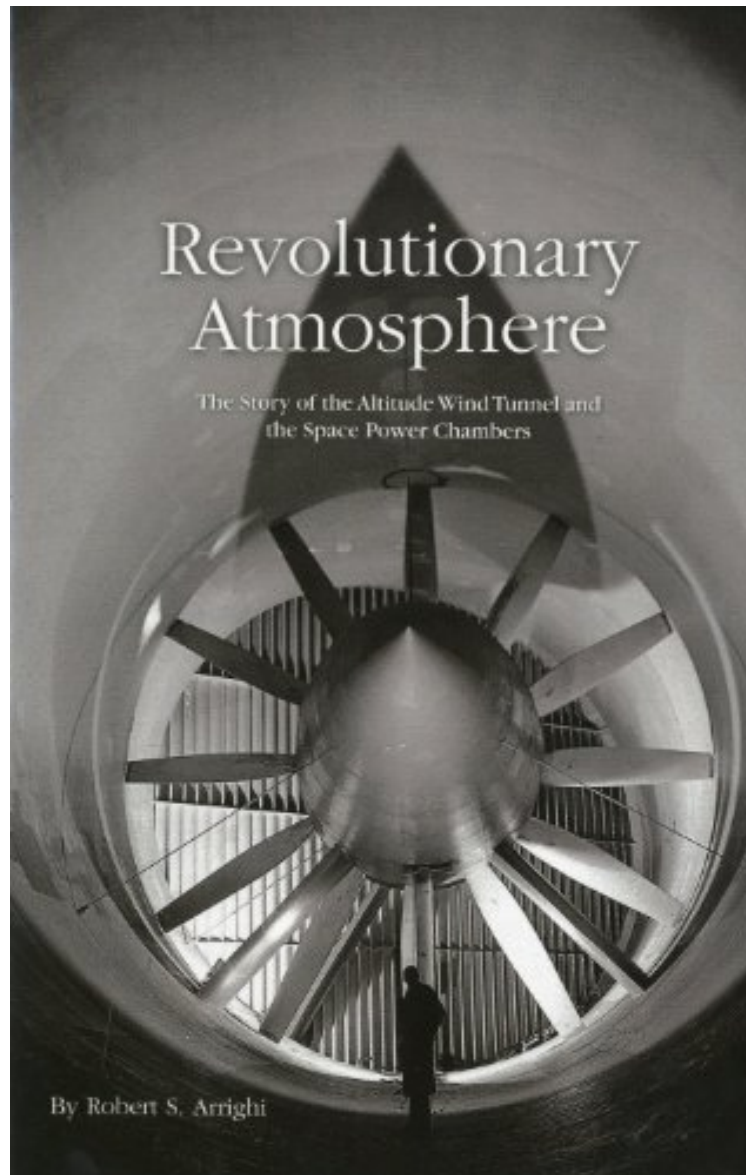


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## Revolutionary Atmosphere: The Story Of The Altitude Wind Tunnel And The Space Power Chambers (Monographs in Aerospace History)

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NOTE: NO FURTHER DISCOUNT FOR THIS PRINT PRODUCT--OVERSTOCK SALE-- Significantly reduced list price A massive, but little-known, facility in Cleveland, Ohio, played a vital role in the U.S. development of jets, in the training of NASAs first astronauts, and in making NASAs first missions beyond Earth orbit possible. Revolutionary Atmosphere tells the story of this obscure giant. Starting life in 1944 as the Altitude Wind Tunnel, it was the first wind tunnel that could study aircraft engines under realistic flight conditions; and it was enormous in its original configuration, it could even accommodate full-size aircraft. The tunnel could not only simulate the high speeds of jet aircraft, like other wind tunnels, but could simulate the pressures and temperatures of higher elevation flight. Creating the frigid temperatures required the worlds largest refrigeration system, which the Carrier Corporation designed with innovative accordion-like cooling coils. At the militarys request, nearly every type of aircraft engine was tested in the Altitude Wind Tunnel during the 1940s and 1950s. In the late 1950s, when the flight of Sputnik I spurred the National Advisory Committee for Aeronautics (NACA) to become the National Aeronautics and Space Administration (NASA) and change its primary mission to aerospace, the facility changed too. The tunnel was divided into two sealed vacuum chambers, with one chamber completely rewelded to withstand the higher pressures of simulating the vacuum of space. A liquid-nitrogen cold wall was added to simulate the extreme cold of space, and special lamps were added to simulate the intense heat and light of solar radiation outside of Earths atmosphere. It was renamed the Space Power Chambers and began its second life as two gigantic environmental chambers, or space tanks.

About the Author Bob Arrighi, archivist for Wyle Information Systems, supports the History Program at the NASA Glenn Research Center. He received his B.A. in history from Cleveland State University and M.L.I.S. in library and information science from Kent State University. While archiving documents, photographs, and artifacts for NASAs Plum Brook Reactor Facility, Arrighi cowrote NASAs Nuclear Frontier (<http://history.nasa.gov/SP4533/sp4533.htm>) and the script for an Emmy-nominated documentary video, Of Ashes and Atoms. Recently he has been documenting several Glenn facilities before their demolition: the Altitude Wind Tunnel, the Propulsion Systems Laboratory, and the B-1 and B-3 test stands. He has won several awards from NASA, and in 2009 the Society for History in Federal Government recognized his work on an interactive history for the Altitude Wind Tunnel (<http://awt.grc.nasa.gov/>).