PROPWASH

Facebook: https://www.Facebook.com/LegacyFlightMuseumRexburg
Webpage: https://www.rexburg.org/area-info/page/legacy-flight-museum

Welcome

Find back issues and sign up to receive the newsletter automatically each month: https://www.rexburg.org/newsletter/subscriptions

Operating Hours

Memorial Day to Labor Day
Open 6 days a week - Monday thru Saturday
9:00 AM to 5:00 PM

Labor Day to Memorial Day
Saturday only

Other days by Appointment Only
Contact: Joe Stephan
864.569.3986

To Schedule Events
Contact: Grant McClellan
208.690.0896

Location: 400 Airport Rd, Rexburg, Idaho 83440
Phone: 208.359.5905

Upcoming Events

Free Fly-In & Pancake Breakfast

Saturday, June 18th, 2022 (Father's Day Weekend) from 8-10 a.m. at Legacy Flight Museum

Stinson V-77 Reliant UC-81/AT-19

The *Stinson Aircraft Company* was founded in Dayton, Ohio in 1920 by aviator Eddie Stinson; nine years after he learned to fly with the Wright Brothers. Five years later, Stinson moved the company to Detroit, Michigan. Over the next three decades, more than 13,000 aircraft would carry the Stinson brand.

Developed as a civilian sports and executive aircraft in the mid-1930's, the Stinson Reliant was popular in the private and commercial market in the U.S. and overseas. The Stinson's steel tubing and aluminum-faired airframe is fabric covered. In 1936, a new, higher lift wing was fitted and the new series became known as "gull-wing" Reliants.

The Stinson Reliant SR-10, introduced in

AT-19 Paint Schemes

Royal Navy in Blue

Royal Navy in Camo

Royal Navy in Yellow

AT-19 for CAF Coyote Sqdn

Jungle Maintenance on AT-19

Katherine Stinson

Buried in Santa Fe National Cemetery is an aviation pioneer, flight instructor, skilled mechanic, Postal Service airmail pilot, World War I Red Cross worker, and accomplished architect. While a national celebrity and household name in the 1910s and 1920s, this trailblazer's only legacy is inscribed on the back of husband Lieutenant Colonel Miguel Antonio Otero Jr.'s headstone, simply - "his wife."

Katherine Stinson was born February 14, 1891, in Alabama, the first of four children. When her parents amicably separated, the children were raised by their entrepreneurial and progressive single mother. Katherine excelled in music during high school in Mississippi and desired to train as a concert pianist in Europe. The bur-

1938, was considered the ultimate; featuring leather upholstery, walnut instrument panels, and automobile style roll-down windows.

Reliant production can be broken into two distinct types – the straight-wing Reliants (all models up to SR-6) and the gull-wing Reliants (all models from SR-7 and after, including the militarized V-77/AT-19), with there being little in common between the two groups of types. The straight-wing Reliant has a wing of constant chord and thickness which is supported by two struts each side with additional bracing struts. In contrast the taper-wing Reliant has the broadest chord and thickness of the wing at mid-span, with the outer wing trailing edge heavily angled forward and a rounded cutout on the leading edge root, all supported by a single strut. The taper wing has a significant step up between the fuselage and the wing, and the changes in wing thickness gave it a distinct gull appearance from the front.

When America entered World War II, production of civilian Reliants ended and some were impressed into the U.S. Army Air Corps as UC-81 utility transports. The new military design, based on the SR-10 civilian airframe, had a 300 hp Lycoming R-680-13 radial engine, a single door on the left side and a simpler smooth cowl. With a maximum speed of 145 mph and cruise speed of 130 mph, it had a range of 644 miles.

Also, the internal structure was beefed up significantly over the commercial models. It was given the Stinson company number of V-77 (Stinson having become a subsidiary of Vultee in October, 1939, thus the V designation).

geoning world of aviation opened by the Wright brothers' historic 1903 flight presented a means to achieve this goal. She went to Chicago in late 1912 and became popular aviator Max Lillie's first female student. Within two months she earned the nation's 148th pilot's license, the fourth female to do so.

Stinson quickly monetized her new skill. She and her mother incorporated the *Stinson Aviation Company* to make and sell aircraft. She joined the premier "Flying Circus" and performed across North America as a stunt pilot. "The Flying Schoolgirl" became the feature attraction, and she was the first woman to loop-the-loop and skywrite at night.

