Falco Builders Letter

A Lifelong Dream

by Eduardo Letti

Eduardo Letti is an ex-airline pilot with 12,500 hours currently flying a private B737 around the world. Eduardo lives in Porto Alegre, Brazil with his wife Cintia, and daughters Juliana, Victoria and Roberta.

My love for the Falco started with a close friend of mine, Otavio Kovacs, the second son of the great aeronautical engineer, Joseph Kovacs. In 1986 Otavio and I joined Varig Brazilian Airlines as co-pilot for the B737-200. I was 20; Otavio was 27. It was during one of our ground school coffee breaks that we started talking, and he mentioned that he and his father were building a Skybolt. I found that coincidental as I was also building a Skybolt, a radio-controlled model. He politely added that theirs was full size, with a Lycoming IO-540 up front. Hmm, interesting I thought!

As our friendship grew, I visited the Kovacs shop in São Jose dos Campos several times. At that time Joseph was retiring from a long career at Embraer, the Brazilian airplane manufacturer which he helped start. They were building the wing ribs, and I watched the Skybolt take shape. Later on I had the pleasure to fly it and perform the first outside loop in PT-ZOK.

It turned out that the Kovacs were very close friends with the late Fernando Almeida. Fernando was an admirer of both Stelio Frati and Joseph Kovacs and their work as aeronautical engineers. He would frequently visit the shop and talk about the Falco. At that time, the homebuilt movement was in full force in the U.S. Fernando had flown Karl Hansen's Falco and written an article entitled "The Best Airplane in the World." He also pointed out that there was a company in the U.S., Sequoia Aircraft, offering the airplane in a complete series of kits. Joseph already knew the Falco, and he always said marvelous things about the design and what a good project it was. Being young I listened to all that exchange of information with great interest.

About this time, Marcelo Bellodi started building his Falco, influenced I suppose by Fernando's magazine article. I also followed that project taking shape.

Back then I was sure that one day I would have to own and fly a Falco. It just had to be done in my lifetime. I did not know exactly how it would happen, I just knew it had to happen.

June 30, 2009. Today I have fulfilled a lifelong dream. I feel honored to have the opportunity to become the new owner of Falco N1443D built by Alvin Dubiak. Money has been transferred and signed papers have been sent to the FAA for the transfer of ownership.

I first looked at Al's airplane last year, on Sept 9, 2008. I boarded a Southwest 737

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from Los Angeles to Chicago and drove to Lake in the Hills Airport (3CK), 35 miles northwest. In the parking lot of the airport I saw a couple standing by a car. It's got to be them, I thought. I started walking in their direction and said: "Al?" He came in my direction, and we shook hands. Debbie was standing right besides him. We introduced ourselves.

Al is a short guy, and I could immediately understand why he opted for the Nustrini canopy. It was also readily apparent after a few minutes that he was a quiet and reserved type of person. A firm hand shake with thick hands. My Italian grandmother always told us to look at the hands of a person, for thick skin was always indicative of a lot of work. Al sure had a lot of work done with his hands: he had built himself a Falco! He's clearly the kind of person that prefers to think instead of talk. I noticed that early during our correspondence when I would write long e-mails, and his answers were always very short.

After a few complimentary words on both sides we started walking towards the hangar. I was anxious. The airplane sure looked good in the pictures posted on the website. As we walked I asked a few questions and for every one I asked, he would pause for a few seconds, look me straight in the eyes and provide a very simple short answer, always right to the point. Debbie would step in and complement with more information.

Now Debbie likes to talk. She was right there supporting Al in that process of selling an airplane that had taken him a good 12 years to build. It must have been a difficult decision for them, but an inevitable one. Two years earlier, Al had been diagnosed with Parkinson's disease, a condition

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when the electrical connection between the brain cells (called synapse) begins to fail. After visiting many doctors, the reports came out with the conclusion that there would be no more flying for Al.

Al opened the door, and there she was. What I saw inside the hangar was the best built Falco I had ever seen in the last seven years that I've spent looking for one. A flawless airplane constructed by an exceptional craftsman. With no one on board the Falco sits nose high, as if pointing to the sky, wanting to fly. I walked around it several times, went under the belly and the more I looked, the more impressed I became. The absolute straightness of the wing and tail trailing edges was beautiful to see; the exact alignment of ailerons and flaps.

I gently touched the wings, carefully sliding the back of my fingers on it. Normally on a wooden wing there are minor imperfections and you can easily detect the position of the ribs under the plywood skin. Not on N1443D: the surface is so smooth and clear that it reflected the beautiful September autumn sky like a mirror.

The records are complete and neatly stored in tabbed binders registering every detail of the construction process. According to Al's annotation 6223 hours of work was what it had taken him to put together that beautiful machine.

And it suddenly became evident that the airplane not only reflected the sunlight but it also reflected a lot of Al's personality. That of a quiet man obsessed with perfectionism and details. He did not speak much but his work of art said a lot. It is true that you get to know a lot about an artist when you look at his work. N1443D is a true work of art, and Al is for sure an artist. I paused for a moment, and I could just see him working in his garage, in a relentless pursuit for perfection, sanding, measuring, measuring again, drilling a hole, aligning parts, making another batch of glue and slowly assembling the airplane that won a Bronze Lindy award at Oshkosh 2003. The airplane I was now trying to buy. What an honor it would be to own it, I thought. Needless to say, I immediately fell in love with it.

I asked Al if I could sit inside the cockpit for a moment. He nodded in approval. The canopy opens effortlessly with just one finger pushing it back. Due to the nose-high attitude on the ground, it slides back on the rails by its own until reaching the stops. I climbed on board and stood there, canopy closed, looking at the panel with my imagination dominating every single thought.

When my mind came back from the loops and rolls, I asked Al if he wanted to go for a short flight. Again he paused and looked at me: "Can you handle it?" he asked. "Sure," I said. I had flown Falcos, Pitts, Cap 10-B and Christen Eagles before, so I knew what I was doing by making the sudden invitation. He then looked at Debbie as if seeking her approval. The airplane had ground coverage insurance only, Al did not have a

medical any more, and he had only known me for a little more than one hour. The airplane had last flown in February, and this was September. Debbie looked at him, and said: "I think you should go."

It was beautiful to see the connection between the two. Debbie was right there taking care of Al, and she knew that more than anything else, he wanted to go flying. That was all he had to hear. He broke a smile, the first one that day, and grabbed the blue folder that contained his detailed pre-flight procedure. For the next hour or so we went over every square inch of the airplane, with Al pointing to all of the important aspects as if already knowing that I would end up taking care of his beloved machine.

