TEST PILOT CHARLES EDWARD

by Kent A. Mitchell

Charles E., (*Charlie*) Fitzwater was born on July 27, 1920, in Buckhannon, West Virginia, and, after graduating from high school there, enlisted in the Army Air Corps in 1940. When Pearl Harbor catapulted the U.S. into the war in 1941, he had already attained the rank of sergeant. When the Army announced it was accepting applications for pilot training, Charlie was in the line and was assigned to Aviation Cadets Pilot Squadron 51, Santa Ana Army Air Base, California, in November 1942. His records show that he was a graduate in Class WC-43F. Three sets of Orders, all dated June 23, 1943, show that on that date Fitzwater was commissioned as a second lieutenant, was rated as pilot and had received gunnery training in North American AT-6 *Texan* aircraft, and twin-engine training in Curtiss AT-9 *Jeep* and Cessna AT-17 *Bobcat* aircraft, and was to report for active duty to Yuma Army Air Field, Yuma, Arizona. From there he was assigned to report June 25, 1943, to Laughlin Army Air Field, Del Rio, Texas, for transition school on the Martin B-26 *Marauder*.

The B-26 was the fastest medium bomber during the war and amassed a creditable combat record, but it was almost abandoned by the military several times, due to the loss of many aircraft during training. However, in Fitzwater's personal papers is a Certificate of Proficiency (undated) which

Fitzwater is seen making a takeoff from the ice

FITZWATER

shows that he "...successfully completed a course of instruction in Pilot Training and Ground Technical Instructions of B-26 type equipment."

His training completed, Fitzwater was assigned to the Ninth Air Force and soon found himself on bombing runs in Europe. In an interview for a local newspaper in 1982, Charlie reminisced: "My plane was shot up bad on my first two missions. So bad that I crash-landed on each return flight. Then the same thing happened on D-Day, when we took a lot of flak and were barely able to limp back to base for another crash landing. They told me I'd earn 'ace' designation if I could do it the fourth time, but I wasn't eager to try for the distinction."

at Bemidji, Minnesota, in the Fairchild C-123J during tests in 1957. (Fairchild Aircraft photo)

Before the war was over, Fitzwater had conducted 52 combat missions and had been awarded the Purple Heart and the Air Medal with nine Oak Leaf Clusters. His participation in the destruction of bridges and rail lines carrying supplies and troops to enemy positions, which was a decisive factor in stopping Marshal von Rundstedt's counter-offensive during the Allied invasion, made Charlie a contributor to the demonstration of the importance of tactical air power.

Fitzwater recounted that, "When my tour was up in the European theatre, I was ordered back to stateside, on assignment to ferry planes from factories to shipping points all over the country." Charlie was promoted to 1st lieutenant on June 22, 1946. "Then I became a staff pilot, first at Ft. Worth, then at Shreveport. That's where I joined the staff of Gen. John Cannon as his personal pilot. [General Cannon was Commanding General, Air Training Command, from April 13, 1946 to October 13, 1948.] I was to be with him for the next eight years, until his retirement [March 31, 1954]. Three of those years were spent in Germany, where I organized a VIP squadron, responsible for piloting top brass, Congressional and diplomatic people as well as military." That unit was the 7167 Special Air Missions Squadron.

Charlie was promoted to captain on May 22, 1947. He was then piloting Lt. Gen. Cannon's B-17 personal transport, "Cannon Ball." He was rated Senior Pilot July 4, 1950.

From October 1948 to January 1951, Gen. Cannon was Commander-in-Chief, United States Air Forces in Europe (USAFE). From there, he returned to the U.S. to become Commanding General, Tactical Air Command, and Major Fitzwater continued as his staff pilot at Langley AFB, Virginia, flying the Douglas VC-54G assigned to the General.

After the general's retirement in 1954, Charlie was transferred to the Wright Air Research and Development Center (ARDC) at Wright-Patterson Air Force Base, Ohio, where he was assigned as a transport pilot in the Directorate of Flight and All-Weather Testing. While there, he attended the USAF Test Pilot School.

