



Toward the Unexplored 'General' Memorial



On Oct. 14, the Air Force will dedicate its memorial, kicking off a year-long celebration of our 60th anniversary. Long overdue, the memorial will salute the service, commitment and courage of our brave men and women, active, guard, reserve, and civilian force. The memorial is beautiful in its simplicity — three 270-foot high spires that evoke flight and the flying spirit. Standing within the soaring forms you can see the Washington Monument, and the memorial itself can be seen for miles around the I-395 corridor.

The memorial celebrates our flight pioneers. Over its short life, the Air Force has helped move the world from times of crisis to times of greater strength and security. We have built on the fundamentals and lessons learned from our early, proud warfighting heritage — turning our ingenuity, courage and resolve into the agility, speed and precision needed for the 21st Century Air Force.

Following the end of World War II, Great Britain, France, the U.S. and the Soviet Union occupied Germany and divided Berlin into four zones. In June 1948, the Soviets closed the autobahn and rail lines for “repairs,” effectively cutting off food to much of Berlin. Not to be deterred, American aircrews started Operation Vittles, more commonly known as the Berlin Airlift, making 189,000 flights and dropping 1.8 million tons of food, fuel and other supplies.

When North Korea invaded South Korea in June 1950, the Air Force was less than three years old. Although the Fifth Air Force in Japan bore the brunt of the Korean aerial defense, they obtained not just air superiority but air supremacy — a significant factor in pressuring China to accept an armistice agree-



Photo by Chad Bellay

ment in July 1953. Air superiority, air supremacy, air power — our legacy for 60 years.

If you read a day-by-day, hour-by-hour chronology of the Cuban Missile Crisis in October 1962, you would get a sense of the chilling reality of that crisis — 12 days that seemed like an eternity. Edwards pilot Maj. Steve Heyser flew the first of two U-2C flights which confirmed the presence of offensive Soviet missiles in Cuba. The Air Force went on massive alert, launching B-52 flights around the clock. It was a scary time.

Few families had fallout shelters. School kids practiced crawling under their sturdy plywood desks, hands crossed over the back of their necks. Thanks in large part to the visibility of Air Force might, a world crisis was averted when the Soviets agreed to dismantle their missile installations.

Throughout our brief history we have had many, many successes — from Bosnia to the Gulf War to the Global War on Terrorism. Our involvement in Operation Desert Storm contributed to the speedy liberation of Kuwait City and significantly altered our view of warfare. The concept of air power has broadened as the Air Force and our sister services have taken on more and more humanitarian relief operations from Sarajevo to New Orleans. Today our people, planes and technology support missions in Iraq, Afghanistan and the Horn of Africa. The 34,000 people deployed worldwide are good stewards of our security and our heritage — just as each of you are.

The next year will be one of commemoration, starting with the Memorial. I look forward to finding new ways to recognize the Air Force’s strong history — and your continued contributions to it.

CURTIS BEDKE
Major General, USAF
Air Force Flight Test Center commander

NASA Dryden celebrates historic X-2 milestones

By Peter Merlin
NASA Dryden Flight Research Center

September marked the 50th anniversary of two aerospace milestones that involved both triumph and tragedy for the flight test community at Edwards. It was in September 1956 that the highest and fastest flights of the Bell X-2, a swept-wing, rocket-powered research aircraft were flown. Sadly, the latter of those two missions cost the life of Capt. Milburn “Mel” Apt, one of the test pilots assigned to the project.

The X-2 was flown in a joint program to investigate the problems of aerodynamic heating, stability and control effectiveness at high speeds and altitudes. Project management was shared by the U.S. Air Force and Bell Aircraft Co., but the National Advisory Committee for Aeronautics’ High Speed Flight Station, now the Dryden Flight Research Center, participated in supporting research, wind-tunnel and rocket-powered model tests and data analysis.

Bell built two X-2 aircraft, designed to be carried to launch altitude beneath a modified B-50 bomber and released for unpowered and powered research flights. In 1952, while Bell technicians

fitted the first vehicle with its rocket engine, the second X-2 began glide tests at Edwards. After being returned to Bell in 1953 for engine installation, the second X-2 was lost in a catastrophic accident during a captive-carry flight.

During a series of high-speed flights in 1955 and 1956, Lt. Col. Frank Everest piloted the remaining X-2 in increasing speed increments in an attempt to reach three times the speed of sound, or Mach 3. He eventually achieved a speed of Mach 2.87 in the X-2, just short of the Mach 3 goal. Dubbed the “Fastest Man Alive,” Everest was destined to hold the title but not the speed record in the X-2.

