



Mirage to Hornet

A lightweight to light-heavyweight fighter transition

Following-on from the Sabre to Mirage transition (March 2017 AA), after two decades of service, the RAAF replaced the Mirage IIIIO with the F/A-18A Hornet. Unlike the preceding transition, the Hornet did not involve the vast broadening of capability conferred by changing from a day-fighter to an all-weather tactical fighter. The Hornet did, however, introduce a far deeper tactical fighter capability than was ever possible with the Mirage.

Much of the capability gain came not just from generational and technological developments, but from the size of the Hornet, which conferred immediate improvements in payload and sensors, especially radar aperture and power.

The Hornet also improved on a major limitation of the Mirage, namely, its short range.

More significantly, the Hornet was capable of air-to-air refuelling, thus setting right some earlier conceptual thinking, when the RAAF had asked Dassault not to equip the Mirage IIIIO with single-point pressure refuelling, on the basis that pressure refuelling facilities would not be available at forward operating airfields. This decision had long-term consequences, because even if the RAAF had later sought to modify the Mirage for air-to-air refuelling, it could not have been done easily since there was no single-point pressure refuelling manifold within the Mirage into which to tap an air-to-air refuelling probe.

Beyond range the F/A-18 also brought aerodynamic advances, a generational step-change in digital technology and a human/machine interface which set a new benchmark in fighter cockpit design.

The RAAF had done well, and its promotion into a bigger league of tactical fighters was starkly evident when the first two F/A-18B

aircraft were ferried to Australia, non-stop, across the Pacific.

Given its 20 years of Mirage operational experience, the RAAF also had a solid foundation on which to introduce the new fighter. That expertise had been gained not only from the permanent deployment of Mirages to Malaysia, but also from an increasing participation in Australian and regional exercises, including deployments to the USAF Pacific Air Forces Exercise Cope Thunder.

Like the preceding transition to the Mirage, that of the Hornet also needed to be accomplished without any loss of operational capability. So when No 3 Squadron returned from Butterworth to convert to the Hornet, a new Mirage unit, No 79 Squadron, was formed at Butterworth to meet Australia's Five Power Defence Agreement obligations.

During the Sabre to Mirage transition, No 2 (Fighter) Operational Conversion Unit was over-burdened, but this time it was tasked solely with Hornet training. And rather than establish another fighter training unit to assume

responsibility for the ongoing Mirage conversion courses, as had been done for the Sabre to Mirage transition, the conduct of all Mirage operational conversions was transferred to No 77 Squadron (contravening the dictum that military training should always be carried out in training units, not operational units).

No 77 Squadron also assumed responsibility for MB-326H lead-in fighter training and for the last Mirage fighter combat instructor course – all this while maintaining its status as an operational fighter unit. This was not smart, as was evident when the unit's aircraft establishment and annual flying rate grew to more than 40 aircraft and 11,000 hours per year respectively.

After No 77 Squadron converted to the Hornet in 1987, No 75 Squadron followed. No 75 Squadron, which had been based at Darwin since 1983, then moved to the newly-constructed base at Tindal, 300km south. The sole remaining Mirage unit, No 79 Squadron, was concurrently disbanded, thus ending two decades

of Australian service by Dassault's elegant fighter, and bringing an end to 32 years of a permanent RAAF fighter presence in Malaysia.

The transition from Mirage to Hornet was completed in May 1989, along with the most significant reorganisation of RAAF operational units since World War 2. This change amalgamated all of the RAAF's tactical fighter units and air defence radars, irrespective of where they were located, into one operational group, the Tactical Fighter Group.

The RAAF had successfully brought into service not only an outstanding tactical fighter but also a new system of functional command, changes that, without doubt, contributed to the exemplary performance of No 75 Squadron in the Iraq War of 2003, where the unit successfully conducted air superiority, close air support and air interdiction operations. [A](#)

Air-Vice Marshal Brian Weston (Ret'd) was Commander Tactical Fighter Group from July 1990 to July 1993.



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