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LITTLE RANDOLPHS

by KENNETH A. WILLARD

Hundreds of Army fledglings are being trained at nine selected civilian flying schools. What was looked on as a "daring experiment" is panning out.

Just across San Diego Bay from the Navy's huge air station, Army students are being trained at the Ryan school. Cadets must be between 20 and 27. If they make the grade here, they go on to Randolph Field.

A CASUAL visitor to any one of nine civilian schools throughout the country might well be confused by the sight which meets his eye. A trim, well-kept commercial training plane leaves the ground, only to be followed a short time thereafter by another trainer. But this one bears the familiar insignia—yellow wings, blue fuselage and red and white striped tail of the United States Army Air Corps. The visitor might not only be confused by the mixture of types, but also by the regularity and frequency with which the trainers take to the air. Sometimes it looks like they are on an endless chain. What is all this anyway? Where are we? Is this an Army field or a commercial airport? Look! There's an Army ship with a civilian in the front cockpit! He can't do that!

Oh yes he can! And by order of the War Department, too. All this apparent confusion and activity is in reality only some of the local manifestations of a highly-organized and well-planned program to increase the efficiency of the Air Corps training program. Every

Cadets accepted for training under the new plan are enlisted in regular Army.

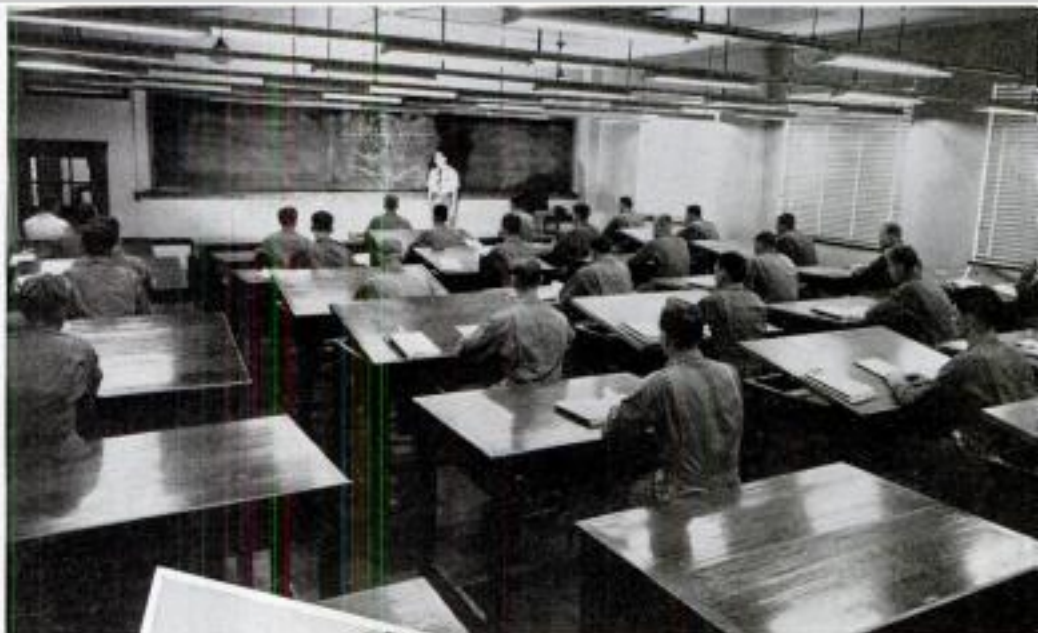


one of those trainers which leaves the ground is under the watchful eye of a very particular and exacting instructor who has been detailed by the Air Corps to see to it that the cadet piloting that ship will be fully capable of executing with military precision all of the maneuvers that are required of primary students before they continue with their basic instruction at Randolph Field.