One of Fitzwater's first test assignments at ARDC was as the Air Force project flight test pilot for the Grumman SA-16A *Albatross* steerable JATO tests in 1956.

The SA-16 was an amphibian aircraft originally designed and built (two prototypes) in 1947 for the U.S. Navy as a utility transport that could a1so be used for air-sea rescue. However, lacking funds, the Navy was not able to procure any production aircraft. Instead, the Air Force had funds and ordered 290 aircraft. These were all assigned to the Air Rescue Service.

In 1951, Grumman developed a modification to the *Albatross* amphibian by adding skids to the hull keel and wing tip floats —thus making the aircraft a triphibian capable of taking off and landing on land, water, or snow and ice. The Air Force took delivery of 145 aircraft in that configuration. However, operational experience soon revealed serious problems. Crosswind takeoffs produced directiona1 control problems on snow, ice, and water which severely limited the SA-16 from operating in narrow areas. The main problem was that at up to 50 knots forward speed during the takeoff run the aircraft's rudder had no effect and did not provide any directional control. Use of asymmetric throttle settings on the twin-engine aircraft to maintain directional control more often than not did not provide enough power for the SA-16 to become airborne.

By 1956, Grumman and the military had developed a steerable Jet Assisted Take Off (JATO) unit for the SA-16 triphibian which would assist in providing directional control in addition to shortening the takeoff distance. At the request of the Air Rescue Service, the Wright Air Research and Development


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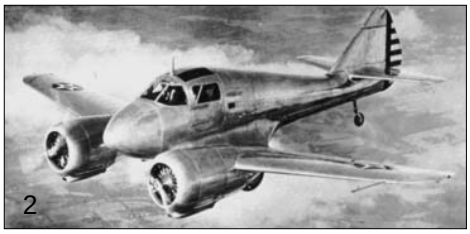
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Center was given the task of testing the equipment.

Major Fitzwater conducted the snow and ice portion of the SA-16 tests at Bemidji, Minnesota, beginning on March 30, 1956, and the water tests on Lake Okeechobee and were completed at Eglin AFB, Florida, on June 21, 1956. (For more complete details about these tests, see the author's article, "Air Force SA-16A Steerable JATO Tests, in the Fall 1998 issue of the AAHS *Journal*.)

In 1957, partly because of his SA-16 ski experience, Fitzwater was selected to do the wheel-ski tests of the Fairchild Aircraft C-123 *Provider*. Fairchild had been building the C-123 since 1954. At the request of the Air Force, Fairchild was to produce nine ski-equipped aircraft for use by the Strategic Air Command (SAC) to provide material support for their operations in the arctic regions of the globe.

Once again, Fitzwater and a test crew departed Wright-Patterson AFB for winter tests at Bemidji, Minnesota, on frozen lake beds. Upon successful completion of the test program with the prototype ski-equipped aircraft (a C-123B), the nine production units were designated as C-123J models and all were delivered to the Air Force in December 1957 and January 1958. (For further reading about the aircraft series, see the author's article, "The C-123 *Provider*," in the Fall 1992 issue of the AAHS *Journal.)*

Also in the late 1950s, again because of his experience with operating aircraft from water, ice and snow with the ARDC, Fitzwater had the Opportunity to pilot the Stroukoff Aircraft Corporation experimental variants of the C-123. Those were


