

Henry Millicer & Victa

MADE IN AUSTRALIA AND NEW ZEALAND

Aeroplane designer 'par excellence', the late Henry Millicer had every reason to be one of our most disenchanted achievers. The fact that he was not was more a tribute to his unquenchable enthusiasm for the light aeroplane than to any recognition Australia gave the distinguished Polish-born aeronautical engineer. Responsible for one of Australia's best-loved light aircraft designs, the Victa Airtourer, we look at Henry Millicer's career and the aircraft he designed.

TO WIN A MAJOR international design competition so early in his Australian career, to see his aircraft put into quantity production and win world-wide acclaim, only to have the whole enterprise sold out of the country through national indifference and hostility from foreign interests, must have been anguish enough.

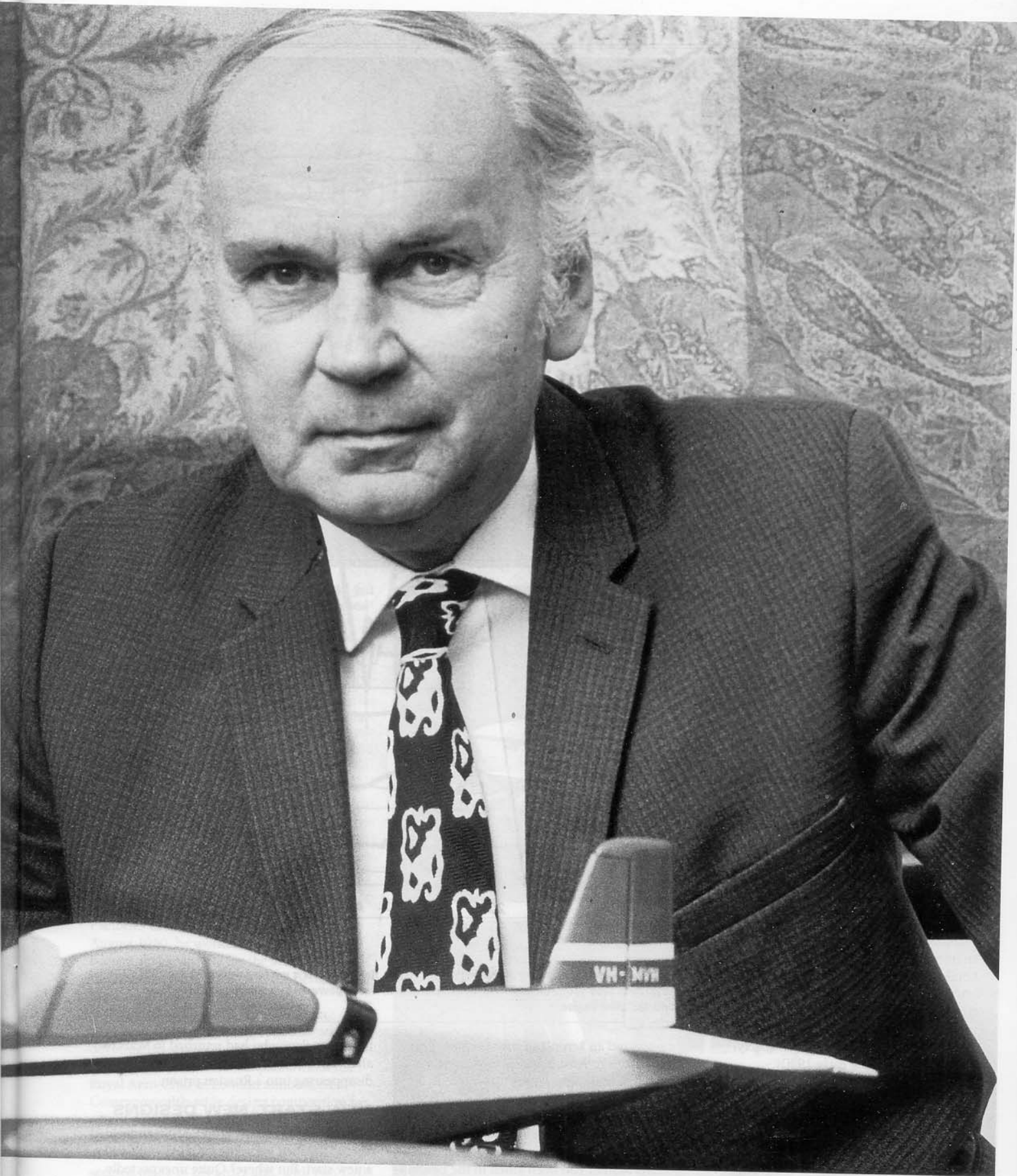
But on top of this to suffer the supreme irony of seeing a militarised version of his brainchild supplied back to Australia as a trainer for the RAAF at three times its original price, must have been almost more than human spirit can bear.

The story of the Victa Airtourer and its offspring really begins in pre-war Poland, when a young Warsaw schoolboy, the son of a university professor of engineering, won an aeromodelling competition. His prize was a flight in a former Polish Air Force rotary-engined, Henriot biplane of World War I vintage. He was captivated. >>>



Above: Henry Millicer and a model of his Aircruiser. Despite the disappointment of Victa closing its Aviation Division, more than 400 aircraft stemming from his original Air Tourer design have been built so far. Millicer Family





• His mother had been killed in the bombing of Warsaw, his father badly injured, his home burnt to the ground, and his only brother had died at the hands of the Gestapo.



The young Henry Millicer went on to build a successful primary glider and, still too young to fly it himself, lent it to the Warsaw Aero Club. At 17, he qualified as a glider pilot and later set a new Polish gliding distance record, achieving his Gold C distance at the same time. He was chosen for the Polish Gliding Team to compete in the 1940 Olympic Games, planned to be held in Helsinki in 1940 but abandoned because of World War II.

He took a degree in mechanical engineering at the Warsaw Polytechnic, began further studies in aeronautical engineering, and became a junior designer at the PZL national aircraft factory. In his spare time he trained as a military pilot with the Polish Air Force Reserve.

When war broke out, Millicer flew army observation aircraft against the German offensive for a time, and was awarded the Polish Air Force Cross. Then, with 30 other pilots, he flew to the Romanian Black Sea port of Constanza to take delivery of 28 Hawker Hurricanes and Fairey Battles shipped from Britain.

