

Falco Builders Letter



Stelio Frati died during the night of May 13, 2010. "He'll be in Heaven now, adding some Frati style to those angels' wings!"

Nustrini and Frati

by Eduardo Letti

In June 2009 I entered the Falco family after acquiring N1443D from Alvin Dubiak. I had planned to ferry the airplane to Brazil in August 2009, but my busy schedule flying a corporate jet has not allowed time for that. I am reluctant to hire a ferry pilot, therefore until I can get some free time on my schedule, I made another deal with Alvin who graciously allowed me to use his hangar in exchange for the monthly fees. What's most amazing is that, even though he does not own it anymore, Alvin still regularly drives to the airport and pays a visit to his creation making sure everything is fine such as turning up the heat during the cold winter months. It must be difficult

for him to break the bond with an airplane that took him 12 years to build. I'm sure this type of commitment to an aircraft can only be found inside the Falco circle.

Flying from Lake in the Hills Airport (3CK) near Chicago all the way down to Porto Alegre (SBPA) Brazil is a wonderful 4800 nm journey, especially if you are doing that in Falco. I had a taste of that

in March 2009, when I ferried a Bellanca Viking from Van Nuys California to Porto Alegre taking 43 hours and stopping thirteen times for fuel. My copilot for the Bellanca trip was my first flight instructor back from the days I was learning to build rubber band models in 1979. We had wonderful moments during the 10 day journey. For the flight to Brazil, N1443D will be equipped with an auxiliary ferry tank that was ordered by Simon Paul for the ferry of N660RH to Europe. Unfortunately they never made it there as Simon had to deadstick the Falco in a lake in Canada after suffering an engine failure at 11,000 feet between Winnipeg and Goose Bay. The ferry tank was recovered with the Falco by Bob McCallum and is now waiting to be installed on N1443D.

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After achieving a life-long dream of owning a Falco, I must admit that for months I would wake up in the morning and quietly remind myself of the fact. *No Eduardo, it's not a dream and yes, that beautiful airplane is now yours.* I would then take the June 2009 Falco Builders Letter, sit down in my office and look at the pictures

over and over again. I'm sure some of you have had this type of feeling. It is just like the day after Christmas when you've finally gotten the gift you had been dreaming of all year long. You go out to the garage and keep looking at that beautiful new bicycle until your brain registers every single detail of it.

Additionally I wanted to be involved in everything related to the Falco. In a recent trip to New Zealand I was able to spend some time with Giovanni Nustrini, son of legend Luciano Nustrini, a great pilot and a Falco racer. Giovanni lives in Auckland and has a Tecnam dealership at the Ardmore airport. He also owns Falco ZK-SBD that was built by Sid Jensen. A few years ago, Giovanni and his brother Lapo started another company, called Falco-composite. Under the new company they designed and are now marketing the kits for the Furio, a composite evolution of the Falco. I called him upon arriving in Auckland, and we made plans to meet at his hangar. I was staying at a downtown hotel, some 20 miles from the airport and without knowing how to drive there I just called a taxi. When we were almost arriving at Ardmore, I saw a blue Fiat rapidly

approaching our taxi completing an 'intercepting maneuver' on the right side. The taxi driver stopped to check out when Giovanni lowered the window of his car and asked "Eduardo?" "Yes," I replied.

I jumped out of the taxi into his car, and we drove to the hangar.

Unfortunately his Falco and the Furio were gone to attend Warbirds over Wana-



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. E-mail: support@seqair.com Skype: SequoiaAircraft, iChat: falcosupport@mac.com Publication dates are the 10th of March, June, September and December.

Subscriptions: \$24.00 a year, \$35.00 overseas. Available only to Falco builders and Frati airplane owners.

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



ka, one of most important airshows in New Zealand that was due to start in two days. He proceeded to show me the facilities and explain how the Furio was born. Giovanni stated that during the development phase he frequently consulted with Stelio Frati who has contributed to the project.

We went to his house which is just on the other side of the runway where I met his wife. Mary is also a pilot and an excellent flight instructor. We sat down, talked aviation, watched videos and drank some wine. And I thought how wonderful the world of aviation is. You meet great people around the world and suddenly you have this bond that can only be explained by the sharing of the same passion. Next day Mary took me up for a flight in a Sierra Tecnam in exchange for a tour of the 737 that I fly. While I was out flying the Tecnam with Mary, Giovanni cooked a delicious pasta for lunch. We enjoyed some more moments, and he drove me back to the hotel. Before saying goodbye, I told Giovanni that my next schedule took me to Milano. He insisted that I should contact Stelio Frati and visit him. I was a little afraid of calling Frati out of nowhere and just inviting myself. "Are you sure?" I asked, after all the man is a genius, a living legend. "Yes", he said, "Here is his telephone number," and Giovanni handed me a piece of paper with Frati's address and phone number.

