

Peter Foster's Sapphire

Peter Foster keeps a Sapphire.

Here you can see the relative size of the wing for this single seater.

Rear view in the hangar. Pusher Prop, boom, tail dragger.

Another shot of the proud owner.

The Sapphire is interesting historically. It was designed by Scott Winton. Scott's father, Col, was also in aviation. He designed the Cricket.

There is a Sapphire on a pole on the Hume Highway at Holbrook.

I like to think of it as a tribute to Scott Winton.

Scott also designed a one-off plane to break a number of records. The Facet Opal.

The following three pictures were taken by Arthur Armour.

Sky Sports, issue 9 1989 ran an article about Scott breaking these records.

WORLD RECORDS GRABBED BY AUSTRALIAN

SCOTT WINTON AND FACET OPAL BEAT THE WORLD!

For many years this headline has been pasted on the wall waiting to find its way into print. Sky Sports is proud to cover the recent achievements of Scott Winton, John Heard and associates.

The Winton designed Facet Opal now, provisionally holds world records in two classes.

The microlight (ultralight) aircraft which was designed, built and piloted by Scott Winton, recently completed a series of world record attempts. The Opal has proven its ability to break all its class records by massive margins.

Scott's remarkable design, the Facet OPAL flying wing has been over twelve months undergoing intensive test flying and refinement for its attack on this series of records. In that time the OPAL has flown well over 100 hours, and has covered distances of up to 1300km non-stop - showing the vulnerability of the current Microlight record for non-stop non-refueled distance - which currently stands at 1,028.92 kms.

In these recent world record attempts, the Opal, piloted by its designer and builder, set four provisional new records, breaking each of the official records attempted.

With an investment of about \$120,000 and to years' effort, including twelve months full time development, the OPAL team set out to find sponsorship. Mills Petroleum, Mobile One, Castrol, Global Aviation Support, Bert Flood Imports (Rotax) and Sky Sports contributed to the venture in cash and kind.

With this small refund Scott set about the business of smashing the existing records.

It is not simply a matter of strapping in and taking off. Approvals for the attempt must be obtained from the FAA - the international controlling body, and of course from the Civil Aviation Authority, which limits this class of aircraft to 500 feet above ground!

The 5th of March 1989 was the date set for an attempt on the time to climb to 3,000 metres (10,000 feet, approximately). Scott and the OPAL trimmed 1 minute 20 seconds of the record with a time of 6 minutes 47 seconds. The place was Evans Head, NSW.

On the following weekend, 11th March was the date for the next record attempt. The terms of the permit required that the OPAL transit from Tyagorah airfield to Evans Head before commencing the climb. In a little over an hour Scott had climbed to 30,100 feet, beating the previous record by 7134.2 feet.

About now the poor weather caught up with the team and the period allocated for the attempts expired.

The delay, however, was opportune, a new, major sponsor was found. Dow Chemicals whose products were used extensively in the construction of the OPAL put up some money, seeing the potential in sponsoring further world records.

Just after Easter, on April 4th 1989, Scott and OPAL set the world of records on its ear. The traditional class of Landplanes weighing less than 660 pounds, Maximum takeoff weight was the target. At 30,150 feet Scott Winton and his OPAL held the new World Record: the margin 4,220 feet. Scott was a little disappointed that he had not done better. When questioned, he said he suspected that the brushed signwriting on the wing upper surface may have reduced the performance of the finely finished laminar flow wing. On the previous altitude record flight he had been showing a significant climb (at 30,100 feet) but was running out of oxygen and descended. Naturally, though, all were pleased with the collection of records.

The next day to round up all the records, the OPAL was climbed to 6,000 metres in 20 minutes 30 seconds for another new Microlight World record - thus provisionally holding all three records in that class.

Planning was immediately under way for the next record attempts - speed and un-refuelled distance.

In achieving these records, we will see Australia written back into the world aviation record books as the result of the almost single handed efforts of Scott Winton.

The team of Scott Winton and John Heard spent ten months organising the approvals for this series of records.

In the near future the team is looking at setting the record for the newly released record for Microlights, the speed record. With a top speed of 150 knots, the Opal team is sure to set a benchmark which will take a long time to beat.

Within the next six months the Opal team is hopeful of gaining major sponsorship to fly across Australia in an attempt at the world record non-stop, non-refuelled distance record for Microlight aircraft. The current record of 1,028.92 kms. is currently held by Thomas Pratt of the USA in a Mitchell Silver Eagle.

