

# F86 to F111 – A CAREER OF RAAF FIGHTERS

By

Martin Susans

During my time in the RAAF I was fortunate to fly four of the world's great Fighter aircraft; Sabre, Mirage, Phantom and F111. So too did two other RAAF pilots, Bren Roberts and Roy Phillips. I doubt that such an opportunity was available outside the RAAF. From Day Fighter to Auto Terrain Following in the space of nine years, such is the pace of military aviation.

Four of us from No 54 Pilots Course were posted to fly the Sabre. On completing the conversion, two of us went to Butterworth and the other two remained at Williamtown. I think Jack Hayden and I got the long straw; flying from Butterworth in the mid 60's was a great upbringing for young pilots, particularly in 77 Squadron commanded by the legendary Les Reading.



No 25 Sabre Course, Williamtown, February, 1966  
Horsman, Robson, Hayden, Susans, Schulz, Doyle

It was only twelve months later that some of us were posted back to Williamtown to do a Mirage Conversion. The Mirage was still coming off the production line, and compared to the Sabre it was another world. Radar, Tacan, Afterburner, autopilot, auto throttle, delta wing, Mach 2 – what a machine!

I joined No 3 Squadron which was re-equipping at Williamtown with the latest version of the Mirage before deploying to Butterworth. As the aircraft's capabilities became clearer, new operational procedures were being developed within the Squadron. Using the ground map radar for low level penetration below safety height was definitely character building, as was night formation in camouflaged aircraft.

The Squadron successfully deployed to Butterworth via Djuanda, Indonesia in February 1969. The only drama en route resulted from a damaged ferry tank discovered at Djuana – no spares were available. After checking the fuel graphs it was decided to launch the aircraft clean to Singapore, rather than awaiting a replacement tank. As Bob Walsh taxied out, his slick, new Mirage contrasted with the moldy Russian hulks beside the taxiway. The clean aircraft reveled in the cold upper air, and Bob arrived over Tengah, after 743 nm, with enough fuel to push on to Butterworth had the weather forecast allowed. Nevertheless, the final aircraft arrived at Butterworth later that day, bringing the Mirage complement in Butterworth to 40. This force disposition was the culmination of many years of planning and preparation, and was to serve the regional air defence system well for a further 20 years.



NO 3 Sqn on Deployment to Butterworth, Darwin, February, 1969

As we moved deeper into the Vietnam era, the major operational action for RAAF fighter pilots was Forward Air Control. I went back to Willy for a FAC course and put my name on the Vietnam list. Just before my number came up, the F111 acceptance programme was put on hold, and the RAAF leased F4Es as an interim measure. I was to become a 'bomber pilot'.

At short notice, personnel from across the RAAF were posted to the US for F4 training. A couple of months later, we picked up brand new Phantoms from the factory in St Louis, and positioned in California ready to head across the Pacific. We followed the Tankers from George to Hickam to Guam and on to Amberley - Mission Accomplished.



1Sqn Display Team, Amberley, March, 1972  
Skipworth, Klaffer, Susans, Roberts, Ryan, Growder, Pollock, Wilkinson

I flew the Phantom from Amberley for three years before they were sent back to the US, or somewhere? In the meantime, the F111s had arrived and experienced operators were required to fill the first F111 Conversion Course in Australia. The prospect of flying the

F111, rather than instructional flying, appealed to me, so off to 6 Squadron for F111 – 101.



No 1 F111C Conversion, Amberley, 30 Nov, 1973  
Knott, Salvair, Best, Scotland, Susans, Cavenagh, Graham, Lucas, Ross,  
Kennedy, Wilkinson, Palmer

The F111 conversion completed my giant leap from F86 to F111. Each of these Fighters had its own personality. The Sabre, with its bubble canopy was a purpose built dogfighter. It was still basking in the glory of having 'won' the Korean War. The Mirage was curvy and elegant – she wasn't called 'The French Lady' for nothing; she looked to be doing Mach 2 in the chocks. The Phantom was a brute, but a good one to have on side in a brawl. And the F111 was mystical and magical, with swing-wings and spooky bumps, it was like nothing we'd seen before.

The Sabre was basically a visual air weapon and a light ground attack platform. It had a range-only radar for the gun sight, an early ejection system that suffered serious teething problems, and a basic artificial feel system that some pilots got out of phase with, coming home black and blue. The uniquely-RAAF fitment of the Rolls Royce Avon engine gave some extra thrust, but it's lengthy introduction into service made the RAAF justifiably gun-shy about changing the

manufacturers configuration for future projects; a useful lesson learned.

