



Mirage Enthusiasts Blogs



One Team For Life

Blog 7. Mirage - Reflections

Mirage v Vulcan - by Mike Nixon

In 1970, my first Mirage squadron was 76 Squadron at Williamtown, which then deployed to Darwin regularly for exercises and training. This was before Cyclone Tracey and before TV had arrived in Darwin, so the place had a real "frontier" feel to it.

I had developed some interest in ECM and its effects on the Mirage radar, having had a little training experience with the ECM pods and chaff at Williamtown. On one of the deployments, we were joined by an RAF Vulcan, against which we ran several intercepts.

One such run had me dispatched to intercept the Vulcan coming in from the south-east at very high level - well above 45,000 ft. We had been briefed on their ECM capabilities, and were told that the chaff dispensers (several in number) had a tendency to jam up when operating in the tropics. This might have been because of the much colder air temperatures at high altitude.

Airborne and climbing out from Darwin under control of 2CRU, I was given target information - high level inbound and more than 100 miles out. The standard technique for such high targets was to accelerate to supersonic speed (M1.15 or more) at around 35,000 ft so that the aircraft had enough energy to snap up into a climb, fire the Matra missile on the front, then complete a reattack (hard turn to behind the target), in case a Sidewinder shot (or gun attack) was required. The Matra required the Mirage radar (Cyrano) to remain locked on to the target all the way from launch to impact, but the radar was prone to losing lock if chaff was used - the radar lock would preferentially follow the chaff return.

The sky was 8/8 blue and the Vulcan contrails were clearly visible from a great distance. Being a very big target, I expected it to be visible on radar from maximum air-to-air range

(27 miles). However, I wanted to try and run the Vulcan out of chaff before firing my missile. To do this, I began "spotlighting" the target with my radar from a much greater distance. I could do this from the information provided by 2CRU - target bearing and altitude. This involved stopping the radar scan with the break-lock button and manually steering the steady radar beam in the direction of the Vulcan. To the ECM operator on the Vulcan (or the automatic ECM equipment), this should appear as a radar lock-on, normally occurring just before missile launch. And this would be the cue to drop chaff to break the radar lock. I began this intermittent spotlighting when about 50 miles from the Vulcan - not yet visible on my radar. Target range reduced rapidly as I accelerated, and, sure enough, the target blip appeared as expected at the top of my scope. From memory, I think we normally locked the radar on around 15 miles and initiated the climb shortly thereafter, firing the Matra between 10 and 7 miles. By 15 miles, still in radar scan, I could plainly see a number of



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chaff trails out behind the Vulcan. So I concluded that my ruse had worked. I hoped that, if this had been a real firing, my Matra would have found its target.

My reattack worked well, from memory, placing me a few miles to the rear and well below the Vulcan, and still with a fair amount of smash. I had just enough energy to pull up towards the target, but I was closing rapidly and I could definitely feel how thin the air was getting. I can't recall if I managed a missile launch or gun pass, I suspect not. I wooshed past the big bird almost under control, not trying to stay behind, as I had heard stories of other pilots who had tried this! Happy enough to take the MA primary!

Unfortunately, I never had a debrief with the Vulcan crew, so I didn't find out if my plan had succeeded.

13 Nov 23. Bazz Turner

G'day RAAF Mirage Family,

If you haven't seen the enclosed Mirage III YouTube clip, which concentrates mainly on the Israeli IDF 'ups & downs' experiences with that type (known as the 'Shahak' = a modified Mirage III CJ), then I highly recommend this most accurate doco that I've seen on the Mirage III.

I figure that our Mirage III OF's & later III OA's would have experienced the same issues, had we entered serious conflict. I do recall that our RAAF Sabres had a far better Gunsight resolution time than the Mirage III.

Take care All - aging is not as fun filled as the glamour of retirement portraits.

<https://www.youtube.com/watch?v=m8Mp1RKh1mg>



[SHAHAK! The Mirage III Was The Most Successful Supersonic Fighter Of The Cold War](https://www.youtube.com/watch?v=m8Mp1RKh1mg)

In the hands of the IDF/AF, the Mirage IIIC became an aviation legend. It is one of the most successful jet fighters of all time and probably is the supersonic fighter with the most MiG kills. But the Mirage III was not a super-fighter. It was, in fact, a deeply flawed aircraft. Ironing out those issues and forging the Mirage into the Shahak ...

www.youtube.com



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14 Nov 23 Dick Bomball

I have been contemplated adding this anecdote, and Baz's reference to the Sabre's "far better gunsight resolution time than the Mirage" has prompted me into action. Bear in mind, this is 60 years ago so the detail may be a little inaccurate.