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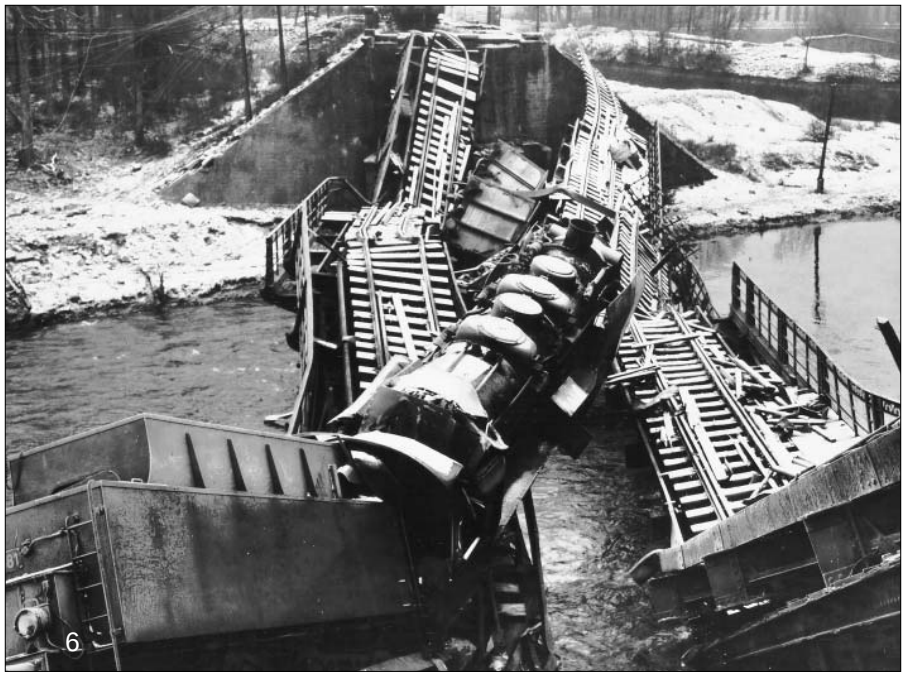
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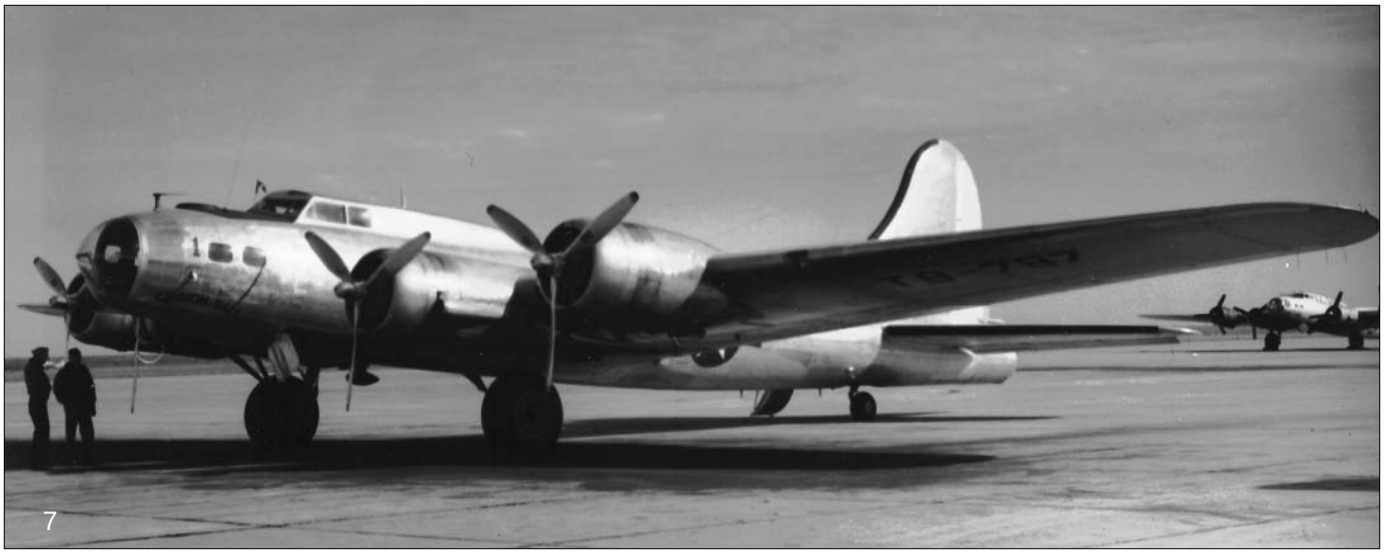


the YC-123E *Pantobase* and the C-123F, later known as the YC-134 BLC (Boundry Layer Control), aircraft. He told the author that he did not particularly like the takeoff characteristics of the BLC model—it jumped off the ground, but there you sat—airborne without enough airspeed to allow the control surfaces to be effective.

