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CIVIL AERONAUTICS ADMINISTRATION, LOS ANGELES, CALIFORNIA

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THE JOB OF A RADIO INSTALLATION ENGINEER

In the April issue of the Sixth Region News, the Administrator outlined the electronics installation and development program for the next few years. As you will remember, he pointed out that the CAA is engaged in installing omni-directional ranges for more effective air navigation; instrument landing systems and radar systems which permit the pilot to land and take off safely under weather conditions which would normally prohibit such landings or take offs; distance measuring equipment (DME) which is for the purpose of keeping the pilot constantly informed as to his radio distance from the point in reference; VHF voice transmission and reception which avoids static previously a handicap in radio communications and represents a tremendously improved safety factor. These are all devices which, the Administrator pointed out, the CAA is presently engaged in installing in the Federal Airways System. To most of us, the devices enumerated above mean only that flying in the immediate future will become safer and that airline schedules may be maintained with reduction of the irritating delays due to weather.

To the Radio Installation Engineer, however, these devices represent his daily problem, since he is the individual who must surmount the multitude of technical problems which always attend the installation of a new device. It is one thing for you and me to sit back and think about the installation of new electronics equipment, but, of course, it is a completely different problem to the man who has the job to do.

Frequently, the first notice that a Radio Engineer receives of his particular assignment is through a work order which directs him to proceed to a certain site and which informs him of the type of facility he is to install and authorizes him to hire the local labor required to do the job.

He is given a schematic drawing of the equipment to be installed and, in many cases, this drawing is his



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first introduction to the equipment. This occurs because of the speed with which new electronics equipment is being designed and installed so that there is not always time to thoroughly indoctrinate the Radio Installation Engineer in exactly what the new equipment looks like and how it should be installed.

His site may be conveniently located on a major airport or inconveniently located on a mountain peak, reached only by tortuous roads. Like the mailman, neither rain nor sleet, snow nor hail, shall his schedule interrupt.

When he arrives at the site, his first problem is to make sure that he has all the equipment on hand necessary to do the job. This equipment has been shipped from many points within the United States, including a bill of materials from the Regional Warehouse, supplementing those items not provided under the national contract.

He generally finds that the building which will house the electronics facility is complete upon his arrival and his first task is to identify the component parts of the equipment in terms of his schematic installation diagram. If that sounds like a headache to you, think what it means to the poor man in the field who actually has to do it. Not infrequently, some of the components essential for the installation are not in the shipment and this requires a flow of correspondence to induce the proper sources to come through. Meanwhile, the days allotted for the installation are passing and the Radio Installation Engineer is beginning to get concerned as to whether or not the deadline will be met. He knows that if he fails to meet both the time and the funds restrictions, further correspondence will be encountered with the Regional Office.

From this point on, the installation is a matter of following the schematic diagram and, in effect, building the electronics device from the ground up. For example, on an omni-directional range, the Radio Installation Engineer will build the equipment from approximately 20 component assemblies. In so doing, he will have to make approximately two to three hundred wiring connections. Some appreciation of the complexities of this type of work can be reached if you think back over your difficulties of fixing the ironing cord which only involves two wires at best; or trying to remove the five little tubes from your radio set to take them to Sears and Roebuck and have them tested. It is always possible for the Radio Installation Engineer to put the right wire on the wrong terminal and when two or three hundred such connections are involved, his frustration when he tries to check out the circuits can well be imagined.

The Radio Installation Engineer must constantly exercise minute care in every action in order to avoid mistakes that will prevent the equipment from operating in the manner intended or a flash and metal puddle of a former skillful assembly.

The "crucial moment" arrives when the Radio Installation Engineer completes his assembly and is ready to "heat up" the range and begin the tuning process. Not infrequently about this time, he receives a frantic dispatch from the Regional Office saying that a modification of the installation has been approved by Washington and it is necessary to change the installation in some manner. About this time, the Radio Installation Engineer has a quiet talk with himself and proceeds to carry out the directive.

The tuning up process, once assembly is complete, is by no means a simple operation. Because of the newness of much of this equipment, theory and actual operation tend to clash at this point, resulting in numerous bugs, which, while they don't crawl, are a slight inducement again for the Radio Installation Engineer to go into a corner and repeat some phrases! Sometimes at this point, it is necessary
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REGIONAL ADMINISTRATOR'S COLUMN

SPENDING THE GOVERNMENT DOLLAR

We have just completed and submitted to Washington our Budget Estimate for Fiscal Year 1951. We have also completed and submitted to Washington our proposed fiscal program for Fiscal Year 1950. The fiscal program, as directed by Washington, was based on the amount of funds recommended by the House Appropriations Committee. If the Senate applies a further cut to the appropriation

recommended by the House, reductions will necessarily have to be made in our fiscal program as submitted.