Born in 1943, Al was 66. At 43 years of age I could easily be his son, so like one, I listened carefully to what he had to say. This was a very touching moment because he was about to trust me the controls of his masterpiece without knowing me at all. Not only that, but he began teaching me all the little secrets of his airplane. I felt like a special connection had been established right there, and I was determined to use all of my skills in order not to fracture that trust bond. We pushed it outside, and I took more pictures with the Falco in the sunlight. We strapped in, and Al started reading the checklists for me.

After firing up the fuel-injected 180 hp Lycoming, I steered N1443D with micro movements of the rudder pedals towards runway 08. The run-up was straight-forward, and I lined up, making sure, as Alfred Scott pointed out in a previous phone conversation, that my left arm rested on my left leg, grasping the control stick with only three fingers.

We climbed to 3500 feet staying underneath the busy Chicago area class B airspace. It was a beautiful sunny day, with only a few cumulus clouds in the sky. The Falco is a delight to fly. Very sensitive, with fast response, all it needs is small pressure on the controls.

After a few turns and slow flight with gear and flaps down, I handed the controls to Al and took some pictures in order to capture that special moment. He was doing a pretty good job of holding constant altitude and performing a few 180 degree turns. Later in the flight I said, "Al, I'm sure you are aware that the Falco is an aerobatic airplane."

"Yes, I've heard that."

"Here, let me show you something." I took

the controls and slowly performed a barrel roll, with positive G only. "What do you think of that?" I asked. He paused again for a second or two before providing another of his short answers: "My head is still spinning." I'm sure he liked the experience, and according to his information it was the very first time that N1443D, with only 203 hours total time, had been upside down. We came back to the traffic, and I brought the Falco down to a smooth landing on runway 08.

After the flight we went to Nick's Place, a nearby pizza restaurant. It was time to talk business. Establishing the correct price for a Falco is a very hard thing to do, even more so in the case of N1443D. Yes, there's the price of the kits and materials that can be easily accessed and there are other Falcos for sale on the website as a market reference. But what about the time and effort spent building it? How to put a price on that? So I was moving with great care and with mixed feelings. At the same time that I was happy for the opportunity to own one of the best built Falcos, I was also aware that I was about to take away what was once Al's dream airplane. A Falco is a labor of love and should be treated accordingly.

I had to go back to the airport, so I handed Al a check for $1,000 as a down payment until I could get back home, get permission from my wife, and sort things out with my account manager. That Falco had to be mine. I had lost Mel Olson's N318WH to Howard Jones in 2006. As I said goodbye to them in the parking lot, I asked Al if he would promise me not to cry when I came back to take the airplane away. "That I can't promise" was his short answer.

As I was driving to the airport, I called my wife Cintia in Brazil trying to describe to her the experience I had just lived and what a wonderful airplane I had found. She could feel the excitement in my voice but she was a little skeptical.

However, on the way home my excitement gave way to a different and strange feeling. All that I could hear were these terrifying stories of a new financial tsunami that was coming, some experts believing it would be greater in magnitude than the great depression of the 1930's. Oh no! Not on my turn to buy a Falco, I thought. So I called the bank to check on my portfolio and sure enough it was taking a big hit. Share value was coming down as most investors were trying to cash their deposits out.

I was able to place a sell order and retrieve 100% of my shares by December 2008 with a loss of approximately 45%. Some people still have their shares frozen today. Well, with such a financial damage I could not afford Al's asking price any more and had to put the plan on hold for a while. Talk about frustration! The only thing I could do was go back to work, try to save more money and hope that no one would take N1443D from me. I kept exchanging e-mails with Al. He got some phone calls but no serious offers. He held on to my check.

After almost 10 months of waiting and saving I was able to reach an agreement with Al and shake his hand. This waiting period was torturing to a sense. Every day I would log-in to the Sequoia website and

check the "Falcos for Sale" tab. N1443D was still there. It would have been an emotional nightmare seeing it moved to the "sold" listing. Debbie later confessed that Al would not even consider other prospective buyers because he thought I was the right pilot to take care of his bird. I think it can be said that I did not buy the airplane from him, instead, he sold it to me. He held on for me, and I will be forever grateful for that. What a special man!

Today I saw N1443D in the "sold" listing for the first time—with some relief, of course.

I plan to ferry it to my hometown of Porto Alegre (SBPA), Brazil in August 2009. Porto Alegre is located in the southern state of Rio Grande do Sul, way down close to Argentina. So I will have to navigate from Lake in the Hills airport to Florida, then via the Caribbean chain of islands to Venezuela, and then Brazil from north to south. I plan to provide the login and password information for the spot satellite messenger so people can track me down over the Internet during the ferry flight.

It is a very long trip and in an attempt to make less fuel stops I went looking for ways to increase the Falco's endurance. I wrote Simon Paul who had an engine malfunction during the ferry flight of N660RH from Oregon to Europe last year. With great skill, Simon ditched the powerless Falco in a lake in Canada. He had installed an auxiliary fuel tank, built by a local Oregon shop and I wanted to know more about it. It could hold 48 gallons and increase the endurance to almost 11 hours. It turned out the tank along with the wrecked airplane now belonged to Bob McCallum of Toronto, Canada. Bob orchestrated the complicated rescue efforts of Simon's Falco from the lake and has plans to build one using some parts from N660RH.

Bob wrote back saying he would be willing to negotiate after performing a thorough inspection and cleaning because the tank had been submerged in the lake for several months. The report came back that the tank was in good condition, so we agreed on a price, and Bob shipped it to Lake in the Hills airport. Alfred Scott also brought up the very important point of tank resistance to vibration and the necessary reinforcements it should have in order not to crack and leak fuel. He referred to the slosh-and-vibration test reports that are available on the Sequoia website. All of this interaction happened very fast and it is comforting to know that there are people out there willing and ready to help and support the Falco builder/owner.

The N1443D registration will disappear when the Falco is imported and registered in Brazil. I am aware that this is a special number as the 14 stands for 1914, the year that Steve Dubiak, Al's father was born, while the 43 is for 1943, the year that Al was born. The D is for Dubiak, of course. I plan to paint Al's name in the fuselage as a tribute to the man, whose dream of building a special airplane has allowed me the dream of owning and flying it. So Al's beautiful work and memory shall live on with the Falco he built.

I feel honored and humbled to be able to enter the Falco family.