Other entertainment feats included racing the Indianapolis 500 winner in her plane and dropping suffragist literature on crowds in simulated bombing runs. She also achieved major aviation accomplishments in distance and endurance flying, making non-stop trips from San Diego to San Francisco and then from Chicago to New York.

Throughout 1917, she toured as a distinguished guest in Japan and China, the first woman to fly in those countries. By the start of World War I, her reputation had grown to the point that she earned

In July of 1942, under the Lend-Lease program, England placed an order with Stinson for 500 Reliants to be built at their factory in Detroit, Michigan. Designated the AT-19 by the USAAC, the British simply called it the Reliant I. They were to be used exclusively as instrument trainers, photo reconnaissance, light transport and communication duties by the Royal Navy. Many of the Reliant Mk. I's made numerous flights over the English Channel looking for German U-Boats.

Most of the British Reliants were assigned to the Fleet Air Arm (FAA) instead of the Royal Air Force (RAF). The Reliant I (AT-19) was a five seat transport, very little changed from the civilian SR-10 model. The Reliant II (AT-19A) was the first purpose built instrument and navigation trainer, with only three seats. The Reliant III (AT-19B) was an observation and aerial photographic survey version, and the Reliant IV (AT-19C) was a cargo only version.

Women Pilots of the U S Air Ferrying Division, with a Stinson Reliant destined for the Royal Navy. 1943

Of the 478 AT-19s delivered to the Royal Navy Fleet Air Arm (249 from first contract and 229 from the second contract), 47 were lost at sea, 79 were lost in accidents and 352 were left in inventory at the end of the war.

thousands of dollars for one afternoon of flying.

A meteoric rise did not diminish Stinson's pragmatism and modesty. She viewed herself as an "ordinary girl, no more courageous, clever or self-reliant than the average American woman." Flying was a field open to women and a means to make money—it was work. Furthermore, she felt this work was more suited to women because of their "patience, attention to detail and caution, and intuition." She designed and built her own planes and motors, maintained them, and did not leave things up to luck. As a result, she suffered none of the serious accidents that killed many of her counterparts. She was economically independent and made aviation a family business, training her siblings to become accomplished pilots. By 1915, Katherine's earnings financed the Stinson Flying School and Stinson Airport in San Antonio, Texas.

Patriotism outweighed her desire to perform, however. When the U.S. Army launched the Punitive Expedition against Pancho Villa in 1916, Stinson volunteered as a pilot. She "was turned down, but

As part of the terms of Lend-Lease, the assets had to be paid for or returned to the USA upon the cessation of hostilities. Therefore, following the end of WWII, 415 surviving planes were disassembled, crated, and placed on cargo ships or aircraft carriers and returned to the United States via Newark, New Jersey or Norfolk, Virginia.

"British carrier on the other side of the dock." – A view from CVE 66 USS White Plains in Norfolk Naval Ship Yard in Norfolk, VA in February, 1946. Royal Navy light carrier is to the right, loaded with Lend Lease equipment returned from Britain. Aircraft on the deck include former Royal Navy Stinson Reliants. (photo from Richard Mallory Allnutt collection)

They were then given bureau of aeronautics numbers with the U.S. Navy, but never saw active service again. Instead the War Assets Administration put them up for disposal at Chambers Field, NAS Norfolk, Virginia for the princely sum of $2,000 – quite a significant price considering that you could buy a P-51 Mustang for less. Interestingly, no one could buy the aircraft as "war surplus" as the AT-19 had never received civilian certification.

Consolidated Vultee recognized a quick profit to be had, buying up as many of the Reliants as it could, and re-certifying them as the V-77 Reliant so that they could be licensed for ownership and use. Essentially all this entailed was the removal of all military equipment, a quick tidy-up, and a repaint. Vultee issued all the V-77s with new log books and a 1946 manufacture date.

Their rugged construction and large cargo cabin capacity made them popular as "bush" planes in Canada and Alaska; many mounted on floats. In 1960, a Canadian model called the Bushman, reentered production with all wood and fabric of the original design replaced by metal.

