

One of the unsung heroes of our World War Two airforce was a gutsy all-Australian fighter plane.

It patrolled thousands of miles of our coastline and attacked Japanese troops in Pacific battle areas. It was not as fast as we'd have liked but it was tough, reliable, well armed and altogether a deadly dart to throw about the sky. It was given the unmistakably Australian name "Boomerang".

The Boomerang's wide-ranging success was particularly pleasing to the Commonwealth Aircraft Corporation. CAC designed it and CAC built it. The first Boomerang, in fact, flew from the airstrip beside CAC's plant 40 years ago on 29 May, 1942.

Altogether, 249 Boomerangs were produced here at Fishermans Bend by C.A.C. between 1942-45. Their creation represented more than the usual process of producing aeroplanes if, indeed, there is much normality about such a thing. The Boomerang was really a desperation weapon intended to help ward off an apparently invincible enemy at a time of national crisis for Australia. It was also an affirmation that Australia's aviation industry had grown up while seemingly still in its cradle.

Perhaps it was a little precocious. But in war there is no time to bother about such niceties. The Boomerang concept worked. That was what mattered.

The Japanese surprise attack upon the US naval base at Pearl Harbour on 7 December, 1941, prompted the project. Next day in the design office at C.A.C. the big talking point was the need for some sort of answer to the already notorious high performance Japanese Mitsubishi Zero fighter.

One of the design engineers, Austrian-born Mr. Friedrich ("Fred") David, seized the initiative. He produced a three-view sketch of a possible fighter that might be developed from the general purpose Wirraway aircraft then being produced by the Corporation. His idea centred on using as many as possible existing designed parts and equipment to save time. The power plant, a Pratt & Whitney R 1830 radial engine of 1200 horsepower, was already being made by the engine division of C.A.C. for the Beaufort bomber. A large majority of Wirraway components were to be used for the airframe.

A top secret technical report had been shown to the design staff . Compiled by the US, it was based on an examination of a Zero shot down in China. The Zero was equipped with cannon. Consequently, the "Wirraway interceptor", as the Boomerang was at first known, would also have cannon. Its armament was one 20 mm cannon and two .303 machineguns in each wing.

Fred David is now 82 and is still alive and well in Melbourne. On 14 December, 1941, he submitted his idea to the management of C.A.C. The Corporation immediately recognised it as an entirely feasible and badly needed one. By 21 December it had won Defence Department permission to start work on a prototype.

As the midnight oil burned at Fishermans Bend Japan piled on the pressure of events by capturing Rabaul on 23 January, 1942. On 15 February she took Singapore and on 19 February she landed on Timor and bombed Darwin for the first time, invading Java on 28 February. It's not surprising that, in these circumstances a great deal was expected of the Boomerang.

"Everybody had the wind-up", recalls Fred David. "It was a very precarious situation. So we got cracking. Australia for the first time was really left to its own resources, not knowing what was coming, but felt that it had to in some way be prepared. Nobody likes to be defeated lying down - least of all Australians.

"If the Boomerang had gone into battle and achieved some success there would have been some sort of justification for some trumpet blasts. We can only say that we were not caught lying down. We turned it into a dive bomber in case of Japanese landings on beaches. It was not, fortunately, necessary to use it for this role.

"The Royal Australian Air Force practically had no alternative but to go along with what we were doing. What occurred showed the resourcefulness of Australians under pressure. They were far more resourceful than I was. I was brought up in the aviation business but the Australians showed me a new approach."

The general idea was to provide as quickly as possible, and in numbers, an effective aerial gun platform machine. "We couldn't see any further, knowing that the engine was ridiculously slow, the aerodynamics were not great and the wing was very thick", says Fred.

In his modesty at having played a crucial part in the Boomerang project Fred David is inclined to understate the Boomerang's virtues. It received scant approval from the Australian general public largely because it emerged a little too late in the war to outclass the best fighters of the enemy Japan and our Allies. Its achilles heel was that it was underpowered. That was no great difficulty for the Boomerang in a ground attack role, strafing with its cannon and machineguns and bombing Japanese troops as it did so successfully in New Guinea.