The B737 flight from Auckland to Milano included fuel stops in Papua New Guinea and an overnight in Hong Kong. The next day we stopped in Irkutsk and Moscow arriving at Milano-Linate airport on April 6 on a beautiful sunny afternoon. I was exhausted from the trip, so I decided to call Mr Frati the next day. I grabbed the paper given to me by Giovanni and dialed in the numbers. "Pronto" was the answer. I had never heard his voice before, but there was no doubt it was him. Being polite I asked to speak with Stelio Frati. "Sono Io" he answered. The conversation went well, he was very receptive, and we arranged to meet at his apartment the next day.

I wasn't quite sure how far my hotel was from his home. A quick look at Google map showed that I was just five minutes away in a taxi. It was beautiful spring time day in Milano with clear skies and 21 degrees C. I arrived at Via Enrico Noe 1 around 9:30 am. Our meeting was arranged in the morning because I had a scheduled flight in the afternoon. I pressed on the intercom key with the name *Frati* besides it and after a few seconds he responded. I identified myself confirming that I was the Brazilian pilot, Falco owner that had called him the day before. "Bene, bene, terzo piano" he said in Italian. He came to greet me at the elevator door and we went



to his office. The latest issue of the Italian aviation magazine *Volare* was on his desk. We sat down, and I told him how glad and happy I was to be able to visit him. He was very friendly. I sent him regards from Giovanni Nustrini whom I had recently visited in New Zealand and from Alfred Scott. He promptly handed me a picture of the whole Nustrini family that he keeps in the bookshelf behind him. During the

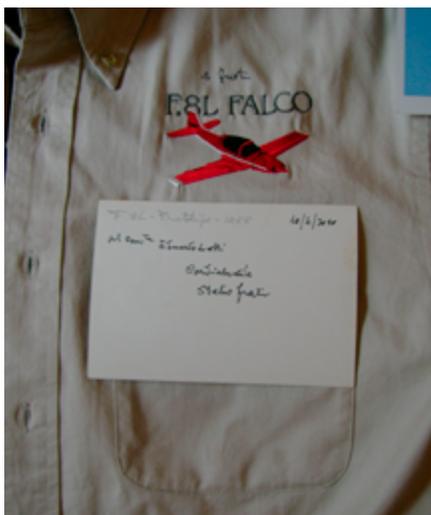
two and a half hours of our visit we talked about a lot of things, mostly people and airplanes.

I showed him pictures of my recently purchased Falco built by Alvin Dubiak and also the new X-plane simulation that is on the Sequoia website. He watched the presentation on my little Sony notebook with interest and added he would never have imagined that his little Falco would get this far. He summarized the story of Sequoia Aircraft and how tenacious Alfred Scott was in moving forward with the idea of offering the wooden Falco as a series of kits in the American market. He confessed that initially he was skeptical of the idea of the airplane being built by amateurs, but he went on to praise the building manual put together by Sequoia which he pointed out is one the best he has seen even for certified production aircraft. As the dialogue progressed he opened up a binder with correspondence and showed me the very first letter Alfred had sent him in September 6, 1977. While he was moving around I was taking pictures trying not to look like a reporter. Other names were brought up in the conversation: Luciano Nustrini, Carla Bielli, Alfred Scott, Fernando Almeida,

Renato Cairo, and lots of others. He kept opening up several of his pictures albums and carefully described to me each event, the dates and the people involved. What a memory for a 91 year old man! I could sit there for days and weeks listening to aviation history being told live.

Then, clearly exhibiting some grief and pointing to a picture on the wall he told me his long-time companion, the cat Napo had passed away a few months before. He described how Napo would just lie quietly beside him in the design room while he was working. He opened up some of his original designs including those of the Falco. He carefully explained how he designs his airplanes, already thinking about production. And suddenly I realized that this apartment on a corner in Milano holds a true wealth in aeronautical designs. There are great projects of truly interesting airplanes that never saw production, like the Jet Trainer Squalus: two prototypes were built but only one actually flew.

On the drawing board he explained he was working on a landing gear design for a 19 passenger commuter airplane. "Prendere un caffè?" he asked me. Upon the positive response he gently prepared a cup of coffee,





and we sat down in his living room chatting about how afraid he was to ask about people he knew, because most of them had already passed away. Frati is a man that has lived beyond his generation. He lives alone in his apartment quietly working on his designs. I could feel the respect he has for the people who build his projects—especially the Falco. When I mentioned that Alvin Dubiak had taken 12 years to build the Falco, he said it only took four months to design it. We went back to his office where he carefully looked for a picture of the Falco prototype, signing it on the back and giving it to me. I asked him to sign on my Sequoia Falco shirt as well as on all the literature he had separated for me. “I never signed so much in my life!” he added with a touch of humor.

I glanced at my watch. It was already 12:00 and I had to go back to my hotel to prepare for the 16:00 afternoon flight to Lisbon. Seated in the taxi on the way back to my hotel, I watched the beautiful streets of Milano just passing by the window. I could just thank Stelio Frati for his great work. And I felt thankful for having the opportunity to meet the wonderful people around a wonderful airplane.

