U.S. Naval Test Pilot School celebrates its diamond jubilee

By Paul Lagasse
U.S. Naval Test Pilot School Communications

When Navy Cmdr. Sydney S. Sherby received orders in March 1945 to assume command of a brand-new Flight Test Training Program at Naval Air Station (NAS) Patuxent River, he might not have guessed that 75 years later the program would grow into one of the world's premier flight test institutions – one that graduates more pilots, flight officers, and engineers each year than the other three major domestic and international flight test schools combined and that has supplied nearly 100 astronauts to the American space program. But he probably would not have been surprised.

Sherby, a naval flight instructor with a degree in aeronautical engineering from the Massachusetts Institute of Technology, had reported to NAS Patuxent River as Chief Project Engineer the previous year. Almost immediately, the base's commander handed Sherby a tough assignment: develop an understanding of how the Navy conducted flight test, and how it could the service could do it better.

During World War II, the Navy had consolidated its units for flight test, radio systems, armament, and experimental aircraft at NAS Patuxent River. Sherby suggested the Navy take advantage of that consolidation by establishing a formal program of education for test pilots and engineers who would then go on to staff those units. Cmdr. C.E. Giese, the base's flight test officer, agreed with Sherby's recommendation and tasked him with drafting a plan for the future flight test school ¬ in just seven days. With the help of two other officers, Sherby developed the school's first curriculum, which covered aerodynamic fundamentals and procedures for testing aircraft performance and assessing aircraft stability and control, plus a roster of necessary air and ground tests and a standardized reporting form. The proposed ten-week course involved 37 hours of classroom work and nine hours of flying over the course of three days a week.

Less than two weeks later, Sherby and his sole flight instructor, Lt. H.E. McNeely, welcomed the first group of 14 pilots and engineers – retroactively dubbed Class 0a – to the USNTPS' first semester, during which the test pilots under instruction flew a motley assortment of fighters, bombers, and trainers borrowed from the base's flight test unit. At the end of May, each of the graduates received a diploma and a slide rule.

Another key figure in the school's early history, Capt. Frederick M. Trapnell, arrived at Pax River to assume command of the Naval Air Test Center in 1946. Trapnell, a former flight test officer who had flown fighters from the Navy's giant dirigible airships in the 1930s, attended Sherby's classes and quickly recognized the program's need for additional funding and resources. He recommended sufficient resources be allocated to establish a full-time course for about 30 students, with classes convening every nine months. Trapnell got his wish, and the school soon went into business full-time. NAS Patuxent River's airfield is named Trapnell Field in his honor.

Training the Test Pilots of the Jet and Space Ages

In 1957, the flight test school formally changed its name to the U.S. Naval Test Pilot School. That same year, U.S. Marine Corps Maj. John Glenn Jr. (Class 12) set a new coast-to-coast speed record at an average of 725.55 miles per hour flying an F8U-1P Crusader fighter, and the Soviet Union launched the first artificial satellite, Sputnik 1. The Jet Age reached a peak, and the Space Age had begun – and USNTPS was there to make sure that the nation's flight test pilots, flight officers, and engineers were ready for both.

In the 1950s, the depth and breadth of the curriculum expanded to include jet performance, irreversible flight controls, and armament and electronic testing. In 1958, the school extended the course of instruction to eight months. And when NASA announced its seven Mercury astronauts in 1959, USNTPS was very well represented with four alums on the roster: Alan Shepard, John Glenn, Scott Carpenter, and Wally Schirra.

The early 1960s saw the first major additions to USNTPS' curriculum with the creation of a separate syllabus for rotary-wing instruction, an introduction to vertical takeoff and landing techniques, and a soaring program. USNTPS also saw its first U.S. Army graduate, Capt. John Foster (Class 28). During this time, the school also published its first manuals for helicopter performance testing and rotary flying qualities. Today, the school's rotary syllabus for military pilots is the only one of its kind in the U.S., and for this reason serves as the U.S. Army's test pilot school. The end of the decade saw an entire Apollo mission crewed by USNTPS graduates when Apollo 12 took Pete Conrad (Class 20), Richard Gordon (Class 18), and Alan Bean (Class 26) to the moon in November 1969.

