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WRITTEN

**SOUTHWEST
AIRWAYS**



PHOENIX, ARIZONA

Connolly

S O U T H W E S T A I R W A Y S

- Its History
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SOUTHWEST AIRWAYS . . . Its History

First idea of forming Southwest occurred to Leland Hayward and Jack Connelly in mid-1940. Definite plans were made, an original \$15,000 in capital raised, three pilots hired, three airplanes purchased, and

On October 1, 1940, operations began at Sky Harbor on a Civilian Pilot Training Program (now War Training Service).

On March 22, 1941, Thunderbird Field was opened as an Army Air Forces primary school.

On September 15, 1941, Falcon Field began training Royal Air Force cadets.

On June 22, 1942, Thunderbird II was activated as an A.A.F. primary school.

On July 1, 1942, operations started in the Overhaul Division, an Army-contracted aircraft and engine overhaul depot.

On November 9, 1942, the Cargo Division came into being, as a military feeder air line operated for the Army Air Forces on the West Coast.

SOUTHWEST AIRWAYS . . . Its Future

Southwest's plans for the future are two-fold: one, to continue some of its present operations; two, to develop new ones.

It is expected that the Army Air Forces will keep a limited number of civilian contract flying schools in operation after the war, both to maintain its training program and to give refresher work to its reserve officers. Southwest's training record indicates one of its fields might be chosen for this work.

It is expected that thousands of people of all ages will want to learn to fly, or to become mechanics or technicians of various sorts. At least one Southwest field will be operated for these training activities.

It is expected that there will be thousands of aircraft and engines to be overhauled yearly in the post-war age of flight. Southwest's Overhaul Division is the only such base between the Pacific Coast and the Middle West, and can expect to be in a most favorable position.

It is expected there will continue to be government-sponsored programs similar to the present War Training Service. Again, Southwest's record in this training field indicates its capabilities of handling this type of contract at another of its fields.

To develop new operations, Southwest already has filed three feeder air line applications before the Civil Aeronautics Board. These call for:

1. An 18-route, 4235-mile system serving 252 Pacific Coast cities in California, Oregon, Washington, Idaho and Arizona. Application filed in March, 1942 and amended in April, 1944.
2. A 20-route, 5844-mile line serving 301 cities in Texas, Oklahoma, Arkansas, Louisiana and New Mexico. Application filed in May, 1943.
3. A 3-route, 165-mile air mail and air express helicopter line serving 46 post offices in the greater Los Angeles area. Application filed in May, 1943.

The Cargo Division presently is operating over much of the area contained in Application #1, but for the benefit of the military only. Its experiences are considered invaluable to Southwest as a foundation for future air line activities.

SOUTHWEST AIRWAYS . . . Its Composition

Southwest Airways is the name chosen to cover any one or all six operations of this organization; although, actually, the various activities are operated by four separate groups.

Because of the difficulty in attempting to publicize each of the four, and also because the management is virtually the same in each, a policy has been adopted for all public relations and advertising work, to refer to any or all operations under the general name, "Southwest Airways".

Operating group for each activity is as follows:

Sky Harbor -- Southwest Airways, Inc.

Thunderbird Field -- Southwest Airways, Inc.

Falcon Field -- Southwest Airways Company

Cargo Division -- Southwest Airways Company

Overhaul Division -- Southwest Aircraft Corp.

Thunderbird II -- Hayward & Connelly (co-partnership).

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SOUTHWEST AIRWAYS . . . Its Operations

I -- SKY HARBOR

The original Civilian Pilot Training program at the Harbor included only primary and secondary courses, but this was quickly expanded to a five-course curriculum in which cross-country, Link instrument and instructor work also was given.

Restrictions on coastal flying shortly after Pearl Harbor boosted Sky Harbor to a rating of "the nation's largest C.P.T. school", by eliminating what previously had been the only larger unit. Operating under the supervision of the Civil Aeronautics Authority, it trained annually 125 primary students, 100 secondary, 75 cross-country, 125 instructor and 30 Link instrument.

These students included members of the Army and Navy Reserve, as well as civilians and a large class of Inter-Americans -- students of a dozen Latin and South American countries sent to the Harbor for training by the Coordinator of Inter-American Affairs.

