

# BEACON

JANUARY, 1960

## AERONAUTICAL CENTER

N500

FEDERAL AVIATION AGENCY  
AERONAUTICAL CENTER  
OKLAHOMA CITY

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Front Cover - Ray Martindale

Aircraft in front of Hangar 9



## POINT OF VIEW



We in Oklahoma can throw out our chests with pride for many firsts and for the many accomplishments. We enjoy leadership in many fields.

And the strides our young state has made within the aviation industry rank with our finest efforts.

Our commercial outlets are the envy of many neighbors in the Southwest. We have become a pivot point for national and international air travel.

Our people are leaders in the fields of private aviation.

The military has discovered in Oklahoma an ideal location for strategic bases. Tinker, the Air Force's Air Materiel Command Center, is international in its scope and very Oklahoman in its operations requiring great skills and peak production.

Tulsa has set many records in aviation. Only this year it became the maintenance center for jets flying our commercial lanes.

And the establishment and the fantastic expansion of the FAA has set a new pattern in these frontiers of flight.

The FAA's location at Will Rogers Field in Oklahoma City means much to the state in an economic sense. It is an important industry.


But it is more than this.

The training center faces one of the industries most important challenges: Making air travel safe.

The speed of jets continues daily to "shrink our world." And as these new records are written, new problems, new demands are thrown into the hopper of FAA.

Recently it was announced that the medical research units of the FAA would be established here, bringing to Oklahoma the important study of the jet age's demands on the human body.

Add these new giants of the aviation industry to our state's already impressive list and you have another Oklahoma first.

  
J. H. Edmondson  
Governor, State of Oklahoma



This is the Fifth Region's N123. With this aerial workhorse are five dump trucks.



A "Sno-Go," no small weight, is loaded for delivery to Iliamna.



Here the 123 unloads a Caterpillar D-4 end-loader at Unalaklett.



## THE FIFTH REGION'S BIG BIRD

Undergoing overhaul and renovation in the Aeronautical Center's hangars this month is a truly out-sized "big bird." It is a Fairchild 123 - a hauling work-horse of an airplane. Pictures of just what it can do are on the opposite page.

Region 5's "big bird" is used to haul the heavy loads that commercial carriers in Alaska can't handle - used to carry supplies and equipment to some of the isolated FAA stations in our 49th State. The C-123 can carry approximately three times the cargo of a C-47, familiarly known to World War II pilots as the "gooney-bird." The rear-end door, with a let-down ramp, makes loading and unloading comparatively easy.

What kind of a load does this plane handle? Well, just about anything - groceries for station personnel, household effects, road graders, fork lifts, a knocked down Butler or Quonset hut, lumber, fuel oil, gasoline, creosoted piling, or perhaps such explosive elements as dynamite caps. These are carefully tucked away in special steel and lead, foam-and-rubber-lined boxes. One day the load may include dynamite for construction work. The return trip may include a family and personal effects. One such family included five dogs, three cats, and assorted tropical fish. Another time - a mule objected to being loaded, but once on board seemed to enjoy the trip. The heaviest object hauled so far was a D-4 Caterpillar tractor end-loader, taken from Moses Point to the station at Unalakleet.

One day last summer an FAA amphibian sank in a lake on Annette Island. The crew sent to salvage it needed a large raft to use in raising the plane. The "big bird" hauled empty oil drums from Yakataga and lumber from Juneau. They were pin-pointed in the lake by dropping out the cargo door.

One of the more unusual loads was a Piper Pacer, property of the U. S. Fish and Wildlife Service. It had cracked up at the two thousand foot landing strip at the Beaver station. The C-123 landed there, loaded the fuselage, put the wings in beside the fuselage, and took it to Anchorage for repair.

Another time the "big bird" was used by the United States Bureau of Public Roads to haul five dump trucks from Fairbanks to Nome.

The crew (pilot, Jack Jeffort; co-pilot, Lee Burns; and flight engineer, Dick Pastro) sometimes makes emergency runs. In the record book of the C-123 are such things as mercy flights for a boy with a bad head wound brought to Anchorage from Yakataga and a baby with pneumonia flown in from Galena.

Right now, two C-47's are being used to keep the far-flung FAA stations in Alaska supplied with necessities. But by next spring, the "big bird" - old 123 - will be back on the job in the Fifth Region, flying the heavy equipment that can't be handled any other way.

## SEQUENCE LIGHTS INSTALLED

Sequenced flashing lights will be installed this fiscal year on high intensity approach lights to extend some 3,000 feet from the south end of the new extension of the main north-south runway at Will Rogers Field. The sequenced flashers are used in instrument landing systems and give a moving light path to the end of the runway. An ILS will also be installed for the Aeronautical Center for training of flight inspection aircraft crews and air carrier agents. The installation will also be available for training flights by airlines, military and general aviation pilots.

## THE CENTER LOOKS AT '60

As the Federal Aviation Agency began its second year of operation plans continued for reorganization at the Aeronautical Center. Although most intra-organizational changes are still in the planning stage certain patterns have begun to develop.

While technical and general activities carried on at the Center remain essentially the same, reorganizational responsibilities now clearly fall into the functional lines of the Agency's Washington Office.

Hence in addition to the broad administrative functions of the Center, under Director Fred M. Lanter, there would be several major organizational segments; among these underway so far are:

A "Facilities and Materiel Depot" with combined functions of aircraft and avionics standardization and operating materiel supply, under the Bureau of Facilities and Materiel.

A "Federal Aviation Agency Schools" which brings together all the training functions of the Center under the direction of the Washington Office of Personnel and Training.

A "Civil Aeromedical Research Center," which according to a general news release, was announced jointly by several Oklahoma Congressmen last October 30. A more recent news announcement names a civilian space sci-

entist, Dr. Robert Clark, as Acting Director of the proposed Center and its study. A Medical Research Laboratory has been active previously at the Center.

Other functions, including high and medium altitude flight inspection and data processing services have been mentioned for organizational units. This takes in units of the Bureau of Flight Standards in Washington, now active here, which are under consideration for considerable expansion.

In order to continue with "business as usual" and to assist in preparations for the new alignments two Center officials have been named in "Acting" capacities. Ron Pulling, who had been Chief of Facilities Materiel Division, was named acting head of the "Depot." J. B. Mitchell, for several years Assistant to the Director for Training, is Acting Superintendent of the Agency Schools.

Structures within the major organizations mentioned above have been proposed but are tentative at this time.

Also to be located at the Aeronautical Center are functions of the Aircraft and Airmen Records Branch, Bureau of Flight Standards. Arrangements are being made for temporary space in Oklahoma City to accommodate the voluminous files which have heretofore been kept in the Washington Office.

For the first time in many months there is no major building construction under way on the west side of Will Rogers Field. That this situation is temporary is evident from the present space shortage which is rapidly becoming acute.



## FOREIGNERS VISIT CENTER

Pictured below are two aviation officials from Italy. Doctors Gieuseppe Simone, Director General, Registro Aeronautico Itiliano, on the left, and Doctor Lamberto De Luca, Chief, Office of Operation, Registro Aeronautico Italiano, on the right.

The two officials, shown with Center Director, Fred Lanter, were in this country to familiarize themselves with the certification of the Douglas DC-8 jet airliner.

This was the first visit to the United States for Doctor Simone, who holds in his own country, the equivalent post to that of Mr. E. R. Quesada, FAA Administrator.

Doctor De Luca, no stranger to the United States, helped dedicate the new Aeronautical Center in 1958.



Pictured above, left to right, Darwin Maurer, FAA International Liaison Officer, Thomas Thach, Oklahoma City Chamber of Commerce, chairman of the committee for International Visitors, and, pointing to the globe, William Richardson.

Mr. Richardson is Public Information officer for the Government of Trinidad. He has been touring aviation facilities in the United States as well as looking into the operation of city governments.

Part of the Trinidad official's 2-day visit to Oklahoma City this last month was spent in touring the facilities at the Aeronautical Center.







Etemadi, standing; countrymen left to right, Aziz Azizi, Abdul Haidaki and Mohammad Malyer.

### AFGHAN TEACHER AT CENTER

The Director of Education of the Afghan Air Authority is observing the training being given three of his countrymen at the Aeronautical Center's ATC School.

Aziz Ahman Etemadi, from Kabul, Afghanistan, came to the United States in October to study all phases of aviation training. Before coming to the Center Etemadi has been in Washington FAA Headquarters, St. Louis and Chicago with both the FAA and private aviation firms.

Etemadi will go to the Region 2 offices in Fort Worth toward the end of January and return to the Center for special courses in various schools for another month.

The Afghan teacher attended college at the Sorbonne University in Paris and Lausanne University in Switzerland. He speaks Persian, French, and English.

On his return to his Country, Etemadi will start courses of aviation training for the Afghan Air Authority.

### INTERNATIONAL GOOD WILL FROM THE HEART

They gave Audulio a surprise party. He had been a remarkable companion to his classmates as one of the scores of foreign students who are mingled freely and naturally in training classes at the Center. The idea of the party came about spontaneously, mushroomed into plans and action, was carried out with the simplicity that makes a truly honest expression of affection. A demonstration of interracial and international good feeling and harmony. It happened this way.... ANF Communications Class 138B was in its last two-weeks--the UHF course. Among the 16 members of the class were representatives of all four continental regions (a good cross-section of our country) and one OIC student, Audulio Ricketts from Honduras. Audulio was the object of the surprise party--his birthday was December 8th, but little did he dream that his fellow students were aware of it and were planning to do something about it. They were, and since in the long weeks of studying together they had come to admire and respect him, it seemed only natural to make known their feeling and do him honor. Quietly a small sum was raised and a gift purchased. A man from Region 1, Howard Price, arranged for a cake, baked by his wife. The class assembled in the 2nd floor lounge of the ANF Building. Carl Roth of Region 4 served as toastmaster and when the time came, presented the gift, a pen and pencil set. Audulio responded with extemporaneous words that expressed his feelings. What he had to say was a splendid tribute to the Aeronautical Center, his classmates, our country, and incidentally, to his own fine character. "I left my home in Honduras with misgivings. I had pre-conceived notions, not good ones, of the country I was going to. It wasn't long before found out how wrong those notions were.



## FAA SAYS JETS TO SET NEW RECORDS IN 1960

Federal Aviation Administrator E. R. Quesada said this month pure jet aircraft will assume the predominant role in air transportation during the forthcoming year.

In a year-end statement, Mr. Quesada noted that the nation's airlines were operating more than 75 pure jets in 1959. This advent of the new high performance aircraft, he said, was accomplished with a minimum of incident and mishap. In the coming year the carriers will add 150 more pure jets. "It is thus evident", he said, "the pioneering is over. The jets have proved themselves far beyond everyone's expectations. They will establish new records for service during 1960."

FAA's Administrator pointed out that the Federal Aviation Agency will continue to align its safety programs to this expansion of jet operations. He noted that during 1959, FAA inaugurated a new program of jet flight training for its safety inspectors. This training program--conducted by the Air Force has given FAA's inspectors the finest jet training available in the world.

The increase of jet operations also contributed to a number of changes in rules and regulations affecting air carrier operations. The most significant of these was a new Civil Air Regulation effective March, 1960 that "no individual who has reached his 60th birthday shall be utilized or serve as a pilot on any aircraft while engaged

in air carrier operations."

Another new safety regulation required more detailed initial training and proficiency tests for co-pilots of the commercial airliners.

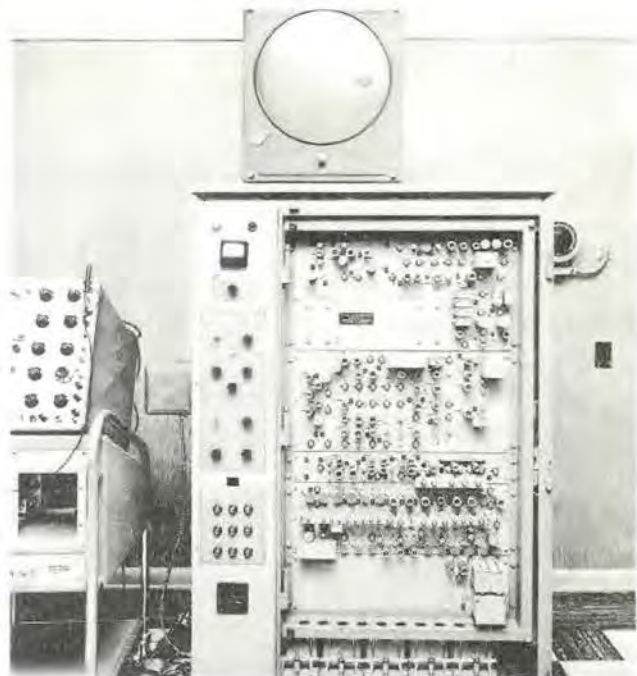
The FAA, also during the year, amended the CAR's to prohibit airmen from operating if their medical background showed diabetes mellitus requiring insulin; coronary artery disease; a history of psychosis or certain other mental or nervous diseases including behaviour disorders, chronic alcoholism, drug addiction or epilepsy.

