AIR FORCE

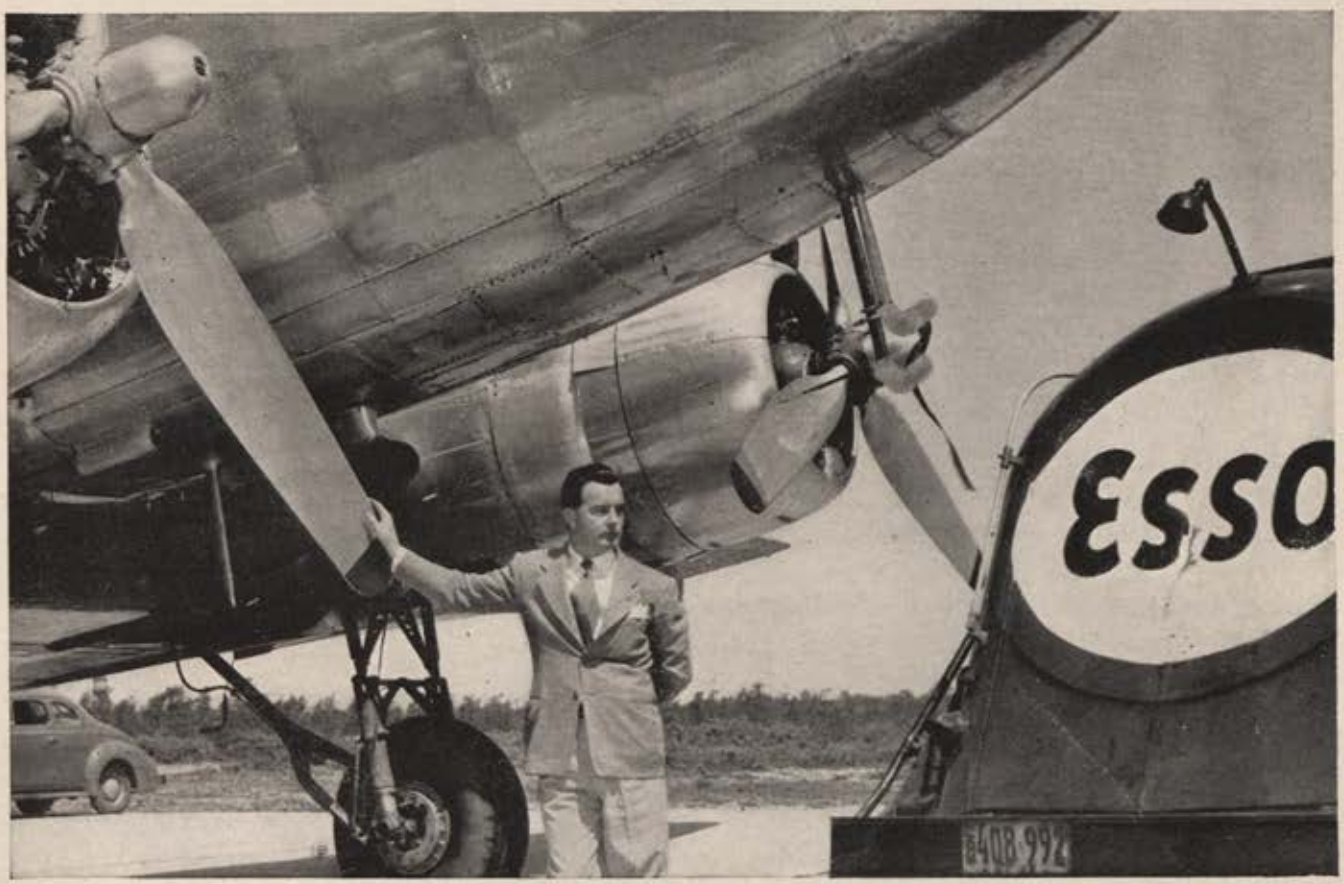
THE OFFICIAL JOURNAL OF THE AIR FORCE ASSOCIATION, NOVEMBER, 1946

Career Issue

"After seventeen years in aviation, we chose Esso"

says Frederick H. Smith, manager of MacArthur Airport (one of New York's five major airports) and chairman of the Board of Island Air Ferries, Inc. He was a TWA Captain and Check Pilot five years, a Chief Pilot for Colonial Airlines, and in charge of Sperry's Flight research during the war.

Fred writes: "After seventeen years in the aviation business, we chose Esso fuels and lubricants for use in our airplanes and for sales to our customers because we wanted quality products as demonstrated by our experience. We feel that the research organization maintained by the makers of Esso products will always assure us of a high standard of quality and performance."



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VOL. 29 NO. 10 NOVEMBER, 1946

AIR FORCE

OFFICIAL JOURNAL OF THE AIR FORCE ASSOCIATION

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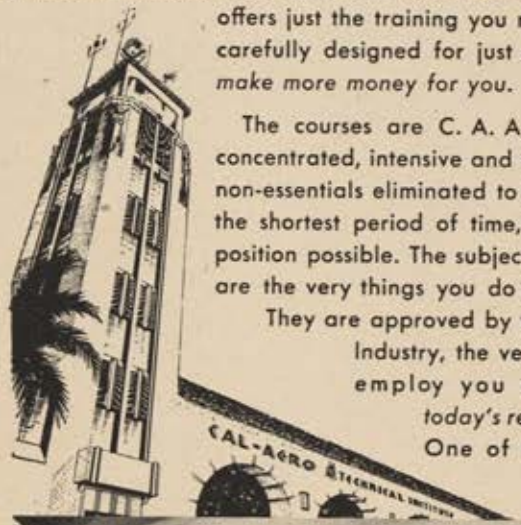

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Air Mail

4.2 Mortar

Gentlemen:

The glory and the honor which the 4.2″ Chemical Mortar so gallantly won for itself and the Chemical Warfare Service during World War II will rise above the attacks of the Mead Committee. In so doing, it will discredit the criticisms hurled at that small but hard-hitting service and the United States Army in general.

The popularly called "goon gun" saved so many thousands of lives of infantrymen—it supported and made possible so many drives—it threw such irresistible hails of steel and high explosives at the enemy and on objectives—that it will now be crowned CHAMPION and the FINEST AND CLOSE SUPPORTING FRIEND OF THE GI.

The 4.2″ Chemical Mortar proved so highly efficient and effective during World War II that the Chemical Warfare Association predicts—with "money on the line"—that the Army Ground Forces have *already* prepared plans to make this weapon a component part of every Infantry Regiment; one company of 4.2″ CMs per regiment.

During World War II, the mortars were constantly being shifted to assist in the hottest fighting. Once an infantry unit became accustomed to the tremendous support of 4.2″ Chemical Mortars, it resented and resisted having to give it up. For this reason, arrangements have unquestionably been made to provide each Infantry Regiment with its OWN 4.2″ Chemical Mortars.

Mild rumors generating from the trend of the Investigation have been circulated to the effect that the Chemical Warfare Service will be absorbed by other services. This Association asserts these are contrary to the truth and that absolutely no such plans are being considered in the general reorganization of the Army.

Chemical Warfare Association,
Washington, D. C.

NOTE: The Chemical Warfare Association is completely civilian controlled by former members of the Chemical Warfare Service.

Staunch Support

Gentlemen:

It is with a great deal of pride and enthusiasm that the enclosed membership application and check go forward.

I left the air force with one deep regret last November, that separation from the service resulted in loss of contact with a group of men whom I enjoyed, and that in civilian life there would no longer be that one bond tying a group together—perhaps it might be called pride of organization.

From various sources I heard that an air force organization was being formed, but could not obtain any authoritative information. I wished for one—an organization where all of the members shared a common bond of service, where the organizational pride and spirit might be retained within a veterans' group.

For that reason, your prospectus which I received only a few moments ago was received with gratitude.

Here is an organization in which I can put my whole heart, and in which I should welcome the opportunity of devoting all of my free time and energy. I certainly would welcome with much enthusiasm an opportunity to aid in establishing a squadron in Albany and North Berkeley.

The establishment of Air Force Association is a desire realized.

Francis C. Rogers,
Albany 6, Calif.

Women's Reserve

Gentlemen:

The question of a women's reserve organization has arisen at various WAC gatherings. If you have any information concerning the organization of an air women's reserve or some such group, I know there are a great many of us who would appreciate knowing about it. We'd like to have an organized reserve too.

Jane E. Weick,
Dayton, Ohio.

A reserve unit for the WAC has been considered. A bill providing for the establishment of such an organization has been prepared to go before Congress at the next session.

Local Squadrons

Gentlemen:

I would feel privileged to learn of what plans have been formulated for establishing a squadron in the San Francisco Bay area. There is certainly room and men for more than one squadron, for California was one of the heavier contributors to the AAF. If any aid on my part will be of assistance, feel free to call on me.

Thomas F. Stack,
San Francisco, Calif.

AFA headquarters in Washington will gladly advise interested members how local squadrons can be established in their own communities.

See these great new planes with POWER BY FRANKLIN at the National Aircraft Show

Compare the utility, speed, range and economy of every plane at the National Aircraft Show in Cleveland, Nov. 15 to 24. The more you check, the more you'll find yourself turning to one of the planes that boast "Power by Franklin"! For it's hard to beat the Franklin-powered group on any basis involving cost and performance. Whichever you choose—Bell Helicopter, Bellanca Crusair, Republic Seabee or Stinson Voyager—remember that you are getting a better plane because it's powered with a Franklin engine.

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In This Issue

The war-trained veteran is exerting a most profound influence in the field of aviation. It is not an overstatement to say that the destiny of the industry will be molded to a considerable degree by the youngsters who, a short time ago, were flying B-25s through the Brenner Pass, or planning B-29 raids over Tokyo. Already members of their ranks have permeated the civilian aviation business from executive offices on down. Some of them, with typical American energy and resourcefulness (which was called GI Ingenuity during the war), have started new enterprises of their own and are giving an exceptionally good account of themselves.

But not all the vets who want to tie their future in with that of the airplane have found their niche. Perhaps some of them never will. It is too early to state categorically whether or not civilian aviation, with all its expansion, will ever be able to absorb the pool of Army-trained men. Be that as it may, the purpose of the career issue of AIR FORCE is to give the enthusiasts who are looking for a spot to expend their energy as candid a picture as possible of the opportunities existing today and those that will probably exist tomorrow.

The editors of AIR FORCE have broken the industry down into its various components and have asked an outstanding authority in each category to give his own educated opinion on just what the possibilities are. In some instances their reports may seem a little discouraging. In other cases, the chances for a successful career seem rosy indeed. Scheduled airlines report, for example, that it is almost hopeless for a fighter pilot to try to land a job flying a heavy transport, and that the wise fighter pilot will quit looking for that type of berth before he breaks both his heart and his bank account. On the other hand, the maintenance operators give a glowing account of future opportunities in that field. One opinion, which is shared by almost all authorities, is that the vet's GI training in a great many instances was too highly specialized to qualify him immediately for jobs of broader scope in civil aviation. Schooling under the GI Bill (see GI Bill of Flights) has proved to be an excellent antidote for this situation.

An interesting by-product of the career issue of AIR FORCE is the fact that it has given new definition to the industry itself. It has brought the entire field into sharper focus. Any subscriber who reads the issue from cover to cover will surely have a clearer idea of what the abused term *aviation* means.

The AAF as a Career

Many former AAF-ers are finding that on them a uniform looks and feels better than civvies, and are re-enrolling with the old alma mater. Major Gen. Fred Anderson, who as head of A-1, Hq. AAF, is probably the best man in the Army to discuss this subject, reveals just what the postwar Air Forces offers in the way of career opportunities. Many of the advantages, as he points out in his story, "To Secure the Peace and Your Future," can't be duplicated on the outside.

Empire in the Sky

One of the most phenomenal of all postwar success stories is that of the intrastate operator. New York's Empire Airlines is one of the leading pioneers in this field. Starting from scratch after V-J Day, Empire is already operating in the black. President Elliot Roosevelt, vice presidents Selig Altschul and Achilles Livada, as well as the rest of the front office boys, are all ex-servicemen. This is likewise true of Empire's pilots. In fact, more than 95 per cent of all Empire personnel wore a uniform of some sort during the last war. E. A. Eisenberg, the company's general traffic manager, explains in his article, "Fast League for BTOs," what it takes to score in this type of operation.

the future of AVIATION

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TO SECURE THE PEACE. . . and your future

The shape of things in the AAF is changing daily. Much of the equipment in use now would not be recognized by yesterday's airman. The Thunderjet is the AAF's latest addition to its fighter roster.

BY MAJOR GENERAL FRED L. ANDERSON, JR.

Assistant Chief of Air Staff —Personnel

AMERICAN AVIATION challenges the man who is seeking a career in a new, uncrowded, wide-open field. No field of endeavor today offers greater career incentive of broader scope than the one of aerial transport.

The development of American aviation in the past decade has been tremendous. During that time it successfully met its greatest challenge in building the greatest military air force the world has seen, an air force that contributed immeasurably to the defeat of the enemies of civilization. Today, not content to rest upon past accomplishments, leaders in the field are pressing forward relentlessly to assure that America shall always have available for her defense the finest aerial military weapons human ingenuity can produce.

With the military victory secure, American aviation now is turning its primary attention to the problem of creating a great and lasting civil aviation structure, a structure that will guarantee American preeminence in the future that lies in the air. Aviation's conquest of space has largely obliterated the great distances that heretofore have strangled economic development in many fields and in many parts of the world. Yesterday America was startled to realize that no spot on earth was more than sixty hours from the nearest airport. Today the sixty hours have dwindled; the earth is steadily growing smaller! American aviation, home from the wars, now stands ready to render peacetime service to the country, service that can and will touch the everyday life of every citizen in ways that not even the most ardent aviation enthusiast can foresee.

The Army Air Forces always has been in the forefront of aviation development. It has worked in close cooperation with civilian agencies throughout the years to push back the frontiers of knowledge and achievement in the whole field. As General Arnold recently said before the Institute of Aeronautical Sciences, ". . . you as well as I know that there is no border line between civilian and military aviation, that gains made in one field are immediately transferred to the other, that ours is a cooperative venture, a common faith.

"Think of the progress made during the war under the auspices of the Army Air Forces which has already affected civilian air transport, and will do so even more in the future. You and we together doubled the flying time of our combat aircraft in the course of two years. In the B-29 operations in the Pacific, we were flying three times the range at one-half the cost of equivalent operations in the European Theater. For every dollar we invested in the over-all operation against the Japanese, the enemy lost $50. Moreover, the Air Transport Command blazed the way for a network of air routes and landing fields covering the entire globe. . . .

"As I have watched the evolution of the Army Air Forces from its inception, and in later life as I assumed responsibility for it, and guided its growth, I have been impressed with the systematic continuity of its development. It has been fascinating to witness each step from those days when a flight immediately above the ground was an epoch of achievement, to the time when we were able to mount to high altitudes through the medium of the supercharger. I have watched our speeds increase almost phenomenally. In the twilight of my professional career I have had the satisfaction of observ-

ing the development of jet propulsion, which in turn has carried us to even greater speeds. Our rate of growth is at this point so rapid that chrysalis-like we are in the process of splitting the atmospheric envelope. Inescapably we are projecting our thinking and extending our techniques in a manner that makes inevitable the invasion of the stratosphere. Whereas this was a fantasy but a generation ago, it is so near today that it is the natural extension of ordinary aerial flight.

"In this spectacular conquest of time we already have on the horizon the techniques which, when realized, will cause us to measure distances in terms not of miles, but minutes."

In order to maintain its position among the leaders in aviation progress and to guarantee American preeminence in military aviation, the Army Air Forces this year has allotted $185,000,000 to a program of research and development. Army Air Forces leaders recognize that civilian agencies no longer can be expected to carry the tremendous load of military aviation research that they carried during the war years. The military must now pick up that program where the civilian agencies left off. That means, among other things, that the Air Forces in the years ahead will be one of the greatest if not the greatest research organization in the field.

The Army Air Forces offers an opportunity and an invitation to the young men of America to become members of that great organization. It invites young men seeking a career in aviation to consider carefully the peacetime Air Force and the opportunities it offers them.

The peacetime Air Force is an elite corps, a volunteer Air Force. It attracts the very highest type of American manhood. The Air Force career is a serious career; the men who follow it are serious men. They are soldiers, soldiers in the very highest sense of the word. They of necessity think and base their actions on thinking at the international level. They are well versed in national and international affairs. They are soldiers who also are technicians, scientists, scholars, and diplomats. They are proud citizens of a great nation, citizens in the highest and best that is implied in the word.

It is well to ask what the Air Force offers to attract men of such caliber. What do men possessing such qualities require of a career? Certainly they want to be paid. They want equal opportunity for advancement, based on achievement and individual merit. They want to lead, as nearly as possible, a normal family life. They want personal, social, and economic security. They want most of all, perhaps, to make a significant contribution to society, to their nation,

(Continued on page 64)

Aviation Cadet training was resumed under the AAF Training Command October fifteenth. Young men in this familiar pose will soon be seen again at AAFTC stations from coast to coast.

The AAF is looking for smart, serious-minded men to help dispatch a gigantic responsibility. The security and advantages it offers are hard to beat

Most of the vet-staffed nonsched operators are in the chips. Some on the other hand are going broke

BLUE SKY OR BUST

BY LAWRENCE J. CARR

President, Institute of Air Transportation

THE strapping new nonscheduled airline industry is nearly as GI as a barracks bull session on Saturday night. For the most part, both the airplanes and the men who fly them first took to the sky in the service of their country. It was while both were in OD, as a matter of fact, that the operation was born. It began in the minds of ATC pilots flying from Casablanca to Tunis. It was something the men who flew the Hump in China dreamed about, and the men who made the run from San Francisco to Honolulu gabbed about. Their visions and gab-fests usually occurred after they had climbed to 7,000 feet, set their ship on automatic pilot and leaned back with a cigarette to plan their futures. When the war ended, a few of them bought as many surplus planes as they could afford, grabbed themselves a hunk of sky, and put their dreams to work. Since then they have crisscrossed the country with repeated cargo and passenger flights and are now moving over the oceans to every corner of the world where there are airfields big enough to accommodate their ships. With a polyglot array of equipment, including Cessnas, Beeches, C-47s, C-54s, and even the single-engined Norseman, the men who fly without benefit of timetables have, in the space of a year, equalled the mileage flown by the scheduled operators. They have something like 5,000 planes at their command at this writing.

Nonscheduled airlines—also known as fixed-base air carriers and charter operators—can be divided roughly into three categories: the contract carrier, the charter carrier, and the private carrier. Each category may haul either passengers or freight or a combination of both.

The contract carrier is one who operates under agreement with certain parties or companies to carry merchandise or passengers whenever and wherever such transportation is required. His services are not offered to the general public. The charter carrier performs a somewhat similar function, but on a job assignment basis which usually involves a lesser period of time. The services of the private carrier are available to the general public. He flies anybody or anything anywhere at any time, provided of course he has a large enough load to make the operation profitable.

The primary difference between the nonscheduled and scheduled airline is that the former does not adhere to a published long-range timetable. Their schedules are usually determined only a few days ahead, as traffic justifies. The equipment for large nonscheduled lines is similar to that of established airlines. Smaller operations naturally tend to run equipment suitable to the distance they fly and the traffic they can book.

The phenomenal success of the nonscheds to date can be attributed to a coincidence of circumstances that made the thing a natural. First, the war introduced thousands of long-time groundlings to the convenience and practicality of travelling by air. Now that the war is over, they constitute a substantial group of potential airline customers. Then too, the war proved the feasibility of hauling heavy cargo by plane.

Second, the availability of surplus transport airplanes after V-J Day furnished a natural answer to the problem of finding a vehicle to get the infant industry moving.

Third, the men that Uncle Sam had taught to fly (at $25,000 a lesson) supplied the logical answer to the staff problem. In brief, the war built the market (or at least brought it to light), furnished the equipment, and trained the personnel. Getting the three things together was all that was left undone. The position of the industry today is proof that no time was lost in accomplishing this detail.

While it is true that the fixed-base air carriers have "arrived"—that they are here to stay—it is also true that there is still a lot of pioneering to be done before they reach a good sound level. To the newcomer, the guy who wants to make a career in this field, this means that there are both unexplored opportunities and unpredictable hazards on the horizon. Among the advantages is the fact that the market has not begun to be fully exploited. Fresh eggs have been shipped to Palestine, breeding cattle to Brazil, and penicillin to Argentina. But it won't end there. Baby chicks will be flown periodically from hatcheries to farms in every section of the country. There will probably be regular lobster runs from Maine to Chicago and Fort Worth. The trick of flying race horses from Kentucky to Santa Anita will cease to be worthy of space in the newspapers because it will become a routine operation. And the passenger boom will be as great.

Another thing which makes the future bright for the newcomer is the proposal to build air stations similar in design to those now being used by regular lines at main points throughout the country, where members of the nonscheduled lines will be able to use mutually owned facilities like ticket-selling counters, limousine services, loading ramps, fork lift trucks, and repair facilities. Such things as the bulk purchase of fuel will also be possible. Through this program a standard of mechanical and service excellence will be established which will materially increase public acceptance.

But the hazards are almost as imposing in their scope as the prospects for future development and expansion. At the present time the industry is having its legal difference with the Civil Aeronautics Administration. Many of the operators feel that proposed Civil Aeronautics Board regulations are unjust and discriminatory and that the future of the industry would hang in the balance if they were to be invoked. Without going into the pros and cons of the discussion, it is sufficient to point out that it is this type of thing which the novitiate with a C-47 and a yen to start a business of his own must keep abreast of if he is to be successful. Knowing how to fly is not enough. Aside from legal tangles, there are any number of ground woes which can defeat the beginner. A lot of early operators forgot they simply couldn't haul passengers and cargo from one place to another. They had to have facilities at both ends of their flights, and agents to arrange the return loads. They had to keep rate schedules low enough to meet competition and yet high enough to show a profit on a small volume operation.

