



British Cadets Samuel Harry Holmes, Stanley Leonard Jarvis, and Leslie Frederick Faulkner of Course 19 cram for a test. After graduation all three were assigned as glider pilots. Sergeants Faulkner and Holmes served as glider pilots with 671 Squadron in India where Holmes was killed on February 25, 1945. Sergeant Jarvis flew a glider in Operation Varsity, the Rhine crossing.

Photograph courtesy of Falcon Field Association of Great Britain, Stan Jarvis collection

Link Trainer and the Cockpit Drill Trainer

The Link department housed machines which could simulate flight without leaving the ground. The RAF considered Link training to be a very important part of the cadets' training, and the department had as many as sixteen Link instructors. The lessons were meant to sharpen blind flying techniques when pilots were flying on instruments alone or were flying by directional audible beam.²⁵



The Link Trainer was designed to teach instrument flying. When they were seated in the windowless trainer with the hood closed, cadets depended solely on their instruments to "fly" the Link Trainer.

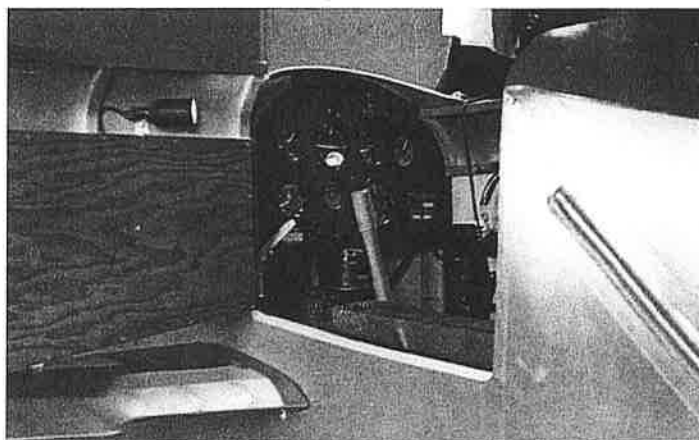
Photograph by Flight Instructor Ray Shelton and Cadet Robert Hampton Purdy of Course 15, courtesy of Glenn Harris

²⁵ Philip Gray, private manuscript detailing his life and experiences at Falcon.

The Link Trainer

The Link Trainer is an early version of what would now be called a flight simulator.

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



Falcon Field Link Trainer Instructors

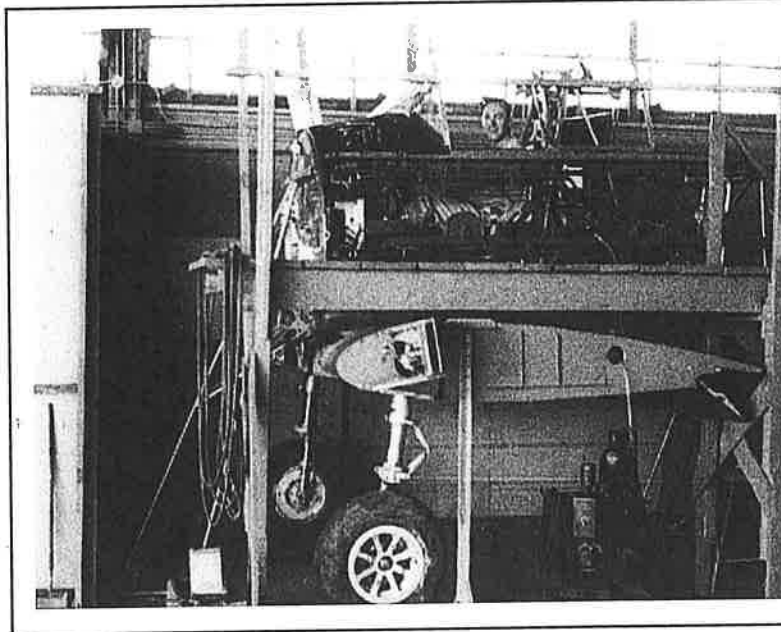
Kneeling, left to right: Burt Hollis, Wendell McGee, Lewis Colby, Herb Pratt, Frank Lawler, R. A. Girard, Chief Link Instructor Mel Lyster.

Standing, left to right: Art King, Tom Kelland, Dick Robertson, unidentified, Warren Scott, Phil Spexarth, Allan Miller, Mel Hickman.

Other Link Department personnel known to have worked at Falcon: John Bateman, George Cooper, Murray Fly, Bernice Hathaway, Rosmary Johnson, Earl Peterson, William Rhodes, Edward Sullenger, Johnny Wynn, Carlos Taylor, Bill Sturgeon, Budd Webb, and Bill Yee.

Photograph by Flight Instructor David Thiele, courtesy of David Thiele
Identifications by Link Instructor Allan Miller

To aid pilot training, Joe Wischler built a cockpit drill trainer from parts he salvaged from wrecked AT-6As. Wischler thought that the cadets could use some practical time getting acquainted with the instruments and controls. The trainer was complete with working wheels and flaps. Each cadet had three hours of instruction in the trainer and a blind-fold test before entering an actual advanced phase airplane.²⁶



Falcon Field's Cockpit Drill Trainer

An air compressor provided power to raise and lower the wheels and operate the flaps.

Photograph by Bill Bishop
(Course 14), courtesy of
Baroness Detta O'Cathain OBE

The Wings Exam and Wings Interview

Following completion of ground school and flying requirements, the cadets had to take the dreaded Wings Exam — the final test remaining between the cadet and his coveted RAF wings. This exam required detailed written answers to questions covering all the areas studied, as well as practical tests in armaments, signals, and other subjects. No matter how adept a cadet was at flying, without a passing grade on the Wings Exam he knew he would be “washed out.” The Wings Exam determined who would become a pilot; the Wings Interview, who would receive a commission. Mary Lou Turner describes the Wings Interview process:

“Before their graduation the whole course had a Wings Interview. In the U.S. Army Air Corps when a cadet graduated, he automatically became an officer — a Second Lieutenant. Not so in the RAF. You could graduate and still be a Sergeant Pilot, not a Pilot Officer. This interview by the commanding officer and his staff was to decide who would be officers. The cadets lined up outside the commanding officer's office and as each one came out after his interview, he told the others what questions he'd been asked — mostly on literature and philosophy (whatever that had to do with combat flying). If the cadets didn't know the answer, they asked us, and if we didn't know, we called the Mesa Public Library. As a matter of fact, we kept an open telephone line to the library during the whole Wings Interview. After this the Wings Interviews were held at night.”²⁷

²⁶ Grant, *History (January 1, 1943 to March 1, 1944)*, p. 19.

²⁷ Mary Louise (Turner) Bustrin, *My Second Job*, private manuscript, June 1990, p. 24.