To keep pace with the expansion of jet operations, FAA established thirty new high-altitude jet route segments for a total of 25,455 miles. Radar surveillance for these civil jet operations was accomplished when the military permitted the Agency to man and utilize thirty-eight Air Defense Command long range radars. These supplemented FAA's own existing long range radar to provide radar advisory service. This combined radar system enabled FAA to track all jet flights from take-off to touch-down with the exception of a small area in Rocky Mountain West.

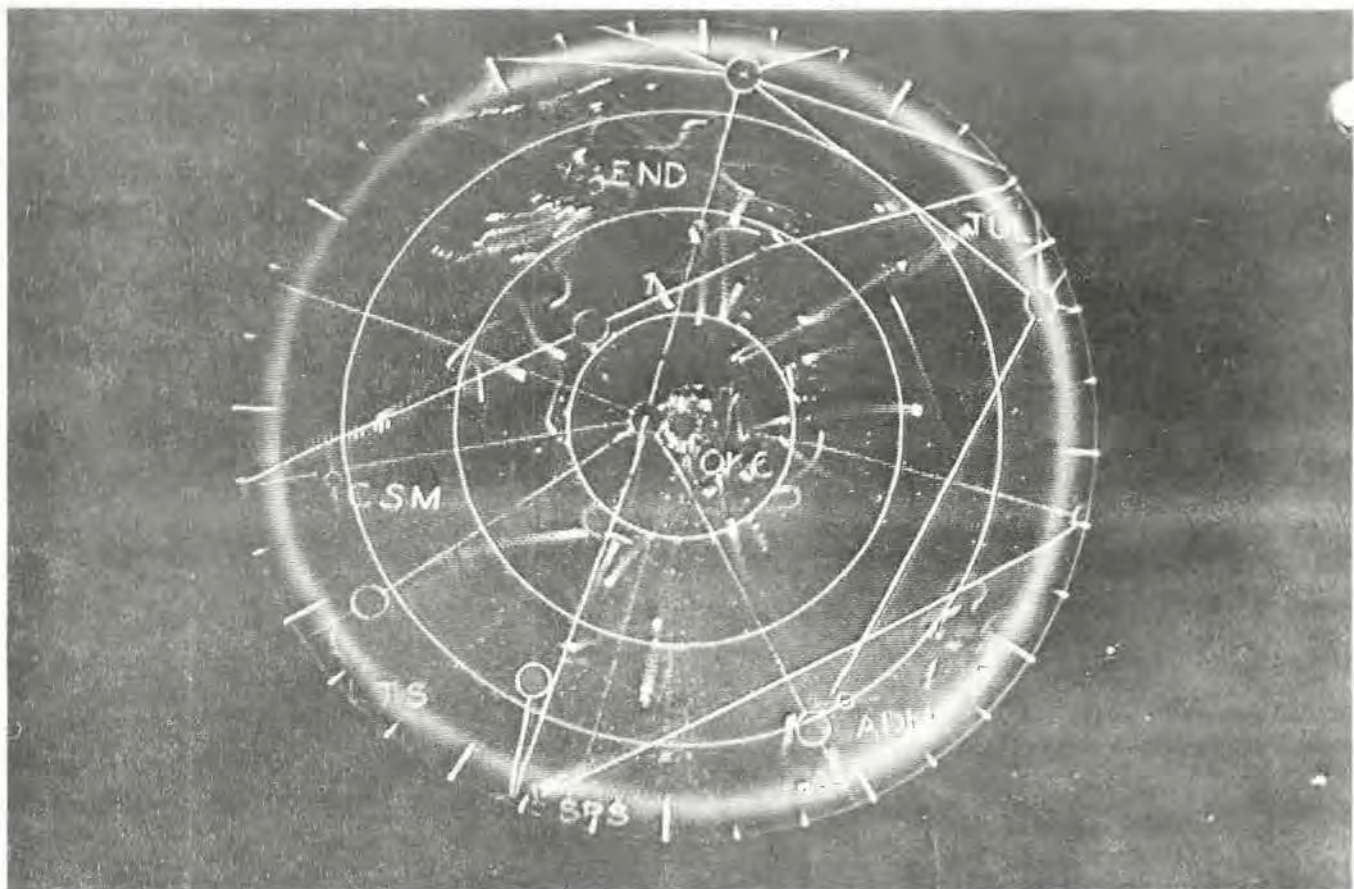
These new jets contributed to a fourteen percent increase in revenue passenger miles flown by the nation's airlines last year. The 1959 total of approximately 35,800,000,000 was four and a half billion miles over the figure for 1958.



The antenna of the long-range radar which "transmits" and "receives" the radar target pulse.



The TI-440 "Scan Converter" unit transforms the radar information into a TV picture for air traffic controllers.



A "bright display" of radar information is the result after conversion by the TI-44 equipment. A pair of display monitors are mounted in the lobby of the Center's new ANF building and one often used in conjunction with the training facilities.



## ANF USES CLOSED CIRCUIT TV FOR RADAR

Closed circuit television is now being used to transfer radar images to vital points in control towers and centers in the FAA Navigation System. Having the radar image available at a more useable position under normal lighting is helping to expedite traffic at the busier locations. To accomplish this, a Scan Converter unit imported from France changes the form of the signal usually used by the Radar PPI indicator into a television picture. With this equipment, designated the TI-440, the slowly rotating radial spoked lines of the radar display are converted to an instantaneous set of 625 horizontal lines reproducing a complete picture thirty times each second; much the same as seen in an ordinary 525-line broadcast television set.

The primary point of conversion is within a specially designed tube, which is similar to two oscilloscope tubes placed face to face with a unique memory plate between them. This tube was initially developed in France to instantaneously convert live programs between countries having different television line standards. By changing the characteristics of the storage plate it was found very useful in converting any type of scanning into a television picture, and is particularly useful with radar.

Video "mapper" signals from the radar may be used with the converter to establish airway and airport references in the display. Range marker circles and angle markers are generated within the TI-440 as an aid to determining distance and direction of aircraft movements.

Two outstanding advantages, among numerous others, are the ability of storing the path of flight, or aircraft

"track," for several minutes; while at the same time producing the total image in a normally lighted area instead of a specially darkened room necessary for radar PPI's.

The system as installed here at the Center for laboratory instruction purposes has two TI-440 converters located in a room at the ARSR-1 radar building. Video from the ASR-1, ASR-3, or ARSR-1 radars can be cabled to either of the converter units. The converted television images can then be cabled to the ANF-8 building where it is available in the lobby or to the monitor laboratories held in room 232. The monitors used with the system to display the picture are relatively inexpensive studio sets available through U.S. Manufacturers and are commonly used in television broadcast stations. These units are small compared to the usual radar indicator and can be quickly and easily installed in any location with only two small cables for the signal and a 115-wall socket required for power.

Within the next few months a new American system will be delivered for installation in the ANF-2 building. This will be the first system produced wholly in the U.S. It will operate with a 945-line television standard to produce pictures of finer detail and clarity. It will also be more flexible as to switching of radar inputs, ranges, and output monitor lines. In addition it will provide channels for processing and storing beacon information.

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#### 4-MILLION WATT RADAR WAITS FLIGHT CHECK

The Center's ARSR-1 Long Range Radar system -- you have probably noticed its large sail-like antenna atop the 50-foot tower just west of MacArthur Blvd. as you approach the Center -- has now been modified to produce 4 million watts of microwave power, and is now awaiting flight check for acceptance tests. This increase in power is expected to result in a detectable signal from a T-33 jet with wing tanks nose-on, at an increased range of 160 miles instead of the original 100 miles with the basic ARSR-1.

With the newer developments in the field of electronics, it really appears that we are getting further and further away from "the good old days" when a guy could go down to the local radio supply store and pick up a new tube for a buck and a half to replace the old one that had burned out. The type QK-653/RK-7577 amplitron tube, the device that generates this 4,000,000 watt radar pulse, is the heart of this new modification to

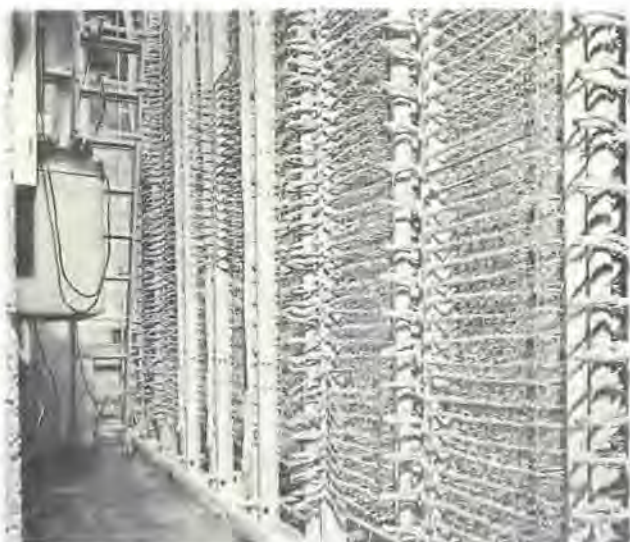
the ARSR-1 radar. You might be interested in a few boiled-down facts about this tube:

- a. the price of one of these tubes is about \$7,500 -- this is roughly the same as a GS-11's annual salary before taxes;
- b. the two horseshoe-shaped objects shown in the photographs are large permanent magnets which are made an integral part of the tube itself, and are required for the operation of the tube;
- c. the white, cylindrical object below the tube is an insulator, through which a pulse of 94,000 volts is applied when the tube is fired -- your TV set at home probably has no more than 15,000 volts inside of it;
- d. when this tube fires, the radar pulse it produces lasts for two-millionths of a second -- if this period of time is a little difficult to think about, two-millionths of a year is equal to roughly one minute;
- e. to keep this tube from burning up during operation, it is cooled by a water-and-anti-freeze mixture which circulates through the tube and cooling system at 300 pounds pressure and at a rate of 7 gallons a minute.

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A mind that stays inactive is like stagnant water -- produces nothing useful. Have you had a work-saving idea today? Submit it as a suggestion. Make money while you think.





### ATC AND TELCO

When AC-520 is given an assignment, they go all out to do the job properly. This is evident if you have had an opportunity to visit the ATC Building recently. The December issue of the Beacon featured a story about the new laboratories designed and equipped to train entrance grade employees in the complex art of air traffic control. But what wasn't seen in this story was the "behind the control board" scene.

In order to train students in our present day air traffic control system, we must simulate, to the fullest extent, the actual control room layout as well as the actual control techniques used. To effectively simulate an Air Route Traffic Control Center, it is necessary to have a functioning interphone system connecting the many agencies doing business with the Air Traffic Control Center. The Bell Telephone System engineers have worked long and hard to give us the most accurate reproduction of the actual interphone communication system used in our Air Traffic Control Facilities throughout the world.

Through the cooperative efforts of the Bell System engineers and the Technical Services Branch of the Aeronautical Center, the student is able to communicate with any one of several agen-

cies by means of this elaborate interphone/radio system as well as communicate directly with the pilot of the aircraft many miles away without diverting his attention from the control boards.

In order to accomplish this feat, it was necessary to install nearby, 3,000,000 feet of wire from the "Telco" equipment room throughout the ATC building. Telephone company personnel are near the completion of this arduous task and are presently making the final check on one of three laboratories which will be used in our eight-week Air Traffic Control program beginning January 4, 1960.

One look at these laboratories and the equipment room will show you why the ATC Division is so proud and enthusiastic about these facilities.

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Earl L. Berryman, Jr., mans the Benson-Lerner "OSCAR J" x-y coordinate used in the Data Processing Center, second floor of the west side of Hangar 9. This equipment enables an operator to take linear graph on x-y coordinates and reproduce as many duplicates as desired by a simple automatic process. It also may be run through a device which "reads it out" as points on a rectangular graph. Such graphs may be produced from the card in whatever quantity required at a rapid rate and a high degree of accuracy.

... C. D.

## ANF TRAINING REORGANIZED

Increases in staffing for the training of large numbers of field personnel on electronic facilities have brought about a reorganization of Air Navigation Facilities Branch.

There are now six sections in place of the former 2, which since 1954 had been known as the Resident Training and Directed Study Sections.

Effective September 20, 1959, the Resident Training Section was divided into four sections, namely, Communications Equipment, ILS/VOR, Distance Aids, and Radar. At the same time a Deputy Branch Chief was set up and Walter Hill, the former Resident Section Chief, now fills the Deputy spot. Then, on December 13, in accordance with the new realignment of Center functions the Avionics Training Section, of the former Flight Inspection Branch, was transferred to ANF Branch. Each of the Sections, except Avionics, has a Technical Assistant. Officers of the ANF Branch are as follows:

Branch Chief, C.W. Mueller  
Deputy Chief, Walter M. Hill  
Chief, Communications Equipment,  
John Shaw  
Tech. Asst., Billy Jones  
Chief, Distance Aids,  
Emory Williams  
Tech. Asst., Don Dixon  
Chief, ILS/VOR, Harold Swenson  
Tech. Asst., Paul McMullen  
Chief, Radar, Robert Brown  
Tech. Asst., Charles Miller  
Chief, Avionics, Robert Payne  
Chief, Directed Study, A.W. Schmitt  
Tech. Asst., A.R. Fillebrown

## ATC EXPANSION

Everyone hears this word "expansion" used many times daily around the Aeronautical Center. While every organization at the Aeronautical Center is experiencing growing pains, we in AC-520 are experiencing them also.

