

Rocket Men

THE X-15 PILOTS

BY MIKE MACHAT

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NORTH AMERICAN'S X-15 IS ONE OF THE UNITED STATES' GREATEST CLASSIC AIRCRAFT. THE X-15 IS THE ONLY AIRPLANE TO FLY MACH 4, 5, AND 6 WHILE EXCEEDING 200,000- AND 300,000-FT. EVEN MORE REMARKABLE IS THAT ALL THESE WORLD-CHANGING ACCOMPLISHMENTS WERE DONE IN 18-MONTHS!

Moments after launch from the NB-52 mothership, X-15 Ship 3 begins its flight into space with the Thiokol XLR99 engine at full throttle. The engine would burn for approximately 80- to 90-seconds before its fuel was expended, with the rest of the flight consisting of a ballistic climb to target altitude, and then a powerless descent to the landing at Edwards about eight- to ten-minutes later.

North American Aviation's X-15 is considered the most successful research aircraft ever flown — having taken man into space, and ultimately paving the way for the Space Shuttle. The stunning accomplishments made during this program were indicative of aviation's rapid progress during the 1960s and, to put this into perspective, man's first flight to Mach 1, Mach 2, Mach 3, and more than 100,000-ft all took place in less than ten-years from 1947 to 1956.

At the beginning of the Space Age, people wondered if it would ever be possible to exceed those speeds and altitudes. They also wondered just how many different types of airplanes it would take to accomplish that.

The answer?

Just one — the X-15. This is the story of six of the courageous men who flew it.

FLY NAVY, FLY NACA, AND FLY NORTH AMERICAN

Former World War II Navy instructor and NACA test

Named "First of the Spacemen" for his 126,000-ft record flight in the Bell X-2, Iven Kincheloe (left) inspects the X-15 ejection seat rocket sled with NASA pilot Neil Armstrong on the Edwards high-speed supersonic rocket-sled track. Piasecki H-21 helicopter at right was the mainstay rescue helicopter of the X-15 program.

X-15 ejection seat rocket sled tests on high-speed track at Edwards AFB confirmed the performance of this advanced escape system, favored over more complex pods or capsules as seen in earlier X-Planes. No pilot ever bailed-out of an X-15.

pilot Albert Scott Crossfield played a pivotal role in the creation of this country's first true aero-space plane. NACA (National Advisory Committee on Aeronautics, and predecessor to today's NASA) helped enter Crossfield's name into the history books on 20 November 1953, when he became the first pilot to fly at Mach 2, or twice the speed of sound (1320-mph) in the swept-wing Douglas D-558-2 Skyrocket.

The concept of air-launching experimental rocket-powered research aircraft had reached full maturity with the Navy's Skyrocket and Air Force Bell X-1, and NACA had versions of both those aircraft in its stable.

"Scotty," as Crossfield was known in the industry, nobly gave-up the chance to fly the next-generation X-15 super-rock-

et as a NASA test pilot in order to help that airplane come to fruition as the Lead Engineering Test Pilot for North American Aviation, Inc. With his vast piloting experience (114 total rocket plane flights — more than any other test pilot in the world) and a Master's Degree in advanced aeronautical engineering, Crossfield was a natural for this task. It was his character and integrity that led him away from a promising career with NASA and into the frenetic world of corporate aerospace in 1955, foregoing the chance to ultimately set world records in the airplane he would help create. In the end, aviation was far better off for his having made that decision.

After experiencing the frustrating problems and endless aborts inherent in any new flight test program, Crossfield piloted the X-15's first unpowered glide flight on 8 June 1959, and the airplane's first successful powered flight the following 17 September. He survived one crash landing



and a massive ground explosion during an engine test, and after flying 14 test missions in the first two X-15s (eleven flights with the small interim Reaction Motors XLR11 engines and three with the operational 57,000-lb thrust Thiokol XLR99), Crossfield was ready to hand the reigns over to North American's proud joint customer team — NASA, the US Navy, and the US Air Force.

BOB WHITE PILOTS THE X-15 INTO THE HEADLINES

In April 1958, Maj. Robert M. White was assigned to the X-15 program as backup for Chief Air Force project pilot Capt. Iven C. Kincheloe. When Kincheloe was killed in an F-104 flameout accident that July, White moved into the prime position and became the

first military pilot to fly the X-15 in April 1960. No stranger to test flying, White had come up through the ranks after flying more than 50 P-51 combat missions in WWII.

He'd left his native New York City to join the Army Air Force in November 1942, and served with the 354th Fighter Squadron in England flying Mustangs until he was shot down and captured. White then spent two-months in Germany as prisoner of war.

After completing a post-war degree in electrical engineering, White was called back to active duty flying Lockheed F-80 Shooting Stars and Fairchild C-119 Flying Boxcar transports during the Korean War era. He attended the Experimental Test Pilot School at Edwards in 1955, and flew test missions in development of the Convair F-102 Delta Dagger and Republic F-105 Thunderchief Century Series jets. White then served in Flight Test Operations and the Manned Spacecraft Branch at Edwards