Early banner results from the Mirage were much worse than the Sabre and pilots had low confidence in the system. This prompted Tex Watson to call me in one day and task me with an in-house trial to determine what the situation really was. Needless to say, the Sabre harmonisation – point or parallel (?) at the harmonised range to give the necessary bullet density to achieve lethality with the 20mm rounds – gave far better results on the banner than the Mirage with its elliptical pattern and much greater spread. While the Mirage pattern made sense given the lethality of 30mm rounds, we just weren't achieving sufficient hits on a single banner to assess either system accuracy or pilot capability.

478 Sqn thought they could come up with a successful double banner which they did, and we went ahead with a two week trial using as many different pilots and aircraft as we could spare from the normal OCU programme. The plot was to have each pilot fly against the banner, dry until he was satisfied, and then fire a single burst, filmed of course. We would then carefully assess the film against hits. The conclusion at the end of the day was that the system was indeed accurate.

The trial was probably not up to ARDU standards but it served its purpose. The decision was taken to use the double banner from then on to facilitate meaningful system and pilot assessment.

Footnote from Dick

Further to my anecdote above, before anyone else jumps on me for our Sabre using 30mm Aden ammo, the point was the harmonisation pattern, which we didn't change as far as I know, was based on the USAF use of 20 mm.

Take care everyone,

16 Nov 23. Mark Hayler

Gentlemen Mirage III Jocks,

You are raising some fascinating insights into the French Lady for those who rode her!

There is a plethora of fabulous videos of the Mirage III on Youtube if you haven't already explored these as suggested by previous respondents to these emails (thank you gentlemen for sharing).

Just input the words "Mirage III" into the Youtube search box for many results.

I particularly like this one as it contains some of the history of the actual design and



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development of the Mirage III: <https://youtu.be/RPcD4p-i-X8>

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Unfortunately the commentary is in French, but you can get a rough English auto-translation by going to the Settings and select Subtitles, and auto-translate French to English.

Cheers to all and stay happy and healthy,

16 Nov 23. Barry Schulz.

The following gives a good history of the Mirage III and in particular, its use by the IDF. Some of the limitations in early models are explained well. Interesting comparison with the MIG family.

SHAHAK! The Mirage III Was The Most Successful Supersonic Fighter Of The Cold War - YouTube

<https://www.youtube.com/watch?v=m8Mp1RKh1mq>

17 Nov 23. Ken Semmler

Greetings to the team and here goes for some comments. Have appreciated the inputs over recent months since that has filled in a slice of the historic/hysteric past.

To Dick Bomball, many thanks for your sharing as to tweaking developments. Being fairly early re conversion (6 Mirage Course) and subsequently a mere thousand hours, one had no problems with the beloved Miracle.

Was off to 75 Sqn after 20CU and then to Darwin where we did a fair bit of night low level look down. That really made a bloke work and still recall with thanks Dick Waterfield tutoring moi as to using radar side lobes to help get through the clutter.

15-18 May 67. Wot a ripper; Operation Fast Caravan to BTR. It's interesting to recall the options which were explored re getting there including Cocos and via PNG and so on. Being at end of Confrontation, have oft marvelled at the diplomatic footwork which enabled us to go via Juanda in Java, now a very large civil airfield. One hopes whomever succeeded in getting approval was suitably recognised.

On 18 May, 21 pointy ships flew in and out, slightly delayed through the arrival of the Indo Air Force Chief in his P-51. Great stuff and Big Jim have him a good look at our birds.



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Many funny stories could be told about that stop-over - just two; Al Walsh's canopy would not close (A3-30) so one of the ace diggers extracted the Boss's pushbike from the Herc, pedalled furiously to runway, bounced backside on canopy - problem solved and Ron Magrath (A3-41) had a rather cool flight to BTR with an alternator failure and needed quite a few Tigers on arrival to thaw out. The mere fact that all aircraft flew in and out cannot but have made a very big impact on the Indo Chief and others. This is merely one of the significant contributions the Mirage made to security in the area.