The Sabre Squadrons in Butterworth provided aircraft and crews on rotation to No 79 Squadron at Ubon, in SE Thailand. Our role there was air defence of the Base, which supported a huge USAF contingent mounting 24-hour F4 ops into North Vietnam. Our commitment was two, fully-armed Sabres on five-minute strip alert, dawn to dusk, seven days. We were often scrambled to do practice intercepts on various friendlies, including Phantoms returning from missions. How nobody got shot down is a marvel.

On one occasion, Dave Robson and I were scrambled onto a genuine 'unknown'. We caught him about 20 miles out of Ubon heading straight for the Base. It was an old C46 Curtiss Commando with Laotian markings. The paratroop door was open, and there were armed soldiers inside. According to the Rules of Engagement, this was technically a shoot-down situation, but these two boggies weren't so sure about that. We sought guidance from the Air Defence authorities in Bangkok, but before hearing anything, the aircraft had passed overhead Ubon and the soldiers were hanging out the door, waving, smiling and clicking cameras at the Sabre that had nuzzled up to the decrepit transport. I expect that next time, they might bother to put in a flight plan!

The Avon Sabre did a good job in its time, but was soon outdated by the 'century series' multi-role, supersonic, all weather fighters. As for flying safety, three pilots were killed on ejection by dishing canopies, two lost control turning base to land, one broke the wings off, and quite a few aircraft were lost to engine problems. The Sabre's operational life in the RAAF was only about 15 years, after which it was passed on to regional Air Forces; a good use for an imperfect and outdated machine.

The Mirage suffered no such fatalities; it was a strong, stable airframe with an excellent escape system, and what became a good fighter engine. The RAAF Mirage accident rate was typical of single-engine, multi-role fighters of that era. There were 25 ejections - all successful, mostly engine/undercarriage related; and 14 fatalities, mostly human factors related.

One weakness however was the long perspex canopy on the dual Mirage, which had a tendency to implode. In Dec '69, I was tasked to fly from Butterworth to Tengah to pick up the AOC for Christmas

drinks at Butterworth. Flight Sergeant Bushy Smith was in the back seat to turn the aircraft around at Tengah. During climb out from Butterworth, the canopy suddenly disappeared and there was silence from the back seat. No longer having mirrors to see behind, I feared that Bushy might have inadvertently snagged a black and yellow handle. However, after slowing down, my escort in the 75 Squadron dual, Pete Ring, reported that my back-seater was still there, minus his helmet, and with his seat drogue chute streaming behind the fin. We tippy toed back to base and made an uneventful landing. Bushy was assisted from the back seat with his face covered in dried blood from perspex cuts, but otherwise very relieved to be on the ground. I'll never forget those pearly whites beaming from what appeared to be terminal face damage. Several months later the canopy frame was recovered from the ulu, confirming that imploding perspex fragments had tripped the jettison mechanism. I sometimes wonder if this incident sheds some light on an unresolved dual loss off Williamtown.

The Mirage was designed as an interceptor, but in response to export potential it became a multi-role fighter, which bought it to RAAF notice. Fortunately, the RAAF Mirage was never needed to strike defended targets. With no air refueling, no countermeasures, and modest range or payload, that may have proven costly. On the air defence side the Mirage had more potential, and we pushed that capability to its limit. Later in it's life, the Laser Guided Bomb and an advanced short-range missile improved the aircraft's lethality. The Pakistanis have since fitted air refueling to their ex-RAAF Mirages - a major capability boost.

The Mirage was a delight to fly if you ever got a quiet moment with a clean bird. The flight control system was way ahead of the Sabre. The airframe was slippery, easily breaking through the barrier when the nose was lowered. The cockpit layout was good, if a little cramped.

On the down side, the Mirage was a high workload machine - software hadn't been invented. Getting out of the flight line was the first drama as differential braking was needed, resulting in high power settings. A heavy take off was a lengthy affair, with all hopes pinned on the engine 'over speed' kicking in half way down the strip. Once airborne, there was some blessed relief as the air con spooled up, and by top of climb one was more composed. Landing the beast was another drama, it gobbled up runway at 170 knots; no flaps, no

slats and quite often no dragchute!! I would have preferred longer runways for Mirage ops.

Vices - not many. High Angle of Attack meant very high drag, which no amount of power would remedy; not good near the ground. Management of fuel, what there was of it, could be a problem. There was no total fuel contents gauge, but a series of transfer lights that should have been carefully monitored for illumination – no chance. You only knew where you really stood when practically out of gas. We never lost an aircraft to fuel starvation, but some came close – very close.