Flight of Fancy

by Alfred Scott

The standard wisdom in the programming world is that you are limited only by your own imagination, and when I look at the X-Plane Falco videos, I struggle to come up with what else might be imagined.

X-Plane is flight simulator software, designed and capable of supporting full-motion simulators like those at Flight Safety for airliners, where the 'cockpit' shakes and tilts so you're convinced you are in actual flight, shaking in turbulence, throwing you back in your seat when you are accelerating and all that. Or you can use it, as many professional pilots do, to practice instrument approaches 'under the hood.'

Or you can use it as a sort of computer game, 'flying' a plane just for the fun of it. And since gamers numerically out-weigh everyone else, this highly advanced software goes out the door to nearly a million users at the price of \$35.00.

My first experience with flight simulators were for dedicated machines that you could use in instrument training, and they let an instructor sit beside you as you practiced flying on the gauges.

Then when personal computers came out, you started to see elaborate displays of instrument panels that looked just like the real thing, and you could sit before the machine with a joy-stick and put the plane through its paces. Okay, so you're flying a picture on the computer screen. I would look at these things, pretend to be interested with the sales people, and then quietly walk away.

I still have that same aversion to the gaming side of things, either with aviation or with any sort of computer games, but over the years the software keeps getting better and better. You can be in the cockpit of almost any airplane, from a WWII fighter to the latest jets, and you are treated to a grinding noise of the 'engine' motoring along while you fly over simulated hills and through valleys. The fascination wears off quickly, whether you're motoring along tilting an iPhone, or working on a large screen of the latest Mac and Windows machines.

But I'll have to admit being stunned by the attention to detail of the X-Plane Falco created by Tom Kyler, who is himself now a real Falco builder. Tom flew with Bill Russell in his Falco, and he has modeled the X-Plane Falco after Bill's Falco.

You can only begin to understand all this until you have had a chance to look at the videos on YouTube, and which you can find by searching for X-Plane Falco or by visiting the videos page of the Falco website.





Not only does this look like a Falco, with some understandable simplifications, but the instrument panel is beyond that of any Falco ever created. Most of the things

in the cockpit actually work, from the sliding canopy with a latch, to the cabin air vents, the parking brake, ignition switch, throttle, prop and mixture controls, flap

switch, ignition switch, circuit breakers, fuses, avionics and instruments.

Many of these things have been modeled before and are components that can be installed in the model, so all of current and advanced avionics are there and not just as a static image, but with compasses that turn as you fly the plane, artificial horizons, turn and bank... everything.

You 'fly' the plane with a joy-stick and also use a mouse to turn knobs, flip switches and fiddle with things.

Tom Kyler is no stranger to this world, indeed he is a highly skilled programmer who has worked his way up from doing CAD drawings to creating 3D models. He works for the company that produces X-Plane, and he has created and maintained many of the standard airplanes that come with the software. On his own time, he has created an MU-2 X-Plane which has been out for a year or so, and it's produced a decent income from the sales. The MU-2 sells for \$30, and he has just introduced the Falco which sells for \$25. Although it's only been out for a month, he has already rung up \$4000 in Falco sales in the first month. Find the models at Tom's www.x-scenery.com website.

While anyone with the programming skills can produce an X-Plane model, very few people could create something like this. Tom says it took him about 500 hours of work. But having an X-Plane airplane is only the first step in the process for many people. As you 'fly' the plane, there are a number of 'cameras' attached to the plane, and any user can create a video by 'recording' a scene. The Falco videos are just a small sampling of what is possible. To see other examples, search for 'x-plane bk117', 'x-plane seamax', 'x-plane crj' and 'x-plane mu-2'. It's hard to believe the detail they get into some of these.

No matter how impressive this all is, the one thing that's still missing are real people and real life. I'm not yet ready to start gaming with a Falco, but I have to say, I'm impressed. After seeing the X-Plane Falco videos, Stelio Frati was amazed and said he would never have imagined that the Falco would get this far.

And now that Tom Kyler is an official Falco builder, it comes full circle and it's his turn to be impressed. "I must commend you on the Falco plans package. I know you hear it a lot, but I have been reading nearly non-stop since the plans arrived and the attention to detail and reverence for a truly masterful design is thoroughly presented throughout. I certainly share your ideals of thoroughness, and it is simply refreshing every time I come across such competence. The Falco truly is something special in a sea of mediocrity."

Born to Build a Falco

by Tom Kyler

I recall once, when I was about five years old, standing on a sidewalk with a fellow kindergarten student looking up at the sky as I heard a plane pass overhead. As I brought my gaze back to earth, I couldn't help but notice my classmate snickering to himself as I blurted out the obvious, "what?" He just laughed some more and said, "every time a plane flies over you look up". I've been doing that now for the better part of 36 years...waiting for the day I would be flying my own plane overhead.

My dad got interested in aviation when I was 11, about 6 years later than I did. He joined the EAA and we got to know a few builders in the area, and even then RV's seem to be what everybody was building. Dad was keen on a Christen Eagle, but then again who wasn't when it first came out. As much as he wanted to build an aircraft, I just don't think he had it in him to do so. Dad was a dentist with no shop, no patience and hardly a place to build a project, even if he wanted to. He never did get around to building his own aircraft and instead went the easy route...he just bought a Cessna 172.

