

CHAPTER SEVEN

AIRCRAFT MAINTENANCE

You can do whatever you resolve to do.

Thomas Jonathan "Stone Wall" Jackson

Falcon's aircraft were maintained by Chief of Maintenance Joe Wischler and his crew. Because the war had created a shortage of licensed mechanics, most routine maintenance chores were completed by workers who were not licensed mechanics. Many of these workers had no previous experience maintaining any kind of machinery; many were women.

Joe Wischler was born in 1916, just thirteen years after the Wright brothers proved the feasibility of powered flight. Encouraged by his immigrant father, Joe learned to fly at the age of fourteen. His log books contain frequent entries for Chicago area airports where he traded work as a mechanic to build flying hours.¹ As time passed, Wischler came to love working on airplanes more than flying them. If an airplane part did not work, he made a new part. If there was not a tool for the job, he designed and built a tool. He became a licensed mechanic and chief of maintenance at the Chicago School of Aeronautics. His talents and accomplishments became widely known, and in February 1941, he received an offer to work for Southwest Airways. Tired of Chicago winters, Joe Wischler packed up and headed west.² He made a good impression in his first months with Southwest, and in June 1941, at the age of twenty five, he was named chief of maintenance for Falcon Field.



Joe Wischler, Chief of Maintenance

Joe Wischler was a mechanical wizard whose many life saving inventions and modifications include the wheel strut lights pictured above. During night landing operations, the lights signaled ground controllers that wheels were down and locked.

Photograph by Sergeant Cy Cartwright, courtesy of Ruth Wischler and Carolyn (Wischler) McDaniel

¹ Arv Schultz, "Profile: Joe Wischler, He Kept Falcon's Fledglings Flying," *Arizona Flyways*, p. 3.

² Ibid.

In his attempt to attract qualified employees, Wischler was occasionally aided by happenstance. Les Ward was the senior mechanic for American Airlines when he decided to travel to Los Angeles for a vacation. When his airplane was grounded by weather, Les, undeterred, continued on his journey by automobile. But Les Ward did not make it to Los Angeles. He crashed his car in Arizona and spent time recuperating from his injuries in Phoenix where he met Falcon employee Ted Mitchell who recruited him for Southwest Airways, Inc., and Falcon.³ Les Ward became Joe Wischler's assistant.



Texan Maintenance Crew, 1945

Kneeling, left to right: James Grissom, Russell Burch, Max Newlin, Bernabe Herrera, Frank Rosenstock, Jasper Baptisto, Luella Gross, Retter Johnson, Howard Hunter, Donald Hartwick, George Keith, Jewell Wilkerson, Hildred Peters, Rosada Mathews, Dee Kelley, George Burke.

Standing, left to right: Merl Morris, Oscar Martinez, Lawrence Hunt, Donald Christian, Weddy Kraenzel, L. P. Overstreet, Raymond Smith, Clifford Soedt, Leo Terry, Glen Smith, Herman Ridgeway, Euford Grissom, Opal Sanders, Jesse Carpenter, Janet Jensen, Mildred Jefferson, Gladys Manuel, Walter Vaden, Roger Amundson, Franklin Wolcott, Jack Hunt, Alan Johnson, Eduardo Corrales, Harry Patrick, Edgar Foster.

On wing, left to right: David Conner, Albert Mogle, Arnold Bullock, Jose Morales, Russell Simmons, Jack Duncan, Arthur Kiker, Norman Teigen, Woodie Naugle.

Photograph by Sergeant Cy Cartwright, courtesy of The Arizona Historical Society - Central Arizona Division, identifications from *The Falcon, A History of Southwest Airways' British Flying Training School, Mesa, Arizona*, November 6, 1945

³ "Biographically Speaking," *The Thunderbird*, Vol. 2 No. 2 (April 1944), p. 19.

Southwest Airways found it very difficult to keep a qualified work force. Early in 1942, Southwest alleged unfair hiring practices by neighboring Luke Field. In the following telegram, John Connelly, president and general manager of Southwest Airways, requests help from Rafdel's director of U.K. training, Group Captain D. V. Carnegie.

CA810 TWS PAID 3 MINS - GLENDALE ARIZ. 21 502P.
GROUP CAPTAIN D. F. CARNEGIE, ROYAL AIR FORCE DELEGATION
1785 MASSACHUSETTS AVE. WASHDC.

WITHIN THE PAST WEEK LUKE FIELD WHICH IS THE UNITED STATES ARMY ADVANCED FLYING FIELD NEAR PHOENIX HIRED TEN OF OUR BEST MECHANICS. THESE MECHANICS WERE MEN THAT WE TRAINED AT OUR SCHOOL AT OUR OWN COST DURING THE PAST YEAR. THEY HIRED THESE MEN AT THE SAME HOURLY WAGE SCALE THAT WE PAY BUT ARE ALLOWED BY LAW TO WORK THEM FORTY EIGHT HOURS PER WEEK AS AGAINST OUR MAXIMUM ALLOWABLE OF FORTY HOURS PER WEEK. WOULD YOU PLEASE DO WHATEVER YOU CAN AS QUICKLY AS POSSIBLE TO STOP THEM FROM EMPLOYING OTHER MEN HERE. IN VIEW OF THE FACT THAT HIGLEY FIELD IS JUST STARTING OPERATIONS AND WILL PROBABLY COMMENCE EMPLOYING CIVILIAN MECHANICS THE SITUATION HERE COULD BE VERY SERIOUS. ALL OF THE MEN THAT HAVE BEEN HIRED AWAY FROM US WE IMPORTED FROM OUTSIDE THE STATE AT CONSIDERABLE EXPENSE AND WE FEEL THAT IT IS VERY UNFAIR FOR THE UNITED STATES ARMY TO HIRE THESE MEN FROM A BRITISH SCHOOL AS THEY ARE FORBIDDEN TO HIRE THEM FROM AN AMERICAN ARMY CIVIL SCHOOL.