As shared elsewhere, yours truly will never forget the Singapore National Day, probably 68. Was on my bunk in Tengah and listened to the address by one of my heroes, the President Mr Lee. Even then he could point to advances made in Singapore including health and education. He then stated 'Let's never forget that the only reason we can do this is because of the security given to the area by the British and Commonwealth Forces.' I'll vote for that! Our presence meant a lot and the Mirage was part of that.

Thanks for the postings re the design and early days of the Mirage, with emphasis on our friends the Israelis. I think it was at Tengah that an Israeli delegation briefed after the 67 fight. If recall correctly, and not quite in agreement with the posted history, the Matra was not given high marks but, oh boy, great to absorb the cannon gunsight shots.

Recently some not all that complimentary remarks have been made re air to air results. Ah, what a sport! Indeed it was trick shooting and the banner was hammered. Heck I enjoyed that. Tried to extract a Power Point slide of a battered banner at BTR but couldn't shift to desktop. Maybe will try later.

Tonight flying; again, wot a ripper. Heck the bird was ace to punch through the night skies, low and high level. The 75 Sqn flights rotated through Tengah hence one month in three was spent there. The Brits knew how to live. During one of the stays (B Flight - Bill Monaghan, Geoff Warrener, Ian Burke, Doug Edwards, Al Walsh and yours truly) we did a lot of night intercept, low and high. It got to the stage where we got bored and added a bit of spice through, at close of mission, joining up and heading back to Tengah for a formation landing. All good fun and much appreciated the supper of scrambled eggs, baked beans and a pint of ale.

Incidentally, four years backwards, attended the Alliance Airshow at Ft Worth (chasing parts from the OV-10 Bronco Ass'n to help restoration of 639, now complete at the AWM) and clambered over an F1 (a local outfit had sort of bought a squadron from, methinks the Spanish) which was part of an aggressor squadron.

Anyway, what do I spy with my little eye but that great instrument the Bezu Ball. A great bird to fly on the clocks.

Recently enjoyed a lunch with Tony Ford and Mutt. We have about 4 or 5 annual lunches per year and on this occasion endeavoured to plumb the depths re aviating aboard the pointy ship. Maybe we have been fortunate in that there was no



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recollection of aircraft sitting on bum through handles not being checked or other ailments.

Indeed, we could not ever recall inclusion of the handle business in a pre-flight.

What a privilege one has been given through committing aviation aboard the beloved Mirage.

22 Nov 23. Barry Schulz

3 SQN DEPLOYMENT REPORT FEB 1969 'OPERATION THOROUGHFARE'

The Following Report by Ted Radford (RIP) Provided Courtesy of Barry Schulz

**Ted Radford
Commanding
Officer No 3
Squadron
11 Oct 68 to 7 Dec 70**

'General Comments

At the outset, I would like to make some general comments on my philosophy regarding the running of RAAF units and these are as follows:

- 1. Firstly, of course, the commissioned officers need to exert leadership and generate respect in the day to day running of their units;*
- 2. Secondly, they also need to run what one may call a "tight ship";*
- 3. Thirdly and most importantly, the success of most RAAF units, particularly flying squadrons, depends to a very large degree on having excellent Senior NCOs; and*
- 4. Fourthly, this was very much the case with 3 Squadron – we were indeed especially fortunate in having a group of such high-quality Senior NCOs, including those we inherited from 75 Squadron when we got to Butterworth.*

Regarding this fourth point, I well remember getting this group of so-called "discards" from 75 Squadron, telling them that as far as 3 Sqn was concerned, they had a clean sheet and would all be judged on their merits and their performance at "The Fighting Third": indeed, we were the premiere fighter squadron with a magnificent and very proud history dating back to September 1916 and we would be counting on them to help us to add to this fine record.

The Operation Itself – 14 to 17 February 1969



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With the posting out of the current CO, Jake Newham, I was posted to be the new CO with the acting rank of Wing Commander (WGCDR) on 11 Oct 68, which was the beginning of probably my most satisfying and enjoyable two years of my many years in the Air Force and perhaps my entire varied career. Indeed, one of the very satisfying events for me was being responsible for the deployment of the Squadron to the base at RAAF Butterworth. The route of what was called "Operation Thoroughfare" was RAAF Townsville, RAAF Darwin, Djuanda, which was an Indonesian Navy base and finally Butterworth. This involved not only the flying of the 21 aircraft to Butterworth together with their support equipment but the positioning of turnaround crews at Townsville, Darwin and Djuanda in Indonesia.