Now being the youngest of four boys, I was lucky to receive anything after my elder brothers consumed every resource Mom and Dad had...including pilot's licenses. Two of my three brothers received their pilot's licenses in that 172 and while I got plenty of "stick time" for about three years there...Dad sold the plane when I was 14 and I missed my chance to get my license. My brothers also went on to eat up all Mom and Dad's college money too and by the time I got to college, I had to fend for myself, which I did none too well the first three years while only gaining one year's worth of credits.

Trying to survive on my own while attending college just wasn't working for me at the time and I soon found myself married and putting my wife through college so she could return the favor and maybe... just maybe we could move right along with life.

From my point in life now...looking back, that was the time when my journey to achieve Falco nirvana would begin, except that I wouldn't know that fully until 17 years later. It was during that first year of marriage that I began working in a cabinet shop while my wife went to nursing school. I had majored in mechanical engineering in college and always had a predisposition to technical stuff, was good with geometry and I quickly found myself a niche building cabinetry and furniture deemed "more



challenging" by my boss.

For *four* years I toiled in cabinetry until my wife finished school. I then went back myself to finish what I started in mechanical engineering. I specialized in what is commonly called 'art to part' in the engineering world...that is design is accomplished on the computer, with associated stress and dynamic analyses followed by computer manufacturing of the final part. This was all well and good, but to this day I have yet to put any of that knowledge to use in the pursuit of income.

My first year out of college was filled with three layoffs and one quitting of a job. The year was 2000 and the dot-com bubble had burst, and I managed to hop through four companies from Texas to Seattle and back to Texas. Being summarily discouraged from working for *any* company who would control my destiny, I returned to what I knew best, cabinetry... except I had no tools or shop!

Armed with my computer skills, I

was able to secure a job with a simple 3D rendering of a somewhat challenging bathroom vanity. That first project secured me several tools. Little did I know then that I was securing the resources and experiences I'd need to take on a Falco one day. That job led to a few other small jobs and while I couldn't quite make a career out of it, I did manage to acquire a few more tools over a short span of time.

Desperate for money when the small projects dried up, I took on a job as a CAD draftsman at an interior design firm.....a short term job that stretched into eight years of work on the most fantastic projects to be found in America in my opinion. Grandiose homes in Martha's Vineyard, "billionaire's row" in San Francisco, 38,000 sq. ft. residences on mountain tops...oh my! and I thought the nearby country club had expensive homes. During this tenure, I also got the opportunity to construct some very challenging furniture pieces, and in retrospect, it was the



experiences gained from these furniture pieces that would get me over the mental fear of taking on a project as challenging as a Falco.

So *still* not knowing my destiny with a Falco, I had acquired several tools and quite robust experiences. In the back of my mind, I had always wanted to build a wooden sailboat...and I think that I was subconsciously acquiring these resources with that end in mind. I always knew I'd build a plane somebody...but figured that day was *way* in the future... and I'd probably build a RV anyhow... so I was content to daydream about building a sailboat with my tools and skills.

Fast forward to 2008 when the market took a huge hit due to the mortgage debacle. The decline put a screeching halt to the housing market, including the larger-than-life houses I worked on as a CAD draftsman. The writing was on the wall and the work was coming to an end. I had to find a way out quick. Enter my hobby!

I play with a flight simulator on the computer called "X-Plane". I had dabbled with this flight simulator since 1999. Most of the world played with Microsoft's flight simulator game...a best seller for year after year, but it was for Windows only. I was an Apple Macintosh guy and X-Plane was developed for Macs..and so that's what I played with.

For about nine years I watched the flight simulator grow from a bland approximation of flight to a robust visual and visceral experience. As new features came to the simulator, I quickly found myself at the center of development, working with the developers. I was in a unique position to leverage a broad set of skills to create virtual aircraft for the simulator, and I found a niche developing what is called "add-on" aircraft for the simulator. People buy the simulator and then buy my work separately as an "add-on."

When my first product went up for sale...a simulation of a Mitsubishi MU-2

aircraft, I had modest hopes of how much revenue it would generate. As fate would have it, Microsoft canceled their flight simulator program and attention to X-Plane flourished and the sales of my product did too. Though I wouldn't call it "mind bending", it was much more than expected and for the first time, I came to believe that I could probably use the revenue to fulfill a dream and consider building a plane.

The dream of the sailboat quickly faded into the background, and I found myself digging through aircraft designs on the Internet for hours and hours on end. One of my kids was in college and my youngest would be in college in four years....it was time to find a way to build a plane.

With my wood tools, it didn't take too long for me to zero in on a suitable wood plane to build...a GP-4! I wanted a fast cross-country aircraft that my wife and I could travel in and who could resist 200+ mph cruise speeds. It didn't take me too long to see that the sacrifices I would have to make in my own personal desires for the sake of speed were enough to put me off of the GP-4.