The story behind this drastic change in the Air Corps training methods is an extremely interesting one and indicates readily how two widely different organizations can converge and co-operate to the mutual benefit of both. The civilian schools and the Air Corps were both doing a fine job prior to the beginning of this program. Now it appears that the near perfection which had previously been accomplished has been improved upon with the result that both the civil and military pilots will receive even better training.

It was late in the fall of 1938 that the first concrete indications of such a program appeared. General Henry H. Arnold, Chief of the Air Corps, invited several commercial school heads to participate in a conference to discuss the feasibility of giving primary training to military pilots. All phases of the training program were discussed, including food and housing, equipment, staff of instruction and the many incidental items to be considered, such as gassing facilities, hangars, service and overhaul. The reaction was favorable and shortly thereafter the Army undertook a complete and exhausting survey of all likely civilian schools. Simultaneously, legislation was being enacted to legalize the program. It was introduced in bill form to the House of Representatives by Representative May, Chairman of the Military Affairs Committee, and became effective February 23, 1939.

The legislative action was completed long before the survey which attests the rigidity of the specifications which the civilian schools must meet. The officers detailed to make the inspections went over every possible school with a fine-tooth comb and those who qualified may



The author (top) instructs an Army meteorology class at Parks. Directly above is condemned plane for ground training.

Having received final instructions from their Right commander, these cadets go to their separate ships for aerobatics practice.





Lining up for inspection is more than a showy display. Airplanes and cadets are frequently and carefully checked. Army and private schools double-check the planes.



These cadets are waiting their turn in the air. Newest cadets only spend about 30 minutes in the air. As they progress, periods are increased up to two hours.



These are Stearman PT-13 trainers assigned by the Army for training at Parks Air College.

well be proud of that achievement. It was in the nature of a double achievement, since the school must first have been approved by the Civil Aeronautics Authority. Out of a total of 21 schools approved by the CAA, the War Department announced the selection of nine to be used for primary flight training. The schools selected were: Parks Air College, East St. Louis, Ill.; the Chicago School of Aeronautics, Glenview, Ill.; Spartan School of Aeronautics, Tulsa, Okla.; Grand Central Flying School, Glendale, Cal.; Santa Maria School of Flying, Santa Maria, Cal.; Ryan School of Aeronautics, San Diego, Cal.; Alabama Institute of Aeronautics, Inc., Tuscaloosa, Ala.; Dallas School and Air College, Dallas, Tex., and the Lincoln Airplane and Flying School, Lincoln, Neb.

This announcement, on May 8, 1939, caused some concern because of the selections which were made. However, the honesty of the survey cannot be doubted when one considers that certain prime requisites for primary training must outweigh other advantages of location and facilities.

Following the announcement of the selections, the successful schools began the task of preparing for the first group of cadets. Housing facilities were started, potential instructors were interviewed and selected. Those instructors that were selected were sent to Randolph to take the course of instruction in Army methods. Here at Parks, where the writer is a ground school instructor, they were required to report several weeks in advance and take a preliminary course even before going to Randolph! At the same time, the ground school instructors were given a course in teaching and classroom management. Nothing was left to chance.

During all of the preparation on the part of the schools, many additional inspection trips were made by various Army officers, who were preparing their side of the program in such a manner that it would dovetail with the schools' program. Finally, after the many weeks of preparation, the first contingent of cadets arrived and, at Parks, the first training flight in conjunction with the new program was made on July 3.

Now, let's look at the program from another angle. You have seen how it came to be. But how extensive is it, and what constitutes the responsibility of the civilian schools? How far along

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of ground school includes courses in meteorology, navigation, theory of flight, airplane structures, airplane engines, military hygiene and federal aids to air navigation, and is designed to give the cadet a working knowledge of all the incidental subjects relating to flight. There is no question about it; those boys are under one of the heaviest academic loads they ever shouldered and when one considers that, in addition, they have to keep pace with the stiffest flight training course in the world, it's easy to see why none but the very best survive.