JOHN H. CONNELLY SOUTHWEST AIRWAYS.

(This document was recreated from a photocopy of the original.)⁴

In response to Connelly's telegram, Rafdel's W. C. G. Cribbett immediately addressed a letter of protest to a Lieutenant Colonel Harry A. Johnson in the office of the Chief of the Air Corps, War Department, Washington, D.C. The letter was diplomatic, but direct:

"I enclose a copy of a telegram from John H. Connelly of Southwest Airways protesting against the loss of mechanics from his establishment to Luke Field.

"Problems of this nature are, of course, bound to arise in circumstances of rapid expansion but from the co-operation we have already received from you on cognate matters, I do not imagine that you would endorse the engagement by the U.S. Army Air Corps Schools of personnel already employed in connection with the training of pilots whose services are required to maximize our common effort."⁵

There is no indication that the problem persisted after February 1942, and no other correspondence concerning this matter was discovered during the research for this book.

⁴ Connelly's telegram incorrectly shows the addressee as Group Captain D. F. Carnegie. Carnegie's initials are actually D. V.

⁵ Complete text of a letter from W. C. G. Cribbett, Royal Air Force Delegation (British Air Commission), Washington, D.C., to Chief of the Air Corps, War Department, Washington, D.C., "for the attention of Lieutenant Colonel Harry A. Johnson," dated February 8, 1942.



Mechanics Marvin Meier (far left on the tug), John Fiori (on the aircraft wing), Barney Miller (in the white coveralls), and Glen Ferguson were at Falcon on opening day in September 1941. Original mechanics not pictured include Herman Ridgeway, Donald Harter, Hjalmar Kevari, and Jack Hunt. [*The Thunderbird*, Vol. 1 No. 7, p. 8.]

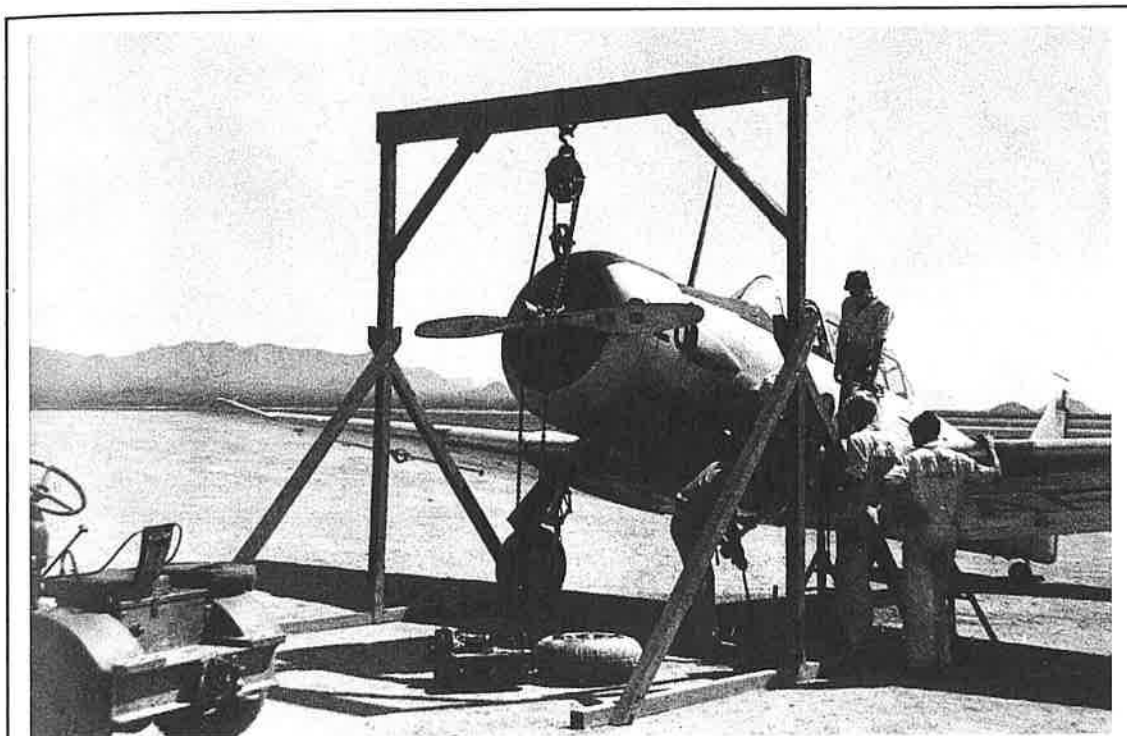
Photograph by Sgt. Cy Cartwright, courtesy of The Arizona Historical Society - Central Arizona Division, Joe Wischler collection

Joe Wischler and crew had their hands full trying to keep all available aircraft flying. Maintaining one hundred airplanes was not easy. "I was told that one mechanic at Falcon did the same work as five at U.S. Army installations," said Mechanic L. P. Overstreet. "I don't know whether it's true or not, but that's what they told us." It is true that a handful of mechanics kept one hundred airplanes flying, but sometimes even their best efforts failed to hit the mark the first time. Flight Commander Don Prosser tells of one such incident that left him speechless.