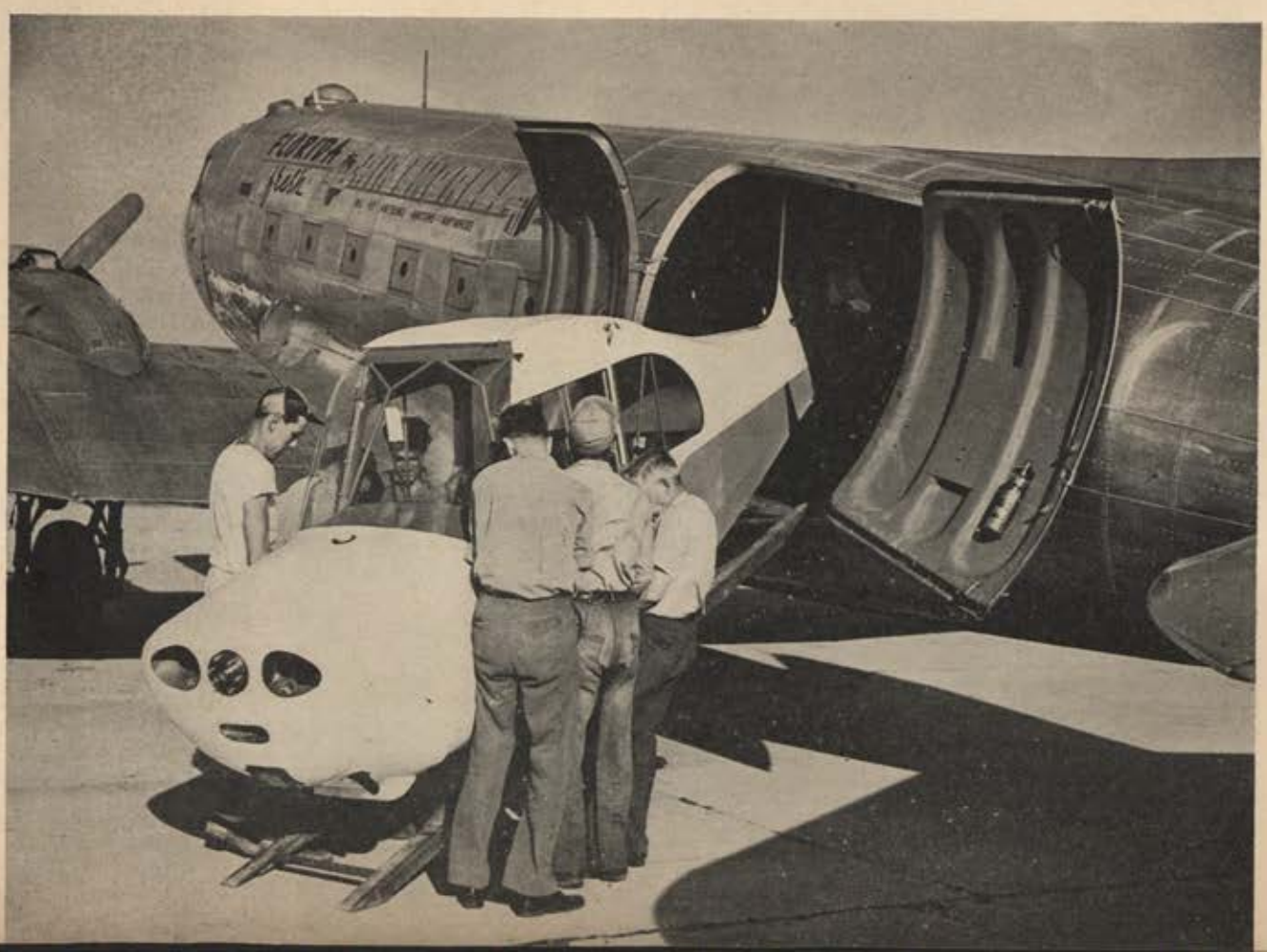
Worries such as these, of course, do not trouble the mind of the individual who would rather work for a pre-established outfit than strike out on his own. A healthy omen for these people is the fact that several large fixed-base airline companies already have on their desks projected blueprints for future expansion that call for the employment of two to four times the number of men they now hire. Smaller concerns are planning to increase their payrolls to a lesser degree. It is estimated that upwards of 5,000 people will be employed by nonsched concerns in the ensuing year. The most urgent employee needs at the present time are dispatchers, airline operations personnel, administrative clerks with experience in handling export cargo, and station managers. In addition there are routine openings for pilots, mechanics, radio operators, and general line and office personnel.

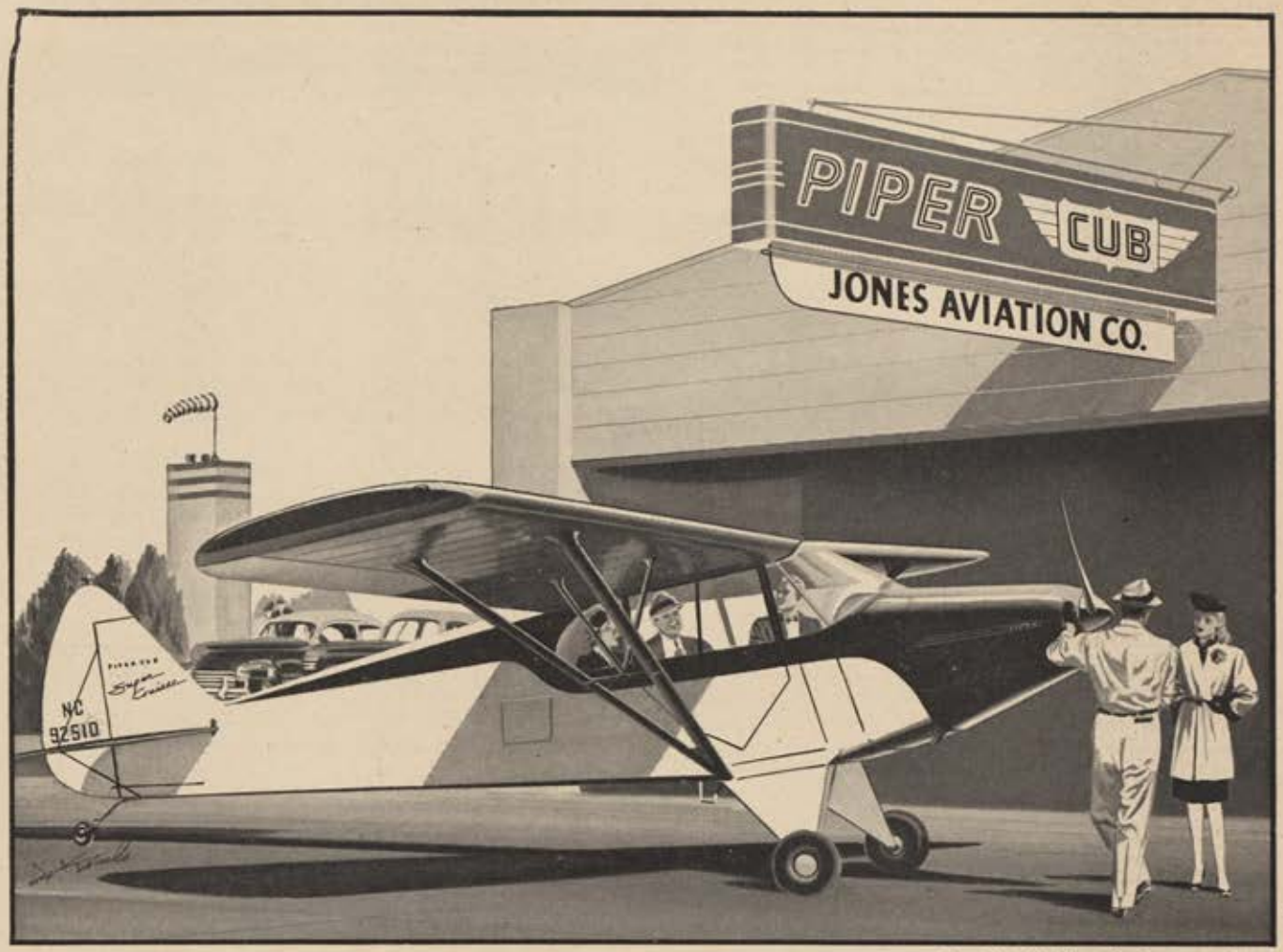
Employee paychecks in the nonscheduled field usually run a pretty close parallel to scheduled airline salaries. In some instances, where responsibilities cover a wider range, they are a little higher. But, because the nonscheds are new companies still in formation, there is less security. Yet, the one thing certain is this: nonscheduled airlines have been endowed with the vigor of youth and the hardihood of the pioneers they are. For some who try their hand, the going will prove too rough, but the majority can be counted on to meet their problems as they come, and rise above them. You can count on it: the nonscheds are here to stay.

Air transportation virtually eliminates travel spoilage of tropical fruits. For that reason, bananas and avocados, like these being unloaded from Air Cargo Transport's Lockheed Lodestar at La Guardia Airport, are logical merchandise for economical travel by air carrier.

BLUE SKY OR BUST

Nonscheduled airlines do not accept advance reservations. Tickets are sold "over the counter" (above) and flights are scheduled only one or two days ahead. Trans-Caribbean Air Cargo Line (right) speeds a vitally needed package of serum to Rio de Janeiro. Max Salazar-Stewart hands the shipment to Chief Pilot James A. Canneoto. The Florida nonscheduled air cargo operators (below) set out to prove their motto "We Fly Anything Anywhere Anytime" by loading light Aeronca through doors of their Douglas transport.





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Uncle Sam's

U. S. Civil Service Offers Veterans Lifetime Employment If They Have What Is Needed

BY WILLIAM S. FRIEDMAN

DURING the war, the greatest single employer of civilian personnel in aviation was the AAF. In the inevitable contraction that followed V-J day, the Air Force is back to military personnel for the bulk of its functions. However, there are some other departments under city, state and federal government that offer lifetime careers to veterans who are qualified for the openings. Government service has things for and against it, when the demobilized veteran considers it from the long-range point of view. There are probably few forms of employment that offer more in the way of security and steady promotion than working for Uncle Sam. Well-regulated working conditions, adequate vacation and sick-leave and a well-rounded pension plan are on the credit side. However, the salaries, at present, are somewhat below the industry level, and there is some basic truth to the complaint that the Civil Service system, by its nature, tends to stifle individual ambition.

Currently, the Civil Aeronautics Administration is the top non-military employer of aviation people in government. While positions in many instances are filled, there is need for a wider scope for the Administration, and public pressure is being applied to provide the CAA with the personnel it requires to operate the airways system, keep adequate inspection of aircraft and airmen, and perform the numerous other functions required by law.

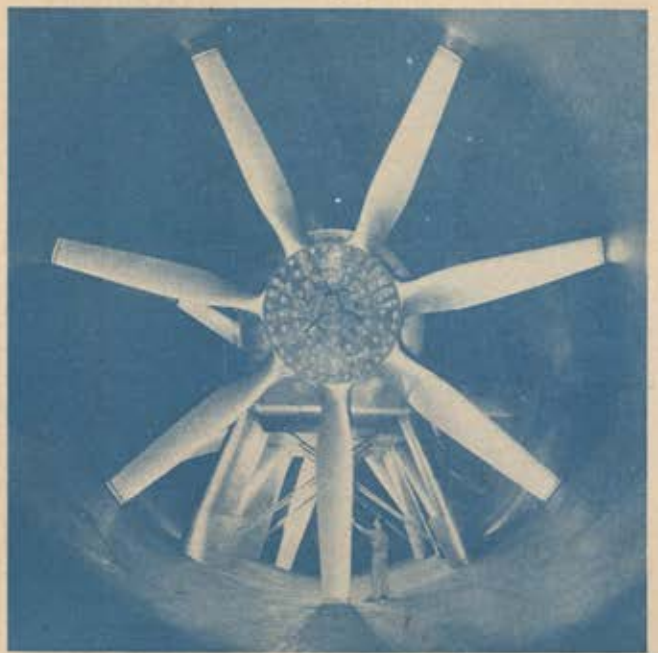
Jobs Under CAA

As the airway and airport system expands under postwar planning, there will, naturally, be an increased demand for Air Traffic Control personnel. Most people start as assistant airport or airway traffic controllers, which pay in the $2,400 per year bracket. The only applicants being currently considered are people with Veteran's Preference; that is, ex-GIs or the widows of veterans. The minimum requirements for airport assistantships would be two years of Army experience as an aircrewman or in meteorology or 18 months as dispatcher on a military base. For the airways assistantship, three years in crew or weather or two in dispatching are required. For both posts, an instrument rating, valid within the last two years, is required. If the applicant gained his experience in the armed services, military evidence of instrument rating will be accepted in lieu of the certificate.

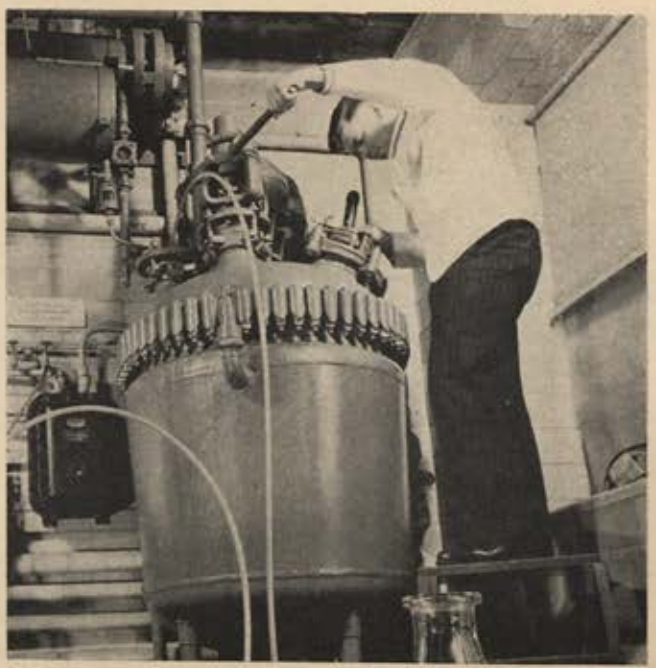
At the production level two general kinds of inspectors are employed, Flight Engineering Inspectors and Aircraft Inspectors. The former classification calls first for Associate Inspectorship men between the ages of 26 and 40, who have degrees in mechanical or aeronautical engineering or the equivalent in business or technical training. They must have held a pilot's license above student's grade for at least seven years, a commercial or military rating for five years prior to applying, and an instrument rating, either civil or military.

The applicant must have at least 2,000 hours of solo flying, 500 of which must be within two years of the time of application. This must include 200 hours of multi-engined time, and 500 hours of single-engined time in at least seven different types of aircraft. He must have a minimum of 100 hours of night flying and 150 hours of instrument time. Regular Flight Engineering inspectors require much the same

NACA offers openings for scientists who want to explore the frontier of supersonics, with tools like Langley Field's 16-foot wind tunnel.



Chemists and chemical engineers are needed in NACA's engine laboratory to develop fuels for tomorrow's supersonic power plants.



CIVILIAN air force

background as Associates, but the applicant must have had his license over ten years and have 3,000 hours of solo time. Other requirements are proportionately increased. Minimum age is 28 years. These pilot-engineers have the interesting task of flying engineering acceptance tests on new airplanes or modifications of existing types. Their salaries are $4,525 for Associates and $4,902 for full Inspectors.

Aircraft Inspectors are the Federal Government's representatives in the airplane factories. Their job is to assure the purchaser that the product adheres to the standard set for the airplane at the time the type was approved. Such inspectors are required to have a degree in mechanical or aeronautical engineering or an equivalent amount of experience and training. They are also expected to hold an aircraft and engine mechanic's license. The applicant must have held this rating for five years previous to the application and have had a total of ten years of qualifying experience in the general field. Military experience in operational-supervisory capacity will be considered, but the person applying must have at least five years of experience outside the service. In other words, what is required is a rounded background in all types of airframe, power plant and accessory handling. Annual salary is in the $4,000 bracket.

A whole family of inspectors service the nation's air carrier system. All of these men are selected on the basis of experience and temperament.

Kingpin of the carrier-inspection system is the Air Carrier Operations Inspector, whose responsibility it is to see that the special regulations covering scheduled airline operation are adhered to. To be considered, applicants must have been pilots for ten years or more, and have had a commercial and instrument rating license for at least five. Persons applying from the armed services must have secured prior to appointment an airline transport pilot's certificate and multi-engined land rating and must have a minimum of 3,000 logged hours, 1,000 of which must be within the last three years and 300 in the previous twelve months; 2,000 hours multi-engined time is required in aircraft weighing 15,000 lbs. or over, 2,000 hours of cross-country time, 500 hours of night flying and a minimum of 300 hours on instruments.

Applicants must have served on the commercial airlines for no less than four years, with either two years as reserve captain or one year as captain on a regular run. Alternate military experience considered acceptable is two years in command of aircraft in transport or heavy bombardment service plus one year of airline experience as pilot or co-pilot. Pay schedule is $4,902 per annum.

Air Carrier Maintenance Inspectors are responsible for the mechanical conditions of airline equipment. There are several grades of these inspectors, varying with the amount of experience required. The top grades require a degree in mechanical or aeronautical engineering or the equivalent thereof plus an aircraft and engine mechanic's license for a period of no less than five years, ten years of experience in the general field of aircraft maintenance, repair or inspection including inspection at the sub-assembly, accessory and final level, and five years of experience with an airline or at similar supervisory work with the Army Air Forces. These are the top requirements. Lower grades have proportionately reduced requirements. Stipends range from $3,970 to $3,640.

Because of the air carrier's heavy dependence on radio communications, Radio Inspectors hold a high position in the control system. To be eligible for such positions, applicants must have a degree in electrical or radio engineering, or an equal amount of training or experience. Eight years of full-time experience in design, development maintenance or

AAF trained meteorologists may find careers in the Weather Service, like weatherman Emil Ruckert, shown forecasting at Newark.

CAA controllers operate the nation's terminals and airways. Below, handling complex traffic pattern at Washington's National Airport.

installation of equipment. At least four years of this time must have been spent in some phase of aviation radio and three in airline or parallel military operation. Three years of the total time must have been spent in a supervisory job in some phase of design, installation, operation and maintenance of aeronautical radio-navigation-communications equipment, where the applicant was responsible for methods, procedures and the final results. Salary is $4,902 per year.

The basic employee of the airways control system is the Aircraft Communicator. To apply for this position, one must have 18 months of experience in either commercial or military aeronautical communications or 24 months of ordinary radio work. Twelve months as a military or commercial dispatcher would be favorably considered; 300 hours flying time as an aircraft radio operator or 200 hours flying time as a military or airline pilot, co-pilot or navigator, or possession of a valid commercial pilot's license. A six-month course in navigation or meteorology at an approved school, or the WTS ground school course may be substituted for six months of experience or 100 hours flying time as a radio operator. Communicator's salary is $2,320.

Probably the most interesting kind of inspection job under CAA is the plain, garden variety of aeronautical inspector. Professional father-confessor to all phases of nonscheduled aviation, he enforces the regulations, examines applicants for various licenses, inspects aircraft for relicensing, checks lighting and tower procedure in non-airline airports and, in the words of one veteran inspector, "if someone decided to have a baby in a nonscheduled airplane, they would probably call in an inspector to act as midwife."

Probably no single person in the whole inspection system is closer to pilots than these men. Some years before the war one of the original CAA inspectors retired because of ill health. Men in his area, some of whom had been slapped down frequently by this representative of regulation, got up a banquet in his honor when he stepped down.

To qualify for examination as an inspector, applicants should have a good record as a pilot and about 3,000 hours of flying time; 500 hours of this time must have been within two years previous to applying. He must have had considerable experience in multi-engined aircraft as well as light planes, hold an instrument rating and have logged over 500 hours as a rated instructor. In addition to this, the applicant must have a degree in aeronautical or mechanical engineering, law, business administration or an equivalent in training or experience. Currently, inspectors start at $4,525 per annum. Top salary is $6,825.

The Civil Aeronautics Board handles chiefly the economic and legal phases of civil aeronautics, such as the granting of routes, the adjustment of rates, etc. Their staffs consist chiefly of personnel with legal and economic training. The only technical personnel under CAB is the Air Safety Board, whose task it is to determine causes of airline mishaps. Their investigators are pilot-engineers of long experience, capable of examining scenes of accidents with a view to determining cause. This unit operates a few airplanes of its own and has maintenance and operational crews. This, however, is a small operation compared to CAA.

National Advisory Committee on Aeronautics

There was one phase of aviation that virtually died during the war. That was pure aeronautical research, the field of the NACA. During the war, NACA's facilities at Langley and Moffet Fields and at various special research centers gave way to the pressing developmental problems required for the immediate job of getting superior planes into the air to subdue the enemy.

Now the scientists as Civil Service employees can return to their real job of probing the unknown, getting the answers to what is beyond the supersonic barrier and the other purely scientific questions which require replies before the business of faster, better, more efficient airplanes can be developed.

Unlike most Federal jobs, there are urgent and immediate openings for personnel under NACA. However, these men must have both the training and temperament for the exacting job of pure aeronautical research. NACA needs physicists, fluid dynamicists, electrical, aeronautical and mechanical engineers. Civil engineers and chemical engineers are also needed, as are trained mathematicians and computers and structural engineers.

Radar men, machine designers, plain aviation mechanics, general electronic technicians, and subtle-fingered men who can build the special models and equipment are also needed. They need men with technical publishing experience, who can put into printed and permanent form the scientific conclusions won by the researchers.

Beyond the obvious experience or educational requirements for the job, applicants must have the curiosity and perseverance that keeps men at long, tedious jobs. The engineers who work for NACA never get to see a plane they have built fly. The product of their brains and sweat appears only in printed reports. While their salaries may go as high as $9,800 per year, almost any of NACA's scientists could reach for a telephone and triple their salaries with private companies. However, the men who have a feeling for unfettered science and who want to search the unknown without the constant pressure of producing a specific result may find what they want in this agency of government.

Careers at State and Municipal level

Many states of the union have their own aviation departments. Their functions vary from state to state. In many cases, the function of the state commission deals with the development of airports and airway. Others have state regulations which differ from the Federal statutes, and require additional regulations and enforcement. Naturally, these departments are smaller in size and limited in scope, but these may offer a few veterans positions where their air force experience can be put to career use.

In many communities, the airport is city-owned. In these cases, management and operational personnel are required. In New York City, for instance, besides the ordinary maintenance help which keeps the field surfaced and municipally controlled buildings in operation, there are a few key men with long experience in the operation who actually run the project. These men are usually pilots or former pilots. They have backgrounds in municipal service. They will probably serve as patterns for other communities which are scheduled to benefit from the 3,000-airport program which is currently being projected. This program, which calls for local construction of fields with partial Federal support, may make room for any number of men with operational backgrounds.