In January, 1943, Sky Harbor and other C.P.T. schools became part of the War Training Service.

II -- THUNDERBIRD FIELD

Thunderbird was planned in November, 1940; construction began on the second day of 1941; first training flights were made on March 22 of that year.

At the outset, its cost was to have been approximately \$300,000. Before it could be completed, frequent increases in the Army's training program had more than doubled both its size and cost. Today, Thunderbird is the result of over two years of almost continuous growth.

Although an Army Air Forces primary school, Thunderbird is strictly a civilian operation. All field personnel, from flight instructors to ground maintenance workers, are employed by Southwest Airways. Duties of the small military detachment assigned to Thunderbird are supervisory only.

Southwest's contract with the Air Forces is not of the "cost plus" type; instead, it calls for a fixed amount for each hour of training flight.

All aircraft used in training are 220-horsepower Boeing PT-17s, on lease from the Army Air

Forces. Cost of maintaining these planes is born by the company.

All trainees at Thunderbird are Army Air Forces cadets, sent here, following pre-flight training at the A.A.F. Western Flying Training Command, for ten weeks of primary flight work.

Thunderbird also is the only field in the nation which gives primary instruction to cadets of the Chinese Air Force. To date, eight classes have been sent across the Pacific to receive this training. The first two classes already have returned to China and are seeing action with the 14th Air Force.

Numbers of cadets constantly in training cannot be revealed, but Thunderbird is considered to be one of the largest, if not the largest, primary school in the United States. Its total graduates also is a military secret, but it can be said that it runs into "several" thousands.

III -- FALCON FIELD

Falcon Field, built at the request of the British government, is the only Royal Air Force training school in the West.

Cadets are sent to Falcon directly from England and receive their entire quota of flight training at the one field -- from primary straight through to presentation of wings, a 29-week's course.

Aircraft used, on lease from the Army Air Forces, are Boeing PT-17s for primary instruction and 650-horsepower AT-6s for advanced instruction.

Under the British flight syllabus, considerably different from that taught at A.A.F. schools, there is no basic, or intermediate, stage. Cadets receive 70 hours of instruction in primary, 130 hours in advanced.

In November, 1942, after training British cadets exclusively for 14 months, Falcon received a small class of Army Air Forces cadets. This first

American Army personnel ever to be trained on the R.A.F. syllabus in this war was graduated in May, 1943, and immediately assigned to the Air Transport Command. Other groups of Americans, of equally small numerical strength, now are in various stages of their training at Falcon.

IV -- THUNDERBIRD II

Thunderbird II is one of the newest, most modern Army Air Forces primary schools. It teaches the same curriculum as that given at Thunderbird, and is approximately 30 per cent as large as that field.

Cadets are exclusively Army Air Forces personnel (no Chinese); planes are PT-17s on lease from the A.A.F.; contractual details are identical with those at Thunderbird.

The primary course taught is ten weeks in duration, during which cadets receive 98 hours of ground school instruction and 65 hours of flight instruction. Of the latter, 32 is dual and 33 solo.

Ground school work includes courses in weather, navigation, airplanes and theory of flight, aircraft identification, and engines and propellers.

Flight training is restricted to the four fundamentals of flying -- straight and level, climbs, glides and turns -- plus the more simple aerobatics, such as slow, snap and half rolls, vertical reverses, loops and Immelmann turns. In the final weeks of the course, two hours of cross-country flying is given (one dual, one solo).

V -- OVERHAUL DIVISION

The Overhaul Division, first established in July, 1942, did not get into true production until November. It operates under the San Bernardino (Calif.) Air Service Command on a contract basis, under which a fixed fee is paid for each particular work assignment.

O.D., the only one of its type between Texas and the Pacific Coast, is housed in two of the big hangars at Thunderbird Field, and in smaller buildings surrounding them. Its activities actually exceed in scope the work done by an aircraft factory, for each plane overhauled is completely torn down and repaired, before the re-building process (which is comparable to the assembly line of an aircraft factory) ever begins.

Initial production schedules called for one aircraft and ten engines to be completed every week. Production today is many times that; exactly how much more cannot be told for reasons of military security.