"Some months after I had moved up to flying the AT-6, I went through the primary hangar one day and was asked by the dispatcher if I would fly a Stearman test flight. Later my log book would reveal it had been three months to the day since I'd flown one. A mechanic asked if he could go along. That's reassuring to an instructor if a mechanic is willing to ride in his work, so off we went. The Form One said only 'Test flight for engine operation.' The run-up was normal, so off we went. The primary aircraft had to level off at 700 feet and stay until three miles away, then climb. This put us east of Falcon over open desert when we resumed climbing, only to have a sudden engine failure. Thinking the mechanic was testing me by shutting of the fuel, I checked. It was OK, mixture rich, mags on. From 700 feet there isn't much time. A reasonable bit of desert had to do, and we landed and stopped with the prop only five feet from a giant saguaro [cactus]. As I turned toward the mechanic, he said, 'The damn thing quit, didn't it?' But then, 'Funny, that's what it did on its last flight, too.'"⁶

⁶ Donald N. Prosser, letter to the author dated February 24, 1999.

Don Prosser and the mechanic made their desert landing without damage to the Stearman, but other pilots were not always as lucky. Joe Wischler dealt with many belly landings and designed a plane lift to assist with repairs. Nicknamed "The Gallows," the wooden apparatus could be transported by truck to any location. The Gallows could lift an aircraft that had "bellied in" so that mechanics could extend the landing gear, replace the propeller, and make necessary repairs.



Number 220 gets a lift from The Gallows.

Photograph courtesy of Ruth Wischler and Carolyn (Wischler) McDaniel

The Gallows was used on numerous occasions, and oftentimes, the action was filmed by Joe Wischler with his Bell & Howell color camera. The camera was given to Wischler by Twentieth Century-Fox for Wischler's cooperation in the filming of *Thunder Birds, Soldiers of the Air*. In August 1943, one of Falcon's new AT-6Cs bellied into the soft sand of a dry riverbed near Winkelman, Arizona. (The pilot's choice to land "wheels up" may have saved his life.) Because of the location, Wischler believed that recovery by heavy truck was "virtually impossible." The realistic choices were two: abandon the aircraft or fly it out. And fly it out they did. While the maintenance crew raised the aircraft with The Gallows, lowered the landing gear, and replaced a cylinder and the propeller, others cleared a path down the riverbed. Five hours after the crew began work on the aircraft, Mike Foydl, Falcon's chief flying instructor for Advanced, took the controls and started the engine. Wischler's Bell & Howell records a blinding sandstorm as the roaring radial dragged the two and a half ton AT-6C down the riverbed. Historian Charles Hyer reports that "everyone knew it would never make it. The sand was too soft." Finally, at the end of the cleared area, the point of no return, the aircraft lurched tentatively out of the sand, and "by some miracle," says historian Hyer, "the pilot kept it airborne and climbing." Wischler and mechanic Marvin Meier told Hyer they witnessed "the damnedest buzz job" they had ever seen.⁷

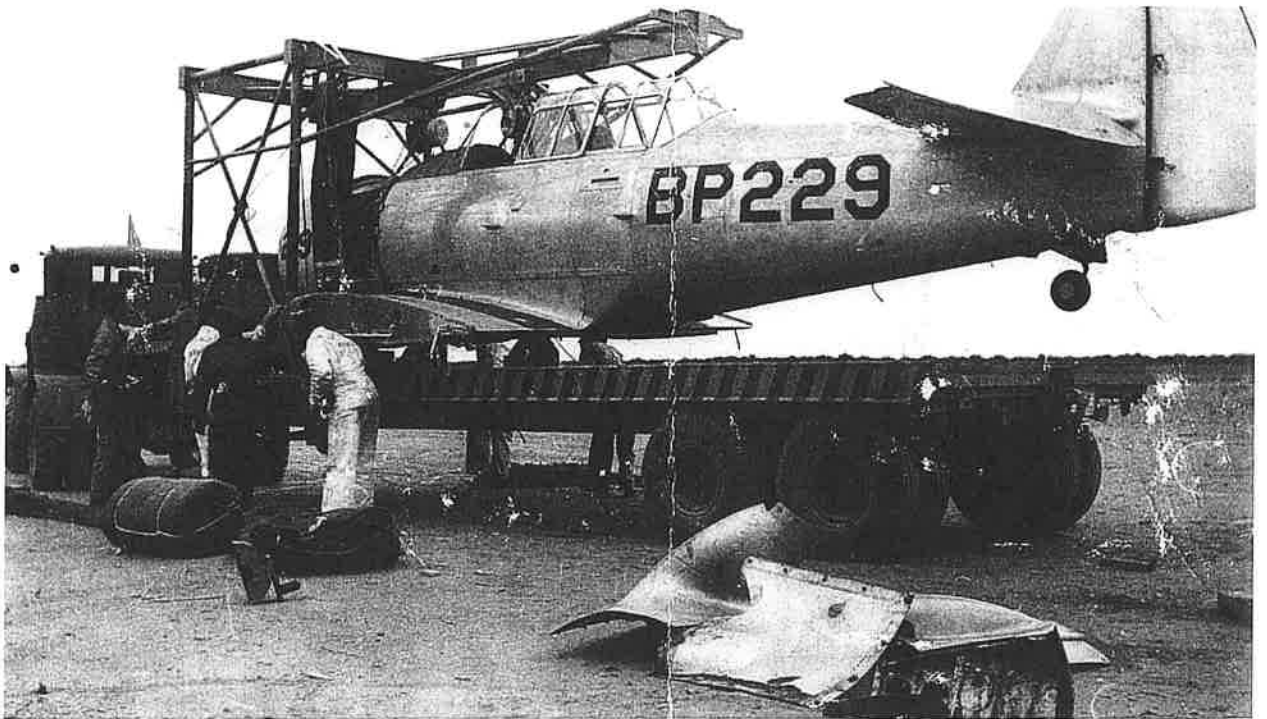
⁷ Accounts were found in "Repair Plane in Five Hours," *The Thunderbird*, Vol. 1 No. 7 (September 1943), p. 22; Charles H. Hyer, "The Sun Never Set on RAF Training," *Arizona Flyways*, July 1994, p. 9; and Joe Wischler's 8 mm film of the incident. Wischler's Bell and Howell was one of the very few color cameras to capture WWII activities.