Russell McClelland, Falcon RAF flying supervisor from February 1943 to June 1944, told the author that the Wings Interview "assessed the cadet's communication skills and personality, so the questions were intended to give each cadet a chance to talk freely on whatever subject might interest him. Factual answers to questions asked by the interview panel of officers were totally irrelevant." According to McClelland, cadets gained no advantage by calling the Mesa Library.²⁸



No. 4 BFTS officer staff photographed in June or July 1944

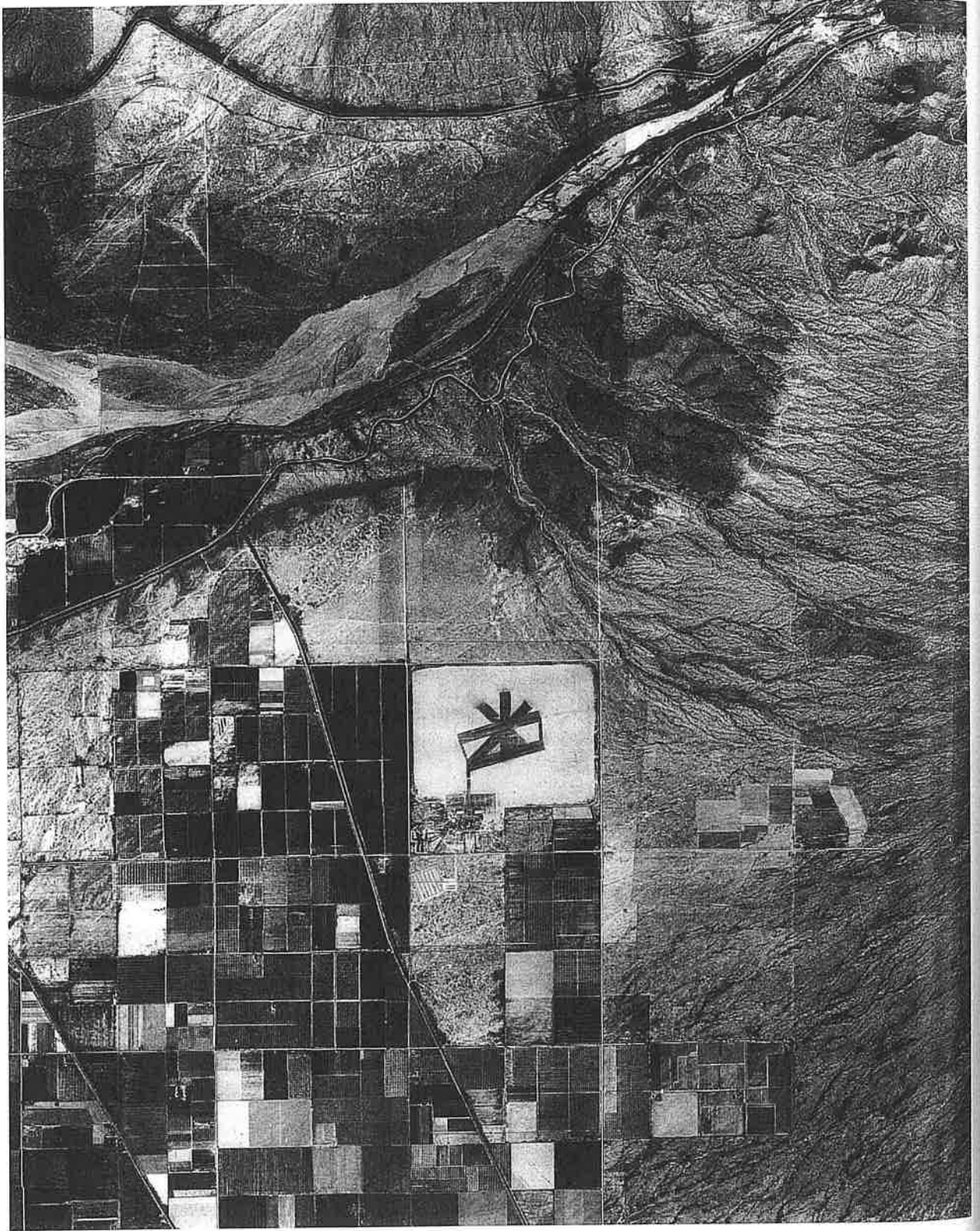
Front row, left to right: Captain Marvin R. A. Grant, commanding officer of Falcon's 3044th Army Air Forces Base Unit (3044th AAFBU); Wing Commander John Fergus McKenna AFC, commanding officer of No. 4 British Flying Training School; Squadron Leader Alan Johnson, chief ground supervisor.

Back row, left to right: Flight Lieutenant Harry D. Carter, administrative officer; Flying Officer Phil Parker, a Course 2 Falcon graduate and assistant flying supervisor; Flying Officer Ted Irwin, Royal Canadian Air Force (RCAF), navigation supervisor; Flight Lieutenant Ron C. Finlayson, RCAF, navigation supervisor; Flight Lieutenant Hector White, gunnery instructor; Flying Officer John Lloyd Owen, flying supervisor.

As noted in Chapter Three, the RAF staff increased from an initial complement of four — three officers and one enlisted — to an authorized strength of fourteen — nine officers and five enlisted. The officers provided curriculum oversight and instructional supervision and taught the gunnery course.

Photograph by Sergeant Cy Cartwright, courtesy of Captain Marvin R. A. Grant, identification assistance provided by Squadron Leader Ted Irwin, Canadian Armed Forces (CAF)

²⁸ Russell McClelland, letter to the author dated March 27, 2001.



Falcon Field, shown in this 1944 photograph, is located in the Salt River Valley eighteen miles east of Phoenix, Arizona. Orange groves are situated to the west of Falcon.

Photograph by Sergeant Cy Cartwright, courtesy of Captain Marvin R. A. Grant

CHAPTER NINE

FLYING TRAINING

Remember

*Keep your head and eyes moving constantly.
Avoid air collisions, they are the worst type of accident.
A pilot with a stiff neck has no business in the air.*

From *Basic Flying Instructions for Students*, Air Corps Primary Flying School,
Randolph Field, Texas, Randolph Printing Office, April 1, 1940

Falcon Field trained more than 2000 Royal Air Force cadets in its short history. Those cadets spent over 300,000 hours in the air and flew a distance of forty-five million miles.¹ Flight training was divided into three separate phases — primary, basic, and advanced — with a different U.S. Army aircraft used for each phase: the Boeing-Stearman Kaydet for primary, the Vultee Valiant for basic, and the North American Texan for advanced. When the Vultee was eliminated from the program in 1942, the basic and advanced phases of flight training were combined into a new syllabus category called “basic-advanced.”² All basic-advanced training was conducted in North American Texans.