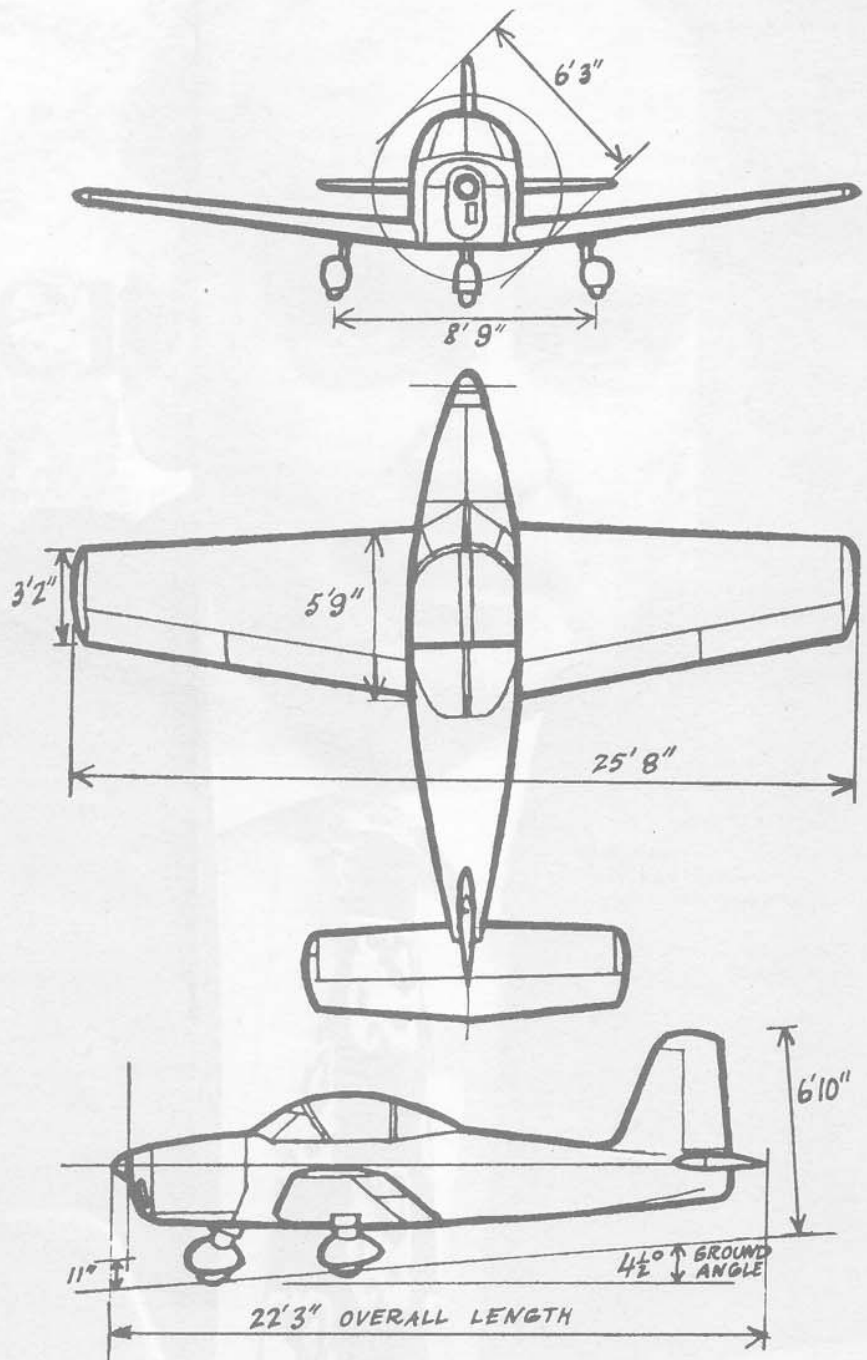
But before the aircraft could be unloaded and assembled, Russia also invaded Poland, and the young airmen were interned in a Romanian gaol. They bribed their way out, evaded the police, were hidden by Polish families in their homes, and finally obtained exit visas through a Romanian girl who worked in the office of the Prefecture of Police.

Henry Millicer then served for a time in a squadron of the French Air Force, and when France fell in May 1940, he and his companions made their way south "living like brigands". They were able to reach the port of St Jean de Luz and escape across the Channel to England on the overcrowded *Andorra Star*, the last British ship to leave.

There, he joined the Polish section of the Royal Air Force, flying Blackburn Bothas with Coastal Command and later Wellingtons in Bomber Command. He was awarded the Polish Military Medal.

Invalided out of flying two years later with a stomach ulcer, Millicer served for a while as an interpreter, before resuming his studies at London University. Gaining an MSc in aeronautical engineering, he took out British citizenship, and became a design engineer under Professor G T R Hill, creator of the revolutionary Westland-Hill Pterodactyl tailless aircraft of the early 1930s.

Later he joined Airspeed as an aerodynamicist, where he worked on the design of the Ambassador airliner. Then it was to Hunting Percival where he worked on the Prince and Prentice, and while there, made a design study of a low-wing, side-by-side two-seater training aircraft as a private venture. Accepted by the company, it became the Percival Provost, the RAF's new basic



Above: A three-view drawing of the original Air Tourer, Henry Millicer's winning design for the 1952 Royal Aero Club competition. Of wooden construction, it was powered by a Blackburn Cirrus four-cylinder inline engine.

trainer and an aeroplane with certain similarities to Australia's CAC Winjeel.

A collision with power lines while flying in poor visibility in 1949 landed a badly injured Millicer in hospital for several weeks. It seemed the last straw in a succession of tragedies that had plagued his family.

His mother had been killed in the bombing of Warsaw, his father badly injured, his home burnt to the ground, and his only brother had died at the hands of the Gestapo. Even his

brother-in-law, who had returned to Warsaw after the war, had been arrested, mysteriously disappearing into a Russian prison.

NEW START, NEW DESIGNS

With plenty of time to brood, Millicer decided he was finished with Europe. He would make a new start. But where? Quite unexpectedly his mind was made up for him – a letter arrived offering him the post of Chief Aerodynamicist with the Government Aircraft

• the Royal Aero Club in London announced a Commonwealth-wide design competition for a light aeroplane "suitable for air touring..."



Above: Fox Trot Mickey Mouse in December 1960, just after Victa had made the decision to develop a metal version of the aircraft and put it into production. Henry Millicer is in the right-hand seat. *Millicer Family*

Right: The original wooden Air Tourer – due to its registration nicknamed 'Fox Trot Mickey Mouse' – built by the Air Tourer Group of the ULAA. It first flew in April 1959 – this shot was taken two years later. *Eric Allen*



Below right: The R-2 four-seater was designed by Luigi Pellarini and intended to be Victa's first aviation product until the Airtourer came along. The sole prototype (VH-MVR) flew on 15 February 1961 but by then the project had already been shelved. Note the T-tail, retractable undercarriage and the unusual strutted low wing configuration. This shot was taken at Schofields west of Sydney three days after the maiden flight. *Eric Allen*



Factories in Melbourne. Joining GAF in August 1950, he worked there for 10 years, becoming responsible for the aerodynamics of the Jindivik Mk.2 and 3 and the design of the Malkara anti-tank missile.

But Millicer's love of personal flight persisted. During the early 1950s he was devoting his spare time to the development of an advanced two-seater sailplane when the Royal Aero Club in London announced a Commonwealth-wide design competition for a light aeroplane "suitable for air touring; economical to construct, operate and maintain, and easy to fly". The specification seemed made to his order and, with two GAF colleagues, Millicer lost no time in entering.

A thousand man-hours of work followed and the detailed design was submitted by >>>



the closing date at the end of 1952. When the results were announced three months later, it was Henry Millicer's 'Air Tourer', a wooden, low-wing, tricycle undercarriage 2-3 seater powered by a 100hp (74kW) Blackburn Cirrus Minor engine for the touring version and a 75hp (56kW) Cirrus Minor for the trainer variant.

As well as the £100 prize, the terms of the competition provided for financing the building of the winning design in England. With the win widely acclaimed, and industry offers in Australia to help put the aircraft into production, Millicer wrote to the Royal Aero Club seeking financial assistance for the construction of two prototypes. There was no reply to his letter, nor to two subsequent follow-ups sent by registered post.

Only years afterwards did Henry Millicer learn the real reason: apparently not envisaging the winning entry coming from anywhere but the United Kingdom, the competition organisers were taken aback at the prospect of funding the construction of a foreign design. As a result, the promised financial support became a political hot potato and was quietly dropped. As one of the adjudicators told Henry years later, the real problem was that "the bloody colonials won it".

Meanwhile, Millicer and other aeronautical engineers and enthusiasts who shared his vision of economical personal flight were meeting in Melbourne to plan the formation of a group similar to the Popular Flying Association in the UK. Their efforts culminated in October 1955 with the Ultra Light Aircraft Association and 18 months later in the promulgation of the Department of Civil Aviation's historic 'Ultra Light Aircraft' Air Navigation Order, authorising the construction of amateur-built aircraft in Australia.



AIR TOURER A REALITY

The new ANO provided the opportunity Millicer was waiting for. An Air Tourer Group was formed within the ULAA and, with encouraging support from Australian industry, the Aero Club Federation and the DCA, construction of a prototype began in a rented garage.

Numerous components, donated by the aviation industry, including engine, instruments, wheels, tyres and brakes necessitated a good deal of re-design and the final choice of power plant became a 65hp (48kW) Continental.

Top: A poor but interesting shot of an early Victa Airtourer – probably c/n 2 VH-MVC – at Bankstown on 10 February 1962 and nearing completion.