Our new Air Traffic Control Course, lasting 8 weeks, will be underway by the time this issue of the Beacon goes to press. This course will include the indoctrination of the Air Traffic Control trainee into his new career field. The basic certification and preparation of the trainee for the assistant controller duties and adequate screening of these students is commensurate with the length and level of the training. This new course will include intensified laboratory training designed to effectively simulate the actual control technique used in the field.

Other areas of AC-520 are expanding also. We have been given the responsibility of developing and distributing ATC Training Material. This calls for the writing, compilation, printing, distributing and updating of all publications currently used in Air Traffic Control Training.

The responsibilities of preparing, distributing, and updating of the basic certification examination has also been delegated to AC-520. This examination covers the seven basic subjects which all Air Traffic Control Specialists must satisfactorily complete upon entering this field.

More recently, we were delegated the responsibility of preparing and distributing all visual aids used in ATC Training Programs.





R. D. Cherry is ready to issue a USM-25/B Oscilloscope over the counter of the main avionics stockroom in Hangar 9. A dumb waiter connects this with auxiliary stockrooms on the second and third floors.



Here is where one-of-a-kind prototypes and other special projects for flight inspection aircraft come into being. Component boards, cables, control boxes, consoles, racks, and other special items are fabricated and wired in this shop.



This shop repairs and calibrates all electrical meters and indicators used in airborne electronic equipment aboard flight inspection aircraft. Transfer standards on the work benches are calibrated weekly against primary standards which, in turn, are calibrated by the Bureau of Standards every year.



This is the shop that produces the specialized equipment used in the electronic systems aboard flight inspection aircraft. FAA and military flight inspection aircraft being modified to a standardized configuration have their electronic equipment built and installed by technicians from this shop.





Tacan Calibration Laboratory

## HANGAR 9 AVIONICS SHOPS SERVE ALL FAA AIRCRAFT

Two avionics shops in the Aeronautical Center's New Hangar 9, both under the control of the Facilities and Materiel Depot, Bureau of Facilities and Materiel, do the construction and overhaul work for all FAA flight inspection aircraft airborne electronic equipment. Backing them up in this unusual work, which is not duplicated anywhere else, is a section exclusively devoted to procuring, storing and issuing the specialized parts and equipment used in this program.

Starting at the top floor and sifting down we find the southeast portion of the third floor occupied by Robert S. Sypherd's major overhaul shops. Bob's crew, numbering 67, work over the electronic equipment aboard FAA aircraft brought to the Center for periodic overhaul. Nine totally-screened workrooms are used for VOR, Localizer, Glide Slope, TACAN, DME, ADV, VHF Communications and UHF Communications adjustments and calibration. The screening, of course, is to protect the equip-

ment from any unintentional electromagnetic radiations during precise adjustments. Additionally, six other workrooms are used for Radar, Interphone, Marker Beacon, Instruments and Indicators, Dynamotors, and Inverters. An eye-catching feature of the Radar room is the elevator for hoisting an antenna up into a radome projecting above the hangar's roof line. With an unobstructed view, the maintenance technician can give the entire radar system an on-the-air check.

The same area on the second floor houses Kenneth E. Sala's busy crews. These are the 111 technicians who fabricate the specialized airborne electronic gear that goes into the FAA aircraft being fitted at the Aeronautical Center. The consoles and equipment racks, the control heads and junction boxes, the interconnecting cables, and other made-to-special-order parts are built and wired in these shops. In the finished form, they are moved to the "check-out" room on the first floor of the hangar. Other technicians then take over and assemble the equipment into a complete flight inspection system for a thorough operational check before installing it into an aircraft. After installation, it is again checked.

Near the "check-out" room, handy to both a freight elevator and a dumb waiter system, is the main stockroom serving the avionics shops. Additional stockrooms, served by the dumb waiter and manned by an attendant, are located on the second and the third floors, in the heart of the shops. Under the direction of H. J. Barnett, a total of 29 persons are engaged in procuring the specialized parts needed for avionics work, cataloging and storing them, and issuing them when and where needed.

...C.D.



## THE FEDERAL EMPLOYEES HEALTH BENEFITS PROGRAM

The Civil Service Commission describes the job of getting the Federal Employees Health Benefits Program into operation by next July as the biggest job the Civil Service Commission has had. It is the largest employer sponsored health benefits program in the world with some 1,800,000 employees and about 2,200,000 employee dependents to be put on the rolls.

To meet the July 1960 deadline, the Commission has set up this time-table of approximate target dates:

By March 1 — Complete contract negotiations for the service benefits plan and the indemnity benefits plan; decide which non-government-wide plans, including those offered by Federal employee organizations, are eligible to take part in the program.

By May 1 — Make available to agencies for distribution to employees detailed information on the benefits plans that will be available.

By June 1 — Begin enrollment of employees eligible for the program.

The program will go into effect for employees on the first day of their first pay period after July 1.

The Bureau of Retirement and Insurance now is involved in a great deal of activity looking toward meeting these self-imposed target dates. Exploratory meetings now are being held with representatives of Blue Cross and Blue Shield. The Blue Cross-Blue Shield national organization, with their local affiliates, will be the carriers of the government-wide service benefits plan and will enter into a contract with the Civil Service Commission for this purpose.

The Civil Service Commission also expects to meet the March 1 deadline in approving any comprehensive medical plans that may be submitted. These are either group-practice prepayment plans or individual-practice prepayment plans. More than 75 of these associations have been asked to contact the Bureau, if they are interested in taking part in the program.

Plans also are shaping up to provide all employees with the information about the benefit plans they may use. This information will be detailed in such a manner that the employee may compare features of the various plans and select one he believes will best fit his particular need. This information will be distributed through the Personnel Office.

Early in January representatives from the Commission's eleven regional offices will get a two-week training course in Washington on the health benefits program. In turn, these representatives will help set up educational programs in their own areas.

The June 1 target date for starting enrollment may be revised to an earlier date if it is at all possible. One of the biggest jobs is the writing of the regulations to govern the operation of the health program. A copy of these regulations should be available to employees sometime early in 1960.

Eligible employees will be covered under the plan they select beginning on the first day of their first pay period following July 1, 1960. Deductions from their pay checks to cover their share of the subscription costs also will begin in that pay period. For most, that will be July 1

...MW

## THE DAY OF JANUARY 16, 1883

January 16, 1883, dawned cold and clear in Washington. It was a Cabinet meeting day and every member was in his seat when President Chester A. Arthur entered the room. This was to be the final Cabinet discussion to determine whether the President should sign the Civil Service Bill.

None of the Cabinet members had to be reminded that Civil Service had been one of the big issues in the November Congressional elections. Popular indignation over the murder of President James A. Garfield by disappointed office seeker Charles Guiteau hadn't been translated into legislation by the Congress that went out of office in 1882. But the present Congress had put Civil Service Legislation high on its agenda.

There was no realization in anyone's mind that some day more than 2 million persons, hired competitively under Federal Civil Service, would be on the Government payroll. Yet New York's 'The Tribune' and 'The Sun' and Washington's 'The National Republican,' 'The Star,' and 'The Post' put the story of that Cabinet session either on page 1 or on the editorial page--and the editorial page counted for a great deal in 1883. The signing of our Civil Service Bill had strong competition too, for as newspapermen say, it was an excellent news day.

General Grant was in town and had drawn admiring crowds as he strolled along Pennsylvania Avenue. Red Cloud, the Indian chief who had once terrorized the frontier, was in Washington too, very bitter about losing the peace, and there was considerable talk about the new Ambassador from the Kingdom of the Hawaiian Islands. Congress was debating bigger pensions for veterans

of the Mexican War and wondering whether to spend up to \$20 million to combat illiteracy in the territories. For the socially minded, "Queen's daughter is in Richmond" screamed one headline. In 1883, "queen" could only mean Victoria.

The Civil Service Bill was signed, however, before the end of the day (January 16) on the testimony of the morning newspaper of January 17, 1883.

It's anybody's guess, indeed, how the average man and woman felt and thought that day the Civil Service Bill was signed 77 years ago. Certainly no one dreamed that the time would come when every fourth person in Washington would be working under the Federal Civil Service system that had been launched that day. Certainly neither President Arthur nor his Cabinet, neither Congress nor "Charles Guiteau the Second," neither the reporter who wrote the story of the signing of the Act, nor the Mayor of Alexandria, who threatened that day to send sinful women to the chain gang, had the remotest premonition of the strange and wonderful and thoroughly American world that had been opened up by a few strokes of Mr. Arthur's pen.

A world of administrative leave and administrative advisability; or retirement deductions and Forms 57; of implementation; of climate of opinion and time-off-to-greet celebrities; but a world also of fairness to racial and religious minorities; of helping the physically handicapped to do a good job for his country; of united effort without regard to group or party to make democracy work efficiently; all these things waiting to come to pass as Washington men and women went home on the night of January 16, 1883.



## TIPPETS HEADS FACILITIES

Joseph H. Tippets, a 22-year veteran in civil aviation, has been named Director of FAA's Bureau of Facilities and Materiel. It was announced today by E.R. Quesada, Administrator, Federal Aviation Agency. Mr. Tippets has been serving as deputy director of the Bureau.

The new director began his government career with the old Bureau of Air Commerce in 1937 and held progressively more important posts in the former Civil Aeronautics Administration. From 1956 he served as Director of the Office of Air Navigation Facilities in the former CAA. When the CAA was absorbed by the Federal Aviation Agency, Mr. Tippets was given the task of organizing the Bureau of Facilities, which was recently enlarged into the existing Bureau of Facilities and Materiel.

As a major segment of the Federal Aviation Agency, the Bureau of Facilities and Materiel is responsible for the engineering, construction and maintenance of the nation's air navigation and air traffic control systems. Two other prime responsibilities of the Bureau are the management of the Federal Aid to Airports program and the construction of Dulles International Airport. In addition, the Bureau operates a large logistics, materials and overhaul depot at Oklahoma City to support the establishment and maintenance of Federal airways.

To meet a major goal of the FAA, that of modernizing airways, Mr. Tippets expedited the installation and expansion of new air traffic control facilities and air navigation aids and other key elements in updating the nation's airways.

While director of the Office of Air Navigation Facilities in 1957, he was cited by the United States Civil Service League for outstanding public service.



## OLIVER TO ATTEND MANAGEMENT INSTITUTE

Robert S. Oliver of the Budget and Finance Division at the Aeronautical Center has been selected to attend the 1960 Management Institute for Federal employees this month.

The Institute Course, to be held in Washington from January 11 through January 22, will give participants a general view of the Federal Government and of specialized administrative fields. Those within the GS-9 through GS-13 level and with at least two and not more than 12 years of Federal civilian employment were eligible for nominations.

Bob Oliver was one of six in the entire Federal Aviation Agency selected for this course in executive-legislative relationships, headquarters-field relationships, and the techniques of management problems. The institute is designed to encourage and assist Federal agencies in uncovering the management potential of employees.

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Words should be used to express  
thought, not sound.



## MEET MCKISSICK

The man pictured above is chief of the Aircraft Engineering Services Branch at the Aeronautical Center who has the dual responsibility of airworthiness requirements for the entire FAA fleet and of providing airplanes with the capability of doing the job required and still meeting the safety factor required by the FAA.

Bob, who came to the Aeronautical Center in April of 1959, has had the high octane of aviation fever in his blood since 1935 when he soloed an OX-5 Travelair at Sterling, Kansas.

That same year Bob moved into the engineering school at the Missouri School of Mines. While there he bought his first airplane, a cracked-up 129 American Eagle, rebuilt it, and went barnstorming with it on weekends. Bob also had time to work for Eastman Kodak, Illinois Central Railroad, Curtiss-Wright Corporation, and several oil field drilling contractors.

It was during this period of change, and while in school, that McKissick and four others designed and built a two-place glider (he did all the steel tube-welding himself). He later flew the glider and taught 18 others to fly. It is worthy of note that some of his students now work for the FAA.

Through the years Bob has accumulated between 5,000 and 6,000 flying hours. In 1940 he operated the San Angelo Flying Service in Texas. Later, he worked as a ferry pilot out of Hensley Field delivering AT-6's and P-51's, had a stint with a Contract Primary Flying School at Coleman, Texas, and joined the ATC in 1944.

After the World War II period, McKissick operated Aircraft Services Company at Waco, Texas. Bob said he did alright until he decided to build his own airplane with inadequate financing. He claims, with a wry smile, he probably is the only man in aviation who owned a BT-13A which cost \$31,000 more than the Air Force paid for them.

