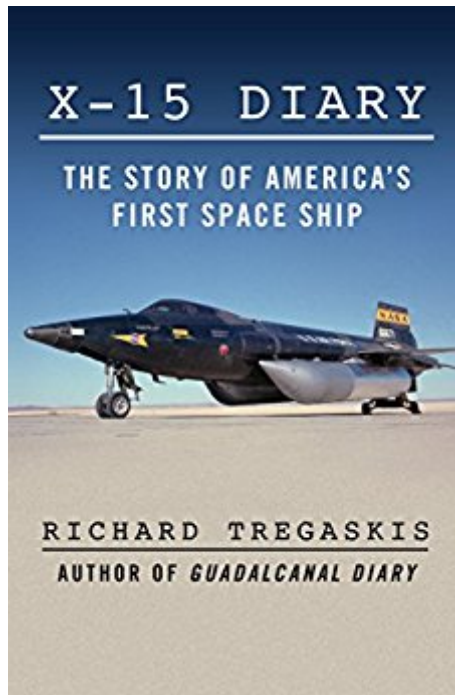




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X-15 Diary: The Story Of America's First Space Ship



Synopsis

The riveting true story of the world's fastest plane and the first manned flights into outer space. First tested in 1959, the X-15 rocket plane was at the forefront of the space race. Developed by the US Air Force and the National Aeronautics and Space Administration (NASA) in collaboration with North American Aviation, the X-15 was sleek, black, and powerful—a missile with stubby wings and a cockpit on the nose. By 1961 it could reach speeds over three thousand miles per hour and fly at an altitude of thirty-one miles above the earth's surface—the lower reaches of outer space. Acclaimed journalist and bestselling author Richard Tregaskis tells the story of the X-15's development through the eyes of the brave pilots and brilliant engineers who made it possible. From technological breakthroughs to disastrous onboard explosions to the bone-crushing effects of intense g-force levels, Tregaskis captures all the drama and excitement of this crucial proving ground for the Mercury, Gemini, and Apollo missions. X-15 Diary recounts a thrilling chapter in the history of the American space program and serves as a fitting tribute to the courageous scientists and adventurers who dared to go where no man had gone before. This ebook features an illustrated biography of Richard Tregaskis including rare images from the American Heritage Center at the University of Wyoming.

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Customer Reviews

May be the best book I have ever read, it is a must read for anyone going into the aviation industry that is looking to work on development programs. Read it up and enjoy the ride!!

Great price, fast ship.

I ordered the book about the X-15 plane and it arrived in plenty of time for Christmas! I was very pleased with the service.

Today, private companies are researching hypersonic vehicles designed to reach Earth orbit at speeds up to Mach 25 (25 times the speed of sound). The last quarter of the 20th century was the era of the Concorde, a passenger plane flying at Mach 2; and of course, there was the space shuttle, lasting up to 2011. All of these planes and spaceships owe their existence to the now legendary X-15, the first supersonic jet/rocket plane to reach into space, short of Earth orbit, other than rockets. This craft, with its beginnings in 1954, was intended to be a test plane, but then came the dawn of the space age in 1957, with the Soviets sending up the world's first spacecraft and satellite. In a panic, the U.S. scrambled in an effort not to be left behind during the Cold War, so they deemed the X-15 to become an experiment spacecraft, in addition to the planned project Mercury. In the U.S., there was controversy on what type of spacecraft would be their workhorse for space, the rocket with its space capsule, or a spacecraft resembling a jet. Only three X-15s were built, by North American. The engines, and there were several types, were built by Reaction Motors. Only two B-52s were used to carry them up to before release. The competition here is that while a rocket with a space capsule and astronaut would blast off in space and come back down, uncontrolled with only a parachute, the X-15 could be steered and controlled from take-off to landing, at the pilot's discretion, at all times. This book is a diary by Richard Tregaskes, a journalist and writer having full access to the testing of the X-15 (X meaning experimental). This diary dates from February 1959, before the first test, to November 1960, in the early successful runs, with many failures in between these runs. The X-15 continues to be tested until 1968, to the flight of Apollo 7. What should be noted is that this diary tells of the history of rocketry, from 16th century China to the early pioneers like Robert Goddard, Konstantin Tsiolkovsky, and Werner Von

