

# Fournier RF-4D rebuild. VH-XOS

I had owned a single seat Grob Astir sailplane for approximately 10 years and was looking for a new challenge. My decision to change direction was brought forward by my gliding clubs decision to sell its Piper Pawnee and its club sailplanes and purchase a Grob 109 motor glider. This left the private owners in the club with no means of launching so they either had to change clubs or purchase self-launching aircraft.

Coincidentally as I read the next edition of the Australian Gliding magazine I noticed a small advertisement for a damaged RF-4D Fournier motor glider. The only Fournier I had any knowledge of was the two seat RF-5 model made popular by the radio controlled model aircraft kit by Veron in England so I was keen to know what the RF-4D looked like. After a little research I found a book called "Gliders and Sailplanes of the World" which listed the RF-4D model; it gave details and a photo. It was love at first sight. This aircraft looked great from all angles, it was obviously designed by an enthusiast, not an accountant. The next step was to make a call and get as much info as I could and to see if the "damaged" part of the deal was within my repair capabilities. After several lengthy phone calls to the seller I was more than interested and needed to talk to the Gliding Federation of Australia to see what problems there may be in getting this aircraft into the air as it had never flown in Australia, did not have an Australian airworthiness certificate and had been in storage for 14 years.

This aircraft was one of 3 Fourniers, (1- RF-5 twin seat and 2 RF-4D's) that had been imported into Australia in approx 1982 in a large shipping container. One of the RF-4D's and the RF-5 were complete and flyable and were assembled and sold. The other RF-4D had been crashed in Rethal, France in 1980. and was shipped to Australia along with all of the necessary new parts to repair it. The logbook only describes an "incident" but it was obvious by the damage that it was driven hard into the ground with the undercarriage UP! There was substantial damage to the cockpit floor, broken prop, cowls, spinner, canopy, undercarriage doors and all lower fairings and some damage to the wing lower center section sheeting. The aircraft had been in storage for 14 years and during that time the VW 1200 based Rectimo engine had been overhauled back to zero hours.

After many phone calls, its called doing your homework, I was ready to set off on a 12-hour drive to view the parts in Euroa, Victoria. Just prior to departure, I contacted the GFA and was supplied with a list of other Fournier owners in Australia and was relieved to find that the only other RF-4D in Australia was located in Tyabb near Melbourne, only a 10 hour drive away. A quick call to that owner set up a meeting at Tyabb the next Saturday morning to view a complete Fournier. I couldn't wait for the weekend to come as I set off with a buddy of mine, Baylee Roberts first to Melbourne and then on to Euroa to look at Fourniers.

The first look at an RF-4D in the flesh was amazing. It was so right from every angle, here was a motorised glider that looked right, it wasn't a glider with an engine fitted, it wasn't a stretched powered aircraft, I wanted one! My only concern was that of the cockpit size compared to mine, and would I be able to fit in and close the canopy. After many photos and an informative chat with its proud owner, it was off to Euroa to view the damaged one. What we encountered on our arrival was not quite what I had expected. The entire airframe had been dismantled into just about every nut and bolt. There were boxes and Fournier parts everywhere. At this moment

I seriously doubted that it would ever go back together again and more importantly, were all the pieces there? We poured over the never-ending parts supply for the rest of the afternoon and retired to the local hotel for a beer to take in and contemplate what we had seen and the viability of the project. The seller stressed the point that there wasn't a lot of repair work to be done and that was true, however in my opinion there needed to be a lot of inspecting done internally and there was the 30 yearly survey to be also considered. We left Euroa the next morning for the trip to Adelaide and discussed the project the whole way.

After several more phone calls and more homework, I was fortunate to enlist the help of Harry Bache, an ex RTO/A, a sailplane builder and pilot, who would look over my shoulder during the rebuild and would sign off the 30 yearly when completed. After some encouragement from Harry, the deal was closed and it was off to Euroa several weeks later with an open twin Astir trailer to bring all the pieces home.