Primary Training in the Boeing-Stearman “Kaydet”

As soon as new cadets arrived, they began learning to fly. Bill Bishop first saw Falcon Field on January 17, 1943, a Sunday, and on Tuesday he started flying with Flight Instructor Roy Elder, “a rangy looking cowboy type, an American civilian pilot.” In the time that passed since grading school at Scone Airfield near Perth, Scotland, Bill Bishop had longed to get back in the air. When those exciting days finally came again, he reluctantly noted in his diary that “we were brought to earth with a navigation exam to test our knowledge.” Navigation exams and other bothersome details notwithstanding, on January 30, a scant eleven days after his arrival in Arizona, Bill Bishop was soaring with the eagles that lived in the nearby Superstition Mountains — and his instructor waited on the ground. Bill Bishop of Course 14 was flying his first solo in “a very rugged biplane,” a Boeing Stearman PT-17A.³



**Flight Instructor Roy Elder,
“Uncle Roy” to his students**

Photograph by Bill Bishop, courtesy of
Baroness Delta O’Cathain OBE

¹ *The Falcon, A History of Southwest Airways’ British Flying Training School, Mesa, Arizona, U.S.A.*, Bernadine Baker (ed.), (Southwest Airways, Inc., November 6, 1945), p. 1.

² At U.S. Army flight schools, primary, basic, and advanced continued to be taught as three separate phases.

³ *The Diary of Bill Bishop*, private manuscript compiled by William Ernest John Bishop and his wife Baroness Delta O’Cathain OBE in 1989 from the extensive diaries Bill kept during his flying career, p. 9.



Instructors anxiously await the return of Bill Bishop and other cadets from Course 14 Section C who are on their first solo flight. When class size increased to one hundred with Course 13, classes were divided into four sections: A, B, C, and D.

From left to right: Roy Elder, Ken Kerns, Jim Grooms, Bill Erbig, Earl Gertje, and Charles Brown.

Photograph by Flight Instructor Ray Shelton, courtesy of Jim Elder

The primary flying training sequence is listed on Rafdel Form 2M.11-43, *British Flying Training Schools (U.S.A.), Instructions for Compiling Flying Log Book*.

- | | |
|------------------------------------|--------------------------------------|
| 1. Familiarity with cockpit layout | 15. First solo |
| 2. Preparation for flight | 16. Sideslipping |
| 3. Air experience | 17. Steep turns |
| 4. Effects of controls | 18. Instrument flying |
| 5. Taxying | 19. Low flying |
| 6. Straight and level flight | 20. Taking off & landing out of wind |
| 7. Climbing | 21. Precautionary landings |
| 8. Descending | 22. Forced landings |
| 9. Stalling | 23. Action in the event of fire |
| 10. Medium turns | 24. Re-starting the engine in flight |
| 11. Gliding & climbing turns | 25. Aerobatics |
| 12. Taking off into wind | 26. Night flying |
| 13. The approach & landing | 27. Pilot-navigation |
| 14. Spinning | 28. Formation flying |

In November 1942 when primary flight hours were changed from ninety-one to seventy, Rafdel published a standard primary flight schedule for all British flying training schools in the United States. Dual training and solo training were equally divided at thirty-five hours each.⁴

Primary Dual Flight Training: 35 hours

Dual instruction — 22 hours
Dual instrument — 6 hours
Dual day navigation — 3 hours
Dual night landings — 3 hours
Dual night navigation — 1 hour

Primary Solo Flight Training: 35 hours

Solo day flying — 29 hours
Solo navigation — 4 hours
Solo night — 2 hours

To this standard training schedule came cadets who were definitely not "standard." Mary Lou Turner remembers their differences.

"There was a six day bike rider, a reference librarian (who advised me NEVER to be a reference librarian), . . . the red-haired twins, A. L. and A. E. Foster, (whose flying time I mixed up royally). There was a fisherman from Hastings (Battle of, a.d. 1066), and even a genuine Lord — Lord Strathcarron. (He irritated his flight instructors by signing the flight forms merely — Strathcarron.) There was another red-haired freckled face cadet who had previously been in British intelligence and then on General Montgomery's staff. . . . Then there was the cadet with the scarf — no ordinary scarf. He always had it wound around his neck at least four times and still it hung to the ground, front and back. When the wind was blowing, you always saw the scarf first. He said his mother and sister had sat across the room from each other and knitted until the scarf met."⁵

Teaching all of those different types of individuals with their many different personalities was a learning experience for the instructors. Advanced phase Flight Commander Don Prosser had trouble trying to get one cadet to follow what, to Prosser, were simple instructions.

"Thinking he was too distracted in the air, I gave ground instruction to take off, leave the flight pattern, then proceed any way he wished to the auxiliary field and land, a procedure he did not do according to plan. At the auxiliary field, I proceeded to go into some detail about his failings, only to look in the rear mirror (a useful tool I was finding) and see he was in tears. My teaching technique was forever changed right there."⁶

Philip Gray of Course 16 found the Arizona desert with its miles of clear blue sky about as perfect a place to learn to fly as could be found. However, the temperature could rise from thirty degrees at night to over 115 degrees in the day, and the resulting heat currents caused uneven lift, a hidden problem for the Stearman. The Stearman's large wing surface and light weight made it very susceptible to fluctuations in air currents, especially those caused by heat waves. Philip Gray said that he "fell for it once" and ground looped when one of his wingtips hit the deck. Gray says that he was one of thirty-seven cadets in Course 16 to join the "ground loop club."⁷

⁴ 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.

⁵ Mary Louise (Turner) Bustrin, *My Second Job*, private manuscript, June 1990, pp. 22-23. According to British custom, Lords sign using their last name only. "Strathcarron" was the complete and customary signature of Lord David William Anthony Strathcarron of Course 17.

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

⁷ Philip Gray, private manuscript detailing his life and experiences at Falcon.

Wingtip damage caused by ground looping was an irksome problem for maintenance chief Joe Wischler, and when a cadet innocently asked Wischler why Falcon had an auxiliary field, a frustrated Joe Wischler snapped back, "To practice ground loops on."⁸ Later, a more composed Wischler rigged a Stearman with skids under the wingtips. According to Flight Instructor Jim Montgomery, each student had dual instruction in this "ground loop trainer" prior to solo.⁹



Flight Instructor Ken Stone describes a slow roll.