The Fuselage Frames

Al Dubiak started his Falco around the time that Francis Dahlman decided to retire and closed Trimcraft Aero, and we took over the manufacture of the wood kits. We bought his jigs but from the beginning I knew we would have to make our own. When it comes to making parts in production, I don't believe in craftsmanship and handwork. I like precision jigs and fixtures that produce the same part every time.

Bill Gates says the advantage of youth is that they don't have the benefit of experience. I had no idea how much work it would take to make the jigs and to get set up making the wood parts. Al Dubiak was being held up waiting for the fuselage frames. He would call every two weeks with ice in his voice asking about the fuselage frames. I would explain what progress we had made but that we still had more work to do. We fell horribly, embarrassingly behind. This went on for two years.

One day he called to say he had a few days of vacation at the end of October and wondered if he could come down and pick up his fuselage frames. I said I hated to sound like a broken record but we are working on them but don't yet have them ready to go. But, why don't you come down the following weekend to our Oyster Fly-In? Steve Wilkinson and Jonas Dovydenas will be there. You can get a ride in a Falco, and you'll have a great time.

"Now, Al, there's something I need to explain to you. This is a social occasion and if you come down here and follow me around asking me when you're going to get your fuselage frames, I'm going to hit you."

Silence. Long silence. Then Al said he would talk to Debbie, and he called back to say that they would love to come.

They came to the Oyster Fly-In and had a wonderful time. Steve and Jonas took Al and Debbie for rides, and later on Saturday night we had the usual party of the Falco group around here. Around 9:00 Al and Debbie had to leave and start the long drive back to Chicago. As they were going out the door, Debbie said "Now, you work on those fuselage frames!"—*Alfred Scott*

Charlie and Bill Nutt's Falco F.8L

by Jack Cox

This article first appeared in the Spring 2009 issue of Sportsman Pilot.

The sleek two-tone blue and silver Falco F.8L that won the Reserve Grand Champion award for Plans-Built homebuilts at Oshkosh in 2007 was back again last summer, and I was finally able to catch up with the owner/builders, the father and son team of Charlie and Bill Nutt. The unusual part of the story is that Charlie Nutt lives in the little town of Montgomery, Minnesota—where the Falco was built—and his son, Bill, lives in Magnolia (Dover), Delaware.

Charles H. "Charlie" Nutt was born in St. Paul, MN but grew up in Iowa. Early in life he became an airline mechanic and would spend the next 38 years on the roller coaster ride that profession has always been. He started out with Ozark Airlines, then switched to Pan American where he was a flight engineer for several years—until, inevitably, he was laid off. Next came employment with National Airlines, but after about a year, he was laid off once again. By that time he had married, so he and his wife packed up and moved to San Francisco where he hired on with United as a line mechanic. He worked there for four years then transferred to Minneapolis, only to fall victim to a reduction in force which put him back on the street… but not for long. He signed on with his original employer, Ozark, worked in Minneapolis for a year, then transferred to St. Louis where he spent five years as a maintenance controller. At that point he transferred back to Minneapolis—because he thought it was a better place to raise his children. He and his wife, Inez, had six children in eight years, so going back to their home area was a major consideration. TWA eventually bought Ozark, so Charlie finally ended his working career, in 1993, with that airline.

Charlie learned to fly in 1948 and soloed in an Aeronca Champ. While working for Pan American, he was based in New York where he and a friend bought a Luscombe 8E. After he was laid off, Charlie flew it back to his boyhood home in Iowa and eventually sold it.

"After that, I flew a Piper Colt a little, but I sure didn't like it. I grew up on taildraggers and that tricycle gear thing just didn't seem right. They don't land right—it's more like a crash. No finesse, it seems like, to land one. Anyway, when our children started coming along, that was the rest of my life."

Asked about his children during our interview at Oshkosh last summer, Charlie said, "I have been lucky. I couldn't ask for any better children. They are all college educated and are very productive citizens. I have my oldest son here with me, so I'm a happy man."

That oldest son was his partner in the Falco—William "Bill" Nutt, who got an early start in aviation courtesy his dad.

"With me being in the airline business, William (as Charlie calls him) took an early interest in flying. When he was around 12 years old, I asked him if he would like to fly. He said he would, so I told him that when he was 14 and had graduated from the 8th grade, I would take him to the airport and have an instructor take him up. I did that. I told the instructor I wanted him to take my boy up and give him a decent ride—not just one of those around-the-pattern things. He took him up for about 20 minutes or so, and afterwards I said, 'What do you think—still interested?' He was, so I told him that when he got to be 16, he could get a summer job at the Green Giant packing plant in town and use his earnings to take flying lessons.

"The airport was about 30 miles away, so I bought him an old 350 Honda motorcycle to get there. He soloed in a Cessna 150 and built up his time between his 16th and 17th years. When it came time to do his written test for his Private ticket, I told him I wasn't going to let him go to one of those weekend cram courses. I would buy the books and manuals so he could study and do it the right way. He was a good reader—always was—especially in anything in the mechanical field. When I brought things home, like a lawn mower or something that had to be assembled, and pulled out the manual, he would say, 'Let me see that.' Then he would do the assembly. From the time he was about 14,

I let him do that sort of thing. I even let him tune up my car! I had a little Datsun pickup and one day I bought plugs, points and condensers and said, 'Here, son, I'm taking the other car to work today, see if you can tune up the pickup.' When I came home that evening, he was standing there by the truck just smiling away. He had it all squared away."

Bill came out of high school with an Air Force ROTC scholarship and enrolled at Embry Riddle in Florida. Always trying to excel, he was one of the few graduates in his class to get a regular Air Force commission—and a pilot's slot in helicopters.

"He won his wings flying helicopters," a proud father recalls, "and graduated at the top of his class. I was the only dad in the whole class who was granted the privilege of attending and pinning on his son's wings."

Bill instructed in Air Force helicopters at Fort Rucker, AL for four years, then transitioned to fixed wing aircraft at Vance AFB at Enid, Oklahoma. For the next five years he flew C-5s out of Dover AFB in Delaware, which included participation in Desert Storm. His next assignment was a staff job in the headquarters at Scott AFB in Illinois, which led to his decision to leave the Air Force after 14 years and become an airline pilot. He was subsequently hired by United Air Lines and because he wanted to continue to fly in the Air Force Reserve, he and his family moved back to Delaware, near Dover AFB. Today, he is a first officer on the 757 and 767, flying out of Washington, DC. That move took place 11 years ago, which is about the life cycle of the Falco he and his dad built.