Advances in computer technology had an impact on training at USNTPS beginning in the 1970s with the introduction of aircraft capable of variable stability including the Calspan Learjet, which remains a cornerstone of flight training at the school today. Advancements in technology during that decade required the school to expand its curriculum again to incorporate airborne systems, and to lengthen the syllabus from eight months to the current 11 months, which the school deemed sufficient to allow more flight opportunities and time to absorb class instruction and apply it in the air.

In 1983, the USNTPS family proudly received the Navy Unit Commendation for "extraordinary standards of excellence in safety, maintenance, curriculum advancement, and overall multi-nation test pilot training" – a citation that would have undoubtedly pleased Cmdr. Sherby. That same year, Lt. Colleen Nevius (Class 83) became the first female aviator to complete training at USNTPS.

The fall of the Soviet Union provided a unique opportunity for USNTPS technical collaboration when the Gromov Flight Research Institute near Moscow – Russia's equivalent of Edwards Air Force Base – hosted nine instructors and staff in the summer of 1994. USNTPS returned the favor a year later when it hosted a Russian delegation.

That same year, the doors of USNTPS' new schoolhouse first opened to welcome its first classes of students after its official dedication the previous year. The decade also saw the inauguration of the Short Course Department, which offers two-week introductory courses to the developmental flight test community.

In 2003, the Short Course Department added an Unmanned Aerial Vehicle (UAV) course and considered the unique test requirements associated with fielding such systems. As the Navy significantly increased its investment in UAS over the decade, USNTPS maintained its leading edge by incorporating unmanned test concepts into its syllabus for test pilots and engineers of the future.

In the 2010s, small UAS platforms such as the Scan-Eagle and MQ-8 Fire Scout gave way to larger UAS platforms like MQ-4C Triton and MQ-25 Stingray, and the establishment of the Navy's first dedicated squadron to unmanned platforms – Air Test and Evaluation Squadron (UX) 24. UAS systems are increasingly being incorporating into the syllabus, culture, and organization of USNTPS, today helping ensure students are up to speed on the growing field of unmanned aviation.

As another decade dawns, USNTPS continues to evolve its curriculum to ensure graduates are capable of confronting the technical and programmatic challenges of the Naval Aviation Enterprise of today and tomorrow.

Today, USNTPS proudly provides instruction to Navy, Marine Corps, Army and Air Force aviators, in addition to aviators and engineers from 17 partner nations, and civil service engineers across Naval Air Systems Command. The school accepts around 36 students at a time, and runs two courses of 11 months each year. Its fleet of 44 fixed-wing, rotary-wing, and unmanned aircraft is the most diverse in the Navy, encompassing 14 different types, models, and series. As it has since Sherby's time, USNTPS continues to innovate in order to maintain its status as one of the world's preeminent flight test educational institutions, dedicated to providing cutting-edge educational and flying opportunities.

(Sources: United States Naval Test Pilot School Narrative History and Class Information, 1945 to 1982 and 1992 supplement; United States Naval Test Pilot School: 75 Years and Counting, 1945 to 2020)

75 Years of Flight Test Instruction at USNTPS

1940s

April 1, 1942: The Navy commissions Naval Air Station (NAS) Patuxent River

February 21, 1945: Cmdr. Sydney Sherby establishes a committee to recommend a formal education program for flight test pilots and engineers in the Navy

March 12, 1945: Fourteen pilots and engineers convene the first class of the new U.S. Navy's Test Pilot Training Division

1950s

October 3, 1953: Cmdr. James B. Verdin (Class 8) sets a world record for speed flying an F-4D Skyray

1954: Members of Classes 8 and 9 participate in first trials of an angled aircraft carrier deck, steam catapult, and the Mk-7 arresting gear – innovations that fundamentally changed the nature of carrier aviation

August 1957: Royal Air Force Flying Officer Sidney Hughes, conducts the first planned low-altitude ejection from a Martin-Baker Mk-5 ejection seat aboard a Grumman F9F-8T Cougar at NAS Patuxent River

1958: The Test Pilot Training Division is renamed the U.S. Naval Test Pilot School (USNTPS)