When an aircraft nosed over on landing, the accepted practice was to right the aircraft by pulling it over its nose. Because that technique could damage the engine and engine mounts, Wischler preferred to remove one wing and roll the airplane over.



Mechanics remove one wing and attach cables in order to roll BP217 upright. Pictured left to right on the fuselage are John Fiori, Glen Ferguson, possibly Gerber, and possibly Roger Krause. The mechanics standing on the ground are Donald Harter (left) and Hjalmar Kevari.

Photograph and identifications courtesy of Mechanic L. P. Overstreet



Although this photograph shows a different aircraft, the recovery sequence was always the same. Now with both wings removed, the aircraft is hoisted onto a flatbed truck for the trip to the hanger.

Photograph courtesy of Mechanic L. P. Overstreet

Engine maintenance on BP232

The mechanic in foreground is L. P. Overstreet.

On May 3, 1943, Falcon was inspected by Lieutenant Colonel Donavin Miller, a field inspector with Headquarters, Army Air Forces Western Flying Training Command, Technical Section. While noting that the extremely dusty conditions were causing considerable damage to shock struts, Colonel Miller reported that "inspection of the aircraft indicated that maintenance was VERY SATISFACTORY" (his capitalization). He further noted that "the technical administration of this activity is considered EXCELLENT" (again, his capitalization).

Photograph courtesy of
Falcon Field Association of Great Britain,
Rollo Anderson (Course 20) collection



View of the east hangar at Falcon showing female maintenance personnel at work on the airplanes

Photograph by Flight Instructor Ray Shelton and Cadet Robert Hampton Purdy of Course 15, courtesy of Molly Turner



Women were an integral part of the aircraft maintenance team. They performed routine maintenance such as checking hydraulic fluid levels and cleaning bearings. And some women did more. Mary Reames became a licensed mechanic when she earned a certificate of proficiency as a Civilian Air Mechanic (CAM) in November 1943. CAM licenses were issued by the Army. At that time, a mechanic could also qualify for an Aircraft and Engine (A&E) certificate issued by the Civil Aeronautics Administration (CAA). The A&E certificate is now called Aircraft and Powerplant (A&P), and since the passage of the Federal Aviation Act in 1958, the issuing authority has been the Federal Aviation Administration (FAA).

Photograph courtesy of Ruth Wischler and Carolyn (Wischler) McDaniel



Plane cleaners at work

Photograph courtesy of Ruth Wischler and Carolyn (Wischler) McDaniel



Joe Wischler keeps tongue firmly in cheek as he takes aim with his secret weapon.

When British cadets reported that one of the aircraft seemed to develop suspicious maladies despite being in top mechanical condition, Joe sprang into action. Determining that “gremlins” were to blame, Joe outfitted a bug sprayer with machine gun sights and promptly eradicated the pests.

His device has gained in esteem and importance through the years. A 1984 article about Falcon in a popular magazine for pilots described Joe’s bug sprayer as a real tool, “a homemade device designed to repair Stearman.”

Photograph courtesy of Ruth Wischler and Carolyn (Wischler) McDaniel



Stratocumulus clouds beckon aviators skyward as a British cadet awaits his instructor.

Photograph by Flight Instructor Ray Shelton,
courtesy of Flight Dispatcher Keith Hansen

CHAPTER EIGHT

AMERICAN INSTRUCTORS - BRITISH SYLLABUS

England and America are two countries separated by the same language.

George Bernard Shaw

To manage Falcon's training, Southwest Airways sent veteran employee Alvin L. "Al" Storrs as chief pilot. Storrs had been interested in flying since 1926 when, as an eighteen-year-old, he took his first airplane ride. In 1929 he graduated from the Master Airplane and Engine Mechanics course at Parks Air College in St. Louis, Missouri. He worked as a carpenter during the Great Depression but flew for recreation whenever he could get into an airplane. In 1937 he earned his private pilot license and by 1939 had his commercial license with instructor and instrument ratings. Because a childhood accident had cost him the sight in one eye, he was denied the airline transport rating. Storrs was an aerobatics instructor and Civil Aeronautics Administration (CAA) flight examiner at Carl Kneir's Sky Harbor Air Service in Phoenix, Arizona, when Kneir sold his business to Southwest Airways. Storrs stayed on with Southwest as one of their seven original pilots.¹ In early 1943 his title was changed from Chief Pilot to Director of Training.

Al Storrs, Director of Training

"We were always well aware of his absolute passion for flying even though he basically left 'his job at the office.' There were no mementos or pictures of flying around the house. If you visited us, there would be nothing that told you he was a pilot. We grew in later years to believe that our mother accepted his high-risk career, but he made every effort to keep the worry from his family. Those were the days when pilots who weren't with an airline could not get life insurance and before mothers worked to support their families."

Betty (Storrs) Downing



J. G. "Red" Coulter was Storrs' assistant chief pilot in 1941. When Coulter entered the military service in 1942, he was replaced by Ted Mitchell. In November 1942, Mitchell was transferred to head Southwest Airways' Cargo Division, and his Falcon responsibilities were divided between Mike Foydl who assumed responsibility for advanced flight training and Ted Hanna who assumed responsibility for primary flight training. In late 1943, Ted Hanna was named to a newly created position called Assistant Director of Training, and Neal Morris took over Hanna's old position as

¹ Al Storrs and Betty (Storrs) Downing, *An Autobiography for My Family*, private manuscript, 1982, pp. 18-19. The primer issue of *The Thunderbird* magazine ("Operations Begin," Vol. 1 No. 1, March 1943, p. 2) lists the other original pilots as Gordon Boothe, Cliff Davis, Mike DesMarais, Ralph Jordan, Bill Marsh, and Bud Robinson.

chief flying instructor for primary. Neil Killgore later followed Neal Morris, and the department's top flying instructors remained Storrs, Hanna, Foydl, and Killgore for the duration.² Department leadership also included John Bonnell, chief instructor for ground school, and Mel Lyster, chief instructor for Link Trainer flight simulators.

