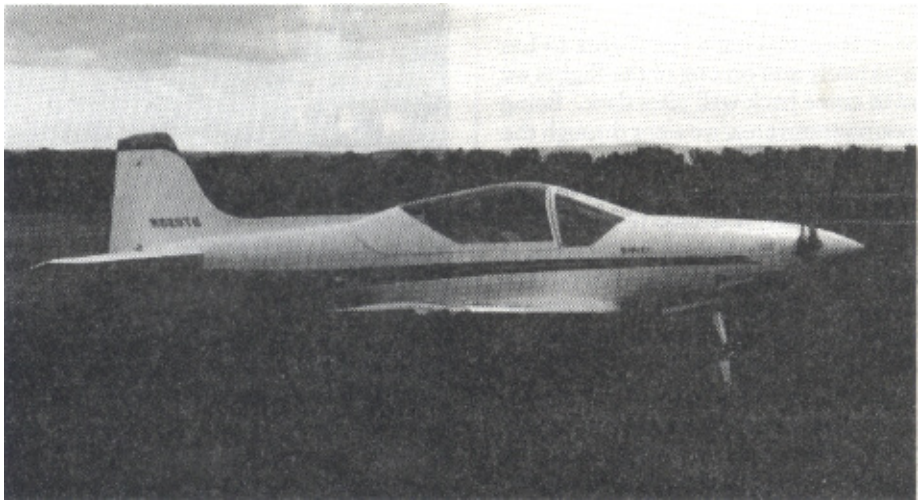
Steve Bachnak
Munster, Indiana

Empennage completed and most of the hardware is installed. Bulkheads 7, 8, 9, 10, 11 & 12 are completed. Construction of jig table for the wing spar is progressing slowly while I'm waiting for glue to dry between laminating strips on bulkhead construction.

Dan Martinelli
Montrose, B.C.
Canada

Just read the March '90 newsletter, incredible—had to read it again. Is Alfred really trying to tell us he is an introvert—my God! Checked our "Concise Oxford Dictionary"—Introverted - a., (person) characterized by introversion, unsociable or reserved. Nice try, Alfred, won't carry no weight in court. Keep up the good work Sequoia.

Bob Sothcott
North Humberside
England



Top: Terry Smith's Falco now has about 70 hours on it. Bottom: Klaus Bodentein rebuilds a wrecked production Falco from the wing tips inward.

What do they know about English in Oxford? Now leave me alone.—Scoti

I'm just getting into airplanes, and I'm trying to persuade my mom into letting me get airplane lessons. But the main problem is that I need a plane. So I was wondering if one of you gentleman or women people would like to send me some literature, pictures, pamphlets, and other stuff so I could maybe decide what kind of plane I could buy. Thank you for being so helpful, if you are I will be thankful. Please respond if you can because all the other companies don't respond because I'm only 13. Please! Love,

Mike Bowers
4081 Glendale Ave.
Salem
Oregon 97305

At least you are liberated, Mike, and think that women people work here as well as gentleman people. Okay, you've had your brochure, hat and patches for two months now, and we're beginning to get a little worried about how long it's going to take you to, like—you know—decide. Love you too.—Brenda Avery

The Falco plans arrived in stages during late January and early February. Unfortunately at that time I was hospitalized with a disease I contracted from some parrots (a fitting thing to happen to a flying enthusiast). There has been no work so far on construction since spruce is extremely difficult to purchase in Australia. So I'll have to mess around with making jigs and so forth until the wood arrives.

I dropped over to Toowoomba and had a look at Guido Zuccoli's project. I'm very impressed with the quality of the kit—only wish I could afford the spare dollars at this stage to buy them all.

Graeme Lean
Landsborough
Australia

What precisely were you doing with those parrots?