Above: The first Victa Airtourer (VH-MVA) photographed at Bankstown in October 1962, just after it had been converted from a -100 to the prototype -115. A further 249 Airtourers followed from both Australian and New Zealand production lines. Eric Allen

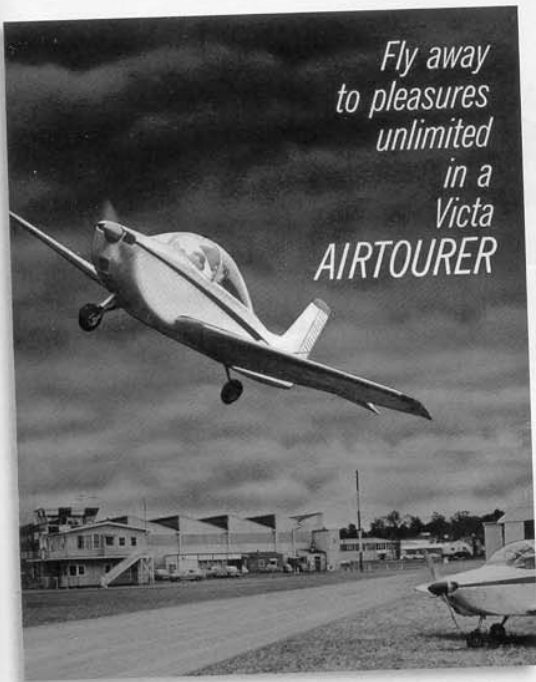
By the time the Millicer Air Tourer was ready for its first flight (performed at Moorabbin on 12 April 1959 by Laurie McPherson), East-West Airlines had agreed to produce the aircraft commercially at

AIRTOURER, AIRCRUISER and AIRTRAINER – SELECTED MODELS

	AIRTOURER 100	AIRTOURER 115	AIRTOURER T6	AIRCRAISER	CT-4A AIRTRAINER	CT-4E AIRTRAINER
ENGINE	100hp Cont O-200-A	115hp Lyc O-235-C	150hp Lyc O-320-E	210hp Cont IO-360-D	210hp Cont IO-360-D	300hp Lyc AEIO-540-L
PROPELLER	2-blade fixed pitch	2-blade fixed pitch	2-blade constant-speed	2-blade constant-speed	2-blade constant-speed	3-blade constant-speed
FUEL CAPACITY	132lt (29imp gal)	132lt (29imp gal)	132lt (29imp gal)	209lt (46imp gal)	204-359lt (45-79imp gal)	204-359lt (45-79imp gal)
WING SPAN	7.92m (26ft 0in)	7.92m (26ft 0in)	7.92m (26ft 0in)	7.92m (26ft 0in)	7.92m (26ft 0in)	7.92m (26ft 0in)
LENGTH	6.32m (20ft 9in)	6.55m (21ft 6in)	6.70m (22ft 0in)	7.06m (23ft 2in)	7.06m (23ft 2in)	7.16m (23ft 6in)
MAX T-O WEIGHT	748kg (1650lb)	748kg (1650lb)	862kg (1900lb)	1089kg (2400lb)	1089kg (2400lb)	1179kg (2600lb)
EMPTY WEIGHT	481kg (1060lb)	490kg (1080lb)	590kg (1300lb)	694kg (1530lb)	676kg (1490lb)	807kg (1780lb)
MAX SPEED	120kt (222km/h)	124kt (230km/h)	142kt (263km/h)	160kt (296km/h)	148kt (275km/h)	163kt (302km/h)
MAX CRUISE	111kt (206km/h)	114kt (211km/h)	130kt (240km/h)	148kt (274km/h)	140kt (259km/h)	152kt (282km/h)
RANGE CRUISE	95kt (175km/h)	100kt (185km/h)	116kt (215km/h)	–	120kt (222km/h)	–
MAX CLIMB	670ft (204m)/min	900ft (274m)/min	1150ft (350m)/min	1250ft (381m)/min	1345ft (410m)/min	1830ft (558m)/min
SERVICE CEILING	13,000ft (3960m)	14,000ft (4270m)	16,000ft (4875m)	17,500ft (5330m)	17,900ft (5455m)	18,200ft (5550m)
MAX RANGE*	780nm (1445km)	616nm (1140km)	581nm (1076km)	870nm (1609km)	678nm (1270km)	520nm (963km)

* Range figures: AT.100, 115, T6, Aircruiser and CT-4A at range cruise with no reserve; CT-4E at max cruise with 45min reserve. Aircruiser performance figures are 1966 preliminary estimates.

• By the time the Millicer Air Tourer was ready for its first flight, East-West Airlines had agreed to produce the aircraft commercially.



*Fly away
to pleasures
unlimited
in a
Victa
AIRTOURER*

Tamworth and the aero club movement was looking to it as a potential replacement for their ageing fleet of Tiger Moths and Chipmunks. The granting of the Air Tourer's Certificate of Airworthiness (CofA) in July 1959, the first Australian design to achieve that status since pre-war days, brought more favourable publicity.

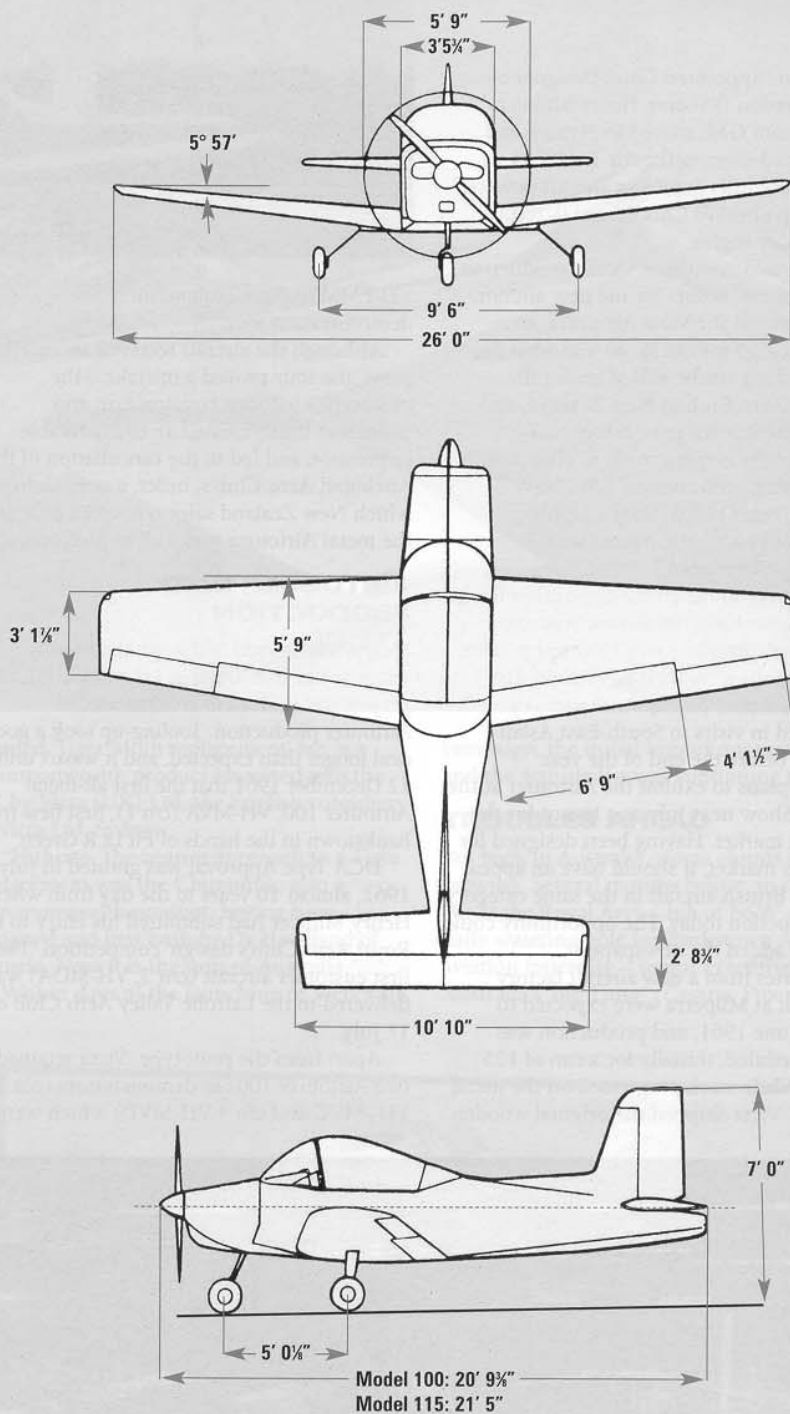
Industry and aero club notables who flew it were loud in their praise and the aircraft, now registered VH-FMM (affectionately known as 'Foxtrot Mickey Mouse'), was flown to Tamworth for evaluation preparatory to East-West beginning work on a second prototype with a metal wing spar and a 95hp (71kW) Continental C-95 engine.