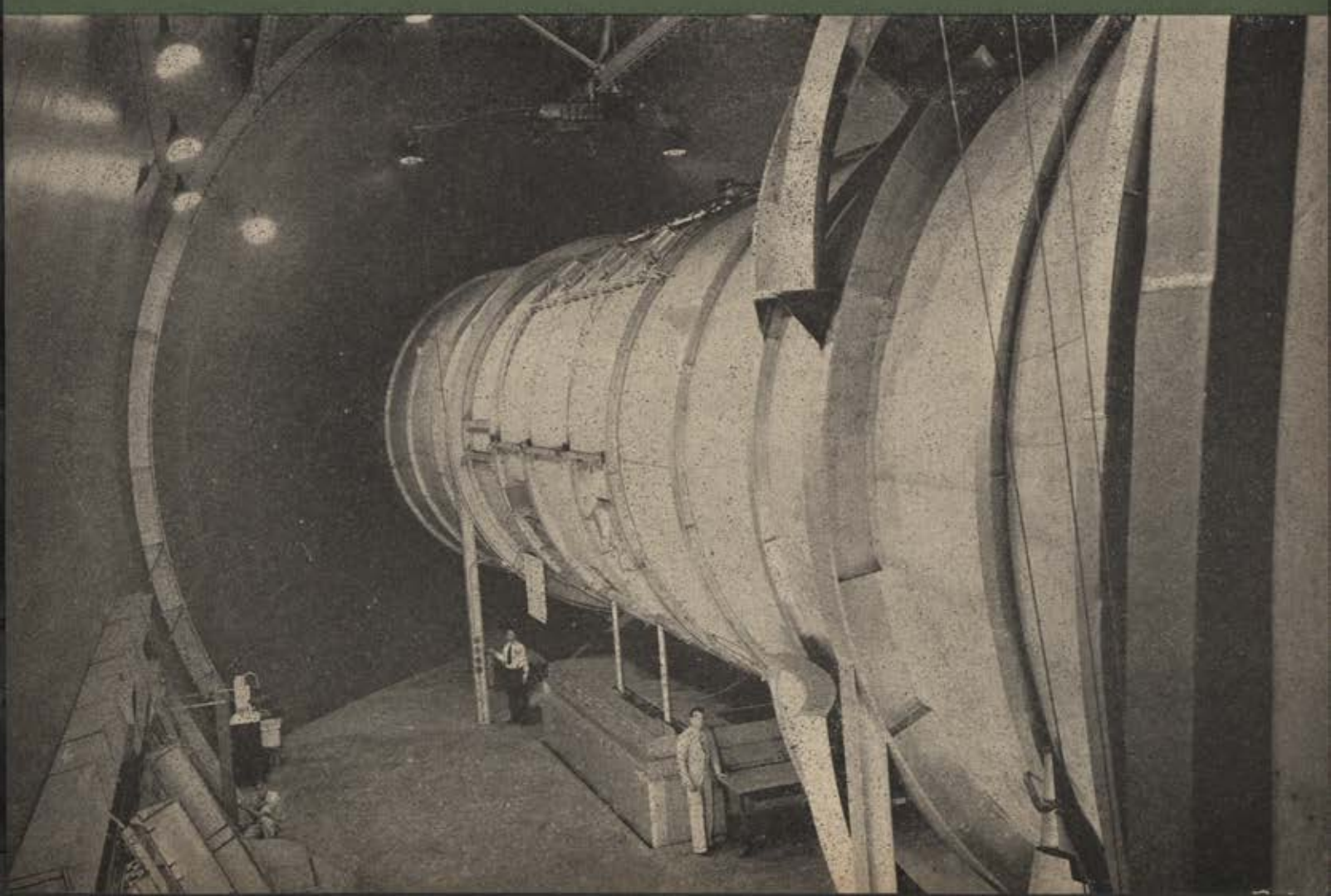
The How of Civil Service

Procedures in securing positions under Civil Service are fairly well established. Application must be made through the Civil Service Commission, through its Civil Secretary in Washington, D. C. Applications can usually be secured through any first- or second-class post office.

Competitive examinations are held for most ordinary positions, but in cases of highly specialized jobs, such as NACA scientists, this formality is lightly handled.

Working for Uncle Sam is old stuff to the ex-GI. However, in this set-up the chain of command is a little different, and one does not have to be quite so polite to the First Sergeant.

CAA employs inspectors like O. A. Gaines and communicators like Michael Rowny. Below, NACA researchers in the pressure tunnel.



how to BUY an airplane

A DOUGLAS C-54 Skymaster will cost you slightly less than a hundred grand. A Vultee BT-13 sells at a flat $450. Primary trainer, glider, and dirigible tabs are in between. If you've got the dough, you can walk into any one of thirty War Assets Administration depots located at Army airfields in as many principal cities throughout the country and fly the craft of your choice away within three hours—the transaction completed. WAA will even give you a free tankful of gas to send you on your way.

If you've already made up your mind what kind of surplus plane you want, the first thing to do is consult the accompanying chart to determine what depots have your model in stock. You must go to the depot to tie up the deal.

If you haven't decided what kind of plane you want, or even whether you want a surplus job at all, ask yourself a few questions like this: Will a plane which has seen the rigors of war be cheaper in the long run than a new one? Remember, WAA sells on an "as is where is" basis, and reconversion costs, which are sometimes as great as the initial purchase price, are out of your pocket. Notwithstanding the fact that WAA is offering some extremely attractive bargains, it is quite possible that for your individual purpose a new commercial model would be cheaper in the end.

But if you decide to invest in a surplus craft, the next question to ask yourself is which of the 50-odd types being liquidated is best suited for the job you have in mind. If it isn't adaptable to its mission, you have a white elephant.

If you're a veteran, be sure you obtain certification papers from the nearest Veterans Certification Office (there are 134 of them scattered throughout the country) before you go to the depot. With this you are entitled to a number two priority, preceded only by Federal agencies, and followed by a half-dozen other categories. Without it—the end of the line.

Your certification and a checkbook (or sufficient "happy lettuce" on your hip) are all you need when you arrive at the field. From there on it's about like filling out a form 32 clothing slip. You answer a few questions and sign your name a couple of times, and that's it.

Aircraft of over 5,000 pounds gross weight can be purchased on the installment plan. A 15 per cent down payment plus the cost of mortgage insurance is required, with the balance payable in thirty-six equal monthly payments. Interest is 4 per cent per annum on the unpaid balance. Single interest insurance is all that is required, i.e., insurance covering the plane itself—not you or property other than the craft you might damage. WAA does not require policies for cash purchases.

After the transaction is completed (cash or installment), the Storage Depot will issue a ferrying permit (which authorizes you to fly the plane from point of sale to your own base of operation), fill your tank with gas, and clear you from the field. You've done it. The only other thing to remember is that when you get home your craft is automatically grounded until it has been inspected and declared airworthy by a CAA inspector. WAA will give you a list of required CAA modifications. It's up to you to see that they are accomplished.

Cessna Cranes were used as advanced trainers and light transports. Priced from $1,750 to $8,500, they are excellent for charter use.

Beechcraft's AT-11 bombardment-trainer cost up to $15,000 under WAA. Fine for photography, it requires alteration for charter use.

B-32 Dominators carried largest loads hauled by wartime bombers. Available at $32,500, it might cost twice that to convert for cargo.

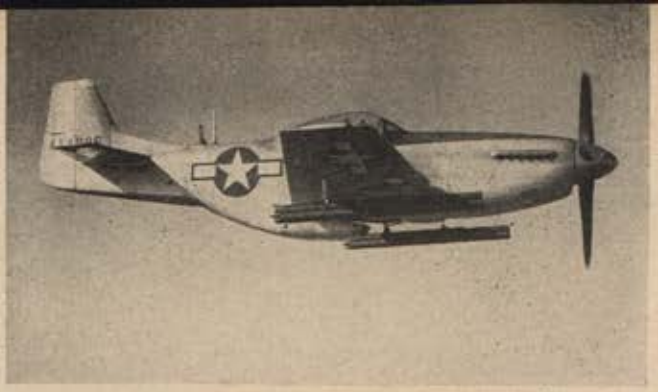
Because no planes are being built in the Boeing PT-13 class, this 220-hp type, used as intermediate trainer, sells for up to $2,400.

If your career plans include purchase of an airplane, you can make a good deal with WAA

TYPE	WHERE TO BUY																														PRICE
	ALBUQUERQUE, N. M.	ALTUS, OKLA.	AUGUSTA, GA.	BALLINGER, TEXAS	BLYTHE, CAL.	CAMDEN, S. C.	CAPE GIRARDEAU, MO.	CLINTON, OKLA.	CUERO, TEXAS	DECATUR, ALA.	DOS PALOS, CAL.	FT. STOCKTON, TEXAS	FT. WORTH, TEXAS	JACKSON, TENN.	KINGMAN, ARIZ.	LAMESA, TEXAS	MADISON, MISS.	MUSKOGEE, OKLA.	OKLAHOMA CITY, OKLA.	ONTARIO, CAL.	PHOENIX, ARIZ.	PINE BLUFF, ARK.	PONCA CITY, OKLA.	STAMFORD, TEXAS	TUCSON, ARIZ.	UNION CITY, TENN.	VERNON, TEXAS	WALNUT RIDGE, ARK.	WICKENBURG, ARIZ.	
B-32		●													●					●								●		$32,500
B-17	●	●	●												●					●								●		$13,750
B-24	●	●	●												●					●								●		$13,750
B-25	●	●	●											●	●					●				●				●		$8,250
B-26	●	●	●												●					●								●		$3,000
B-34			●											●				●		●					●					$1,850
A-20	●	●	●												●			●		●								●		$3,000
A-28																		●												$6,000
A-24	●	●	●			●								●			●			●					●			●		$1,650
A-25	●		●				●													●					●					$3,000
P-38		●	●												●					●								●		$1,250
P-61																				●										$6,000
P-39	●		●																	●					●					$700
P-63		●													●													●		$1,000
P-40	●	●	●												●					●				●	●			●		$1,250
P-47	●	●	●											●	●					●							●	●		$3,500
P-51	●		●																									●		$3,500
O-52																			●											$1,225
A-17														●																$1,500
A-19			●																											$500
A-33														●				●												$700
B-7																				●										$1,150
B-18			●											●																$3,000
B-37					●															●					●					$1,950
B-40		●																										●		$3,500
FM-2								●																						$1,250
FG-1								●																						$1,250
F6F-3								●																						$3,500
J2F			●																	●										$2,500
O-46														●																$350
PB4Y	●	●						●												●								●		$13,750
P-43																				●										$1,250
P-64	●																													$825
CESSNA	●		●	●	●	●	●		●		●	●	●	●		●	●		●	●	●	●	●	●	●	●	●		●	$1,750 — 8,500
AT-11			●																					●						$7,500 — 15,000
C-60			●																											$25,000 — $35,000
C-47			●																	●						●		●		$20,000 — 42 500
C-54			●																									●		$75,000 — 100,000
PT-13			●		●	●	●	●		●		●		●					●						●		●		●	$590 — 2,400
N2T							●																							$590—2,400
BT-13	●		●	●	●	●		●	●	●	●	●	●	●		●	●	●	●	●	●	●	●	●	●	●	●	●	●	$450
AT-6	●	●	●			●						●		●	●				●	●	●			●				●		$1,500
PT-23							●																				●			$500 — 1,275

For those who can find use for tactical airplanes, an A-20 costs $3,000, a P-47 is $3,500. Both are expensive to fly.

how to BUY an airplane



A Packard-Merlin engined North American Mustang can be acquired for $3,500. Undoubtedly a bargain, its use up to now appears limited to participation in exhibitions

Convair's BT-13, powered by a 450-hp Pratt & Whitney engine, is offered for $450, a low rate for a 4,400-lb., 42-foot trainer. A lot of airplane for two people, its commercial use seems limited to training.

If you can find any use for a B-26, they cost only $3,000, with their two 2,000-hp Pratt & Whitney engines and all. Strictly a military airplane, none have been certified as carriers to date. Some AAF cargo versions cruised close to 300 mph. However, operational costs alone rule out commercial use.

Like the Mustang, twin-engined P-38s have been acquired chiefly for racing and exhibitions. They cost only $1,250 on an average. However, the Lockheed Lightning has both load and range, might be used as high-speed light cargo transport. Its two 1,475-hp Allisons make it expensive to operate.

North American AT-6s have proved popular at $1,500. Seven variations have been OK'ed for CAA certification, and Texans have been widely acquired by operators for the advanced and instrument phases of training.

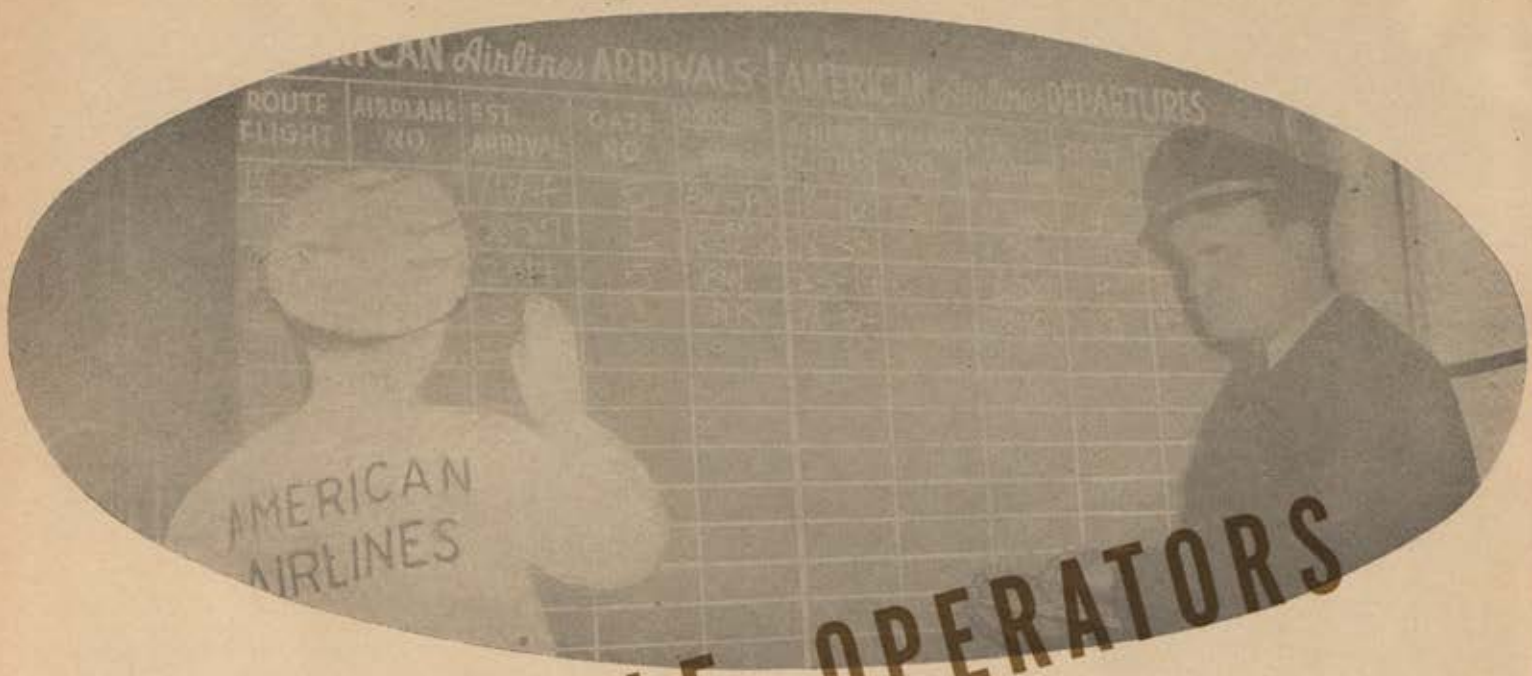
B-17s cost only $13,-750 if some use can be found for them. Swedish Air Line converted a few and discovered them to be unsatisfactory, unprofitable transports.

Fairchild PT-23s powered by 220-hp Continental engines sell for $590 to $1,275, depending on condition. Considered among the best-behaved trainers in use, this open-cockpit type has been acquired by schools, private owners. Its rugged airframe is easy to service.

Airline-sized operations absorbed almost all the C-54 Skymasters that were available. They went for between $75,000 and $100,000, due to high overhaul and conversion costs.

B-25 pilots have fallen in love with the Mitchell's flying characteristics. Many, like General Jimmie Doolittle, bought them at $8,-250 as personal transports

Workhorse of the airlines before the war, C-47s are in wide demand under surplus. They brought between $20,000 and $42,500 each. Douglas Aircraft purchased a block of these which they overhauled and decorated for resale as executive-company transports.



TIME-TABLE OPERATORS

The scheduled airlines have about all the pilots and technicians they need. But the complexity of the industry has opened the doors for vets with other skills

BY JOHN S. WHITE

Director of Personnel, Chicago and Southern Air lines

It would be impractical, if not impossible, to catalogue all of the jobs which American flag airlines are now offering to the returning Air Force veteran. One thing is certain, however. From here on out, the reservoir of manpower fostered by military aviation will be tapped with regularity by every scheduled air carrier operating over certificated routes of the world. At this writing, approximately 50 per cent of the men on the Chicago and Southern payroll can point to a record of military service. Of these, most have specified Army Air Force backgrounds on their personnel records. So it might be well to consider the Chicago and Southern Air Lines as typical of all scheduled airlines.

Neither the largest nor the smallest of our American flag airlines, Chicago and Southern currently employs more than 2,000 men and women and pays out something like $500,000 monthly in wages, salaries and contract remunerations. Neither the youngest nor the oldest of our certificated air carriers, the Dixieliner operation has grown tremendously during the past five years, and will continue to expand even further during the decade directly ahead. Not all of the Chicago and Southern jobs are duplicated in all other airline operations. There are, undoubtedly, scores of jobs with other airlines which Chicago and Southern does not offer. But in the main, the educational backgrounds and aviation interest which puts a veteran on the payroll of C. & S. will win jobs at other airlines' bases in New York, Chicago, Dallas, Miami, Minneapolis or Los Angeles.

During the war the Air Transport Command borrowed heavily on the experience and established procedures of the scheduled airlines in setting up its own "army air line." The commercials knew how to move passengers and cargo from one spot to another with the least possible delay and confusion, and the knowledge was invaluable to ATC. The army even went so far as to put hostesses (WACs) on the planes and post flight boards like the one above in terminal waiting rooms. Below: KLM DC-3 ready for flight.

The familiar Douglas C-47 no longer has a monopoly on the commercial airline route, but it will be many years before it disappears from the skies completely. As a transport during the war it earned the reputation of contributing as much to the final victory as any combat ship. As an airliner it is now being replaced by newer types. Meanwhile executive models are being purchased for private company use.

The new Republic Rainbow will make its appearance on U.S. commercial lines late next year. Powered by four Pratt and Whitney 3,500-hp engines, the huge streamlined aircraft will be the fastest transport plane aloft. It will carry 46 passengers and a crew of seven at better than 400 mph. Its range will be approximately 4,000 miles. American and Pan-American will take deliveries next November.

Lockheed, the Army, and TWA worked together during the war to develop the droop-nosed Constellation. At the present time it is one of the leading examples of speed and comfort in commercial air travel. Connies bring such distant ports of call as London, Paris, The Hague and Honolulu within "overnight" range. Their recent temporary grounding was unfortunate but not indicative of unsound construction.

The Boeing Stratoliner was the first of the high-speed, high-altitude luxury liners. It made its initial appearance in the late thirties but was never widely used by the commercial lines. Its big brother, the Boeing Stratocruiser will be introduced to commercial airline travelers at an early date. Veteran fighter pilots have found little success in making application for employment to fly such planes as these.

A number of Army Air Force flight nurses have found positions with commercial lines as hostesses. For girls who like to fly and can meet requirements, the work is pleasant, the pay good.

There was a time, not too long ago, when commercial aviation was a business. But air-minded travelers and shippers have turned the airlines into a hydra-headed transportation force which embraces every industry known to any fair-sized city. It is this very complexity which has opened jobs to veterans from all branches, even though the doors are presently closed to widespread employment of flying and technical personnel. Naturally, every pilot with a desire for continued activity in aviation has turned to the airlines as the major employers of former Army fliers. Only a handful have been accepted, not because the airlines underestimate the value of military flight training, but rather because the supply of trained pilots has exceeded the current demand. Similarly, the technicians who wet-nursed fighters and bombers have generally found little encouragement around the airline hangars. War-born tools, jigs, and maintenance techniques have simplified the process of getting planes into the shop and back into service to a point where service is almost automatic. There are, however, so many jobs behind the pilot and mechanic that any man or woman seeking a career in aviation can generally find a spot with the scheduled airlines.

Among these jobs with Chicago and Southern, the aspirant will find possibilities under sixteen various departments, each of which offers varied opportunities.

The personnel department has been expanded to include specialists in management, job analysis, training, and even such jobs as cafeteria manager, chefs and stewards.

For those with a legal background, there are positions entailing general legal work and economic research.

In the various traffic offices of Chicago and Southern, located in many of its 17 cities in the United States, are men engaged in salesmanship, both in the passenger and the cargo fields. Other traffic posts include passenger relations, schedules, and even lost and found items require specialists.

The airlines report that there is little demand for veteran mechanics and "line" workers like the one above. The man behind the mechanic has a better chance.

Approximately fifty per cent of the employees at Chicago and Southern are vets. Above, one of C&S's "Skymasters" circles over downtown Chicago before landing.

All airlines maintain advertising and publicity staffs which offer opportunities in the line of advertising, publicity, public relations, and photography.

The treasury department has specialists in IBM operations, tabulation, accounting, insurance, and taxation.

A number of former Army Air Force flight nurses have become stewardesses with Chicago and Southern. Women also are engaged in dining service and cabin supply.

The purchasing department offers opportunities for those qualified in buying, expediting, etc.

Operations has a great variety of jobs; among them we find management, procedures, and the actual flying jobs.

In the maintenance department, which is a part of operations, are experts in maintenance, engineering, inspection, overhaul, mechanical maintenance, and ground service.

Communications embraces such possibilities as radio operatives, airways supervisory posts, repairing, maintenance.

The methods and planning division has planning, estimating, shipping, receiving, and stockhandling opportunities.

Flight operations include meteorologists and dispatchers.

It is well to remember that many of the positions listed above are classified as supervisory jobs, and do not embrace the many other positions which offer the most likely entrance to commercial airlines work. Many veterans have come to Chicago and Southern as reservation agents, ticket agents, radio operators, station agents, and for other jobs. There are as well non-supervisory secretarial and clerical positions.

Although there are positions available with airlines, the Air Force veteran should realize that the competition for the better spots is getting tougher day by day. The great mass employment of veterans the first few months after V-J Day by the airlines is about over. But if you think the commercial airlines have a place for you, and you honestly want to enter this type of work, you should be able to find your spot.

Most cherished of all positions with the airlines perhaps is that of the pilot. Among the veterans, it was the early dischargees who picked off these jobs. Future absorption will be highly limited.

aviation's CORNER STORE

Nearly half of the Army Air Forces veterans who stay in aviation will either become fixed-base operators themselves or will work for one. Success or failure will depend on the individual

A RECENT SURVEY conducted among former AAF members showed that over half of the men questioned wanted to stay in the aviation business. Completely projected, this would assume that a million and a half AAF veterans want to make some phase of aviation their life's work.

The most optimistic figures for future employment in aviation's big league—air transport and airplane manufacture—indicate that a half million people will be absorbed in that segment of the industry in the next five years. This means that the bulk of aviation's opportunities for ex-AAF men is with aviation's retailers, the fixed-base operators.

Undoubtedly, some of the men who would like to stay in aviation will go into other industries. The flying business, particularly the retail aspects, calls for men who stay in the game because they like it. There is more defiance of the 45-hour work week in fixed-base operation than in any other branch of the transportation industry. The consistent comment is that there are too many people in the service phases of flying who like to fly and do not care too much whether or not their customers fly.

The truth lies somewhere short of this accusation. There are, beyond doubt, any number of operators of flying services who could make a lot more money if they put the same effort into other enterprises. The answer seems to be that there is a certain insidious fascination in flying and, despite the cynical attitude of a lot of veterans in the business, the converts who ever get to quit are strikingly few.

Fixed-Base Operations—Close-up

Unless there is a major change in the nature of the aviation business, well over half the people who remain in it will be fixed-base operators or employees. By way of definition, a fixed-base operator is the retailer of civil aviation's services and most of its goods. At almost any airport in the country you will spot a "Smith's (or Jones') Flying Service" sign in the pediment above the hangar door. The subtitle is almost classic. It usually reads "Flying Instruction, Charter, Storage, and Service. Approved Repairs. Dealers in—" and the name of one or more popular aircraft.