Next up was the Falco. I was certainly familiar with it...having seen advertisements for it as far back as the mid-80s when I was a teen. My initial perusal through the Seqair website quickly put me off due to the kit prices. There's was no way I could afford such an aircraft I told myself and I began looking at RVs. No matter how much I tried to tell myself I wanted to build an RV, I kept going back and looking over the Falco. I quickly devoured as much of the Seqair site as I could, reading the stories, newsletters and experiences of the Falco family. I still wasn't sure how I was going to pull it off, but was quickly learning that the "Seqair way" and philosophy were squarely in line with mine!

I contacted Alfred, and he put me in touch with Bill Russell in Houston. Bill kindly allowed me to visit and photograph his wonderful aircraft and even let me bum a ride with him. Having flown in a few RVs in the previous weeks, there was no comparison. The minute I climbed in that cockpit with the expansive view and general feeling of spaciousness, the decision was final... and a two-way average ground speed of 175 knots didn't hurt either.

So then, 36 years after my fellow kindergarten student snickered at me, I find myself...without consciously trying... with a shop full of professional woodworking tools, a serious amount of experience with complex wood structures, an appreciation for quality and detail of design (remember those grandiose homes), a knack for geometry, welding and machining and a love of aviation that just won't quit. I was born to build a Falco!

Mini-Frati Golden Car F.30

Think of this two-seat retractable as a scaled down Falco, and you won't be far wrong.

by Geoff Jones

This article appeared in the February 2010 Pilot magazine in the UK.

Stelio Frati is to Italian light aircraft what Giorgio Armani is to couture. So a new aircraft design from 'the master' is a noteworthy event. His designs have not hitherto been known for their affordability, so it's great news that this two-seater is just 95,000 Euros. That's the fly-away price from the manufacturer, Golden Car's assembly plant at Voghera south of Milan.

Why 'Golden Car'? Because the company is a sheet metal specialist supplying, among others, Ferrari, a 'golden car' indeed, and its management is understandably proud of the fact. The F.30 is its first foray into aircraft manufacture.

Stelio is ninety, so it's hardly surprising that his signature, reproduced on the fuselage side of each F.30, is a little shaky. But seated in the F.30, alongside a check pilot, Frati can still get his aircraft to perform and behave as if he were still a teenager. I had something of that feeling of adolescent excitement myself when I met with test pilot Silvio Lando and the Golden Car F.30 at Thiene airport in northern Italy, Golden Car's administrative HQ.

Most pilots will be familiar with Frati's two most numerically successful designs, the all-wood F.8 Falco and the metal SF.260 military trainer. The Falco was built commercially by three Italian manufacturers: Aviamilano, Aeromere and Laverda. A version for amateur construction was offered in the 1980s by American manufacturer Sequoia Aircraft. However, this was no kitplane: you had to build it from plans and stacks of timber and plywood. With its complex shape and retractable undercarriage it was and still is among the most challenging (though rewarding) homebuild projects.

The SF.260 is one of the most successful Italian light aircraft designs of all time, with sales to many air forces world-wide; it's still in limited production today.

Stand back and look at the new Golden Car F.30 and little imagination is required to see the Falco and SF.260 lineage.

The morning of my flight test of the F.30 dawned a real pea-souper, typical of the northern Italian basin in the autumn, and with prospects not good for a 10.30 ar-



Volare magazine



Volare magazine



Geoff Jones

rival of the demo aircraft at Thiene. However, chinks of sunlight gradually began to break through the overcast and the visibility steadily improved. At 10.30 I spoke

to Silvio by phone, and he confirmed that to the west near Milan the same was happening and that he was preparing to leave Voghera for Thiene.



An hour later the beige-and-gold F30 prototype appeared downwind and landed on Thiene's grass runway. We were in business.

Arrival of an F30 at an airport attracts attention and Silvio and his team were already used to being quizzed, "What is it?" which is exactly what several onlookers

were already asking. Well, for one thing, it's a prototype and its deficiencies—pretty minor ones—were soon being pointed out to me. The rivets will be a lot tidier. The fairings will give smoother lines to areas such as the wing roots. The wing walkways are due to be strengthened. In place of the lines of screws currently used to attach the cowlings, there will be clip fasteners and the cowlings themselves are still not quite right and their lines will be further smoothed out.

There are undercarriage cover doors for the main legs under the wings, but not yet for the nose wheel.

The engine in this prototype is a 100 hp Rotax 912ULS with a variable pitch propeller and this will be the standard combination, with an option of a 120hp Jabiru 3300.

The undercarriage legs of the F30 are relatively long so that the climb from the ground up to the wing walk is more than a gentle step, particularly if the canopy is closed. If it is open you can pull yourself up by gripping its edge. Looking down on the cockpit I have an impression of roominess, with a large luggage compartment behind the side-by-side seats. The single 110-litre fuel tank is at the back of the cockpit.