Many Falcon instructors had learned to fly through the Civil Pilot Training Program (CPTP). The CPTP was a United States Government Civil Aeronautics Authority (CAA) program established on June 27, 1939, to provide as many trained civilian pilots as possible before America could be drawn into the war.³ CPTP graduates, however, incurred no military obligation. [In 1940, President Roosevelt split the Civil Aeronautics Authority into two agencies, the Civil Aeronautics Administration (again CAA) and the Civil Aeronautics Board (CAB). The Civil Aeronautics Administration was assigned responsibility for civilian airman certification.]

Flight Instructor Ray Corn earned his private pilot's license through the CPTP, Chaffy College, Ontario, California, where he was an aeronautical engineering major. He later obtained a commercial pilot license at his own expense.⁴ Flight Instructor (later Flight Commander) Don Prosser earned his private pilot's license through the CPTP at Pasadena Junior College, Pasadena, California. In the summer of 1940, he continued training at a civil pilot training secondary program, Van Nuys Airport, Van Nuys, California. Meanwhile, Southwest Airways had advertised for pilots to train United States Air Corps cadets, and in June 1941, he flew to Phoenix, Arizona, to join the staff at Southwest. He completed an instructor training course taught by Army Air Corps pilots at Thunderbird and submitted his certificate of completion to the CAA. The CAA, in turn, issued Prosser's flight instructor certificate.⁵ Ground School Instructor Keith Guthrie received his CPTP training through Arizona State Teachers College in Tempe, Arizona.⁶

Many instructors were not products of the CPTP, and they brought a variety of experiences to their jobs at Falcon. In 1932 Flight Instructor (later Flight Commander) Mitchell McFadden had thirty-two hours flying time when he set up a flying school at what is now Falcon Field. Asked to pay rent by the property owner, McFadden promptly moved his operation to another field where he taught flying until his airplane wore out. He later rebuilt a wrecked Waco and tried barnstorming in New Mexico. Unsuccessful as a barnstormer, he joined the Royal Canadian Air Force (RCAF) in 1941. When a medical discharge ended his RCAF career, he returned home to Arizona for surgery and later joined Southwest Airways.⁷ Flight Instructor Francis Sanders was a rancher who for several years had flying as a hobby.⁸ Flight Instructor Louis E. Sullenberger's background included employment by the British Clayton Knight Commission in 1938. His job was to screen American civilian pilots who wanted to enter service in either the RCAF or the RAF.⁹ Corn, Prosser, Guthrie, McFadden, Sanders, and Sullenberger were among Falcon's original instructors.

² Paragraph information from the following 1943 issues of *The Thunderbird* magazine: April (p. 14), May (p. 3), June (p. 13), July (p. 21), November (p. 6).

³ *The Official Guide to the Army Air Forces*, (New York: Pocket Books, Inc., 1944), pp. 354-355.

⁴ Ray H. Corn, telephone interview with the author on January 24, 1999.

⁵ Donald N. Prosser, letter to the author dated November 17, 1998.

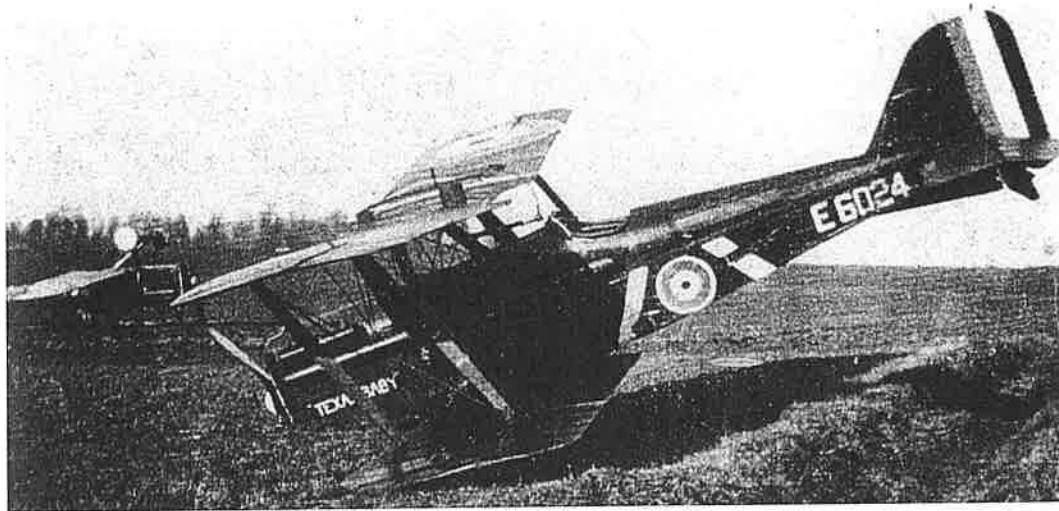
⁶ "Three Mesa Instructors at Field," *Mesa Journal-Tribune*, October 3, 1941.

⁷ Capt. Marvin R. A. Grant, *History of 3044th Army Air Forces Base Unit (Primary-Basic-Advanced) Falcon Field, Mesa, Arizona (May and June 1944)*, pp. 10-11.

⁸ *Mesa Journal-Tribune*.

⁹ "Instructors at United States Training Schools During WWII," *Falcon Field Association of Great Britain Newsletter*, ed. W. McCash AFM, 1993 No.1, p. 7.