CONFIGURATION: The OPAL is a parallel chord flying wing, rectangular in plan-form apart from the raked tips. The pilot is housed in a reclining position in a bullet shaped pod, and there are two small vertical fins for directional stability. The landing gear retracts, and the wing section is of the laminar flow type, similar to that of the famous Voyager.

POWER: a 40HP twin cylinder, normally aspirated, 2 stroke Rotax aircraft engine is mounted in the aft end of the pod driving a pusher propeller.

PERFORMANCE: Initial rate of climb is 2000 feet for minute, top speed is 150 knots or 280 kph and absolute range with 280 litres of fuel is 3000 nautical miles or 5600 km.

CONSTRUCTION: This follows current high tech plastic composite techniques as used in the around the world non-stop Voyager, using Divinycell rigged PVC FOAM, ACI reinforcing materials and Dow Chemicals Derakane vinyl ester resins.

The structure is light, strong and easy to build, and has an overload factor of 7. Making it as strong as purpose designed aerobatic machines.

The innovations already proven in test flying have the potential to significantly impact current world aviation thinking, and Scott is undertaking the rewriting of the record books in order to showcase both the OPAL and Australian aviation technology.

Scott Winton's name first came to the notice of the ultralight fraternity with the appearance of his Sapphire ultralight. Father Col Winton had been producing machines and kits for some time; the Jackaroo, the Grasshopper. The Sapphire brought Scott into the spotlight.

In those days, not many years ago, fibreglass aircraft were a new development in the lightweight field. Most had to be shoe-horned into the legal requirements - of weight and wing loading. The Sapphire developed along with Scott and brother Dean's skills. The enthusiastic response and the growing market for "performance ultralights" probably kept them from surfing on many good days when the surf was up.

Eventually the Sapphire became the first ultralight in the country to pass the Certification procedures of the then Department of Transport - according to ANO's Part 95.25. That made it the first Australian aircraft certified to an Australian standard.

George Markey had a Sapphire. He got into trouble for doing aerobatics in it ... in public, and threatened to build an ultralight that would satisfy the critics. He talked Scott Winton into building an aircraft - a fully engineered and analysed machine - based on the Sapphire.

In a short space of time the Ultrabat appeared, mainly from the hands of Scott Winton. The Ultrabat made the sport aviation world sit up in wonder. It was and is a world class competitive, aerobatic machine with the promise of being cheap to build and operate.

The prototype was Scott's project. It was finished , and there were other challenges.

Up in Ballina and then Byron Bay Scott set about to build a world beater, a record breaker...

You have just read about Scott and the OPAL; all but the last chapter.

In early May Scott flew down to the family territory near Newcastle NSW. In the hurry the Opal was cruised along. The was a family gathering organised, a family reunion for his grandmother's 80th birthday.

Scott arrived, and buzzed his grandmother's house then over to brother Dean's. He went to the local strip, presumably to

land. Two teenage witnesses said the OPAL was flying straight and level, then turned to the left... The flying wing failed, the main spar apparently broke, and at a fatal height and speed Scott and the fuselage pod came to earth.

Scott was killed, and the world will not be the same without him.

LOOKOUT also ran an article.

Scott Winton made his first impact on Australian ultralighting with the unveiling of the Sapphire.

From the prototype, the Sapphire was developed to become the first single seat ultralight to be certified by the then Department of Aviation.

While the Sapphire was being 'processed' for certification through Air Navigation Orders Part 95.25, Scott was building the prototype Ultrabat, competition aerobatic aircraft for George Markey's company, Australite P/L.

Scott has now given himself a new challenge, to develop and build an aircraft (a 'one-off') to fly non-stop across Australia.

The result of this endeavor is the "OPAL", a flying wing which will carry the pilot (Scott), and 180 litres of fuel.

Empty weight of the craft is 110kg, including battery and electric starter. The wing area is 10 sq metres, making it eligible for Microlight Category FAI world record.

With a 73 kg pilot (160 pounds) 110kg of aircraft, that leaves 117kg for fuel to fit under the 300kg (660 pound) category for Light Aeroplanes.

The projected performance (following the flight tests already done) is for an economy cruise at 136 knots, with a fuel burn of 6.9kg per hour. The is 17.5 hours endurance, and with a True airspeed of, say 130 knots, in nil wind, gives a range of 2,275 nautical miles!

The Opal first flew with a Rotax 532 installed. Scott reached 137 knots indicated in level flight and nearly 3000 feet per minute sustained rate of climb. Scott says that the aircraft is the most stable, at speed, that he has flown.

The crossing attempt will probably be about the middle of '88, as Scott says, "... when everything is ready."

Thanks to Arthur Armour for the photos and scans.