1000 Hours Mirage 1110, Williamtown, May, 1976  
Nixon, Wilkie, Gent, Taylor, Susans, Friedman, Welsh, Webb

I had the misfortune to have to leave a Mirage with engine failure one dark night over the Barrington Tops near Williamtown. The wreckage could not be located from the air, but 12 months later a local resident discovered a crater in thick forest. The site was excavated, and the offending engine component located deep in the ground. It was the third Mirage lost to auxiliary drive problems in just two years. The RAAF ordered a modification that duplicated and filtered the oil line; no further aircraft were lost to this cause.

So, on to the Phantom - a couple of months through the USAF sausage machine, then we ferried them back across the Pacific. The entire operation was organized by the Air Delivery Group, the crews

simply did as they were told. It was a well-oiled machine in those days - at Hickam there were scores of fighters moving to or from Vietnam.

As a busy operation that served several commands and multiple types, the air-refueling outfit was not renowned for its flexibility. For the final leg of the ferry into Amberley, I was crewed with RAAF Navigator, Frank Burt. When we were called in to top up the tanks just north of Rabaul, Frank had some ugly weather on the radar (in terms of INS and radar, we were much better equipped than the KC135 tankers). Just after we plugged in, things got black and noisy. A major torrent was rushing down the belly of the Boeing. The tanker had previously lost its autopilot and the captain was struggling in difficult conditions to maintain height. As the speed bled back, the Phantom needed a tap of after burner to stay in position. As soon as the tanks were full, we popped out into bright blue sky; breathing returned to normal in both cockpits.

The F4 was the complete multi-role fighter - a great war machine. Particularly the F4E, which had the latest avionics and a gun in the front, prompting the RAAF backseaters to refer to our pilots as 'nose gunners'.

We used the F4 largely as a stand-in F111 – Climb, Cruise, Penetrate, Strike, then hit the range for bombing and gunnery. There were some concessions to Vietnam ops, such as the dreaded SAM Break; -1g to the vertical, full afterburner acceleration, avoid the earth. The Phantom proved a successful stopgap, and the project was a great credit to the ad hoc logistics network which spread all the way back to the US.

The F4E had much that the Mirage lacked; INS, air refueling, a huge radar, countermeasures, a hook, nose-wheel steering, two-man crew and two great engines... and a fuel gauge to boot. It had flaps, slats and Boundary Layer Control – good for carrier ops, but hardly necessary at Amberley. It was a complicated aircraft, but proved to be reliable.

Some things about the Phantom reminded me of the Sabre. It was roomy, and all you needed to know was written on the cockpit wall. It was said, 'if you could read a newspaper, you could fly a Phantom'. Regrettably, though, the flight control system seemed to owe much to the Sabre. The Americans lost many F4s simply pitching into the circuit, refueling booms got snapped, and experienced pilots nose-

sliced out of formation – the brute could bite! You only had to look at a Phantom to suspect they had trouble getting the aerodynamics right. It was not a clean airframe, but in the end, it was a triumph of ‘noise over drag’.

One particular sortie I remember well in the Phantom. We were in Darwin for Exercise Top Limit '72 and staff from the Integrated Air Defence System in Butterworth had come to observe proceedings. It happened that the Commander IADS was my father, AVM Ron Susans, an experienced fighter pilot and CO 77 Squadron in Korea. My nav, Pete Growder, kindly gave up his seat to the Air Marshal, so father and son had a very pleasant tour of the top end, including a friendly hello to the ‘enemy’ at Tindal.



Author straps in AVM Ron Susans, Darwin, May, 1972

Another leap forward to the F111 – the Cadillac of the skies. Taxying out was sheer luxury, take off was effortless, and the rest was hands off. There was plenty of time for an occasional glance at the fuel gauge, which was always reassuring. Once pilots were

brainwashed into leaving the thing alone at low level in IMC, all went well.

The F111C was a formidable strike/reconnaissance platform, but even she outlived her usefulness as the battle space evolved and ownership costs continued to climb. It broke my heart to see them buried in the ground at Amberley, but fortunately a generous allocation was kept for museum display.

It's been a great journey flying the world's best war machines with the RAAF. The Air Force changed a lot over those years, but generally for the better. Certainly, the machinery became more capable and reliable, the logistics more effective, and the standard of training higher. I hope somebody picks up this article in fifty years time and gets a smile out of our earnest attempts to project air power in the 'olden days'.

Martin Susans  
Canberra, January 2016

*Martin joined the RAAF at Point Cook in 1964, and finished his service in Canberra in 1997 to pursue his interest in growing wine grapes.*

*Nowadays his aviation activity is limited to the restoration of an ex-RAAF Ryan STM vintage trainer, which he hopes to fly in the near future from his hangar at Temora, NSW.*