In line with the sign, the average fixed-base operator hangars aircraft, services them and sells them fuel. He operates a flying school, has airplanes available for charter or for rent to other pilots. He probably runs a small shop in which he does repairs. He makes a point of selling at least one kind of airplane. As an average, he makes a fair-sized piece of change flying joy-hoppers and sightseers.

Flying services now in operation date back, in some instances, twenty or more years under the same management. There are dealerships and distributorships still held by the original franchises that began back in the bestrutted and

bewired airplane era. Undoubtedly, a like effort expended in the plumbing industry would have made the entrepreneur a lot more money and spared him the ulcers and grey hair that are frequently the lot of the operator. However, seasoned old-timers concede that, if a man wants to run a flying service, not advice, warning, nor horrible example will deter him. Oddly enough, the men who are loudest in their criticism of fixed-base operations as careers are usually those with a hangar full of airplanes and a steady income.

The typical flying service operator in the U. S. is a pilot himself, and very often holds aircraft and engine mechanic's licenses. He owns at least three airplanes, two of which are usually 65-75-hp light planes. He has an average of six employees: the steno-bookkeeper who keeps his office detail going, two pilot-salesman instructors, two mechanics, at least one of whom is rated, and a boy Friday who dispenses the gas and does the other details. This sort of operation usually involves a capital outlay of between $25,000 and $50,000. In most cases, all the flying personnel are former service pilots, and the chances are that at least one of the ground-service people is a former AAF crewman, getting on-the-job training under the GI Bill. The owner of a successful small flying service can draw five to six thousand dollars a year out of an established business, providing proper sales efforts, particularly in the new plane field, are made.

The problems in employment by flying service operators are usually simple. Unlike the large corporations with established personnel setups, the average man gets a job with a fixed-base operator by dropping in on the boss and speaking up, much as one would with any other retailer. Unlike the air transport or the manufacturing field, there is not as yet a major labor organization in the flying or the mechanical phase of the operation.

Wages in the average fixed-based operation are, as a rule, a little above that of the airlines. This, however, varies with local conditions. As a general rule, the working conditions are not quite so good, although many of the well-established operators have heated shops and hangars and personnel accommodations that duplicate and sometimes exceed in comfort those of the best airline facilities.

Like the corner store, the average fixed-base operation, from the employee's point of view, reflects the personality of the operator—good boss, good job.

So You Want to be an Operator

Someone once wanted to write a book on "How to Lose Your Shirt in Aviation." Aside from backing crackpot inventors and racing-plane pilots, running a fixed-based operation is one of the best ways if you're not careful. Not that the business is inherently unsound. The trouble in the past has been that many of the men who started fixed-base operations began them on their enthusiasm for flying, without sufficient regard for certain basic principles in business—chiefly the one that says something has to be left in the till after all expenses have been deducted. If the prospective operator has, along with his technical knowledge and/or flying ability, a sound background in business administration, his chances for survival are doubled at the outset.

Like a restaurant or any other business that transfers a combination of goods and services to the public, the first

Fixed-Base operations sprout any place roomy enough to land a plane. Fancher Field (opposite page) features servicing facilities, Meadowmoot Dairy Products. Hangar above once was barn, adjacent field a potato patch. Dealerships (below) are an important part of industry

aviation's CORNER STORE

Operation Typical. Hawthorne Flying Service's hangar at Rocky Mount, N. C. facilities include a shop in the lean-to next to the hangar. Offices are shared with Pennsylvania-Central Airlines. Below, former Seventh Bomber Command engineering officer Lt. Charles E. Sanford, inspects Aeronca propeller at Mattituck Air Base.

consideration is location. The number of businesses that can spring up is limited by facilities available at airports. The average operator cannot build his own flying field, although there are brilliant exceptions. The current Federal Airport Program will produce over 3,000 airports, and it is hoped that, through proper location, they will offer a virtual doubling of sites for fixed-base businesses. A series of interviews with typical fixed-base operators, some of whom have twenty or more years of experience, indicates that a major factor in the failure of some of the best fixed-base operations has been the payment of too high a rental for land and fixed facilities.

With the exception of businessmen operating from municipal or state operated airports, the hangar rentee must absorb the cost of running the non-productive part of the field. This is the equivalent of a storekeeper's having to pay the cost of running a private street to bring him business. The experience of most of these operators indicates that the payment of more than 15 per cent of the gross take for the use of fixed installations has tripped more operators than the damage to their equipment.

Prewar fixed-base operators were justifiably criticized, to a large degree, for not offering the flying public enough for its money. The flying field that offered good transient service, neat washrooms, transportation to town or proper eating facilities was the exception rather than the rule. The average flying field operator had little or no competition, and if the customer didn't like the place, he could find another flying field, probably as bad, in the next town.

In many cases, dealerships were used as a method for buying aircraft at a dealer's discount, putting in some time on them, and then selling them at cost to students or hangar customers. This meant that many dealers barely covered

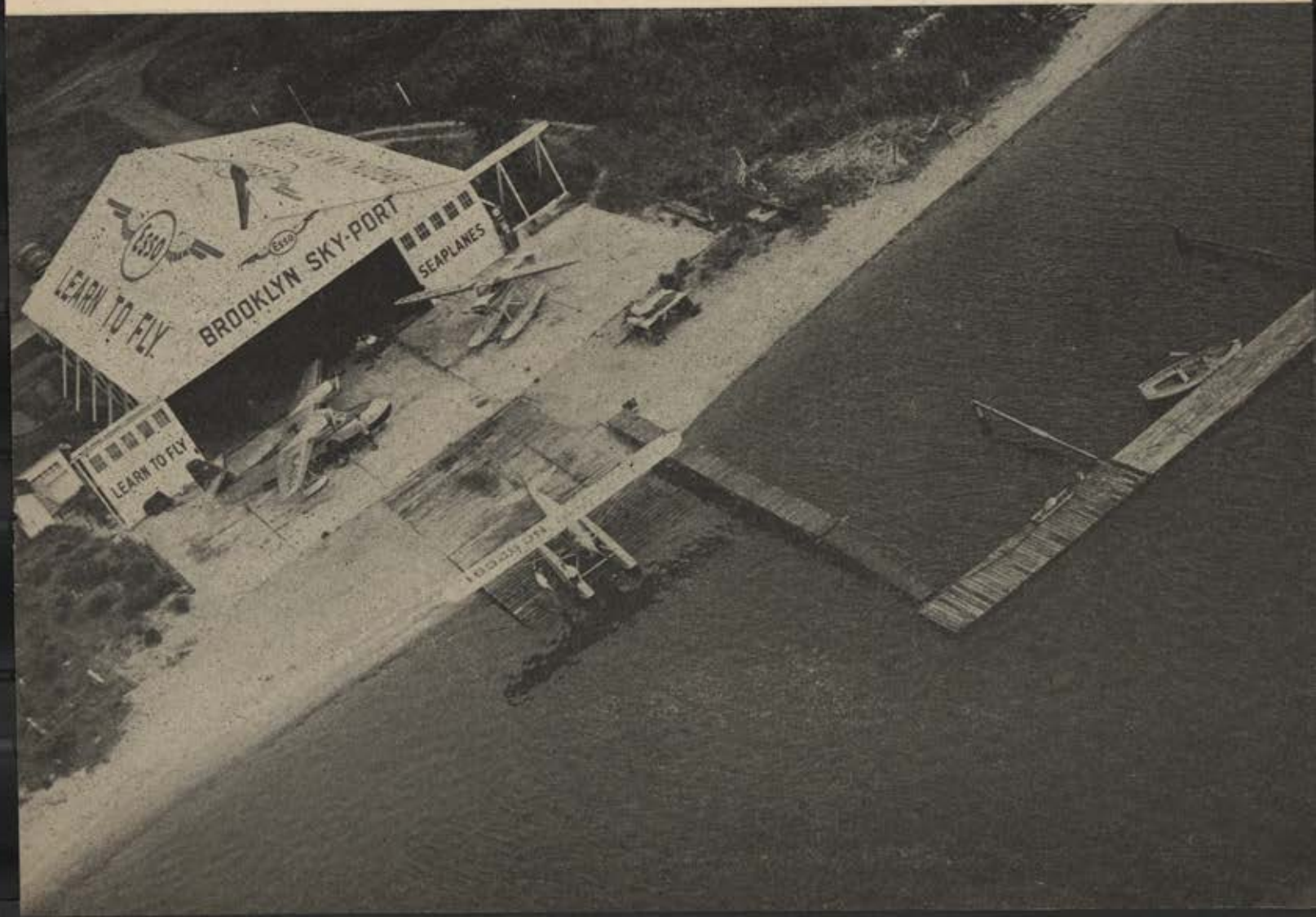
their guaranteed allotment. The true airplane salesman in the best automotive sense is a comparative newcomer, and he can be made the fixed-base operator's number one boy on the profit list. There is a growing belief that, within the next three or four years, more former AAF pilots will be concerned with retail airplane sales than with any other single aspect of the industry.

In short, the fixed-base operator requires first, something to sell, a properly selected place to operate, capital to get started, executive ability to procure and direct personnel. The remainder is in the lap of the gods of trade.

There are examples of new angles to the old trade. For instance, Air Facilities, a quarter-million-dollar setup operating out of Teterboro Airport close to Manhattan, has offered large corporations all the advantages of owning company airplanes without the woes of operation. The company involved simply buys an airplane, and places it in the care of the operator. If the owner desires, he does not even have to hire his own pilot. The operator maintains the plane and keeps it serviced to airline standards. If the company has its own pilot, he is provided with regular field headquarters under conditions suitable for practical operation. This arrangement covers complete maintenance of the plane on a 24-hour basis without the expense of a three-shift service crew. The most important service rendered the industry is the sales job that is being done. Air Facilities is proving to prospects that, in an era when transportation is scarce and time is valuable, a company plane more than pays its way, providing it is economically operated. Actually, large companies can charge both plane and operation to overhead.

(Continued on page 65)

Quiet bodies of water frequently afford sites for seaplane bases like Brooklyn Sky-Port at Mill Basin in New York. Not far from a dense population center, it does not have the real estate problem presented by land bases. However, above the snow line, marine conditions knock out some flying days. Base is run by former Wright Field technician Owen C. Gilligan. Equipment is chiefly Luscombes.



BULLETIN BOARD

Biggest AFA party to date was given by Lt. Col. Jack Warner in Hollywood on Air Force Day. Participants in special broadcast included Lt. Col. Johnny Meyers, wartime flying ace, Col. Warner, Capt. Ronald Reagan and Col. James Stewart.

Screen actress Janis Page joins Cols. Warner and Stewart and Capt. Reagan in rehearsal for Air Force Day broadcast.

Lt. Col. Warner chats with Lt. Gens. Harold George and G. Stratemeyer. Warner heads AFA on coast.

Bill Roach, Columbia U. student now organizing AFA squadron there, learns how to set the AFA ball rolling from Joe Gordon, top Yankee batter and AFA member.

Maj. Gen. S. Kuter, AFA member, is new delegate to Interim Council of Prov. International Civil Aviation Organization.

The AAF's attempt to break world's speed record of 616 mph fell short at Muroc bombing range in recent tests when the new XP-84 Thunderjet completed the first of four legs in 617.8 mph but dropped to a 611 mph average on the last three laps.

V. A. Stace (right), former AAF chief of Guided Missiles research and AFAer, chats with Wm. Lear (left), prexy of Lear Labs, after recent Rotary speech in Grand Rapids.

Capt. William L. Martin piloted XP-84 on record attempt.

Additional AFA News on Page 39.

Take careful stock of your assets —personal and financial—before you start a charter airline. You may do better to begin with an outfit that's already operating in the black

Fast League for B.T.O.s

BY EVERETT A. EISENBERG
General Traffic Manager, Empire Airlines

IT IS NOT UNUSUAL for an old friend—an ex-serviceman—to drop into our offices here at Empire Airlines and announce that he is thinking of setting up an airline somewhere in these United States. He boasts of having enough capital to go out and buy a couple of surplus airplanes and modify them. He has a few buddies lined up to fly them and he figures that he ought to be able to do pretty well. Maybe he's gone a little further and started to think about maintenance, airports, and office space. But that's usually about where his planning ends. Casual questions about how he has figured his costs and estimated his revenues ordinarily get the reply that others are doing it and probably making money. It's a little difficult to break the news gently to the would-be airline magnate. You just can't start an airline on a shoestring these days. The established carriers have developed standards of service that must be met or closely approximated by any newcomer in the field. The public has come to expect much, and those expectations must be fulfilled. That service costs money. From 1939 to 1943 indirect expenses of the airlines rose 124.2 per cent. In 1938 indirect expenses were about 80 per cent of direct flying costs. Now, despite the fact that direct flying costs have decreased considerably because of improved operations and maintenance, indirect expenses are up to around 110 per cent of the direct cost of aircraft operation. There are a lot of things to think about before you set up that airline, and while you're thinking about them, you'd better estimate how much they're going to cost.

Let's take a concrete example of what has happened to a relative newcomer to the field. On November 5, 1943, Essair Airlines was awarded a certificate for Route 64 from the terminal point Houston via the intermediate points Austin, San Angelo, Abilene, and Lubbock to the terminal point Amarillo, all in Texas. Thus was created the first intrastate, certificated airline. Essair commenced operations on August 1, 1945. From that date until March thirty-first of this year the line lost $132,519 in spite of the fact that it received $127,318 in mail pay. And its mail pay was more than its revenue from all other sources combined. These statistics, published by the CAB from the carrier's own monthly reports, point a simple moral. No airline can hope to operate a regularly scheduled route in the black without mail pay, and even with mail pay it takes some time and a lot of money before the operation can hope to show a profit. Essair, which now operates under the name of Pioneer Airlines, is no isolated example. Theirs is the only record of operations by a certificated, short-haul airline, and the same cold, hard facts that apply to them are equally applicable to all of us. So before you start that new airline be sure to have plenty of money in the bank to meet operating expenses until you can develop your new service to the point where it will start to show a return.

Our organization here at Empire was established to bring local air service to the smaller communities of the state of New York. Capital was privately raised from New York business leaders who saw the need for the new service. A Board of Directors composed of men of vast commercial experience and public service was formed to guide the affairs of the new company. The line started actual operations late in December of 1945 with a single daily schedule to Utica. A daily trip to Schenectady was added in January. At that time the line's total payroll was eighteen men. In March, eight upstate

Beechcrafts are replacing Empire's outgrown twin-engined Cessnas.

cities were linked with LaGuardia Field, New York, in a direct-service pattern which resembled the spokes of a wheel.

The response from the traveling public and civic leaders was instantaneous. We knew from the start that the service was needed. The vice president of a bank in Plattsburg came down to New York wanting to know why his city hadn't been included. So we established a run to Plattsburg. The Chamber of Commerce at Elmira gave us a banquet to welcome our service to that city. Endicott followed suit. The welcome mat was out all over the State.

It didn't take us long to discover that the Cessnas with which we had started the operation were inadequate and that a larger aircraft would have to be found. So our capitalization was increased to over a million dollars and an order placed for ten new seven-passenger ships. We have over a hundred people on our payroll now, and before the new operation hits its full stride we will have over four hundred employees in all departments.

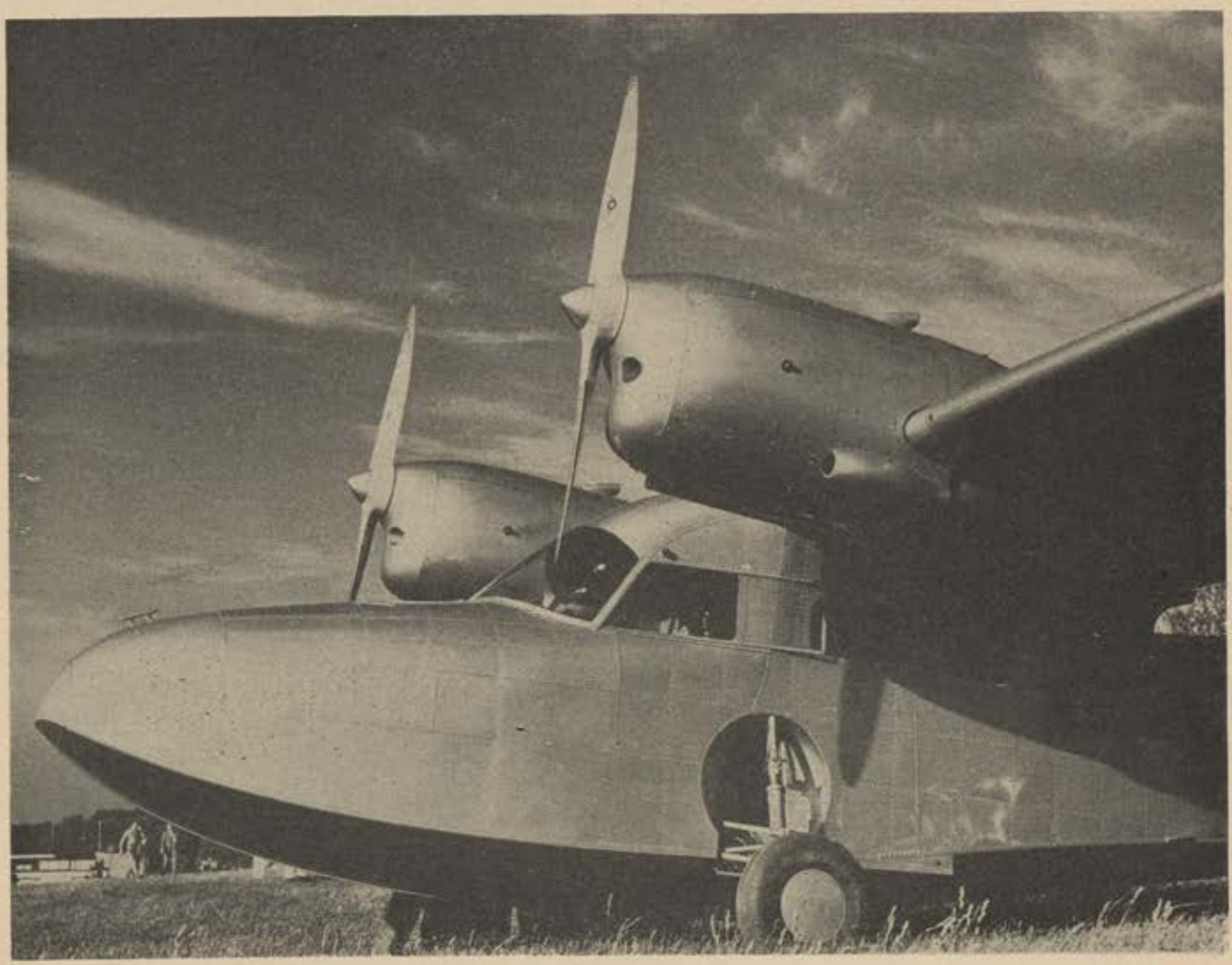
As this is being written the final plans for operating the new ships are taking shape. New cities are being added and the entire route pattern is changing. Now, instead of shuttling back and forth between New York and the upstate cities, we will provide service between the various cities. We have shrunk New York State to fit the new space-time formula of the Air Age.

What success we have had is due, I think, to the realization that technical skills we acquired in military service were not enough. It has taken money—lots of it—sound business judgment, and an understanding of the rôle of government regulation. If you possess these assets you've got a fair chance. There are still great areas on the air map for which no local service has been approved. If you are lacking any of these things you'd best start thinking about a career with an outfit that is already established. Your chances there are a lot better.

Career opportunities in short-haul aviation are wide open all over the country. In addition to the present certificated feeder or local airlines, there are many amply financed and well-organized outfits all over the country, and they're all looking for personnel. It takes a lot of men in many departments to run an airline, and if you fought the war in or around airplanes, there's a good chance that you can fit in somewhere. Empire started with eighteen men at the beginning of the year and we now have our sights set on a roster of over 400 people. Our pattern of expansion is being repeated by other lines. All of us are banking on AAF trained men to put some meat on our present, overburdened skeleton staffs.

Let's start with the premise that if a man knows the difference between an aileron and a nacelle, his value to an airline is enhanced. Transport planes don't carry bombardiers, but the fact that a bombardier couldn't help but absorb enough about flying to enable him to talk intelligently about it might very well qualify him for an administrative position. Don't forget your prewar civilian training and experience either. If you were a bookkeeper before Pearl Harbor and spent the war compiling AAF statistics, you may very well come in handy to an airline now. An airline is a complex organization requiring all kinds of personnel. Think of everything you have done and studied, add your AAF experience to that and see if you can't decide on a slot in operations, traffic, or ad-

(Continued on page 66)



In coastal and lake areas, amphibians like the Grumman Widgeon can use close-in bodies of water for operation, decreasing block-to-block time.

Fast League for B.T.O.s

Grumman Goose and Lockheed Saturn have been widely mentioned as short-haul equipment. *Right:* typical intrastate job. Air deliveries put metropolitan dailies on upstate newsstands shortly after they appear in Manhattan. *Below:* former AAF pilots, flying for Empire: *L to R:* Stan Smith, Erwin Heering, Roy W. Malone, William J. Stelzenmuller and Raymond George. In mufti are chairman of the board Dean Alfange and operations vice president Achilles Livada.

AFA NEWS

Wing and Squadron Organization

New State Wings appeared all over the map during this past month. A total of 33 states now have full-fledged Wing Committees, while another five are in process of organization and the remainder will be set up in the next few weeks.

Outstanding among these new developments was the establishment of the Wing Committee in California. Jack L. Warner, temporary AFA Wing Chairman, called a luncheon meeting at Warner Bros. Studio on September 6th. Fifteen well-known former AAF men from all sections of the state met, agreed to constitute the nucleus of a California Wing.

Frank Gabreski, ace fighter pilot of World War II, was elected Wing Commander. First Vice Commander is former Col. John F. Turner, while ex-Sgt. Walden J. Thompson was named second Vice Commander. Former Lt. Col. Arthur F. Kelly will serve as Secretary-Treasurer, and former Col. Robert M. Baughey was elected Director of Public Relations.

Lt. Col. John C. Meyer, top fighter pilot ace of the AAF, addressed the meeting on behalf of the Association's national headquarters, giving a brief summary of the history and purposes of the organization.

Mr. Kelly, who is general traffic manager of Western Airlines, with offices at 510 W. Sixth St., Los Angeles, will be in active charge of squadron organization for California. This group promises an all-out campaign to make the "Sunshine State" one of the brightest spots in AFA's national picture.

In Maryland, Marshall Boone was named State Wing Commander at a meeting of the temporary officers and executive committee on September 10th. Mr. Boone has served as Vice Commander of Baltimore Squadron No. 1 since the formation of that AFA chapter, first in the nation.

Joseph B. Brown of the Union Trust Co. of Baltimore was elected Secretary-Treasurer, and other officers will be named soon. The Maryland Wing has three squadrons already established and many more in process of formation.

The Idaho State Wing, with headquarters in Boise, has elected Walter R. York, of the Sims-York Co. of that city, Commander, and Richard L. Taylor, Secretary-Treasurer.

Kentucky's second squadron was formed on the University of Kentucky campus at Lexington. Merwin E. Potter is Commander of the new group, which now has 37 members; Joseph K. Morford was chosen Vice Commander, and the other officers are: Hendree B. Milward, Secretary; Hilary J. Boone, Jr., Treasurer; and Marvin Wachs and R. D. McIntyre, Council Members.