The desire to build a Falco came about when Charlie Nutt saw a picture of one in a magazine ad. He was so impressed with the appearance of the airplane that he ordered an information kit—but with kids in college he had to put the idea of building one on the back burner. Son Bill knew about his dad's interest in the Falco, so when Charlie retired in 1993, he suggested that they build one together. Charlie was more than receptive to the proposal.

The Falco kits were looked into, but they decided to build from scratch. Luckily, they were able to purchase the wood from another Falco builder for about half price, so the project was a go.

Charlie started building ribs in his basement the first winter, but eventually moved the project to a workshop he and his wife, Inez, had fashioned out of a portable classroom he had been able to obtain. Work progressed slowly. Charlie worked by himself most of the time, but every month Bill would fly jump seat to Minnesota and spend three or four days working with his dad.

The all-wood airframe was built "probably 98% stock," according to Bill, but like most builders, the Nutts began to go their own way when the engine and systems began to go in. They did buy the landing gear, bubble canopy, cowling and the fiberglass parts from Sequoia Aircraft but, for example, they decided to install a 180 hp rather the 160 Lycoming for which the company cowling had been designed. That required some modification to accommodate the 180. Their engine, a Superior I0-360-B1E2, was built up for them by Eagle Engines in Redding, CA. It was fitted with a Lasar ignition system, a B&C 60-amp main alternator, plus a B&C eight-amp standby alternator, and a SkyTec high torque inline starter. A Christen inverted oil and fuel system was also installed. Eagle Engines' sister company, American Propeller Service, built up their propeller—painted to match the airframe.

Early on it was decided that Bill would build up the instrument panel at his home in Delaware. He ordered the electrical kit from Sequoia Aircraft, which he found to be of very high quality with color-coded wiring and gold-plated pins and sockets, and ordered and installed instruments as his budget allowed. As time slipped by, however, and electronic gadgetry advanced by leaps and bounds, Charlie and Bill decided they had to have an EFIS in the airplane. As a result, the first panel was scrapped and a new one of Bill's design was built—featuring a Blue Mountain EFIS. Bill also added an angle of attack indicating system.

"I highly recommend an angle of attack system on the Falco. Its stall characteristics are such that you don't get a lot of advance warning. A lot of builders have added stall

strips on the wing's leading edges, but we decided not to do that, choosing the angle of attack system instead. It works wonderfully, and I really enjoy flying with it."

For an airplane based in Minnesota, it seemed prudent to provide as much cabin heat as possible, so eyeball vents were built in at the sides of the instrument panel that can be aimed at the pilot and passenger.

Sequoia Aircraft offers two bubble canopies for the Falco—a standard model and the lower, sleeker racing canopy developed in Italy by Luciano Nustrini. Everyone likes the looks of the Nustrini canopy, but many, such as Charlie and Bill who are both over six feet tall, find the head room to be virtually non-existent. Regardless, the Nutts opted for the Nustrini canopy and incorporated some significant modifications to make it usable. That involved extending the sidewalls of the fuselage upward by about an inch and a half, repositioning the windshield bow a bit, reworking the canopy skirt and raising the dorsal fin by about an inch and a half.

Throughout the long project, Charlie and Bill were attending the EAA Convention at Oshkosh each summer. According to Charlie, "We had a chance to view a lot of other people's airplanes and get ideas. We have to give a lot of credit for this airplane to Dave Nason of Kent, Washington. His past Grand Champion Falco was the inspiration for a lot of things we incorporated in ours. Dave is such a nice, personable, knowledgeable guy and so willing to help you with any questions you have—when you see his Falco, you know he is a master craftsman."

Oshkosh also provided the inspiration for the Falco's beautiful paint job. While walking through the Fly Market one day, Charlie happened to notice a display of color samples in a paint dealer's booth—aluminum plates sprayed with complimentary colors. One really grabbed Charlie's attention—dark blue with a light blue and silver stripe. Both he and Bill liked it so much that they asked the dealer to send it to them after the show—which he did.

According to Bill, he and his dad had originally intended to paint the airplane themselves—but were talked out of it by their wives!

"They said as much time, effort and money as we had put into the airplane, they weren't sure we would be happy with a homemade paint job—and they were right."

As events transpired, the Falco was taken to a company at Fleming Field in South St. Paul, MN, had it painted and had the cabin upholstered. The paints were high quality automotive products. The dark blue was a Toyota color, the light blue a BMW color and the silver a Mercedes color. The seats and parts of the cabin sidewalls were covered with light gray leather and the lower sidewalls were covered with upholstery fabric to save weight. The word *experimental* was embroidered into the upper sidewall leather panels and the Falco logo was embroidered on the aft cabin bulkhead covering. Bill and Charlie were very pleased with the paint and upholstery work and it was much admired at Oshkosh when it was displayed there for the first time in 2007.

When completed, N767CN was found to have an empty weight of 1,349 pounds. Gross is 2,250. Bill would be the test pilot.

"My wife, Rita, made me promise years ago that I would not do the initial test flight, but I reneged on that promise. I'd been flying long enough to realize I needed to feel comfortable with the Falco before making the first flight, and I was fortunate to get some stick time with Larry Black and Dave McMurray in their Falcos in California and with Dave Nason in Washington. I happened to have a layover in Seattle just a couple of months before we were ready to fly our airplane and Dave and I did a bunch of stalls, takeoffs and landings. Based on how I felt then, I decided I could do the test flight. Rita bought me a parachute—I think she was still nervous—and I didn't take any chances. I wore my Nomex flight suit, gloves from my Air Force days and my helmet—and, happily, the first flight was pretty much a non-event. Al Aitken, a retired Marine Corps test pilot and a Falco builder, had designed flight test guides and cards, so I followed them. I took it up for about an hour and left the gear down as recommended. We had a brand new engine so I tried to keep the power up. I pretty much circled over the field, did approaches to stalls and then landed.

"Successive test flights built on the first one. I raised the gear on the third flight. Initially, I was seeing about 178 knots at 75% power at 5,500 feet. Over the winter of 2007/2008, Dad and I put all the gear doors on, then just before Oshkosh 2008, we took it up to 7,500 feet, calibrated our Vision Microsystems engine monitor and found we were getting 178-179 knots true at 73% power—which I think is on par with most of the Falcos out there with 180s and Hartzell props. We have 55 hours on it now (this was at Oshkosh 2008) and it has just been a joy to fly. Just takes two fingers to fly."

The Falco is based at the Faribault, MN airport, which is a pretty long haul for Bill to get to fly it.

"And an opportunity to visit my parents," he says with a smile.