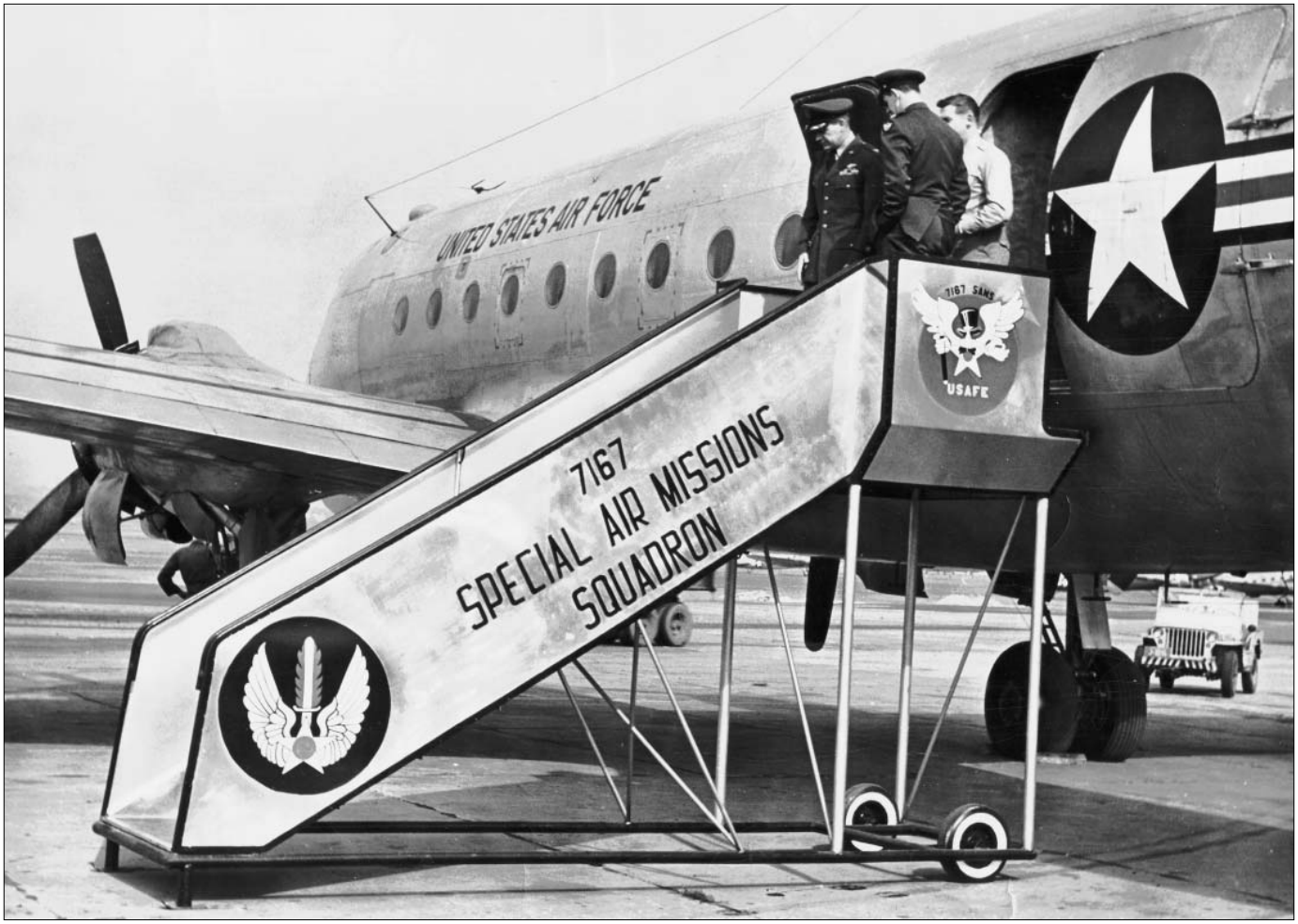
Shortly after the Lockheed C-130A *Hercules* became operational in the U.S. Air Force inventory, the manufacturer submitted a proposal to the military to develop a ski-wheel landing gear for the aircraft. Again, the Air Force was interested in such an aircraft configuration to support its operations in arctic areas and the U.S. Navy wanted several to support their seven stations in Antarctica.