When four Boomerangs at Merauke in what was then Dutch New Guinea (now West Irian) scrambled on 9 September, 1943, to intercept 15 Zeros and 17 Betty bombers, however, they suffered the chagrin of being too slow to mix it with the attackers. And that was despite the fact that the Boomerang pilots had their throttles wide open and were thirsting for blood.

The incident did not prove, though, that a Boomerang was incapable of downing a Zero. At Eagle Farm, Brisbane, comparative trials showed that in such combat at 170 miles an hour the Boomerang could literally come out on top. It could, at that speed, outclimb a Zero in a spiral encounter where it was then in a position to strike at the enemy. A Boomerang could also outclimb American Kittyhawk and Airacobra fighters which figured so importantly in Australia's northern defences.

Boomerangs were flown by five R.A.A.F. operational squadrons - Numbers 4 and 5 Army Co-operation, 83, 84 and 85 Interceptor/Fighter - besides Numbers 8 and 9 Communications Units, 1, 2 and 8 Operational Training Units.

The first order, 105 of the aircraft, was placed by the Australian War Cabinet on 2 February, 1942. By the time that the prototype made its first flight on 29 May only 22 weeks and four days had passed since the R.A.A.F. approved the rough drafts. The design and construction of the first Boomerang was done at the same time. Work began on the bare frame of a Wirraway fuselage which was modified as the mock-up progressed.

Trial and error determined the new outlines after which stressing was carried out and the framework altered accordingly. A complete Wirraway wing centre section and empanage was added but the rest of the wings were radically different in their design although similar in appearance to a Wirraway's. They had to be thicker to house the 20 mm cannons and able to withstand fighter plane stresses.

"We had to provide different cockpit facilities and a new control system", says Fred David. "Wind tunnel tests had to be carried out. We could only do the wind tunnel tests with the full co-operation of the CSIRO research laboratories next door to C.A.C. The wind tunnel there was later transferred to A.R.L. The engine factory at C.A.C. under Herb Knight played an important role. As a team we had to make use of all facilities of C.A.C. Fortunately, the industrial background ^{was} there and much is owed to Sir Lawrence Wackett."

(Sir Lawrence, who died in Sydney last March, was the Corporation's first manager and chief designer.)

"There was no hiatus in this. The development after we got the go-ahead in December, 1941, was continuous. It went on until May and we were very elated that we were able to get it into the air. With a little bit of heartbeat we saw the Boomerang take off for the first time in the following May. At the first take-off those present were C.A.C. workers, Sir Lawrence Wackett and R.A.A.F. personnel."

Fred emphasised that, although the design and construction work of the first prototype was done very quickly it was also done very carefully. "We could not afford at that time to have a fatal accident with the Boomerang. Otherwise, it would have destroyed all self confidence in what we were doing. Therefore, the emphasis was placed on ensuring that it should be structurally able to withstand what it should.

"If an accident had happened everyone would have held it against us but since ^{we} were fortunate not to have one nobody took any notice. At that time also ^{we} were in the region of relatively low speeds, the wing loading was well known and could be calculated and there was no fatigue complexity."

Fred had worked for the Heinkel aircraft plant in Germany and later in Japan where he helped design naval aircraft before he came to Australia in 1939. Both, of course, were Australia's major enemies during the war. His background was, therefore, a distinctly curious one for a person who made such a contribution to our war effort.

Chief engineer at the time of the Boomerang's birth was Mr. Tom Air. Younger engineers employed with C.A.C. at the same period whose names Fred David recalls included an Englishman, Phillip ("Ted") Faggetter, Ian Ring, Ian Fleming, Doug Humphreys and Allan Bolton. All were graduates of Australia's only aeronautics course then available - at Sydney University.