It also involved operational control of the C-130 support plus removal of all the families and their dependants. Being an independent squadron, this numbered some 230 personnel, taking into account both aircrew and groundcrew plus other support personnel, with families boosting this number to about 800 total and this is where our high-quality Senior NCOs came to the fore.

For example, our Administrative Officer (Admin O), Peter Harrison, together with our Equipment Officer, John Gildersleeve had an enormous amount of work to do but both were very ably assisted by exceptional Senior NCOs, in Peter Harrison's case, he had "Blue" Farrell who was a tower of strength for him and highly capable. And I will remember to the day I die, the wonderful Warrant Officer in charge of the flight line, "Darky" Clark, and in whose opinion, I would put my life and did so on many occasions.

We also had another excellent Warrant Officer, "Homer" Parker, in charge of the 'D' inspection hangar. I insisted, amongst other things, that we prepared all squadron aircraft and that these should be flown in sequence, without exception, from 81 to 100 plus the dual, of course which was 107

Thanks to our marvelous team of engineers, under Al Emmerson, including wonderful officers, outstanding senior NCOs and great airmen, this was achieved.

To allow for penetration of cloud, the 21 aircraft were deployed in seven sections of three with three spares going as far as Darwin.

The first drama was at Darwin where the Officer Commanding (OC) the base, GPCAPT Mick Mather, had ordered the 76 Squadron Flight deployed there to fly a complete flying program with all aircraft committed.

This was in spite of the fact that they were there expressly to help our



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skeleton crew to turnaround the whole of 3 Squadron and fix any unserviceabilities, and to do so we also needed their ground support equipment. SQNLDR Stewart Bach was the flight commander in charge but, understandably, refused to disobey the OC's order. So, I and Stew Bach went to see the OC to reason with him but he refused to back-down. Therefore, I was given no other choice but to threaten to ring the AOC Operational Command to force him to back-down, which he did but I was conscious of the fact this made him an enemy for the rest of my career.

However, there was an even worse drama at Djuanda when a pilot, holed both his big ferry tanks on landing.

Having operational control of the support C-130, I immediately asked the detachment commander, FLGOFF Keith Sullivan, to 'scramble' the C-130 with two spare tanks, while Dave Bowden, the Squadron's Navigation Officer, worked out whether a clean Mirage had enough fuel to safely reach RAF Tengah on Singapore.

The answer was that it could but to give a better safety margin, the clean aircraft was towed down to the end of the runway and; of course, the scrambled C-130 was cancelled. SQNLDR Bob Walsh, the Squadron's B Flight Commander, was selected to fly the aircraft to Tengah. I organised with Bob Walsh, that before his Point of No Return (PNR), I would call him to confirm that Tengah was clear with no thunderstorms threatening. However, although Tengah was clear when I overflew it and made the pre-arranged call telling him it was clear and to continue, Bob had to land in the rain as if to prove again how quickly weather in the tropics can change. Bob being an excellent pilot, of course, landed safely but was caught at Tengah without a replacement drag-chute. I received a plaintiff phone call from Tengah requesting me to authorise him to fly to Butterworth without a drag chute which I did without question, recognising the skilled and experienced pilot that he was.

26 Dec 23. Ken Semmler:

Greetings to the team and trust Christmas is being a time of reflection and thanks for the sure hope it brings. I'll vote for that! Hey, recently there've been quite a few accounts of not good stuff re the historic/hysteric aspects relating to our beloved pointy ship so here goes for a bit of factual fun.

The Dual. Sometime during 68, 108 arrived at BTR. We walked around it, wondering as to what use it could be. Our ace leader, Big Jim, in part solved that with the intro of the Mach Buster's card. Indeed, it was good to take any willing ace troops for a ride and demonstrate some of the stuff which they might find written up as u/s's. That was one important positive. You recall that we ran a system of one of the three flights being in Tengah. Oft remember that the Brits didn't do things by halves socially. We happened to be there for the Battle of Britain Ball and, for some reason, returned to BTR the next morning. Those of you who have



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visited the Singapore Botanic Gardens would recall the magnificence of the orchids. Well, the Poms had decorated the Mess with an incredible orchid display, exceeding that of the Botanic Gdns! So, prior to departure next morn, the 'marriedies' souvenired great bundles of orchids to impress the wives. Hmm, next step - get them back to BTR. Behold, 108 was on hand. Jack Holden was with us so he was installed in the back seat followed by the orchids. How I wish I had a photo since the top of our Senior Engo's bash-hat was just visible above the orchids. So, another use was found for the dual, as a high speed florist delivery vehicle. Wot fun and all arrived safely, including Jack Holden!