Nearby training fields supply the majority of the aircraft and engines to be overhauled or repaired.

Each plane, upon entering the Division, is completely torn down. Parts then are sent to their respective departments where each, in turn, also is reduced to its basic framework. This process extends all the way from the fuselage and engine to the individual instruments.

All parts are thoroughly cleaned, carefully inspected, then repaired if necessary or replaced with new parts. The plane then is re-assembled. It is test flown by Southwest pilots, and inspected and approved by the A.A.F. before it returns to pilot training.

O.D. is credited by the aviation press as being the first operation to successfully mass overhaul aircraft.

VI -- CARGO DIVISION

Although the Cargo Division made its first flight in November, 1942, its existence remained a closely-guarded military secret until the following April. Routes flown still cannot be disclosed, but it can be said that the Division operates "on the West Coast".

Eight daily flights are made, radiating in all directions from the San Bernardino and Sacramento (Calif.) Army Air Depots. Route miles now scheduled total approximately 75,000 per month, and additional flights under consideration will almost double that figure.

Aircraft used are pre-war Waco cabin models, built for civilian uses and extensively converted by Southwest engineers into efficient freight haulers. Cargoes carried consist exclusively of Army mail and high priority materiel for West Coast combat and training bases. It reaches certain military installations as much as two days faster than ground means of transportation.

The Cargo Division is essentially a feeder operation, of the same type expected to be widely established after the war for the benefit of the civilian population.

SOUTHWEST AIRWAYS . . . Its Achievements

From its initial total of ten employees, Southwest Airways has grown in three years to an organization of 2,000 men and women, more than 375 of whom are skilled flight instructors. Its annual payroll now exceeds \$3,500,000, and has increased every month without exception since the company's formation.

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On March 4, 1943, Thunderbird Field achieved an outstanding air safety record, by completing 150,000 consecutive flying training hours without a single fatality.

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Southwest pioneered in establishing Phoenix as the largest military pilot training center in the United States. Its possibilities as an ideal training site first were foreseen by Jack Connelly, Southwest president, and Thunderbird Field was the first military base in this area. It was a wise choice. On January 27, 1943, flight training at Thunderbird was stopped due to bad weather for the first time since operations began -- 673 consecutive days!

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Southwest daily operates, services and maintains more than 400 aircraft. Before the war, all the domestic air lines in the U. S. operated only slightly more than 350 aircraft.

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All the domestic air lines in the United States have nearly 63,000 scheduled hours a month. Southwest flies nearly 40,000 hours per month, almost three times the scheduled hours of American Airlines, our largest domestic carrier.

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By June, 1943, Southwest had trained pilots from 29 countries, representing every continent and every corner of the world. In addition to the United States, England and China, cadets have been from Union of South Africa, Alaska, New Zealand, Mexico, Finland, India, Belgium, Chile, San Salvador, Syria, Scotland, Hawaii, Poland, Northern and Southern Ireland, Guatemala, Cuba, Brazil, Wales, Colombia, Nicaragua, Canada, Costa Rica, Honduras, Haiti and Dominican Republic.

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Ralph Jordan, Al Storrs and Cliff Davis, directors of flight training at Thunderbird, Falcon and Sky Harbor, respectively, were among the first six pilots to be hired by Southwest Airways, in the Fall of 1940.

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On an average day at Thunderbird Field, training planes will spend 850 hours in the air -- comparable to a man driving an automobile every minute of the day and night for more than a month.

* * *

A study of the more than 375 flight instructors on Southwest's payroll shows that the average instructor is 29 years of age, has been flying for $6\frac{1}{2}$ years, and has logged 1,356 hours in the air. Oldest, most experienced pilot is Jerry Bacon, a primary flight commander at Falcon who fought with the Royal Air Force during World War I. Bacon, at 49 years of age, has piled up 5,600 hours in 23 years of flying.

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About June 1, 1944, Southwest's four fields will reach a total of 1,000,000 hours of exclusively military pilot training flights. This would be equal to flying 24 hours a day for 114 years! It also represents a total of some 95,000,000 miles flown, or 3,800 times around the world at the equator.