The future now looked rosy. With an initial production run of 12 aircraft planned for 1960 and 50 a year to follow, there seemed no reason why the Air Tourer should not become the standard club aircraft throughout Australia. But less than a fortnight later, VH-FMM suffered an engine failure during a demonstration flight and was extensively damaged.

The crash vindicated many of the Air Tourer's design features and the aircraft was repaired at modest cost. But corporate decisions sometimes have little relation to logic, and the accident was enough to give the erstwhile manufacturers cold feet. East-West withdrew from the agreement, "due to other commitments."

Undaunted, Millicer formed his own company, re-designed the Air Tourer with an all-metal wing, and set about finding another Australian backer. Although there seemed no lack of potential customers, no industrialist capable of handling its manufacture seemed interested.

AIRTOURER 100/115 PRINCIPAL DIMENSIONS



THE VICTA CONNECTION

Then, in the winter of 1960, while weather-bound at Mangalore Airport in central Victoria, Millicer got talking to another pilot in the same plight. It was Garry Richardson, son of Mervyn Richardson, chairman of the great Australian success story, Victa Consolidated Industries Ltd, best known for its range of motor lawn mowers.

Mervyn Richardson, an engineer and aviation enthusiast of many years' standing

and now a successful industrialist, was in the process of developing a four-seat, low-wing all-metal aircraft, the Victa R-2 designed by Luigi Pellarini (who was also responsible for the Transavia Airtruk) and intended for the Australian market. Both he and his son Garry were pilots, flying Victa's Beech Bonanza on company business.

The chance encounter at Mangalore led to further talks and the outcome was Victa Consolidated Industries' decision in August 1960 to put the Millicer Air Tourer into >>>



production. Appointed Chief Designer of Victa's Aviation Division, Henry Millicer resigned from GAF, moved to Sydney, and set about redesigning the Air Tourer as an all-metal and fully aerobatic aircraft powered by a 100hp (74kW) Continental O-200A four-cylinder engine.

Within two months of Victa's production announcement, orders for the new aircraft, now designated the Victa Airtourer, were pouring in – 15 for the Royal Victorian Aero Club, two for Latrobe Valley, six for the Auckland Aero Club in New Zealand, and three for the Royal Aero Club of NSW. "The Airtourer is tailor made to club training requirements", commented RAC/NSW President, Peter Lloyd. "It is a highly versatile and economic trainer with excellent performance."

"Sales have knocked the opposition flat", the *Australian Financial Review* reported. "Victa is now hunting aero club and private owners to follow up their advantage, and have made a start on export. Asian sales will be pursued in visits to South-East Asian countries before the end of the year."

"Victa plans to exhibit the Airtourer at the Paris Air Show next July as a tryout for the European market. Having been designed for the British market, it should have an appeal there. No British aircraft in the same category is in production today. The opportunity could be great", added the newspaper.

Deliveries from a new aircraft factory being built at Milperra were expected to begin in June 1961, and production was being scheduled, initially for a run of 125 aircraft. While work progressed on the metal Airtourer, Victa shipped the original wooden

VH-FMM to New Zealand for a demonstration tour.

Although the aircraft received an excellent press, the tour proved a mistake – the prototype's wooden construction and utilitarian finish created an unfavourable impression and led to the cancellation of the Auckland Aero Club's order, a setback from which New Zealand sales recovered only after the metal Airtourer was well in production.

AIRTOURER INTO PRODUCTION

Meanwhile at Victa, although the prototype R-2 four-seater had flown in February 1961, the project was shelved to concentrate on Airtourer production. Tooling-up took a good deal longer than expected, and it wasn't until 12 December 1961 that the first all-metal Airtourer 100, VH-MVA (c/n 1), first flew from Bankstown in the hands of Flt Lt R Green.

DCA Type Approval was granted in July 1962, almost 10 years to the day from when Henry Millicer had submitted his entry to the Royal Aero Club's design competition. The first customer aircraft (c/n 3, VH-MOA) was delivered to the Latrobe Valley Aero Club on 17 July.

Apart from the prototype, Victa retained two Airtourer 100s as demonstrators (c/n 2 VH-MVC and c/n 4 VH-MVD) which were



Above: A rare colour shot of the first Airtourer undergoing undercarriage testing at Camden. Millicer Family

Right: The first Victa Airtourer over Sydney Harbour in early 1963, complete with Manly Ferry below. VH-MVA is being flown by the company's chief test pilot, Vic Walton, and the aircraft is now an Airtourer 115 with Lycoming engine. Millicer Family

Below left: A general view of the Victa Aviation factory in July 1962 with early Airtourers under construction. Note the wing jig. Eric Allen

deployed far and wide for potential customers to evaluate. Production was a little slower than planned at first, the delays mostly caused by the late arrival of parts and equipment from overseas. Early service also revealed a problem with canopy curving.

By late March 1963, 14 Airtourers had been flown comprising nine 100s and five of a new, higher performance variant, the Airtourer 115 with a 115hp (86kW) Lycoming O-235 engine, the two models marketed side by side.

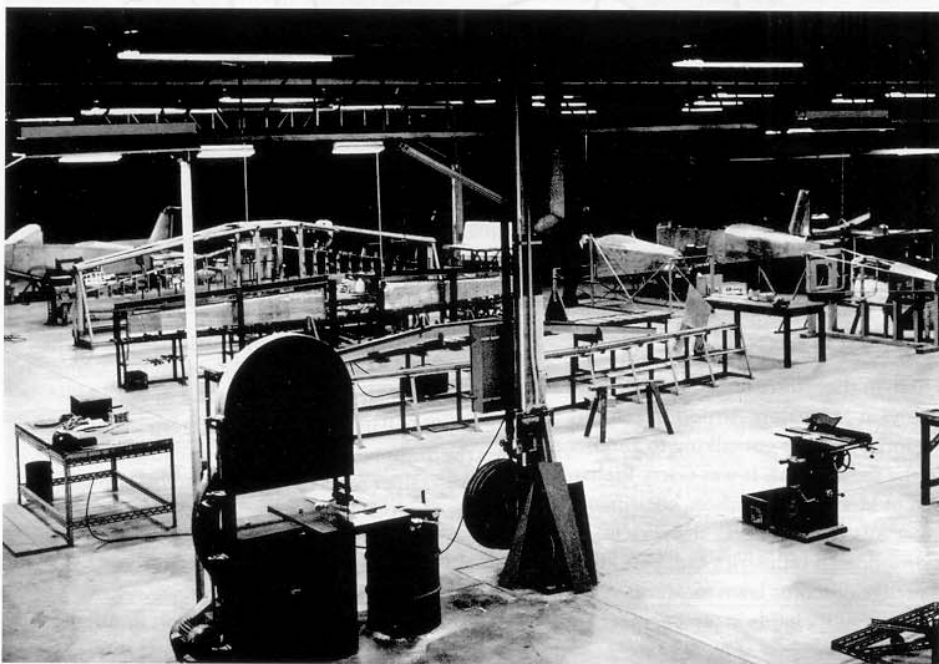
The prototype 115 was converted from the first Airtourer (VH-MVA) and flew in its new guise on 19 September 1962. The first delivery (c/n 9 VH-RQH) was to the Royal Queensland Aero Club in February 1963.

Both models were identical aft of the firewall: under a sliding transparent canopy they had side-by-side seating with a central 'spade' control column, shared a maximum takeoff weight of 1650lb (748kg) and were stressed to structural limits of +6g/-3g at a weight of 1550lb (703kg). The more powerful model had a slightly lengthened engine cowling of revised shape.

The Airtourer was unique in the marketplace at the time as it was the only low cost and fully aerobatic two-seat civil trainer available.

Good sales promotion, and a continuing enthusiastic press kept Airtourer orders coming in. In March 1963, the Federation of Australian Aero Clubs announced the award of the Oswald Watt Gold Medal – its highest honour – to Henry Millicer "for his outstanding contribution to the Australian aviation industry."

