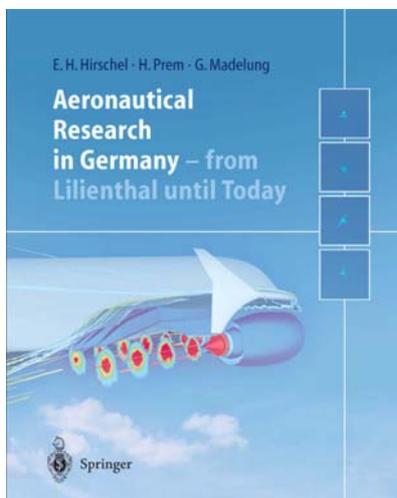


Ernst Heinrich Hirschel, Horst Prem, Gero Madelung

 Springer

Aeronautical Research in Germany

From Lilienthal until Today



2004 Approx. 700 p., Book.
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From the pioneering glider flights of Otto Lilienthal (1891) to the advanced avionics of today's Airbus, aeronautical research in Germany has been at the forefront of the birth and advancement of aeronautics. On the occasion of the centennial commemoration of the Wright Brother's first powered flight (December 1903), this English-language edition of 'Aeronautical Research in Germany' recounts and celebrates the considerable contributions made in Germany to the invention and ongoing development of aircraft.

Featuring hundreds of historic photos and non-technical language, this comprehensive and scholarly account will interest historians, engineers, and, also, all serious airplane devotees. Through individual contributions by 35 aeronautical experts, it covers in fascinating

detail the milestones of the first 100 years of aeronautical research in Germany, within the broader context of the scientific, political, and industrial milieus.

Important contributions of German aeronautical research to the flight sciences are, for example, the boundary-layer theory (1904), the lifting-wing theory (1918), the Wagner Web (1924), the boundary-layer stability theory (1929), the swept wing (1935) and its experimental verification (1939), the axial compressor (minimum frontal area) for jet engines (2nd half of the thirties), the transonic airfoil (1940), the area rule (1943), and the first application of a supercritical wing (Airbus A310, 1982).

The technological developments led in Germany to breakthroughs in aircraft design, including the modern high-speed aircraft (He 70, 1932), the first operational helicopter (Fw 61, 1936), rocket plane (He 176, 1939), jet plane (He 178, 1939), the Me 163 (1941), the Me 262 (1941/1942), the ejector seat (1942), the first quantity production jet engines Jumo 004 (1943) and BMW 003 (1944), the variable swept wing jet (Me P 1101, 1945), V/STOL aircraft (VJ 101 C, 1963), and controlled post-stall flight (X-31, 1990).

This richly illustrated and authoritative volume constitutes a most timely and substantial overview of the crucial contributions to the foundations and advancement of aeronautics made by German scientists and engineers.

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Part 2 The Political, Institutional and Industrial Environment of German Aeronautical Research.- Aeronautical Research Comes into Being During the Time of the Empire.- The Difficult Situation of Aeronautical Research and the Aeronautical Industry.- During the Weimar Republic, 1919–1932.- The High Rating of Aeronautical Research During the Third Reich.- The Reconstruction of German Aeronautical Research after 1945.-

Part 3 Results of German Aeronautical Research.- From the Beginning to the End of World War Two.- Concept and Configuration.- Aerodynamics – the Key to Successful Flight.- Aeroengines – Performance and



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