



Sharpening the SCIMITAR

Could Supermarine's naval jet fighter ever have been world-class?

How good was Supermarine's final fighter and what were the options to improve it? Could it have been developed into a "nearly Phantom" for the UK? **PAUL J. STODDART FRAeS** compares the Scimitar's performance and capabilities with four of its readily available American naval jet fighter contemporaries, and reaches an intriguing conclusion



The sole Supermarine Type 525, VX138, was the true genesis of the Scimitar, fitted with swept wings and conventional swept tail surfaces, in contrast to the Type 508's straight-tapered wings and butterfly tail. The 525 made its first flight on April 27, 1954, in the hands of Supermarine test pilot Mike Lithgow, but was lost in a fatal crash while on a test flight from Boscombe Down on July 5, 1955.

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THE SUPERMARINE aircraft company will of course be forever associated with its greatest achievement, the Spitfire. As greatest achievements go, it is indeed one of the best — but it also has to be recognised that the firm's subsequent efforts generally fell well short of excellence. The Spitfire's direct descendant, the laminar-flow-wing Spiteful, was the fastest ever propeller-driven British fighter, but it was overtaken, literally and metaphorically, by the early jets and never entered service. Using the Spiteful's wing, the jet-powered Attacker for the Royal Navy was a somewhat pedestrian design (even retaining a tailwheel undercarriage), and, although it earned the distinction of becoming the Navy's first operational jet fighter, its front-line service with the Fleet Air Arm (FAA) lasted a mere three years. The Swift was a contemporary of the Hawker Hunter, but despite extensive development effort it proved a major disappointment in its original role of interceptor and only achieved some success in low-level photo-reconnaissance. [For more on the procurement of the Swift see Professor Keith Hayward's High Anxiety in TAH11 — Ed.]

Supermarine's swansong

Supermarine was part of the Vickers-Armstrongs group and its final independent design was the Scimitar naval jet fighter. Unfortunately for the company, its swansong was hardly a classic and the type has been the subject of considerable criticism in retrospect.¹ The Scimitar was designed as a carrier fighter and on its introduction was the FAA's first swept-wing design and its biggest,

most powerful and fastest aircraft (and the noisiest). It was also one of the most dangerous. During its operational service from 1958 to 1969, 39 of the 76 delivered to the FAA were lost in accidents — a loss rate of 51 per cent.

The Scimitar was the end result of a long development programme that began with the Royal Navy's late-1940s interest in dispensing with a carrier aircraft's undercarriage. This was a weight-saving measure deemed worthwhile given the marginal performance of the early jets, especially in acceleration. A weight reduction of around 15 per cent was thought to be possible, bringing associated improvements in speed and climb. Such aircraft were to be launched from a trolley (shades of the Messerschmitt Me 163) and belly-landed on a flexible deck. The concept was tested with some success using a de Havilland Vampire, but it was not adopted. Jet-engine thrust steadily improved and the ground handling problems and limitations of aircraft lacking a conventional undercarriage more than outweighed any performance benefit.

Supermarine devised a design proposal for the flexible deck concept; the straight-winged Type 505 with a butterfly tail. This evolved into the Type 508, which first flew on August 31, 1951. The design was then further developed through several iterations, gaining swept wings and a conventional fin and tailplane. The resulting Type 544 formed the prototype of the Scimitar, which made its first flight in January 1956, operational training beginning in June 1958.² By that point, the US Navy's supersonic Vought F-8 Crusader had been in service for more than a year.

OPPOSITE PAGE With "Royal Navy" emblazoned on the undersides of their wings, Scimitars flew the flag for the Fleet Air Arm at SBAC shows at Farnborough in the late 1950s and early 1960s. The twin-engine naval fighter looked impressive and certainly made a lot of noise, but in reality it could not compete with its contemporaries.