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Dear Falco Builders:

How time flies. I was just reviewing my June builder letter in preparation for this one, and it is difficult to believe that was nearly three months ago. Since that time, I have been working at a harder pace than I care to. Almost every evening has seen me down at the office trying to get things done as quickly as possible. The Chilean Air Force wants everything yesterday so I have had to work at a faster pace than I otherwise might have done. None of this does any of you any harm, since I am getting things out of the way sooner. Hopefully, the pace will slow down a little in the next month or so. In the meantime, I would appreciate short telephone calls!

In the last three months, I have been working on several things at once. There was the usual work at the drawing board -- mostly on the canopy. I have had a lot of work to do on the Falco we have taken delivery on. We have just completed the new brochure on the Falco kits. We had to get everything ready for the booth at Oshkosh, and there is the never-ending work on getting parts made. I'm afraid I've spread myself a little thin, but I'm still going!

Where to start? I suspect most of you would like to hear something about the Falco we bought. It arrived on July 6 after a four day flight across from Ireland. The flight was made in four legs: Dublin to Reykjavik, Iceland; to Frobisher Bay, Canada; to Sept Isle, Canada; and then to Richmond. The Falco had a ferry tank in place of the right seat, and the plane held 90 gallons. Aviation gasoline in Dublin is much more expensive than here -- the tab was \$500.00 to top off the tanks. The longest leg was from Iceland to Frobisher Bay (the airports on Greenland were all closed for the weekend) and took 11 hours 15 minutes. The pilot, Steve Morris, had a portable Loran for navigation. This worked well except that the Greenland ice cap soaked up the signal, and Steve found himself 100 miles off course on the west coast of Greenland. The Falco took only four days to cross the Atlantic, but it took me three weeks to wade through the paperwork of the customs service (you couldn't convince me they are on our side) and the FAA. In the end, we were able to get the airplane licensed and flying, but only in the Experimental Exhibition category since the Falco has a Hoffman prop and the FAA type certificate data sheet specifies only a Hartzell constant-speed prop.

During this time, I took the opportunity to rip out the old King radio that did not work and a working Narco ADF with it's huge antenna. Along with this, I found about five pounds of abandoned wiring that I yanked out. Finally, we got a permission to go fly the bird.

What I can tell you is that there are no surprises. If you want to know what the Falco is like, go back and read our brochures. As most of you know, I had never flown a Falco when I wrote the brochure, but I had talked to a lot of the owners. Despite what I had heard and had written about the easy handling of the Falco in the pattern, I'll confess that this was the area that worried us the most, but it is a real pussycat in the pattern. The initial flights were made by Parke Smith and myself. I have a Messerschmitt Monsun, and Parke has a CAP-10. Both of these are fixed gear planes, and the Falco is easier to handle in the pattern than either the CAP-10 or the Messerschmitt. With the fixed-pitch propeller it is not possible to slow the Falco while descending. You have to level off, come back on the power, and after the gear and flaps are down you can do as steep an approach as you like. All of our landings have been with full flaps, and there doesn't seem to be any ground effect, although Neil Johnston, the former owner, reported that the thing will really float with no flaps.

With the fixed pitch prop the Falco is very slow to accelerate on take-off, but it climbs nicely once you get the speed up, particularly after the gear is up. We flew to Oshkosh in formation with my Messerschmitt, and the Messerschmitt walks away from the Falco on the initial roll, but the Falco climbs much faster. I will be replacing the prop with a Hartzell constant-speed prop in the near future, which will allow for certification in the normal, utility and aerobatic categories. This causes pain only to my wallet, since it will obviously be a far superior airplane with the new prop.

What James Gilbert had to say about the stall warning is absolutely true. You would have to be remarkably stupid to not know that you are approaching a stall. One second you are gliding smoothly through the air, and the next you feel like you are riding down an old dirt road with corduroy bumps. The only part of the flight report that I would argue with is the ground handling. James Gilbert's comment about the Falco pitching and bouncing on rough grass does not match with my experience. The suspension is quite firm. I can only conclude that the oleos were not at the proper pressures on the plane that James flew.