Sales included an unexpected order from Piper Aircraft, ostensibly for evaluation in the US. The Airtourer's aerobatic capability appealed to Piper which had nothing to match the aircraft in its own range, and the



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company was looking to the possibility of building it under licence if a US Air Force contract for a light, economical, basic training aeroplane was awarded.

Piper took delivery of Airtourer 100 c/n 74 in November 1965 and retained it until March 1966 as N6300V but because the USAF contract stipulated the aircraft was to be of US design, the plan was dropped and the Airtourer sold.

Cessna also evaluated the Airtourer – no doubt both companies' test pilots were impressed by its crisp handling compared to their own products and its 110 degrees per second rate of roll!

So encouraging was the Airtourer order book that Victa instructed Millicer to investigate the design of an economical, non-aerobatic and fast four-seater aimed at the Australian market but with good prospects for export. So began the development of the Aircruiser, which would fly in 1966 and is discussed below.

By early 1965 Victa had produced its 100th Airtourer, an occasion marked by displaying the aircraft at a Council of Industrial Design dinner attended by the Duke of Edinburgh in Sydney. A determined marketing campaign in the United Kingdom was launched with the formation of a Victa UK subsidiary to look after sales. Glos-Air was appointed to handle aircraft assembly and service at Staverton Airport, Gloucester.

From the start, the Airtourer created a sound impression, attracting favourable reviews from the British aviation press. "Its arrival in England this year is especially welcome" commented *Air Pictoria* magazine, "for not only does it seem to be the long-

awaited 'Tiger Moth replacement' but is a Commonwealth product imported into the UK by Victa (UK) Ltd, the English subsidiary of Victa Ltd, Sydney.

"Hitherto, the nearest approach to a Tiger replacement was the Chipmunk, also a Commonwealth product, having been designed and first built by De Havilland of Canada. Now it is the turn of Australia."

Within days of the launching of Victa's UK

campaign, the initial import quota was sold and the waiting list was continuing to grow.

TROUBLES AHEAD

But back in Australia, storm clouds were brewing. Several months before, in the club bar at the Royal Aero Club of NSW – the daily watering hole for Bankstown Airport's aviation fraternity – senior executives of Australia's 'Big Three' (Cessna, Piper >>>



and Beech) light aircraft distributors had joked to Millicer, "You're getting too big for us, Henry. We're going to have to get you!" The trouble was that, behind their humour, they meant every word of it.

During 1964-65, with the Airtourer holding a steady 67 per cent of the market, imports of other two-seat trainers amounted to only 40 aircraft. In 1966 Cessna priced its Model 150 substantially lower than it had been the previous year and 'dumped' large quantities of them on the world market with dealers compelled to take a minimum number of aircraft.

It's interesting to note that Cessna had built 1637 150s in 1965, increasing to well over 3000 in 1966 when the new policies fully came into effect. At the same time, the basic price in Australia dropped from \$9,500 to \$8,750.

Piper and Beech also reduced the prices of their equivalent Cherokee and Musketeer range and both Cessna and Piper introduced a three-month customer evaluation period as an 'incentive for potential buyers'. The result? By the end of the following financial year, the number of two-seat trainers imported into Australia had quadrupled.

Late in 1965, realising that its American competitors were out for blood and that the local industry could well be at stake, Victa's management got together with two other struggling Australian aircraft manufacturers, Cropmaster and Transavia, the latter



especially confident it had a winner in its Airtruk agricultural aircraft.

The three companies approached the Federal Government with a request that a Tariff Enquiry be held into the question of bounty assistance for two or three years while they established production runs big enough to allow them to compete successfully with overseas manufacturers.

Victa's own case was not primarily one of seeking import restrictions on competitive products – it had no wish to penalise the general aviation industry by having tariffs imposed which could price aircraft out of reach of the average buyer. Rather, Victa sought a subsidy on Aircruiser production for a short time to enable its factory to become self-sustaining in what had become a highly competitive market.

But as it seemed unlikely that the bounty application would be heard for at least 12 months or even two years, Victa made a

second application to the Department of Trade seeking a temporary restriction on the imports of two-seat trainers over and above the number brought into the country during the previous financial year, plus an allowance for a national growth rate of 20 per cent per annum.

Victa was quick to emphasise the request applied only to two-seat training aircraft selling in direct competition with the Airtourer, and was to combat "dumping by American manufacturers."

Pointing out this was a short term measure to bridge the gap pending the hearing of Victa's bounty application, Australia's aviation press described the proposal as "eminently fair". A decision on Victa's application for the temporary restriction on imported two-seaters was expected by mid-January 1966.

But opposition to Airtourer production was no longer confined to the vested interests



The prototype Aircruiser at the factory in April 1966, almost complete and ready for painting before its first flight in July. Sadly, its fate was already sealed. *Millicer Family*

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Left: The Airtourer found a ready market in Britain but an order for no fewer than 72 aircraft from distributor Glos-Air placed just before Victa's Aviation Division shut down was declined by the manufacturer. Airtourer 100 G-ATJB (c/n 122) was one that made it to the UK before then.

Right: An Aircruiser centre fuselage/cabin section undergoing static testing.

of its American competitors – treason had begun to rear its ugly head even within the seclusion of Victa's own boardroom. With a great deal of money already expended by the Aviation Division, and with little return to show for it so far, Board members were becoming increasingly impatient.

From the beginning, the driving force behind the Aviation Division had been the Chairman, Mervyn Richardson himself, and to a lesser extent, his son Garry. But their vision was not shared by other directors, for the most part hard-headed businessmen. With the retirement of Mervyn Richardson there came mounting opposition.

The Victa Board was simply not interested in aircraft and wanted a way out. The Big Three's concerted opposition, together with Victa's consequent application for government assistance gave them the key – if the Department of Trade and Industry didn't give them the protection they were seeking, they would have an excellent excuse for closing down the Aviation Division without loss of face.

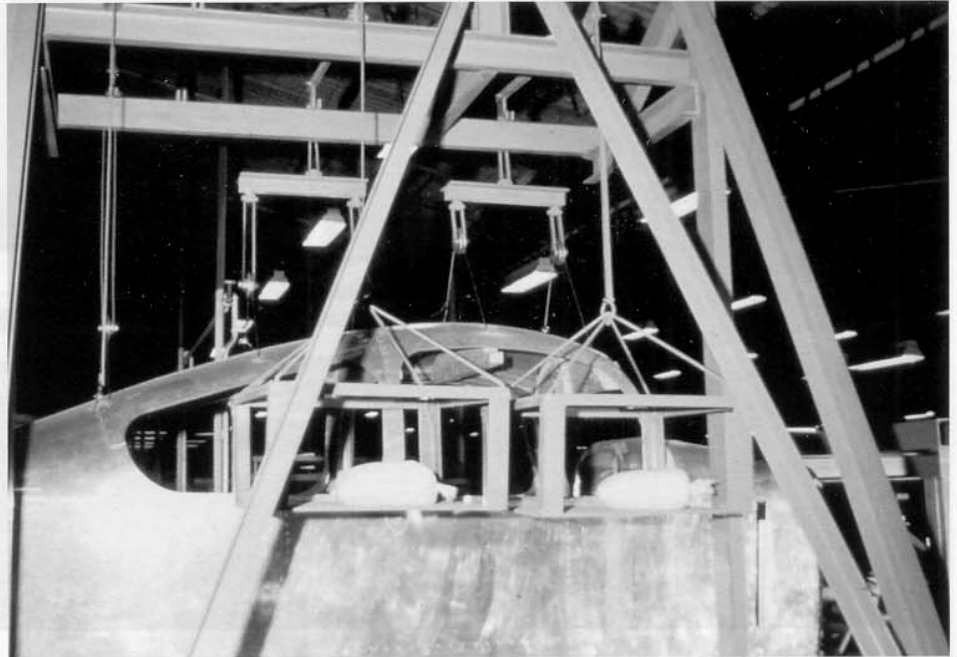
SHUTDOWN

In mid-January 1966, Victa's application for temporary protection on imports of competitive aircraft was turned down and Trade Minister John McEwen announced that the company's bounty application had been referred to the Tariff Board with no date set for the hearing.