Into the Shop

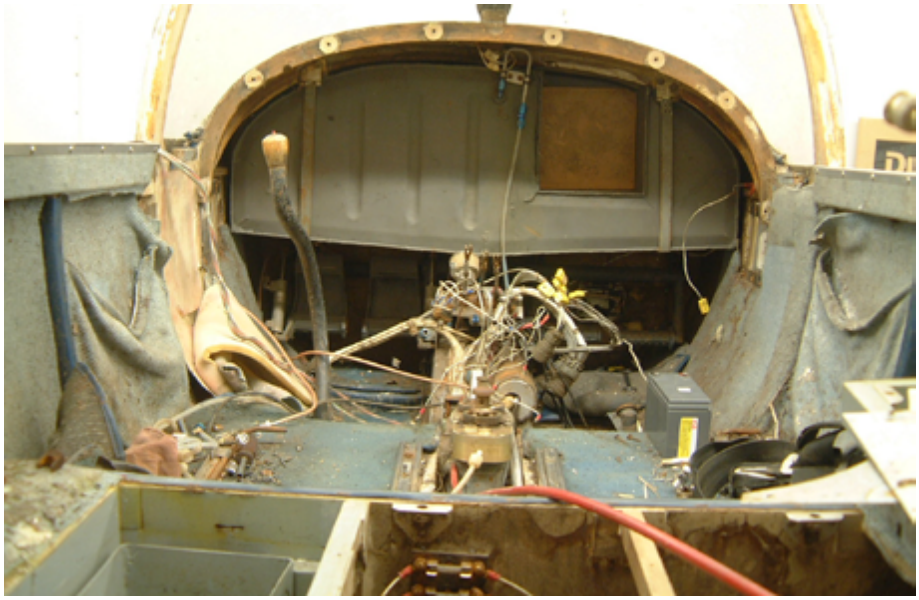
by Bob McCallum

N660RH has been successfully delivered to my home in Toronto. The Falco unfortunately didn't much like being submerged in water. A large number of the glue joints have failed and the structure, especially the lower surfaces, are pretty sad. The whole of the fuselage bottom and most of the lower wing surfaces are totally devoid of paint and the fiberglass covering. The adhesion has failed and whole sheets of the finish have come away leaving the bare wood exposed. Glue joints on the ribs, the longerons and those securing the skins to the lower surfaces have all failed leaving the structure very un-structural.

The gear doors were torn away, for the most part, with only the port main door semi-intact. The starboard main door is only a remnant of the original with just an outer ring remaining. The wheel cover on this main wheel is also severely torn up. The smaller doors over the gear legs are gone, as are the nose gear doors. All of the fairings on the bottom are gone as is the pitot tube.

The good news: Mechanically everything has survived. The prop is intact, undamaged. The engine must have been stopped and the blades horizontal on touchdown. The engine is completely intact and in good condition. It does not appear to have suffered from its 'dunking' and I have just finished dismantling it for inspection. There is *no* rust or physical damage to any of the engine components that I have been able to find so far. The only slightly dicey things were that many fasteners were very loose, and one of the pushrod tube retainer clips inside the rocker box of #2 cylinder had fractured leaving the exhaust pushrod tube unrestrained.

The alternator rear bearing was totally worn out to the extent that the rotor was rubbing the stator and so may not have survived the Atlantic crossing. The electrical components have not yet been evaluated but preliminary disassembly of things like the ELT, altitude encoder, etc, reveal extensive rust on several circuit board components and therefore most likely the electronics are history. The gear extends and retracts normally, as do the flaps, but in moving the control surfaces, I discovered that the structure was so weak that the pitch servo came away from its mounting in the floor of the fuselage. The bottom of the plane in this area below the baggage compartment is not much more than just loose bits of wood.



The flight instruments are partially filled with water and so are most likely junk, but I haven't gotten to them yet.

The official cause of the accident, by the way, after examination of the aircraft by certified investigators, was "carburetor icing." No one could find any other reason for the symptoms described by Simon and no mechanical problems were discovered. The carb heat control was found in the "off" or "cold" position; there was still plenty of fuel in the tanks. In fact, the front tank still has fuel in it today.

To Northern Territory and Queensland

by Juliet Ferguson, reporting on a trip in Falco VH-YBN in August 2008

We left on Aug 11 after taking the dogs to boarding kennels and sorting the sheep. The first leg was to Broken Hill, a large mining town, 328 nm to the NW. Departed at 1110 on a cool and overcast day flying at 6,500 above broken cloud mostly over dry plains becoming red with scattered scrub as we headed further north. A cold breeze was coming in from behind the canopy.

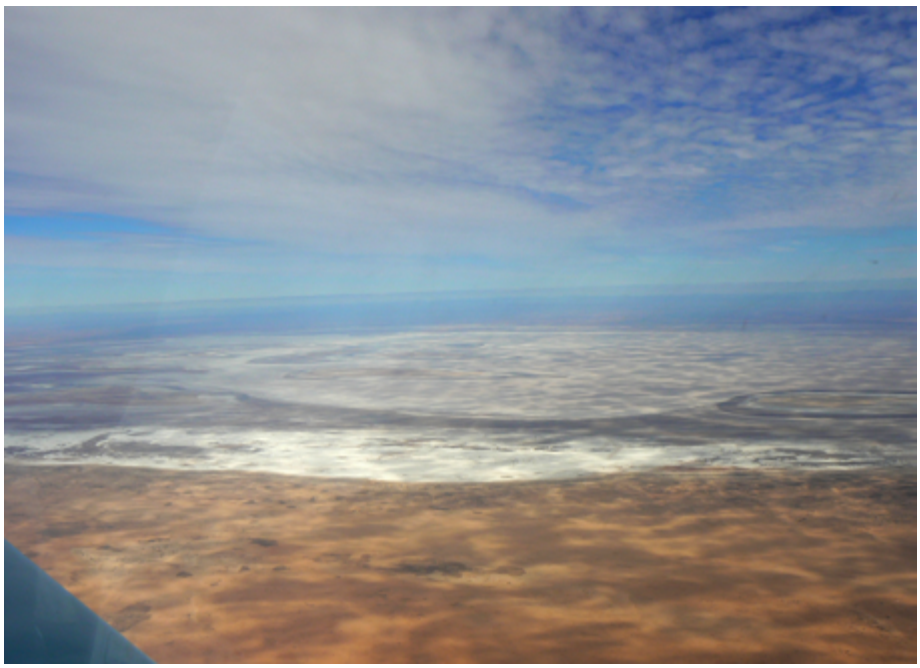
There was a strong wind, and it was very cold at Broken Hill. Put on extra coats, refuelled then decided to stay overnight. A town of mines, old hotels and galleries. We stayed in the Crystal Hotel opposite a mine with a miners' memorial and a restaurant on top of a tailings hill. We wandered around and bought some books at a good second hand book shop.