In January of 1950, Bob went to work for the CAA as Engineering Service Representative for Region 2. McKissick gained a new and broadened insight into the needs of the aviation industry. He, to mention one facet of his career, helped develop the ACC--designed AG-1 agricultural airplane. That aircraft currently is being produced by the Transland Aircraft Division of Torrance, California.

As for relaxation--sports cars and racing.

Bob has a son, Lance, who is attending Arlington State College in Texas, and a daughter, Karen, who is in Junior high school. Guiding Light is his wife. All, by the way, share his enthusiasm for aviation and sports car racing.



# JET GEMS

## Introduction:

The purpose of this column is to provide a "how-goes-it" reference regarding important economic, operations and maintenance factors involved in the entirely new concept of jet air transportation. We hope these gems will be helpful to those not directly concerned with gleanings of information from dozens of trade periodicals, engineering papers, etc. and interesting clippings containing "meat" for our "after dinner" speakers making short talks before industrial and civic groups. We hope to cover both air carrier and general aviation areas. If the gems seem to currently favor the former, it is because there are so many more airline jet transports in operation. General aviation people be patient - you too will have "jet switch" soon! To briefly stress important factors it will be necessary to make broad statements and use "round numbers" - critical kibitzers and fractional statisticians stay off our belabored backs! Remember, we are burning the midnight oil at home - instead of in the crankcase going places - to bring you this romance!

## Turbojet Transition:

The airline operators have arrived at the shocked conclusion that the turbojet transport is not "just another airplane" as so blithely ballyhooed prior to delivery! It is a very costly, highly productive aircraft, requiring highly specialized training of flight crews and ground support technicians, to ensure

continued airworthiness of the aircraft and safe flight operations. Thirty minute intermediate stops and one to two hour turn-arounds require precise team work and split-second timing beyond the fondest dreams of the finest sports coach!

The DC-8 or 707 turbojet transport as compared to the most modern piston engine aircraft (DC7 or 1649) doubles the speed (300-600 mph), operating altitude (20,000-40,000 ft) passenger capacity (60-120) gross weight (130,000 - 265,000 lbs). The jet transport costs approximately three times more than the latest piston transport. The direct maintenance of the jet transport is currently 50% higher than estimated or about three times higher than DC-7's. This situation will improve - remember 1959 was the first year "shakedown" of jet aircraft operation - while the DC-7 has been in operation several years!

## Productivity:

The DC-8 or 707 turbojet transport is twice as fast and carries twice the passengers, therefore has four times the capacity of DC-7 or 1649 Constellation. One major airline is planning on its 50 jet transports replacing 136 piston aircraft in five years! The apparent discrepancies in ratio is due to the necessity of operating piston aircraft supporting "milk runs".

The jet transport is already operating with 90-96% load factor and up to 10 hours per day utilization, which is con-

siderably better than many of the current DC-7 operations!

#### International:

Pan American's six turbojet transports made 1273 transatlantic crossings between October 26, 1958 and July 31, 1959, carrying 129,061 passengers. During the same period the liner United States carried 45,933 passengers across the Atlantic Ocean. The United States cost \$70 million and the six jets about \$35 million!

Pan Am's current fleet of 14 Boeing 707-320 Intercontinentals (long range) and six shorter range 120's fly to South America, across the Atlantic and Pacific Oceans, from our West Coast to London and around the world, reaching a total of 21 cities overseas. "Around the World in 80 days" is narrowing to 80 hours!

#### Domestic:

Turboprops and turbojets are rapidly nearing 50% of the Domestic seat miles. On the heavily traveled non-stop routes between the East and West Coasts only one scheduled piston aircraft flight is operating, the other 11 daily scheduled flights are all jets!

#### General Aviation Jets:

Five Viscounts and one Beech 760 operating, 12 Fairchild F-27's, 30 Grumman Gulfstreams coming and what happens when a major airline replaces 25 or 30 of its Viscounts? Gen-

eral Motors Corporation purchased the last six Convair 440's off the line to be converted to Allison 501 turboprops. Added to the two 340's being converted, this will give GM a business fleet of eight Convair/Allison turboprops. Check the tranquilizers!

--Foggy--

### DIRECTED STUDY AT NEW HIGH

During the calendar year of 1959, ANF Branch's Directed Study Section serviced 20,358 examinations submitted by FAA field personnel. The recent tabulation on the extent of participation in home study courses for in-service technical training also shows that this 20,000 figure represents an increase of 42% over the total for the same period of 1958.

Activity, still rising, reached a record high during the closing days of 1959, a total of 1,912 examinations having been received in December. This exceeded the number of exams received in any previous month in the history of Directed Study. In fact, the total number of exams received during the last three months of the year, 5,679 exams, set a new record for activity in any quarter-year period.

In addition, 456 new enrollments were processed during December, an increase of 68 over the preceding month. Marked increases occurred in almost every course, particularly in DS-100, which marks a technical "floor" upon which most advanced training can be built.





This automatic pilot mock-up is a part of a dual installation including the Bendix PB-10A autopilot console located in the Guidance-pulse Laboratory of the Avionics Training Building. These are used for instruction of flight inspection personnel from the Regions and the Center. In addition to the aircraft components, the assembly includes provisions for simulating particular aircraft attitudes, altitudes, system responses, and location with respect to ground based Radio Aids for automatic navigation flying and Instrument Landing approaches.

This specialized equipment course is part of the 13-week Guidance Unit training program which includes the following theory classes; Vacuum Tubes, Transistors, Theory of Flight, Synchros and Servos, Magnetic Amplifiers, Gyros and Motors, Radio Beams, and Math Fundamentals.

The three things we crave most in life --happiness, freedom, and peace of mind--are always attained by giving them to someone else.



Here are the 50 R-985 aircraft engines which were excess to the needs of the Federal Aviation Agency and other Government Agencies and offered for sale on the open market on December 15 at the Center. Shown with the engines in Building 246 are Warehouseman Don James, left, and Supply Specialist, Hal C. McVey, right. Since new engines of this type are no longer in production, this sale created quite an interest among dealers in aircraft parts and components. A number of firms scattered throughout the nation were represented at the formal opening of sealed bids, and the award was made for \$60,333.

...C.B.

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"When two people are under the influence of most violent, most insane, most delusive, and most transcendent of passions, they are required to swear that they will remain in that excited, abnormal and exhausting condition continuously until death do them part."

"Getting Married"

...George Bernard Shaw

## CENTER GIVES GIFTS INSTEAD OF YULE CARDS

The dollars usually spent on Christmas cards at the Aeronautical Center went for other things this year. "Good will and cheerful giving" was the keynote of the entire Center.

Last year the Center employees took their Christmas card money and gave it to the Mary Flake Home after the tragic Thanksgiving Day fire.

This year the "money in lieu of cards" went to various individuals and organizations, including the Mary Flake Home. Money for that came from the Operating Materials Division.

The Fiscal Division sent its money to a former FAA employee who had been seriously ill.

Air Navigation Facilities sent money to the Salvation Army. The Air Traffic Control Division adopted a family of 11. Childrens' clothing, toys, and bedding were collected from the branch and the cash used to provide a Christmas dinner and other foods.

Aircraft Standardization and Maintenance contributed toys, money, and groceries to worthy families and gave to the Childrens' Convalescent Hospital.

Hangar Eight's Aircraft Maintenance Branch collected toys for children in the Convalescent Hospital at Bethany and gave clothing and toys to the children of Riverside School.

Technical Services Division bought baskets of food for distribution through a school. Facilities Materiel Division bought radios for Childrens' Memorial Hospital.

The Personnel Division adopted two families and the procurement office

applied card money to a television set for the elderly women's ward at the Oklahoma County Home. The rest of the set was paid for by other employees and the Employees Association.

## FMD AIDS CENTER FAMILY

The spirit of giving was recently demonstrated wholeheartedly in the Facilities Materiel Division. Did you ever wonder how you would fare if your home was leveled by fire? Unfortunately this very thing happened to the Paul Gragg family about a month before Christmas. Neither Paul's wife nor their three small children were injured by the fire, but they escaped with only the clothes they were wearing.

The need of this fellow family was felt immediately by members of the Facilities Materiel Division. The Jim Ware family gave the Graggs food and shelter for the first day and night. Another person gave them a home rent-free for 2 months. The size of the clothing required by each member of the family was broadcast to all personnel and the gears of compassion began turning. The day following the fire, two pickup loads of clothing were delivered to the family. Furniture, bedding, cooking utensils, silverware, and dishware were among the items that were given to this needy family. Cash donations for their assistance amounted to three hundred and fifty dollars.

The leaders spearheading the campaign to assist the Gragg family were Bill Alcorn, Ernie Burdine, Leroy Powell, and Jim Ware. To name the others who gave would be to give a roll call of Facilities Materiel Division since the participation was so wholehearted. Further assistance was given by the community and several welfare organizations.





Hangar 8, Aircraft Maintenance, repaired broken toys, dolls--for Christmas gifts.



AC-520, ATC Branch, gave food and clothing to family of nine.



Donated to needy families at Christmas time from AC-130.



## CHORAL-AIRES ON TELEVISION

The thirty-voice singing group at the FAA Aeronautical Center, the Choral Aires, appeared on an Oklahoma City television program Wednesday, December 23. The group, sponsored by the Employees Association, performed two numbers on "The Tom Paxton Show," a local program aired daily over WKY-TV.

Other performances this season include a Christmas Party at St. Anne's, the Christmas Program in the FAA auditorium, appearances before the Men's Club in Oklahoma City, and at the First Methodist Church in Oklahoma City.

Soloists in both Christmas performances were Florine Crockett, mezzo-soprano, and Roy Speakes, baritone.

The Choral Aires were organized in late 1958 and made their first public appearance during Christmas of last year. The director is Edwin Karhu, Minister of Music at the First Methodist Church.

Membership in this singing group, by the way, is open to any employee at the Center who is interested in singing.

...J.D.



## PERSONNEL-LY SPEAKING

Personnel problems follow no set patterns. To use a "space" comparison -- "atmosphere makes the difference. Without the atmosphere, any area becomes sharply defined in blacks and whites.... Atmosphere creates a series of grays, moving gradually into black or into white."

Some years ago a local businessman called me about an article in a national news magazine. The article was about a training program then being conducted in the CAA Headquarters on "How to be a Good Employee," and the article was rather complimentary. The local businessman was real eager to get his hands on a copy of the training material because if there was anything he really needed it was a device that would produce "Good Employees."

Well, we got a copy of the material and loaned it to him. When he sent it back, his thank you note was courteous but the "training program" pretty obviously had not solved his problem. I doubt if it could.

"Good employees," at least the things most of us mean when we use that phrase, are something no one-shot training program can produce. In fact "good employees" are very much like the old saw about good neighbors. If you had "good" neighbors in the old neighborhood, you'll probably find "good" neighbors anywhere you go.

"Good employees" show up when a group of people decide the work they are doing is important, that it really needs to be done, and that getting it done is something they can be proud of--and the harder it is to do the more proud they can be.

Many scientific studies have been made trying to figure out what it is that makes people "good employees" and no doubt the scientists learned dissertations shed considerable light on the causes, got nearly all of them mixed up with the conclusion so typical of such reports "this appears to be a field of considerable promise and we recommend that further research...etc."

The businessman found no magic in the training program for "good employees." There is none. "Good employees" are always a part of a "good" organization. A good organization is one in which the people who are "employees" and the people who are "management" work together to get important jobs done. Whether the person is "employee" or "management" he respects the people he works with, he recognizes everyone around him as a person, and he appreciates the difficulties the other fellow faces trying to get his part of the job done well. These are the simple things we've been learning since the day in our cradle we became conscious of the world around us. Our parents, our school, our churches, our civic clubs, etc. all emphasize these skills. This is the reason I doubt that a training program in how to be a "good" employee will help much.

When we realize and accept the fact that if we want to be a "good" employee working for a "good" organization the person we think of as "I" must set the pattern, then we assure having a "good" organization made up of "good" employees.

W.M. Jackson, AC-90



This football stalwart is none other than FMD's Charles Pratt. The picture was made at Carlisle Indian School in 1914.

### FMD MAN PLAYED FOOTBALL WITH JIM THORPE

One of the more vivid memories for Charles O. Pratt, who works in the electromechanical shops of FMD, revolves around the time he went to Carlisle Indian School at Carlisle, Pennsylvania and played football with Oklahoma's famed Indian athlete, Jim Thorpe.

Pratt recalls a wintry January day in 1914 when he and other gridsters of Carlisle were honored for accomplishments on the football field. Charlie was awarded a "C" for football. The team, during the 1913 season, won ten games, lost one, and tied one. Carlisle, that year, defeated such powerhouse teams as Cornell, Georgetown, Dartmouth, Syracuse, and Brown.

Among Charlie's teammates was the half Indian-half Irish Jim Thorpe. Thorpe that season won a spot on the All-American team as half-back.

The previous year Thorpe entered the Olympics at Stockholm, Sweden, winning both the Pentathlon, a five-event contest, and the Decathlon, a ten-event contest. This was the first time these two contests had been won by any individual. It hasn't been done since that time.

