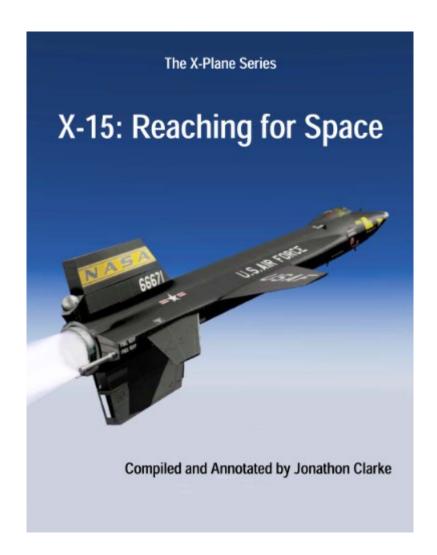


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X-15: Reaching For Space (The X-Plane Series)





Synopsis

This joint program by NASA, the Air Force, the Navy, and North American operated the most remarkable of all the rocket research aircraft. Composed of an internal structure of titanium and a skin surface of a chrome-nickel alloy known as Inconel X, the X-15 had its first powered flight took place on September 17, 1959. Because of the large fuel consumption of its rocket engine, the X-15 was air launched from a B-52 aircraft at about 45,000 ft and speeds upward of 500 mph. The airplane first set speed records in the Mach 4-6 range with Mach 4.43 on March 7, 1961; Mach 5.27 on June 23, 1961; Mach 6.04 on November 9, 1961; and Mach 6.7 on October 3, 1967. It also set an altitude record of 354,200 feet (67 miles) on August 22, 1963, and provided an enormous wealth of data on hypersonic air flow, aerodynamic heating, control and stability at hypersonic speeds, reaction controls for flight above the atmosphere, piloting techniques for reentry, human factors, and flight instrumentation. The highly successful program contributed to the development of the Mercury, Gemini, and Apollo piloted spaceflight programs as well as the Space Shuttle program. The North American X-15 rocket-powered aircraft/spaceplane was part of the X-series of experimental aircraft, initiated with the Bell X-1, that were made for the USAAF/USAF, NACA/NASA, and the USN. The X-15 set speed and altitude records in the early 1960s, reaching the edge of outer space and returning with valuable data used in aircraft and spacecraft design. As of 2011, it holds the official world record for the fastest speed ever reached by a manned rocket-powered aircraft. During the X-15 program, 13 of the flights (by eight pilots) met the USAF spaceflight criteria by exceeding the altitude of 50 miles (80 km) thus qualifying the pilots for astronaut status. In a period of a little more than sixty years since the first flight of the Wright Brothers, the X-15 extended man's exploration of three-dimensional space above the surface of the Earth and beyond the atmosphere. Behind these milestones of practical flight have been less publicized achievements in scientific research, making such progress possible. Although the X-15 has had its share of newsworthy milestones, its contributions to scientific research have been a more essential and more meaningful part of the program from its inception. This semi-technical summary of the X-15 program is directed toward the less publicized aspects of its achievements. Even though the program has been most successful in terms of achieving its planned objectives and is continuing to play an important role in aerospace research, many notable benefits have been of a different nature - more intangible and somewhat unforeseen at the time the X-15 program was approved. In the early years of our nation's space program, which has been based to a large extent on the unmanned-missile technology that had been developed over the five years prior to Project Mercury, the X-15 has kept in proper perspective the role of the pilot in future manned space programs. It has pointed the way to simplified

operational concepts that should provide a high degree of redundancy and increased chance of success in these future missions. All of the people in industry and in government who have had to face the problems of design and of building the hardware and making it work gained experience of great value to the future aeronautical and space endeavors of this country. This book brings together a variety of sources to cover all aspects of the X-15 program including the people and the technical achievements. 373 pages, over 130 photos and illustrations, many in full color. Contents hyperlinked for easy navigation.

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Customer Reviews

The book is an excellent companion to another text on the subject. Given what most of us do not know about the period, it should be required reading.

As a follower of the space program and all the X planes this is a good addition to the collection Download to continue reading...

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