

Australian builders meet Sonerai and Sonex guru

By Stuart Trist

One of the greats of the homebuilding and sport aviation world, John Monnett, visited Australia recently from his home in Oshkosh, USA.

John was responsible for the Sonerai and Sonex families of sport aircraft, as well as a series of racing aircraft, gliders and motor gliders spanning the last 35 years. John's biography, 'From Sonerai to Sonex' was published in 2006 and recounts a life that epitomizes the experimental aviation movement.

Monnett started his working life as a secondary school art teacher - but his passion for aviation had emerged as a young model aircraft builder and designer. As a teenager Monnett paid for his first flying lessons by working as a refueller at the local airport at Lombard, Illinois. He was active in his local EAA chapter and undertook on a number of restoration projects, including an Aeronca and a Cub.

His first homebuilding project was a Midget Mustang kit, but he ran out of money well before it was completed and sold the project. Next was a scratch built 'Jeanie's Teenie' from plans in a Popular Mechanics magazine.

John did what he strongly advises current builders of his own designs not to do, he modified the design significantly. The resulting aircraft he now says was aptly named the 'Mini Messaschid'.

He intended to fly the newly completed aircraft at the EAA fly-in, that year planned for Oshkosh, but even though the fuselage was built in six weeks it was not ready in time. He arranged for the test area to be based on Oshkosh, trailed the aircraft to the site and conducted the first flight during



John and Betty Monnett in Sydney meeting some of the current builders and flyers of Sonex aircraft in Australia.

the EAA's first Oshkosh event.

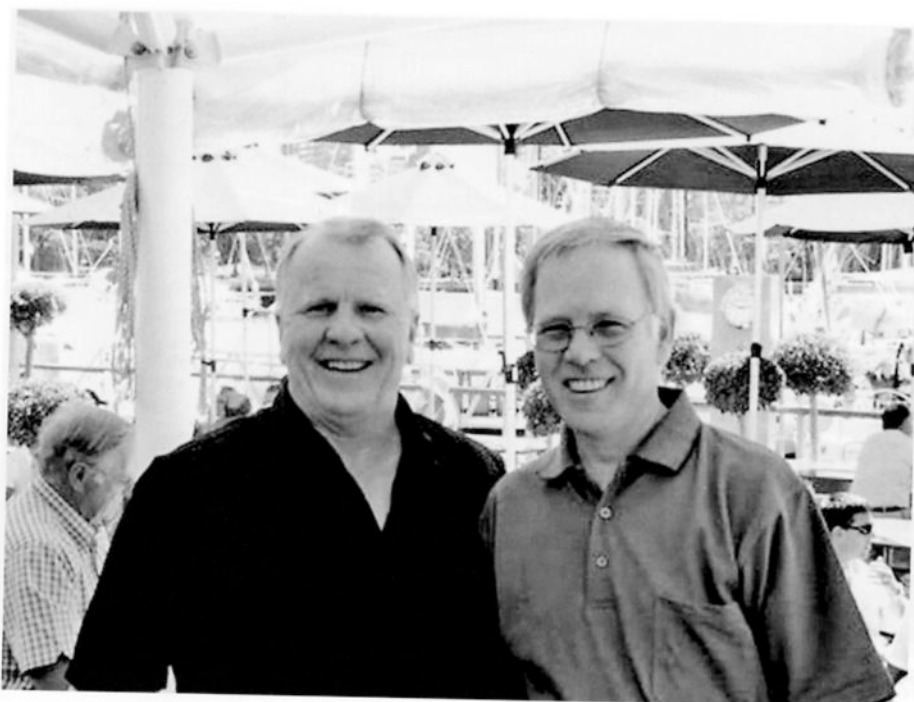
In 1968 Monnett had attended a forum at Oshkosh conducted by Steve Wittman, one of the surviving air racers from the pre-war years. At the end of the 1970 convention Monnett focused his attention on producing his own Formula Vee racing aircraft which he planned to design, build and test in time to race at the next convention a year later. "No one told me it was supposed to take five or six years to build an airplane".

Working feverishly with a colleague, the two planned to build two of Monnett's newly designed racers simultaneously. While working as an art teacher full time and with the support of his young wife, Betty, who gave birth to their first son dur-

ing this hectic year, John Monnett designed a simple and elegant aircraft that meet the design requirements of the aircraft class and was also cheap and simple to build.

John worked throughout the night as the convention date loomed closer. Eventually the pair abandoned the plan to build two aircraft and concentrated on the one prototype. "Building an aircraft in 9 months was not a problem - getting a new VW conversion engine done was."

