

# What's missing from modern-day air shows

BYRON BAILEY

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Flying displays these days are rather tame compared to previous air shows that featured exciting planes of yesteryear.

One of the missing ingredients is noise. Modern jet aircraft, including fighters, have more efficient turbofan engines that mix cold bypass air with the hot jet engine core. With a lower exhaust velocity, this considerably reduces the intensity of the shear noise generated when the pure jet supersonic exhaust of earlier-generation aircraft meets the free airstream.

F-18s and their ilk such as the F-35 are noisy but just lack the ear-splitting, painful shockwaves generated by previous generations of aircraft with their pure jet engines.

The fast-climbing English Electric Lightning interceptor made the ground shake when pilots applied afterburner to the engines for take-off. I loved watching them take off when we were engaged in exercises against them in the seventies from RAF Tengah Singapore. Though a loser as a dogfighter, the Lightning was exceptional as an air display aircraft because of the incredible intensity of the noise.

Also, who can forget the earth-shaking roar of reheat from those engines of the magnificent Concorde when taking off. A French aircraft with British engines but supersonic commercial flight is still a long way off as the fuel burn is incredibly high due to the supersonic drag.

Even the Mirage of the RAAF required airmen, working on aircraft in the ORP's (operational readiness platform) near the runway, to wear kidney belts and ear defenders to protect against the shockwaves. You could feel the pulses like punches hitting your body when the pilot selected afterburner for take-off.

I misjudged the noise intensity when returning to RAAF Williamtown in a Mirage in the middle of winter on a cold, crisp, clear night when passing over Newcastle at 2000 feet at about 600 knots. As I passed over my suburb at about 6pm, I gave a quick burst of afterburner to let my wife know I would be home for dinner. The wash-up was many noise complaints and claims of cracked windows and walls with the result I wore 10 days as duty officer.

The RAAF's big stick F-111, at the time the world's best strike weapon, was a particular crowd favourite especially with its fuel "dump and burn" producing 40 metres of flame when the afterburners were lit. Really awesome at night.

I have attended many air shows worldwide but one of my favourites was the RAF Duxford "fighter meet" for WWII aircraft in the UK. The time I attended, the magnificent Avro Vulcan was still flying at air shows. When that huge bomber starts spooling up those big engines, the harmonics of the intakes produce the most incredible banshee wail that was mind-blowing.

Perhaps flying is now so humdrum for much of the public that air shows do not generate the same degree of excitement they once did.

*Byron Bailey is a former RAAF fighter pilot and flew B777s as an airline captain.*

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