Test pilot for the first flight of the Boomerang was the late Ken Frewin. The plane underwent extensive trials before delivery to No. 1 Aircraft Depot, Laverton, on 15 July, 1942. There, the R.A.A.F. carried out operational tests. On 7 February, 1943, it was transferred to No. 2 Operational Training Unit, Mildura, for pilot training.

This first of the breed remained in service until 21 March, 1946, when it crashed on landing at Oakey, Queensland. It was so badly damaged that it was written off.

Production grew to a peak of 22 Boomerangs a month in August, 1943. The last four were received by the R.A.A.F. on 1 February, 1945.

A Melbourne man, Mr. Richard Hourigan, who is restoring one of four Boomerangs currently being pieced together privately in Melbourne and Brisbane, recovered the remains of A46-249 - the very last Boomerang built. It was originally sold for scrap and was found in October, 1961, on a junk heap behind a commercial garage at Pomborneit, near Colac, in the Western District. It came off the production line on 1 February, 1945, and went into storage after a mere two hours, 45 minutes total time in the air. It never flew again.

Richard, an aircraft electrical engineer, is restoring 249. He has extensively rebuilt the fuselage to near perfection. But years more work remains before the job is completed.

Even then, due to the absence of essential wing components, the best he can hope for is that the Boomerang will be able to taxi, not fly. He estimates that it would cost at least \$50,000 to make the essential missing parts. No-one, so far as he can determine, has them.

To give an indication of his keenness in sleuthing down Boomerang components he has travelled as far west as Kalgoorlie, to recover a wing, and as far north as Princess Charlotte Bay on Cape York Peninsula where he got another two.

The other Melbourne Boomerang restorer is Mr. Ron Lee, of Frankston. In Brisbane, Mr. Matthew Denning and Mr. Ralph Cusack are laboriously re-creating Boomerangs from almost hopeless derelicts.

Most of the men who built, serviced and flew Boomerangs are now in their sixties. Their combined achievement deserves a much better documented place in history than it has received so far. It is a victim to some extent of our peculiar Australian talent for ignoring or damning with faint praise our home-grown products. Former Boomerang pilots, however, are very definite in their attitude to the plane. As a rule, they loved it, although envious of those who flew the faster British-made Spitfire. Mr. Bob Moody, 66, of the Melbourne suburb of Beaumaris, provides a good example of this attitude.

Bob served with the R.A.A.F.'s Number 83 Fighter/Interceptor Squadron, Boomerangs. He has a very soft spot for the plane. On three occasions during his conversion to them at Mildura he flew A46-001, the prototype first Boomerang. "Boomerangs were among the greatest aircraft ever built", he claims. "They were strong, well armed and very manoeuvrable with an Australian-built Pratt and Whitney engine that never let you down. But a Boomerang was much heavier than a Spitfire and it was not fast enough..."

Former Commanding Officer of Numbers 83 and 83 Fighter/Interceptor Squadrons, Boomerangs, Mr. Roy Goon, of Black Rock, also has strong praise for the plane. It is not given lightly. Roy began flying in 1933 and let his licence lapse only about 18 months ago. He has flown for about 20,000 hours in somewhere around 50 different types of aircraft, from Flying Fortresses to Sabre jets.

Once, while flying on operations from Arnhem Land in the Northern Territory, he had the great misfortune to have a serious break in the main oil line of his Boomerang. It struggled back in to the mainland ("God knows how") for about an hour until Roy managed to put it down safely at Gove.

The engine seized as it landed and an astonished Roy leapt out to inspect the engine, finding it incandescent with heat. The engine, a Pratt & Whitney Twin Row Wasp, was made by C.A.C. and Roy considers its performance on this occasion was something of an engineering miracle from a design and construction point of view.

"What more can you ask of an engine that it will fly for so long virtually without oil ? ", marvels Roy even today. "It wasn't the first time that we Boomerang pilots had cause to be thankful for C.A.C.'s excellent standards of workmanship. It was a special occasion that I'm never likely to forget. And it proves the point about Australian aviation engineering standards. We have what it takes to turn out excellent product when the chips are down."

.....