Immediately, and with no hint of warning to the industry or to its 170 aviation employees, Victa shocked the entire Australian aviation community with its announcement that Airtourer production would cease.

Work on the Aircruiser, which was under construction, would continue at least until a Type Certificate was obtained, and there were hints that Airtourer production could possibly be resumed if and when a favourable decision was received on the company's bounty application. Two-thirds of the Aviation Division's work force was laid off at once, leaving 50 to continue spares production and service aircraft "under existing contractual arrangements."

"The Aviation Division has shown a definite loss in four years of production," explained Victa Chairman Garry Richardson. What he did not say was that the other Divisions into which Victa Ltd had diversified



– buildings, design, electrical, steel structures and boats – were also unprofitable on paper.

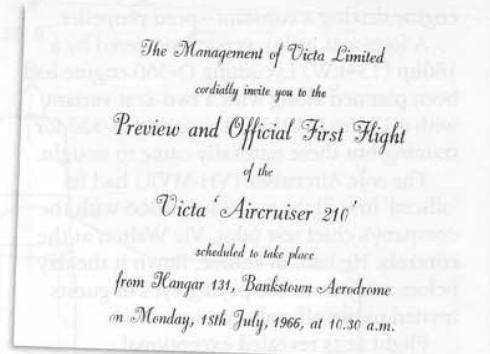
Or, that most significantly of all, on the eve of the decision to close the Aviation Division, Victa had received an order from Glos-Air in the UK for no fewer than 72 Airtourers – a seeming windfall that under Board pressure, Garry Richardson declined to accept.

The fact of the matter was that, with the completion of the 160th aircraft, Victa's unit cost of the Airtourer had broken even, with the result that future production, had it been continued, would have gradually put the Aviation Division back in the black – and perhaps even allowed the company to reduce the cost of its aircraft to meet the competition from overseas manufacturers.

For a time, the shock wave generated by the decision created a furore among those keen to see Australia's own light aircraft industry succeed, "It is a source of amazement that the Government would allow this vital industry to collapse at such a time," declared one writer. But with no word of encouragement from either the company itself or the Government, the ferment became a seven-day wonder.

With its reduced staff, Victa's Aviation Division settled back to its work of completing the prototype Aircruiser. The Airtourer production line was a saleable asset but the Aircruiser in its present state of development was worth almost nothing. Work on it had to continue until the aircraft had completed its certification flying and been granted its Type Certificate. Even the Victa Board could see that. Millicer himself, under contract as Chief Designer, stayed on to see it through.

In June 1966, the long-awaited Tariff Board hearing finally began. Oblivious to the urgency of the situation, it dragged on for a



further six months, hearing evidence from opposition interests as well as the companies seeking assistance. Apart from strong support from the aero club movement, much of the witness evidence became a sorry spectacle of personal nest-feathering at the expense of a national asset by individuals ostensibly proud to call themselves Australians – an apparently desirable appellation so long as it did not affect their pockets.

Victa built 170 Airtourers – 110 AT.100s and 60 AT.115s (c/n 1-170) – of which the last three were not fully assembled at the time of the shutdown and subsequently completed by AESL in New Zealand. Another two incomplete airframes (c/n 171-172) were also finished by AESL.

AIRCROISER

Building the prototype Aircruiser 210CS meanwhile continued. Although bearing a strong family resemblance to the earlier design (a modified version of the Airtourer's wing was retained) the Aircruiser was in fact a new and slightly larger design with a solid cabin roof, entry doors on each side of the cabin, dual control wheels, substantially increased operating weights and a 210hp >>>





(157kW) Continental IO-360 six-cylinder engine driving a constant-speed propeller.

A four-seat utility version powered by a 180hp (134kW) Lycoming O-360 engine had been planned along with a two-seat variant with a 150hp (112kW) Lycoming O-320 for training but these naturally came to nought.

The sole Aircruiser (VH-MVR) had its 'official' first flight on 18 July 1966 with the company's chief test pilot, Vic Walton at the controls. He had, of course, flown it the day before away from the prying eyes of guests invited to the official occasion.

Flight tests revealed exceptional performance for a fixed undercarriage aircraft. It was hailed by the aviation press for the excellent aircraft it was and the RAAF was also impressed, evincing keen interest in the Aircruiser as the basis for a new elementary training aeroplane.

Calling upon Air Vice Marshal Brian Eaton at his Canberra office one day to discuss its potential, Henry Millicer shared his concern over the Tariff Board hearing. Eaton immediately picked up his telephone, and dialled the number of an acquaintance

on the Board. "Don't let that aeroplane go out of the country," he told his friend. "We want it here as a trainer."

Subsequent events would of course see a military derivative of the Aircruiser enter RAAF service, but not under the circumstances envisaged by Henry Millicer and Brian Eaton.

After completing a 200-hour flight test programme, the Aircruiser was awarded its Type Approval Certificate in March 1967. At least it was now an asset and a saleable commodity.

SELLING UP

With the Tariff Board hearing completed, but with month following month without the slightest sign of its outcome, Victa formally closed its Aviation Division in January 1967 and sold the Airtourer design, together with all jigs, tools and manufactured parts, to maintenance organisation Aero Engine Services Ltd of Hamilton, New Zealand.

"We have finished with aircraft production completely," Chairman Garry Richardson declared to the press. Privately, the Victa

directors told Henry Millicer, "We could not afford to put the Aircruiser into production." Just over a year later, the same Board announced a company profit of almost \$900,000 after tax – an earning rate of 74 per cent on the company's ordinary capital.

With all hope of the company resuming aircraft production now gone, only the fate of the prototype Aircruiser remained to be decided. Millicer and the last remaining employees of the Aviation Division completed the final modifications to the Aircruiser for the issue of its Certificate of Airworthiness, and left Victa in September 1967 – bitterly disappointed to a man at the sad end of an enterprise which, only a short time before, had seemed so full of promise.

"Didn't you know you've been a tax bunny for the past seven years Henry?" one of the Directors said to Millicer when he called to say goodbye.

But even the manner of Henry Millicer's going was not without its trauma. Barred by his contract from leaving Victa when he was offered a promising academic post with a NSW university, and with his Airtourer royalties already signed over to the company to protect the jobs of his Aviation Division staff when the closure had first threatened, Millicer had to resort to legal measures to be paid what was due to him.

Later that same year, the former *Aero* magazine [not this one!], concerned that the

Top: Vic Walton took the prototype Aircruiser (VH-MVR) up on its 'official' first flight on 18 July 1966 in front of an invited audience. Of course, he'd already had a play with the aircraft away from prying eyes.... Millicer Family

Left: The Aircruiser at Parafield SA in September 1966, resplendent in its original and attractive bronze and white colour scheme. Eric Allen



- With all hope of the company resuming aircraft production now gone, only the fate of the prototype Aircruiser remained to be decided.



Above: The Aircruiser's front cabin and instrument panel showing its control wheels and high standard of interior finish for a prototype. *Millicer Family*

Aircruiser project might be bought by foreign interests, ran a review of "this best seller aircraft which is now in danger of being lost to foreign capital," adding some biting comment on "the apathetic Government which would not lift a finger to assist."

Again there was a spirited response and, at the suggestion of a reader, a "Support the Aircruiser" campaign was begun to save the aircraft for Australia by public subscription.

It was a gallant try, but in the middle of 1968, the magazine was forced to cease publication. It was said that the reason for its abrupt demise was the withdrawal of all advertising by certain overseas manufacturers and their Australian distributors as a reprisal for its determined championing of the Aircruiser cause.

