Sequoia Aircraft Corporation
900 West Franklin Street
Richmond, Virginia 23220
804/353-1713

June 1, 1981

Dear Falco Builders:

Due to a large work load for the past couple of months, this letter is a little behind schedule. This will happen from time to time and should be no cause for concern. When you don't hear from us on schedule, it only means we're busier than normal.

The latest on Bob Esau's Falco is that the district attorney of the local county is handling the estate since no member of the family qualified as executor. Those of you who are interested in purchasing the airplane, its engine, propeller, engine mount, etc. should contact Barry Robinson, Lake County District Attorney, 255 North Forbes Street, Lakeport, California 95453. Telephone: (707) 263-2251. Mr. Robinson is empowered to sell the airplane at any time, so you should submit your offer in writing.

We are now able to release the drawings for the internal antenna system designed by Radio System Technology. We will be including these drawings and instructions in the plans and construction manual; however, we are enclosing them with this letter for the many of you that have been writing for the drawings. You must order the kits directly from RST, but if you have questions, please direct them to us. This way we can revise our instructions to answer any questions that continually crop up. If you call RST, they will refer you to us. Please understand that Jim Weir of RST is one of the most telephone-harassed individuals you will ever meet. He has thousands of people building his radios, and there are always questions. The price of the complete IFR antenna kit is about what one antenna would normally cost you, so if you put yourself in their shoes and consider the small profit from each kit, you can understand why they would like to be insulated from a lot of telephone calls. If any of you come up with some new ideas for the installation of the antennas, send them to me, and I will share them with Jim Weir if the radio reception is in question.

We have been working on the fuel tanks lately and have not yet finished the work that we have to do at the drawing board before the tanks are built. This is a more complicated and time-consuming project than you might think since the instrument panel must be simultaneously considered. Although it is not shown on the plans, the tachometer cable for the production Falcos was routed through the front tank, and we will have to do the same thing. The radio stack will require a cut-out in

the tank, which costs fuel capacity. On the other hand, there is still room for increasing the size of the tank. While the original front tank held 18.5 gallons, we now have the front tank up to 21 gallons. We should be able to give you 40 gallons of fuel capacity with no problems. We will all have to keep the center of gravity in mind, and it may now be possible to exceed the aft CG limit with full fuel in the aft tank and the normal limit of luggage. In short, you may be limited to less-than-full aft tanks with the limit of luggage. We may want to consider moving the battery forward slightly, but this is not a matter we can address until we have the airplanes finished.

For those of you who will want to have an inverted fuel system, we will be installing a header tank between frames 6 and 7 on one side of the aircraft. We tried to fit it under the front tank, but there was not enough room. This tank, when installed, will act as part of the aft tank and will not require any special procedures. You will only have to select aft tank and go fly up-side down. We will design the aft tank so that the inverted header tank can be added at any time.

As it is related to the front fuel tank design, we have done some work on the instrument panel design. The tachometer location and the radio stack are determined by the design of the tank, but all other instruments may be installed at any location you like. The radio stack will be located to the right side and the tachometer just to the left of that. We have worked out a number of instrument panel layouts which should accomodate all of you.

Certain instruments, by the way, must be tailored for the Falco. The fuel tank senders and gauges must be calibrated so that the gauges are accurate. The tachometer must have the correct rpm ranges, and the cable must be the correct length. The airspeed indicator should also be marked for the Falco's speeds. Since most of these instruments are made by a manufacturer who prefers to deal only with aircraft manufacturers, we will be offering these instruments in our kits, specifically: airspeed indicator, fuel level, CHT, oil temperature, oil pressure, and amps. You can then add the other instruments you desire.

I should point out that due to the depth of the area behind the instrument panel, you will not be able to use the Narco navigation radios, such as the NAV 112, in which everything is in one box. These are too long, so you will have to use the type with the normal CDI, such as the King, Collins, or newer Narco type.

We will be sending out shortly a number of new large drawings and shortly thereafter a large number of the smaller drawings. Among them is a drawing for the control cables. Please note that the cable lengths provide for adjustment of ±15mm from the proper length. If we find that this is not sufficient, then we will stock a supply of cables which are slightly shorter and longer to accomodate those of you who make mistakes.