Photograph by Flight Instructor David Thiele, courtesy of David Thiele

The slow roll maneuver that Ken Stone is describing in the photograph could prove hazardous if the pilot were not wearing his seat belt. On one occasion, an instructor was demonstrating aerobatics but had failed to strap himself in. During a slow roll maneuver, the instructor fell out. The startled cadet pulled a "split S" to bring the Stearman out of the inverted position. As the aircraft came around, a wingtip caught the instructor's parachute shroud lines. Fortunately, the chute slipped free, and the instructor headed to the ground. A downed pilot is supposed to spread his parachute out on the ground so that his location can be seen from the air, but in this case an air search failed to find any sign of the hapless instructor. Captain Marvin Grant searched by jeep. "We looked for the instructor for hours before he was finally located under a crude lean-to shed in the desert. He had folded his chute and was sitting on it. When chastised for leaving no marker to be seen from the air, he replied that it was just too hot out there in the desert, and he had to have something to sit on."¹⁰

⁸ "Gossip and Hearsay," *The Thunderbird*, Vol. 1 No. 1 (March 1943), p. 7.

⁹ James E. Montgomery, letter to the author dated January 17, 1999.

¹⁰ Marvin R. A. Grant, letter to the author dated February 10, 1999.

Check rides were a responsibility of the RAF staff, including the two commanding officers who were themselves pilots, Wing Commanders McKenna and Rogers. One such check ride with Wing Commander McKenna was seen as "nothing special" by John Chatterton of Course 10. McKenna had just drawn his name "out of a hat." Chatterton believed he was making a good impression by looking around with exaggerated head movements, but his goggles blew off and fell to the ground. Chatterton said of the incident, "I think he was trying not to laugh when I explained it all, and when I told him I knew where they had fallen he said, without much enthusiasm, 'Jump in my car and I'll drive you out to find them.' The field was closely mown and after a couple of sweeps of a quarter mile each I was delighted to see the goggles on a tuft of herbage dead ahead. He said I was lucky. I assured him it was skill born of noting where a shot partridge had fallen in dense cover."¹¹

While Wing Commander McKenna learned to appreciate cadet Chatterton's sharp eye, Don Prosser continued to learn more about his cadets.

"In the Stearman, the instructor takes the front cockpit and the cadet takes the rear. I mention that because in my early days of instructing I was working on landing instruction with a particular cadet who would attempt to land ten feet above the ground on one attempt, then fly into the ground seemingly without seeing it on the next. Finally I watched him in the rear view mirror as he approached, only to see him suddenly lean over the cockpit edge to stare straight down as he crossed the threshold. This called for a discussion about looking ahead about the same distance you would if driving a car seventy mph. Then came the shocker, 'But Sir, I never drove a car.'"¹²

Many British cadets had, indeed, never driven a motor vehicle. Course 20 cadet Robert Brown recalls that "it was a fact of life that most British did not have cars in the 1940s. If they did, petrol was severely rationed as it had to come by sea in highly vulnerable tankers. U-boats nearly beat us in 1941." Jim Montgomery found that cadets who had no driving experience did not realize the distance required to make a turn. "For that reason, the students who were not flying served as wingtip walkers to help arriving and departing airplanes into or out of the flight line safely."¹³ Also, Joe Wischler bought a bunch of old Model A Fords to get the cadets used to driving — and turning. Cadets spent many hours wheeling around the parking lots in the old jalopies.¹⁴

RAF cadet Harry "Red" Vassie of Course 12
with his friends in one of Wischler's
Model A Fords, a 1929 roadster

As a sergeant pilot, Red Vassie flew Hurricanes and Typhoons in England where he downed six V-1 flying bombs. Because a pilot who fired on a V-1 could shoot himself down if shrapnel from the exploding V-1 hit his airplane, Vassie used his fighter's wingtip to flip the V-1s and disorient their gyro compasses.

Photograph courtesy of Val Boucher,
formerly Mrs. H. J. Vassie



¹¹ "Falcon Memories," *Falcon Field Assoc. of Great Britain Newsletter*, ed. W. McCash AFM, 1998 No. 3, p.12.

¹² Prosser, February 24, 1999.

¹³ James E. Montgomery, letter to the author dated November 19, 1998.

¹⁴ John Yates, telephone interview with the author in January 2000.

Sudden dust storms — even schools of miniature tornado twisters — could also wreak havoc among the fledgling pilots. Philip Gray recalls that “planes taxied into each other right there on the ground, their pilots blinded by sudden whip-ups of sand.”¹⁵ But taxiing accidents were not all caused by “whip-ups of sand,” and they were not confined to No. 4 BFTS. In Rafdel’s *Analysis of Accidents at British Flying Training Schools* for June and July of 1943, the British command in Washington issued a scathing condemnation of carelessness on the taxiway.

“In nearly every case the cause was gross carelessness on the part of the pilot. Most accidents occurred whilst parking on the flight-line through pilots not allowing themselves enough room. There is no excuse at all for this type accident. If a pilot has the slightest doubt about the amount of room he has in which to park he should switch off and have the aircraft manhandled into position. A few accidents were the result of not stopping when visibility was reduced by dust clouds. In all cases but one the pilot was to blame.

“Several collisions occurred with unlighted stationary objects near the flare path [used for night runway illumination] or taxiing post. Some of these were due to failure of the electrical circuit in parked aircraft. There would seem to be no excuse however for the presence of such things as the Flight Commander’s unlighted car anywhere near the night flying area. Where a car was involved, it came off second best and presumably the lesson was not lost on the owner.

“Out of the total of 36 taxiing accidents during June and July, 10 were attributed to instructors which is a very bad state of affairs and it is no wonder that cadets tend to follow their instructors’ bad example.”

Rafdel did not in any of its reports identify the schools or personnel involved in accidents. Of the flight commander whose car “came off second best,” his name is lost to history.

Night Flying

The British flight training syllabus included night flying in the primary curriculum; consequently, when night flying was added to the United States Army primary curriculum being taught at the other Southwest Airways schools, Al Storrs, Falcon’s director of training, was asked to write an article on the subject for Southwest Airways’ company magazine *The Thunderbird*. (Each phase of U.S. Army training — primary, basic, and advanced — was taught at a different training base, and Southwest taught only the primary phase in its Army contract schools.) In the introduction to his article, Storrs recalled the days when British cadets flew from the yet unpaved runways of Thunderbird Field. Water trucks were on the field hours ahead of take-off time wetting the ground well to hold the dust down, but dust gradually increased as the ground dried out, and time was wasted while water trucks lumbered back and forth again and again.¹⁶