On the aerodrome the following day we met a friend from Tocumwal who had come to pick up a local politician in his RV. Planned to Alice Springs in the red centre and 630 nm away. Over the bare, brown Barrier Ranges then red plains.

Changed to the auxiliary tank—a real battle to see the vertical, supposedly clear strip in the tank to see the fuel level. Hard to turn around anyway and hampered by falling bags, straps etc. Nevertheless a good thing to have!

Over three deserts—the Strzelecki, Tirari and Simpson in one day—characterised by vast areas of red plains—sometimes orange, sometimes yellow-red sand ridges, salt lakes, dry salt rivers and claypans. Over huge salt Lake Frome, the dramatic Flinders Ranges rising out of the desert and the even huger salt Lake Eyre.

Motel toast (cold) and crumby biscuits for lunch. A lot of traffic at Ayres Rock on



Top: At Broken Hill. Above: The huge salt Lake Frome.

the radio. Towards Alice Springs there are several small colourful rocky ranges. Alice Springs is backed by the long, red, rocky MacDonnell Ranges.

Turbulent on descent. High security at the airport. Tied down and got a taxi to a rather smart motel on the dry Todd river with the ranges behind.

The following day we had a free continental breakfast, spent some time planning to Darwin—via Tyndall—708 nm north then spent a small fortune on fuel. A sunny day with a freezing wind. We departed at 1155 leaving controlled airspace north of the MacDonnell's. Some streaky high cirrus and a lot of smoke forecast but initially quite clear.

We flew abeam the long straight Stuart Highway to Darwin over more vast red desert—this time the Tanami Desert. Occasional homesteads, some small ranges and rivers of sand. Battling with the wretched luggage which kept falling on us so we eventually unpacked one bag and crammed the contents behind the seat—and the bag. OAT now 17° C so another struggle to get out of my Antarctic coat which was necessary for the red, and supposedly warm, centre this morning.

So much desert! Contacted Tyndall airbase 70nm south and cleared to Darwin via Tyndall. [Tyndal an RAAF and civil aerodrome a few miles from Katherine. Incidentally it is where Guido Zuccoli was killed on take-off.] Increasing smoke

Top: McDonnell Ranges departing Alice Springs. Above: Lunch at Leaning Tree Lagoon.

haze mostly from burning off by aborigines. More hills and gorges but difficult to define due to smoke.

Fires and dense smoke around Katherine which has fantastic gorges and long ranges of cliffs but difficult to define because of the smoke—we were flying just below a dirty brown inversion in some turbulence. On descent to Darwin we hoped that visibility would improve but it didn't and the turbulence increased. Reported at Wickham Point and were cleared for a straight in on 36 but unfortunately could not see the aerodrome. The control tower of this international airport very kindly allowed us to orbit until we got our bearings!

Tied down then staggered across the rather warm aerodrome to the general aviation waiting room where we waited for a taxi. Then drove round and around Darwin looking for an hotel. From the most opulent to the cheapest backpackers there was nothing! Finally a young receptionist at a backpackers rang around for us and we got the last room in town—the luxury suite at the Novotel—just for $799!! There wasn't much else we could do so we accepted with good grace and enjoyed the complementary bottle of wine. I had crocodile for dinner and Ian battered fish and ice cream at the restaurant downstairs.

A dramatic sunset from our small harbour view balcony and later in the evening the city was shrouded in, and smelling strongly of, smoke.

We had planned to stay in Darwin for a few days but really couldn't manage $799 every night and no less expensive accommodation was available so the next morning, after masses of phone calls, we hired the last available hire car in town, a Thrifty ute, and booked into the last available room in Kakadu.

The drive east to Kakadu is lovely—through sunlit forest of slender gums and pandanus with huge termite nests. Scattered green wetlands and wide brown rivers. We stopped at the most beautiful Leaning Tree Lagoon for a sandwich lunch. It was tranquil with white water lilies, masses of birds including jabiru and no one else there—except perhaps a lurking crocodile.

Reached our destination, the small town of Jabiru, and our crocodile-shaped hotel (the Crocodile Holiday Inn no less) in the late afternoon. The hotel has an amazing collection of aboriginal paintings but the flavour is not exactly outback—the view from our room was of an inner courtyard with guests frolicking in the swimming pool well protected from the wild outside. But the room was nice!

We woke to the sounds of birds the next day. After a large breakfast we bought some rolls from a bakery and set off to explore. Kakadu is a huge area with the most significant features separated by long distances of scrub. There are escarpments, fabulous rock formations, wetlands, billabongs, waterfalls—in the wet season—rivers and wonderful aboriginal rock paintings. Also masses of birds and animals including crocodiles. We had two days of driving and walking. Dinner at night included crocodile, emu, kangaroo, mussels, prawns and Barramundi.

On Sun 17 we drove back to Darwin and to the Novotel which had a cheaper room which was just as good as the luxury suite. Wandered around the foreshore and harbour of Darwin, the war memorial and then in to town past the remains of the Town Hall, a memorial to cyclone Tracey in 1994. Returned to the hotel to plan our departure and arranged a cabin in Borroloola to the SE and still in the Northern Territory, where we hoped to do some fishing.

Another beautiful sunset with passing ships. Fish and chips with a bottle of red for dinner at the outside hotel restaurant.

The next day a beautiful sunrise with passing ships but very windy. Taxi to the airport with the driver bemoaning the lack of intelligent women in Darwin.

Departed via the VFR route—with a little assistance—for Borroloola 382 nm away. Over brown country with dry rivers and smoke haze. Over the southern end of Kakadu with hazy ranges and escarpments. Over the Katherine River again but this time to the NE of Katherine. Then into flatter red and yellow country with masses of mostly dry waterways.

The smoke got steadily worse and there were fires 25nm from Borroloola. A bumpy descent to Borroloola on the wide McArthur River.

Greeted by two bored, young charter pilots who transport miners and sick aborigines but who were not very busy and who regaled us with stories of recent attacks on parked aircraft. They had two Cessnas and the canopy of one had been smashed only a week ago. Boredom and alcohol seem to be the stimulus.

The guest house was quite a contrast to the Novotel and the Crocodile but really more to our taste—a small room with louvres and a frig and meals outside on the verandah. Kite hawks wheeling above and lots of galahs.