Apparently I have been remiss in not previously announcing our intentions for the electrical system. The original Falco had 24 volt system, which is common in Europe, but we will be using a 12 volt

system. The principal reason for this is that the flap and gear motors we will be using are 12 volts, but also most of the radios are also 12 volts as well. We will also be making a number of changes to the landing gear circuitry to incorporate a motor control relay and some safety features such as squat switches to prevent you from raising the landing gear on the ground.

We have been doing a lot of work on the seat belt system and the drawings for the installation of the fittings is included in the package to be sent out shortly. Please note with great care that the holes for the outboard lap belt mount that go through frame No. 6 should be drilled before the seat floor is glued in place. The shoulder belt mount interferes with the aft fuel tank strap fittings, which will have to be moved slightly, but if you have them already installed, you can move the shoulder belt fittings slightly to one side or box around the tank fittings. It is our present plan to anchor the crotch belt to the base of the seat pan, and we are planning to make the seat of fiberglass. Much effort has gone into the design of the seat belt system, which we are designing for a 40g load. Believe it or not, the human body can take 40g's for a tenth of a second. I was quite surprised that the system could be designed without any real weight penalty. All of the fittings and parts in the system can take this sort of load, and we can calculate the strength of the bolts in the wood, but we cannot exactly predict the ability of the fuselage structure to take these loads while at the same time the airplane is crashing. In any event, I think that this system is a huge improvement over the system that was originally installed in the Falco and far superior to that in most light planes. The lap and shoulder belts will be attached to the mount fittings by 3/16" cables with fork ends on each end of the cables so that the bolts are in double shear and to keep the belt from interfering with the controls in the center of the airplane. The lengths of the cables will be such that they will work with the Christen seat belt system, and we will design our Pacific Scientific system so that it is interchangeable with the Christen system. The Christen system has been the standard for most aerobatic airplanes, but it is cumbersome to use since you must thread all of the straps together, and it is difficult to remove the shoulder belts in flight, or to re-attach them. The Pacific Scientific system is far superior in that you have a central rotary buckle into which you plug each belt independantly, and the buckle has a flipper for removing only the shoulder belts. This is one beautiful system, but it is more expensive than the Christen system. All of you may not spring for the Pacific system, and this is the reason for designing the system so that the Christen or Pacific systems may be used interchangably. The seat belt mount fittings will be included in the fuselage equipment kit, except for the crotch strap fitting which will come with the seat and/or seat belt system.

We are also considering the possibility of using Temperfoam for the seat cushions. Most of the military aircraft have gone to this foam which has unique shock-absorbing characteristics. It gives slowly, feeling a little like bread dough, and while it is quite comfortable, you can hit it with your fist, and it absorbs the impact very nicely. None of us like to think about crashing, but these sorts of things make

a very great difference in whether you live or die in a crash. Bill O'Brien's friend who went sky-diving for the first time on Memorial Day was probably thinking he was safe when he jumped out at 3000 feet with two parachutes -- but neither opened. He hit in a nice soft swamp and walked away with nothing worse than a broken rib and some crushed vertabrae. There really isn't any point of depending on luck.

A few general pointers. Depending on the control stick and instrument panel design, the control stick can hit the base of the instrument panel in certain combinations. We are using the "alternate profile" for the sticks we are making, largely because we think they look nicer, and these will hit the base of the instrument panel if the panel is lowered enough to take three 3" instruments vertically. The cure is simple enough; the sticks must be tilted aft slightly when the elevator is in the neutral position. This was done on the last series of the production Falcos, and we just want to warn you to leave the assembly of the elevator pushrod until you have the base of the instrument panel mocked up. The nose gear screwjack support (P/N 717) will be shipped in about one month. This will require a channel-nut, which will follow later, but you can drill the holes on the arrival of P/N 717 and install the channel-nuts later. The original Falcos had fuel tanks which were vented through the caps, and the seals around the caps frequently leaked fuel vapors into the cockpit creating an unpleasant smell. Our tanks will have the normal over-board vent line, and the scupper around the cap will have its own vent line to drain any spilled fuel overboard. While it is fine to run the scupper drain lines to the bottom of the fuselage, we would prefer to see the tank vent lines run out the wings to get them away from the exhaust pipes. To keep the vents from icing up it is best to have them in a little fairing, and we may be able to put them in the bottom fairing for the flap hinge and arm, with a piece of screening in the fairing to keep bugs out. Those of you in the advanced stage of construction may want to install these lines now. Also, those of you who plan to install a Christen inverted oil system should consider installing a tube through the fuselage to dump oil from the breather out the tail of the airplane instead of on the belly of the plane. This is usually a 5/8" diameter aluminum or plastic tube and it should be installed so that oil will drain to the rear in level flight. This will probably mean that to pass by the cockpit the tube will have to go through the fuselage frames in the side walls. If you do this, you will have to drill the holes before skinning, and you should reinforce the frame to make up for the strength lost by drilling the frame.