The roominess is confirmed as I slide down into the left hand seat, one hand on the top of the front windscreen roll bar to steady myself. The seats are adjustable back and forward so that I can make myself comfortable for reaching the rudder pedals and toe brakes and with the stick exactly where I want it.

Once in, I slide the canopy forwards. It moves easily and then is latched in the middle and at each side. We fasten our harnesses and I start the Rotax, still hot from its one hour flight from Voghera, so no choke is required.

I'm quickly satisfied that everything is OK, so release the hand brake. Manoeuvring is easy using engine power and toe brakes. We move away from the concrete apron and onto Thiene's grass taxiway. Grass or concrete the F30 seems to lap up either. There are absolutely no issues about visibility while taxiing either in front or to the sides and the same is true to an even greater extent once in the air. Like all Frati's designs, he wanted the pilot to have a superb view out.

At the holding point I run up the engine, test magnetos, propeller pitch and get used to the Flybox EFIS instrument prominent in the panel in front of me. Fuel pump on and the electric flaps set one notch (fifteen degrees), I check the approach and line up on Thiene's 3,000ft grass runway with Silvio mentoring me from the right-hand seat.

We have three-quarters fuel, no wind and an outside air temperature of about 20°C. Full power and the acceleration is fast. After a 500ft ground run the ASI shows 50kt and the F.30 is effortlessly in the air and climbing. At 300ft I flick the undercarriage switch and there's a slight pitch change. The ASI has now wound up to 80kt. The retraction system works smoothly and I am aware of just a slight thud as the gear is fully stowed. A touch of right rudder is necessary to keep the ball centred.

Next, I retract the flaps. Before I know it we are at 1,000ft and ready to turn across wind and then downwind. The visibility is still poor, and we need to stay in sight of the airfield, so I prepare myself for a rigorous session of tight touch and goes. I extend downwind and tweak the propeller pitch to 'maximum' for best cruise. The little aircraft accelerates and the speed quickly builds to 120kt with the rpm gauge showing 5,400.

Everything comes to hand easily and the F.30 seems wonderfully stable. An electric trim switch located in the central console between the seats, and just below the flap switch/indicator, has enabled me to quickly sample flying hands off before it is time to start power reduction, turn base and slow to 70kt before I flick the undercarriage switch and get three greens.

What will soon become the familiar landmarks of the railway line, trees, hedge and power cables on final approach pass beneath me while I busy myself with propeller adjustment, one notch of flap then second notch (27°). These changes induce slight alterations in pitch that are easily corrected. On short finals I try the third flap setting (35°) and allow the speed to reduce to 60kt, touching down at 55kt. The tricycle gear configuration makes the landing a cinch, and I keep the stick back slightly and the nose off the grass runway not really knowing what to expect as regards roughness or smoothness. I needn't have worried because the F.30 continued to prove itself an all-terrain aircraft. I raise the flaps two notches and embark on my next circuit, pleased that this aircraft is living up to expectations and providing all the enjoyment I had anticipated.

This time I make a slightly wider and higher circuit—there is no other traffic operating—which enables me to sample some more manoeuvres and handling. In a tight turn, some rudder is required but if you were lazy with your feet the F.30 wouldn't let you down. The feeling of stability and controllability in all axes is a real confidence booster, with no sloppiness in the controls.

Advancing the throttle to 5,550rpm and 28MAP, the level speed builds to an impressive 132kt. This is with a fuel con-



Geoff Jones



Geoff Jones

sumption of about 5gph, giving an endurance of over four hours with reserves and a range of over 500nm. The F.30 is a real Frati-style tourer.

During my next circuit I am able to gain some height and still keep the airfield in sight, allowing me to sample in safety some slow speed manoeuvres. With the throttle closed, the nose high, no flaps and speed reducing below 50kt, the F.30 is still controllable. At 45kt a clean stall produces no dramatic wing drop: the F.30 just mushes down. Immediately I release the stick the nose goes forward, speed builds and full controllability is regained with a height loss of little more than 300ft. With full flap, the stall is equally lacking in drama, arriving at 40kt. Even in the stall there is still good aileron control.

I am unable to try a spin, but Silvio, who has sampled spins assures me that the F.30 performs faultlessly and with no apparent vices. Although not cleared for aerobatic flight, the F.30 is stressed for +5.5/-2.5g and Silvio has carried out rolls, loops and Cuban Eights with ease. The 'book' maximum manoeuvring and therefore aerobatic limiting speed is 140kt; the Vne is 165kt.

Silvio witnessed the ground loading tests of the prototype and praises the F.30's one-piece aluminium wing spar.

Off the next circuit I try a short field landing and as soon as I touch down keep the nose higher than before and start to apply slight toe-brake pressure. The result is a remarkable touchdown to full stop in about 350ft... and this in still air conditions. Because of the F.30's inherent stability and good handling, crosswinds up to 23kt are apparently no problem.

Flying successive circuits is always hard work and in the confines of a one piece Perspex cockpit, potentially a sauna. However, the cockpit ventilation in the F.30 is excellent: as well as two air vents at each extremity of the panel, there's plenty of air available at foot level through fuselage side air scoops.