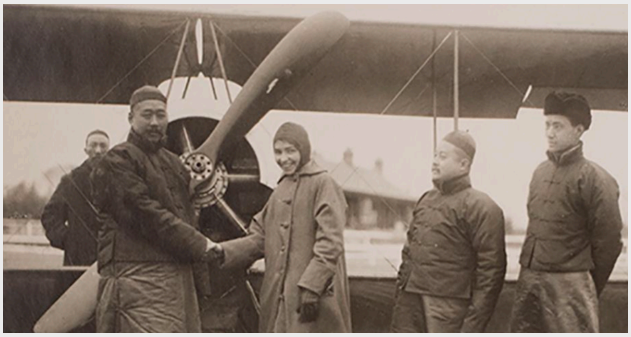
Recent counts show over 100 V-77 models still flying in the United States, plus many pre-war production Reliants.✪

had the satisfaction of knowing that most of the pilots who did go were men she had taught to fly at her school" near the border.

When America entered World War I she again, unsuccessfully, attempted to fly for her country. She used her celebrity to contribute to the war effort at home and circumvent a wartime restriction on civilian flying.

She briefly flew as the only female for the U.S. Air Mail Service and made publicity flights to raise money for the American Red Cross. The most notable was a trip from Buffalo, NY, to Washington, DC, with stops in between, where she delivered a $2 million check to Treasury Secretary William McAdoo.

Stinson viewed World War I as the moment that would "usher in the era of the airplane." Turned down for military service, she unsuccessfully offered her piloting skills to the Red Cross overseas, to "establish an aerial ambulance corps" to transport wounded troops from the front line to hospitals without the need for jostling ambulances. This prescient vision would not be achieved until late World War II. Stinson, instead, was accepted into the Red Cross Ambulance service and traveled overseas in October 1918.



The war ended less than a month later. On December 20, 1918, she flew a publicity flight over London and then across the English Channel to Paris to begin in the "employ of the Red Cross." Stinson still sought to fly in post-war Europe to support the troops. She tried to apply her airmail experience to deliver mail to occupation forces in Germany, and she had plans to fly over Germany in search of unreported prisoner-of-war camps. At least one family in Canada went through the U.S. Consulate to see if Stinson could attempt to fly into Germany and locate their missing son. She also began formulating a plan to set another aviation record when it was her time to return home by flying solo across the Atlantic.

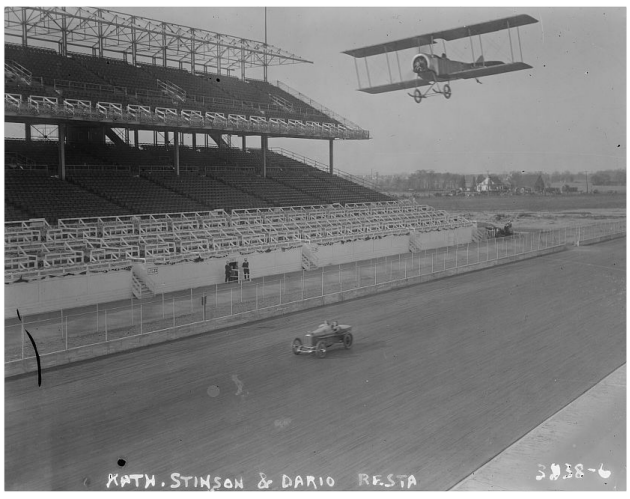
A bout of influenza was at least partially responsible for the disruption of her plans. Stinson remained largely grounded in France and worked as a chauffeur in a "docile Ford." Her all-female motor corps unit was disbanded in February 1919, and she was transferred to a service totally alien and intimidating to her—canteen work. Her final month abroad was spent at rest camps, serving refreshments to doughboys and playing a piano. On

Christmas Eve 1918, her music entertained those soldiers convalescing at the Gare du Nord rest station in Paris. Stinson also visited the American battlefields at Chateau-Thierry and Belleau Wood. The devastation seen there and her experience with combat Veterans helped put personal wartime disappointments in perspective. She sailed home on board S.S. Harrisburg in March 1919, feeling that "any service no matter how menial was worthy."