Back to the fuel tanks for a moment. The fuel tank installation drawing shows a strip of wood on the upper inside of frame No. 2. This will not be required as our new tank will fit the inside of frame No. 2 without anything more than a piece of felt. The wood blocking just under the center top longeron must also be changed to match the tank installation.

One of the things that we are working on at this time is the canopy. We still have some work to do to come up with the precise curvature of the bends in the tubing for the canopy frame. We should complete this work shortly. As time-consuming as this is, the Nustrini

canopy mod is going to be much worse. The same canopy is used, but the frame is much more complicated. It appears that it will be necessary to do a full mockup with an actual canopy.

Larry Black came up with an interesting method of forming the fuselage skins. He first tried to form the plywood over the frames but was not satisfied with the results. After a lot of thought he came up with the bending form which is shown in the sketch. Larry reports that the skins fit perfectly. He built the form in one day. The design of the form allows the plywood to dry nicely, which would not be true with a solid form. Larry wetted his canvas as well and allowed one week for the plywood to dry. Those of you who study this closely will undoubtedly ask about this symmetrical form working on a slightly un-symmetrical fuselage. Take it on faith, it works.

Tony Bingelis asked me to inform you that the price of his book is $17.95 instead of $14.95 as we have it listed in the construction manual. Apparently, this book has been very popular with you folks, and with good reason -- it's an excellent book.

We now have a number of builders in the advanced stage of construction. Among them are Larry Wohlers, Sid Jensen, Tony Bingelis, Dave Aronson, Mike Reilly, George Neuman and John Harns. All of these builders have the wood structure nearly complete. At this time, Wohlers, Jensen and Bingelis are in the lead, Jensen, Harns, Aronson and Neuman will probably fly first since they buy all of our kits and the others make some or almost all of their metal parts. Who will be the first to fly one of our series of Falcos? My guess is that it will be none of the above-listed builders. Whose Falco will first fly in the U.S.? Mine. All this requires some explanation.

My guess is that our latest builder, who bought plans and kits only two weeks ago will be the first to complete and fly a Falco. This particular builder has a slight advantage in manpower since it is the Chilean Air Force. They are building a Falco to evaluate the building process and the aircraft. If all goes well -- and I think it will -- they will then build a number of Falcos as training aircraft for the Chilean Air Force and for Chilean Aero Clubs. I have long felt that there was a very large potential for the Falco in this sort of role. The best and most popular training aircraft for the smaller air forces has been the SF.260, but the military version is close to $250,000.00. The Falco is but a fraction of the price, and it is far more economical to operate. The jet-like handling of the SF.260 is the principal reason for its popularity as a military trainer, and the Falco has nearly identical handling, in fact, the Falco is slightly superior. I think the Chilean Air Force order will be the first of many, and it's my guess that the military business will in several years constitute about half of our sales.

Now what about my wild claim to have the first Falco flying in the U.S.? That's easy, I'm going to buy one. First off, the recent strength in the dollar has clipped about $6,000.00 off the price of European Falcos. Secondly, I am continually frustrated with little questions that could be easily answered if I had a Falco here. Also, it

would be very nice to have a Falco as a demonstrator. If all goes well, I will have the Falco, Neil Johnston and Dermot Whelen's EI-BBT, at Oshkosh. When you see it, please remember that it is twenty years old, and the instrument panel is a real antique. I have not yet figured out how we will accommodate the many of you who will want to have a ride in it. I will try to have a pilot who will fly it up to Appleton and give demonstration rides for a couple of hours each morning. We will have a reservation system established. We will give priority to kit purchasers first, then plans purchasers, then the press and potential purchasers. Those of you who plan to be at Oshkosh and would like a ride should send me a note as to when you will be there and what days you would like to sign up for. We plan to take the Falco around the country at some time and give demonstrations in it. In some cases, these might be at air shows such as Tullahoma and Lakeland, but mostly I think we will simply take the Falco to a deserted airstrip and meet with a number of Falco builders and propects. We will probably have some charge for the rides to cover our costs, but I doubt that this would stop any of you. Neil Johnston also plans to take a vacation in the U.S. in the last three weeks of October and fly the Falco in a giant loop around the country, giving demonstrations along the way.