Out in Phoenix, Arizona, a live gang of ex-Air Forces people established an AFA Squadron with Gordon Scott as Commander; Edward R. Janney, Vice Commander; Barbara L. Saner, Secretary; Emmett M. Barry, Treasurer, and Edward A. Tovrea, William T. Maltby and Donald S. Stewart, Council Members.

The AFA's first "all-girl" Squadron has been formed in New York City. Mary Gill, who was Gen. Doolittle's secretary throughout the war and is now serving him in the same capacity as a civilian, heads the new group, which has twenty-two charter members and is growing daily. All former AAF Wacs in the New York metropolitan area are invited to get in touch with Miss Gill through Bernard Relin Associates, 654 Madison Ave., New York 21, N. Y.

A nationwide campaign to launch AFA Squadrons on every college and university campus from coast to coast is now getting under way. Organizational aids and suggestions are available from national headquarters.

Greetings to the RAF

A huge facsimile post card, 44 by 28 inches in size, was presented to the Washington headquarters of the British Royal Air Force on September 14th by Executive Director Willis S. Fitch bearing the greetings of the AFA on the sixth anniversary of the turning point in the Battle of Britain.

California Wing of AFA is launched with selection of temporary officers. Seated (l.to r.) A. F. Kelly, Los Angeles, secretary-treasurer; Frank S. Gabreski, Santa Monica, wing commander; Jack L. Warner, Burbank, chairman of meeting; W. J. Thompson, Oakland, second vice-president; R. M. Baughey, Long Beach, public relations. Standing: E. E. Evans, Los Angeles; Herbert Mischler, San Diego; F. A. Flynn, San Francisco; F. M. Moore, Cathedral City; Dr. R. Van Arsdale Lee, Palo Alto; Col. Roy M. Jones, Ret., Los Angeles; Roger Williams, San Francisco; James Stewart, West Los Angeles; L. W. Sweetser, Los Angeles; H. B. Allen, San Dimas. What with Warner party (see p. 34) and elections, California has copped AFA spotlight. But other wings are "moving out" too. Read "Operation Ohio," Dec. AIR FORCE.

Aviation's lone wolf needs guts and imagination to survive in a highly competitive business

ONE MAN ONE PLANE

THERE are a considerable number of former AAF-ers who don't want to go to work for airline operators or anybody else in the business. They are aviation's free souls, fellows who just want to fly an airplane without being manacled to such woes as bookkeeping and office procedure. They might like to be "big business" some day, but for the present they are content to employ their war-won flying skill as the opportunity presents itself.

The one-plus-one operators have two kinds of history. The first is the guy who starts out on his own and then acquires in succession a full- or part-time mechanical helper, a salesman, and then another airplane, another pilot, and so on.

The other kind of operator is the one who is satisfied to run his own airplane, make his day-to-day living out of it, and endeavor to put enough aside to replace the airplane when it wears out.

Flying instruction and sightseeing flights have been the money crop for small operators since the days of Curtiss and Hoxie. It was the public's postwar curiosity about what happens when the other foot is taken off the ground that made the barnstorming era of the early '20s possible. One had only to fly over a small town, just a wee bit low, drop a few handbills about the magnificent "aeroplane" that was going to carry passengers out of Farmer Jones' alfalfa field, and he was in business—for that day anyway. Life was hazardous not so much from the quality of the average barnstormer's maintenance and the inherent unreliability of single-ignition water-cooled power plants as from the circus nature of the operation itself.

In 1946 veterans can subject themselves to the same kind of existence if they care to. The equipment that is available, however, is in its nature less hazardous than a Jenny or a Standard. Part of the selling, particularly as regards safety, has already been done for the miniature entrepreneur by a full generation of fairly safe aeronautical history. The public is pretty well used to seeing airplanes around, and it has been calculated that the pilot-owner of a two-place light airplane in the Aeronca-Cub class can realize a profit of three to five dollars per flying hour.

There is very little doubt that the man who has one airplane and a great urge to fly may, for the time being, escape the hazard of not eating regularly, but it isn't going to be easy. The practicability of owning more than one airplane and going into bigger business is too obvious.

Airplane as a Career Tool

Opposed to the theory that the airplane must be the primary means of making a livelihood are numerous examples of airmen who use the airplane successfully as a means of getting about in the same manner as they would a car or other vehicle, while exploiting the special characteristics of the flying machine to advantage.

There are many Air Force veterans who have sold their services to private companies on the basis of their flying knowledge and their ownership of an airplane. Plane-borne salesmen can cover territory in better time than a ground vehicle, as long as the ground plan is suitable for the airplane.

Other former AAF men, who hold allied jobs in aviation, fly part time and weekends, supporting their airplanes and frequently showing a neat profit out of the enterprise. For example, former Flight Officer Joseph Evans of East Hanover, N. J., a war-time primary instructor and later an ATC pilot, works for Federal Radio 40 hours a week, and flies his Aeronca Chief in the remaining time. Over operating and replacement costs, Evans states he can pocket three dollars for every hour of flying. This means that he can bank more from his flying than from his regular occupation.

The men who make out best on single-plane operations are those who have been able to work out some special use for the equipment. A classic instance is skywriting. While the Skywriting Corporation of America is a virtual monopoly, the parent company merely holds rights under the original English patents. Under it, a fleet of specially converted airplanes covers large areas. These men, each of whom owns and operates his own airplane, watch the weather in their particular district, and wait for that peculiar combination of sky and wind conditions favorable to skywriting.

Getting a client who will understand the value of a program that can be affected by the vagaries of weather is no easy matter. The result is that only one national advertiser can use the medium anywhere at a particular time. The history of skywriting is an odd reflection on the nation's thinking. In the days after World War I, one of the major tobacco companies put skywriting to work advertising a popular cigarette. When the campaign was completed, a bread company purchased space on the "billboard in the sky." When people were interviewed on the streets of New York, a large percentage were under the impression that the cigarette was still being advertised. Skywriting, for the most part, is a long-range program. However, it is an example of how one airplane can be made profitable.

Along the same lines, sign-towing is a fairly profitable business. Tow-signs consist of letters, made of light, strong fabric, attached to a section squared, wide-interval net. The sign-rig is usually sectional, so that different ads can be spelled out. The sign is laid out on the ground, parallel to take-off. The plane is taxied to take-off position and the sign is hitched to the plane by means of a long line. The pilot holds the plane down until adequate speed is accumulated, then lifts it into the air just as he approaches the head of the sign. A steep initial climb right off the ground peels the sign away neatly, prevents dragging and possible mutilation. Usually, small fabric wind cones or other trailers keep the sign upright and extended for correct reading. Before the war, sign time sold for $25-$50 per hour.

Crop-dusting is another classic one-man operation, although the field is handled now, for the most part, by established agricultural flying services. Like skywriting, crop-dusting requires the installation of special equipment, and the crop-dusting airplane is seldom used for any other commercial purpose. This kind of operation can be done in almost any sized single-engined plane that can be operated safely close to the ground. In the northeast, where farms are not county-size, the ordinary lightplane with its limited payload can be used with considerable profit. However, as the acreage increases, biplanes in the 200-300-hp class become more practical. This kind of operation, like skywriting and sign-towing, depends to a large degree on the kind of sales and booking that the plane can get.

Recently helicopters have been demonstrated as dusting vehicles. These proved highly successful because they could fly over at a medium speed and spray close to trees and other obstructions. Furthermore the swirling downwash from the

main rotor of a helicopter enables the insecticide to be carried to the undersurface of plants. However helicopters are still expensive to acquire and to operate and the use of this kind of equipment is limited and not on a competitive footing with fixed-wing aircraft.

There are scores of other uses for airplanes open to one-unit operators. For instance, off the fishing grounds of Nova Scotia and California, charter operators in seaplanes patrol the waters keeping track of the movements of fish. The migration of schools is reported frequently by radio to commercial fishing vessels. The usual arrangement is for several independent operators to keep one plane-pilot unit busy on a shared-cost basis.

In the coyote country professional pest hunters flying slow-stalling light airplanes triple their best possible average for ground hunting. Between pelts and bounty a pilot-hunter team can make a fair day's pay, and then some.

One man plus plane plus camera is another combination which has been known to work. While the business of air mapping requires specialized equipment and complex laboratory facilities, simple oblique exposures of buildings, installations, and sites have proven valuable sales arguments in real estate transactions.

History between two wars has proved that one man and one airplane can make a living. It has also proved that it is a darned precarious one, and that a like amount of effort can usually develop something a little larger and more stable. But the veteran who isn't the administrative type and still wants to fly for a living, has only to exercise his imagination to find any number of ways to make it pay.

Sign-towing started as a one-man operation shortly after the first war. With equipment such as the surplus-acquired PT-13 it is still one of the best bets for the man who's going it solo. Crop-dusting is also a classic one-man operation—the helicopter is the 1946 way of doing it. Below, Walter Ball and pilot Whitey Baum will collect a bounty from the state of South Dakota for their day's bag.

Bill of Flights

The smart vet is taking advantage of his GI educational benefits to prepare for a better job in the future

BY CARL LIGGIO, *Administrator, Bureau of Veterans' Affairs, New York City Board of Education*

UPON his return to civilian life, more than one AAF veteran has found that his military experience was too specialized—too narrow, if you wish—to qualify him for the broad responsibilities thrust upon him in civil aviation. As a GI he was taught how to service a B-26 engine, and in this function he performed well. But, because he worked only on B-26s, he didn't become a well-rounded airplane engine mechanic. If he fought the war with the MOS of a fighter pilot, the chances are he was pretty good at that job or he wouldn't be alive now. But the airlines won't employ him to fly their four-motored transports. For the most part, he has come out of the war very highly skilled in one military occupational specialty. But in finding a niche in the highly competitive civilian field he has discovered that his ignorance of the broad aspects of aeronautics is a severe handicap. To be sure, there are a few ex-servicemen who have marched out of their Army jobs and into similar civilian occupations without losing the cadence, but they are exceptions and their numbers will become increasingly few. But the new and broader requirements which the AAF vet must meet need not discourage him. If he loves the game—if he is willing to compete for employment and bide his time in the expanding industry—he has a fair chance. In the meantime, he should give every consideration to the educational opportunities offered by the GI Bill of Rights. It is through this instrument that he can, without cost to himself, prepare for a better future in his chosen field.

Surprisingly enough, only about ten per cent of the veterans of World War II are taking advantage of the educational benefits of the GI Bill. In May of this year only some 839,000 were in training, either in schools or on the job, in all fields of education, including aeronautics.

The most apparent reasons are these. Men out of the service don't know precisely what benefits they are eligible to receive. Neither do they know how to go about applying for these benefits nor where they can get the particular kind of training they are after.

The GI Bill is based on the premise that the average veteran is entitled to "X" benefits to complete his education. Whether or not you as an individual are entitled to the whole pie depends on how close your case comes to being average. Basically, here is what is offered:

A. Five hundred dollars a year tuition fees for four years.

B. Laboratory, library, infirmary, book, tool, supply, equipment, and other customary and necessary expenses for the same period of time.

C. Subsistence up to $90 a month (if you're married) while in training.

You can go to any school you choose and study any aeronautical subject you want to, provided both the school and the course are approved by the Veterans Administration. You can go full time, part time, or in the evening. Or you can study by correspondence. You can take one subject now and another next year at a different school, or you can—if it suits your purpose—elect to schedule different courses at different schools simultaneously. You can even study in a foreign land. If you decide to re-enlist, you may do so and still continue your training. And incidentally, the benefits you receive now will not be deducted from any future Federal bonus, should any be declared. It should also be understood that it is not necessary that you plan to use your training in your career. You can actually take up flying as a hobby at government expense, if you care to do so and have the time.

Such are the benefits. Here are the "if's, and's, and but's"—the eligibility riders:

1. You are not eligible for any benefits whatsoever if you were dishonorably discharged. If you were given a blue discharge, the Veterans Administration will decide your case after reviewing your service record.

2. If you served less than 90 days, you are only eligible for benefits if you were injured in line of duty.

3. If you served more than 90 days but less than four years, you are entitled to benefits for one year plus the total length of time you were in uniform.

4. If you served four years or more, you are entitled to the works, unless you attended the Army Specialized Training Program in continuation of civilian education. In this event, the time spent in such training is deducted from the time during which you are eligible for assistance under the Bill.

In no event will you collect more than what you are entitled to for four years' schooling, regardless of how long you served or whether or not you elect to string your training out over a ten-year period.

What you're entitled to in the way of subsistence is dependent on (a) the number of hours you attend school, (b) how much you make on the outside, and (c) whether or not

you're married. Full subsistence is $90 a month if married, or $65 if single. Working from here, it breaks down as follows:

High or Vocational School Attendance

25 hours or more	full subsistence
more than 18 hours, less than 25	¾ subsistence
more than 12 hours, less than 18	½ subsistence
more than 6 hours, less than 12	¼ subsistence
less than 6 hours	no subsistence

Undergraduate College Attendance

12 hours or more	full subsistence
more than 9 hours, less than 12	¾ subsistence
more than 6 hours, less than 9	½ subsistence
more than 3 hours, less than 6	¼ subsistence
less than 3 hours	no subsistence

Whatever you make on the outside over $110 a month is deducted from the amount to which you are otherwise entitled.

Courses in aeronautics of less than engineering grade very seldom last more than four years, but quite often they cost more than $500 a year in tuition. The GI Bill has been made flexible enough to meet this situation. You can, for example, take a two-year course costing $2,000 (the normal amount for a four-year course) by surrendering the other two years of your eligibility time.

If, on the other hand, you are entitled to greater benefits than you use in completing any one course, you may retain your eligibility for other courses at a later date.

After you become acquainted with the benefits and the eligibility rules, the next thing to determine is how to go about the business of making application, enrolling, etc. It's not complicated.

The first thing to do is write to the nearest Veterans Administration office for a Form 1950, which has the imposing title of "Veteran's Application for a Course of Education or Training, or a Refresher or Re-training Course Under Part VIII"—which, translated, means application for certificate of eligibility. Form 1950 merely asks a dozen questions or so about such routine things as where you were born, how much you weigh, where you attended school, and how long you were in the Army. When you have filled in all the blanks—it takes about five minutes—return it to the Veterans Administration office. From the information you have set forth they will determine the benefits to which you are entitled and send you a certificate of eligibility. The certificate is money in the bank. When you enroll in the school of your choice, you merely turn it over to the school authority, who will in turn bill the government in accordance with the benefits listed and the courses you take.

A word of caution about selecting a school: remember that it must be accredited by the VA. Your certificate of eligibility is no good at an unaccredited institution. There are phonies in the field of education just as there are anywhere else. One of their favorite tricks is to tell the unsuspecting veteran that their school is in the process of becoming accredited and that as soon as the papers are accomplished they will bill the VA and return the enrollee's tuition fee to him. The veteran is a sucker if he falls for a gag like this.

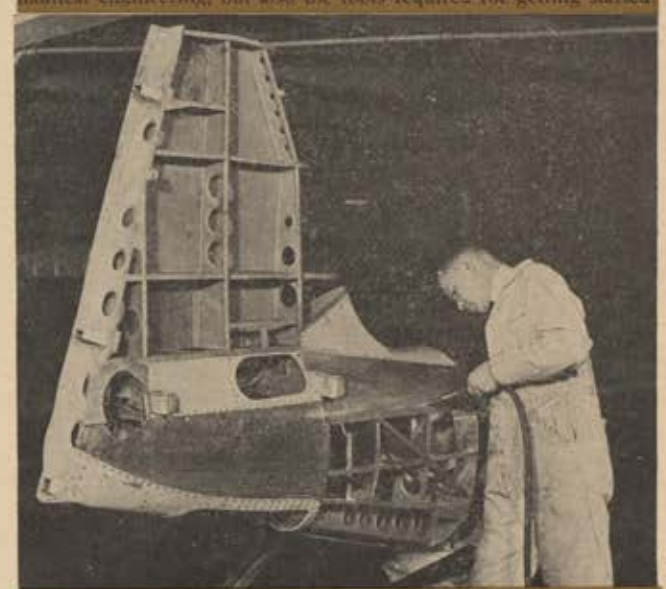
If you haven't yet decided what school to attend, the best and safest thing to do is to write to the accrediting agency in your state for information concerning schools in your locality. It is the responsibility of this office to approve schools in each state, and it is therefore impossible to go wrong with the information they furnish. A list of such offices is published elsewhere in this issue.

There are special provisions in the GI Bill for disabled veterans and ex-servicemen who wish to take on-the-job or apprenticeship training. In most instances their individual cases are so varied as to preclude the possibility of a general

(Continued on page 63)

Primary flight training, usually taken in lightplanes like the J-3 Cub, is available in virtually every state of the Union under the GI Bill.

The Bill provides not only for the training in such subjects as aeronautical engineering, but also the tools required for getting started.



Most AAF mechanics were single-phase specialists. Under the GI Bill, they can round out their training with such subjects as sheet metal.

For future reference—last month's entries in aviation's personal ledger

For the Record

23 August.

USSBS, the civilian board which studied bomb damage in Germany and Japan, goes on record as urging the prompt passage of legislation creating a Department of Common Defense. Under this setup, a strong autonomous Air Arm would be created, implemented for defense against long-range attack by aircraft or guided missile and for strategic attack. A billion dollars a year for research was recommended, as well as a strong intelligence service.

AAF accident rate for June indicates a return to normal prewar level, according to AAF's Flying Safety Service. This constitutes an 86% decrease from June of the previous wartime year.

26 August.

The remains of Captain Colin Kelly, famed B-17 pilot who died at his controls on December 10, 1941 in the Philippines, have been positively identified. Posthumous receiver of the Distinguished Service Cross, he was originally buried as an unidentified soldier.

Group Captain Edward Donaldson, RAF, in the cockpit of the Gloster Meteor, before setting a new speed mark of 616 mph.

The first of 900 airplanes assigned to Reserve and National Guard Units were flown to their new posts. Chiefly P-47s and P-51s, they were taken from the stock pile of pickled airplanes which were processed at Newark, N. J. for wartime overseas shipment.

27 August.

In opening a series of lectures to key Army personnel, Secretary of War Robert P. Patterson declares that the U.S. has no choice but to plan for atomic war until all nations accept our plan for outlawing the atomic bomb.

28 August.

Pratt & Whitney's famed 2,400-hp Double Wasp engine is first water-injection type to be approved by the CAA for transport use. Civil version will be rated at 2,100 hp, and will carry either a single- or two-stage supercharger, depending on the application. The power plant will be used in Douglas' DC-6, Martin's 202 and 303 and Consolidated Vultee's 240.

2 September.

CAA announces that 21,935 student's licenses were issued in July, an all-time peak for a single month. The best previous record was 20,466 in September, 1940. Most of these applicants were trained under the Civilian Pilot Training Program.

Alvin Johnson, Bell test pilot, won the Thompson Trophy race in a stripped-down P-39 at 373 mph.

3 September.

AAF's University of the Air, a special staff school designed to consider the broad aspects of air power, to study air defense and to coordinate it with surface operation, was opened today at Maxwell Field, Alabama. The AAF's new university is headed by Maj. Gen. Muir S. Fairchild.

5 September.

Miles Aircraft, Ltd. of England reveals that the Air Ministry has cancelled their contract for the almost completed "Winged Bullet," a boosted-jet type designed for a top speed of 1,000 mph. The special power plant's output was supposedly the equivalent of 17,000 hp.

6 September.

AAF announces that obsolete B-17s rigged as radio-controlled drones will act as antiaircraft targets in Texas.

Senator McCarran of Nevada tells the CAB that he believes the Board has no right to regulate nonscheduled and fixed-base operations.

8 September.

In the face of a Federal economy wave, the National Advisory Committee on Aeronautics retained its $29,000,000 budget. This is taken as Congressional acceptance of the importance of supersonic research, the NACA's major project.

Capt. E. M. Donaldson of the R.A.F. establishes a new world's speed record of 616 mph in a Gloster Meteor at Tangmere, England.

9 September.

Piper Aircraft Corp. announced the delivery of the 5,000th civilian airplane since V-J Day.

12 September.

Pilot training is resumed by AAF. First class, starting 15 October, will consist of 575 officers currently on duty.

16 September.

Air ROTC unit is established at Yale, to train ground officers for AAF.

17 September.

Captain Martin L. Smith of Wright Field flies the P-84 Republic Thunderjet at 611 mph, officially timed U.S. speed record. The unofficial timing was 619, exceeding the recent British mark.

19 September.

Aircraft Industries Association survey reveals that 47 personal and transport plane types are currently in production by 29 manufacturers in the U.S. Prewar figure was 26 firms and 42 models.

20 September.

Pan-American World Airways announced that six of their Constellations had their power plants converted to direct fuel injection in line with CAA recommendations. This power plant system was used on the original versions of the Constellation.

postgrads at PARKS

The vet at Parks doesn't make his bed, still stands in line for chow. He attends classes 35 hours a week, is graded on personality. His routine is not exciting, but he's laying a foundation for the future

BY ROBERT J. BOYLAN

PARKS AIR COLLEGE is one of several hundred schools approved by the Veterans Administration for training under the GI Bill of Rights. Located fifteen minutes outside of St. Louis, it is bigger and older than some, but its operations are typical. The college consists of 22 buildings on a campus (including airport grounds) of 113 acres. Parks specializes in maintenance, operations and aeronautical engineering. The courses are 4,500 hours long (usually spread over 2½ years) and graduates are given Bachelor of Science degrees. Ninety per cent of Parks' 368 students are veterans, who have wisely elected to augment their basic air force training with a post-graduate course of civilian instruction before attempting to launch an aviation career for themselves.

Milo Hunter of Fort Atkinson, Wisconsin is a typical student at a typical school. In his four semesters at Parks he has found that life there is similar in some respects to life in the Army and in some ways it's different. There is discipline, but not regimentation. There are chow lines, but he eats off china plates. There is no "taps," but "lights out" is at midnight. He is not permitted to own and operate a motorcycle, the theory apparently being that airplanes are safe but motorcycles are hazardous. With 3,000 hours of flying time as a fighter

Ex-GIs, alert to the fact that the Army didn't teach them all there is to know about aviation, are trooping back to campuses like this to bone up before launching a career.

pilot under his belt, he has decided to become a fixed-base operator with his own sales and service organization. He has been working 2 years toward this goal and will get his B.S. as an Aviation Operations Engineer at the end of his next term.

For Hunter and the other 367 students at Parks the day begins at 7 A.M. His "barracks" is a three-story brick building overlooking a generous expanse of wooded lawn. He shaves and washes in a general latrine but he doesn't have to make his own bed or clean his own room. Except in the shop, where he wears white coveralls, his "uniform of the day" usually consists of his old GI khaki trousers, GI shoes, and a white T-shirt. For breakfast he eats cantaloupe, wheatcakes, hot or cold cereal, toast and butter, and coffee, tea, or milk. Like nearly all veterans, Hunter is a big milk drinker.

After breakfast the Pacific veteran's first class is a three-hour course of instruction in assembly and hydraulics. His professor is Walter Shelton, outstanding authority and a graduate of Parks. Before lunch Hunter has a class in financial administration supervised by Jack Glynn, a graduate of the College of Commerce and Finance of St. Louis University. As a fixed-base operator he will need to understand the preparation of financial reports as well as the function of single proprietorship, partnerships, and corporations.

