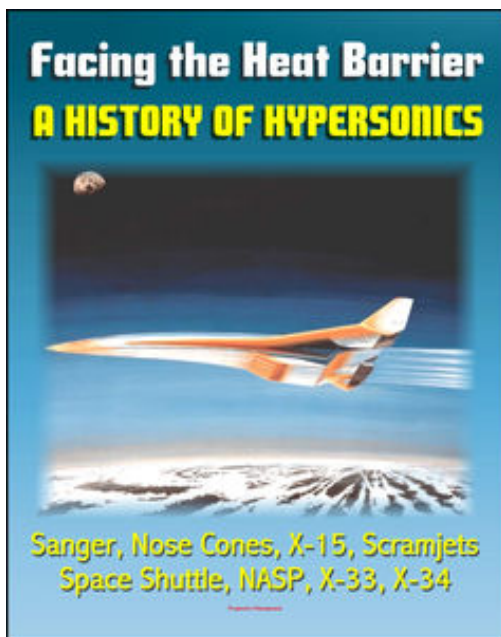


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Chapter 1 covers the immediate postwar years, when America still had much to learn from the Europeans. It focuses on two individuals: Eugen Sanger, who gave the first proposal for a hypersonic bomber, and John Becker, who built America's first hypersonic wind tunnel. Chapter 2 covers the first important area of hypersonic research and development, which supported the advent of strategic missiles during the 1950s. The focus was on solving the re-entry problem, and this chapter follows the story through flight tests of complete nose cones. Chapter 3 deals with the X-15, which took shape at a time when virtually the whole of America's capability in hypersonics research was contained within Becker's 11-inch instrument. Today it is hard to believe that so bold and so successful a step in aviation research could stand on so slender a foundation. Chapter 4 introduces hypersonic propulsion and emphasizes the work of Antonio Ferri, an Italian aerodynamicist who was the first to give a credible concept for a scramjet engine. This chapter also surveys Aerospaceplane, a little-known program of paper studies that investigated the feasibility of flight to orbit using such engines. The next two chapters cover important developments in re-entry that followed the ICBM. Chapter 5, "Widening Prospects for Re-Entry," shows how work in this area supported the manned space program while failing to offer a rationale for a winged spacecraft, Dyna-Soar. Chapter 6, "Hypersonics and the Shuttle," begins by outlining developments during the mid-1960s that made it plausible that NASA's reusable space transporter would be designed as a lifting body and built using hot structures. Chapter 7, "The Fading, the Comeback," shows how work with scramjets did not share the priority afforded to the topic of re-entry. Instead it faded, and by the late 1960s only NASA-Langley was still pursuing studies in this area. This ongoing effort nevertheless gave important background to the National Aerospace Plane— but it was not

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