JAMES G. RAY -- vice-president of Southwest Airways Company; vice-president and director of Southwest Aircraft Corp. -- 46, born Floresville, Texas. World War I instructor and combat pilot. Thirteen years vice-president of Pitscain Aviation, one of nation's first air mail carriers. Vice-president of Autogyro Company of America, 1928-1937. Also operating manager of All American Aviation, Inc., when nation's first feeder air lines were established. Has flown more types of rotative wing aircraft than any other person.

JOHN SWOPE -- secretary and treasurer of Southwest Airways, Inc.; director of Southwest Aircraft Corp. -- 34, born in New Jersey. Harvard alumnus. Son of General Electric's Gerard Swope. Experienced pilot, holds commercial and instructor's ratings. Rated one of nation's top free-lance photographers. Currently managing Thunderbird II.

WALTER ROCHE -- assistant secretary and director of Southwest Airways, Inc.; secretary, treasurer and director of Southwest Airways Company; secretary and director of Southwest Aircraft Corp. -- 47, born North Platte, Nebraska. Commissioned a pilot

in the Army Air Corps in 1918 and was awaiting overseas transport in New York when Armistice signed. Recently observed 25th anniversary of admittance to bar. Drew up original options for land now occupied by Thunderbird, Falcon and Thunderbird II.

JUDD MINTER -- assistant treasurer of Southwest Airways, Inc.; assistant treasurer of Southwest Airways Company; treasurer of Southwest Aircraft Corp. -- 31, born Mulberry, Kansas. Originally joined company as voucher clerk, worked up through ranks to post of auditor. Appointed corporate officer in June, 1943. Holds student pilot's certificate.

FELIX KALLIS -- chief aeronautical engineer -- 44, born Tallinn, Estonia. Former chief of engineering planning division, Bell Aircraft Corp., and chief aeronautical engineer at U. S. Naval Training Station, Jacksonville, Fla. Spent one year in Russia as an aircraft power plant design engineer for Consolidated Aircraft Corp. Speaks, reads and writes English, Estonian, German and Russian; also understands Finnish.

PAUL H. MARSTON -- personnel director --
31, born Pasadena, Calif. Graduate of Pomona College
and University of Southern California law school.
Formerly handled Southwest's legal affairs in Los
Angeles.

Sky Harbor

CLIFFORD E. DAVIS -- director of training --
45, born Oklahoma. Has 6,000 logged air hours, never
cracked up. Holds secondary, commercial, instrument,
C.A.A. flight examiner and secondary flight examiner
certificates; also aircraft and engine mechanic, and
radio operator licenses. One of original seven South-
west pilots.

PAGE DEUEL -- director of technical training-- 32,
born Colorado. Heads all ground school departments.
Previously with aeronautical schools and flying services
in Dallas, Tex., and San Diego, Calif. Has been flying
13 years; holds commercial rating.

JAMES J. NELSON -- superintendent of maintenance -- 44, born Georgia. Formerly with North American Aviation at both Inglewood and Kansas City, and Bell Aircraft Corporation, bomber division, Marietta, Ga. Has been 15 years in the aircraft industry.

Thunderbird Field

BEN B. MOEUR -- field manager -- 40, born Arizona. Former Thunderbird flight instructor. One-time Army Air Corps cadet and personal pilot to Ex-President Rubio of Mexico. Secretary of Phoenix Aeronautics Commission past three years. Still vice president of Phoenix insurance agency and legal agent for trucking service. Studied pre-med at U. of Arizona, dentistry at U. of Southern California, and mechanical engineering at Arizona State College.

RALPH JORDAN -- director of training -- 35, born Juliaetta, Idaho. Fourth pilot hired by Southwest. Has logged 3,100 hours in 13 years of flying. As former part-owner of Lewiston, Idaho, Air Service, held contracts with U.S. Forest Service to fly supplies to fire fighters deep in Northwest mountains.

JOHN NEACE -- chief ground school instructor --
 24, born Walla Walla, Wash. Taught first A.A.F. classes
 at Thunderbird. Son of long-time flier; married to
 ex-United Air Lines employee. Studied aeronautical
 engineering at U. of California, also attended Washing-
 ton State and special C.A.A.-operated school at U. of
 Washington. Previously taught ground school classes
 at private C.P.T. and A.A.F. primary schools.