And as for the handling! The appeal of the Falco for those of us that have known the Falco only vicariously has always been the speed and looks of the thing, but I have noticed that whenever you ask owners about their Falcos it is always the controls they talk about, and no wonder. There was a fellow at Oshkosh last year, Jean-Claude Bernstein, from Geneva who belongs to a club that owns a Falco. He kept talking about the controls being "homogenous". Now that I have flown the Falco, I understand what he was saying. I have flown a number of airplanes with light ailerons, but the elevators are always heavier. Not so with the Falco -- the pressures are very nearly the same. Not only are the controls light and precise, they are also very powerful. Once we got the Falco to Oshkosh, we took all of the Falco builders

there for a ride. It was usually a 15 minute ride in which we gave the builder a chance to play with the controls until we got out of the pattern, then a demonstration of the stall, then some steep turns followed by a roll or two. Then the builder would roll it. It is ridiculously easy to roll. The control pressures are so light, and it goes around so quickly that you really don't have a chance to do anything wrong.

All this is not to say that this Falco is beyond criticism. Remember, it is a twenty-one year old airplane with radios, instrument panel and interior to match. There was unanimous agreement that the homebuilt Falcos will be infinitely superior to this. It is also not up to speed for a number of reasons. The wing is quite rough, the windshield does not match the shape of the canopy at their point of joining, there is a large non-working beacon on the bottom, the landing light on the nose gear hangs out in flight a good 6 inches and is a veritable parachute, and there is nothing to seal the air scoop to the carburetor intake. There is more, but these are the major offenders. I don't really know how fast it is. My Messerschmitt was truing 150 mph, and the Falco was cruising beside it with the throttle pulled back about an inch and a half. Still, it is a joy to fly, and I'm very glad we took it to Oshkosh, even if it is something of an antique. So that people would not be too critical, I put a sign in front of it that said "Please don't judge me, I'm twenty-one years old and just got in from Ireland".

Enough of this. I could write twenty pages and still not be done. The customs service, by the way, cleared the box with the seats and spares, but has yet to clear the Falco into the country. I couldn't care less. By the way, our Falco is registered 304SF, with SF being for "Sequoia Falco", "Stelio Frati", "Sequoia Frati" or what have you. You might want to give some consideration to having all of the Falcos in the U.S. registered with the N---SF tag.

Now on to other matters. I got a letter the other day from a builder who wanted to order some books from Zenith Aviation Books, but his letters to the address in the reference section of the construction manual were returned. Now I have it: Rt. 2, North Branch, Minnesota 55056. Telephone: (612) 583-2573.

One of the real surprises at Oshkosh was to have Herbert Mueller, a Falco builder from Germany, stop by and show me photographs of his Falco with the woodwork nearly complete. Herbert only bought the plans nine months ago, and I didn't even know he was under construction. He has bought a lot of parts from the Falco that Mr. Welch wrecked in a weather-related accident. He did report that Mr. Welch is fine, but spend about 6 weeks in the hospital. I also understand from the grapevine that we have lost another Falco. I-GANA, the red Falco in our advertisement, was recently crashed when the pilot was attempting a slow roll down low over the runway. Two were in the plane, and both died. I was also sorry to hear that Jay Carter, a Falco builder from Utah, died in June.

With this letter, we are enclosing copies of our brochure on the Falco kits. This is meant primarily for the prospective builder, who does not have the plans and so is unable to visualize what is included in each of the kits. Still, I suspect that most of you will enjoy seeing the parts assembled. We got this brochure out behind schedule, largely due to the large amount of time that goes into rendering such drawings. So far, I have been doing all of the drawings for the Falco plans, and I finally found someone to help me with these drawings. We have not yet done any drawings for the cowling, the seats, or for some of the interior parts, but these will have to wait.