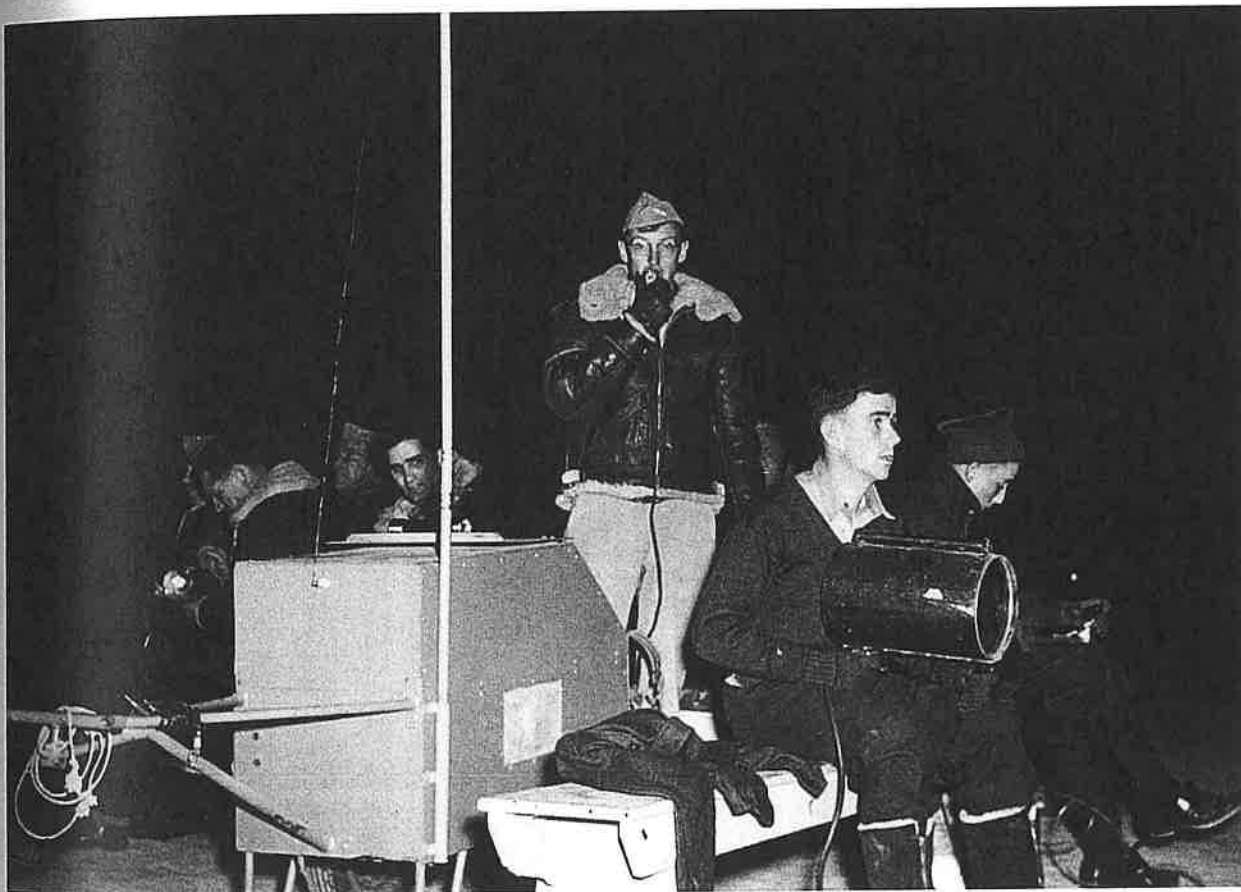
Gremlin

Photograph by Bill Bishop (Course 14),
courtesy of Baroness Detta O’Cathain

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

¹⁶ Al Storrs, “Falcon Offers Night Flying Suggestions,” *The Thunderbird*, Vol. 1 No. 4 (June 1943), p. 2.

Concerning night flying, Storrs said that the British syllabus taught cadets to land without benefit of aircraft landing lights or airfield perimeter lights. Cadets were required to land between two rows of flares about 450 yards long and 100 yards apart. These lessons were not lost on American Second Lieutenant Carroll Goyne, Jr., of Course 18 as he took his C-47 in at tree-top level to land in France at night and between two rows of flares to resupply the French Resistance.¹⁷ In Falcon's night flying exercises, the only assistance from the ground came from an instrument called a Glide Path Indicator. A Glide Path Indicator has three lights, but an approaching pilot could see only one of the three. If he were too high, he saw an amber light, too low, a red light, and at the correct height, a green light. Hand held lights could also be aimed at the pilot. When all else failed, a flight instructor named Kelly just bellowed at his errant cadet. Inexplicably, his yelling seemed to work.¹⁸



The portable control station used for night flying

This photograph shows the night flying control station with all equipment — transmitter, receiver, and light guns. This portable station was usually set up in the center of Falcon Field between the two major east-west runways at the down-wind end. Vultee Valiants and North American Texans were equipped with radios, and the radio dispatcher (shown standing in the center of the photograph) gave takeoff and landing instructions. He was assisted by cadets who held signal lights to direct takeoffs and landings. Boeing-Stearman Kaydets were not equipped with radios; therefore, dispatchers relied strictly on signal lights for those aircraft.

Photograph by Flight Instructor David Thiele, courtesy of David Thiele

¹⁷ Colonel Carroll H. Goyne, Jr., letter to the author dated May 28, 1998.

¹⁸ Al Storrs, "Falcon Offers Night Flying Suggestions."

Mishaps and accidents were common at night. Flight Instructor James Mitchell remembered one student who was making a night solo circuit of the field. The cadet was supposed to regulate the height of his approach by watching the lights of the Glide Path Indicator.

"The kid came in, getting lower and lower, seemingly ignoring the flight indicator. Everybody was pointing red lights at him, but he landed about a hundred feet outside of the field anyway. It was a nice landing, but there was a concrete irrigation ditch which he hit, and the Stearman did a somersault, ending on its back with the student hanging upside down by his seat belt.

"When they got to the airplane, he was lowered to the ground, dusted off and asked if he was hurt. His eyes were big and round as he said, 'No sir, but I wouldn't recommend anyone else doing that.'"¹⁹

William L. "Bill" Strobel

Flight Instructor Strobel gets ready for cold weather night flying in a Stearman. Night flying was serious business for the British. In Europe, allied bombing raids were carried out by the Americans during the day and by the British at night.