Lockheed began testing their ski installation at Bemidji in late February 1957. As a result of these tests, it was decided that some modifications to the ski system were required. The modifications having been made, the aircraft was turned over to the Wright Air Research and Development Center who scheduled it for testing during the next snow season at Bemidji beginning about January through April 1958. The objective of the test program was to determine the functional capabilities, applied structural loads, and performance of the modified prototype ski-wheel installation. The results of the tests would be used in determining a standard design for future C-130 ski-wheel installations.

For yet a third time Fitzwater, because of his previous experience, was named to be the flight test pilot and act as the Commander for the project to be known as "Task Force Slide."

The civilian airport at Bemidji was used as a home base for all snow work which was conducted on frozen lakes within a 50 nautical mile radius from there. During the testing a total of 46 ski landings and 47 ski takeoffs were made. Then, because

1. *From July 1939 to August 1945, 193,444 pilots were graduated from U.S. Army Air Forces flying schools. Most of them received some of their training in the North American AT-6* Texan*. Fitzwater was one of them. (USAF photo)* ***2.*** *Fitzwater received his twin-engine pilot-transition training in the two-seat Curtiss AT-9* Jeep*. (Curtiss-Wright photo)* ***3.*** *Fitzwater received additional twin-engine training in the larger Cessna AT-17* Bobcat*. (Photo by Lyle S. Mitchell)* ***4.*** *Fitzwater received his advanced twin-engine training in the Martin B-26* Marauder*. (R.E. Williams collection)* ***5.*** *Fitzwater (at left) and his B-26 crew. (photographer unknown, Fitzwater collection)* ***6.*** *Fitzwater participated in the Ninth Air Force bomber raid which caught this enemy locomotive in the middle of a 300-foot bridge across the Mosselle River, France, wrecking both the engine and span with well-placed bombs. (U.S. Army photo, Fitzwater collection)* ***7.*** *Lt. Gen. John K. Cannon used this B-17, "Cannon Ball," as his personal transport piloted by Fitzwater. (USAF photo)* ***8.*** *Captain Fitzwater and his "Cannon Ball" crew. (USAF photo)* ***9.*** *Lt. Gen. Cannon, Commanding General, Tactical Air Command, and pilot Maj. Fitzwater inspect the C-54 prior to a flight. (USAF photo)*



of the unusually mild winter at Bemidji that year, a decision was made to continue further testing on the Greenland Ice Cap.

The test team arrived at Thule Air Force Base in Greenland on March 28, 1958. From there the task force departed for Sondrestrom Air Force Base in southern Greenland which would be their operational base for ski tests on the ice cap. Thirty-four successful takeoffs were made in the test series. However, on the 35th takeoff run, the nose ski struck a 2-foot high snow drift with such force that the test aircraft sustained severe structural damage (unknown to the crew at that time) and the nose gear collapsed on landing.

Upon inspection of the aircraft (without shutting down the engines), the crew was shocked to find that the nose gear had collapsed rearward and was pushed up and back into the interior of the fuselage, breaking hydraulic lines, electrical equipment and binding control cables.

Rather than being stranded on the ice cap with the 14-man test crew being exposed to the harsh elements, and awaiting a possible and risky rescue—and most certainly losing the aircraft—Fitzwater decided to attempt to fly the aircraft back to Sondrestrom air base 200 miles away.

Ordering all personnel except his copilot and flight engineer to the furthermost positions in the aft cargo compartment, Fitzwater took off without the use of electrical or hydraulic systems. Once airborne, partial electrical power was restored so that they could use a radio to declare an emergency and that they were returning to base. During the flight, two members of the test crew poured 12 gallons of hydraulic fluid into the flight control booster system to maintain some operation. The landing at Sondrestrom was made without further damage to the aircraft. As a result of the incident, his commanding officer at the Wright Air Development Center made a recommendation that Major Fitzwater be awarded the Distinguished Flying Cross.