Although he was not one of Falcon's original flight instructors, Jerry Bacon may have been the most famous. He was an ace pilot. Before the United States entered the First World War, American Jerry Bacon gained his father's permission to join the Royal Flying Corps (RFC), the predecessor of the RAF. Bacon joined in Canada, eighty miles from his North Dakota home. He trained in Sopwith Camels, and his first solo flight followed only three hours and twenty-eight minutes of dual instruction. At the completion of his training, Bacon was given a commission and made an aerial gunnery instructor at a RFC school in Texas. After a second instructors' tour, this time in Canada, he was assigned to the 84th Fighter Squadron in France. As an 84 Squadron pilot, Bacon was credited with shooting down four German airplanes and two observation balloons.¹⁰ An ace pilot is one who shoots down at least five enemy aircraft. Yes, balloons count!¹¹



Shot down during the First World War, Jerry Bacon survived unhurt. His fighter is a Royal Aircraft Factory Scout Experimental Fifth Design (SE-5) named "Texas Baby" for his wife.

Photograph from *The Thunderbird*, Vol. 1 No. 7 (September 1943), p. 2

"Smiling Jerry Bacon, Flight Commander (center) imparts confidence and flying instruction to air cadets who will finish the job he started in 1917. Jerry was a favorite of the boys in training at Falcon because in them are mirrored all the traits he had as a youth — a desire to fly, an itch to get into combat with the Germans, and a zest for living."

Photograph and caption from *The Thunderbird*, Vol. 1 No. 7 (September 1943), p. 3



¹⁰ "World War I Ace Now Falcon Flier," *The Thunderbird*, Vol. 1 No. 7 (September 1943), pp. 2-3.

¹¹ Edward H. Sims, "War Aces," *The World Book Encyclopedia*, 1981, Volume 21, p. 23.

Flight Instructor Sidney J. "Sid" Wood arrived at Falcon in December 1942 after having spent eight months on Atlantic coast anti-submarine duty with the Civil Air Patrol. Wood had about 750 hours flying time and "knew how to fly," but most of his hours were straight and level flying. He still had to learn how to fly according to the British curriculum which included aerobatics, formation flying, and instrument flying. To that end, Wood attended an instructors' refresher course where he got the impression that his instructor "seemed to have the idea that a Stearman should fly with the wheels sticking straight up and my neck stretching straight down!"¹²



Instructor Sid Wood (center) poses with his Course 25 pupils. Left to right, they are David John Richardson, Cecil Frank Austin Rideout, Kenneth Herbert Pullan, and Harry Robshaw. All four cadets graduated as sergeant pilots. Sid Wood received the Air Medal, a U.S. military decoration, while serving with the Civil Air Patrol as a civilian.

Photograph by Flight Instructor Ray Shelton, courtesy of Flight Instructor Sid Wood

All draft age Southwest Airways instructors and mechanics had draft deferments; nevertheless, they were required to report to their draft boards every six months for possible call to active duty. Draft boards are local entities which operate under a requirement to provide certain numbers of candidates for the military services. The Army, however, wanted these men to continue at Falcon as civilians, so on July 14, 1943, all draft eligible instructors and mechanics were loaded on a bus and taken to Williams Field where they were inducted into the Army, released from active duty, and transferred to the enlisted reserves — all in one day.¹³

At that time there were ninety-six flight instructors, seven ground school instructors, and sixteen Link instructors employed by Southwest at Falcon.¹⁴ Instructors wore military style uniforms, but in the place of military insignia, their uniforms displayed Southwest Airways wings and a Falcon patch. (Flight instructors are listed in the Appendices.)

¹² Sidney J. Wood, *One Flight Instructor's View of the Course*, private manuscript, 1990.

¹³ Special Orders No. 164, Headquarters Arizona District Recruiting and Induction Station, Phoenix, Arizona, dated July 14, 1943.

¹⁴ Lieutenant Marvin R. A. Grant, *History of 15th Army Air Forces Flying Training Detachment (January 1, 1943 to March 1, 1944)*, p. 15.

The cadets were surprised to find that their instructors were civilians and wondered how civilian instructors would measure up. RAF cadet Philip Gray of Course 16 describes some lessons learned from Flight Instructor John Lockridge.

"Come Monday morning, 31 May 1943, and the serious business of flying finally got under way. Mr. Lockridge was the instructor assigned to our group of four. Here we had another surprise. All of these American instructors were civilians, despite their official Army Air Corps uniforms. There were no rank insignia on their shoulder epaulettes. We learned very clearly and very fast that there was nothing 'civilian' or half-baked about their tuition. They were highly qualified professionals.

"Our Mr. Lockridge was typical. He wanted positive, no-nonsense flying. Mistakes he would accept, but he would not expect to see that same mistake again. I could work with a guy like this, even accepting his taciturn, dour manner.

"Many of the most important gems Mr. Lockridge offered were his asides, the pieces of advice that were not in the instruction manual. These were, in fact, bits of advice that did not always meet with the approval of his fellow instructors. He warned me about this possibility. He warned me, and I listened. Down through the weeks, months, and years to follow, these asides would become golden rules for me. They must have saved my tail many times.

"Whatever the situation, he would suggest, keep shortening the odds in your own favour. Fly as tight and as close a circuit as you can. That way, if your engine cuts, you could still fly the machine back onto the runway. No problem. If this practice places you too high on the final approach, just side-slip or 'fishtail' (that's a double side-slip) the height away. In the years to follow, I became so adept at this side-slipping caper that, forty years later, one examiner asked me specifically to carry out a longer, conventional approach. I smiled. Mr. Lockridge would have smiled, too.

"Another of those famous asides was the 'looking around' gambit.