After completion of training at the civilian schools, the cadet undergoes three months of basic training at Randolph Field, with further ground school instruction, after which he engages in the final three months of advanced training at Kelly Field. The military flight course, which has been a year in length, has been shortened to nine months.

"These cadets must be a race of supermen! Where do you get them?" Our visitor has been visibly impressed by our statements concerning the intensity of the course. If you wish to define any man whose physical condition is perfect and whose education background includes two years of college as a superman, then these cadets are supermen. However, we don't view them as such. It is true that they have certain advantages over the average man, but they don't have to have the perspicacity of an Einstein combined with the physique of a Tarzan in order to qualify for admission to the primary training, even though a few of those who didn't measure up might want to argue that point.

The requirements for admission say that the candidates for appointment as flying cadets must be between 20 and 27 years of age; must be citizens of the United States, unmarried, and must have completed at least two years of college work or the equivalent. They must pass a satisfactory physical examination. Simple, isn't it? Then where are the pitfalls? First, there's that physical examination. Thousands of likely candidates have failed that first test by reason of some minor physical defect, and couldn't see the reason why such a small consideration would be so important.

But here is an idea of what that flight surgeon must keep in mind. Picture a modern pursuit plane, flying at 20,000 feet. Suddenly the pilot is required to nose that ship directly at the earth and

hurtle straight down at speeds approaching 600 m.p.h. Then he must pull out of that dive and the centrifugal force acting on his body causes an effective increase in his weight to nine times its normal value. The blood rushes from his head and he feels his cheeks sagging. Momentarily he is robbed of his senses then, when the pull-out is completed, he must recover, and perhaps zoom vertically into the rarified air of the higher levels, then repeat the procedure! No wonder the flight surgeon is so thorough. It takes perfect physical condition to engage in military flight problems.

It wouldn't be entirely amiss in the requirements for admission if the statement appeared, "Must be willing to carry extreme overloads whenever called upon to do so." Then perhaps some of the applicants wouldn't be so surprised when they found out that there are times during the course when it is all they can do to fly and study; time out to eat and sleep is almost a luxury.

Don't let any potential candidates be frightened away. We only want to point out that if one has the educational and physical requirements, all he really needs in addition is plenty of intestinal fortitude. If he can take it, the Air Corps will dish it out but, tough as it is, the cadets who qualify love it.

Sympathetically exhausted by his visualization of the cadet's struggles, our no longer confused visitor prepares to take his leave. With some effort he phrases a final question. "What is the fundamental purpose of this change in Air Corps training procedure, and what effect will it have?"

The purpose of the program is twofold. First, it will relieve Randolph Field of the task of primary training and, by so doing, increase its capacity by training basic students only. Where primary training used to be carried out on one side of the field and basic on the other, now basic training is given exclusively. Also, the majority of "wash-outs" occur during the primary stage. That will further increase the efficiency of Randolph by providing them with men who may be expected to complete their training.

The other purpose of the program is to prove the feasibility of civilian training in event of national emergency. For some time past, operators of civilian schools have maintained that their flight standards are high enough to qualify the graduates as basic students for the Air Corps. This program will serve to prove the point. To a certain extent, the civilian schools compete with the Air Corps and this program will demonstrate the efficiency of the nine schools chosen. At the present stage of the program the outcome appears favorable and it appears that some of the training problems of the Air Corps are well on their way towards a satisfactory solution.

In line with the purpose of the program, the effects of the program also are twofold. The effect on the operators involved is one and the effect on Air Corps primary training the other. The

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operators who were successful in the eliminations look upon the Army training as recognition of their efforts in behalf of aviation. Recognition by the Civil Aeronautics Authority came first, now recognition by the Army. Financially, it's good business. The cadets represent an additional source of income to an already successful institution and, with the funds provided, it is possible to expand the facilities of the school for commercial aviation training even further. For example, at Parks Air College two modern dormitories have been constructed, and an aeronautical engineering building, fitted with the latest classroom and drafting equipment, has been built for the use of the commercial students. The staff of instructors has been increased from 31 to 47 and there will undoubtedly be two or three more within six weeks. The same things are probably true at the other schools involved.