Lunch at Parks is leisurely and enjoyable. The fare, while not distinguished, is appetizing and plentiful. Pledges from one of the college's three fraternities are usually required to stand and sing "The Old Oaken Bucket" or some other song as a part of their initiation routine before they are allowed to eat. To Hunter this mild form of horseplay is strongly reminiscent of his cadet days.

After lunch Parks students can go to their rooms or stroll on the campus. Being rather gregarious by nature, Hunter usually prefers to spend his leisure time sitting on the lawn under a tree chewing the rag with his buddies.

The early part of Hunter's afternoon study session is devoted to a class in airline operations under the instruction of

The ex-GI at Parks finds himself doing about the same things in his off-duty hours that he did in the army. He plays baseball, dances, and shoots the breeze at the "PX." The distinguishing feature is that he wears clothes of his own choosing. Students below are brushing up on engine assembly prior to taking CAA test in Aircraft Engine Mechanics which must be passed prior to graduation. Veterans at Parks get more than 4,500 hours of instruction, lab and shop work.

Gene Kropf, author of over twenty magazine articles on the subject. As an advanced student he assists in the operation of the school's own 1,200-mile airline between St. Louis, Chicago, Kansas City, Indianapolis, and Memphis. The airline, incidentally, has never had an accident of any kind. The study day is completed with a class in weather elements, part of an advanced course in meteorology, and a physical training session. Hunter goes to school five days a week and 48 weeks a year. His 2½ years at Parks, on the basis of the 48-week year, is the approximate equivalent of four years of less intensive training in other colleges.

All Parks students are given two sets of grades every six weeks. One—the usual set of academic marks—must not drop below a B— average. The other set is a Parks innovation called personality grades. The bosses at Parks believe in these grades to the utmost on the theory that it is not enough merely to turn out an intelligent student if he isn't socially desirable and presentable. To give a student a complete picture of how the faculty sees him, grades are given in attitude, personal appearance and in work time—manual labor such as mowing lawns, for example.

On weekday evenings Hunter operates the post commissary as a part-time job. It is sort of a combined PX and day room and, like its Army counterpart, is the center of social life. There is a pool table, a table for ping-pong, a soda fountain, and a drugs counter. Profits from the enterprise are used for campus social events for the entire student body.

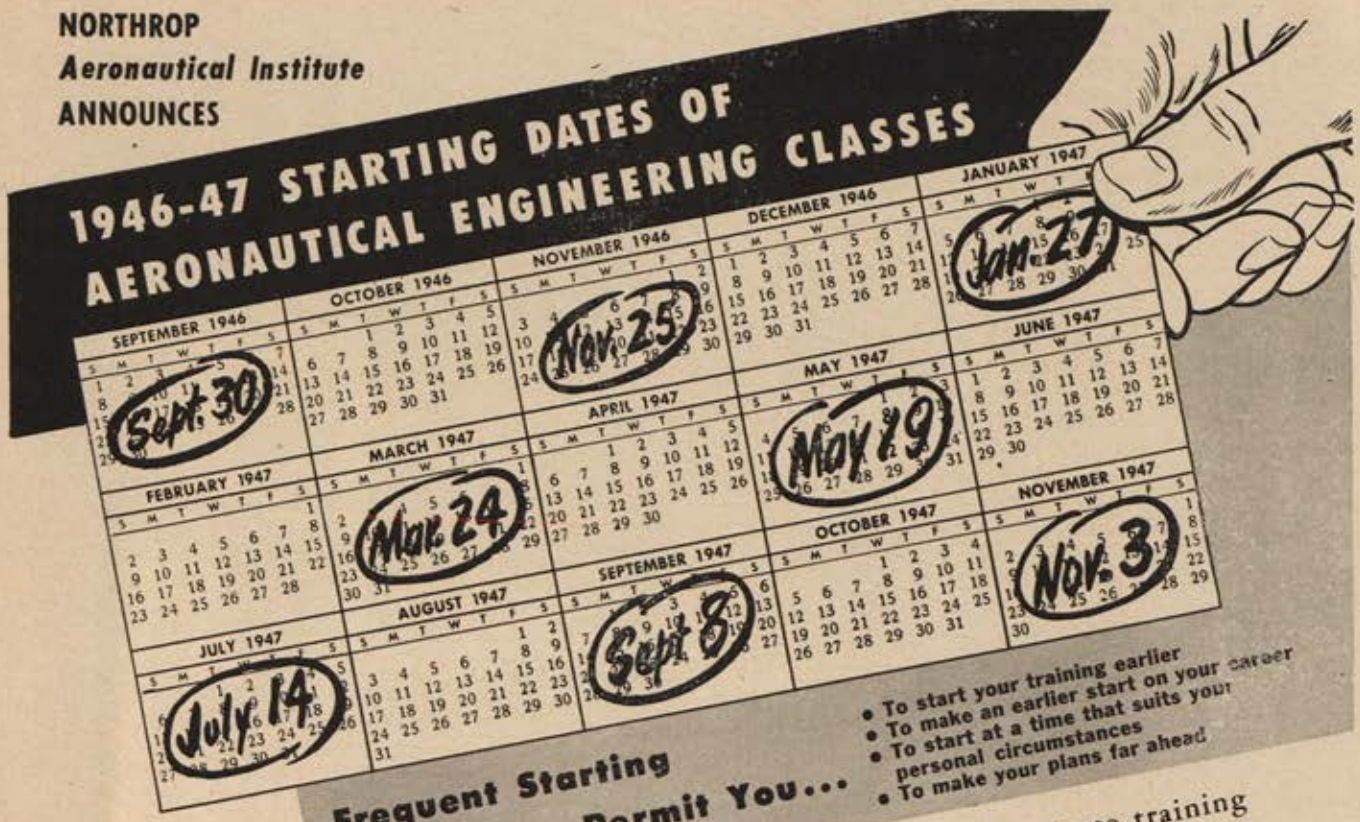
Sports occupy a goodly portion of off-duty time at Parks and in this activity the Air Force is well represented. During the past season twelve men on the baseball squad were veterans. Most of the men on the basketball team and most of the members of the Varsity Club were likewise AAF vets who have won at least two college letters. Baseball has a long season at Parks because students are at school not only in the spring but through all of the summer.

(Continued on page 62)

Milo Hunter, of Wisconsin, is studying to be a fixed-base operator. Like several hundred other vets at Parks, he is taking advantage of the GI Bill to brush up on aeronautical training before striking out on his own. At upper left he relaxes on the baseball field. In the evening he runs the base commissary (top right). His living quarters (center right) are not luxurious but are better than barracks. Other students build models (right), operate the school's airline (below).

NORTHROP
Aeronautical Institute
ANNOUNCES

1946-47 STARTING DATES OF AERONAUTICAL ENGINEERING CLASSES



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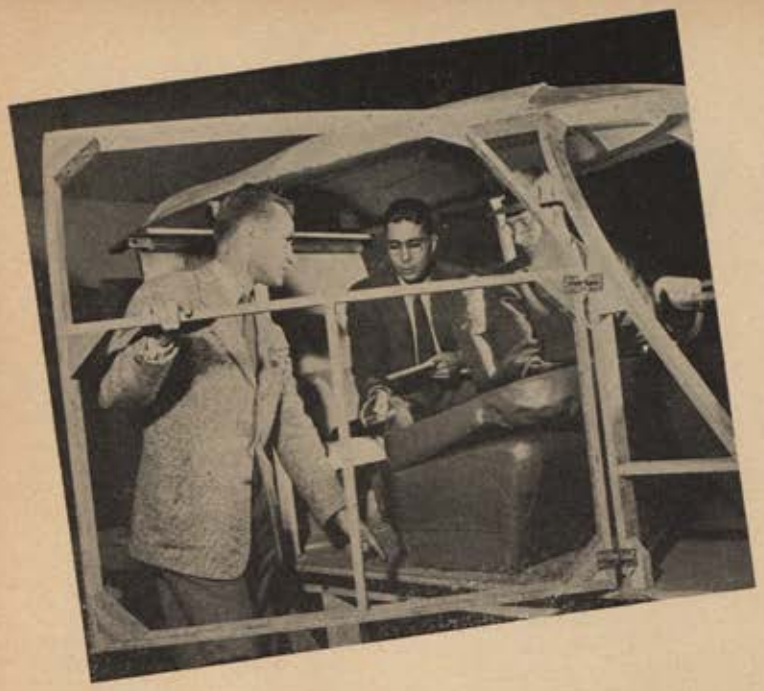
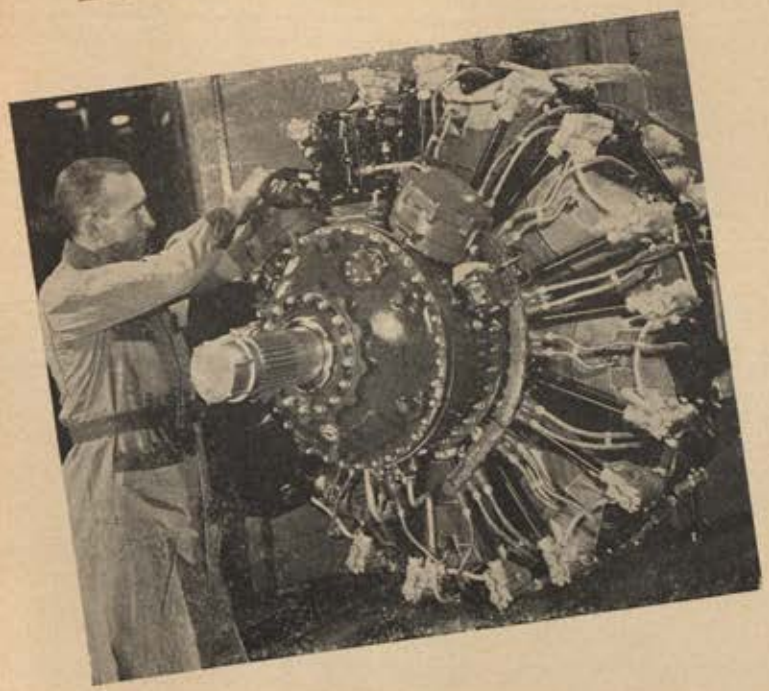




BY CLAYTON D. RUYLE

Director of Industrial Relations,
Republic Aviation Corporation

IN 1939, the aircraft industry was fortieth in position among the leading industries of the United States. During World War II, aircraft manufacturing rose to first position. Not only was it larger in dollar volume of products turned out, but, in all history, no industry has come close to it in numbers of people employed or in any of the other categories that determine an industry's size and greatness. Airplane manufacturing in the United States has fallen off 94 per cent in dollar volume since the war. Personnel employed by aircraft manufacturers has dropped from a high of 2,102,000 to the current figure of 212,000.

On the face of it, that's not too rosy a picture for anyone who wants to begin a lifetime career in the manufacturing end of aviation. But there is another way of looking at it. The aviation industry accepted the job of manufacturing warcraft as an emergency assignment, and in so doing lost its identity. It became a part of the over-all munitions industry. The dollars spent for airplanes during the war were not aviation dollars—they were munitions dollars. The mission the industry performed as a wartime undertaking was as far removed from its normal operation as was the building of tanks by the automotive people, and nobody has suggested that the future of the motor car industry should be gauged by a comparison of wartime and current production and personnel figures.

In 1937, one of the last years the industry could call its name its own, 2,281 civilian type planes were built. Projected figures indicate that there will be 33,600 this year —an increase of nearly 1,500 per cent in nine years. This figure may not be reached, due to various transition problems which have affected all industries, even though the orders are there. But, the future of any business that can increase its production over 150 per cent a year isn't exactly black.

There *are* opportunities in the manufacturing field. Here at Republic, where we are making the Thunderjet, the Rainbow, and the Seabee, we have more than doubled the number of our employees since V-J Day, and out of the total more than one-third are veterans of World War II. This is not just happenstance. It is true that many hundreds are Republic's own veterans, but as many new ones have been hired because they learned skills in service that are valuable to the airplane manufacturing business.

There are one thousand and thirty different jobs in designing, planning, building, and selling Republic's planes. The figure is not substantially different in other plants of similar size. Of course, there aren't position vacancies in each of these spots either at Republic or elsewhere, but the fact that so great a number of different *kinds* of jobs exist in the manufacturing end of aviation is in itself proof that it is a field of wide opportunity for everyone interested.

Another thing to encourage the veteran is the fact that in a great many instances he may qualify for an airframe manufacturing position by virtue of the Army training he has behind him. There are military occupational specialty numbers (MOS's) to parallel a surprising number of manufacturing

There are 1,030 kinds of jobs in airplane building—these include creative engineering, like the men working on the mock-up of Republic's Seabee or testing propellers in special cells, like the Hamilton-Standard technician. Below, pre-shipping adjustments on Pratt and Whitney's new 2,400 hp double Wasp engine, originally developed as a military power plant, now being made available for transport use. There is a strong parallel between many of the AAF job specifications and openings in aircraft factories. However, it should be pointed out that, in many cases, there is a difference which must be bridged by on-the-job training or by conversion training at schools approved for this work by state authorities under the GI Bill of Rights. Airplane production has risen 1,500% over the 1937 figure.

The postwar slump in aircraft production is not as serious an omen as you might think. In dollar volume the industry is 15 times better off today than in 1937

jobs. At Republic we don't give our jobs numbers as the Army does, but we do categorize them and many of the job titles are similar, even though the specific work done may vary to greater or lesser degree. In the instances that follow, I would like to stress that they are hypothetical, and, because of methods of classification, the use of a title should not imply that the jobs are in any or all cases identical. Also, because of the fact that industry and company training methods require that the trainee be schooled in the exact methods employed, company policy, and company teamwork, no one may be excused from a full training program even though, on the face of it, it may seem that a man is already an expert in a given field of aircraft manufacture.

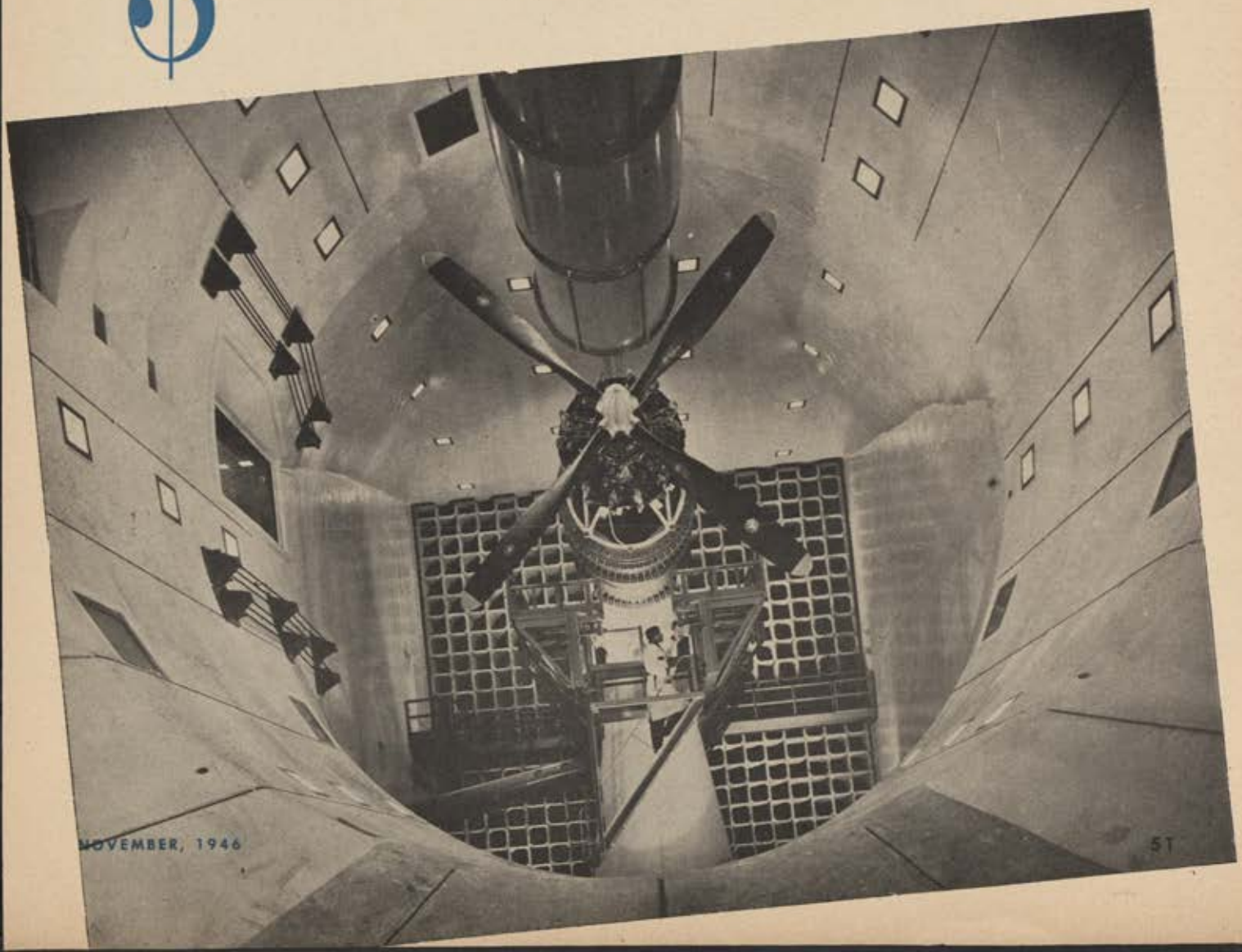
One of the most responsible positions in our industry is that of the airplane designer—the man who does the research, development, and design on a new plane, the genius in whose creative consciousness the plane is conceived. The Army has such men, as well as we. They call them "Design and Development Officers" and tag them with an MOS of 7050. The field of engineering and designing is never overcrowded with good men. If you can qualify (a degree in engineering is almost prerequisite), you should find no difficulty in locating a spot.

From the designer's office the airplane goes into the hands of the aerodynamicist, an aeronautical engineer skilled in refining the outer contours of the surface design. It is his responsibility to arrive at the most satisfactory compromise between the ship's weight and resistance on one hand and power and airflow on the other. It takes years to become an expert aerodynamicist, but there probably are a number of successful ones in industry today who got at least part of their training in the Army.

After the aerodynamicist is through with the plane, it is sent to the structures designers, who are also aeronautical engineers, and who have the assigned task of designing the structure to support the outer contour dreamed up by the aerodynamicist. In accomplishing their job they must listen carefully to the views of other specialists in such things as power plants, instruments, radio, fuel storage, etc. Here again, Army training in these particular skills should help the individual succeed.

But it is when the plane gets beyond the planning stage that the bulk of the AAF vets may find a niche. Detail drafting and tracing, for example, might be done very nicely by the men the Army trained as "070's"—draftsmen.

The actual building of airframes calls for such technicians



Propeller test cell at the Curtiss-Wright Propeller Division's plant at Caldwell, New Jersey. While these fascinating development jobs are in the minority, they are available to men who are really qualified.

there's MONEY in the MAKING

as aircraft welders (MOS 573), aircraft sheet metal workers (MOS 555), aircraft woodworkers (MOS 550), and in some cases fabric and dope mechanics (MOS 548).

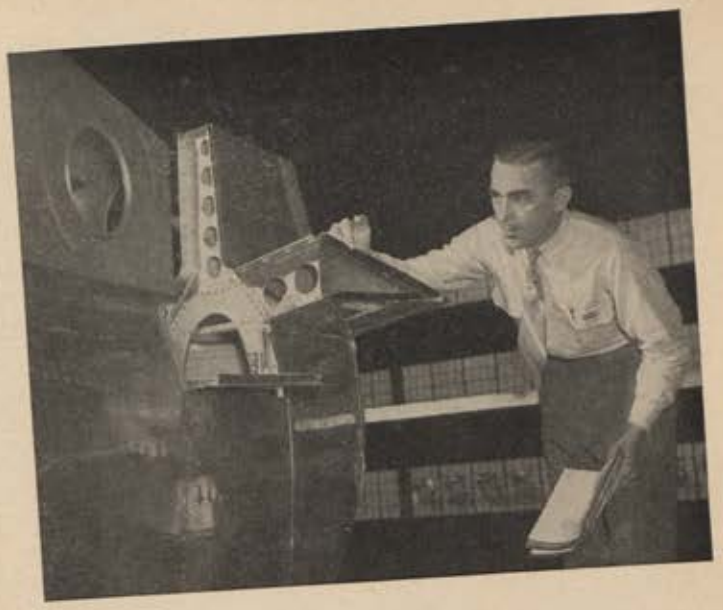
There is not a great difference between some types of maintenance and repair work as required in the AAF and installation technique in the plant. Airplane power plant mechanics (MOS 684), propeller mechanics (MOS 687), instrument technicians (MOS 686), and similar AAF-trained specialists should therefore be able to make a switch to civilian industry with only a little added training.

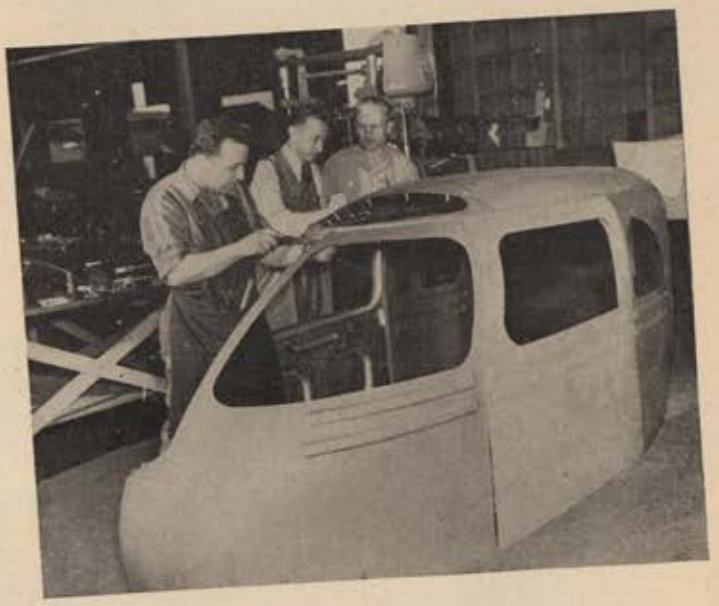
The old AAF line chiefs and crew chiefs had MOS's that over a period of years became synonymous with ingenuity and mechanical feel. These men can very likely find a berth in the servicing units which are a part of every factory or in the sales and service organization which distributes the planes after they are built.

It is impossible to go through the list of over a thousand positions. There are opportunities for AAF-trained flyers to become test pilots, and there are also berths for carpenters, bricklayers, painters, locksmiths, roofers, electricians, pipefitters, plumbers, firemen, and policemen. It takes all of these and more to keep an airframe plant going.