" 'Keep rubber necking all the time,' he advised, 'and be aware of everything that is going on around you. If it's a case of rubber necking or of keeping all the instruments right on the button, to hell with the instruments. That thing you are sitting on, it's called your ass; it will tell you most of the time what the instruments are saying. Continual looking around during normal flying could save you from an embarrassing situation. During combat, it could save you from getting a bullet in the back of your head. Think about it!'

"Many months later, when people were trying very, very hard to kill us, I did think about this advice. Nearly forty-five years later, and still flying, I go on thinking about it. I remember Mr. Lockridge. He was the first to churn out that old favourite for me:

There are lots of old pilots,
There are lots of bold pilots,
But there are very few, old, bold pilots."¹⁵

Philip Gray

¹⁵ Philip Gray, *Ghosts of Targets Past* (London: Grubb Street, 1995), pp. 16-17.



Ben Scott gets ready for some night flying.

As a Southwest Airways flight commander, he taught flying and supervised six flight instructors.

In the 1930s and 40s anyone wanting to rent an airplane had to satisfy the local airport instructor that he could take off and land properly. Ben Scott's ability to taxi so impressed one local airport instructor that he required no further proof that Ben could fly the airplane. If his skill was impressive, so was his judgement. Ben once said, "I used to do low level aerobatics, but one day I did the best slow roll I could do, and lost 150 feet. So I gave up low level aerobatics."

Photo and caption by Flight Instructor David Thiele, courtesy of David Thiele

Training Syllabus

All of the British flying training schools in the United States shared the same training syllabus. Although American instructors taught the syllabus, it was nonetheless a British syllabus designed by the RAF to meet the specific needs of the RAF. An American observer noted in 1944 that "the Royal Air Force syllabus embraces numerous types of operational maneuvers which are not included in the United States Army Air Forces (USAAF) syllabus and omits many which are considered essential in USAAF schools."¹⁶ In the primary phase of training, the RAF incorporated instrument flying, formation flying, night flying, and night navigation; the USAAF did not. In all phases of training, the British put more emphasis on ground school and less on aerial acrobatics than did the USAAF. The British syllabus did not include precision training maneuvers that were an indispensable part of United States Army pilot training — chandelles, lazy-eights, pylon

¹⁶ Grant, *History (January 1, 1943 to March 1, 1944)*, p. 9.

eights, and spot landings — but did include spinning, stalling, steep turns, and one maneuver that the Army considered too dangerous for inclusion in USAAF training programs: the stopping and restarting of the aircraft engine in flight.

Flight training and ground school were conducted simultaneously, and both began the week cadets arrived. Courses 1 and 2 flew a total of 150 hours in what an American Army observer called a “very sketchy plan.”¹⁷ Flight hours increased to 164 for Course 3, 177 for Course 4, and 200 for Course 5.¹⁸ Two hundred hours became the standard. When the Vultee was eliminated as a trainer at the British flying training schools, 91 of the 200 hours were earmarked for the primary phase of instruction, and 109 hours, for a syllabus category called basic-advanced.¹⁹ Basic-advanced included everything previously taught in the basic and advanced phases of instruction, but now only one aircraft was used — the North American Texan. Beginning with Course 12, the flying hours were changed to 70 for the primary phase and 130 for the basic-advanced phase.²⁰ The total flying hours increased to 210 for Courses 18 through 20 and increased to 220 for Courses 21 through 25.²¹ Courses 26 and 27 did not complete training.

The primary phase included four hours of dual night flying and two hours of solo night flying. The basic-advanced phase included a 350 mile night flight and a 2000 mile, three day trip. Check rides were conducted by Southwest Airways flight instructors and RAF flying officers throughout the course to “check” the cadets’ flying ability. Typically, there were seven check rides, three in primary and four in basic-advanced.²²

The American cadets of Courses 13 through 19 trained side by side with their British counterparts under the British syllabus. Although the Americans earned United States Army Air Forces wings at Falcon, the U.S. Army apparently did not consider Falcon’s American graduates to be on a par with the American cadets who graduated from flying training schools that followed the Army Air Forces syllabus. American Carroll Goyne, Jr., recalls that when he and the other Army Air Forces graduates of Course 18 were back in American hands, they were given special additional training to learn to fly “the American way.” That training included two weeks of ground school and an instrument course. Goyne and his classmates completed what they called “the Americanization program” with a class average of one hundred percent; furthermore, they took great delight in “instructing the instructors.”²³ In 1944 Captain Marvin Grant noted in an official report to his headquarters that “the primary difficulty experienced by all of the American cadets trained was not an inability to fly or to master ground school subjects, but an inability to write and speak the British Language. It was difficult for all of them to answer examination questions in the form and phraseology expected of them.”²⁴

¹⁷ *Ibid.*, p. 6.

¹⁸ “Hours Flown During Training at Falcon,” *Falcon Field Association of Great Britain Newsletter*, ed. W. McCash AFM, 1998 No. 1, p. 5.

¹⁹ Group Captain Harry Hogan, “British Flying Training Schools, Minutes of Conference Held on 3rd, 4th, November/42, Entry of U.S. Cadets to BFTS’s,” Rafdel document number A.23,559/42 dated November 12, 1942.

²⁰ *Ibid.*

²¹ “Hours Flown During Training at Falcon,” *Falcon Field Association of Great Britain Newsletter*, ed. W. McCash AFM, 1998 No. 2, p. 5. Cadet log books indicate that the increased hours were used for the advanced training phase.

²² “Check Rides During Training,” *Falcon Field Association of Great Britain Newsletter*, ed. W. McCash AFM, 1996 No. 2, pp. 9-10.

²³ Colonel Carroll Heard Goyne, Jr., letter to the author dated May 28, 1998.