The fiscal program as we submitted it represents our best analysis of our essential needs for the next fiscal year. When the appropriation has finally been passed by the Congress and the allotments are made to the Regions, it will be our joint responsibility in the Sixth Region to administer our activities wisely and expend the funds judiciously. In this connection, I sometimes wonder whether or not all of us keep continually in mind a full realization of where these funds come from. They certainly do not come from any magic source. They come from you and me and all the other taxpayers. Actually then, it is our own money that we are spending, and we should continually keep this fact in mind. Try applying the rule to a proposed expenditure in your own area of responsibility and ask yourself: "If I were spending my own money would I recommend this project?" I do not mean to infer that we should do our job cheaply in the sense of skimping. It is wise to expend a sufficient amount to avoid expenditures of larger sums at a later date. In other words when we have a permanent installation, we should construct permanent rather than temporary establishments. Again this is not always as completely possible as we should like in view of occasional directives to proceed even though available funds are limited. Of course, the matter of planning and programming is also involved. Our programming should be based on the best available experience and knowledge so that changes and relocations are held to a minimum. We have made some improvement in this area of endeavor, but there is always room for more improvement.

We should all strive to see that the Government gets the greatest possible value for the money which we expend. This also applies in the area of personal services. Each of us as an employee of the Government should contribute our maximum effort to the cause of CAA in return for the compensation we receive. Let's therefore work together on the judicious use of funds which Congress makes available to us to build and maintain a better CAA and thereby discharge our full responsibility to all the taxpayers including ourselves.

AVIATION INDUSTRY SERIES

The following article is the first of a series which will deal with the aircraft industry in the Sixth Region. The purpose of these articles is to describe the operations of the various segments of the industry and their relationship to our activities. We plan to include articles covering the scheduled and non-scheduled air carriers, manufacturing activities, the Los Angeles area helicopter service, etc.

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THE FLYING TIGERS

Ask any of the boys who are piloting The Flying Tigers' airfreighters today and they will tell you "Nothing interesting ever happens". "It's all routine stuff".

Actually, there is a lot more to this "routine stuff" than appears on the un-garnished surface, but, of course, to the members of General Chennault's ex-Flying Tigers, who sprouted their embryo airfreight wings over the rugged peaks of the Himalayan Hump, the business of freighting uncrated furniture, strawberries, animals, aircraft engines and a hundred other items of freight is relatively routine.



LOADING AIR FREIGHT - FLYING TIGER LINE

Since June 25, 1945, when the first post-war Flying Tiger lifted his civilian freight-laden Conestoga off the runway at Long Beach to pioneer a new all-cargo service between the Pacific and Atlantic coasts, the company has transported millions of tons of freight to all parts of the country, graphically demonstrating a modern success-story.

Shipments that were first flown as "emergencies" now appear regularly on the manifests. Produce that was once labelled "samples" from

California, are now part of the regular diet on Eastern tables. The Tigers' airfreighters have become flying warehouses for the daily requirements of Pacific Coast garment retailers. Baby chicks that could only travel to over-the-road points that were twenty-four hours from the hatchery today are crossing the continent and oceans in the same time, covering vast distances by airfreight. Telephone companies, television stations, business machines corporations have come to regard the Flying Tiger service as their normal medium of transportation.

The seven original Budd Conestogas, with which the company started, were soon outmoded and were replaced with the more efficient Douglas C-47's which, in turn, proved to be inadequate to haul the ever increasing loads of new airborne merchandise. Today six Douglas C-54's and three C-47's are providing the Flying Tigers' customers with daily service between Los Angeles, San Diego and San Fran-

cisco on the West Coast and Kansas City, Chicago, Detroit, Cleveland and New York in the East.

With the recent certification by the Civil Aeronautics Board, the Tigers plan to provide regular service to a great many other centers necessitating expansion in personnel and additional equipment. The one-room office at the Long Beach Municipal Airport, with Mrs. Bob Prescott acting as "staff" has mushroomed into a nation-wide network of offices. Interline agreements have been negotiated with foreign flag carriers K.L.M. Royal Dutch Air Lines, Philippine Air Lines, Scandinavian Air Services and Pan American Airlines, enlarging the Tigers' scope of service to a world-wide operation. The Tigers' payroll climbed to 1,725 employees in 1946 when they obtained a contract to fly personnel and equipment for the A.T.C. between the Pacific Coast and Tokyo, Honolulu, Kwajalein and Guam.

With the termination of this contract in 1947, the company retained its maintenance equipment which today forms an additional source of income with contracts for maintenance and overhaul work on privately owned aircraft and aircraft purchased by foreign governments from U. S. manufacturers.

Tightly planned scheduled operations do not deter these versatile cargo carriers from taking on additional jobs for emergency flights. As in the old days of 1945, they still contract for extra charter flights.

On a recent Friday, Bob Prescott, president of the line, received an urgent call from Washington. A large shipment of German-raised guinea pigs was being held at Westover Field, the army base in Massachusetts, waiting shipment by air to Tokyo. Could the Flying Tigers handle this emergency freight and get it to Tokyo in express time?

The off-scheduled points to be served and the nature of the flight required special permits from the CAA. Coincidentally, Hugh Brewster, CAA District Coordinator at Burbank was in Prescott's office at the time the call came in. Sizing up the situation, Hugh quickly set the wheels in motion. The necessary permits were obtained and, due to the fast cooperation of the CAA, the following day, Tiger captains Ralph Heddon and Jim Vincent with two C-54's were dispatched from the Army field with 6,000 lbs of guinea pigs and 6,000 lbs of cabbages aboard each ship. This was Saturday.