The next day we were driven 50K downstream to do some fishing with a guy called Barry in his small tinny with outboard motor. He and his wife, Bets, had a new, luxurious house near Toowoombah but preferred their life in the camp on the river. We rocketed downstream as far as the gulf and caught a number of fish including salmon and a Queenfish. We saw a couple of crocodiles and sea eagles and kite hawks swooped down to pick up the bits when we were cleaning the fish. A week ago the resident crocodile sauntered up to have his share of Barry's fish remains, *i.e* right into the camp!

On return there were several other aircraft on the aerodrome and so far no damage.

The following day we planned to fly to Undara in northern Queensland. Undara is in volcanic country and known for its impressive lava tubes. We planned coastal along the Gulf of Carpentaria to Karumba then inland—a distance of 476nm.

We flew along the McArthur River and over the camp of our fishing friends. Then over the most incredible vast, flat salt plains with many wide, winding, water filled rivers with a network of dry tributaries. The rivers are lined by mangroves which extend out along the coast of endless beaches. No habitation at all—only crocodiles.

Top: This guy is a dangerous spirit who eats females after striking them with a yam. Above: Ian refueling at Undara.

We were over the sinuous Albert River north of Burketown thinking not an ideal place for a forced landing (though you would probably survive—initially) when the engine gave a very nasty cough and started to run roughly. We were on the auxiliary tank so we quickly changed to the main. All seemed OK but we thought there may be a plug problem so we made an "emergency" landing at Burketown.

[Ian later reported "I never did find the cause of the malfunction. On returning home I removed the auxiliary tank, inspected the finger strainer and cut the top of the tank off. There was no sign of a problem. The breather was quite free. The plumbing had not been changed since before we flew to NZ. Our LAME (licenced aircraft engineer) is unable to help."]

Running up on the auxiliary tank was horrible initially, settled down but then the engine stopped before fully leaning. Further running up was OK. We considered staying overnight but the only person on the A/D—a pilot who had just arrived—said there would be no accommodation in town. So, we decided to go on.

Departed at 1551 local time, last light 1835. At 7,500 changed to the auxiliary tank

Top: YBN at Undara. Center: Flinders River and isolated homestead. Above: Home Sweet Home amid wheat and canola. Be sure to see the full photo gallery online.

which was initially fine but then ran roughly again. When this happened the fuel flow increased so it didn't make much sense but we found that it ran smoothly if we didn't lean below 46 l/hr—we usually cruise at 36 l. On the main aft tank all was OK—there wasn't much left in the front tank—but we needed to use the auxiliary tank if we could though would have just made it on the main. Our conclusion now was that there must be something wrong with the auxiliary tank (!) perhaps it was disintegrating and dropping bits into the fuel?

Some more stuttering so we increased the fuel flow to 49 l and all was quiet again. Now over timbered hills so it is really even less inviting for a forced landing. It was a relief to change to the main tank abeam Georgetown which is on a bend of the Etheridge River and 70nm from Undara. We found Undara, a small strip in forest with a swamp at one end, and we land happily but with the sudden realisation that there is no fuel here!

We were picked up and taken to our accommodation which is in old railway carriages in scrub with birds and kangaroos and very acceptable. Kangaroo, emu and croc for dinner.

We made a few tentative enquiries about fuel in the morning—after a bush BBQ breakfast with marauding kookaburras—then set off on a tour in a small bus. Lots of inactive conical volcanoes all around, and we walked around the rim of a crater then down into several lava tubes. These were created by lava flow which cooled on the outside so solidified while the inner molten lava kept flowing and the longest tube is 160km. Dark and moist inside with bats.

The rest of the time was spent walking on the numerous tracks through the bush, beside swamps and up to rocky bluffs which was all very beautiful with lots of kangaroos and birds. And, of course, trying to arrange fuel. We were reluctant to siphon the fuel from the auxiliary tank as it might be contaminated and "probably enough" fuel to go back to Georgetown wasn't ideal but eventually the staff, who were wonderful, arranged for a truck delivery of AVGAS from Georgetown. They met the truck on the main road and brought the drum back on their ute.

Refuelling was fun—from the drum to a yellow plastic bucket and so to YBN.

So, after three nights at Undara we set off again. We departed at 1027 after beating up the lodge. Volcanoes everywhere, steep sided rivers and scrub. Hazy hills. We were going to refuel at Hughenden but had made good progress in spite of the forecast headwinds so continued on to Longreach. Olive coloured plains, rivers and dry creeks.

Refuelled at Longreach and held the security gate open for each other to go to the bathroom—we could not actually see a bathroom but there were plenty of trees.

On to Charleville then amended SAR to continue to Cunnamulla. Flat timbered and cleared country. Following the Warrego River. There was no one at Cunnamulla, and we were locked in so had to ring security. The security fence is to keep wild youth and kangaroos out—not terrorists. A nice, simple outback motel with a good meal but no breakfast as they all sleep in on Sundays.

Departed at 1155 the next day still following the Warrego. It was beautiful with red/olive plains and the winding tree lined river—dry but with water holes. Red country further south and scattered irrigation around Bourke with more irrigation further south. Refuelled at Narromine then only 266 nm home over timber, large green paddocks to our strip among wheat and canola.

Coast to Coast with Susan

When Alfred approached me about coming to work at Sequoia, (in Richmond) I had to consider whether I wanted to commute to work,. After all, I was only 10 minutes from my job in Williamsburg, where I live. So, I would have to think through driving at least 50 minutes or 48 miles one way to a new job. How would I feel about driving basically two hours (and almost a hundred miles) a day? One must consider not just the time but the cost of gasoline and wear on your vehicle.

Williamsburg is a very small town and the center of our country's colonial period. Tourists come year round to visit the area: Colonial Williamsburg, Yorktown and Jamestown. It represents all that was part of the American Revolution. On the other hand, Richmond is a very large city and has the history of once being the capital of the Confederacy—all that was part of the American Civil War. Both areas are steeped in American history and there is always something to learn.

After weighing all the pros and cons, I made the choice to leave quiet little Williamsburg each morning and drive to the busy city of Richmond. The commute means taking Interstate Highway 64 and then accessing the expressway into Richmond. Now, I enjoy driving my little Honda Civic around town, but negotiating the interstate highway is an entirely different experience. It is not a casual journey. There is a constant stream of travelers any time of the day or night.