²⁴ Grant, *History (May and June 1944)*, p. 12.



John Bonnell, chief ground school instructor, teaches Morse code.

To be considered proficient, a cadet was required to send six to eight words per minute with the telegraph key. In this photograph dated December 16, 1942, Bonnell supervises three members of Course 13: American A/C Al Floyd (left), British Corporal John Rutland (center), and American A/C Chuck Findley.

Ground school personnel known to have worked at Falcon include Jim Bachelder, John C. Bateman, M. A. Coddington, Theron S. Fitch, Harold D. Gage, Clyde Gilman, John Groton, Keith Guthrie, Dwight E. Harkins, Donald Kahn, T. S. Kelland, Preston Kors, Duane Maley, Harry A. Moore, H. Dean Page, Lyona Pemberton, Earl Peterson, William A. Rhodes, W. J. Robinson, Philip Stewart, and Eugene O. Walser.

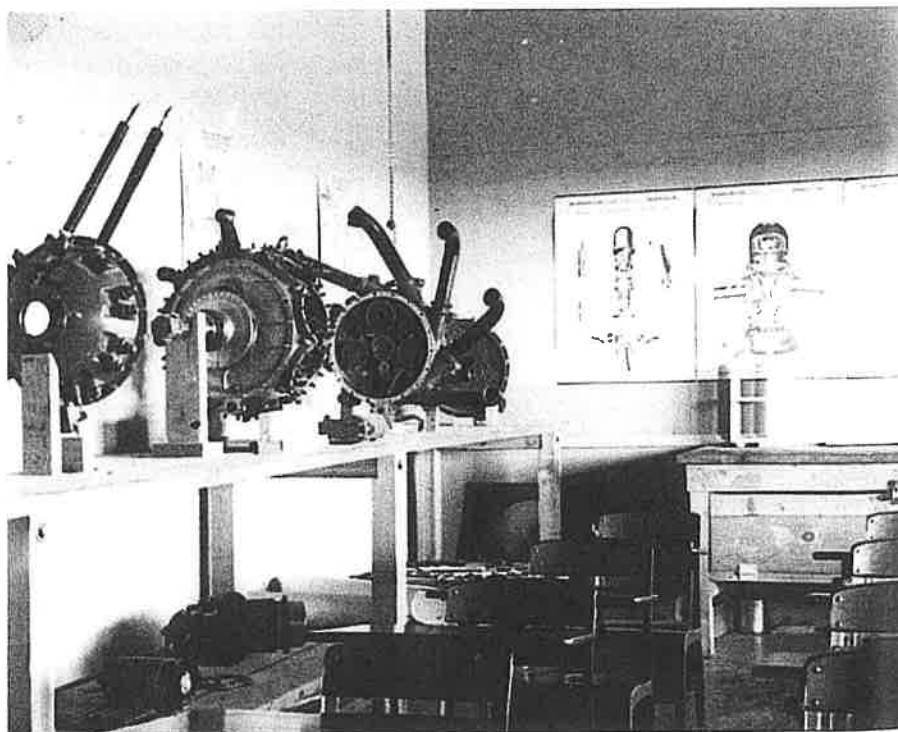
Photograph courtesy of Betty (Storrs) Downing, identifications by Elmer Altnow, Dick Appling, and Don Timms of Course 13

A Falcon Classroom

Ground school subjects included the following:

- (1) Airmanship
- (2) Navigation
- (3) Signals
- (4) Meteorology
- (5) Aircraft recognition
- (6) Armament
- (7) Theory of flight

Photograph by George Peter Alexandra (Course 7), courtesy of Mike Alexandra



High Arizona temperatures made Falcon classrooms miserably hot during the summer months, and a sympathetic Army inspector took notice. Lieutenant Colonel Donavin Miller was a field inspector with Headquarters, Army Air Forces Western Flying Training Command. In his official inspection report of May 3, 1943, he made the following observation. "The necessary rest required by personnel flying at night cannot be obtained in the daytime at this station during the summer months without some kind of cooling." He added, "It will be impossible for the students to obtain the maximum benefit from their classroom instruction under the extreme discomfort which will exist at this station in the classrooms during the coming summer months." He recommended evaporative coolers for the barracks and classrooms. And someone listened! Photographs taken during the summer of 1943 show evaporative coolers on the rooftops.



An air conditioned classroom awaits Course 19 cadets.

The RAF system of instruction placed a great deal of emphasis on ground school.

Front row: Geoffrey John Parsonson, John Spencer Marshall, Jack Kenneth Porter, John Henry "Jack" Shaw, Gerald Freakley Oldacre, Richard Ernest Strachan, and unknown (facing building).

Back row: John Rayner Powell, John Basil Magnier, Francis Martin Radditz, Jr. (U.S.), Donald "Alf" Parnell, Cornelius O. Lynch, Jr. (U.S.) with hat tilted forward, and Vernon Lewis "Tex" Martin (U.S.).

Extreme left with clipboard: Geoffrey William Moxon.

Pilot Officer Parsonson and Sergeant Parnell flew gliders with 670 Squadron in India, and Sergeant Shaw flew gliders with 669 Squadron in India. Sergeants Marshall and Strachan flew gliders with "E" Squadron in Operation Varsity, the Rhine crossing. Sergeants Moxon and Porter also served as glider pilots. Sergeant Powell served with 166 Squadron flying Lancasters and with 29 Squadron and 89 Squadron. Pilot Officer Oldacre converted to twin engined aircraft and served as an instructor at No. 9 AFU. Sergeant Magnier serves as an instructor for the navy and various EFTSs. The Americans were assigned to Air Transport Command, Gore Field, Great Falls, Montana.

Photograph and identification courtesy of John Spencer Marshall (Course 19)