Charlie Pratt recalls the remarkable speed Thorpe, who was a big man, could show on the football field. And, adds Charlie, Jim Thorpe was also an excellent student.

### AEROMAIDS' HOLIDAY ACTIVITIES

The Aeromaids Club of the Aeronautical Center started their holiday season this fall early, and with a bang! In an earlier issue of WIRETAP, you read all about the "Christmas in October" party they gave for the 50 children at the Childrens' Convalescent Hospital in Bethany. The accompanying pictures attest to the fact that fun was had by all -- the kids and the Aeromaids.

Near Thanksgiving, the Aeromaids gals enjoyed a more sedate, but none-the-less enjoyable dinner meeting which featured our own Fifth District U.S. Congressman, John Jarman, as principal speaker. His was a serious but highly interesting talk on the importance of plain citizens -- even the women, bless 'em -- keeping ever aware of the problems our country faces in its foreign relations. Center Director and Mrs. Lanter, along with other Aeronautical Center bosses and wives, were special guests.

Then finally Christmas week and the girls gathered at Millie Bannister's home for an "old-fashioned" Christmas party -- complete with gift exchange, card games, and a lively gossip session.

...J.G.



## BEACON NOTES

Sterling Campbell, Simulation Supervisor, AC-520, recently completed a tour of several facilities throughout the midwest and east. His trip served a three-fold purpose: evaluation of new air traffic control training devices, indoctrination in the use of the new Bell Telephone System "300" Interphone System, and the interviewing of candidates for instructor positions. Needless to say, "Jim" had a very busy tour.

Jim visited the U.S. Naval Air Station at Olathe, Kansas, for the purpose of familiarizing himself with the techniques used to train Airport Traffic Controllers and to evaluate the methods of simulating VFR Air Traffic Control. After leaving Olathe and making several stops to interview prospective instructor personnel for our expanding program, Jim reached the Bell Telephone System Laboratories in Murray Hill, New Jersey. Here he was able to get a firsthand look at the new "300" Interphone System especially designed for our expanded Air Traffic Control System. This equipment is being installed in our new Air Traffic Control Centers throughout the country and is presently installed at NAFEC, the next step on Jim's tour.

At NAFEC, he was able to see this new "300" Interphone System in operation, and also evaluate the extensive Air Traffic Control simulator installation used for the evaluation and resolution of air traffic control problems throughout the country. This multimillion dollar installation is able to simulate the flow of traffic into and out of any terminal area in the country and from the evaluation, NAFEC personnel are able to recommend new procedures and/or new navigation aids to remedy the complex problems in this field.

On his return trip, Jim stopped at the Washington, D. C. Air Route Traffic Control Center to see the new UNIVAC File I Computer installation. This computer is one of many scheduled to be in-

stalled in our Air Traffic Control Centers to relieve the controller of the time consuming task of posting and estimating flights throughout his area and by so doing make it possible for him to devote his full attention to the critical task of controlling the traffic.

Jim said this was a most interesting and enlightening experience and should result in the accomplishment of the major objectives set forth by Perry Bolyard, Branch Chief, AC-520. This objective was to update the thinking and planning in respect to future ATM training programs.

Roger Blizzard, AC-360, accompanied Jim on this trip.

...F.T.

### AIR EXPLORERS WIN BLUE RIBBON

Air Explorer Post Number 1 sponsored by the FAA Aeronautical Center Employees Association received a blue ribbon for the excellence of their booth at the Scout-O-Rama held in Oklahoma City December 4-5.

Attendance at the event was estimated at 25,000. Judges awarded the unit 292 points out of a possible 300.

The explorers demonstrated and discussed the interrelation of aviation, flight instruments, and weather. Through the efforts of volunteer FAA pilots and instructors the unit has received 10 to 12 hours of instruction in the fields of flight instruments, aviation, and weather.

Able instruction in these subjects was provided by James Gammon, Flight Instruments; Ronald Templin, Aviation; and Harrell Joins, Weather.

## THOUGHTS ON A QUIET DAY

Are you dead and don't know it? I know a man who is.

After work every afternoon this man goes home, invariably driving the same route. He sees nothing, feels nothing, experiences nothing. His actions and reactions are purely predestined--he's in a rut.

When he gets home he mechanically kisses his wife (if he has to), turns on the television set, and sits. Only during the commercials can he be spoken to--he even eats his supper while watching.

Talk about being rigged! Here's a man whose whole life is rigged. There's nothing real about him. He's a character playing a part. He's dead and doesn't know it.

How close are you to being like this man? No, he's not one-in-a-million, he's quite ordinary--he's the rule not the exception.

The development of television has made it unnecessary to think, and the loss of the ability to think has left Americans with only one demand--one goal--"Entertain me"!

Entertainment in itself has become the American goal, and such a selfish senseless goal will make us leeches on life.

Is there no solution then to this problem?

There is. But it's not an easy solution. First, pull the plug on the television and leave it disconnected for at least 2 weeks. This will rid the narcotic from your system.

So the kids holler--so what? Let 'em. Why should you infect them with the

disease? One thing is certain--the loss of television will hurt you more than it will them.

Now. The electronic monster is silent. You have nothing to do...but, oh yes, you have!

Think. Think about yourself and your family. Ask yourself these questions.

What is my goal in life?  
What am I here for?

Life is short--what do I want to accomplish before it's over?

If you're stuck on the first question then by all means find yourself a goal. But when you do make sure it isn't a material goal, like earning more money or buying a new car.

You want a goal that has moral value, that will make you a better individual, one not easily reached. There are many such goals to be had--they don't cost a cent, and they'll last a lifetime.

Such a goal can be had in the field of education. What's to keep you from becoming an expert in any of the fields of science? The choice is free, and it's yours for the taking. Mathematics, Physics, Electronics. It can be done in the time you threw away watching television.

Or the arts? Painting, Writing, Music. Many people have become experts in hobbies. You can too.

But no matter what your goal is--tangible, as the above, or intangible, as improving your personality--the mere fact that you have a goal in life will justify your existence as a human being.

Wesley L. Chestnut





# JANUARY 1960

*Sun Mon Tue Wed Thu Fri Sat*

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<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>
<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>	<b>21</b>	<b>22</b>	<b>23</b>
<b>24</b> <b>31</b>	<b>25</b>	<b>26</b>	<b>27</b>	<b>28</b>	<b>29</b>	<b>30</b>





NAME	REG.	STATION	NAME	REG.	STATION
Batman, Wilbur D.	3	Lafayette, Ind.	LaRiviere, Wilfred	3	Duluth, Minn.
Bay, John D.	1	Denver, Colo.	Lord, Earl L.	3	Detroit, Mich.
William E.	3	Rockford, Ill.	Miller, Francis B.	4	Livingston, Mont.
Beryl M.	1	Fitchburg, Pa.	Morgensen, Harry T.	4	Elko, Nevada
Robert J.	2	Okla. City, Okla.	Morison, Herman	1	Pomona, N. J.
Everett, Seymour	WO	Washington, DC	Nelson, Robert C.	1	New York, N. Y.
Grover, Thurman P.	2	Houston, Texas	Stickles, George Jr.	4	Pleasant, Calif.
Gillich, Raymond P.	1	Atlantic City, N. J.	Tichenor, George W.	2	Midland, Texas
Howes, George S.	2	Memphis, Tenn.	White, Phil F.	4	Denver, Colo.
Kuroiwa, Kenneth K.	6	Honolulu, Hawaii	Woods, Jack S.	5	Juneau, Alaska

## SHORT TAGAN CLASS 13 CONVENED NOVEMBER 30, to JANUARY 8, 1960

Clark, George R.	4	Lewistown, Mont.	Moody, Arch B.	2	Okla. City, Okla.
Collins, Louis W.	1	Poughkeepsie, N. Y.	Naylor, George R.	2	Amarillo, Texas
Dillard, Dennis H.	AC	Okla. City, Okla.	Ritter, John R.	5	Bethel, Alaska
Eddington, B. D.	4	Miles City, Mont.	Romer, Robert T.	2	Tallahassee, Fla.
Epps, Paul C.	2	Myrtle Beach, S. C.	Switzer, Marvin F.	1	Lynchburg, Va.
Giannozzi, R. A.	1	Youngstown, Ohio	Thuman, Donald	1	Buffalo, N. Y.
Greenanmyer, Glen Jr.	2	Miami, Florida	Tysdal, Lloyd F.	4	Dillon, Montana
Right, Troy R.	2	Raleigh, N. C.	Walmer, Delbert G.	4	Ephrata, Wash.
Hollenbach, Hansel	2	Orlando, Florida	Walter, Arley E.	AC	Okla. City, Okla.
Keane, Edward M.	1	Cincinnati, Ohio			

## ELECTRO-MECHANICS CLASS 10 (AIR CONDITIONING PHASE) - NOV 16 - 27, 1959

Brendemuhl, Edward	5	Anchorage, Alaska	Robinson, Max R.	5	Cordona, Alaska
Clark, Forrest C.	4	Great Falls, Mont.	Rose, Fred C.	1	Buffalo, N. Y.
Gildren, Donald R.	2	Swan Island	Skaar, Edwin R.	3	Alexandria, Minn.
Knowlton, William	1	Philadelphia, Pa.	Smith, Artie M.	3	Emporia, Kansas
Lamb, Max E.	3	St. Joseph, Mo.	Statner, George W.	AC	Okla. City, Okla.
Moore, Elwin J.	3	Minneapolis, Minn.	Taylor, John H.	3	Grand Island, Nebr.

## ELECTRO-MECHANICS CLASS 10 (TELETYPE PHASE) - NOV 30 - DEC 24, 1959

Burton, Marion A.	2	Wright-Patterson, O.	Knowlton, William	1	Philadelphia, Pa.
Clark, Forrest C.	4	Great Falls, Mont.	Roby, William L.	3	Indianapolis, Ind.
Feller, Joe F., Jr.	3	Lincoln, Nebr.			

## ELECTRO-MECHANICS CLASS 11 CONVENED OCTOBER 26, 1959 - JANUARY 29, 1960

Boyd, Jimmy D.	AC	Okla. City, Okla.	Oelien, Charles A.	4	Daggett, Calif.
Dean, H. C.	2	Tallahassee, Fla.	Ouellette, Louis R.	3	Duluth, Minn.
Goodgame, Edgar P.	2	Birmingham, Ala.	Scaringi, Joseph F.	1	Jamaica, L. I., N. Y.
Massey, John E.	2	Atlanta, Georgia	Stapp, William Jr.	1	Washington, D. C.
McCullough, Ernest	5	Anchorage, Alaska	Wicienciak, Stanley	3	Milwaukee, Wisc.
McIntosh, Wesley S.	5	Glenallen, Alaska			

## ELECTRO-MECHANICS CLASS 11 (ENGINES PHASE) - NOV 30 - DEC 18, 1959

Boyd, Jimmy D.	AC	Okla. City, Okla.	Oelien, Charles A.	4	Daggett, Calif.
Dean, H. C.	2	Tallahassee, Fla.	Ouellette, Louis R.	3	Duluth, Minn.
Goodgame, Edgar P.	2	Birmingham, Ala.	Wicienciak, Stanley	3	Milwaukee, Wisc.
McCullough, Ernest	5	Anchorage, Alaska	Timmons, William F.	1	Syracuse, N. Y.
Massey, John E.	2	Atlanta, Georgia			

## NOVEMBER GRADUATES IN DIRECTED STUDY COURSE 1

NAME	REG.	STATION	NAME	REG.	STATION
Boyle, William F.	1	Wantagh, N. Y.	May, C. D.	2	Greensboro, N. C.
Deamle, Herbert	Spec	Needles, Calif.	Way, Joseph D.	4	Montague, Calif.

## NOVEMBER GRADUATES IN DIRECTED STUDY COURSE 2

Bartholomew, Richard	1	Allentown, Pa.	Lorch, William O.	2	Shreveport, La.
Ciarrocca, A. J.	1	Coraopolis, Pa.	Miller, Quentin M.	1	Manfield, Ohio
Famkhauser, Robert	4	Spokane, Wash.	Moore, Roy L.	2	Raleigh, N. C.
Isumi, George Y.	6	Honolulu, Hawaii	Skolnich, Bertram	1	Jamaica, N. Y.
Johnson, John H.	4	Aurora, Colorado	Wasserman, David	1	Bronx, N. Y.