With brief stops at Kansas City for crew-changes, these little pigs, together with their cabbage menu, were taken in charge by captains Herb Wall and Walter Hurley for the flight to Anchorage, Alaska. Instructions required that temperatures in the planes must be kept between 45° and 60° and that altitudes must be maintained below 10,000 feet - two hours at 10,000 feet would be fatal to the entire cargo. Four hundred and eighty guinea pigs had to be fed en route and between Westover Field and Anchorage, they consumed 1,000 lbs of cabbage.

With a third crew aboard these little pigs that went to Tokyo were delivered with only two casualties, on Monday afternoon and apart from the fact that they lost one day crossing the date line all passengers reported more than satisfactory service. In fact the trip was so fast that unlike the case of a shipment of Chinchillas, no scheduled "blessed events" had time to take place.

The crews reported, however, they encountered another type of technical problem. Original shipment received was 6,000 lbs of guinea pigs and 6,000 lbs of cabbage. With the pigs eating the cabbage, just what was the gross payload upon arrival?

The brains behind this tremendous endeavor are provided by the boys who learned what could be done with keeping supply lines open in the hazardous days of the war. Harrassed by Jap fighters, they flew hundreds of trips over the Himalayan Hump to carry military supplies from India to China.

Bob Prescott, president of the line, is credited with six enemy aircraft downed while flying P-40's under General Claire Chennault and over 300 trips over the Hump carrying supplies; Bill Bartling, Vice-President, downed nine enemy aircraft and made 450 flights across the Hump; Robert P. (Duke) Hedman, Vice-President and captain, became America's first Ace of World War II when he shot down five Jap planes on December 24, 1941; Tommy Haywood and Cliff Groh, captains on the airfreight line, flew in the same squadron as Duke Hedman and are credited with over 400 trips each over the Hump. Leon Colquette, leadman in the Flying Tiger maintenance department, was a crew chief throughout the China operations.

On June 24, 1949, these boys who put their money and faith into a brand new idea and pioneered it through four years of hard work and discouragement, overcoming almost unsurmountable obstacles, and to whom "nothing interesting ever happens" will be launched into their second phase of this operation - flying airfreight route 100 under C.A.B. official sanction.

THE AIRPLANE AS A FARM IMPLEMENT

The following article is an excerpt from a speech of Senator Elmer Thomas, from Oklahoma.

* * *One of the most serious problems facing our Government today are the matters relating to the tremendous problems of soil conservation and restoration. The airplane as a new farm implement will exert a mighty influence in the solution of these problems as well as many other problems in agriculture. Let each of us consider the picture familiar in our minds of the non-productive farm lands in our respective States. In my fine State of Oklahoma we are unfortunate in having over 10,000,000 of our 35,000,000 acres of agriculture lands rendered nonproductive by the invasion of useless brush. This growth is a result of the disturbance of the balance of nature and its growth is accelerating at an alarming rate. Something must be done to solve this problem. One of the most recent answers seems to be in the proper application of the very highly potent hormone type chemical. And since the majority of our nonproductive lands, as a rule, are in the more rolling terrains, the airplane has a very definite use in the application of these chemicals which cannot be properly applied from ground sprayers due to the brush growth and rough contours. Satisfactory progress has already been made in the brush-control problem through the aerial application of agricultural chemicals now being developed. It is possible and logical to control this brush invasion with the airplane and the new chemicals in a period of five years, but without the new chemicals and the airplane it would take us over 200 years to solve this problem alone. Now, of course, the actual control in the growth of brush is not alone sufficient. We must then reseed the soil into legumes and native grasses which nature had previously carefully selected and adapted to the locality, or the new plants which have been proven most useful by chemurgy.

There has also been developed a pelletized seed which has been sown by airplane on several hundred thousand acres in the past three years. These pellets are made of suitable soil and contain the right number of seeds. Also, in each pellet is a fertilizer element, an insect, bird and rodent repellent. The seed will germinate with only a little moisture. These added materials give the pellet sufficient weight that it will stay where it falls, and although some of the pellets may rest upon soil of low fertility there is sufficient soil and fertilizer to germinate the seed. Satisfactory progress has been made in this respect. Considerable emphasis has been placed upon a program clearly outlining the need of good farm management programs which when complete should assure permanent productivity of millions of acres of agricultural land returned to this country as a gift from our acceptance of the airplane as a new farm implement. In the rich and fertile coastal plains of Texas and Louisiana far-sighted young men in both agriculture and aviation have used the airplane as an implement in planting, fertilizing, and weed control of their rice crops. In 8 hours of flying one airplane can plant or fertilize or control the weeds in 1,500 acres of rice. On the West Coast, approximately 80 percent of their entire rice crop is planted, fertilized, and weeded with the airplane. The airplane is most efficient as an implement for the control of weeds and insects in every crop in every section of our land. It will be used extensively this year, and it is the duty of all concerned to see that the mistakes will be lessened by the research and experimentation work which has barely started in the fields of chemistry, agriculture, and aviation.

It is also quite logical that the spread of malaria, and we have a serious malaria condition in this country, despite our public health standards, can be stopped in a matter of minutes, since mosquito control is within our grasp through the aerial application of the new insecticides.

We must recognize the great amount of damage done annually by grasshopper infestation, which requires fast and effective control. The airplane, by the distribution of poison bran spread in their paths, can stop them in their tracks in a matter of hours. Any other disease-carrying insects can be eliminated through the use of selective chemicals which we now have, and with the help of the airplane this material can be quickly applied over huge areas.