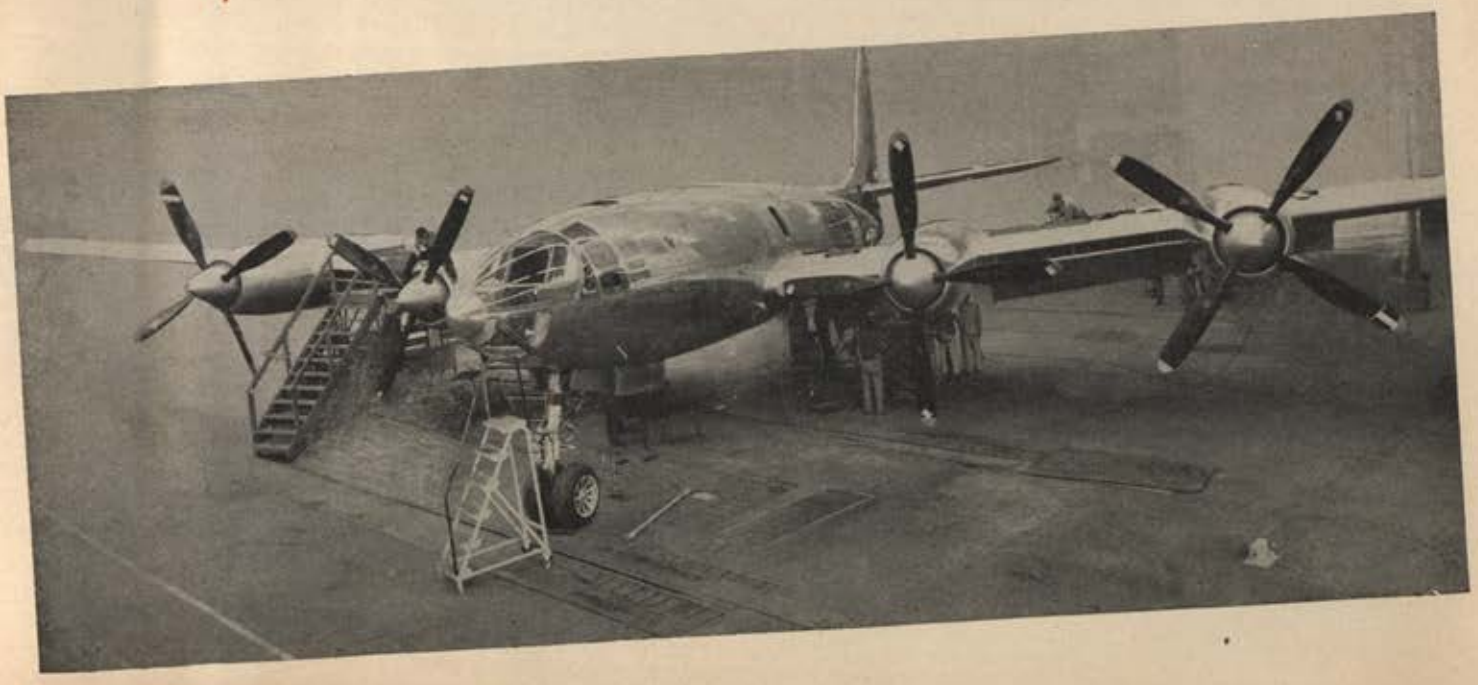
The thing to remember is that the aviation industry, like all others, will, when large-scale production is underway, be constantly looking for trained and skilled personnel with ideas and ambition. It should also be borne in mind that many of the aircraft industry's wartime employees had no intention of continuing work after victory, are now off the labor market, and their retirement creates openings for the veteran.

There will be jobs today, tomorrow and in the future of aviation. It is true many of these jobs will be on the bottom rung of the ladder, but many of aviation's biggest names today started out as office boys. Success is dependent upon the individual, whether in aviation or in any other business.





Inspector checking the tail section of a Martin 202, the late type transport being built for a number of domestic and foreign airlines. Quality control requires both knowledge and skill, and an ability to detect deviations from original specifications. Close inspection is not the exclusive property of transport and military production. In private types, like Republic's Seabee, a close check on adherence to standards of workmanship is kept at all times. Below, general view of Republic's plant area, devoted to the production of the Rainbow, conceded to be the fastest four-engined transport built. The prototype for the craft was the XF-12, a long-range photo-recon craft designed to make accurate photographs for intelligence use of any major industrial or military center above 30° N. Latitude from U. S.



DOUGLAS AD-1*

ATTACK-DOUGLAS

Skyraider

* AD-1 signifies "Attack-Douglas, Model No. 1." This new, simplified designation supercedes the previous designation of BT2D-1.

CHOSEN TO REARM THE NAVY'S POST-WAR CARRIER FLEET

● Outstanding characteristic of the Douglas AD-1 is its great load capacity: it carries *6,000* pounds of bombs, rockets, torpedoes, fire bombs, radar units or extra fuel tanks... *farther*... more than *50 mph faster*... than any other dive-bomber in service.

The unprecedented performance of the Skyraider results from major achievements of design simplification and production teamwork. For example—Douglas engineers made weight reduction a prime objective. Result: the AD-1 was completed at 1,800 pounds *less* than the Navy's acceptable weight, thus giving greater range and capacity.

The Navy wanted the AD-1 in a hurry. The Navy got it—from design start to test flight in 8½ months! Today a fleet of Skyraiders is taking shape on the production lines of the Douglas El Segundo Plant to equip the U. S. Navy with the safest, most versatile carrier-based plane of its great air arm. Thus Douglas once again meets the demand of the armed forces for a better airplane—in record time.

Such dependable performance, year after year, is the reason the Army and Navy—as well as the airlines—DEPEND ON DOUGLAS.

Douglas Aircraft Company, Inc.
Santa Monica, California

FUSELAGE DIVE BRAKES

Another Douglas First, these new brakes slow the Skyraider to less than 300 mph in vertical dives. In addition, they contribute to superb control in maneuvering, fighting and letting down.

If you love the game, and aren't afraid of an honest day's work, your chances are good. An authority offers some well considered do's and don'ts

and the future

BY WINSTON C. CASTLEBERRY

ED. NOTE: *Winston C. Castleberry was an engineering officer for the Air Transport Command and the Air Technical Service Command during the war. He is recognized as one of private aviation's leading maintenance and overhaul authorities. At 35, he is a veteran of more than a decade's work in Southwest Airmotive Company, Dallas, of which he is now vice president and treasurer.*

To say there's a future for ex-GI's in the field of aviation maintenance is about as obvious as pointing out that the airplane, like sex, is here to stay. It's a lead-pipe cinch that there are more privately owned and operated aircraft today than there were yesterday and that there'll be even more tomorrow. Somebody's got to keep them in flying trim. I'll try to point out just who's most likely to get the job and how they might go about it if they're to be successful. Please don't accept anything I say as strictly gospel, because in aviation anything can happen—and frequently does. What's true now may be but half-true in the not too far distant future.

Let's suppose you plan to open a maintenance shop:

In any business there are certain basic principles that always apply. Private aviation, for instance, is more of a friendly "neighbor's game" than almost any other modern industry. No matter how fine a job you do, technically and mechanically, you won't get ahead unless you really go all-out in extending little courtesies and conveniences to your friends and customers, the pilots and owners who are counting on you to keep their planes ticking up there when the chips are down. There's a whole lot of honor mixed up in servicing and repairing a man's airplane. Half-done won't do on any job—it's all or nothing when it comes to working on a modern skycraft. You can do a halfhearted piece of work, save yourself a little money—and maybe break the neck of the guy who depended on you to give him that unwritten life insurance that good maintenance spells.

So I'd say that, before you even consider going into airplane servicing to earn a living, you'll do well to sit down and talk with yourself about such things as scruples and conscience. If you discover you're the sort of hairpin who might be tempted to make moral short cuts, then stay as far away from aviation as possible. In this particular trade, tinhorns and shysters are fair game and it's open season year 'round. One slipshod performance on your part and word gets around the flying fraternity like wildfire on a Panhandle prairie. Overnight, you'll have to turn into a chicken farmer.

You'll discover, too, that Americans who travel by air are more appreciative than most of the reception they receive when they come down and taxi up to your stand for gas or oil or an inspection on their airplane. If you want them to come back, you'll do well to have your line crew spruced up in neat, clean uniforms. Your boys will dash out there and help the aerial visitors in with their luggage, show them the rest rooms, introduce them around to the gang, find out what they want and where they want to go. Have your eager-beaver helpers wipe off the guests' windshields, clean out the cabin, empty the ash trays, and do everything else to tidy up the plane. And by all means make certain they don't foul up the upholstery with greasy hands, clothes or shoes. 1946 is a time of "super service" in all lines of business and aviation is no exception.

So much for courtesy and honesty. They don't cost you anything much and they pay off on the right side of the ledger in the long run. Next comes a genuine feeling of respect and duty toward the flying game in general. I guess you can do all right selling shoes or groceries or diamond rings without possessing any love for those respective industries. But you won't get very far ahead in aviation unless you believe in aviation throughout every fiber of your body. You've got to believe that what's good for aviation in any shape, form or fashion is good for you and everybody else who's in the business. And you've got to act accordingly. You'll discover that the trade, commercially speaking, is still suffering growing pains. Policies and procedures aren't hidebound with tradition as they are in many older, better established fields of endeavor. The only traditions in aviation are those of progressiveness, square-dealing and enthusiasm. That means you have a rare opportunity. You can help shape the destiny of an entire profession. If you feel about aviation as do most of us who're in it, you'll acquire a personal obligation toward everything that flying does now and in the future.

All of which means if you don't have aviation in your blood, then look elsewhere for that pot of gold you're seeking—else it'll be a mess of pottage when you finally get there, all bankrupt and disillusioned.

To continue, and playing the sour notes first, you'd be surprised at the number of capable men who met the above qualifications but who went stone, cold broke as maintenance and servicing operators. There are many reasons.

Some of them picked poor locations, establishing themselves in areas where there was little or no interest in flying or adjacent to communities that were jammed with competing aircraft maintenance bases. You can't get ahead as a fixer-upper of airplanes unless there is a large potential demand for your services. And if the city or town near which you work isn't air-minded and won't coöperate, you might as well throw in the sponge before you begin. "City fathers' have been known to place such taxes and penalties on airplanes and fuel as to make their use prohibitive.

Likewise, owners of almost valueless property sometimes decide that this property is worth small fortunes after discovering that someone wants to buy it for airport purposes. By the same token, if there are too many organizations trying to do the same thing within the same neighborhood, there just plain won't be enough business to go around. Be careful in selecting your site—and be certain that you have moral and real support from the folks with whom you'll have to live.

Another factor that has sent many a worthy soul into a professional nose dive is a sloppy administrative and business system. All of us remember the days not so long ago when "shadetree mechanics" and barnstorming pilots went about the country earning their bread and beans and keeping their books in their respective heads. There's still a hangover from those "good old days" and from time to time you meet a gent who's endeavoring to run his fixed-base operation the same way, sans trained bookkeeping and accounting help. That's bad and has got more than one well-intentioned guy into hot water with his creditors—and the Internal Revenue Bureau.

I heartily recommend that you run your aviation enterprise as any up-and-coming business is run, in accordance with the latest techniques for accounting, auditing, inventory, etc. One girl or several can do it, depending, of course, on the size of your establishment.

It's been my observation, especially before the war, that the most successful operators weren't those who depended on any single phase of aviation for their livelihood but who combined several under one roof. We've done that with better than average good fortune here at Southwest Airmotive. Many of the smaller operators not only have the facilities for maintenance and repair, but they also have contracted to serve as dealers or distributors for light plane manufacturers and, in addition, have run flying or ground schools or both.

You also can sell parts and accessories, either as a direct representative of the factory or as a dealer through a large distributor or wholesaler such as Southwest Airmotive.

How much money you spend in getting started will depend on whether you have access to hangar and shops already constructed or must build your own, and also on whether you succeed in buying equipment at low surplus prices or new from their manufacturers. Many cities, particularly in the south, southwest and west, are acquiring former AAF in-

SAC's busy plant in Dallas is the result of 12 years' uphill slugging in the maintenance field.

stallations and turning them into fine municipal airports. I suggest you explore the possibilities of leasing hangar space from these communities or of operating service stations under municipal surveillance. It's also possible to buy surplus lean-tos or large, Quonset-type structures from the War Assets Administration. These latter units come 40′ x 40′, with available additions 40′ x 20′, and will serve nicely for your beginning—if you can get them.

You can start out with an investment of $5,000—or $250,000. For $5,000 you can't get very much, but if you and your associates are hard-headed and determined you might make a go of it. If you look long enough, you'll find war surplus tools and equipment at ridiculously low prices. For light plane maintenance, you'll need a hand saw, a small lathe, planer and jointer, a table saw, welding and sheet-metal equipment. Your mechanics will furnish their own hand tools. And don't forget you should have the necessary equipment

SAC's accessories and parts inventory includes everything from clamps to ignition harness. Right, the author chats with an AAF veteran.

to keep all this stuff in topnotch working order. Your supplies will include sheet metal, tubing, wood, fabric, dope and miscellaneous nuts, bolts, etc.

Six to 10 men should be sufficient as a beginner—if they're handpicked and with you all the way down the line. The best machine in the world is nil unless the man behind it is 100 per cent up to snuff. Don't try to get into this business unless you can hire at least one licensed aircraft and/or engine mechanic who can serve not only as your foreman but as your personal advisor and counsel.

In getting together the wherewithal, by all means utilize your veteran's priority with the War Assets Administration. Also remember that the RFC has money to loan for the starting up of small businesses. Likewise, the GI Bill of Rights gives you an opening for loans and for the hiring of apprentice trainees for on-the-job training.

If, with your maintenance shop, you decide to offer flight training, then confer with the Veterans Administration and with CAA to determine the requirements for making your school eligible for GI instruction. Operators everywhere are conducting approved GI pilot training and there's still a potential student-pool of many thousands—with tuition guaranteed by Uncle Sam.

It'll probably take you six months to get everything set up and your various and sundry government approvals granted. Within the next six months you'll know the answer—whether you're "in" or "out."

That's the story in a nutshell, insofar as it applies to opening up your own place. If you feel you've had insufficient training to justify going it alone, you'll probably profit from a few years' work in someone else's plant. You should remember that the fact that you were a jam-up mechanic or technician in the AAF doesn't necessarily qualify you as boss of a private operation. In the Air Forces, you didn't have to worry about administrative affairs, profit and loss, and scaring up business. If memory serves me right, Uncle Sugar took care of everything. About the only thing he takes care of in private enterprise is getting away with a healthy chunk of your annual earnings. So, if you want a look on the inside before sticking your neck out, scout around, locate a successful fixed base owner and hit him up for a job. You can be honest with him—tell him you want to learn the trade—and perhaps get him to assign you in first one and then the other department. Keep your ears and eyes open and your mouth shut until you get the hang of it. As a matter of fact, you may discover you like the setup so much you'll want to make a career of working for someone else. There are a lot of good deals for staff members of up-and-coming operations. A majority pay their shop employees by the hour—and top brackets are well up in the money. Foremen, superintendents and administrative assistants likewise have plenty of future, with comfortable salaries for those who deserve them.

Working on an airplane in civilian life isn't the same as it was in the Army. You'll have to abide by a complete new library of "tech orders" and in many shops you won't have access to the endless source of fine tools and testing devices with which the AAF equipped you. You must be conscious, too, that the customer is footing your hourly pay bill and that he expects you to keep at it with no times-out for bull sessions. Instead of a relatively few standard types as there were in the Air Forces, you'll work on a myriad number of different civilian "puddle jumpers" and larger planes, each with its own characteristics and technical demands. Knowing the idiosyncrasies of each is a trick that comes only with

Four out of five SAC salesmen are vets. Left to right are Jim Wycoff, Ed Weber, Paul Kennedy, Jack Sherman, and Newt Flippen.

long experience. So, regardless of the great job you did in uniform, you've still got a lot to learn.

In applying for a job, don't forget that the GI Bill provides for apprentice on-the-job training for which the government pays you so-much a month, plus your salary.

I can't describe our operation at Southwest Airmotive Company as typical, because it isn't. We have an investment of about a half million dollars devoted to maintenance and overhaul alone, with another quarter of a million tied up in a parts and accessories inventory by our sales division. We employ approximately 200 persons.

We've had our share of good luck, but naturally I prefer to think we've become one of the biggest fixed bases in the industry because we've done our dead level best to keep abreast of the times and to render reliable, economical service. Fortunately, we're blessed with an almost perfect geographical location. Love Field, Dallas' municipal airport, is situated strategically at the aerial crossroads of the Western Hemisphere. When our business was started more than 12 years ago, it was a natural homing point for airplanes operated by the major oil companies in Central and South America. They came up here for their major overhaul, thus giving us a toehold on the ladder to success. Almost every penny we made was put back in the form of new and improved equipment.

Today, we have specialized CAA-approved radio, propeller, instrument, accessories, engine and aircraft shops. Our customers for the most part are the private and corporate owners of large, executive-type planes. We do a lot of work for major airlines and for new feeder organizations and items of equipment are shipped in to our specialized departments from every corner of the hemisphere. We also sell quite a volume of fuel from our seven 11,000-gallon underground gasoline storage tanks.

During the war, SAC's engine overhaul department was turned into an assembly line for the Army Air Forces and we managed to run off as many as 16 completely rebuilt engines within a single day. All of us are proud of a personal commendation by Gen. H. H. Arnold. Today, we're overhauling engines for a large number of airlines. Incidentally, a fairly new phase of our business has to do with the conversion of military engines, taken as surplus off B-24s, for use in commercial planes of various types. A lot of operators in all parts of the country have done well converting military airplanes, engines, parts and accessories to re-sell for civilian purposes. But I don't recommend that for the beginner, since "pickings" will be considerably slimmed-down by next spring.

Our sales division has grown into a large and successful organization representing nearly 50 parts and accessories makers, such as Pratt & Whitney, Wright, Continental, Jacobs, Ranger, Warner, Lycoming, Hamilton Standard, RCA, Sperry, Bendix, Eclipse-Pioneer and many others. It covers the entire Southwest through the efforts of four flying salesmen, each a former military pilot. As in all other branches of our activity, the sales division has gotten ahead largely through the friendly, neighborly spirit with which its field representatives have conducted themselves when contacting small, grass-roots aviation operators to whom they sell.

Recently, we became associated with Dallas Aircraft Sales, Inc., Beechcraft airplane distributor. As CAA Approved Repair Station No. 195 and as an approved Beechcraft service station, we're now working closely with them to provide an intermeshing sales and overhaul setup second to none.

We've learned a lot the hard way and our experiences, both good and bad, are too many to enumerate here. However, we believe that opportunity will continue to abound at just what we're doing in aviation—and we welcome and encourage competition. If this is what you want to do, then do it! Feel your way slowly and carefully, but don't be afraid to get your feet wet. Old-timers in the business will be glad to give you a helping hand. All of us wish you luck and happy landings.

Mission to be Accomplished

A group of ex-GIs at Northrop Aeronautical Institute give the low-down on the peacetime mission of training for a career

By Joseph W. Lewellen,
ex-Captain, AC

IT was almost like old times in the S-2 quonset on Northwest Field over on Guam. There I was surrounded by a crew, interrogating like mad, trying to get down everything the boys were saying. And they were "reporting" plenty—only, I am happy to say, their "observations" were on the peacetime mission of training for aeronautical engineering.

This was a "pick-up crew" from the student body of Northrop Aeronautical Institute, the fine technical institute operated as a division of Northrop Aircraft. All air crew positions were represented, and several former ground crew men were in on the "interrogation."

A friend of mine at Northrop had told me that about 80 per cent of the men enrolled in the Institute's engineering courses were Air Force veterans. That aroused my curiosity. Why were so many former AAF men attracted to aeronautical engineering careers? Did they have any special qualifications?

Hence the interrogation, herewith my "Report to Wing."

I should say right at the outset that I found a unanimity on one basic opinion: that aeronautical engineering offers a true profession and good salaries, and is a good bet for the man with useful AAF experience behind him.

As John Vitz, 24-year-old former B-24 navigator, told me: "I like aviation and engineering appeals to me. I was interested in aviation and aircraft before the war, and my service experience crystallized that interest to the point of investigating to determine the phase of aviation that seemed to offer the most opportunity."

The intensity of his interest is indicated by the fact that Vitz completed three years of petroleum engineering before the war. He thinks there is far more opportunity in aeronautical engineering, and wants to specialize in aerodynamic research.

Harold Fay, 27, ex-bombardier in the 458th Bomb Group of the 8th Air Force, says: "My wartime experience got me interested in planes." There is more in this statement than meets the eye. The instructors in the Institute told me that flying and maintenance experience aroused an intense interest in design characteristics, performance factors, and maintenance angles. Most of the AAF vets are nursing a burning ambition to design the "perfect plane."

Why so many Air Force veterans have been attracted to aeronautical engineering was answered in its most simple terms by Gerald F. Simonek, erstwhile B-24 radio operator in the 492d Bomb Group. Simonek says, "It's an interesting field and offers good opportunity." Gerald was a "Pre-Med" before the war, so you can see what a potent influence his flying experience exerted.

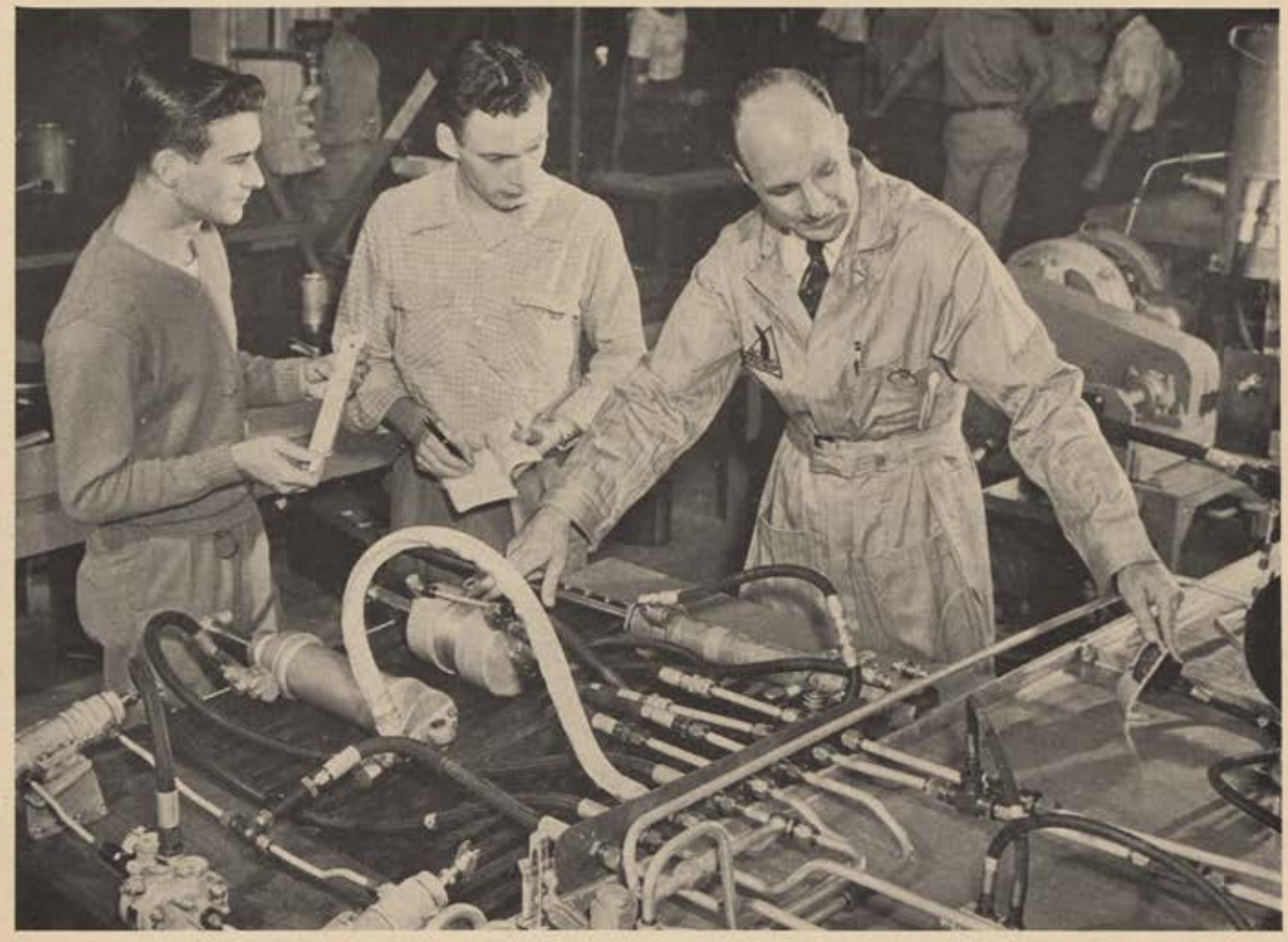
Most of the men I talked to had just about this approach to their choice of aeronautical engineering for a career. A few, mainly ex-pilots, want to combine their flying with engineering duties, planning to become flight test engineers.