Even though we've barely left the circuit, I find to my astonishment that I've been flying this marvellous aeroplane for almost an hour. Well, I've tried everything I can think of and as far as I can see, I tell Silvio, they've made a viceless flying machine. It goes without saying that anything designed by Frati has superb handling, and the F.30 is no exception.

I hope someone soon takes up the chance to bring an F.30 to the UK and start the certification process so that UK pilots can enjoy what sadly—and gloriously in such a long career—is almost certain to be Stelio Frati's swan song.

Dutch Treat Falco

Niels Kinneging in the Netherlands has been active lately, both in purchasing kits, building his Falco and sending notes to Susan Arruda to describe his progress and to go with his photos. Here is a sampling.

I have restarted the building of the Falco. Presently I am working on the main spar. I have built a table from Rexroth aluminium profiles. The worktop is made of 4 cm plywood.

I drew the whole spar in AutoCAD and plotted it on mylar at full scale. I stapled the drawing to the workbench and positioned 15 cm high pieces of aluminium Rexroth profiles squarely on the lines for the upper and lower spar.

This weekend we glued the lower spar. I am really looking forward to finishing it. I am presently building a jig for routing the insides of the spars, as the inside is not a straight line.

I have taken some photographs of the fabrication of the lower spar lamination in the main wing spar. To get it exactly to size, I made a jig and used a router to get everything to the exact dimensions. It took me the better part of last Sunday, but I have managed to achieve an accuracy of 0.2 mm on the whole spar. That should be precise enough for woodworking.

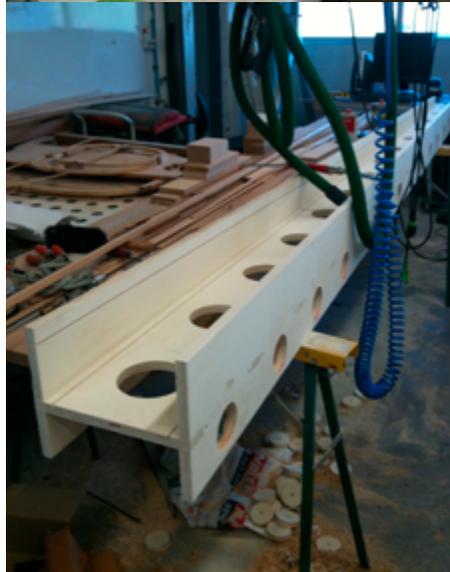
And boy, do I love my CNC router. I included some pictures of the routing process for the jig. The router is a Step-Four machine, uses router bits of 1.8 to 3 mm in diameter, turns at 20,000 rpm and has an accuracy of .025 mm. If you can draw it, you can fabricate it with this machine. It's actually a 3D plotter with a router installed. Getting your drawings converted to the machine is easy as pie. It reads AutoCAD DXF files and HPGL files. If you can print it, you can read it into the router software.

The only thing remaining is enter the offset and the logical order of routing the parts, and you're done. It cuts poplar plywood for jigs at 2500 mm per minute, so it is pretty fast as well.

I made some progress this weekend. I glued the upper main spar. Also finished the laminations of number 9 and 7 fuselage frames. I only need to make number 8 twice and all the frames are finished.

I have also routed a jig for routing the spars from 98 mm thick at station 1 to 20 mm at station 14. The wood I bought from Western Aircraft Supplies is really amazing and a pleasure to work with.

I finished the upper and lower main spar this weekend. The amount of wood you have to cut off is amazing. I built another jig to router the upper spar inside to specifications and a jig to taper them with



a router.

All went well and next week I hope to glue in the filling blocks. I cannot imagine that it is possible to build a complex mainspar like the Falco's, for the money

you charge for it when you sell it. All in all it will take me the better part of four weekends, and I work from 8.00 am till 9 pm non-stop, but probably I am slow.

—Niels Kinneging

Coast to Coast with Susan

Last year at this time, I was talking about a great black cloud looming over us all. I was addressing the state of the economy, and we still are under a cloud—but perhaps it is more gray now. However, I have become a firm believer in the theory of “black holes.” Not in astronomy but roadology.

Most of you are aware that the east coast of the United States experienced an unusual amount of snow this winter. There were days that I had to call Alfred and tell him there was no way to commute to Richmond that day—the interstate was not for travel nor the driveway to my house. The East Coast literally came to a stand-still for days and days.

Unfortunately, at the same time I was trying desperately to ship a number of kits to Bjorn Brekke in Bodo, Norway. He was very patient and maintained great humor that we were experiencing “Norway weather.” All of this was happening at the same time as the Winter Olympics in Vancouver. I had mentioned to Bjorn that our parking lot had been plowed, and they left a small mountain of snow. He and I managed to joke that we could have our own ski slope in the parking lot or offer to send some to Vancouver!