The aircraft had its first flight several weeks before Oshkosh, but two days before the start of the convention an engine failure on takeoff convinced him that the only way this new aircraft would get to Oshkosh would be by road, towed backwards



John Monnett (left) with Lynn Jarvis, RAAus Board member and first Australian builder of a Sonex.

with the wings folded and on the aircraft's undercarriage.

The new design was named the Sonerai, after one of his early model aircraft designs, and after some engine modifications during the convention it not only flew, but managed to win the Best Formula Vee and Outstanding Contribution to Low Cost Flying awards.

While there was plenty of interest in plans for the single place Sonerai I, John realized that the real demand was for a two place aircraft. Wife Betty noted: "Despite my pleas of NOT trying to meet a deadline, the race to Oshkosh was on again." In October 1972 John began refining and enlarging the design to create the Sonerai II.

Completed within days of the 1973 convention, Monnett was able to get permission to fly to Oshkosh provided the aircraft had 10 hours on it. While the origins of the design as a racer are apparent, the Sonerai II did not meet the Formula Vee specifications and was never a racing aircraft.

Interest in the Sonerai grew, Monnett began working full time on producing plans and kits and developing a range of variants of the Sonerai design. In addition a sailplane kit, the Monerai, was added to the stable of aircraft kits available, including a motor glider variant.

At Oshkosh in 1982 Monnett returned to his roots and revealed a new racing aircraft, the Monex, which broke several world speed records for its class which still stand today. The sleek V-tail design was never released to the building fraternity. John Monnett felt it was too difficult to

fly for the average pilot. Instead the sleek lines and V-tail morphed into the Moni motorglider design.

Over this time Monnett moved his factory to Oshkosh and, when requiring cash to further expand, made the mistake of entering into a financial arrangement that effectively made his operation a subsidiary of an international manufacturing company. The EAA's Sport Aviation magazine sadly announced in 1987 that, with the parent company going into severe financial difficulties, Monnett's operation closed its doors, and John Monnett and his small staff were unemployed.

While he had lost his manufacturing company, he had retained the rights to the designs and his friend, Steve Bennett, of Great Plains Aircraft, took over the production of plans and kits for the Sonerai under license. John Monnett moved for several years away from aviation but by 1992 he had rented a hangar at Wittman field and had begun restoration of an Aeronca that marked his return to aviation.

He was concentrating on running builders workshops and restoring aircraft in the late 1990's when an Italian company requested a source of Sonerai aircraft to meet an emerging demand for microlights in that country. One design change was requested - a side by side seating arrangement was preferred to the Sonerai's tandem arrangement.

Monnett came to the conclusion that with the advances in computer design and CNC machining now available, what was needed was a totally new aircraft. He sought out the assistance of Pete Buck, a teenager who had worked for him several

decades earlier and had gone onto engineering studies and then a senior design and development role at the Lockheed 'Skunkworks'.

While working as lead designer of a new re-useable space vehicle, the X33, during the day, Pete's night job was emailing and telephoning John Monnett on the design of the Sonex. Said John: "Pete's the brains. He's the stress guy, he's the engineer. My job was to keep him tied down to the concept - keeping it as simple as possible, redesigning things so they have fewer parts".

The design was new but the principles behind it were the same ones John Monnett had been known for throughout his career - well performing aircraft that cost about the same as an average car and would be affordable to people who otherwise could not fly. Monnett combined an efficient aerodynamic design with the use of corrosion resistant 6061 aluminium - half the price of alclad. The Sonex uses a simple, jig-less construction technique with extensive use of flat angles and stainless steel pop rivets.

The prototype Sonex was on static display at Oshkosh in 1997 and it first flew in February 1998. Already interest was growing and builders began seeking plan sheets and commenced construction before the complete set of plans had been released. By 1999 the first kits were made available and in the ensuing years the kit has developed to include all of the welded components and spars pre-built.

John Monnett continues to run builders workshops throughout the year at the Sonex factory in Oshkosh. Over a thousand kits are under construction and an Australian tri-gear aircraft was the 200th Sonex completion in February this year.

John Monnett has a long history with the VW aero-conversion and now markets his own VW aircraft engine kit, ideally suited to the low cost Sonex airframe. Sonex can also supply Jabiru 2200 and 3300 engines with its kits in the USA.

Fifteen Sonex builders and owners enjoyed lunch with John and Betty Monnett when he visited Sydney recently, enroute to Bundaberg and the Jabiru factory. The group included Lynn Jarvis, an early scratch builder whose immaculate aircraft has won first prize two years in a row at the RAAus convention at Narromine.

For further information on the Sonex go to www.sonexaircraft.com You can purchase Jim Cunningham's biography, a source for this article, from the website. Contact the Sonex Australian builders group by email through stuart.trist@curriculum.edu.au