I should also tell you the funny story regarding the Piper "Sequoya". In February Piper Aircraft Corporation announced that they had renamed their pressurised Aerostar the new "Sequoya". Their opening advertisement talked about the performance of the airplane and said "It's not what you think it is!" How true. The headline in our local paper said "Tiny Air Firm Shoots Down Giant", which is probably going a little too far, but we did contact Piper to object to the use of our name, and they agreed to refrain from using the name. It was one of the funniest business negotiations I have ever been involved in. First, I wrote the president of Piper informing them of our use of the name and enclosed about 40 pages of copies of articles, advertisements, etc. with the Sequoia name in them. The vice president of marketing, who first saw the letter, later told me he nearly fell out of his chair when he read it. Because Piper is a relatively large company and since we are a relatively small one, it was a "David and Goliath" situation from the beginning. The facts were overwhelmingly on our side, but I still felt that I would need a very good "sling", so we hired a Washington law firm that specializes in patents and trademarks. Our first meeting with Piper was with their patent and trademark counsel in our lawyer's office in Washington. I have never before felt sorry for an attorney for the opposite side, but in this case I did -- a little. At the outset, Piper apparently thought that we were only looking for some money, and asked if we would license them to use the name. I had no interest in this at all, and we gave them our list of demands, which were: (1) stop using the name, (2) pay our legal bills (since it wasn't our fault), (3) a joint press release on the matter (we might as well get some publicity on this and it would be in everyone's best interest that it be an amicable settlement), and (4) all this be included in a written agreement. Having given our position, we then asked what Piper's position was. "I think I'd like to make a telephone call" was the response, and after he was shown to a room with a telephone we nearly died laughing. The entire matter was settled quickly and amicably. Piper originally chose the name "Sequoia" but the people at the Aerostar

plant in California didn't like it since it "sounded like a tree, not an indian" and they didn't want to give up the name "Aerostar". The Piper board then changed the spelling to "Sequoya" after the Cherokee indian chief (after whom the tree was named). Piper was totally unaware of our existance, and they admit to having tunnel vision looking mainly towards Wichita. They did search the name by having someone look in Jane's, but they did not see our entry that was in there. This has been a very painful and expensive experience for Piper, but they recognize that it was their mistake. We all get along very nicely since the whole thing was conducted on a very gentlemanly and businesslike basis by everyone and particularly since Piper is very grateful that we took the approach we did instead of just slapping a huge lawsuit on them. The proper name for their airplane is now the Aerostar 602P.

In closing, we'll remind you that the Falco builders dinner will be on Tuesday, August 4, at 8:00 PM at the Midway Motor Lodge in Appleton. Also, our forum on the Falco, Sequoia and Kodiak will be On Sunday, August 2, at 12:00 noon in forum tent No. 3. Last year, John Harns organized a Falco builder's bull session. All of the Falco builders and a number of people interested in building a Falco got together in a tent, and we talked about problems and techniques of building the airplane. It turned out to be very helpful, and I expect we will have a similar session at this year's Oshkosh.

Our brochure on the Falco kits is still in the works. This means relatively little to you who have the plans since you can check the part numbers against the drawings, but we are making drawings of each kit so that the prospective builder can see what is included in each kit.