The introduction of military discipline has served to improve some of the secondary phases of school operation. The other day a group of Army mechanics were being dressed in. The dormitory manager, believing that there would be several incidental items to be taken care of, told the sergeant to have them report to his office when they had completed whatever else they had to do. Whereupon, the sergeant turned to the students, about faced them and promptly marched them towards the office. The dormitory manager had to double time back in order to avoid delay in giving out the room assignments.

This is the first time that Army pilots have been given flight training by other than service schools since the Wright brothers and Glenn Curtiss were given flying instructions. It will refresh the Air Corps personnel in some of the difficulties encountered by business enterprises whose personnel and equipment must be tempered to fit the income of the organization rather than be provided for by the taxpayer.

The effects of the program will be beneficial to both the Air Corps and the commercial schools, but by far the most important and far reaching effect of the whole setup will be the establishment of nine primary training centers—nine "Little Randolphs"—prepared to give and engaged in the presentation of the finest primary training course in the world, so that subsequently those who graduate from the Training Center will have had the most efficient flight training to be had anywhere and will serve to maintain and increase the United States Army Air Corps' supremacy and leadership in national defense.

END

Big Business

THE payroll of the Douglas Aircraft Company is close to \$1,000,000 a month. The company has \$50,000,000 worth of orders for planes to fill, both commercial and military.

Sky Horses

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ranch, near Willows, I got a close-up of sky planting. There 800 to 1,300 acres are plane planted every year. While with team or tractor, planting 50 acres daily, two weeks would be required, planes clip off 400 acres or more a day.

With each sky horse is a ground crew of six. Three carry flags, one standing at each edge of the field and the other in the middle. After the plane goes over the flagmen mark the spots where they stood and move 25 feet. Thus the pilot sees clearly the new swath he is to seed. The men at the edges of the field signal when to start and stop seeding. Three men speedily refuel the ship and reload the hopper so that little time is lost.

As I watched this sky show I realized where "Speed" got that nickname. In 5.5 minutes by the stop watch his plane plants eight 100 pound sacks of rice. Three to six acres are planted each trip, 40 to 60 acres an hour, depending upon whether there are trees, telephone or power lines to interfere with flying. Rice seeders fly just high enough so the seed will spread over a 30 to 40 foot swath. Bane of sky planting is wind, which halts operations entirely when fine seed is involved. Sky planting is done in some places on the per acre basis—60 to 75 cents an acre—in others by the hours of flying.

Like other sky horsemen, Nolte has devised a variety of seeding contrivances. He is always tinkering with something new. And when he wants to explore a new realm, he can dicker with the Algerian concern which queried if he ever used his planes in rain making.

"Whatever you write please don't glorify us as a bunch of daredevils always facing danger," he requested. "We do not consider this flying any more dangerous than regular transport work. We meet all aeronautic regulations and use only skilled pilots."

You might expect exultation over aerial agriculture from Nolte and his buddies. Their blood corpuscles probably are shaped like planes. But what does C. L. Wolcott, a partner in the firm owning the land, think of it?

"One advantage of airplane seeding is that a whole field usually is sowed in one day," Wolcott replied. "In the fall it will ripen uniformly, which is a considerable advantage in a large field."

Here we are back to ducks again! In both the United States and Canada sportsmen are restoring marshes for duck breeding. Nature is sending more rainfall. More ducks to fly south. An average flock of ducks, Wolcott tells me, can eat hundreds of dollars worth of rice from dusk to sun-up—if left alone. Frightening ducks appears a perpetual assignment for sky horses.

From California's rice fields we hop north to Oregon. There stockmen tell us that planes were first used for range reseeding following the Tillamook for-

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