## NOVEMBER GRADUATES IN DIRECTED STUDY COURSE 90

Argall, Phillip M.	5	Nenana, Alaska	LeBeau, Maurice	2	St. Petersburg, Fla.
Biss, Charles R.	AC	Drummond, Mont.	Liles, Lehman P.	ANF	Okla. City, Okla.
Bochek, Frank J.	1	Waldale, Pa.	Mayhall, Joseph G.	1	Cleveland, Ohio
Bradford, Harold W.	3	Savage, Minn.	Murphy, Kenneth W.	1	Rochester, N. Y.
Brown, Edgar L.	2	San Antonio, Tex.	Naples, Donald A.	1	McKees Rocks, Pa.
Brown, Frank S.	2	Ft. Worth, Tex.	Phillips, Robert L.	3	Scottsbluff, Neb.
Brown, Leroy	1	Flushing, N. Y.	Pugh, Ronald E.	2	Mountain Home, Ark.
Brownlie, George D. Jr.	2	Key West, Fla.	Raess, Edward	2	San Antonio, Tex.
Caldwell, Harvey Jr.	1	Vandalia, Ohio	Reardon, Charles C.	2	New Orleans, La.
Cassada, James B.	2	Hurst, Tex.	Reyes, Tony C.	ANF	Okla. City, Okla.
Covey, Stuart M.	1	Windsor Locks, Conn.	Robinson, James H.	ANF	Okla. City, Okla.
Crowley, Thomas D.	2	Memphis, Tenn.	Ross, William Jr.	1	Pittsburgh, Pa.
Cruser, Eric W.	1	Barnegat, N. J.	Rummell, Donald C.	4	Oakland, Calif.
Culbertson, W. S.	2	Junction, Tex.	Sarmon, Joseph M.	1	Bradford, Pa.
Doyle, David	ANF	Okla. City, Okla.	Schroeder, Neil J.	3	Burlington, Iowa
Edwards, Sidney	4	Palmdale, Calif.	Schumann, A. A.	3	Burlington, Iowa
Evans, Stanley	2	Houston, Tex.	Sudek, George L.	1	Columbus, Ohio
Fahnesthald, Walter	2	Lometa, Tex.	Shaver, Floyd	Spec	Burlington, Iowa
Frederick, O. D.	2	Ft. Smith, Ark.	Smith, Leonard E.	3	Omaha, Neb.
Guiggo, Richard H.	1	W. Roxbury, Mass.	Spoon, Howard F.	4	Redwood City, Calif.
Hammer, Julius	1	Brooklyn, N. Y.	Stallings, Drew N.	4	Sacramento, Calif.
Hansford, Charles H.	1	Coraopolis, Pa.	Stapp, James W.	2	Ft. Worth, Tex.
Hardcastle, Eddie R.	2	Cotter, Ark.	Tengowski, Thomas	4	Portland, Ore.
Hemming, A. R.	4	Spokane, Wash.	Tipton, Walter H.	4	Drummond, Mont.
Holland, Richard D.	2	Ft. Worth, Tex.	Toole, John	1	Long Island, N. Y.
Huddle, Kenneth D.	3	Philip, S. Dak.	Uehara, Bunkichi	Spec	Canton Island
Huffman, Charles R.	4	Great Falls, Mont.	Valdez, Anselmo O.	2	San Antonio, Tex.
Kappler, Ray G.	1	Pittsburgh, Pa.	Vilmare, John P.	6	Honolulu, Hawaii
Karol, Gene E.	2	Nashville, Tenn.	White, Richard A.	1	Akron, Ohio
Kistler, Frederick H.	4	Spokane, Wash.	Wilson, Robert E.	5	King Salmon, Alaska
Lanford, Herbert A.	2	Spartanburg, S. C.			

## NOVEMBER GRADUATES IN DIRECTED STUDY COURSE 100

NAME	REG.	STATION	NAME	REG.	STATION
Branstetter, L. L.	AC	Okla. City, Okla.	Lake, Robert J.	2	W. Palm Beach, Fla.
Christiansen, J. A.	Spec	Long Island, N. Y.	Morgan, Vernon F.	4	Portland, Ore.
Gulberg, Donald P.	4	Bremerton, Wash.	Tillman, Bobbie G.	4	Paso Robles, Calif.
Hall, Francis E.	5	Kenai, Alaska	Turner, Charles E.	2	Salt Flat, Tex.
Johnston, Wilbur A.	2	Okla. City, Okla.	Wilson, Robert L.	4	Spokane, Wash.
Kitson, Lewis E.	3	Ypsilanti, Mich.	Woehlke, Herman E.	4	Glendale, Ariz.

## NOVEMBER GRADUATES IN DIRECTED STUDY COURSE 201

Emerich, Glen A.	4	Denver, Colo.	Payne, Samuel	4	Oakland, Calif.
Jannelle, Robert D.	1	Thompsonville, Fla.	Ralph, Richard H.	1	Long Island, N. Y.
Lake, R. J.	2	W. Palm Beach, Fla.	Willis, Kenneth V.	2	Tampa, Fla.
Mickelson, G. A.	4	Great Falls, Mont.			

## NOVEMBER GRADUATES IN DIRECTED STUDY COURSE 202

Cztr, James A.	4	Los Angeles, Calif.	Lake, R. J.	2	W. Palm Beach, Fla.
Hamilton, John B.	2	Ft. Worth, Tex.	Lombard, R. G.	4	Manhattan Beach, Ca.
Hiltscher, LeRoy	4	Hayward, Calif.	Pan, William	4	Castro Valley, Calif.
Holland, Garland L.	4	Daggett, Calif.	Reese, Clarence G.	4	Summit, Utah
Iyerson, Robert C.	4	Seattle, Wash.	Richardson, Edgar	4	San Diego, Calif.
Jenkins, James F.	1	Erlanger, Ky.	Wilson, Lawrence	AC	Norman, Okla.

## NOVEMBER GRADUATES IN DIRECTED STUDY COURSE 203

Gildeson, Joe D.	4	Fresno, Calif.	Sharp, Robert G.	2	El Dorado, Ark.
Howes, George S.	2	Memphis, Tenn.	Shirley, Eugene J.	3	Kansas City, Mo.
Hunter, Dorris C.	2	Monroe, La.	Schuler, C. E.	2	Okla. City, Okla.
Mack, Gerald P.	1	Rochester, N. Y.	Taylor, Donald A.	2	Norman, Okla.
Scarfi, Anthony J.	1	Alexandria, Va.			

## NOVEMBER GRADUATES IN DIRECTED STUDY COURSE 204

Boyd, Robert S.	3	Builer, Mo.	Hren, Anton J.	3	Rochester, Minn.
Carlisle, Coleman L.	2	Monroe, La.	Peterson, Carl G.	3	Kansas City, Mo.
Elliot, A. E.	2	Memphis, Tenn.	Van Vorst, Earl L.	4	Paso Robles, Calif.

## NOVEMBER GRADUATES IN DIRECTED STUDY COURSE 208

Everitt, Larry D.	3	Kansas City, Mo.	Reid, Daniel M.	3	Kansas City, Mo.
Goiby, Earl W.	AC	Okla. City, Okla.	Oka, Francis F.	6	Kahului, Hawaii
McGrath, Roddy P.	1	Simsbury, Conn.	Olson, Clyde O.	4	Seattle, Wash.

## NOVEMBER GRADUATES IN DIRECTED STUDY COURSE 301

NAME	REG.	STATION	NAME	REG.	STATION
Bellinger, Guy J.	4	Rolling Hills, Calif.	Noel, Robert E.	2	Fayetteville, Ark.
Davis, Robert W.	4	Panguitch, Utah	Price, Stanley, P. E.	5	Anchorage, Alaska
Hutchinson, Roger	WO	Rochester, N. Y.	Rolanda, Hugo	3	Wayne, Mich.
Laping, Berino	2	Dallas, Texas	Stevenson, Larkin	3	Taylor, Mich.
McFritridge, Charles	2	Amarillo, Texas	Yee, Kim K.	6	Agana, Guam
McKay, Carl R.	4	Kearns, Utah			

## NOVEMBER GRADUATES IN DIRECTED STUDY COURSE 302

Glotsbach, Walter	3	Burlington, Iowa	Royce, Marvin W.	3	Eau Claire, Wis.
Kimball, Reginald	1	Millinocket, Maine	Wilcox, Donald E.	5	Mt. Edgecumbe, Alaska
Raymond, Garold	4	Los Angeles, Calif.			

## NOVEMBER GRADUATES IN DIRECTED STUDY COURSE 303

Christie, Dumas E.	2	Savannah, Ga.	Osborn, Robert E.	3	Sidney, Nebraska
Garrett, Basil G.	2	Ft. Worth, Tex.	Praston, William H.	4	Denver, Colorado
McKeehan, James E.	4	Great Falls, Tex.	Skolnich, Bertram	1	Jamaica, N. Y.

## NOVEMBER GRADUATES IN DIRECTED STUDY COURSE 304

Grebe, Edgar G.	3	Bradford, Ill.	McKnight, Albert	3	N. Platte, Neb.
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## NOVEMBER GRADUATES IN DIRECTED STUDY COURSE 401

Cook, Robert John	4	Lakewood, Calif.	Polsinelli, Vincent	1	Newark, N. J.
Griewold, Norris R.	4	Anaheim, Calif.	Price, Stanley, P. E.	5	Anchorage, Alaska
Hegar, Daniel T.	2	Fort Worth, Tex.	Radielson, Leo	1	Brooklyn, N. Y.
Lee, Leroy	2	Fort Worth, Tex.	Ritchie, S. M.	WO	Hyattsville, Md.
Lombardo, Joseph	1	New York, N. Y.	Urban, Alfred C.	1	Roaldale, Mass.



COMMUNICATIONS EQUIPMENT CLASS 142 CONVENED NOV. 2, 1959, TO FEB. 5, 1960

NAME	REG.	STATION	NAME	REG.	STATION
Bale, Nathan K.	4	Gr. Junction, Colo.	Lung, Eugene Y. Q.	6	Honolulu, Hawaii
Balkan, Sabri D.	OIC	Turkey	Moore, Bert A., Jr.	2	Memphis, Tenn.
Basarac, Mehmet I.	OIC	Turkey	Morgan, Ernest D.	5	Anchorage, Alaska
Calatayud, A. V.	OIC	Bolivia	Piper, Bernard F., Jr.	3	Pierre, S. Dakota
Crawley, Harold G.	1	Williamsport, Pa.	Restrepo, Jose E.	OIC	Columbia, S. Am.
Cuyto, Richard B.	1	Binghamton, N. Y.	Robinson, Eugene L.	2	Tallahassee, Fla.
Dever, James L.	4	Albuquerque, N.Mex.	Sigmund, Louis G.	1	Allentown, Pa.
Ferrara, George P.	4	Lovelock, Nevada	Stoib, Russell L.	2	St. Croix, V.I.
Fletcher, Charles L.	4	Tucson, Arizona	Snyder, John F.	1	Williamsport, Pa.
Frampton, Edward	2	S. Simons Is., Ga.	Stambul-Sheik, L.	WO	Washington, D. C.
Interlichia, D. D.	1	Rochester, N. Y.	Tilson, Ralph W.	2	Hickory, N. C.
King, Raymond C.	4	Idaho Falls, Idaho	Watt, Arthur H.	6	Honolulu, Hawaii
Kort, Frank J.	1	NY-640-A	Wattman, John G.	1	Savville, N. Y.
Kroul, William E.	2	Pine Bluff, Ark.			

COMMUNICATIONS EQUIPMENT CLASS 143 CONVENED NOV. 16, 1959, TO FEB. 19, 1960

NAME	REG.	STATION	NAME	REG.	STATION
Adams, Edwin A.	4	Gila Bend, Ariz.	Rainwater, Preston C.	2	Graham, Tenn.
Allred, Lloyd N.	4	Ogden, Utah	Rosa, Norman Jack	3	Souix City, Iowa
Baker, David L.	1	Akron, Ohio	Scott, Eric G.	1	Glen Falls, N. Y.
Brown, Edgar L.	2	San Antonio, Tex.	Shingler, Edwin D.	4	Rock Springs, Wyo.
Conley, Marvin D.	5	Fairbanks, Alaska	Stamper, Stanley G.	4	Whitehall, Mont.
Creel, Gavin G.	2	Tuscaloosa, Ala.	Stedman, James A.	5	Fairbanks, Alaska
Dominquez, Enrique	2	Houston, Texas	Stovall, Harold D.	2	Lubbock, Texas
Foreman, Edward A.	4	Great Falls, Mont.	Tessena, Teogay	OIC	Addis-Ababa, E.
Guerrero, George R.	2	El Paso, Texas	Twell, Thomas R.	4	Los Angeles, Calif.
Kay, Buddy E.	2	Daytona Beach, Fla.	Tynes, Sherman P.	WO	Washington, D. C.
King, Raymond	5	Woody Is., Alaska	Wallace, Roland	2	New Orleans, La.
Knight, Kenneth K.	4	Pendleton, Oregon	Wilder, Richard D.	3	Fargo, N. Dakota
Miera, Almer E.	2	Lake Charles, La.	Worthington, Joe B.	3	Lometa, Texas
Mincity, Dominique	1	Presque Is., Maine	Yauk, George, Jr.	AC	Okla. City, Okla.
Morgan, Vernon F.	4	Portland, Oregon	Zaidi, Aziz	OIC	Karachi, Pakistan
Prather, Clyde H.	2	Memphis, Tenn.			