Her post-war influenza, the disease that had killed millions around the globe in 1918-1919, permanently impacted her adventurous lifestyle. She entered the Sunmount Sanitarium in Santa Fe to recuperate from tuberculosis and spent years there. While convalescing, she came to terms with a new life, each day looking out her window at a mountain peak and realizing that her insatiable desire to climb it was now impractical and diminished, as was the thought of continuing her demanding flying career.

In November 1927, she married Miguel Antonio Otero Jr., the New Mexico state auditor and son of the former territorial governor, whom she met overseas when he was a young lieutenant with the American Flying Corps. She never flew again. Her national celebrity was eclipsed by the likes of Amelia Earhart, but she graciously supported all female pilots who followed in her path. For her next chapter, she was a loving spouse who applied attention to detail into a new career as an untrained architect and gained renown for Pueblo Revival Style residences she designed in Santa Fe.

Katherine developed a serious illness in 1961 that left her disabled and unable to recognize family. She suffered a stroke the following year and remained in a coma for 15 years until her death on July 8, 1977. During her burial at Santa Fe National Cemetery, a 1928 airplane made by her family business flew low over the cemetery. Stinson's husband died two months later; they were married for 50 years and both are interred in Section 3, Site 1862. While not technically a military Veteran, Stinson's patriotic service during wartime was



important. She is an example to the obstacles that women have faced in their desire to serve their country and she should be remembered for the trailblazer that she was.✪

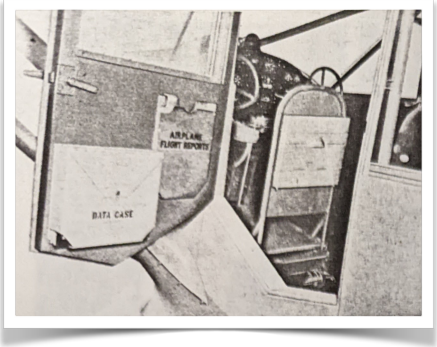
Stinson V-77 Reliant AT-19

N43YF, MSN: 77-452, USAAF: 43-44165,

Known by the British as a Stinson Reliant Mk.I, 77-452 was built and delivered 08 March 1943 Lend-Lease with England and was ear-marked for the Royal Navy Fleet Air Arm (FAA) to be used for communication duties by the Royal Navy's Indo-Asia area of operation and assigned the aircraft identifier FB724.

All Stinson AT-19's under the Lend-Lease contract with England had USAAF serial numbers. Manufacturer Serial Number (MSN) aircraft from 77-1 to 77-250 were given USAAF serial numbers 42-46640 through 42-46889 and RAF serial numbers FK814 through FK999 and FL100 through FL163. These Reliants remained mostly in the UK.

AT-19's with MSN's from 77-251 through 77-500 were given USAAF serial numbers 43-43964 through 43-44213 and RAF serial numbers FB523 through FB772. These went to Ceylon (Sri Lanka), Trinidad, or Australia. From the plant in Michigan, they were flown to Newark, New Jersey, disassembled, and crated less than a week later and shipped from the US.

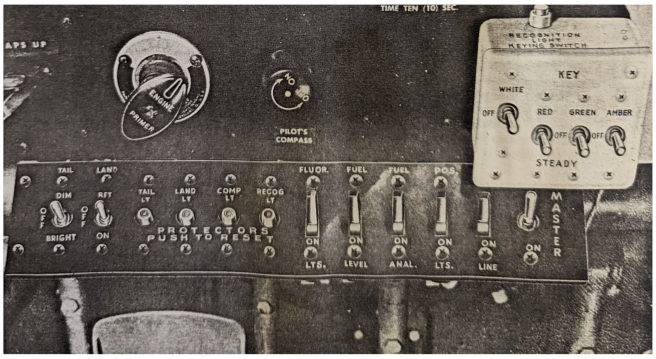


By November, 1944, FB724 was in Ceylon (now Sri Lanka) as part of a Ferry Flight to the Royal Navy Aircraft Repair Yard in Coimbatore, India.

Online research has not yielded any information about this particular aircraft during its service with the British Royal Navy, other that it went to Ceylon and was returned to the U.S. after the war. Maybe something will surface at some point and, if it does, we'll do our best to pass that information along in a future newsletter.