Because of the damage to the test aircraft, the Greenland ski tests were considered finished as of the date of the incident, April 18, 1958.

On June 26, 1958, Air Force orders were written to grant Fitzwater the Aeronautical Rating of Command Pilot.

In 1959, 12 ski-equipped C-130A aircraft were scheduled to be operated by the 61st Troop Carrier Squadron of the Tactical Air Command from Sondrestrom AFB to two sites on the Greenland Ice Cap. Prior to their departure for Greenland, the squadron crews were to receive training at Bemidji, Minnesota. Fitzwater was assigned temporary duty (TDY) with the 61st to act as Technical Advisor and Instructor Pilot. He then was ordered to go TDY to Greenland to assist them to become operational.

A meeting was held at Wright-Patterson AFB on September

Above: *VIPs deplane a C-54 flown by the 7167 SAMS. Note the white sidewall tires on the stairs. (USAF photo)*

Opposite upper left: *Major Fitzwater was the project flight test pilot for the Air Force SA-16A steerable JATO tests in 1956. He is seen here beginning an on-the-keel takeoff run on the ice at Bemidji, Minnesota. (USAF photo)*

Opposite upper right: *Fitzwater flew the Stroukoff YC-123E from the Delaware River at West Trenton, New Jersey. (Stroukoff Aircraft Corp. photo, Fitzwater collection)*

Opposite lower: *Fitzwater flew, but did not like the takeoff characteristics of the experimental Stroukoff boundry layer control equipped YC-134. (Stroukoff Aircraft Corp. photo, Fitzwater collection)*

10, 1959, to discuss the U.S. Navy's requirements for the procurement of four C-130Bs equipped with a ski-wheel landing gear. It was decided that the All-Weather Test organization would have primary responsibility for conducting Air Force flight tests on behalf of the Navy for their production aircraft. Once again, Major Fitzwater was assigned as test pilot and commander of the test task force.

The Air Force called the *Hercules* with skies the C-130D model and for a while the Navy did also and shared a common flight manual. Subsequently, the Navy designated their aircraft to be the C-130BL model.

Fitzwater initially conducted additional tests of the prototype Air Force C-130 for the Navy at Bemidji which simulated conditions that the Navy C-130BL aircraft would encounter in the antarctic. This was accomplished by using reduced power during the takeoff tests to establish center-of-gravity (c.g.)—gross weight limits, takeoff distances, rotation speeds, lift-off speeds, and other ski aircraft handling characteristics. A total of 37 takeoff runs were made at Bemidji between January 22 and March 3, 1960.

After numerous delays, Air Force pilot Fitzwater was able to conduct actual flight tests of the Navy C-130BL in Antarctica between December 22, 1960, and February 14, 1961. (For more complete details about these tests, see the author's article, "Task Force Slide—USAF C-130 Ski Tests," in the Winter 1998 issue of the AAHS *Journal*.)

Shortly after his return from Antarctica, Major Fitzwater was transferred to the 1001st Operations Group, Headquarters Command, USAF, at Andrews AFB, Maryland, near Washington, D.C., effective June 14, 1961. There, not to his liking, he found that his duties consisted of flying a desk. In 1962 he was promoted to Lieutenant Colonel and, according to the Aircrew Standardization/Evaluation Records in his Personnel File, he was able to maintain his annual pilot proficiency in the Group's C-54.

On November 6, 1963, Lt.Col. Fitzwater was diagnosed as having sciatica (pain in the lower back) and he was grounded until the last day of February 1964. Effective March 1, 1964, he was removed from flying status. With that he decided it was time to submit his papers for retirement from the military. So, on May 31, 1965, after 25 years of service, he retired from the Air Force. At his retirement ceremony he was awarded the Air Force Commendation Medal for outstanding performance.