A great deal of my time over this past three months was in working on the canopy. A year ago I spent three months making a canopy mold, and we have been fighting with it ever since. Originally, it was our intention to use a hot-oil method, pulling the canopy into a female mold. The process has many advantages, promising to give perfect optics in a shape that you could not free-blow. We were able to get a number of canopies with perfect optics, but we had a problem with print-off of dust in the oil. We tried everything, but were never able to get rid of the problem, although the print-off was confined to the top of the canopy. We decided to try a constricted free-blow and see if we could get a canopy that would fit. With any form of free-blow you automatically get perfect optics, but you cannot blow a square bubble. The challenge, then, is to blow a bubble very nearly the shape that you are after, and one that can easily be fitted to the canopy frame. This we did, and we shipped it off to a builder who was to check the fit. Our builder announced that it didn't fit and was two inches too high at the center of the windshield bow. Back to the drawing board went I, and I spent two months calculating the precise bends of the canopy frame tubing. Then I asked another builder, Dave Aronson, to check to see if the tube bends would fit on his Falco, and Dave reported that they fitted perfectly. Then we made up a frame from the new drawings and began the process of seeing if we could blow a bubble that would fit the frame. First, we tried the original bubble (we had made two) and found that it was a perfect fit! True, it would not fit as blown -- there was a bubble where the windshield would be, but once this was trimmed off, the canopy fit the frame very nicely. The center top is now only about a quarter of an inch above the frame and pulls down to the frame with the pressure of one finger. The shape is right too, with the only deviation being that the canopy is slightly higher (one inch) over the pilot's head. The long and short of it is that we are able to make canopies of the shape and optics we are after. We will be sending the new drawings for the canopy, canopy frame, windshield, and windshield installation for both the standard and Nustrini modification out shortly. There has really been no substantial change in the original drawings, but only a lot of precision where there previously was less than we need for production.

Speaking of canopies, we can provide the windshield and canopies in clear or solar grey. Unless I hear from you otherwise, we will plan to produce only the solar grey canopies and windshields and will make the clear on special order. Without some tint to the plexiglass, the Falco is going to be quite hot. Let me hear from you if you object.

I should mention that the three-piece canopy on the original Falcos might be attractive to look at, but I don't care for it sitting in the pilot's seat. It seems to close in the cockpit too much. I like to be able to look straight up at the horizon when doing loops, and it's quite difficult to get used to looking through the clear windshield one second and through the dark top the next.

There is one feature of the Falco that I have developed an unexpected liking to -- the exhaust system. The Falco is quite noisy in flight, but the noise is mainly wind noise, which can be cured by sealing the canopy. Standing on the ground and listening to the Falco in flight is quite another thing. With the four pipe system, the Falco does not sound like a Lycoming-engined airplane but rather like a little radial. It really sounds neat, and I'm going to give some thought of copying the thing if you would like to have them.

Let me give you a report on the status of the various kits.

Kit No. 801 Tail Group. All parts in stock and orders are filled on receipt of order. Look for price increase with next builder letter. This kit was initially under-priced, and I elected to increase the price in two steps.

Kit No. 802. Fuselage Equipment. All parts in stock except for seat belt mounts which are due in here in the last part of September. Addition of seat belt mounts plus some under-estimation of costs add up to an increase in the price, to \$815.00 as of October 1. Orders received before that date will be filled at the old price.

Kit No. 803. Wing Equipment. In stock.

Kit No. 804. Flap Controls Equipment. The stamping company that does all of our work went on strike this spring, and we do not yet have the stampings for the torque tube. They are being shipped to us now, and it will take a month and a half to weld up the assemblies. All other parts in stock.

Kit No. 805. Control System Equipment. We do not have the rudder pedal weldments in yet, but they are promised in two weeks by a supplier who has never met his schedules. I would guess that they will be here in a month. The nose gear steering arm is awaiting a jig being sent by the same supplier. It should have been here by now, but.... Hopefully, we'll have that part ready in a month. We made up the cable assemblies for five airplanes and will not make more until we get some feedback from the five builders that the cables fit their airplanes. (The cables are the right length, but I don't know exactly how accurate you guys are building your airplanes.) All other parts are in stock.

Kit No. 806. Trim Tab Control Equipment. All parts in stock.

Kit No. 807. Canopy Equipment. Tubing for canopy frame being bent now and due here in 6 weeks, as are the stampings. Canopy frames will then be made, and the first one will be shipped to canopy supplier for final fitting and trimming to the frame. Canopy and windshield

trimming jigs must be made so that canopies and windshields will require no trimming on your part. Canopy tracks, rollers, etc. are all in stock. Hopefully, we will be delivering complete kits in November.