Lend-Lease AT-19 Reliants returned from Britain late in the war or shortly after. Many were returned to the USA late in the war or shortly thereafter and assigned to the U.S. Navy. BuNos were reallocated from cancelled F3A-1 batch in the range 11294 to 11646 and assigned to the aircraft before they could be sold as surplus. There were 62 Navy serials in this range. 77-452 returned to U.S. 25 Aug 1947 and was given U.S. Navy BuNo: 11495.

Even after the war, there is not a lot of information to be found online about this aircraft prior to coming to the Yankee Air Museum in 1999. No pictures have surfaced from previous owners. After the war, it was registered by several owners in Washington, D.C. and based at the Arlington, Virginia airport.



The following ownership history was recreated from microfilmed documents:

James E. Traylor, Washington DC 1947
Herbert H. Jones, Washington DC 1951
Garnett O. Strickland, Washington DC 1965
J. Robert Casian, Alexandria VA 1967
John E. Hartman, Mack CO 1993
Yankee Air Museum, Belleville MI 1999
Legacy Flight Museum, Rexburg ID 2018

One document from 1947 states that "Time on Army Logs is Total time on Engine and Airplane (11 hours, 30 minutes)." If that's the case, 43-44165 did not see a lot of service time during the war.

Apparently, James E. Traylor of Washington DC purchased the plane from the War Assets Administration in 1947. The following was noted on a 7 Aug 1947 CAA (forerunner to the FAA) 100 hour inspection form: "Plane converted from Military to Commercial type." Further, it states, "Fuselage and wings and all parts, refinished in AN yellow and trimmed in Stinson Green. NC letters installed." And, "All necessary placarding done on plane. Plane converted to 5 place with seat kit furnished by All American Aviation and installed according to Drawing No. SK-539 of All American Aviation. Upholstery and radio installation done by Atlantic Aviation Inc. Wilmington, Delaware." The Aircraft Identification Mark No. NC95493 was listed at the top of the form.

An Airworthiness Certificate Application was submitted by Herbert H. Jones of Washington DC in 1951 for N95493 and, in 1965, Garnett Strickland (also based in Washington, DC), had some type of airframe alteration performed while the aircraft was still registered as N95493.

J. Robert Casian of Alexandria, Virginia, applied for a ferry permit in 1967 (again with registration as N95493) from Maryland Airpark to Albion Airport, Berlin, New Jersey for re-licensing and annual inspection.

An airworthiness certificate was issued (retroactively?) as 25 Aug 1947 and listed the registration as N15JH. The form was an FAA form and we already know that the aircraft still had the registration number as N95493. On 20 Apr 1970, a Certificate of Airworthiness for N43YF (V77, 77-452) issued.

In 1993, John E. Hartman (based in Colorado), had some type of airframe repair performed while the aircraft was resisted as N15JH. 77-452 was recovered in '93 using Stits Polyester Process and painted yellow with red & brown stripes.

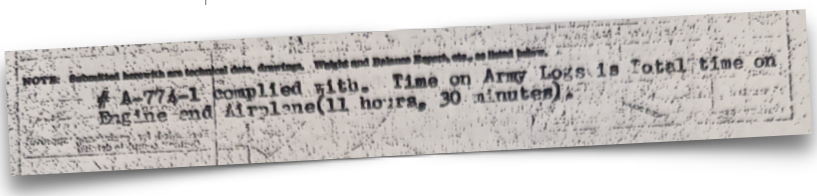
There is nothing else in the public record of microfilm documents until 28 Oct 1999 when it went to the Yankee Air Museum (Detroit - Willow Run, Belleville, Michigan YIP/KYIP).

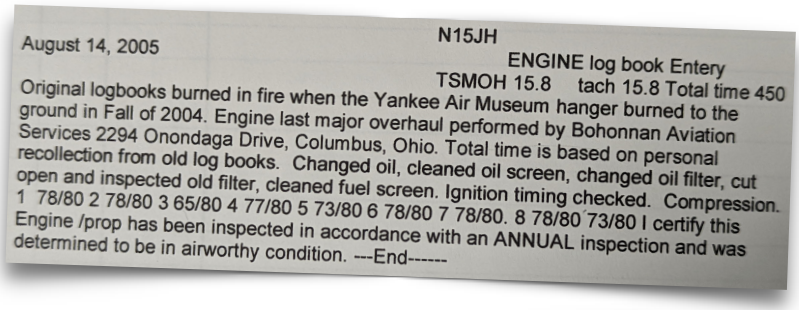
The original log books burned when the Yankee Air Museum hangar burned to the ground in the Fall of 2004. During its annual inspection in August 2005, total time of 405 hours was based on personal recollection from old log books.

