

## 4950 TEST WING



### MISSION

### LINEAGE

4950 Test Wing (Technical)

4950 Test Wing

### STATIONS

Wright Patterson AFB, OH, 1 Mar 1971-30 Jun 1994

### ASSIGNMENTS

### COMMANDERS

### HONORS

Service Streamers

Campaign Streamers

Armed Forces Expeditionary Streamers

Decorations

### EMBLEM

## **MOTTO**

### **OPERATIONS**

In 1970, Aeronautical Systems Division's Directorate of Flight Test transferred its all-weather flight test mission, which it had conducted for nearly two and a half decades, to Edwards Air Force Base, California. The next year, the 4950th Test Wing (Technical) activated at Wright-Patterson Air Force Base to conduct ASD's remaining flight test functions. As originally constituted, the test wing had 10 organizational elements: Headquarters Squadron Section, Administrative Security Office, Computer Center, and Plans and Programs Office; and six divisions, for Test Engineering, Test Operations, Engineering Standards, Civil Engineering, Research and Development Procurement, and Logistics.

In 1971, the Aeronautical Systems Division's (ASD) flight testing components reorganized into what became the 4950th Test Wing. During the next two decades, the 4950th tested advanced radars and other avionics systems, infrared missile guidance systems, lasers, and satellite systems. Its most visible program was the Advanced Range Instrumentation Aircraft (ARIA, known as the Apollo Range Instrumentation Aircraft until completion of the Apollo program). ARIA aircraft deployed worldwide as mobile tracking stations that received and transmitted astronaut voices, and recorded telemetry information from spacecraft and other NASA (National Aeronautics and Space Administration) and Department of Defense space vehicles.

In 1975, Air Force Systems Command substantially reorganized the 4950th Test Wing. In anticipation of Project Realign, the test wing transferred its Administrative Security Office, Computer Center, and R&D Civil Engineering and R&D Procurement divisions to other ASD organizations in late 1974. At the same time, the wing reorganized its remaining sub-elements, creating three new deputates for Operations, Aircraft Modification, and Maintenance. This action was significant because, for the first time, it clearly separated aircraft modification from maintenance. The reorganized wing also included a Headquarters Squadron Section, Safety Office, Administrative Office, Directorate of Flight Test Engineering, and Directorate of Support. In 1975, the 4950th Test Wing absorbed the Precision Measurement Equipment Laboratory (PMEL) and the Wright-Patterson base-level aircraft maintenance and allied support functions that had previously been the responsibility of the 2750th Air Base Wing.

In 1977, the 4950th took delivery of a testbed for a program that became one of the Air Force's most critical future technologies—the Airborne Laser Laboratory (ALL). A highly instrumented NKC-135 (serial number 55-3123) was delivered to Wright-Patterson for installation and test of a canopy and weapons-quality laser. After preliminary testing at Wright-Patterson, the testbed returned to Edwards Air Force Base for continued tests. That test vehicle was eventually retired to the U.S. Air Force Museum at Wright-Patterson.

In 1994, the 4950th's remaining test mission moved to Edwards Air Force Base, marking the end of an era. For nearly 75 years, flight testing in the Miami Valley had made significant contributions to the winning of two world wars and breaking the nuclear stalemate of the Cold War, as well as

innumerable contributions to civil aviation in the areas of all-weather flying, air traffic control, and tracking Technologies. For the first time since 1917, the skies above Dayton remained silent to the sound of flight test aircraft.

In addition to receiving added responsibilities, the 4950th Test Wing also obtained new resources. The wing received 20 additional aircraft: 10 C-135s from Patrick Air Force Base; two C-135s from Edwards; one T-39 from Eglin Air Force Base; and two C-135s and five C-131s from Griffiss Air Force Base. Eight of the C-135s comprised the Advanced Range Instrumentation Aircraft (ARIA) fleet. ARIA aircraft served as tracking stations for Apollo space launches beginning in 1968. The Apollo mission sent them around the world to receive and transmit communications with the astronauts and to track and record information from the spacecraft. The 4950th used the ARIA fleet to receive, record, and retransmit telemetry data on orbital, re-entry, and cruise missile missions. In 1982, the test wing acquired four retired Boeing 707 aircraft, which it converted to the EC-18B configuration. With the EC-18B's, which had greater range and capabilities than the C-135s, the wing's ARIA flight test mission expanded.

The 4950th Test Wing handled other Air Force programs, such as Rough Rider in 1960. This combined effort between the Air Force and the U.S. Weather Bureau tested the effects of lightning on aircraft weapon systems and gathered information about cloud formation and thunderstorm electricity. The Zero-G program, started in 1962, used the KC-135 and the C-131 to simulate zero gravity. By 1972, more than 48,000 zero-g flights had been flown. Also developed and used in the 1960s was the ARD-21 Air Rescue Hovering set, an electronic device that sent a signal through jungle terrain into the air to announce the location of a downed pilot. ARD-21 made it possible to rescue pilots without establishing visual contact, greatly enhancing rescue operations in Southeast Asia. Through the years, the 4950th Test Wing also evaluated the capabilities of a variety of radar, satellite communications, the Navstar Global Positioning System, the microwave landing system, electronic countermeasures systems, identification friend or foe programs, and the early stages of the Airborne Laser Laboratory program. On April 21, 1994, the ASC commander, Lieutenant General James A. Fain, Jr., officiated at a "Mission Out" ceremony marking the transfer of the 4950th Test Wing and its assets from Wright-Patterson to the 412th Test Wing at Edwards Air Force Base, California. The wing officially inactivated on June 29, 1994.

Although the 906<sup>th</sup> Tactical Fighter Group did not get the call, its F-16s were ready to deploy within 72 hours of notification. Upon initiation of the air war, the 4950th Test Wing volunteered its fleet of test transport planes and pilots to supply and restock air bases whose supplies had been sent to the Persian Gulf. From January 17 to May 6, 1991, the test wing flew 181 sorties, transported 1,400 tons of cargo, and logged 768 flying hours in this effort.

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Sources  
Air Force Historical Research Agency. U.S. Air Force. Maxwell AFB, AL.