These are merely a few of the uses of this new farm implement. Other services the airplane is performing on the farm today include plant pollenization, crop defoliation, forest patrol, patrolling fences, checking cattle, aerial photography, and mapping. During this last winter the airplane gained many friends as a means of emergency distribution of foods, medicines, and attention for both the farmer and his livestock. The airplane is used extensively in game survey, forest-fire fighting and jobs around the farm.

No doubt one of the greatest social changes which has been wrought by the airplane is the elimination of rural isolation for many farm and ranch families. The airplane has joined the radio and the automobile in this great revolution, and to illustrate, there is a small aggressive town in the State of Kansas, of approximately 750, in which the town dads, mindful of the hitching posts that used to line both sides of the street, dedicated one street to airplane parking.

Flying farmers and ranchmen have been so using this street since the summer of 1946. It is not unusual to find this modern farm implement, the airplane, parked on a side street, in front of the grocery store, the bank, the lumber yard or restaurant. A few minutes from their home and the farmers are in town, have

the supplies loaded and are on their way back,

That is what I mean by recognizing that the farmer has welcomed the airplane as a modern implement with his open arms, and the result cannot help but be a more satisfactory and useful and productive agricultural industry, so necessary to the well-being of this country and the world.* * *

WHO'S WHO

Charles S. Benson, until recently District Airport Engineer, Prescott, Arizona, has now been assigned as Acting Chief of the Airport Engineering Branch. He replaces Mr. Philip Hahn who was recently transferred and promoted as Chief of the Washington Airport Engineering Service.

Personal Hi-Lites: Charlie was born in Hazelton, North Dakota some 37 odd years ago. Still beats a path annually back to his native North Dakota. One of his favorite past times is declaiming in Scandinavian dialect. Home mechanics and woodworking are his principal hobbies. Married Marguerite Josephine Hamilton of Amarillo, Texas, so consequently, must make annual migration to the Texas plains.

Education: Graduated from high school in Bismarck, North Dakota in 1931. After odd jobs as a fuel laboratory assistant with the North Dakota Regulatory Department enrolled in North Dakota State College at Fargo in 1935. He received a Bachelor of Science in civil engineering in 1939.

Vocational Career: Performing engineering assignments in the Regional Office will be nothing new to Charles Benson. In July, 1942, he was assigned as an Airways Engineer in the Santa Monica headquarters. Continued on various engineering assignments in the Airways Engineering Branch until July, 1946. Because of his recognized engineering ability, the methodical and deliberate engineer was selected for an Arizona assignment as District Airport Engineer. Was drafted for his present assignment to fill the gap left by Mr. Hahn's transfer.

AVIATION SAFETY AGENT INVOLVED IN AIRCRAFT ACCIDENT

Flight Test Engineer Maurice Bernhard escaped injury in an aircraft accident which occurred on the runway of the Belmont Airport, Fresno, California, on May 23, 1949. Mr. Bernhard had just completed flight testing, for 10% overweight and 25% c.g., a Cessna 120 belonging to the Carberry Crop Dusters of Fresno. He was making normal approach to the small privately-owned airport when his right landing gear wheel caught the telephone wires which border the airport in the SE approach. Mr. Bernhard did not observe the wires, prior to being directly over them, since the telephone posts to the left and the right of the approach path were partially obscured by trees.

The aircraft sustained damage to propeller, cowling, fuselage and right landing gear.

Question Box



Q. What documents require coding?

A. All documents which cause the expenditure of funds should be coded to indicate the appropriation, objective classification and organization chargeable. Care should be taken to see that this information is shown on all documents, otherwise incorrect charges will result. You will be more generally concerned with the objective classification 07 - Other Contractual Services - and 08 - Materials and Supplies, which are shown on Page 3, Attachment A, Administrative Order No. 250. By reference to this attachment, you will note numerous minor distributions under these objective classifications. These are self-explanatory and if there is no specific sub-classifications within this group for the service or supply, the general code should be used. If the expenditure is under the appropriation EANF, the appropriate project code should be indicated.

Q. Why are mandatory contracts issued?

A. In order to obtain better price discounts, and to insure availability of the item. For example, a 600 x 6 ply tire costs \$10.45, plus tax, under mandatory contract, whereas it costs \$20.75 plus tax, on the open market.

Q. Is it possible for an individual to receive a Civil Service Annuity and Social Security benefits at the same time?

A. Yes. These payments are made under different laws and are based upon different periods of service.

Q. What constitutes "total Disability" under the Retirement Law?

A. Inability of the applicant to perform his duties, or the duties of a similar position to which he could be assigned, satisfactorily and efficiently because of disease or injury. It need not be shown that the applicant is disabled for all kinds of work.

Q. Is deposit in the retirement fund required to obtain full credit for service during which the employee was not subject to the Retirement Act?

A. The law allows service after August 1, 1920, to be credited for computation purposes without deposit, but stipulates that if deposit is not made, the employee's annuity shall be reduced by one-tenth of the amount of the required payment.

PERSONALITY OF THE MONTH

This time, let's take a quick look at one of the truly "old time" employees of the Administration, Caretaker Otto F. Harlow.