GUY POLSTON -- superintendent of maintenance --
 36, born Tulsa, Okla. In 15 years as aircraft mechanic
 has worked on such famous ships as Lindbergh's "Spirit
 of St. Louis" and Art Gobles' Dowel Race winner, "Wool-
 rock." Holds parachute rigger's license as well as
 A. & E. Also supervises maintenance work at Thunder-
 bird II.

Falcon Field

W. J. R. "BILL" SIMS -- field manager--
 42, native of Arizona since 1905. Former Thunderbird
 flight instructor and ex-chairman of Phoenix Aeronautics
 Commission and City Commissioner. Heads large Phoenix
 automobile dealership.

ALVIN W. STORRS -- director of training--
 35, born Portland, Oregon. One of original seven South-
 west pilots. Has headed British flight program since
 start of Falcon operation. Has 2700 air hours to his
 credit; holds every flight rating (seven of them)
 except instrument.

JOHN C. BONNELL -- chief ground school
 instructor -- 29, born Martin's Ferry, Ohio. Learned
 to fly at 15, working as mechanic's helper in exchange
 for lessons. Took C.P.T. and mechanic's refresher
 courses in 1939 and took over British ground curriculum
 at inception of training at Falcon.

JOSEPH S. WISCHLER -- superintendent of
 maintenance -- 27, born Chicago, Ill. Also learned
 to fly at 15 by trading time as mechanic for flight
 instruction. Holds private pilot's license. Ex-chief
 mechanic at Chicago School of Aeronautics. Has in-
 vented several flight training safety devices. At
 Sky Harbor and Thunderbird as hangar chief before taking
 over at Falcon.

Thunderbird II

JOHN SWOPE -- field manager-- (see executive personnel above.)

ERNEST PELTON -- chief pilot -- 29, born Genua, Montana. Began instructing at Thunderbird, April, 1941; transferred to Thunderbird II, July, 1942; promoted to chief pilot, Feb., 1943. Has logged 2300 hours in seven years of flying. Formerly under contract to the forest service, dropped chute packs of supplies to fire-fighting crews in the rugged Northwest woods.

LINDSEY WHEELER -- chief ground school instructor -- 25, born Chicago, Ill. Joined Thunderbird ground school staff in April, 1941; appointed head of Thunderbird II staff, August, 1943. Graduate of Stanford University, with a major in Physics.

GUY POLSTON -- superintendent of maintenance (see Thunderbird Field personnel above.)

Overhaul Division

FELIX KALLIS -- general manager -- (see executive personnel above.)

CARL BAILEY -- aircraft department supervisor -- 39, born Bernice, Louisiana. 24 years as automobile and aircraft mechanic; also is experienced machinist and welder. Former Army sergoant and instructor at technical school in Hawaii. Has headed aircraft department since start of Overhaul; previously was Thunderbird aircraft mechanic.

W. HARRY BARNES -- engine department supervisor -- 37, born Harman, Illinois. Also has been automobile and aircraft mechanic since 1919. Worked exclusively on airplane engines past four years. Joined Sky Harbor maintenance staff in February, 1941; named head of engine department when Overhaul Division first opened.

Cargo Division

X TED R. MITCHELL -- chief of operations --
 36, born Logan, Utah. Has spent nearly 4,000 hours in
 air since 1927. Moved from instructor to assistant
 chief pilot at Falcon Field in less than a year.
 Helped survey and lay out present cargo line routes.

X EDWARD A. REIN -- superintendent of com-
 munications -- 26, born Minnesota. Formerly chief
 inspector for the Aircraft Radio Laboratory at Wright
 Field, Dayton, Ohio. Also experienced in aircraft
 radio construction. Holds commercial as well as
 amateur radio operator's license; also pilot's
 license. Washington State College alumnus.

LLOYD C. PONTE -- superintendent of
 maintenance -- 39, born in Iowa. In less than three
 years at Sky Harbor had progressed from mechanic, to
 crew chief, to night foreman, to maintenance super-
 intendent, before taking over Cargo Division work.

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