RML REPEATER CLASS 5 CONVENED NOV. 16, 1959 TO NOV. 27, 1960

NAME	REG.	STATION	NAME	REG.	STATION
Blattman, Daniel A.	4	Olympia	Klein, Frank H.	4	Medford, Oregon
Bruennner, John W.	2	San Antonio, Tex.	Lancini, Charles C.	3	Battle Creek, Mich.
Clark, Duwayne W.	2	Danvers, Colorado	LeBlanc, Loyd J.	2	San Antonio, Texas
Coates, Hildy C.	2	Houston, Texas	McCarthy, George E.	4	Sacramento, Calif.
Conner, Joseph D.	4	Thermal, Calif.	Pensoli, Victor H.	4	Burbank, Calif.
Critchfield, Arthur D.	4	Fairchild AFB	Tenny, Frederick A.	4	Toledo, Wash.
Dilts, LeRoy J.	4	Los Angeles, Calif.	Williams, Fred M.	4	Denver, Colo.
Gaugh, Edward M.	4	Eugene, Oregon	Wright, Fred E.	2	Houston, Texas
Johnston, Edward L.	4				

RADAR CLASS 140 CONVENED OCT. 19, 1959, TO FEB. 5, 1960

NAME	REG.	STATION	NAME	REG.	STATION
Baker, Richard T.	4	Los Angeles, Calif.	Holt, Orval R.	3	Kansas City, Mo.
Barbour, Gordon E.	1	Rome, N. Y.	Lamar, Walter K.	1	Louisville, Ky.
Bayless, Leonard F.	2	Hobart, Okla.	Longinaker, Donald R.	3	Lincoln, Nebr.
Blanchard, Charles R.	4	Denver, Colo.	Martin, Joseph W.	3	Kansas City, Mo.
Boulter, William V.	2	Charleston, S. C.	Mason, Robert E.	5	Anchorage, Alaska
Bower, Carl E.	1	Boston, Mass.	Masi, Roger E.	3	Kansas City, Mo.
Burke, Thomas M.	3	Kansas City, Mo.	McCormick, C. T.	2	Memphis, Tenn.
Casey, John W.	3	Chicago, Illinois	Mundt, Ernest E.	5	Fairbanks, Alaska
Cavallo, Ronald V.	1	Boston, Mass.	Nardi, Camillo S.	1	Buffalo, N. Y.
Church, Robert D.	2	Memphis, Tenn.	Pound, Budd F.	4	Seattle, Wash.
Clark, Merle E.	4	Salt Lake City, Utah	Ramsay, John R.	3	LaGrange, Ind.
Danielowicz, H. A.	1	Montauk Point, N.Y.	Schmitt, LeRoy J.	2	Shreveport, La.
Dunlap, Alton W.	2	El Paso, Texas	Shaw, A. V., Jr.	2	Austin, Texas
Elgines, Robert F.	4	Phoenix, Ariz.	Shell, Hubert	AC	Okla. City, Okla.
Enaley, Bryan D., Jr.	2	Raleigh, N. C.	Thoreson, Donald E.	3	Minneapolis, Minn.
Evanston, Robert E.	1	Cleveland, Ohio	Van Emmerik, F. A.	4	Salt Lake City, Utah
Goodrich, Robert G.	2	Pensacola, Fla.	Waldron, Wallace E.	3	Ypsilanti, Mich.
Graham, Wallace E.	2	Little Rock, Ark.	Welch, Leonard E.	3	Lincoln, Nebr.
Halderson, Olaf A.	4	Great Falls, Mont.	Williams, Donald H.	2	San Antonio, Texas
Hasle, Thomas C.	2	Ft. Worth, Texas	Zigo, Thomas J.	1	Columbus, Ohio

RADAR CLASS 141 CONVENED NOV. 16, 1959, TO MAR. 4, 1960

NAME	REG.	STATION	NAME	REG.	STATION
Aitken, Donald G.	3	Wichita, Kansas	Harrington, Joseph E.	3	Montgomery, Ala.
Arnold, Fred W.	1	Windsor Locks, C.	Johnson, Thendore D.	1	Washington, D. C.
Avant, Vernon E.	2	Atlanta, Ga.	Kralich, Rudolph, Jr.	2	Shreveport, La.
Barnett, J. C.	2	Ponca City, Okla.	Lee, Kenneth L.	3	Olathe, Kansas
Batchelor, Earl A.	4	Great Falls, Mont.	Lyons, David A.	4	Tucson, Ariz.
Brizendine, E. E.	2	Nashville, Tenn.	McKewen, Roderick D.	2	Mobile, Ala.
Caldwell, Harold E.	2	Perrin, Texas	Miller, Quentin M.	1	Mansfield, Ohio
Chin Chang, Dia	6	Honolulu, Hawaii	Mock, Amos L.	1	Danville, N. Y.
Davis, Alfred L.	2	Charleston, S. C.	Near, Marion R.	4	San Jose, Calif.
DeMerritt, Lorin G.	4	Portland, Oregon	Nowell, Robert, Jr.	1	Cleveland, Ohio
DeRock, Bernard L.	2	Charleston, S. C.	Pitts, Charles L.	5	Anchorage, Alaska
Duggan, William F.	2	Atlanta, Ga.	Shanahan, Philip F.	1	Boston, Mass.
Edwards, James F.	2	Shreveport, La.	Slavik, Frank D.	5	Anchorage, Alaska
Field, John A.	2	Miami, Fla.	Tees, George W.	2	Ft. Worth, Texas
Foster, Keith G.	2	Savannah, Ga.	Tenney, Robert D.	4	Ogden, Utah
Fultz, Ronald C.	3	Hutchinson, Kan.	Toland, Leslie B.	2	Ft. Worth, Texas
Gallagos, Nick	4	Albuquerque, N. M.	Turnquist, C. N.	3	Chicago, Illinois
Gardner, Daniel C.	2	New Orleans, La.	Vickers, DeForest	4	Great Falls, Mont.
Grady, Michael R.	1	Boston, Mass.			

RADAR OPTION SPECIALTY CLASS 138 CONVENED NOVEMBER 9, TO DECEMBER 11, '59

NAME	REG.	STATION	NAME	REG.	STATION
Bustamente, Fred S.	2	San Antonio, Tex.	Nitsch, Reynold L.	2	Spartanburg, S. C.
Cassidy, Irvin, Jr.	3	Columbia, Mo.	Noggle, Max B.	2	Asheville, N. C.
DeChristofano, D. W.	1	Quonset Pt., R.I.	Pader, James B.	2	Miami, Florida
DeSouza, Manuel	1	Ola AFB, Mass.	Pugh, Luther	1	Philadelphia, Pa.
Douglas, Charles	3	Olathe, Kansas	Roberts, Joseph M.	2	Knoxville, Tenn.
Faller, Robert C.	5	Anchorage, Alaska	Sandora, Jack R.	2	Anderson, S. C.
Frost, Roger E.	4	Los Angeles, Calif.	Savel, Edward S.	1	Boston, Mass.
Harris, Willie E.	4	Albuquerque, N.M.	Scharlock, Joseph W.	2	San Antonio, Tex.
Holland, Raphael J.	2	San Antonio, Tex.	Stopp, Richard E.	4	Oakland, Calif.
Ines, George C., III	2	Atlanta, Ga.	Sylvain, Georges	1	Rossmore, Va.
Imasand, Robert S.	2	Mobile, Ala.	Tengowski, Thomas	4	Portland, Ore.
Jacobson, Kenneth	2	San Antonio, Tex.	Teuscher, Wilford F.	4	Hill AFB, Utah
Jennings, Clarence C.	4	Albuquerque, N.M.	Tipton, William W.	4	Seattle, Wash.
Karl, Gene E.	2	Nashville, Tenn.	Vavruska, Gerald A.	1	Cleveland, Ohio
Kilcrease, Andrew, Jr.	2	Ft. Worth, Texas	Webb, Rex	2	Montgomery, Ala.
Lesky, Michael G.	4	Los Angeles, Calif.	Witherspoon, Gene A.	2	LaGrange, Ga.
McManue, James, Jr.	1	Burlington, Vt.	Yearley, Alan R.	3	Lincoln, Nebraska
Melvin, Charles E.	WO	Washington, DC			

VOR CLASS 165 CONVENED NOV. 2, 1959, TO JAN. 22, 1960

NAME	REG.	STATION	NAME	REG.	STATION
Abu-Lymoun, Atef I.	OIC	Egypt	Landry, Earl J.	4	Mullan, Idaho
Angwin, Warren L.	4	Ft. Bridger, Wyo.	Logan, Jogn A.	4	Sheridan, Wyo.
Bales, James L.	2	Mordian, Miss.	Lutes, Bobby S.	3	Chicago, Ill.
Balcher, Carl W.	3	Champaign, Ill.	Mel, Robert E.	1	Jensen, Alaska
Benson, Jerome S.	3	Granburg, Wisc.	Moskowitz, Philip	1	Philadelphia, Pa.
Bryant, James G.	2	Shreveport, La.	Palmer, William D.	4	Daggett, Calif.
Burns, Orce E.	4	Otto, N. Mexico	Flowers, Herbert J.	4	Denver, Colorado
Doxier, Don W.	5	Fairbanks, Alaska	Riley, Lucious N. Jr.	1	Newark, N. J.
Evans, Horace A., Jr.	2	Tulsa, Okla.	Rivers, Marion D.	2	San Angelo, Texas
Gabel, Richard N.	AC	Okla. City, Okla.	Schafer, Charles F.	3	Quincy, Illinois
Glimer, Robert W.	2	El Paso, Texas	Schroeder, Neil J.	3	Burlington, Iowa
Harpington, Ira F.	1	Dayton, Ohio	Shell, Charles E.	1	Richmond, Va.
Herrin, James H.	3	Lafayette, Ind.	Vegh, Joseph	4	Colo. Springs, Colo.
Holte, Richard W.	3	N. Platte, Neb.	Wanless, Robert E.	4	Denver, Colorado
Hunt, Otis	2	Charleston, S. C.	Zientarski, B. E.	1	Toledo, Ohio
Johnson, Earl J.	4	Fresno, Calif.			

VOR CLASS 166 CONVENED NOVEMBER 16, 1959, TO JANUARY 8, 1960

NAME	REG.	STATION	NAME	REG.	STATION
Barbyre, Phillip W.	4	Prescott, Ariz.	Jones, Donald L.	4	Portland, Oregon
Barfield, William D.	2	Miami, Fla.	Khamnell, Mohsen	OIC	Iran
Bendall, Ray A.	2	Memphis, Tenn.	King, Norman S.	2	Childress, Tex.
Crumbley, Richard T.	2	Macon, Ga.	Pavakis, Gregoris	OIC	Greece
Curtis, Norman E.	4	Raton, N. Mex.	Ream, Philip H.	3	Sioux Falls, S. D.
DeShazo, Dean O.	4	Las Vegas, Nev.	Sam, Floyd	4	Oakland, Calif.
Ennis, William O.	1	Hunting, W. Va.	Sanders, Junior G.	4	Oakland, Calif.
Ferences, Joseph	1	Idlewild Arpt, N. Y.	Troyer, Leon S.	5	Anchorage, Alaska
Florucci, Robert G.	1	Jamaica, N. Y.	Watson, Harry W.	4	Fallon, Nev.
Fotovatjah, Nasser	OIC	Iran	Welling, Edward M.	3	Rapid City, S. Dak.
Haukaas, Harold L.	2	Tampa, Fla.	Wheatley, Jack L.	4	Mullan, Idaho
Johnson, Darold L.	3	Sioux Falls, S. Dak.	Yee, Charles S. Y.	6	Honolulu, Hawaii
Jolly, Charles L.	2	Memphis, Tenn.			

VOR CLASS 167 CONVENED NOVEMBER 30, 1959, TO JANUARY 22, 1960

NAME	REG.	STATION	NAME	REG.	STATION
Atzen, Gordon	3	Des Moines, Iowa	Neece, Louis T.	2	Fayetteville, N. C.
Chung, Raymond	6	Wake Island	Neuville, William C.	2	El Paso, Texas
Daniel, Billy P.	2	Ft. Worth, Tex.	Pan, William	4	Oakland, Calif.
DeFord, Edward L.	1	Norfolk, Va.	Pantlik, John F.	3	Chicago, Ill.
Edwards, William R.	2	Memphis, Tenn.	Price, Claude, Jr.	2	Jackson, Miss.
Hendricks, William	2	Daytona Beach, Fla.	Randall, Daniel G.	1	Portland, Maine
Hoyler, Ernest T.	1	New York, N. Y.	Richardson, Edgar J.	4	San Diego, Calif.
Marderstein, Charles	4	Los Angeles, Calif.	Turner, Walter B.	2	Charlotte, N. C.
Hills, James T.	4	Yokima, Wash.	Whitaker, Andrew K.	5	Anchorage, Alaska
Nash, Benjamin E.	WO	Washington, D. C.			