Like other Caretakers, he has another job besides that of Caretaker, but includes the servicing of the Knolls, Utah emergency landing field along the San Francisco and Salt Lake City airway on his weekly vocational menu. Despite the fact that he has passed his 75th birthday, he is still active in discharging his work assignment and capably climbs the tower on schedule to service the beacon.

Mr. Harlow began Federal employment as a Caretaker at Bosler, Wyoming in June 1923 with the airmail service, then under the Post Office Department. When certain functions of the airmail service were transferred to the Department of Commerce in 1927, Mr. Harlow went right along. Despite his regular job as Postmaster at Bosler from 1922 to 1932, he was able to continue his caretaking functions.

In addition, his duties require that he be on call at all times to make necessary weather observations in the area.

The Job of a Radio Installation Engineer (Continued from Page 2):

to call for help from the Regional Office, particularly from the Radio Engineers who have specialized in this type of equipment. After a long or short interval, depending upon luck and a high degree of skill, the facility is finally ready for commissioning by the Flight Inspection Staff.

Johnny Campbell and his crew flight check the facility while the Radio Installation Engineer sits on the ground and holds his head hoping for the best and expecting the worst. In almost every installation, deviations from the normal standards of operation are indicated in the first flight check and it is then necessary for the Radio Installation Engineer to make corrections in the tuning, or the actual installation, to overcome these errors. To do this, he sometimes has to trim the transmission lines by increments of 1/16th of an inch to obtain proper reflected impedance to correct some of the discrepancies. (Are you still with us?) In the installation of the Las Vegas visual oral range, for example, it required weeks of bug extermination before the equipment was finally commissioned. It was even necessary to erect a wooden scaffold with Uskon cloth on it (a fancy kind of cloth put out by the U. S. Tire and Rubber Company which has a special impedance characteristic which absorbs radio signals). This brilliant idea, however, did not spring up overnight, but occurred after almost every possibility and impossibility had been exhausted. When finally completed, the Las Vegas range looked not unlike something out of the Arabian Nights, but it worked.

The watchword of the Radio Installation Engineer is care in following instructions (sketchy as they may be) together with an almost inexhaustible imagination to figure out what might be keeping the darn thing from working. Like all CAA activities, paper work is an irrevocable part of the Radio Installation Engineer's job. After he has completed his installation, property lists, meter readings, reports to the Regional Office and to Washington, final drawings, etc. are all a part of his problem. This is the phase of the work which he loves the best!!!!

Offhand, it sounds like this engineer must be a very frustrated individual, but, as a matter of fact, most of them like their work and find the daily challenge in working out bugs to be stimulating. There is an intense satisfaction of finally getting a job completed despite the seemingly impossible obstacles. Without men such as the Radio Installation Engineer, the implementation of the Federal Airways System would be a myth, not a actuality. He is only one small part of a long chain of events leading to the final operation of a facility, but you can readily appreciate that he cannot be the "weakest link".

NEW POWER GLIDER DEVELOPED

A speciality company in San Leandro has developed a new model powered glider to be known as the Hummingbird. It is a two place glider equipped with a retractable 34 HP engine. The Hummingbird is a development from the specialty company's original model, the Dragonfly, a powered glider which was certificated in the 6th Region in 1947 as a "glider with auxiliary power".

When the Dragonfly was undergoing certification, there was considerable discussion as to its genus, whether it was "fish or fowl" - airplane or glider. It was finally decided that it was primarily a glider, even though, having a power plant, it could fly like an airplane.

The Hummingbird with its retractable power plant and retractable landing gear, will be even more "gliderish" than its predecessor. The propeller in the Dragonfly caused considerable drag which increased its sinking speed thereby making it necessary to find more potent thermals than for standard gliders for good gliding.

The Hummingbird has a much smarter appearance than the Dragonfly. The stove-pipe tail boom is replaced with a conventional fuselage from cockpit to empennage and the whole aircraft has the sleek, streamlined look of a jet job. The engine and propeller are mounted on a retractable engine mount. When retracted, they nest completely within the fuselage. For take-offs and climbs to soaring altitude, the power plant extends upward on the top of the fuselage. Extension and retraction of the power plant can be done by a hand crank or by an electric motor.

The engine is an improved version of the one used in the Dragonfly. The new engine develops 34 horsepower compared to 28 horsepower for the original. It is a high speed, four cylinder, two cycle engine weighing less than 50 pounds. The engine has the characteristic of always stopping with the propeller in the same vertical plane. This facilitates retracting the propeller within the fuselage since it never has to be turned after stopping to get it into position for retracting.

The aerodynamic characteristics of the "Bird" have been improved over the "Fly". The sinking speed will compare favorably with any sailplane.

It is believed that the powered glider will revive interest in gliding as a sport. No longer is it necessary to use an auto and a tow rope on an abandoned airport or open field, or a spring launching device from the brow of a hill. The aircraft simply extends its little power plant and flies off any airport like any airplane, much like a sailboat with an auxiliary motor can take off from its moorings in a windless harbor and proceed under motive power to the sailing area. If the thermals give out, the pilot extends the power plant, cranks it up by a hand-pull starter (or by an electric starter in the de-luxe version) and flies home or to

the other side of the hills where more thermals are to be found. If you consider how much the auxiliary motor adds to the overall satisfaction of sail boating in providing auxiliary power when needed, but without detracting from the sport of sailing, then you will see that auxiliary power in a glider provides the same essential service for the air sailor.

