AVENTURES FRANÇAISES EN VTOL

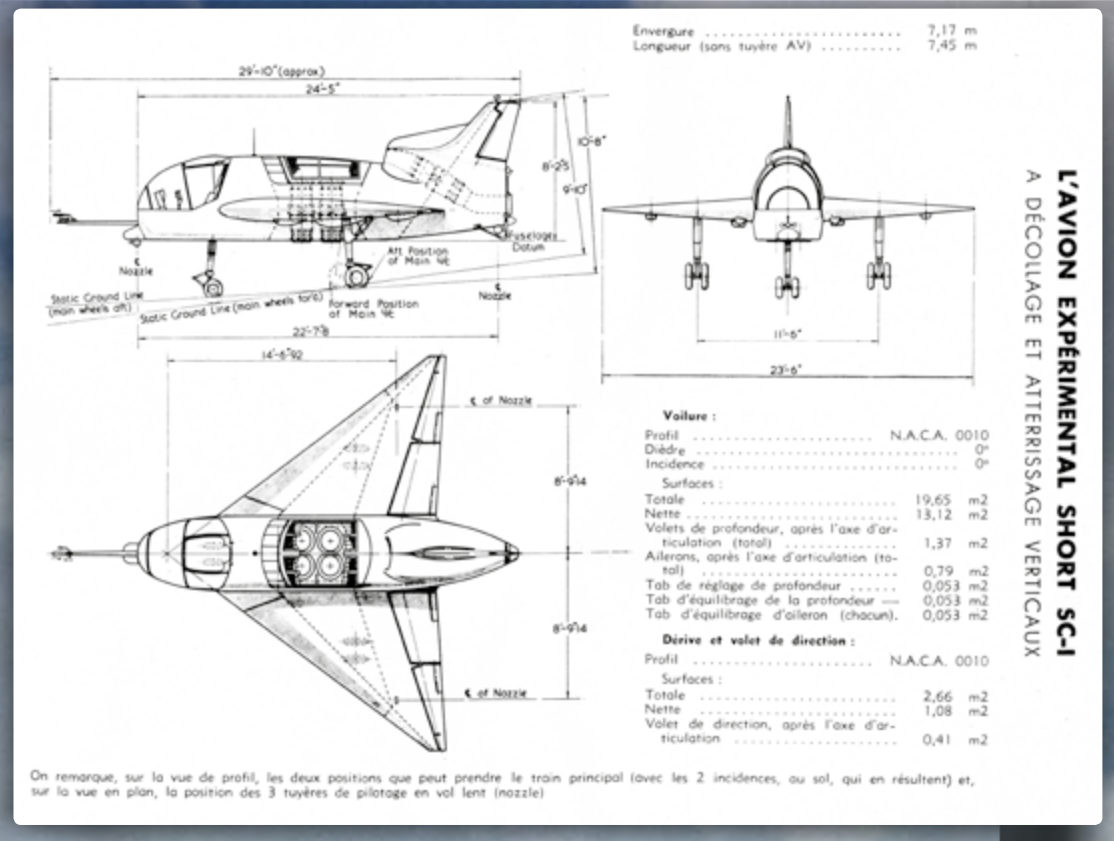
FRENCH TESTING OF THE SHORT SC.1, 1962

By the early 1960s Britain was leading the world in the practical application of vertical take-off and landing jet technology. The French were working on their own VTOL jet projects too — but had no means of providing their pilots with "hands-on" experience. Enter the SC.1, as JEAN-CHRISTOPHE CARBONEL explains

DURING THE 1950s and 1960s vertical take-off and landing (VTOL) became extremely popular in aeronautical circles, the concept taking root in the USA and later expanding into Europe. The first VTOL aircraft to take off and transition from vertical to horizontal flight was the UK's Short SC.1 on April 6, 1960. While Short experimented with its two prototypes, on the other side of the Channel Avions Marcel Dassault was designing a VTOL variant of its Mirage prototype, nicknamed Balzac V (V for VTOL, not a roman numeral for five), the company having been asked by the French authorities to team up with a partner to develop a VTOL fighter.

By this point Dassault had already designed a VTOL attack aircraft, designated MD.610 and named Cavalier, which was to use the British Bristol Siddeley BE.53/8 engine with rotatable nozzles (ultimately developed into the Hawker Siddeley Harrier's Pegasus). The MD.610 design was not approved by Marcel Dassault, however, who reportedly found the machine ugly, and was disappointed that it had no hope of ever going supersonic. Another concept, the MD.620, was proposed, incorporating the fitting of a single propulsion engine and four vertically positioned lift engines, but the concept of a swept-wing (i.e. not delta-wing) VTOL fighter was abandoned by the French in June 1960.

Work continued on VTOL, however, and a co-operation agreement was signed with Sud Aviation on December 19, 1960 (modified on January 16, 1961), in which Sud was made largely responsible for promotion and sales while Dassault remained in charge of the design and construction of a pair of delta-wing VTOL designs; the Balzac V and larger Mirage IIIV strike-fighter. To achieve this the Dassault design office, led by Jacques Alberto (the company's chief designer since April 1958), set about incorporating dedicated lift engines into the proven Mirage shape. In selecting this configuration, Dassault



TOP *The leading particulars and three-view of the Short SC.1 as provided in the French report on the type in 1962. The profile and head-on views show the aircraft in forward-flight configuration, and the plan view the hovering/slow flight configuration.* **ABOVE** *The first SC.1 prototype, XG900, being flown by Tom Brooke-Smith at the SBAC show at Farnborough in 1961. It was in this machine that French pilots got their first experience of VTOL flight.*

TOP: VIA AUTHOR / ABOVE MIKE HOOKS