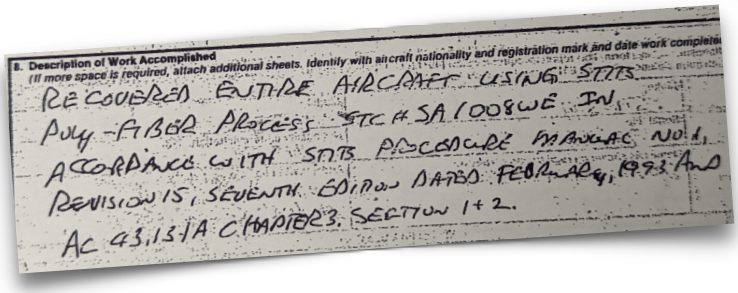
On 22 Aug 2004, N43YF crashed. The tailwheel equipped airplane sustained substantial damage when it veered off runway 13. The reported wind was 200 degrees at 10 knots. The pilot reported that he entered and flew a normal traffic pattern for runway 13. He reported that he did a normal wheel landing on the centerline with the right wing down and opposite rudder to compensate for the right crosswind. When the tailwheel contacted the runway, the airplane immediately veered to the left. He applied full right rudder and right brake but the airplane veered off the runway. The airplane sustained substantial damage to the left wing. The pilot reported that he taxied the airplane back to the ramp. The inspection of the airplane revealed the tailwheel was free to castor, as designed. The pilot reported he had 12,113 total hours of flight time of which approximately 8,000 hours were in tailwheel equipped airplanes. He reported he had flown 3.3 hours in the Stinson V77.

77-452 was obtained by the Legacy Flight Museum in 2018 from the Yankee Air Museum.✪

[Photos of sister ship FB605 and some information extracted from April 22, 2015 online edition of Warbird News "AT-19 For The CAF Coyote Squadron"]


NOTE: Submitted herewith are technical data, drawings, Weight and Balance Report, etc., as listed below.
A-774-1 complied with. Time on Army Logs is total time on Engine and Airplane(11 hours, 30 minutes).


August 14, 2005 N15JH
ENGINE log book Entery
TSMOH 15.8 tach 15.8 Total time 450
Original logbooks burned in fire when the Yankee Air Museum hanger burned to the ground in Fall of 2004. Engine last major overhaul performed by Bohonnan Aviation Services 2294 Onondaga Drive, Columbus, Ohio. Total time is based on personal recollection from old log books. Changed oil, cleaned oil screen, changed oil filter, cut open and inspected old filter, cleaned fuel screen. Ignition timing checked. Compression. 1 78/80 2 78/80 3 65/80 4 77/80 5 73/80 6 78/80 7 78/80. 8 78/80 73/80 I certify this Engine /prop has been inspected in accordance with an ANNUAL inspection and was determined to be in airworthy condition. ---End------


8. Description of Work Accomplished
(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work complete
RECOVERED ENTIRE AIRCRAFT USING STITS
POLY-FIBER PROCESS STC # SA1008WE IN
ACCORDANCE WITH STITS PROCEDURE MANUAL NO 1,
REVISION 15, SEVENTH EDITION DATED FEBRUARY, 1973 AND
AC 43.13-1A CHAPTER 3, SECTION 1+2.

Specifications (AT-19)

General characteristics

Crew: three
Length: 27 ft 10 in
Wingspan: 43 ft 10 in
Height: 8 ft 7 in
Wing area: 256 sq ft
Empty weight: 2,800 lb
Max takeoff weight: 4,000 lb
Fuel capacity: 78 US gal
Powerplant: 1 × Lycoming R-680-13, 300 hp

Performance

Maximum speed: 145 mph
Range: 644 mi @ 120 mph
Service ceiling: 21,000 ft
Rate of climb: 1,330 ft/min
Burn Rate: 17 gals/hr