77 Sqn first Mirage flight. Was posted from 75 to OCU to do the ground attack course, then to 77, about to re-equip with the Mirage. Re Sqn pilots, there was Jimmy the Tread as CO, Nick Ford, Terry Body, Jack Archer and yours truly as an exceedingly junior flight commander. Had a call from HQ; some of ye might recall a TV series titled 'Skippy the Bush Kangaroo'. There'd been an ask from the producers if they could film a low level high speed pass for inclusion in one of the episodes. Wot an opportunity to participate, with that flight of vital operational purpose being the first 77 Sqn Mirage flight. I add that yours truly was at the helm. Wouldn't have a clue if the film was ever put to its intended use but was a lot of fun. Currently we're in the midst of shifting house. With my logbooks being in a box but not sure which one, am unable to state date and aircraft number. However, I have wondered how that momentous event was recorded in the Squadron history!

Ah, the beloved Mirage, a delight to punch through the skies! Happy memories and thanks to all, Ken

5 Jan 24. Phil Frawley: Almost missed Australia while dropping bombs.

During my time at 77 Squadron, flying the Mirage, we spent time at the bare base Learmonth on Australia's North West coast. This was a very good detachment with excellent flying to be had. On one such detachment the Squadron ran a bombing program with a gradual build up to quite complex operational style missions that involved low level high speed ingress and egress into and out of the target area. One of the missions had the aircraft fitted with the dreaded RPK-10 external fuel tank and bomb carrier. Even though I had flown with these tanks before I hadn't dropped bombs from them. The bombing range South of Learmonth was huge and extended all the way to the coastline.

My mission lead was Dave Pietsch, a famous fighter pilot in the RAAF and a legendary operator. The mission brief was extensive, covering most aspects of the execution of how we would complete the task. The briefed attack was to be a 30 degree pull up from a predetermined distance followed by a roll to inverted and pull to 45 degrees nose down attack dive. Release parameters were briefed and I questioned how to identify the target from the 8,000 feet release height. The answer given was that since we were dropping four 500 pound Mark 82 high explosive bombs I could drop on leads bombs that would have impacted as I rolled out on attack heading. For me this was a great relief because any responsibility for the impact position of the weapons lay with Dave Pietsch.



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The mission was difficult and I worked hard to meet Dave's expectations concentrating on every detail and ensuring that I flew in the correct formation and adhered to my split sequence and timing as accurately as I possibly could. Into the attack sequence I double checked that all my switches were set to Salvo off the four big bombs. I was very pleased with myself as I executed the 4 'G' pull up and roll to inverted sighting lead's bomb impacts which by this time had turned into a massive dust cloud. I carefully aimed for the centre of the cloud and waited for the release height. At release height all I had to do was press and hold the bomb release button and it would be done.

As I pressed the bomb release I was startled by two large 'bangs' from either side of the aircraft. I instinctively pulled out of the dive and at the same time I realised it was just the sound of the bomb ejectors going off on the side of the empty fuel tanks which amplified the sound. I then committed a very bad error and repressed the bomb release button releasing the two remaining bombs. Unfortunately at this time I was almost in level flight and doing about 600 knots (1100 Km/Hr) and heading West towards the coast. I didn't sight the impacts but I informed the Range Safety Officer (RSO) of my mistake.

I can only imagine what Poor old Dave Pietsch was thinking as we egressed out of the target area and headed back to Learmonth. The debrief was quite frank and honest and my shortcomings were well explained to me. I subsequently had a 'chat' with the Commanding Officer (CO) and the Executive Officer (XO) of the Squadron who listened to my explanation about not being told that the RPK-10s made a loud bang when they ejected the bombs. The CO then decided that we would wait for the RSOs report on where the bombs impacted before embarking on a plan of action (punishment).

The nervous wait ended when the RSO reported that evening that the bombs had impacted within the confines of the bombing range approximately three miles from the intended target and 50 meters from the coastline, although there was evidence of shrapnel damage to a four wheel drive track right on the edge of the beach. The CO and XO were relieved that a report to higher authority was not required and the fact that I was the laughing stock of the whole Squadron including the maintenance guys was punishment enough. I was now infamous for having almost missed Australia while dropping bombs.