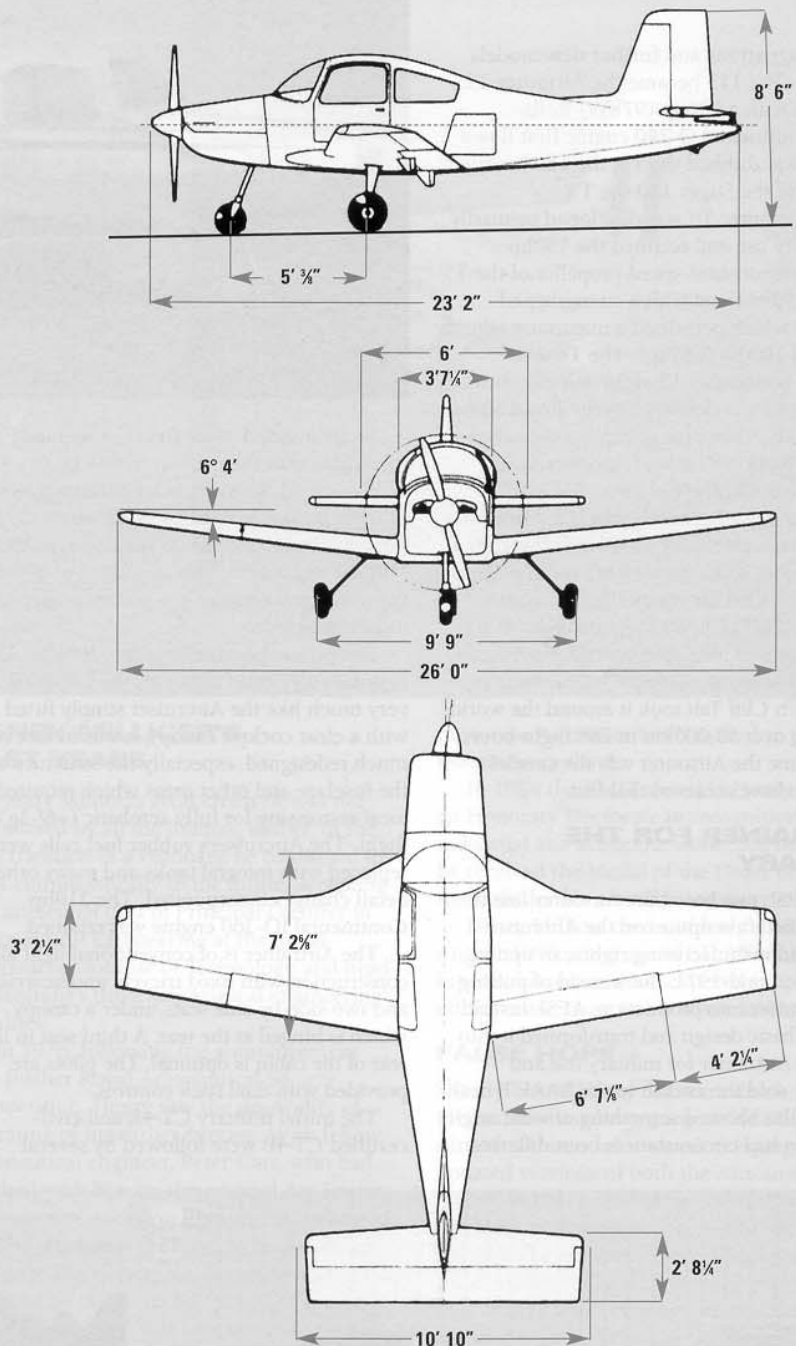
Meanwhile, AESL in New Zealand was rubbing salt into the wound by doing just what Victa said could not be done successfully – putting the Airtourer back into production and selling it in Britain and Europe.

In 1968, Henry Millicer made a last-ditch stand to save the Aircruiser for Australia – he approached the Commonwealth Aircraft Corporation to see if it would consider producing the aircraft. With a favourable response from Chairman Sir Lawrence Wackett, Millicer wrote a complete production program, based on a new CAC factory to be built for the purpose on vacant land adjoining Moorabbin Airport.

But before the project could be pursued, Wackett met with a serious accident, was forced to retire, and the proposal lapsed. Three years later CAC took over Rex Aviation, Cessna's Australian distributor.

Victa sold the Aircruiser prototype to AESL in late 1969 and subsequently also the design and manufacturing rights for an undisclosed price.

VICTA AIRCRUISER PRINCIPAL DIMENSIONS



ACROSS THE TASMAN

Happily, all this drama was not the end of the story for Henry Millicer's designs, AESL ultimately adding 80 aircraft to the Airtourer's production tally between 1967 and 1974 and then developing the CT-4 military trainer from the Aircruiser.

AESL built several versions of the Airtourer starting with the 115 (the 100 was dropped), but this was joined in 1968 by two others powered by a 150hp (112kW) Lycoming

O-320. The Airtourer 150 and Super 150 differed in that the latter had a constant-speed instead of fixed-pitch propeller. Both featured an increased maximum takeoff weight of 1750lb (794kg) and a new aerobatic weight of 1650lb (748kg).

Other refinements were incorporated including the fitting of toe-operated brakes instead of the previous hand system, the incorporation of dyna-focal engine mounts, a split engine cowling for improved access and revised instrument panel layout. >>>



Redesignations and further new models followed. The 115 became the Airtourer T2, a version with a 130hp (97kW) Rolls-Royce/Continental O-240 engine first flown in 1972 was dubbed the T3, the 150 became the T4 and the Super 150 the T5.

The Airtourer T6 was developed primarily for military use and retained the 150hp engine and constant-speed propeller of the T5 but combined them with a strengthened structure which permitted a maximum takeoff weight of 1900lb (862kg). The T6 was available with either 12 or 24 volt electrical systems and was delivered to the Royal New Zealand Air Force plus government-backed flying schools in Thailand, Indonesia and Singapore under the Colombo Aid plan.

Two proposed versions which did not enter production were the T7 (similar to the T5 but with a higher aerobatic weight) and the T8, an aircraft intended for competition aerobatics with a 160hp (119kW) inverted flight AEIO-320 engine and increased control movements. One AESL Airtourer achieved some fame in 1969 when Cliff Tait took it around the world, travelling over 53,000km in 288 flight hours. At that time the Airtourer was the smallest aircraft to have achieved that feat.

AIRTRAINER FOR THE MILITARY

When AESL purchased the Airtourer line it also retained first option on the Aircruiser design and manufacturing rights, an option taken up in mid-1971. But instead of putting the Aircruiser into production, AESL instead took the basic design and transformed it into the CT-4 Airtrainer for military use and promptly sold the aircraft to the RAAF. If nothing else, this showed something of what might have been had circumstances been different.



Above: Vic Walton (left), Garry Richardson and Henry Millicer with the Aircruiser at the time of its first flight in July 1966. *Millicer Family*

To air-minded Australians, it seemed incredible that their nation could be so short-sighted, so inept in its administration, as to let an industry of such national importance be sold down the drain, as Henry Millicer put it later, "for 30 pieces of silver". It was a sorry affair at government, corporate or personal levels.

The prototype Airtrainer first flew on 23 February 1972 and although the it looked very much like the Aircruiser simply fitted with a clear cockpit canopy, it was in fact very much redesigned, especially the structure of the fuselage and other areas which required local restressing for fully aerobatic (+6/-3g) flight. The Aircruiser's rubber fuel cells were replaced with integral tanks and many other detail changes incorporated. The 210hp Continental IO-360 engine was retained.

The Airtrainer is of conventional light alloy construction with fixed tricycle undercarriage and two side-by-side seats under a canopy which is hinged at the rear. A third seat in the rear of the cabin is optional. The pilots are provided with dual stick controls.

The initial military CT-4A and civil-certified CT-4B were followed by several

Below: New Zealand's AESL added 80 aircraft to the Airtourer production tally between 1967 and 1974. It also introduced several new models including the T6, intended mainly for military use. VH-FVV was the 70th AESL Airtourer, an ex-RNZAF T6/24. *Bill Lines*

proposed new versions from the early 1990s: the CT-4C with an Allison 250-B17D turboprop flat rated to 200shp (149kW) from its normal 420shp (313kW); the CT-4CR with Allison engine and retractable undercarriage; and the CT-4E with a 300hp (224kW) Lycoming AEIO-540 six cylinder piston engine and fixed undercarriage.

The latter was developed as an unsuccessful candidate for the USAF's Enhanced Flight Screener programme (won by the Slingsby Firefly) and a prototype was flown in December 1991. A prototype CT-4C was also flown in January 1991. No retractable undercarriage version has been built thus far and of the new variants only the CT-4E has entered production.



• To air-minded Australians, it seemed incredible that their nation could be so short-sighted...



Above: The CT-4 Airtrainer, developed in New Zealand from the Aircruiser and sold to several nations – including Australia – as a military basic trainer. It also found some sales on the civil market.