Braun. It tells of how the U.S. acquired rocket technology from these pioneers, including the seizing of German rockets and scientists during the war, testing in White Sands, New Mexico, and includes the first plane to break the sound barrier, the X-1, piloted by Chuck Yeager, continuing on to the development of America's first rockets and the establishment of Cape Canaveral. It also tells of test pilots of other planes, and how many of these pilots were killed, being part of the process of testing these advanced aircraft. This diary mostly covers each individual test of the X-15 air/spacecraft and with trials it has endured. The three main pilots mentioned here are Scott Crossfield, who tested the majority of the flights logged here, along with Bob White and Joe Walker. Neil Armstrong, the first man on the Moon, was also a test pilot, but not in these early flights. The X-15 was shaped like a cigar, with stubbed wings, and small enough to fit under the wing of a B-52. The B-52 would take the X-15 to heights up to 45,000 feet or more, release the plane, where it would ignite its jets and soar to the edge of space. In order to protect the pilot, the X-15 was escorted by chase planes, being F-100s, F-104s, choppers, and a C-130 weather ship. The X-15 was painted black, hence the name Blackbird, and carried only one pilot. It was tested at Edwards Air Force Base in California, by the Air Force. If successful, it would be turned over to NASA for use. Most of the plane, a good two-thirds, carried fuel. The fuel was: 1,200 gallons of anhydrous ammonia (water alcohol), 1000 gallons of liquid oxygen, with smaller tanks of hydrogen peroxide, liquid helium, and liquid nitrogen. The water alcohol and liquid oxygen mix forming a controlled explosion powering the plane, and the other fuels keep the liquid oxygen cold at sub-zero temperatures, and prevents overheating of the engines. The metal has to be heat resistant at high speeds against the friction of the atmosphere. Hoses, pressure valves, bolts, all must be tight with no leaks, the engines cannot overheat, and oxygen must be supplied to the pilot to breathe, the cabin must be pressurized, and meters must have perfect readings. One little glitch can range from failure of the plane to function correctly to the plane exploding and killing the pilot. These factors determined the tests. For the first year and a half, each test was recorded in this diary with all the details. At first, there were failures like smoke in the cockpit before the plane was released. For the first three tests, the X-15 flew captive, meaning it was not released from the B-52. From the fourth test on, the plane at first flew at low speeds and altitude to check for flaws, and there were many: leaks in the hose to inaccurate meters, leading the plane to abort the test. There were successes, from flying to 70,000 feet at Mach 2 to flying up to 136,600 feet at Mach 3.3. Two successful flight tests, however, were rare, if they occurred. This is due to constant breakdowns in the entire system of the plane. A successor, the Dyna-Soar, was planned to fly into Earth orbit, but because of the technical difficulties in the X-15 tests, the Dyna-Soar was never built. Although the diary ends in

November, 1960, the X-17 continued testing until 1968, when the project was discontinued, due to numerous technical problems. Some footnotes here. In August, 1963, Joe Walker flew up to 100 kilometers (62 miles), up to the edge of space and officially became an astronaut. Tragically, on November 15, 1967, Michael Adain was killed when an airframe during his flight collapsed. Many space advocates have lamented the cancellation of the X-15 project, believing that it would have been a better alternative to space than the rocket, and had these flights continued, we would be more advanced in space than we are today. This diary reveals the truth. The attempt was made, but back then, we lacked the technology to accomplish this, so we had no choice but to rely on the rocket, meaning Mercury, Gemini, and Apollo. The space shuttle was an attempt to advance to the space plane, but that too was a failure, due to the fact that it took six months to refurbish it between each flight, costing literally billions of dollars. The X-15 did lead to later advances in aerospace technology, creating more advanced heat resistance materials and better engines, with supersonic aircraft today that are more advanced than the X-15 ever was. Today, private companies are making new strides in hypersonic air/space craft. This is simple trial and error, and try again.

The offer to read and review *X-15 Diary: The Story of America's First Space Ship* by the late Richard Tregaskis was an offer I couldn't refuse. Although I was born just after the first astronauts landed on the Moon, and president Kennedy's mission was accomplished, I really enjoyed everything about space ships and rockets as a young boy. The X-15 Diary was written in 1961 after the hand-over of the X-15 rocket plane to National Aeronautics and Space Administration (NASA) and its record flights. The X-15 was built of titanium and a chrome-nickel alloy. At that time it was the fastest plane ever built, launched in-air after a mating flight with a B-52 bomber. Formally a research project, this space ship that could land on huge strips in dry lake beds, was first tested in 1959 and proved its value for astronauts and hardware in the subsequent Mercury, Gemini, Apollo, and even the Space Shuttle programs. Tregaskis got access to the inner circle of developers from the US Air Force, North American Aviation, and NASA to witness the many struggles to overcome technical problems with plumbing, explosive fuels, telemeters, and high g-force levels. Tregaskis doesn't tell a happy story with a ditto ending. Brave test pilots like Scott Crossfield, upcoming talent Neil Armstrong, and the space war with Russians being ahead of the Americans all play a role. The book highlights the countless delays, accidents, and excitement. Pilots making jokes while flying over 3,000 miles per hour and so concentrated on their checklists that they don't have time to look around in outer space. The X-15 research 'bird', the difficulties getting the XLR-99 rocket motor ready, and the parallel Mercury projects are highlighted, as well as the talent of

German rocket genius Wernher von Braun. In the end, the Space Shuttle Program would largely benefit from findings done in the X-15 project, but that was way beyond the time span the author is covering. The 1961 book has been edited for an ebook version published by Open Road Media, and is featuring images from the X-15 planes and pilots, an illustrated biography of Richard Tregaskis including rare images from the American Heritage Center at the University of Wyoming.

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