It is estimated that the retail price of the Hummingbird glider will be between \$5,000 and \$10,000 - \$5,000 if they can manufacture and sell without going through the type certification program; \$10,000 if Type Certification program is to be followed.

Sailing is definitely a sport, otherwise why do so many people have sailboats instead of power boats. The same can be true for gliding. It is definitely sport flying, and, since with the powered glider the hard work of "getting to and getting from" is eliminated, the interest in this sport should be revived.

TYPES OF PERSONNEL APPOINTMENTS

As a result of numerous inquiries, an explanation of the meaning of the different types of appointment is furnished for the information of field personnel.

Generally, the types of appointment given to personnel in CAA may be separated into three categories:

1. Competitive (or permanent)
2. War Service Indefinite
3. Temporary Indefinite

A Competitive Civil Service status is ordinarily acquired by probational appointment through competitive examination. It may be granted by statute or executive order. Employees who were given probational, probational indefinite or probational indefinite (emergency) appointments automatically acquired a permanent status at the completion of their first year of continuous service.

The War Service Indefinite type of appointment is applicable to those employees who were appointed March 16, 1942 through March 7, 1946. Employees on duty on March 16, 1942 who had otherwise not acquired a probational or permanent status ("temporary" employees) were automatically converted to War Service Indefinite appointments.

A Temporary Indefinite appointment is that type which has been given to those employees appointed since March 7, 1946, who did not otherwise obtain their positions through a competitive Civil Service examination.

Those employees serving under War Service or Temporary Indefinite appointments are required to undergo a competitive examination as prescribed by the Civil Service Commission before conversion to a competitive appointment. In order to be converted to a permanent status, it is not only necessary to successfully pass the appropriate examination for their position, but also obtain a mark high enough to bring them within reach on the established list of eligibles.

Employees who are originally appointed from a competitive Civil Service examination are employed on a probational basis for one year.

Any employee who receives other than a probational appointment must subsequently undergo a competitive examination before his appointment can be changed to competitive (or permanent) status. For those employees who have not completed at least one year of service and become eligible for conversion to permanent status through examination, a personnel action will be processed which reads: "conversion to probational status", with a notation as to when the probational period will be completed. Continuous time within the same agency which has been served in a War Service or Temporary Indefinite category will be credited toward the completion of the one year probational period.

For those employees who have completed the one year of service at the time they become eligible through competitive examination for conversion, a personnel action will be processed which reads: "conversion to competitive status". This action infers that the employee has completed his probational period.

There is no personnel action processed notifying the employee that he has completed a probational period.

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AVIATION SAFETY HI-LITES

Safety Operations Division:

During a recent survey conducted by the Chief, Airman Standards Branch, it was brought out that the Veterans Administration is now training ten students for commercial, ATR, Multi-engine and flight instructor, i.e., the higher category of ratings, to one applicant for student pilot certification. Approximately 75 Multi-engine and ATR courses have been approved or are in the process of being approved at the present time. Although flight schools are now going through a period of major adjustment, with ten schools cancelling out, two new schools were approved with eleven ratings and five schools were approved for six additional ratings, during the month of May 1949.

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The National Safety Council stated that 27 United States domestic and overseas airlines completed more than 4,000,000,000 passenger miles without a death in 1948.

American Airlines lead the list of 1,000,000,000-mile award winners and set a new all-time record by completing 1948 with a total of 2,933,272,000 passenger miles since its last fatal accident in December, 1946.

Other United States airlines cited were TWA; Braniff; North East; Pan American Grace; American Overseas; Capital, Chicago and Southern; Colonial; Continental; Mid-Continent; National; Western; Challenger; Empire; Monarch; Piedmont; Pioneer; Southwest; Trans-Texas; West Coast; and Wisconsin Central.

The Council said six crashes marred the 1948 record by claiming 128 lives - 103 passengers and 25 crew members. The rate of deaths, however, was only 1.3 for 100,000,000 passenger miles, one of the best in airlines history.

Compare these figures with other modes of transportation and you too will take a plane for safety, as well as economy.

AIRPORTS DIVISION HI-LITES

Mr. Charles H. Jones, Airport Management Assistant, attended a meeting of the Aviation Division of the National Safety Congress at the United Air Lines headquarters in San Francisco, California on May 17, 1949; also attended the meeting of the Aviation Airport Fire Protection Committee which held at the Fairmont Hotel on May 18, 1949. These meetings were attended by representatives of the Air Forces, Army, Navy, Coast Guard, California League of Cities, Airport Executives, the Airlines and Aviation Insurance Groups; Mr. Jones represented the Civil Aeronautics Administration.

Airport ground safety was the general theme of the Aviation Division meeting and Mr. Jerome Lederer, President of the Flight Safety Foundation, gave an interesting and comprehensive report on safety at airports. The importance of recognizing the daily accident exposures to personnel and equipment on airports by airport management was stressed.