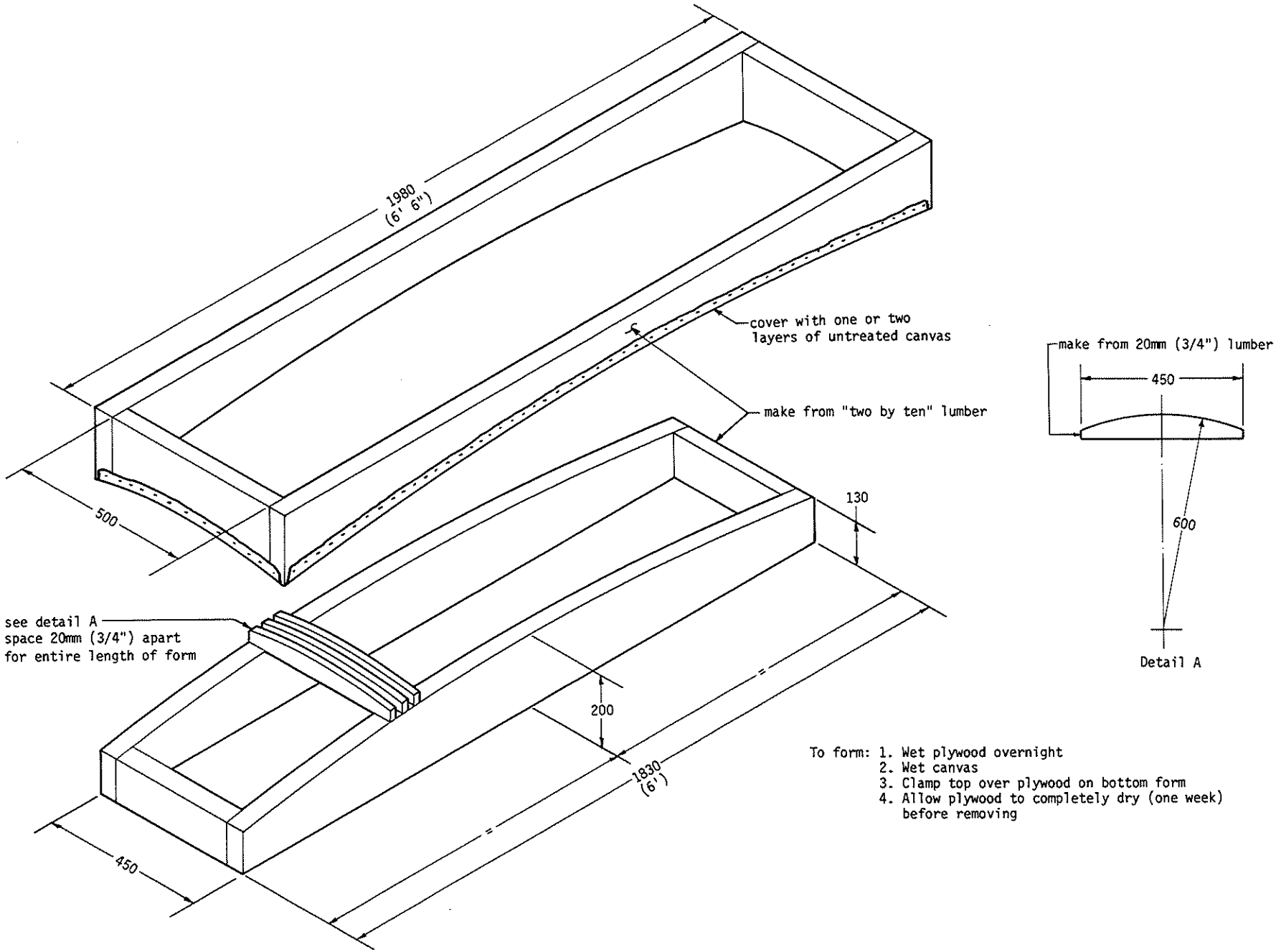
Also, we can really use some photographs and slides! What we need for our slide show in our booth is color slides, and we should have these by early July. We can also use some black and white prints for our "Falco News" which we are still planning to publish when we have the time, and for other literature.

After I take delivery on the Falco from Ireland, I will be selling my Messerschmitt Monsun. If any of you are interested in the aircraft, please drop me a line. Briefly, the Messerschmitt is very similar to the Falco in size, all metal, with tricycle landing gear. I have full IFR equipment in the airplane. It cruises at 142-145 mph on a Lycoming 150 and is suitable for mild aerobatics.

Two last minute reminders. Be sure to note all revisions dated June 1, 1981 in the latest list. Also, be careful to completely deburr the reamed holes in the landing gear leg, arm and the upper side load strut when you receive them. That's all for now.

Sincerely,
SEQUOIA AIRCRAFT CORPORATION

Alfred P. Scott
President



To form: 1. Wet plywood overnight
2. Wet canvas
3. Clamp top over plywood on bottom form
4. Allow plywood to completely dry (one week) before removing

FUSELAGE SKIN BENDING FORM