Kit No. 808. Engine Mount & Equipment. We have conical engine mounts in stock and a few dynafocal mounts as well, but we are going to make some changes to the dynafocal mounts. Hopefully we will have the new dynafocal mounts in a couple of months.

Kit No. 809. Fuel Tanks & Equipment. Band mounts and fittings in stock, but I have not yet finished the redesign of the tanks for 40 gallons capacity. I hope to do this work this month (it is next on the list of things to do), and we will push for getting the tanks done as soon as possible.

Kit No. 810. Main Landing Gear. The main landing gear legs are being finished now and should be on the shelf by the time you get this. With those parts in stock, all parts will be ready for immediate shipment. The main landing gear legs have taken more time to assemble than originally estimated, accordingly there will be a price increase on this kit announced with the next builder letter.

Kit No. 811. Nose Gear Equipment. All parts are in stock except for the trunnion and rocker arm. Trunnions should be finished in two weeks, and rocker arm about the same time.

Kit No. 812. Landing Gear Retraction Equipment. The nose gear screwjack end should be finished in two weeks or so, and at that time all parts for the kit will be in stock except for the motor and gearbox for the electric system. I still have to finalize the design to optimise the motor with the system. I hope to get the gear up in 8 to 10 seconds. The design work is essentially done, but we have to set the gear up and try out a few gear ratios on an actual airplane or with the system installed in a mockup. The design of this part of the system will have to follow some more urgent matters (fuel tanks, etc.). Some components of this kit have proved to be a little more expensive than earlier thought, notably the landing gear housing (P/N 520) and the upper drag strut. There is a possibility we will have to increase the price, but I hope to be able to give early purchasers the opportunity to purchase the kit at the originally estimated price.

Kit No. 813. Male plug is finished. We will be fitting a "splash" off the plug to our airplane to check the fit when we change engines. Some details remain to be worked out, i.e. Dzus fasteners, etc. My plan is to use wing-type Dzus fasteners for the cowling doors and with a piano hinge at the top of the doors.

Kit No. 814. Seats & Equipment. I have to finalize the drawings for the fiberglass seats which we plan to use for lighter weight and greater headroom. Seat belts will probably be offered as part of this kit.

Kit No. 815. Cockpit Equipment. This will require finalization of drawings for fiberglass console covers and instrument panel design.

I have in mind adding a few new kits as well. These would include such items as gear doors, instrumentation, wiring (with wires stamped with the appropriate numbers, yet to be assigned), exhaust system, pitot-static system, fuel lines, brake lines, engine controls, cabin ventilation system components, and possibly cooling baffles.

It may help you to know what things I will be working on in the coming months and in what order. Here they are, in this order: fuel tanks, cowling, engine mount, instrument panel, seats, seat belt system, fuel system, console covers, electrical system, pitot-static system, engine installation and controls, cabin ventilation and heating system, exhaust system, gear doors, landing gear retraction motor and gearbox, wing tanks, and brake lines. Keep your telephone calls short, and I'll get it done sooner!

I am giving some thought to sending this builder letter out on a quarterly basis. There seems to be less need for it on a bi-monthly schedule, and it would be a little easier on us here. This and the last letter are on that schedule, and no harm seems to have come from it. I'll decide in November, depending on my work load at that time.

I have received a call from the Chicago Academy for Fine Woodworking, who are interested in working on a Falco. They are a non-profit organization and as such can offer some inducements. One possibility they are talking about is having someone donate to them the cost of the components, engine, prop, etc, they would build the airplane and then sell it back for their time. Thus, the cost of much of the plane would be treated as a gift. Obviously, you would want to go over this with your tax attorney, but if any of you are interested contact: Ron Phillips, Chicago Academy for Fine Woodwork, 1633 West Fullerton, Chicago, Illinois 60614. Telephone: (312) 871-6666.

That's all for now. Keep working.

Sincerely,
SEQUOIA AIRCRAFT CORPORATION

Alfred P. Scott
President