The trip home was uneventful although I doubted that all the pieces would fit on the trailer at once. The fuselage was rolled onto its side supported by a mattress and the 38 foot one piece wing was supported by a hastily made jig up on top of the trailer. The remaining parts being packed in and around the fuselage. Once home, all the parts were stored in my double garage and the wing was taken down to Baylee's farm, approx 40 minutes drive south of Adelaide where there was a 40 foot long shed waiting, you have to be lucky sometimes.

My first objective for the wing was to completely strip off the original 1970 covering so that a more thorough internal inspection could be carried out, as I needed to know if there was any damage resulting from the accident in France. All metal fittings were removed, checked, painted and refitted. I decided on recovering with the Randolph system after having some adhesion problems with the Stitts system. This was due to the aircraft being originally covered with a nitrate/butyrate dope system and the newer Stitts system not being able to adhere satisfactorily without first coating the entire airframe with an epoxy sealer, an option I decided against.

The fuselage was next to be rebuilt and after completely stripping the wing there was no alternative but to give it the same treatment. Working on the fuselage was now a relief because I could work at home. I could go out into the garage and work when I felt like it instead of an hour and a half round trip to get to the wing. A new cockpit floor had to be fabricated and fitted along with all the new parts fitted under the nose section to replace the crash damage. A new instrument panel was made with some extra holes to accommodate some additional instrumentation. The original altimeter was calibrated in kilometres so a new one was purchased. The ASI was calibrated in KPH so a new face calibrated in knots was ordered from Winters in Germany and a northern hemisphere compass was replaced with a southern hemisphere type.

The tail feathers came in for the same treatment as the wing, with a complete strip, inspection and a recover. The factory colour scheme was chosen, white with red trim and was all done with white Randolph dope with automotive red acrylic for the trim. The cockpit area was retrimmed in grey upholstery by my wife whose expertise and support has been invaluable. She was also able to get her small hands into many places on the airframe that I was unable to go.

After approx four and a half years the wing and the fuselage were ready to be rigged. The same twin Astir trailer was borrowed, this time from a new owner, and the parts were very carefully loaded and taken up to the Murray Bridge Gliding Club hanger for rigging. I set aside a whole day for the rigging but to my amazement and

with help from friends and interested onlookers it went together with no major headaches. A problem was encountered when the entire airframe was lowered on to the ground and the undercarriage bungee rubbers snapped! The bungee rubbers that were supplied new in 1980 had perished and under load broke apart, perhaps a blessing in disguise as it was a lot better happening now rather than on the first landing. During the next 10 weeks while I waited for the new ones to arrive from E.I.S. in Germany, (the delay due to the postal service, not E.I.S), I completed the many small jobs that were necessary to move closer to the first flight. I was able to run the engine and I will never forget the thrill of firing it up for the first time. By this time I was able to taxi the aircraft up and down the runway and get the feel of it. It felt great!

With the appropriate paper work in hand I was able to do some fast taxi runs up and down the strip, on some of these runs I found myself flying for the first time, albeit only a foot off the ground. After several hours of ground running and taxi tests I couldn't put off a circuit any longer so on 11-9-1999 VH-XOS took to the air for the first time in 19 years!

The first flight proved uneventful with regard to the aircraft however unfortunately the pilot didn't have time to savour the moment, I was too busy concentrating on the job in hand, listening to the engine and learning the feel of my new Fournier. Subsequent flights have proved to be much more enjoyable as I learn the intricacies of the Fournier and I can now fully enjoy the fruits of approximately 5 years of enjoyable work.

I would like to thank my wife for her assistance and understanding throughout the entire project, Baylee Roberts for all his help over the 5 years, Harry Bache for his help and technical expertise, and to Brian Griffin and Mike Woolard in England, both Fournier owners, who via the internet have helped me with much detailed information and for the pre-flight briefing!

As a postscript to this article, Harry Bache who saw so much of my Fournier over the years, now owns the only RF-5 in Australia. His aircraft coincidentally, was also purchased from Euroa in dismantled condition.

This makes the Murray Bridge Gliding Club the capital of Fournier country in Australia with a total of 2 Fourniers.

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