Photograph by Flight Instructor
David Thiele,
courtesy of David Thiele

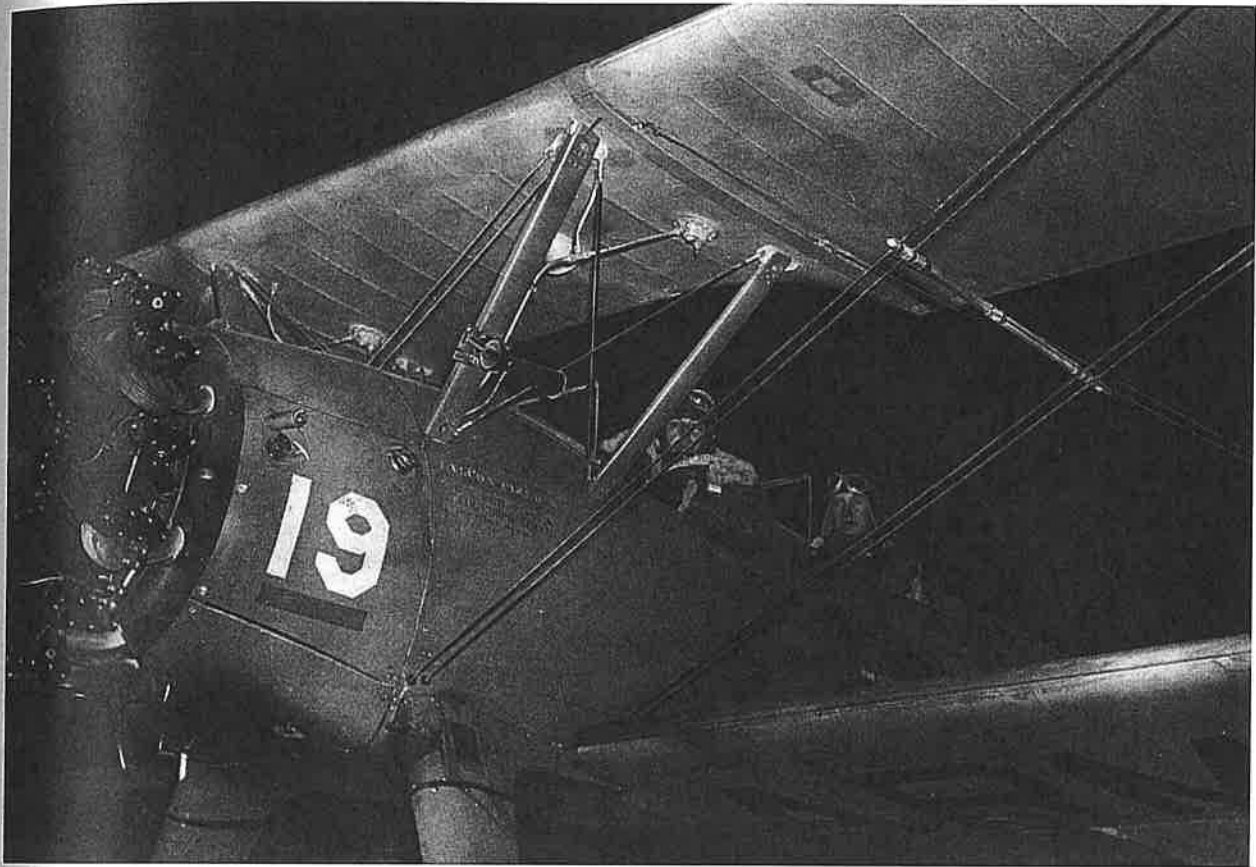


Another incident involved Al Storrs himself and occurred during a night check ride for a basic student in a Vultee BT-13A. "We had reached an approximate altitude of 300 feet," said Storrs, "when the engine said, 'You'll have to get along without me.' Those were busy moments, getting the student to turn the lights on, and bringing the ship into the field along the south boundary."²⁰

In the concluding remarks to his magazine article, Al Storrs directly addressed the instructors at the other Southwest schools who would soon be introducing U.S. Army cadets to night flying. "You. . . will have the same pride. . . when you watch a student go on a solo night flight and set down again in a little place 450 yards long without lights. You will know that training has come a long way since [Southwest] first started flying."

¹⁹ Charles R. Hyer, "Thunderbirds in the SW Desert," *Journal of American Aviation Historical Society*, Vol. 30 No. 3 (Fall 1985), pp. 178 & 179.

²⁰ Al Storrs, "Falcon Offers Night Flying Suggestions," p. 3.



Flight Instructor Michael O'Connell in the front cockpit and British cadet W. N. "Bill" Bays of Course 12 in the rear cockpit go night flying in a Stearman. The line under the number 19 on the cowl is red and indicates that the gauges in this aircraft are calibrated for instrument flying instruction. The lettering stenciled on the fuselage reads "Falcon Field U.S. Army PT-17A."

Photograph by Flight Instructor David Thiele, courtesy of David Thiele

A curious cadet peers over the shoulder of Flight Instructor Walley Backus as Backus makes notes about the student's performance that evening.

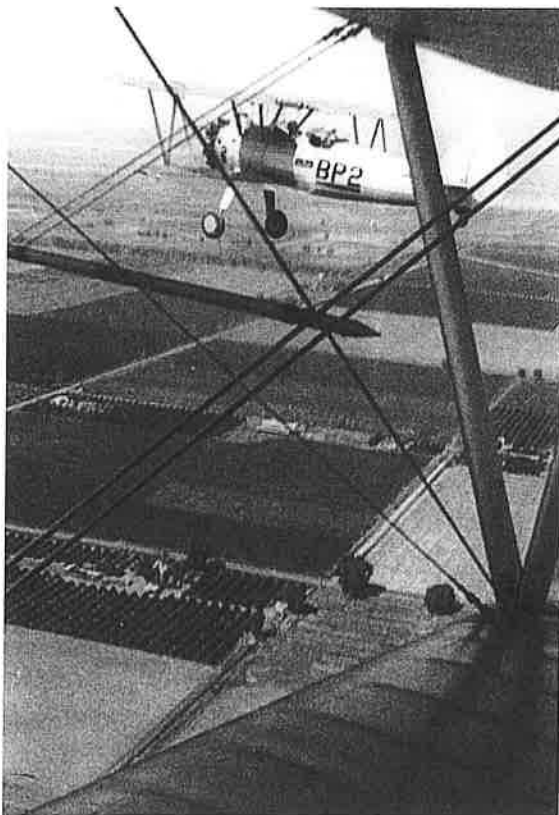


Photograph by Flight Instructor David Thiele, courtesy of David Thiele

On Friday, March 12, 1943, Bill Bishop had completed seventy hours in the Stearman. He said of his primary training, "I had not bent an aircraft on the way and had enjoyed myself enormously. My last flight in a Stearman. . .I had thirty-seven minutes dual with Carl Kern, practicing the slow rolls. . .and snap rolls. Later that evening I met Hoagy, Jeff, and Ken in Phoenix, and we caught a Greyhound bus to Los Angeles at one a.m. We were on our way to Hollywood."²¹