Later in 1965, Fitzwater accepted a flying position at the Fairchild Hiller Corporation's Aircraft Division at Hagerstown, Maryland. The company had recently acquired the rights to build and market the Swiss designed Pilatus *Porter* STOL aircraft. He was hired as Chief Pilot, Special Programs. In that position, he test flew and oversaw FAA certification of the aircraft with the Garrett Airesearch TPE 331 turbine engine installation. He also did the test flying for the seaplane float installation certification by flying off the Potomac River south

of Hagerstown. The river is narrow at that point but Fitzwater was able to conduct his takeoff and landing tests without difficulty due to the extraordinary performance of the *Porter*. During the annual regatta at the local fish and game club, Fitzwater put on a spectacular flight demonstration with the aircraft before the assembled crowd as thanks to the club for using their docks and boat ramp during his testing.

For several years, Fitzwater flew demonstration flights with various versions of the *Porter* aircraft at numerous Air Force, Army, and Navy bases for enthusiastic military personnel. His company job title then was Military Flight Test Manager.

Anticipating future military sales, Fairchild had undertaken a company-funded modification of a Garrett engine-powered *Porter* into a gunship. That aircraft was equipped with General Electric 7.62mm miniguns, and wing-pylon-mounted rocket pods. Both the Air Force and Navy expressed interest in that configuration of the aircraft and made suggestions for further modifications. Installed were a military pilot's control stick with weapons switches, a left-hand power lever (to enable fighter aircraft-trained pilots to use their right hand to fire or launch weapons), a Navy Mk.20 Mod.4 gunsight (as used in the Douglas A-1 attack aircraft), and an armorplated pilot's seat (as used in the Boeing – Vertol CH-47 helicopter), and a 500-pound capacity fuselage centerline station was provided. The centerline and wing stations were also configured for use as auxiliary fuel tank installations. Fitzwater did the test flying for these installations. (See the author's article, "The Jeep of the Air, the Fairchild Porter Aircraft," in the Fall 1990 issue of the AAHS *Journal*.)

In 1967, while continuing as a *Porter* test and demonstrator pilot, Fitzwater was also the test pilot for the Fairchild YC-119K, a C-119G modified with the installation of two wing-mounted General Electric J-85 auxiliary jet engines and a Goodyear electronic antiskid brake system. This aircraft was the prototype for the AC-119K gunship. (See the author's article, "The AC-119 'Shadow' Gunships," in the Summer 1994 issue of the AAHS *Journal*.) Upon completion of testing, Fitzwater flew the aircraft to numerous Air Force bases for demonstration flights.

In 1969, Fitzwater was given the title of Aircraft Division Engineering Test Pilot of the Fairchild Hiller Corporation.

In March 1970, upon the departure of several pilots from the company, he was made Manager, Flight Operations, where he was also responsible for Fairchild's executive aircraft.

In May 1970, Fitzwater was named Chief of Flight Test, Aircraft Division.

In 1973, after having logged about 15,000 flying hours, he retired from making a living flying—but not from flying. After leaving Fairchild, Fitzwater bought an American Aviation AA5 *Traveler* and later a sailplane. (He took the author for his first ride in a two-place sailplane belonging to the soaring club at the Cumberland, Maryland, airport. That sailplane was also the trainer in which Wernher von Braun received instruction and his shirttail is still nailed to the hangar wall from when he soloed.)

In a local newspaper interview about his flying, Fitzwater said: "Soaring is a great hobby, but you can't do it every day of the week. Not in the Hagerstown area, anyway. So I head for Cumberland on weekends, to track down those ridge winds along Bald Eagle, and sometimes go in search of some thermals, which make for wave flying."

Charlie continued to fly for recreation until the late 1980s, then, as with many high-time pilots, he developed skin cancer. In Fitzwater's case, it eventually metastasized to other parts of his body including his lungs.

Charles E. Fitzwater died April 16, 1991. He was 71 years old. Burial with military honors was in Arlington National Cemetery. o

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Left: *As a Fairchild Hiller* Porter *demonstrator pilot, Fitzwater (at right) checked-out numerous military pilots (both U.S. and foreign) in the aircraft. (Fairchild Hiller photo)*

Opposite: *Upon retirement from the USAF in 1965, Fitzwater joined Fairchild Hiller as a test/demo pilot on the* Porter *STOL program. (Fairchild Hiller photo)*


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