Well, we finally managed to get all of Bjorn’s crated kits to him, only three weeks later. He was kind enough to send us pictures of the arrival and his incredible project in the works. As I write this, I now am concerned about getting his canopy to him. There seems to be a little problem



in Iceland with a volcano and now I have to tell him there is a delay because of ash and not snow. Now you know why I love my job.

Back to the theory of black holes and all of the snow we experienced. Yes, it is true—black holes do exist. They are in all of the roads in the state of Virginia. There seems to be a very simple science to snow plowing skills. The good news is that a snow plow can clear any road of snow, but in the process must remove some of the paved road material. The old Catch-22 problem. There have now been weeks of attempting to avoid what I call lane craters. They swallow your car or make your tires flat. As you can guess, millions are being spent on trying to repair all of the damage. But, then you know the story of any patch. A patch is a patch, just waiting for another snow plow next winter!

Will be adding to my “First Time” list in July. Alfred and I will be heading to Oshkosh. I am most excited that we will be there for the big show. This will also be a chance for me to finally meet some people that I have talked with or heard about. And, as you know, we will be celebrating the 55th anniversary of our Falco.

Recently I needed to order a part (collar) for one of the kits. That actually meant having it made, and it was my first experience in going through all of the steps. I confess—I was clueless. But, I soon discovered the shelves of tooling, jigs and fixtures but what we were looking for. In the search, Shawn and I discovered a stack of heavy old boxes. In the boxes were various pieces of thick metal, of all shapes and sizes and all etched with part numbers on them. We found what we needed inside one and so began my education. For two weeks Shawn and I laid out each piece and sorted through and cataloged all the pieces—part



to kit number. At times I would drag Alfred back to look at a piece and have him tell me exactly what it was.

Alfred was very kind to help me understand the process in making the parts for the Falco: castings, sheet metal, stamping, tooling, machining fixtures, etc. There has to be a jig to hold the part. No doubt, all of you understand what I am trying to explain. I also soon discovered that not just one company can be involved in the process. The collar ended up being completed in two different steps by two different companies over a period of six weeks, first a casting and then the machining has to be done.

As a builder recently signed off in his email to me—Blue Skies everyone!

—Susan Arruda

Calendar of Events

“Just 55? Falcos are forever.” Falco at 55 Birthday Party, Oshkosh, WI, July 26-August 1, 2010. Plan to be there.



Mailbox

Walter Marsh sounds like my kind of guy! Wonder what he could have done with the admission bracelets at Oshkosh the first year they started using them?

FYI, rock bits are not the only ones used to drill wells. There are fish-tails, diamonds and others. Also less than half the oil in Texas is produced from salt domes.

*Cecil Rives
Houston, Texas*

I read about your friend Walter with interest. I want his radial arm saw! That's quite a beast. It should have at least a 24" blade on it, though.

*Glenn Reid
Redwood City, California*

Walter Marsh! What a man!

*Elizabeth Scott
Charlottesville, Virginia*

N63KC is sold to Rick Pellicciotti. He owns a company, Bellaire Aviation, in Memphis, TN. He had seen my Falco at Oshkosh and committed even though he hadn't flown it. Many thanks for featuring my Falco on the website. The sale is bittersweet for me, and I already have "seller's remorse."

It does little good to lament over the inevitable, but at 80 things begin to pile up that bring you face to face with your own mortality. But, it was so much fun! The building of it (the blood, sweat and tears—literally); the first flight; the fly-ins; new friends; the times I scared the shit out of myself; the serenity of times alone when the air was cool and smooth; the cross-country flights with their mini-adventures. I have always loved the poem "High Flight" by John Gillespie Magee. I don't think I ever touched the face of God but, having "slipped the surly bonds of Earth" I think I felt His presence. Thanks for the memories, Alfred!

Your friendship has meant a great deal to me, also, and I hope I'll make it to Richmond sometime soon. Susan needs to learn what you are really like, and I think I am the only one that has a window into your soul!

*Cecil Rives
Houston, Texas*

I am really enjoying the woodwork, and the amazing quality of the drawings.

It took me eight years to produce all the wood parts, so now I have more or less arrived at the same point most builders are when they buy the complete kit. The building is as much, and maybe even more fun, as the flying will be after finishing the



Falco. In Hilversum, we have four Falcos at the moment, and I fly one every chance I get.

I found the website for a tupperware Falco by Nustrini. I wonder how Alfred feels about that. All in all it is his baby, and I can imagine he is not to happy about the epoxy version. On the other hand, people who like doing woodwork like me, won't be interested in the plastic version, so maybe the competition won't be too bad.

*Niels Kinneging
Amsterdam, Netherlands*

My view of the Furio is that if someone is going to build a composite airplane it would be best if it were adapted from the Falco, and I'm glad that Giovanni is doing this and not me. We supply them with the landing gear motors and other parts and have a good relationship with Giovanni Nustrini. Certainly, it is not competition for us. Anyone who wants to build a wooden Falco would not want to buy a finished composite plane. Giovanni will be joining us at Oshkosh and is preparing himself for snooty insults from Falco purists.

—Alfred Scott