The Air Force next initiated a series of altitude expansion flights with Capt. Iven C. Kincheloe as project pilot. On Sept. 7, 1956, he began his third high-altitude mission with release from the B-50 at an altitude of 29,000 feet.

Kincheloe ignited the XLR-25 rocket engine and pulled the X-2 into a climb, eventually reaching a speed of 1,700 mph. The engine shut down at 90,000 feet as its fuel was depleted and the X-2 coasted to an altitude of 126,200 feet, experiencing a state of near weightlessness as the X-2 passed the top of its semi-ballistic

arc. The airplane, well above 90 percent of the Earth’s atmosphere, rolled into a left bank as its aerodynamic controls lost effectiveness due to the thin air. Once the X-2 descended to 40,000 feet, Kincheloe returned the vehicle to level flight and glided to a landing at Edwards. This first manned flight above 100,000 feet earned him the sobriquet “First of the Space Men,” even though the altitude reached was well below the levels later defined by military and civil authorities as being in space.

Following the Air Force test program, NACA director Dr. Hugh L. Dryden requested that the X-2 be transferred to the NACA for aerodynamic and structural-heating studies, but the Air Force delayed turning it over to the civilian agency in the hope of attaining Mach 3. The service requested and received a two-month extension to qualify another Air Force test pilot in the airplane.

Capt. Milburn “Mel” Apt was assigned to the X-2 program in February 1956 and flew several chase missions in support of Kincheloe’s altitude flights. Finally, in September 1956, he was offered the opportunity to fly the X-2 himself.

After being lofted to altitude and released,

Apt raced the X-2 away from the B-50 under full power, quickly outdistancing the F-100 chase planes. At high altitude, he nosed over, accelerating rapidly. The X-2 reached Mach 3.2 (2,094 mph) at 65,500 feet and Apt became the first man to fly more than three times the speed of sound.

He never got to celebrate his victory.

Still above Mach 3, Apt began an abrupt turn back toward Edwards. The maneuver proved fatal as the X-2 began a series of diverging rolls and tumbled out of control. Apt was unable to successfully complete the escape sequence and perished in the subsequent crash. He had flown a perfect flight profile and broken Everest’s record, but was unable to claim the title of “Fastest Man Alive.”

Despite difficulties throughout the X-2 program, the NACA was able to salvage useful data regarding the challenges of high-speed and high-altitude flight, aerodynamic heating and aircraft control. Even Apt’s fatal accident provided valuable lessons about aerodynamic design problems for supersonic airplanes, including the inertial coupling problem that resulted in Apt’s loss of control and cost him his life.

DESERT WINGS

Editorial staff

- Commander, 95th ABW.....Col. H. Brent Baker Sr.
- Chief, 95th ABW/PAChristopher Ball
- Chief, Internal InformationStaff Sgt. Mark Woodbury
- Mission editorAirman 1st Class Julius Delos Reyes
- Community editorAirman Stacy Garcia
- Layout and graphic design.....Mirjam E. Tan

Published by Aerotech News and Review, a private firm in no way connected with the U.S. Air Force, under exclusive written contract with the installation commander. This commercial enterprise Air Force newspaper is an authorized publication for members of the U.S. military services.

Contents of the *DESERT WINGS* are not necessarily the official views of, or endorsed by the U.S. Government, the Department of Defense or the Department of the Air Force.

The appearance of advertising in this publication, including inserts or supplements, does not constitute endorsement by the Department of Defense, the Department of the Air Force, or Aerotech News and Review, of the products or services advertised.

Everything advertised in this publication shall be made available for purchase, use, or patronage without regard to race, color, religion, sex, national origin, age, marital status, physical handicap, political attitude or any other non-merit factor of the purchaser, user, or patron.

Advertising: (661)945-5634. Newscopy: (661)277-2345. Fax: (661)277-2732.

Editorial content is edited, prepared, and provided by the Public Affairs Office of Edwards Air Force Base. All photos are Air Force photos unless otherwise indicated.

Paid advertisements may be referred to Aerotech News and Review, 456 East Avenue K-4, Suite 8, Lancaster,

CA, 93535 (661)945-5634. Submitting false or misleading advertisements may, depending on circumstances, subject the violator for administrative or criminal penalties for civil suit. Deadline for all other *DESERT WINGS* submissions is Friday at noon preceding the desired publication date. All submissions must be e-mailed to 95abw.pa.desertwings@edwards.af.mil or submitted on a computer disk in a Word or plain text document format. No handwritten material will be accepted.

Letters to the editor are encouraged. Send to: 95 ABW/PA *DESERT WINGS*, 1 S. Rosamond Blvd., Edwards AFB, CA 93524-1225 Attn: Editor. Letters are subject to editing.