1960s

May 5, 1961: Alan B. Shepard Jr. (Class 5) becomes the first American in space during his 15-minute, 302-mile suborbital flight in the Mercury spacecraft Freedom 7

1961: USNTPS creates a separate rotary wing curriculum

Oct. 11, 1968: Wally Schirra (Class 8) and two crewmates make the first crewed flight of the Apollo moon-landing program. Apollo 7 goes on to make 163 orbits around Earth over 260 hours and 9 minutes of flight

1970s

October 1970: Class 58 welcomes the foreign partner pilots from Italy, Japan, and Australia

June 1975: USNTPS moves to Hangar 110, adjacent to the Naval Air Test Center's rotary-wing hangar. The move consolidates the school's flying and academic work for the first time

July 1, 1978: USNTPS graduate Adm. Thomas B. Hayward (Class 12) becomes Chief of Naval Operations

1980s

Dec. 10, 1982: Gina Moy (Class 82) becomes the first female civilian aeronautical engineer to graduate from USNTPS

June 1983: Lt. Colleen Nevius (Class 83) becomes the first female naval aviator to graduate from USNTPS

January 28, 1986: Michael Smith (Class 66) perishes along with six crewmates aboard the space shuttle, the Challenger, after its explosion shortly after launch

1990s

June 1994: Twins Mark and Scott Kelly (Class 105) graduate from USNTPS. The "NASA Twins" are the first and only set to travel space to date. The brothers served as subjects for research on the effects of space travel on the human body when Scott spent an additional year in orbit while Mark remained on earth as a control subject

1996: The first "flying classroom", a modified P-3C Orion, dubbed the Airborne Systems Testing and Research Support (ASTARS) aircraft goes into service at USNTPS enhancing airborne systems training for test pilots under instruction

November 1997: The USNTPS creates its Short Course Department to provide test and evaluation focused education to the civilian workforce across NAVAIR and its warfare centers

2000s

February 2003: The Outstanding Student Award is renamed in honor of Cmdr. Willie McCool (Class 101) following his death. McCool perished alongside his six crewmates when the space shuttle, the Columbia, disintegrated reentering Earth's atmosphere from orbit

Jan. 13, 2005: Col. Steve Kihara becomes the USNTPS' first commanding officer from the U.S. Army

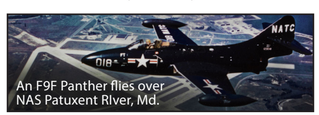
May 2014: First student final project is conducted on a UAS, using an MQ-9C Reaper autonomous unmanned aircraft

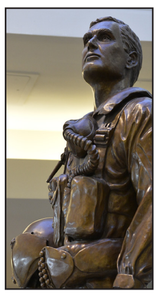
2010s

November 3, 2014: Cmdr. Tony Wilson (Class 132) makes the first arrested carrier landing flying the F-35C aboard the USS Nimitz (CVN-68)

April 22, 2015: An X-47B UCAS-D completes the first autonomous aerial refueling over the Chesapeake Bay

January 2019: Class 156 becomes the first to receive training in unmanned airborne systems as part of its regular syllabus





"Reflection," created by sculptor Rodney Carroll in 1997, adorns the lobby of the U.S. Naval Test Pilot School.

U.S. Navy photo by Paul Lagasse

Did You Know?

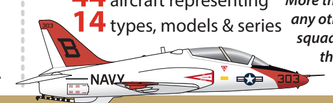
4 major test pilot schools worldwide

- USNTPS at NAS Patuxent River, Maryland
- U.S. Air Force Test Pilot School at Edwards Air Force Base, California
- Empire Test Pilot School at MoD Boscombe Down in Wiltshire, UK
- École du personnel navigant d'essais et de reception at Istres, France

Every year, USNTPS graduates more test pilots and engineers than all the partner schools combined.

USNTPS operates:
44 aircraft representing
14 types, models & series

More than any other squadron in the Navy



Every year, USNTPS students rack up around **6,700** flight hours over nearly **4,500** sorties.

Nearly **100** graduates have become astronauts.

Most recently, three alum joined NASA's Artemis program headed to the International Space Station, the moon and Mars sometime during mid-2030s.

U.S. Navy Photos and Illustrations