Ninety-four production CT-4As were delivered to the air forces of Thailand (24), New Zealand (19) and Australia (two batches totalling 51 aircraft) between 1973 and 1982, while a further 12 civil CT-4Bs were built for the British Aerospace/Ansett Flying College at Tamworth NSW in 1991. Thailand received five more CT-4Bs in 1992, ending Airtrainer production to that time.

The line was reopened in 1998 to satisfy orders for CT-4Es from the RNZAF and Thailand bringing total production thus far to more than 150 aircraft. The Airtrainer remains available to order.

At this point it's worth noting some organisational changes which occurred within the New Zealand aircraft industry and resulted in the Airtrainer's 'brand' changing. In 1973, AESL merged with Air Parts (manufacturer of the Fletcher range of agricultural aircraft) to form New Zealand Aerospace Industries (NZAI), the new company owned 50 per cent by their shareholders plus Air New Zealand and New Zealand National Airways Corporation with 25 per cent each.

NZAI ran into financial difficulties in 1982 and was reconstituted as Pacific Aerospace Corporation (PAC) with shareholding divided between Aerospace Technologies of Australia (75.1 per cent) and Lockheed (24.9 per cent). Privately-owned New Zealand company Aeromotive purchased ASTA's shareholding in 1995 and Lockheed's in 1999.

HENRY MILLICER'S LAST YEARS

To Henry Millicer's great credit he was not embittered by all the dramas. Rather, in the best tradition of a visionary, he continued to look enthusiastically to the future, accepting the influential post of Principal Lecturer in Aeronautical Engineering at the Royal Melbourne Institute of Technology, and head of Australia's three aeronautical engineering faculties.

In 1978, following the announcement of a further Royal Aeronautical Society competition, Henry saw the possibility of repeating of his earlier success. With fellow aeronautical engineer, Peter Carr, who had worked with him on the original Air Tourer, he again embarked on a major design project.

The result was the Kite, to be produced not only as a two-seater *ab initio* trainer as required by the RAeS specification, but also as a four-seater to make production more commercially viable. The design won third place out of 40 entries.

Henry Millicer retired to Anglesea, Victoria in 1981, but his passion for light aircraft design never waned. Not only did he continue to supervise the work of final year aeronautical engineering students, but went on to develop a detailed design for a turbocharged, high speed and long range tandem two-seater, intended for amateur construction, which he called the Swift.

He continued to derive much satisfaction from the fact that, of all Australian-registered Airtourers, most were the prized possessions of members of the Airtourer Association, of which Millicer became Patron. Even the

prototype Aircruiser has returned to the fold from New Zealand.

In 1984 the RMIT awarded Henry Millicer an Honorary Doctorate in recognition of his industrial and academic work, and in 1992 he received the Medal of the Order of Australia for his contribution to aviation.

Henry Millicer died suddenly on 28 August 1996 at the age of 81. After his funeral, his ashes were scattered from the air off the coast, close to his home at Anglesea

FALSE HOPE

Shortly before Henry Millicer's death, a new Melbourne-based company called Millicer Aircraft announced it was developing updated versions of both the Airtourer and Aircruiser with plans to put both into production. The operation appeared to be sound and great excitement was generated by the company's plans.

It is very important to note that despite its name, Henry Millicer and the his family had no financial or other direct interest in Millicer Aircraft – it was simply an appropriate and available business name for the operation.

It was announced that Henry Millicer was being retained by the company as a consultant but his passing limited his involvement. Thankfully, he was saved from witnessing its late 2000 collapse under murky circumstances before a single new aircraft had been built and after a considerable amount of taxpayers' money had been invested in the project.

Millicer Aircraft had acquired the Airtourer Type Certificate and production rights from the Airtourer Co-Operative >>>



(see 'Airtourer Association' breakout box below) and the AirCruiser's from PAC in order to go ahead with its plans.

The AirCruiser development was originally called the M9-200 Shrike (the slightly revised AirCruiser name subsequently reverted to) with the original Continental six-cylinder engine replaced by a 200hp (149kW) Lycoming IO-360 four-cylinder unit. Other refinements were to be incorporated and among the big plans announced by the company was the possibility of a joint venture with Chinese interests.

Proposed new Airtourer models were the 140 and 160 – both powered by versions of the Lycoming O-320 – and incorporating modifications such as integral fuel tanks in the wings replacing the original lower fuselage bladder tank, modified flaps,

The Airtourer Association

THE AIRTOURER ASSOCIATION was formed in August 1977 as a result of a letter written to the AOPA magazine three months earlier by Bob Page, suggesting the formation of a club or association of Airtourer owners so they could obtain spare parts and technical support at reasonable cost. Bob Page and other owners Harry Couzin and Doug Stott got together to lay the groundwork for what became the Airtourer Association.

The first meeting was held at Bankstown Airport in August 1977 and the first (unofficial) Fly-In at Schofields in Sydney's west in November. The inaugural official Fly-In and General Meeting was held at Griffith NSW over the Australia Day long weekend in January 1978. The Association covers anyone who owns, operates or has an interest in the Victa or AESL Airtourer. The CT-4 Airtrainer has subsequently been added.

One of the Association's major achievements has been establishment of the Airtourer Co-Operative Ltd. This has given owners around the world access to spare parts and maintenance support.

In 1980 the Co-Operative purchased the Airtourer's Type Certificate, production rights, drawings, jigs and spares from NZAI but in 1998 sold the Type Certificate, manufacturing rights, documentation and equipment to Millicer Aircraft in Melbourne. This new company planned to reintroduce the Airtourer to production, along with the AirCruiser, the rights to which had been obtained from New Zealand. The Co-Operative retained the plans and parts necessary to continue supporting existing aircraft.

As related in the main story, Millicer Aircraft collapsed in 2000 before building a single new aircraft and the Co-Operative subsequently instigated legal action to successfully regain ownership of the items held by Millicer Aircraft's administrators.

simplified fuselage structure, upgraded brakes and more legroom for tall pilots.

The new and once again slightly renamed AirTourers were dubbed the M10-140 and M10-160 by Millicer Aircraft and a prototype AirTourer 160 converted from the 25th Victa aircraft (a – 100) was flown in November 1998. Plans were put in place to start production and by mid-2000 with orders for 47 aircraft claimed by the manufacturer – but it was not to be.

END PIECE

The Airtourer Co-Operative has since regained possession of the rights it sold to Millicer Aircraft but at the moment there are no plans to reintroduce the aircraft to production.

In early 2006 Bankstown-based AirAg Aviation Services purchased the Type Certificate, intellectual property, production rights and other assets associated with the AirCruiser from Millicer Aircraft's administrator. At the time of writing AirAg's plans were in their very early stages but the intention is to manufacture the aircraft at Illawarra Regional Airport (Albion Park) near Wollongong NSW and offer both factory and kit-built versions.

The powerplant is likely to be changed from the original 210hp Continental IO-360 piston engine to a FADEC-equipped compression-ignition (diesel) engine – possibly a Thielert – of similar power.

And that – for the moment – concludes the Airtourer and AirCruiser story, but it is clearly not completely finished yet. Henry Millicer's legacy lives on through the surviving aircraft, the occasional new Airtrainer leaving PAC's factory in New Zealand and, of course, whatever lies ahead for a possibly rejuvenated AirCruiser. We shall see what follows with great interest.



Above: Henry Millicer was awarded an Honorary Doctorate by the Royal Melbourne Institute of Technology in 1984 in recognition of his industrial and academic work. He received several other awards for his contribution to aviation including a Medal of the Order of Australia in 1992. *Millicer Family*

The writers and Aero Australia gratefully acknowledge the assistance of Mrs Kathleen Millicer, whose carefully catalogued records greatly facilitated research for this article; and Mr Richard Millicer for his assistance in organising some illustrations and other items for us.

AeroAUSTRALIA •



Above: The prototype Millicer M10-160 AirTourer was converted from the 25th Victa Airtourer and re flew in its new guise in November 1998. Unfortunately, the company – which had no direct connection with Henry Millicer – failed to deliver on any of its grand plans and collapsed before a single new Airtourer or AirCruiser had been built.

