FLYING WITHOUT WINGS

(Milton O. Thompson and Curtis Peebles)

Milton O. Thompson (1926-1993) the author, flew twenty-three different types of aircraft as a test pilot from 1956 to 1965, after which he remained at NASA in several management positions. The author of *At the Edge of Space: The X-15 Flight Program* (Smithsonian Institution Press 1992), he died in 1993 before finishing the manuscript of this book.

Curtis Peebles has done a virtually seamless job of completing Milt Thompson's memoir and in doing so, has retained the authenticity of Thompson's own voice. Peebles edited Thompson's manuscript and has added two chapters that describe the lifting-body program after Thompson retired from test flying.

Test pilots in the dawn of the space age envisioned spaceflight as an extension of atmospheric flight. They assumed that experimental aircraft would fly progressively faster and higher until one would go into orbit and return to earth in a conventional runway touchdown. By the late 1950s a small group of NASA engineers and pilots were designing oddly shaped, wingless aircraft known as 'lifting bodies'. Their goal was to develop a vehicle that could survive the heat of reentry into the atmosphere, fly at subsonic speeds and make controlled, horizontal landings, much like an airplane. But NASA, determined to beat the Soviets to the moon, adopted the more easily implemented Mercury capsules, which were controlled largely by booster technology and required risky, expensive ocean splashdowns and recoveries. The proponents of lifting bodies continued during the 1960s and 1970s to refine and test the concept. Their research eventually became central to the design of the space shuttle, which first flew in 1981.

Written by a pilot-engineer who participated in every phase of NASA's lifting body program, *Flying Without Wings* documents the adventure, triumphs, setbacks and fun of pioneering a technology that allowed astronauts to accomplish lifting reentries and precise runway landings. He describes hair-raising test flights, including his near-crash in the M2-F2 in 1966 and he details his successful efforts to eliminate landing engines from early space shuttle designs.

Charting the transformation of aircraft into spacecraft, this vivid memoir describes the efforts of a small group of pilots and researchers to prove a seemingly impossible aerodynamic concept that would profoundly influence the history of spaceflight.

Details: Crécy Publishing Ltd, £19.95
ISBN: 0-947554-78-5