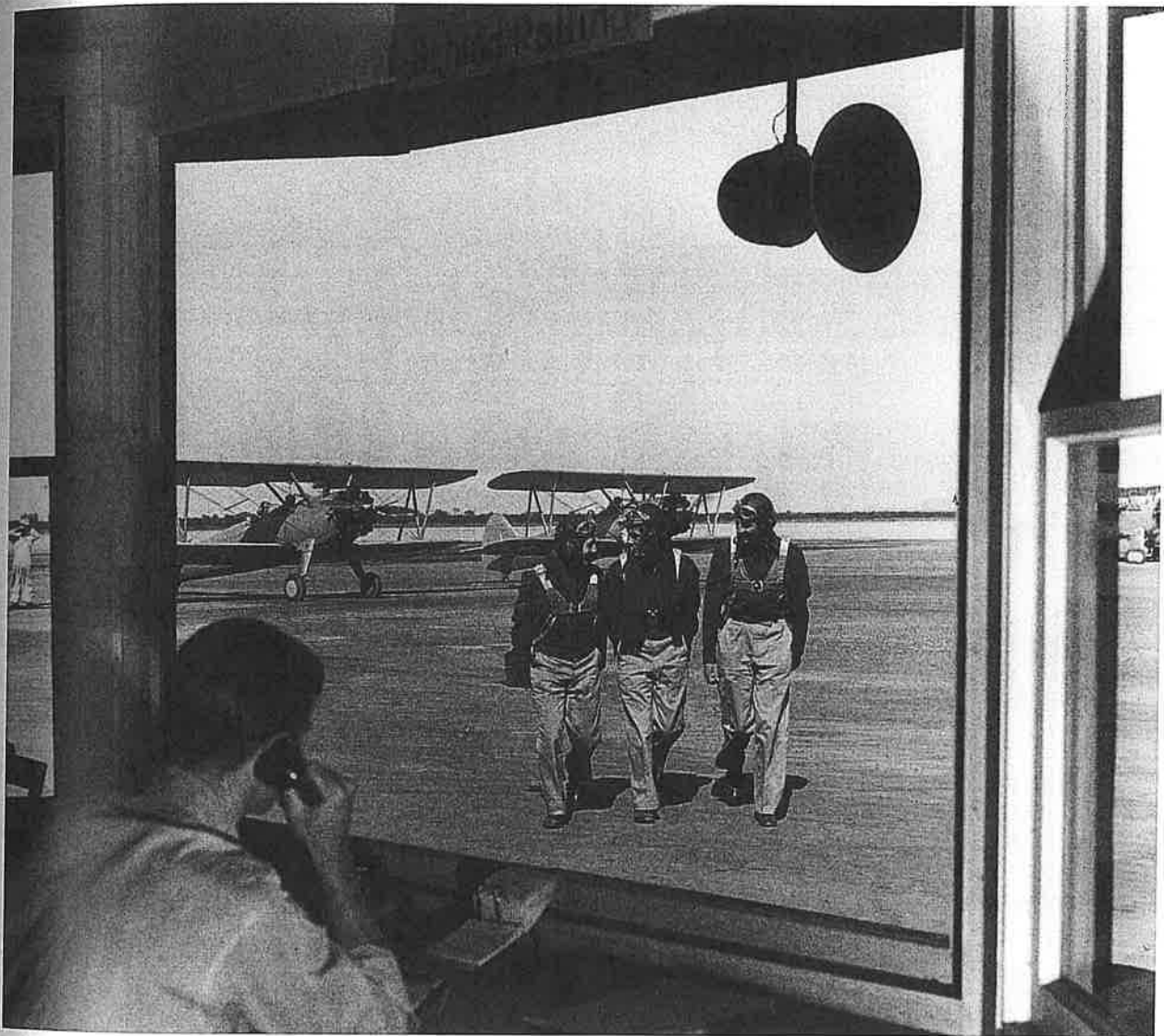
Flight Instructor Carl V. Kern



Bill Bishop's last flight in a Stearman with Carl Kern on March 12, 1943, Sun Valley, Arizona, over the orange groves.

All photographs courtesy of
Baroness Delta O'Cathain OBE

²¹ Bishop, p. 14.



British cadets return from primary flight training in Stearman aircraft.

Photograph courtesy of Betty (Storrs) Downing

Basic-Advanced Training in the North American "Texan"

Bill, Hoagy, Jeff, and Ken survived their week in Hollywood. They were housed free at the Hollywood Guild, an outfit operated for the RAF by the ladies of Hollywood; danced to the Benny Goodman orchestra; visited the Brown Derby and the Hollywood Canteen; toured Paramount Studios where they saw the filming of a Bob Hope movie; and generally failed to get much sleep. Now, they were ready for the basic-advanced (later just called "advanced") phase of flight training in North American Aviation Texans. Bill Bishop was ecstatic.

"I signed my log book to say that I was in complete understanding of the petrol system, the oil system, the aircraft controls, the emergency hydraulic system, the action in event of fire, the abandoning of aircraft and the re-starting of the engine in flight — not necessarily in that order.

"My instructor's name was Hemphill and my Eagle number was 460. 'Eagle 460 from Tower, clear to take off.' We operated under a closed canopy and I wore dark glasses and a peaked cap and just knew I looked like an ace flyer."²²

"...trim, elevator slightly back, rudder fully right, mixture full rich, propeller maximum rpm. Check fuel contents and correct tank selected; flaps 15 degrees down; clear take-off path; open the throttle, keep the aircraft straight and, at 70 mph, ease back the control. Climb at 100 mph. We were up for 30 minutes and I am most impressed with the smoothness of flights as compared with the Stearman. All round visibility was so much better and she was a joy to fly. This is going to be great!"

Bill Bishop (from his diary)

Photograph courtesy of Baroness Detta O'Cathain OBE



In November 1942 when advanced flight hours were changed from one hundred nine to one hundred thirty, Rafdel published a standard advanced flight schedule for all British flying training schools in the United States.²³

Advanced Dual Flight Training: 66 hours

Dual instruction — 21 hours
Dual instrument — 22 hours
Dual night, landings — 5 hours
Dual day formation — 4 hours
Dual day navigation — 7 hours
Dual night navigation — 5 hours
Dual day armament — 2 hours