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The American Association of Airport Executives held its 1949 annual convention at Oklahoma City, Oklahoma, April 23 to April 27, inclusive. Airport Chiefs from Regions IV and VII were in attendance as were Airport Management Consultants from Regions I through VI. Administrator Rentzel originally scheduled to deliver the opening luncheon address was unable to be present. His paper was read by Edgar N. Smith, Deputy Director, Office of Airports. The subject was "Federal Aids to Air Navigation" and dealt primarily with the new electronic developments including radar and television as they may in the future apply to air navigation.

All of the prepared papers, extemporaneous talks, et cetera, are being assembled in book form which will be available in the Office of Airports in the near future.

FEDERAL AIRWAYS HI-LITES

Airways Operations Division:

The program of detailing five Chief Aircraft Communicators each week to the Regional Office for familiarization and discussion of station problems has been completed.

The House of Representatives, in considering our appropriation bill, included a provision whereby the complement of all Class I and Class II communications stations would be reduced by one communicator. This will result in reduction in force which will require separation of several communicators. The separations are to be effected June 25th. Civil Service regulations and procedures were strictly adhered to in determining those affected. Our reductions in this region are considerably lower in number than in other regions because we have been able to retain personnel who will be required to staff new stations at Ukiah, Crescent City, Winnemucca and Arcata.

The CAA took over the operation of the airport traffic control tower at Reno, Nevada, May 15, 1949.

Facilities Division:

Construction of the INSACS at Ukiah and Crescent City is progressing rapidly and it is planned to commission these two stations soon after July 1.

The erection of a revolving airways beacon at Crestline, California, on the Los Angeles - Amarillo Airway is practically completed. This beacon will be used to assist direct flights between San Bernardino and Daggett.

The air conditioning program of air traffic control towers is reaching a successful completion. The Santa Barbara installation is now in operation; Bakersfield should be operating within a few days; Oakland and Santa Monica will follow shortly. Bids for installing the unit in the new Reno Tower are being circulated.

Radio installation of the ILS equipment at Fresno is now being completed and the facility will be commissioned soon.

The tune up of the high power omnidirectional radio range (MOR) at Pescadero has been completed, and it is planned that the facility will be flight-checked by the Technical Development Division soon after June 15.

The VOR facilities at Gila Bend, Modesto, Prescott and Red Bluff were commissioned during this month. All omnidirectional ranges assigned from San Diego to Douglas, Arizona are now commissioned, and the airway shows very good flight characteristics.

The "MH" facility at Julian, California, was commissioned on May 10 without voice.

The initial phases of the radar installation at Los Angeles at Gilfillan Bros, Inc. are proceeding approximately on schedule. Maintenance Branch personnel are participating in the installation.

Field surveys at various locations are being conducted to determine the extent and type of landline termination equipment changes necessary for standardization and modernization of Telephone Company, Western Union and CAA equipment. Stations which have been or will be visited during May are Long Beach, Oceanside, San Diego, Mt. Laguna, El Centro, Riverside, Indio, Blythe, Needles and probably Daggett. Mr. A. D. Herbert, coordinator, Mr. H. Hela and Mr. Bethard comprise the survey party.

CAPITAL GLEANINGS

Pay Policy: The Administration is ready publicly to reveal its views on the many bills in Congress to raise the salaries of Federal workers. As expected, it will oppose the bills which would give postal and classified employees net increases of \$650 each. It again will indorse revision of the Classification Act. Also, it will suggest indirectly that any pay raises the Congress feels are needed after a thorough study of the present pay rates be made in the classification bill.

Retirement: The Johnston subcommittee of the Senate Civil Service Committee has approved a bill of first importance to employees who have retired and will retire after April 1, 1948.

Briefly, the measure would allow them to be paid full annuities and to provide survivorship benefits to their wives at no penalty or added cost. Under the present system, employees who retire must take a discounted pension in order to provide survivorship rights. It is estimated that 9700 married men will retire this year. Civil Service opposes the bill because it would cost the Government about 25 million dollar additional a year.

Career Non-Veterans & Disabled Employees: The Civil Service Commission has put itself on record for greater job security for career non-veterans and all disabled employees.

In a report to Congress, it suggests a 10-year cutoff period in the veterans' preference act. Under the present law, a status veteran with a year or so of service must be retained over a career nonveteran in a similar job with 30 or more years of service.

Under the Civil Service recommendation, any veteran would have retention preference over career people in his group with less than 10 years of service. But any and all career nonveterans with more than 10 years of service would have equal retention rights with the veterans.

At the same time, the commission proposed a system of what would amount to absolute retention job preference for employees who had a disability of 60 or more per cent, provided they were doing a satisfactory job. Its plan would apply to veterans and non-veterans alike.

Rule Of Three: The Civil Service Commission has indorsed the suggestion that Federal officials be given greater leeway in the selection of people to fill middle and upper-bracket jobs. This is the story:

Officials are now restricted by the so-called "rule of three" in filling Civil Service jobs. They must select one of three eligibles certified to them by the Civil Service Commission or get involved in endless red tape.

As a result, everyone agrees that (1) improper placements are made, and (2) the jobs are filled from within by transfers and promotions or they are left vacant when Civil Service eligibles prove to be unsatisfactory.

In its report on personnel, the Hoover Commission pin-pointed the shortcomings of the rule-of-three and urged its abolition. In a report to the White House, Civil Service now agrees that Federal officials should be given more of a choice in filling professional, technical, and administrative jobs. As a starter, it proposes that five eligibles be certified for a vacancy. But for the mass clerical jobs, the commission would continue the rule-of-three.