I quickly learned that most American drivers have an unfortunately serious issue with the terms *merge* and *yield*. They apparently lose all sensibility and courtesy when they are rushing along at 65 miles per hours (and usually much faster) because they have an added ingrained defiance about the term *speed limit*. It also did not take long to learn that American 18-wheel truck drivers have their very own speed limit and road rules. We are talking about really large vehicles! Yet, they will threaten to run over anyone in their way. Somehow, I decided to just relax, turn on the cruise control, fall into the traffic rhythm, stay alert and wish for the best. After all, making it to my new office was well worth the adventure!

I do not know how other people spend their time alone making long-distance drives but I listen to music, drink coffee, think about 'things' and worry about 'stuff.' I also have all the information signs along

the Interstate to read. As you may guess, the road is isolated and tree-lined so there is little to entertain you. However, one morning about two miles from a rest stop I noticed a particular sign "Speed Limit Enforced By Aircraft." Well now, doesn't that tickle your imagination? I have had many moments along the way conjuring up what in the world that sign really means. In fact, it made me a little uneasy just thinking about the possibility of a large motorized bird of prey swooping down and catching a small unsuspecting vehicle.

I have even allowed myself to imagine an Arnold Schwarzenegger movie scene with him dropping from the sky and onto a moving car with gun pointing at the terrified speeder. But, I found a better source of information to help solve the mystery and that was the Internet. This is how I found the photograph above of the sign with the Apache attack helicopter. It's a joke! Really!

I began to page through many conversations from people that had wonderful and funny things to say about the signs, which just happen to be posted on major access highways all over America. Was this all for real? If so, how does it work?

Well, it is real. In Virginia they use a Cessna 180 and five state troopers. I never noticed the wide white lines across the highway—the "starter line." The plane overhead times you from that point with a VASCAR (Visual Average Speed Computer and Recorder) and the troopers are waiting up the highway at the other white line to chase you down and give you a summons, which, in Virginia, can be quite hefty! They can do multiple cars this way, so recently, within two days, they caught 2,195 speeding drivers at four separate setups! Someone calculated that the state of Virginia collected close to $60,000.00 in fines doing this. Now, not to say I am a fast woman, but I think I will make more use of my sun roof now.

Not much new here at the office. Alfred and I have been dragging our feet on a few new projects until the international and national economy heals a little more. We see more and more optimism and see things returning to normal slowly but surely. So, I will just continue to 'speed' up the interstate to the office everyday and wait to hear from you!—*Susan Arruda*

Mailbox

This is difficult for me—since you have always told me to "read the plans, Russell!" After 3 1/2 years chasing the gear door actuator that Dave McMurray sent me the plans for, it seems that I have finally solved my problem with the gear door actuator that was in front of me all the time—the ones "in the plans!" Cecil had the jig for the wire spring that he loaned me, and after about four tries, it seems that I now have working nose gear doors! I know that you will want to tell me "I told you so," and that's O.K. because I'm so ready to quit chasing that "gremlin!" This was the last real problem that I have had with the Falco, and in the process I have become a true guru on the retraction system of the Falco! The only problem I had to overcome was the fact that my gear doors are not flat—they are rounded so attach points were not the same as in the plans.

Bill Russell
Houston, Texas

Look at it this way, a little humility never hurt anyone!

For what it's worth, I didn't actually design this. I've always been on the lookout for the best designs, and that always means the lightest, simplest and most elegant solution. I had seen all sorts of complicated things that people have used, and sometimes it looks like the designer was thinking that the more parts the better. However, when I was in Italy with Luciano Nustrini many years ago, I saw this design and I just could not believe how great it was. I didn't take any measurements at the time, and when I asked Nustrini about it, he sent me the gear doors and spring to measure.

I don't know if Nustrini designed this or whether the design came from someone else. In fact, there are very few original ideas, so it's bound to be an idea that has been around for a while. Good designers borrow, great designers steal.—Dr. Ing. Alfredo Scoti

Just have to say this. I had the invitation to fly a Glasair III last week. I'd always wanted to do it since it is such a well-known machine and being the top of the Glasair line with the company's claims of amazing performance I was excited when my friend offered.

Wow. What a disappointment. Firstly, the company never speaks of anything under 220 knots when they discuss the GIII. They obviously spend a lot of time up high. The best I saw at 75% was 185 indicated. Obviously this will true out a lot more at altitude, but I really was expecting the ASI

Top: The last built F.15B Picchio. Above and Center: The Frati-designed F.30 in Volare magazine. See www.f30fly.com. The retractable gear version is now flying with our Sequoia Falco landing gear motors.

to show at least 200. The only impressive part on the ASI was the yellow starting at 250 and the red line at 300 but the pointer was nowhere near it! That would all be downhill.

What really disappointed me though was the handling. I guess you get spoiled flying a Falco. There aren't many machines with the control harmony and balance but the GIII was bloody awful really—heavy, disproportionate and unbalanced. It's funny, I read a lot to the contrary when I read about the GIII but this was nothing to skite about. The owner says it's the same as his friend's GIII so I assume they are all like that.

I really expected a hot rod with Falco-like handling. In reality it does go very well uphill—with 300 hp it bloody well should—but it really fails to amaze and the handling is like a 206.

It never fails to amaze me just what a machine we have in the Falco. It's comparisons like this that make me feel so fortunate to have one. I'm only about 25-30 knots slower on about half the horsepower. The Falco is a lot more comfortable and the handling—well we know about that!

GR
Auckland, New Zealand

Very inspiring new issue of FBL. All of the people who write—the builders, the Italian writing about her father-in-law who can no longer fly his Falco, the guy who has rebuilt the, uh, Piper Sequoia, even the builder who is retrieving his plane from Lake Falco and seems in excellent spirits nonetheless—all are a breed apart.

Steve Wilkinson
Cornwall-On-Hudson, NY

I had remembered your article about Baby Bootlegger and Mark Mason from the Sept. 1990 FBL. Last year I met Mark over at a friend's house. Mark and my friend had three vintage-style boats built in Turkey about five years ago from plans they bought from the Horace Dodge Estate.

Anyway, Mark sold Baby Bootlegger to Tom Mittler who lives about an hour from my home. Tom is a car and boat collector (only vintage rare wooden boats). I'm pretty enthused about an invitation we have to drive over to Tom's home and see his boat collection including Baby Bootlegger. Can't wait! Tom operates these boats and has built two rather elaborate boat houses with custom lifts.

Wayne Kruger
Portage, Michigan

Top and Center. Two German Falcos. Above: Giovanni Nustrini sent us this photo of Luciano Nustrini at the start of the Giro di Sicilia in 1972.