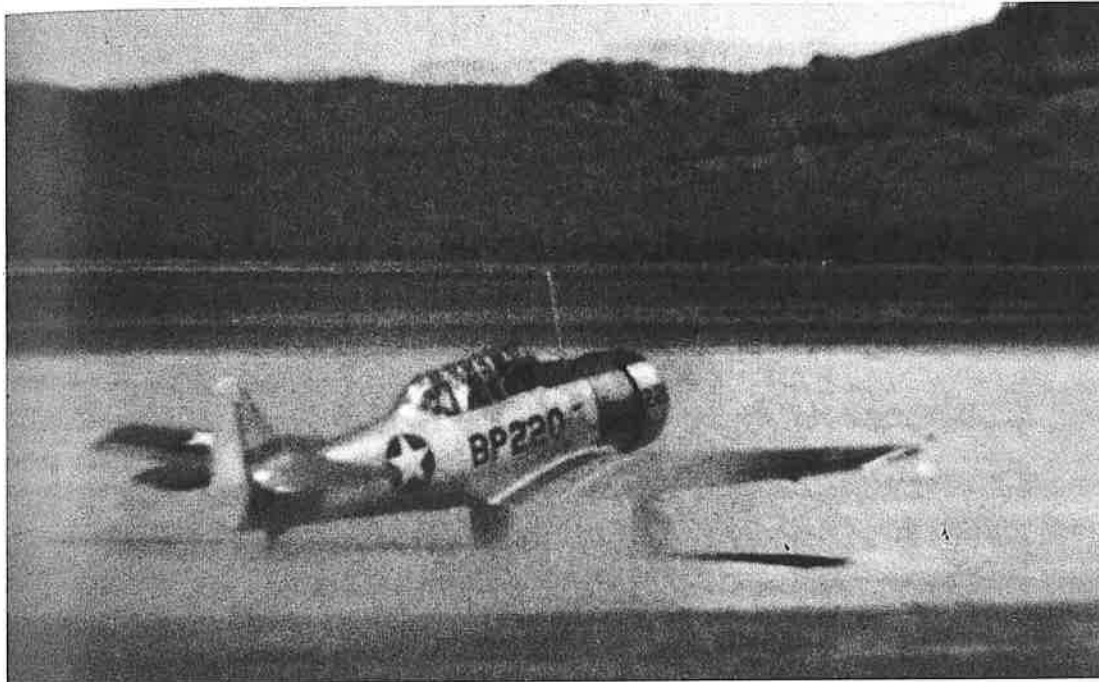
Advanced Solo Flight Training: 64 hours

Solo general practice — 17 hours
Solo instrument — 0 hours
Solo night, landings — 7 hours
Solo day formation — 8 hours
Solo day navigation — 10 hours
Solo night navigation — 14 hours
Solo day armament — 8 hours

²² Ibid., p. 17.

²³ 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.

Exactly a year from the time he had presented himself to the aircrew reception center in London, Bill Bishop, call sign Eagle 460, flew his first advanced training solo in an AT-6A. His thirty-five minute solo had followed eight hours and thirty-six minutes of dual training with Flight Instructor Bill Hemphill, Eagle 71.²⁴



AT-6A number BP220 opening to take off

Photograph courtesy of the Falcon Field Association of Great Britain,
Bill Dowling (Course 20) collection

Engine Restart

Many differences between the Royal Air Force syllabus and the United States Army Air Forces syllabus were a matter of emphasis or degree, but one RAF requirement was considered by the U.S. Army to be too dangerous for inclusion in the USAAF syllabus. Called "Re-starting the engine in flight," this curriculum item applied to all three aircraft types and required the cadet to switch off the engine, wait until the propeller stopped moving, and then re-start the engine. The Stearman Kaydet did not have an electric-inertia starter as did the Vultee Valiant and the North American Texan, and the only way to restart the Stearman engine was to put the aircraft into a steep dive and wait for increased airspeed to drive the propeller fast enough to start the engine. With the Texan, the act of stopping the propeller was a drill all its own and necessitated lowering the gear and flaps and nearly stalling the plane as the propeller slowly wound down, a process that Don Prosser said "consumes altitude VERY rapidly." He added that if the engine were switched off at 12,000 feet, the prop would generally stop at 8000. After one cadet succeeded in stopping the propeller, Prosser directed him to re-start the engine, only to be startled as the cadet opened the hatch at 8000 feet, stuck his head into the slipstream and yelled "CLEAR!"²⁵

²⁴ Bishop, p.18.

²⁵ Donald L. Prosser, letters to the author dated February 24, 1999, and November 17, 1998.

Instrument Flying

Instrument flying training began in primary and was normally conducted with the cadet under a canvas cover, or hood, to prevent him from seeing out of the aircraft. A cadet had to rely on his instruments when flying "under the hood." Flight Instructor Don Dwiggins was flying a Stearman one sunny morning with Albert Marsland of Course 21 under the hood. Marsland was flying his needle-ball-airspeed routine. Ahead Dwiggins saw a cumulus cloud — a good opportunity to show his cadet what real instrument flying was like. Dwiggins directed Marsland into the cloud and called through the speaking tube for him to open his hood. Marsland raised the hood, looked around in amazement and gasped, "My gosh, sir! This looks just like home!"²⁶

All of the Falcon cadets remember flying under the hood, and American cadet Alex Cochran of Course 15 is no exception. Years later, he told the story of flying under the hood with Fred Merha and of being "hoodwinked."

"Fred Merha, my advanced phase instructor, was a buoyant and dashing figure. One afternoon, in the latter part of our instrument flying training, as we taxied out he had me put the canvas hood up so I couldn't see out. He said, 'make an instrument take-off.' This was new to me, but in a normal voice he said over the intercom, 'Push the throttle forward slowly just as normal, keep the directional gyro centered, at 80 miles per hour raise the nose slightly on the artificial horizon and establish climb at 500 feet per minute and 120 miles per hour.' I perspired freely but countered the instrument deviations as best I could realizing that there was little margin for error close to the ground. The tension was only slightly relieved by the thought that the instructor would keep me from killing him.

"Once we were free of the ground, climbing and 1000 feet above the ground, the margin widened and I breathed easier. As we continued to climb Fred took me through a series of exercises. 'Make a left turn to 270 degrees — climb 500 feet and level off at 5000 feet — turn right 90 degrees and lose 500 feet — climbing left turn of 180 degrees and level off at 5500 feet.' So went the time until I had completely lost situational awareness. After about thirty minutes of this I didn't have the foggiest notion where we might be. Suddenly Fred gave me a left turn of 90 degrees and let down at 500 feet per minute. After this was established he said, 'take off the hood, look ahead, and land.' When I looked out we were in a valley with a graded runway directly in front of us. I went through the landing sequence check lists including gear down and landed. We taxied up to a ranch house and parked. As we were getting out, another plane was landing and then another.

"The instructors were welcomed as friends of the owner. Coca colas were passed out as we luxuriated in the shade of the ranch house veranda. After a brief respite it was back to our planes. Departure was under-the-hood as before. We continued our instrument exercises on the return trip to thoroughly confuse situational awareness. Upon return to Falcon we three students compared experiences and were equally mystified. I was always convinced the ranch was east of Falcon but was never able to identify the place. I never heard of a student who was ever able to find the ranch. Clever these wily instructors who gave us such a thorough workout, a welcome diversion and an intriguing event to savor and ponder."²⁷

²⁶ Don Dwiggins, "Yesterday at Falcon," *Arizona Highways*, July 1988, p. 39.

²⁷ Alexander R. Cochran, Jr., letter to the author dated June 11, 1998.