Travel Allowance: The House passed by a voice vote and sent to the Senate the Karsten bill to (1) raise the travel allowance for Federal workers from \$6 to a maximum of \$9, and (2) boost the rate for private car use from 5 to 7 cents a mile.

Representative Hoffman (R., Mich.) was the only member flatly to oppose the bill. He said Federal workers took the jobs with their eyes open; that they only work 220 days a year; and that there were five people to take every Government job.

A score of members took the floor to urge enactment of the bill as "simple justice" to employees ordered to travel. Among them were Karsten (D., Mo.),

Huber (D., Ohio), Keefe (R., Wis.), Wagner (D., Ohio) and Pfeiffer (R., N. Y.). Tauriello (D., N. Y.) said the \$9 allowance was inadequate. He urged it be raised to \$12.

Status Order: What has happened to it--the executive order that would have made it easier for war service and temporary employees appointed prior to March 15, 1942, to get regular status? This is the answer:

It has been slowed down by opposition from veteran groups. But the order has been drafted and it's being reviewed again by the Civil Service Commission and the Justice Department. The commission objected to the order being made effective before July 1.

The covering-in order will be issued--but perhaps not before July 1. It can be easily justified on grounds of both economy and justice.

Full Annuity at 55: The bill that would allow Federal workers the option of retiring on a full annuity at 55 after 30 years of service appears to have cleared its first hurdle.

A subcommittee of the Senate Postoffice and Civil Service Committee has indicated its approval of the bill after hearing a score of employee leaders indorse the measure. The administration opposes the bill. Its views were presented by Warren B. Irons, chief of the retirement division.

All witnesses agreed that only a small number of employees would take up the option to retire. Employees may retire now at 55 if they have 30 or more years of service but their annuities must be discounted 3 per cent for each year they are under 60.

Irons explained that only 1100 employees--or about 5 per cent of those eligible--took advantage of the 55-year retirement. He also brought out that the death rate was abnormally high among those 55-year-old employees who did retire--indicating that most of them were sick when they retired. Irons said the cost of the bill would be only \$2,200,000 a year if no more than 1100 people retired under it.

The second and most costly feature of the bill sponsored by Chairman Johnston (D., S.C.), would permit married men on retirement to (1) draw full pensions, and (2) sign over survivorship annuities to their wives at no cost or penalties to the employees. The pension of an employee who now retires is reduced by 10 per cent if he elects to assign his wife survivor benefits.

Irons estimated its cost at \$25,700,000 a year and he said the Civil Service Commission opposed it for that reason. He estimated 9700 married men would retire from Government this year. Irons estimated that half of the men who retire take discounted pensions in order to give protection to their wives. But he explained that the person whose pension was under \$1600 a year, rarely provided for his wife since he needed every cent he could get to live on.

Classification Act Overhaul Bill: Senate Civil Service leaders are continuing their debate on possible changes in the Administration's plan to overhaul the Classification Act - changes that would:

(1) Add a minimum of a flat \$100 to the proposed salaries of each of the more than 800,000 Federal workers in the low and middle brackets;

(2) Expand the bill to revise the salary schedules of both legislative and judicial employees and to give them a modest pay boost in the process;

(3) Reshuffle the grades and salaries of the 500,000 postal employees which would give them higher starting salaries and an average pay raise of around \$200 each and,

(4) Give the Civil Service Commission the authority to "co-ordinate" the salaries of the 600,000 per diem workers in Government.

The Administration's proposal to revise classified salary rates seems certain to be changed materially by the Senate Postoffice & Civil Service Committee. Half a dozen committee members are at work on their own reclassification plan which is scheduled to be made public on Monday. On that same day a subcommittee headed by Senator Long (D., La.) will start open hearings on the several pay bills referred to the committee.

The Administration's classification plan is aimed primarily at placing jobs and salaries in their proper relationship. It isn't intended to be a pay raise bill. Also, the Administration has informed Congress that any general pay raise it feels is justified should be made within the proposed classified framework.

An average pay raise of \$50 a year is provided classified employees in the Administration's plan, a range of \$1.72 to about \$6000 a year. The ceiling on classified salaries would be raised from \$10,330 to \$16,000. The bill takes for granted that Congress will approve the executive pay bill at a \$16,000 minimum. Otherwise, the classified bill would be doomed, too.

A new General Services (GS) schedule of 19 grades would be substituted for the present CAF, clerical, administrative and fiscal, Professional (P) and Subprofessional (SP). The clerical-mechanical schedule would be abolished and the employees paid under it would have their salaries fixed by local wage boards. The CPC (crafts protective and custodial) would have a new schedule of its own of 10 grades with a salary range of from \$1410 to \$4900. The average pay boost for employees under it would be \$60 per year.

Employees who have been at the top of their respective grades for at least three years would be eligible for a longevity increase--provided they are recommended for it by their agencies. No employee could be given more than three longevity raises which would be the equivalent of ingrade raises.

The Civil Service Commission would be given the authority to administer the classification bill but it could delegate most of its functions to the agencies, subject to Civil Service standards and review.

The Administration bill is similar to the reclassification measure introduced in the House several weeks ago by Chairman Murray of its Civil Service Committee.