All of the Air Force veterans at Northrop Aeronautical Institute are well qualified educationally for their chosen field. The school itself sees to that, of course. But, going beyond academic requirements, there are certain features of AAF experience of great practical value to a man in learning, in applying his knowledge to practical training assignments, and in making good after graduation.

As Mr. James L. McKinley, Managing Director of the Institute, told me: "All types of air crew and ground crew experience contribute greatly to grasping aeronautical engineering subjects, and to becoming a better engineer. Knowledge of aircraft structural details, performance, design, and flight characteristics, and maintenance problems helps the student interpret his daily study in practical terms."

Along this line, the AAF vets are continually finding bright spots in their study of aeronautical engineering, which is varied and intriguing, but takes diligent application. It is a happy moment when a man finds something "right down his alley" during a lecture or in a practical assignment. An aeronautical engineer must concern himself with all parts and systems of aircraft, hence it is easy to understand the elation

Two former AAFers, now at Northrop, inspect airfoil features on a guided missile model. They are W. S. Kofahl and G. J. Macbeth.



G. F. Simonek (left) and O. I. Foerstemann, AAF graduates, get a lesson on computing forces delivered by actuating hydraulic cylinders.

of ex-radio operator Simonek when he said, "Even my Air Corps training on electrical systems is a help to me."

Harold Fay, the former bombardier, chimed in, saying, "The trig I had in bombardier school has smoothed out a lot of rough problems." And McGinn, the former P-51 and P-38 pilot, declares that the Theory of Flight and Aerodynamics covered in flying school raised his ceiling of understanding "quite a few thousand feet."

All of the former Air Force men in the Institute have a keenly intelligent appreciation of the great value of their service training and experience. At the same time they realize that there are a great many holes in their knowledge of the math, science, and specialized subjects encountered in their aeronautical engineering course.

Glenn J. Macbeth, 28-year-old ex-gunner who chalked up 28 missions in B-17s over Europe, has not only a background of AAF experience, but also actually worked 4½ years in aeronautical engineering before he entered the service. First he was in engineering drafting and then became a liaison engineer. With all this wealth of experience he still wants to—as he puts it—complete his education. He says, "What I am here for is to get the training I need to step into work on actual engineering projects." This is the modestly ambitious attitude of most of the fellows.

How is the ambition of these men going to be rewarded? I asked Mr. H. R. Filson, Director of Engineering Training, about that. I was thinking particularly of specialization, such as a former pilot becoming a test flight engineer.

"There is that type of opening," said Mr. Filson, "but it represents only a small proportion of the many types of opportunities in aeronautical engineering for Air Force veterans. Other 'natural' fields for specialization are Design, Aerodynamics, Stress Analysis, Structures, and Performance Analysis.

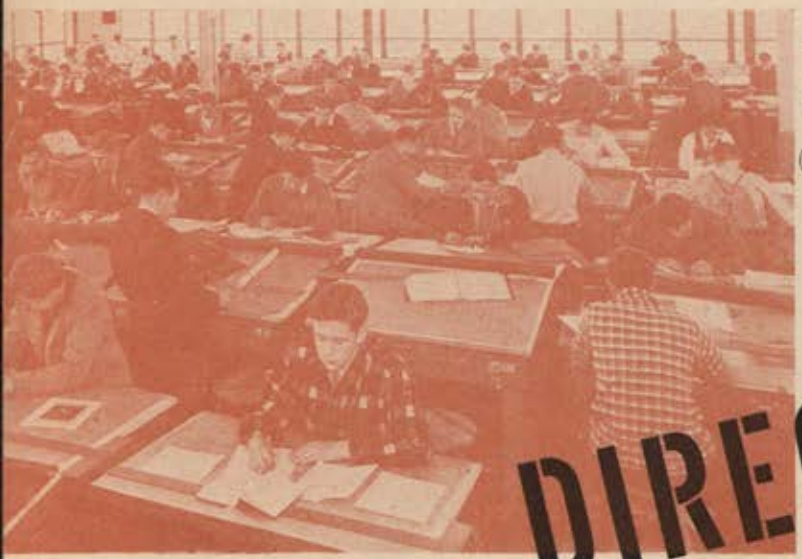
"The ex-pilot is keenly aware of design as it affects flying characteristics. The former flight engineer who has fought dials and controls knows well how design and performance dictate fuel consumption, speed, and range. The wartime crew chiefs, mechanics, and specialists who slaved to get planes in commission appreciate the maintenance factors to be taken into account. And for other crew positions parallels can be drawn."

"There is a general answer, also," continued Mr. Filson. "It is threefold: First, aviation industry employers show a preference for veterans. Second, in employing aeronautical engineering graduates they place a premium on men with aviation training and experience such as gained in the Air Force. Third, that experience gives a man the practical approach, both during his study here and in his later work. The Air Force veteran should make a better engineer."

In talking with Mr. Filson and other of the Institute officials I learned something of special interest to former AAF men. The airlines—not ordinarily thought of as major users of engineering talent—are expanding their engineering departments tremendously. Concerned particularly with performance and maintenance, the airlines are natural berths for men with the flying and maintenance experience gained with Uncle Sam. Also, judging by employment trends, they approve of the technical institute's practical type of training.

After all of my detailed interrogation I would say that my "Mission Summary" is as follows:

—There are many interesting and choice opportunities for AAF vet-aeronautical engineering graduates.
—They should get the better jobs.
—They should advance rapidly.
—They should wind up in coveted engineering positions.



These are the people who approve aeronautical schools for training under the GI Bill

(Compiled by the Veterans Administration, Washington, D. C.)

DIRECTORY of state approving agencies

ALABAMA
Mr. E. B. Norton
State Superintendent of Education
Department of Education
Montgomery 4, Alabama.

ARIZONA
Mr. E. D. Ring
Superintendent of Public Instruction
Department of Public Instruction
Phoenix, Arizona

ARKANSAS
Mr. Ralph B. Jones
State Commissioner of Education
Department of Education
State Capitol
Little Rock, Arkansas

CALIFORNIA
Mr. B. F. Enyeart, Chief
Div. of Readjustment Education
Department of Education
1121 South Hill Street
Los Angeles 15, California

COLORADO
Mr. J. Fred Thomas, Acting Secretary
Governor's Advisory Committee on
Veterans' Education and Training
230 Coronado Building
Denver, Colorado

CONNECTICUT
Mr. Franklyn E. Learned
Supervisor of Accreditation
Independent School and College Section
Department of Education
State Office Building
Hartford, Connecticut

DELAWARE
Dr. H. V. Holloway
State Superintendent
State Board of Education
Dover, Delaware

DISTRICT OF COLUMBIA
Miss Elise Z. Watkins, Secretary
Board of Education
District of Columbia
Franklin Administration Building
Thirteenth and K Streets, N.W.
Washington 5, D. C.

FLORIDA
Mr. Paul Eddy
Supervisor of Veterans Education
Department of Education
Tallahassee, Florida

GEORGIA
Capt. F. A. Sams, State Director
Veterans Education Council
Veterans Service Office
236 State Office Building
Atlanta, Georgia

IDAHO
Mr. G. C. Sullivan
State Superintendent of Public Instruction
Department of Education
Boise, Idaho

ILLINOIS
Mr. Vernon L. Nickell
Superintendent of Public Instruction
Springfield, Illinois

INDIANA
Mr. R. F. Robinson
Educational Director
Department of Veterans' Affairs
431 North Meridian Street
Indianapolis 4, Indiana

IOWA
Miss Jessie M. Parker
Superintendent of Public Instruction
Des Moines 19, Iowa

KANSAS
Mr. William W. Monypeny, Director
Office of Veterans' Affairs
Topeka, Kansas

KENTUCKY
Watson Armstrong
Director, Vocational Education
Department of Education
Frankfort, Kentucky

LOUISIANA
Mr. Charles B. Manning
Assistant State Supervisor of Trade
and Industrial Education in charge of
Veterans' Training
Department of Education
Baton Rouge, Louisiana

MAINE
Mr. Harry V. Gilson
Commissioner of Education
Department of Education
Augusta, Maine

MARYLAND
Mr. Thomas G. Pullen, Jr.
State Superintendent of Schools
State Department of Education
Lexington Building
Baltimore 1, Maryland

MASSACHUSETTS
Mr. John J. Desmand, Jr.
Chairman, Board of Collegiate Authority
Department of Education
200 Newbury Street
Boston 16, Massachusetts

MICHIGAN
Dr. Eugene B. Elliott
Superintendent of Public Instruction
Department of Public Instruction
Lansing, Michigan

MINNESOTA
Dr. Dean M. Schweickhard
Commissioner of Education
Department of Education
St. Paul 1, Minnesota

MISSISSIPPI
Department of Education
Jackson, Mississippi

MISSOURI
Department of Education
Jefferson City, Missouri

MONTANA
Miss Elizabeth Ireland
Superintendent of Public Instruction
State Department of Public Instruction
State Capitol
Helena, Montana

NEBRASKA
Mr. Wayne O. Reed
Superintendent of Public Instruction
Department of Public Instruction
State Capitol
Lincoln 9, Nebraska

NEVADA

Miss Mildred Bray
Superintendent of Public Instruction
Department of Education
Carson City, Nevada

NEW HAMPSHIRE

State Board of Education
Concord, New Hampshire

NEW JERSEY

Mr. John A. McCarthy
Assistant Commissioner of Education
Department of Public Instruction
Trenton Trust Building
Trenton 8, New Jersey

NEW MEXICO

Superintendent of Public Instruction
Department of Education
Sante Fe, New Mexico

NEW YORK

The University of the State of New York
The State Education Department
Albany 1, New York

NORTH CAROLINA

Dr. Clyde A. Erwin
State Superintendent of Public Instruction
Department of Public Instruction
Raleigh, North Carolina

NORTH DAKOTA

Mr. Arthur E. Thompson
State Superintendent of Public Instruction
Department of Public Instruction
Bismarck, North Dakota

OHIO

State Department of Education
Columbus, Ohio

OKLAHOMA

Mr. Milt Phillips, Secretary
State Certifying Agency
State Capitol Building
Oklahoma City 5, Oklahoma

OREGON

Mr. Rex Putnam
State Superintendent of Public Instruction
State Department of Education
Salem, Oregon

PENNSYLVANIA

W. W. Reynolds, Chief
Accreditment of Training Facilities for Veterans
Department of Public Instruction
Harrisburg, Pennsylvania

RHODE ISLAND

Dr. James F. Rockett
Department of Education
205 Benefit Street
Providence 3, Rhode Island

SOUTH CAROLINA

Mr. W. A. Schiffley, Director
Department of Education
Columbia, South Carolina

SOUTH DAKOTA

Mr. J. F. Hines
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Virgin Islands.

POST GRADS AT PARKS

(Continued from page 47)

Veterans also take part in the intramural sports competitions, in which trophies are awarded the championship tennis, softball, and handball teams. They also are active in the Cloud Hounds, a model club with a large, enthusiastic membership that builds power and scale models of all sorts of craft including helicopters.

Naturally, the largest organization on the campus is the Veterans Club, with more than 90 per cent of the enrollment eligible for membership. The vets sponsor parties and dances such as the May Day fête last spring when Washington University co-eds spent the afternoon taking rides in some of the college Ercoupes and dancing in the Assembly hall. Hunter is a former president of the club in addition to being a member of the Varsity Club, a forward on the basketball team, past president of the Sky Vets.

Another organization which, in addition to its serious work of student representation, also sponsors dances and social affairs is the Student Council, whose membership is elected from the student body every term. Hunter is serving his third term as council president.

From a GI's point of view, the school is fortunate in its location. There are at least a dozen girls' colleges within a 125-mile radius. One big social event recently, which combined aviation and entertainment, was a mass flight of girls from Stephens College, Columbia, Missouri. The gals flew to Parks in their college planes and spent the day as guests of Parks students.

But such diversions, while pleasant, are only for week ends and when studies are not taking up all the available time. The dean of the college, Oliver L. Parks, who founded it in 1927 and in the summer of 1946 gave all his holdings to St. Louis University so that the college became part of the oldest university west of the Mississippi River, is himself a veteran of World War I, having served overseas with the Marines. He may be accused of partiality, but he says:

"Veterans make decidedly above average students. The veteran has to put out more effort than the younger, direct-from-high-school student. He makes this effort and more, as the results indicate. He is a serious student, attentive and inquiring."

Parks was once the world's largest flying school. Graduates of its flight school now are captains with service awards for 10 and more years with Pan American, Chicago & Southern, TWA, American, Mid-Continent, and other airlines. But in recent years it has concentrated on developing its schools of aviation engineering.

Parks is the oldest federally approved aviation school in the United States and now holds CAA certificate No. 1 to prove its pioneer position. Among its hundreds of graduates are Howard Estey, superintendent of maintenance and overhaul of PCA Capital Airlines; William Manners, assistant superintendent of flight line maintenance of American Overseas Airlines; R. L. Proctor, chief flight engineer of TWA domestic routes; Joseph Szep, design engineer with Lockheed Aircraft, who worked on the jet-propelled Shooting Star; Donald K. Covington, senior flight test engineer with the Glenn L. Martin Co.; and William Vanderkloot, who was personal pilot of Winston Churchill during the war, flying him to conferences at Moscow and Casablanca.

When Hunter and other veterans complete their course at Parks they will have in addition to their diploma a B.S. degree, a CAA rating as private pilot and CAA licenses as airplane and airplane engine mechanic. They will be equipped not only for theoretical work in aviation engineering but also with a thorough, practical knowledge of the subject.

BILL OF FLIGHTS

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discussion in a short article. If you are interested in these categories, the best thing to do is to contact your regional VA office personally.

Of all the aeronautical training programs, flight training is the most popular. Of special interest in this connection is the new Flight Training Program adopted by the VA which will undoubtedly put thousands of ground and air personnel into the not-so-wide blue yonder of peacetime aviation.

Cognizant of the fact that GIs want a variety of flight courses, the VA order provides for five types of aeronautical schooling. The first, which should appeal primarily to 2,000,000 men who spent their time on the ground during the war, leads to a Private Pilot license. The second, which offers flying vets a chance for civil aviation jobs, leads to a Commercial Pilot certificate. The third and fourth courses may well produce the bulk of the enrollments, with Instructor and Instrument ratings respectively having wide appeal among thousands of Air Force men who already hold Private or Commercial tickets. Meanwhile, ex-fighter pilots are given an opportunity to expand their flying usefulness in the fifth course, which leads to Multi-Engine certification. In addition to these full flight courses, the GI Bill permits Partial Flight Courses for veterans who lack sufficient time and training to qualify for desired licenses, a Refresher Course for servicemen who have not kept their certificates current, and Class Rating Courses for the hundreds of license-holding veterans who want seaplane, multi-engine, or other additional class ratings.

From the veteran's standpoint little red tape surrounds the newly promulgated flight training program. Selection of a school is simple because the VA issues contracts only to those operators who have qualified equipment, instructors and training facilities. In like manner the VA sets up standards for the curriculum used by all schools insisting that operators specify minimum and maximum hours for ground and flight instruction, subjects to be covered, textbooks to be used, etc. Although $500 is the most the VA will pay for the average course, additional payments for longer courses are authorized when the operator schedules additional weeks of training prior to enrollment by the student. And in all cases where CAA examination, medical examination, identification photographs and similar incidentals are normally included in the operators' charges for civilian flight instruction, the VA also pays for these items for the veteran student.

That the GI who enrolls for flight instruction can be reasonably certain to win his civilian wings is best demonstrated by training programs recommended by the VA. In the suggested curriculum, ground instruction prior to the first dual flight includes airframe, engine, control, instrument, radio, throttle, brake, fuel system familiarization; instruction in ground and air safety procedures; and cockpit practice. Prior to solo flight, the student also gets instruction in starting and propeller swinging procedures; warm-up and stopping of the engine; aircraft line inspection and parachute technic. Actual dual flight instruction covers all ground maneuvers; straight and level flight; medium, gentle, and steep turns; climbs and climbing turns; glides and gliding turns; rectangular course; S turns across a road; power-on and power-off stalls; spins; pylon 8's; cross-wind technic; landing and take-off. When suitable landing areas are available, forced landing instruction is also included in the course. Accompanying ground school courses are equally comprehensive. Ten hours study in meteorology, ten hours in aerial navigation, five hours on Civil Air Regulations, and five hours on general aircraft service add up to flight preparation which few civilians can afford.

TO SECURE PEACE

(Continued from page 13)

to the world. Can an Air Force career measure up?

First, it is only frank to say that the Air Force offers no man a fortune. The Air Force has no place for and does not want a man whose primary aim in life is amassing a fortune.

The Air Force offers and will continue to offer every opportunity for a man to advance as rapidly as possible. The basis for that advancement, as nearly as it is humanly possible to make it, is and will remain individual merit and achievement.

The Air Force has established and will establish many schools in various types for training Air Force men in the subjects peculiar to the service. Over 200 skills are taught in the AAF Technical Schools and on the job. Here the student masters both the theoretical and the practical aspects of the field of study and gains a mastery of the specialty. All the Technical Schools are completely equipped with the very latest equipment, instruments, and machinery. The instructors are experts in their fields and are assisted by all the necessary training aids. Their training methods are the best that Air Force and civilian experts, working jointly, are able to discover. To the man desiring to continue his general education there are available over 200 courses in a wide range of subjects from elementary to college level offered by the U.S. Armed Forces Institute. Off-duty classes are arranged and supervised by the Information and Education Officer and appropriate scholastic credit may be obtained in accredited schools for courses completed.

Through the medium of the Air University, the Air Force is about to begin an instructional program for basic tactical training as well as advanced strategy and logistics. The Air Forces Institute of Technology functions as a part of this university structure. This program will give Air Force officers and men an unexcelled opportunity for scholarly enterprise and will develop procedures for selecting men with special aptitude or possessed of outstanding intellectual ability for further training. Such men will be given one or more years' training in the outstanding universities, schools, and laboratories of the world.

There is little question as to the security offered by an Air Force career. And where can a man make a larger contribution to society than in devoting himself and all his energies toward safeguarding that society from its enemies? Truly the Air Force man devotes himself solely to safeguarding the peace of the world. Can there be a higher aim in life, a more satisfying career?

CORNER STORE

(Continued from page 33)

On the other side of the picture, the small-scale operation can be attractive and profitable if some ingenuity is thrown in with the capital. At Mattituck, Long Island, Parker Wickham, former maintenance chief at the AAF's Polaris Flight School, is operating a cameo-sized setup devoted exclusively to the servicing of light airplanes.

Wickham's field consists of a single strip, 200 feet wide and 2,500 feet long, faced into the prevailing wind. This land is rented on the basis of its former potato production. It was graded carefully and special airport-mixture grass was sown on the surface.

Wickham's hangar is one of the oldest buildings currently housing aircraft. A former cow barn, it is old enough to have been involved in a mortgage litigation 140 years ago. By incorporating into the roof structure a series of home-built trusses, designed by his brother, Hull M. Wickham, an engineer on leave from Douglas Aircraft, the barn was converted into a free-floor structure 64 feet by 62 feet, with conventional rolling tracked doors added. Wickham's shop is unique. The building was once a livery stable, situated on the other side of town. Since the usefulness of such an establishment is long past, Wickham was able to buy the structure plus the land for only $1,370. An old Reo truck chassis was converted into a dolly. Then the building was cut into four sections, moved a piece at a time to the new site, set on a pre-positioned foundation and assembled.

It was Wickham's original intention to operate only hangarage and service and light plane repairs from his shop. But as interest and inquiry grew, an Aeronca trainer was purchased and former WASP Elizabeth Joost came on to instruct an increasing number of students. At this point Wickham got an Aeronca dealership and, as students began to solo, a second plane was acquired to accommodate them. The operation is new, but so far it represents a total outlay of only $25,000, most of which is in tangible assets. It is typical of the small operation that can grow. Wickham's mechanical employee is a former 7th Bomber Command engineering officer, Lt. Charles E. Sanford, taking on-the-job training to augment his Army maintenance experience.

Fixed-base operations have more in common with everyday retail business than any other single branch of aviation. And like the corner grocery store or the garage down the block, it provides employment for those seeking jobs, and for the air veteran who wants a crack at being his own boss.

FAST LEAGUE FOR BTOS

(Continued from page 37)

ministration. There's a good possibility that a new airline somewhere is looking for a man to fill that kind of job.

This is a plea for Air Force veterans to do some flexible thinking on the subject of their rôle in commercial aviation. For example, just about the hardest placement problem of the whole lot is the fighter pilot. Nobody in the world was ever happier to see a fighter pilot than I. But that was when I was in a B-24 and he was in a P-38. We're still happy to see the peashooter boys but we can't give them jobs as transport pilots right off. In the meantime there are jobs available for them in other activities. We have room for aces here and my bet is that the other short-haul airlines do, too. There are jobs for them in operations and in traffic where their aeronautical know-how will come in mighty useful. The all-round training and experience gained by a pilot in the AAF can be valuable to an airline in many of of its varied functions. The same thing goes for the men who served in administrative capacities in the Air Forces. There's room for them in purchase and personnel, just to mention a couple of departments. As for the mechanics, we can use them as is, after a short period of training in our own methods and procedures.

When a man goes to work for one of the newer airlines, he's practically starting with the organization. None of us commenced operations until after V-J Day, and for most of us operations didn't start until some time after that. Aviation is a young industry, but the short-haul branch of it is brand new. A man hired to do a job today may find himself the head of a department some short time hence.

When the war ended, we were left with stock piles of billions of dollars worth of materials that were left over and surplus to the needs of the government. But much more valuable than all that surplus property is the net worth to commercial America of all the training lavished on her young men. And nowhere is that training more readily convertible to civilian use than in aviation. The short-haul airlines in bringing air transportation to hundreds of communities to which it would otherwise be denied are ready to make good use of that training to nourish the US commercial bloodstream.

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