ILS CLASS 161 CONVENED NOV. 2, TO NOV. 27, 1959

NAME	REG.	STATION	NAME	REG.	STATION
Anders, Donald E.	1	Baltimore, Md.	Navre, Philip	1	LaGuardia, N. Y.
Anderson, Raymond F.	3	Green Bay, Wis.	Ochoa, Lauro C.	AC	Okla. City, Okla.
Baker, Robert F.	5	Anchorage, Alaska	Payne, Samuel	4	Oakland, Calif.
Blackstad, Robert N.	3	Wichita, Kansas	Sachet, Robert E.	1	Youngstown, Ohio
Christopherson, E. E.	4	Fresno, Calif.	Saldana, Reynaldo S.	AC	Okla. City, Okla.
Iverson, Harry S.	3	Jamestown, N. D.	Sharron, Kenneth R.	2	Nashville, Tenn.
Lee, James E.	4	Salt Lake City, Utah	Shell, Logan L.	5	Fairbanks, Alaska
Leonard, Luther N.	2	Wilmington, N. C.	Taylor, Donald A.	2	Okla. City, Okla.
McCluskey, E. F., Jr.	1	Pamona, N. J.	Wood, Lawrence M.	4	Albuquerque, N. Mex.
Melotte, Kenneth J.	3	Peoria, Illinois			

ILS CLASS 162 CONVENED NOV. 16, TO DEC. 11, 1959

NAME	REG.	STATION	NAME	REG.	STATION
Adkins, William E.	3	Joliet, Illinois	Lewis, Howard W.	3	Evansville, Ind.
Buice, Charles N.	2	Memphis, Tenn.	Lombard, Raymond G.	4	Los Angeles, Calif.
Burgos, Jose G.	2	Brownsville, Tex.	Moseski, Frank	1	Hillgrove, R. I.
Chittum, Kenton G.	4	Pendleton, Ore.	Wright, William C.	1	Harrisburg, Pa.
Cincilio, Vince C.	2	Ft. Worth, Texas	Polla, Pio, Jr.	1	Washington, D. C.
Davis, Charles E.	2	Atlanta, Ga.	Ross, William A.	1	Pittsburgh, Pa.
Graff, Jerry F.	3	Goshen, Ind.	Shamlin, Pat	2	San Antonio, Tex.
Hall, Norman E.	1	New Castle, Del.	Smith, Harry H.	4	Eugene, Oregon
Hanks, LeRoy	2	Ft. Worth, Tex.	Teagarden, Harry L.	3	St. Joseph, Mo.
Higbee, Kenneth C.	AC	Okla. City, Okla.	Turner, Donald E.	1	Boston, Mass.
Johnson, Keith K.	4	Los Angeles, Calif.			

ILS CLASS 163 CONVENED NOV. 30, TO DEC. 24, 1959

NAME	REG.	STATION	NAME	REG.	STATION
Andrews, Herman T.	4	Los Angeles, Calif.	Miller, Russell L.	4	Seattle, Wash.
Dogdanowich, W. P.	1	New Rochelle N. Y.	Milton, Richard D.	AC	Okla. City, Okla.
Fairbanks, Harold N.	3	Goshen, Ind.	Morgan, Wilse G.	4	Daggett, Calif.
Fisher, Robert B.	3	South Bend, Ind.	Perry, Joseph D.	2	Cross City, Tenn.
Hammond, Edward J.	3	St. Louis, Mo.	Poway, Jerry D.	2	Atlanta, Ga.
Joppie, Leroy E.	3	Grand Rapids, Mich.	Shell, Logan L.	4	Los Angeles, Calif.
LaBeau, Robert J.	1	Worcester, Mass.	Smith, Larry T.	2	Raleigh, N. C.
Lothes, Eugene P.	1	Columbus, Ohio	Wood, Roger O.	4	Spokane, Wash.
McCool, Frank	1	Worcester, Mass.	Zittle, Walter K.	1	Buffalo, N. Y.
McTucker, John L.	3	Ft. Wayne, Ind.			

MAINTENANCE SUPERVISION CLASS 20 CONVENED NOVEMBER 9 - NOVEMBER 15, 1959

NAME	REG.	STATION	NAME	REG.	STATION
Arnold, Paul T.	AC	Okla. City, Okla.	Gillich, Raymond P.	1	Atlantic City, N. J.
Bernad, William E.	3	Rockford, Ill.	Lariviere, Wilfred	3	Duluth, Minn.
Carter, Hobart	AC	Okla. City, Okla.	Nelson, Robert	1	New York, N. Y.
Erlich David	AC	Okla. City, Okla.			

MAINTENANCE SUPERVISION CLASS 21 CONVENED NOVEMBER 16 - NOVEMBER 20, 1959

NAME	REG.	STATION	NAME	REG.	STATION
Attney, Leon M.	3	Pierre, S. Dak.	Orton, Clarence M.	4	Santa Margarita, Calif.
Burke, Stanley J.	3	Pellston, Mich.	Peters, Harry	AC	Okla. City, Okla.
Finnell, D. O.	2	Midland, Texas	Shuler, Cyrus E.	2	Okla. City, Okla.
Jones, Jimmie L.	2	Evansville, Ind.	Starkey, Ivan W.	3	Lincoln, Nebr.
Juncker, C. E.	2	Ft. Worth, Texas	Tucker, William J.	4	Los Angeles, Calif.
Kantenwein	1	Pittsburgh, Pa.	Wiesner, R. H.	2	Ft. Worth, Texas
Madden, R. E.	1	Huntington, W. Va.	Woodford, Riley C.	1	Charleston, W. Va.
Monsmith, Harvey	3	Maize, Kansas			



## AIR CARRIER OPERATIONS BRANCH CLASSES

## Class ACO-5-33 - November 2 - November 13, 1959

Jensen, E. O. Chicago, Illinois, Reg. 3  
Schuls, U. E. Anchorage, Alaska Reg. 5

## Class ACO-I-59-6 - November 16 - December 18, 1959

Garrison, Wayne E. LaGuardia, N.Y., Reg. 1  
Moore, William F. Ypsilanti, Michigan, Reg. 3  
Patterson, Edward H. San Antonio, Texas, Reg. 2  
Tarleton, Earl H. Chicago, Illinois, Reg. 3  
Waugh, J. A. Nashville, Tennessee, Reg. 2

## Class ACO-J2-5 - November 23, - December 4, 1959

Hixson, Arden E. Miami, Florida, Wash. International Oper.  
Hudson, Jack W. Washington, D.C.

John C. Collins Kansas City Center  
William H. Conn Kansas City Center  
Charles R. Cross Memphis Center  
Charles V. Esmi Jacksonville Center  
Gerald S. Gordon Kansas City Center  
James M. Goran Kansas City Center  
William D. Havens, Jr. Memphis Center  
Kollie M. Hearn Kansas City Center  
Ralph Jameson, Jr. New Orleans Center  
John A. Loftus Kansas City Center  
Jeff D. Martin, Jr. El Paso Center  
Orion Mehus Kansas City Center  
Henry M. Riner Kansas City Center  
John E. Sandstrom Jacksonville Center  
George W. Schooling Kansas City Center  
Donald R. Solomon El Paso Center  
Bernard V. Snitz Kansas City Center  
Elbert R. Turner Memphis Center  
Orville M. Zaiser Kansas City Center

## TB - 157

## GENERAL OPERATIONS BRANCH CLASSES

## FLYING FLIGHT TESTING PROCESSORS NO-14-11 COMPLETED NOVEMBER 9 TO NOVEMBER 20, '59

NAME	REGION	STATION
Class, R. C.	1	Teterboro, N. J.
Colton, J. R.	3	Wichita, Kansas
Crevenmeyer, W. H.	4	San Diego, Calif.
Hedstrom, D. H.	2	Memphis, Tenn.

## INDOCTRINATION CLASS 59-6 COMPLETED NOVEMBER 16 TO DECEMBER 18, '59

NAME	REGION	STATION
Edmison, Carl L.	3	Des Moines, Ia.
Olson, Harbrie	2	New Orleans, La.
Hodge, John R.	4	San Diego, Calif.
Jerome, Eli L.	3	Minneapolis, Minn.
Morgan, William S.	1	Baltimore, Md.
Ropp, Dale, Jr.	1	Harrisburg, Pa.

EXECUTIVE AIRCRAFT OPERATION - INSTRUMENT AND PERFORMANCE REFRESHER  
NO-13-9 COMPLETED DECEMBER 7 TO DECEMBER 18, '59

NAME	REGION	STATION
Lighthbody, L. M.	4	Los Angeles, Calif.
Peterson, G. H.	AC	Oklahoma City, Okla.
Wood, N. C.	2	Dallas, Tex.
Prokopy, A. J.	3	Des Moines, Ia.

Jerome T. Clarke St. Louis Center  
Harold W. Finch St. Louis Center  
Frederick M. Goertz San Antonio Center  
Jerry M. Johnson Ft. Worth Center  
Allen R. Killen San Antonio Center  
Eldon M. Lindsey San Antonio Center  
Paul C. Polette St. Louis Center  
Herbert A. Siss Ft. Worth Center  
James E. Slaughter Atlanta Center  
Gary L. Sparling St. Louis Center  
Gary R. Stroup St. Louis Center  
James T. Waisner St. Louis Center

## TB - 158

Henry F. Barlow, III Memphis Center  
William D. Bearden Memphis Center  
Dwight D. Bergren Memphis Center  
James L. Bradley, III St. Louis Center  
Glendon B. Brammer Memphis Center  
Robert B. Carter Jacksonville Center  
John D. Cramer Miami Center  
Robert E. Herr St. Louis Center  
Freddie J. Holbrook Ft. Worth Center  
Clyde S. Johnson, Jr. Ft. Worth Center  
Robert F. Kerans St. Louis Center  
David N. Kerley Memphis Center  
Donnie Walden Memphis Center  
Ralph O. Wallace Memphis Center

## TB - 159

Flight Inspection Training Section  
Students

## FLIGHT TEST BRANCH CLASSES

## JET FLIGHT INDOCTRINATION CLASS FT-J1-6 COMPLETED NOVEMBER 2, TO NOVEMBER 27, '59

NAME	REGION	STATION
Hurley, John W.	3	Kansas City, Missouri
Jacobson, C. H.	4	Los Angeles, California

## AIRCRAFT CHARACTERISTICS AND PERFORMANCE (CARRIER) ACO-7-31 COMPLETED NOVEMBER 9, TO NOVEMBER 20, '59

NAME	REGION	STATION
Davis, B. Z.	4	Seattle, Washington
Gerszeuski, R.	1	Washington, D. C.
Seymour, J. P.	2	Tulsa, Oklahoma
Shindler, R. E.	3	Ypsilanti, Michigan

## FLIGHT TEST INDOCTRINATION CLASS 59-6 COMPLETED NOVEMBER 16 TO DECEMBER 18, '59

NAME	REGION	STATION	NAME	REGION	STATION
Coyot, Jack E.	2	Ft. Worth, Tex.	McGowan, Francis	2	Ft. Worth, Tex.
Chester, Earl V., Jr.	4	Los Angeles, Cal.	Owens, Jack E.	2	Ft. Worth, Tex.
Erdman, Kenneth J.	4	Los Angeles, Cal.	Powell, Roland D.	4	Los Angeles, Cal.
Joiner, Harrell C.	AC	Okla. City, Okla.	Puckett, R. G.	4	Los Angeles, Cal.
Marshall, Donald R.	4	Los Angeles, Cal.	Schoech, Herbert	4	Los Angeles, Cal.

## JET FLIGHT REFRESHER FT-J2-5 COMPLETED DECEMBER 7 TO DECEMBER 18, '59

NAME	REGION	STATION
Ludwig, J. D.	2	Fort Worth, Texas
Ragan, J. A.	Wash.	Washington, D. C.

## FR-60-5

CLIFFORD, Walter L. Wash.  
DUNICH, Joseph F. Wash.  
DUNNING, Wesley D. Reg. 6  
HEIDGER, Norman C. AC  
HUNT, R. H. Reg. 2  
KELLY, Robert E. Reg. 4  
OLSEN, Frank O. Reg. 1  
PRUETT, Cyril M. Reg. 2  
ROGERS, Lawrence P. Reg. 5  
SALUT, Harold Reg. 1  
SHREVE, William G. Reg. 6  
TALINAS, William Reg. 4

## FR-60-6

GRIBEL, R. C. Reg. 3  
HAUTANEN, Allen V. Reg. 1  
HESTERMAN, Walt Reg. 1  
HUSKEY, Harry J. Reg. 5  
JOHNSON, Murrell W. Reg. 2  
KHOZ, P. M. Reg. 3  
MILLER, Charles R. Reg. 2  
VANARSDALE, K. B. Reg. 3  
WILLIAMS, Jimmie O. AC

## I-60-2

COOK, R. E. Reg. 2  
DAUGHTERY, S. M. Reg. 1  
DUNCAN, B. E. Wash.  
FOLLAS, J. R. Reg. 6  
GERRELL, J. D. Reg. 2  
GIBSON, G. E. Reg. 4  
HOOD, D. J. Reg. 5  
JEFFERS, W. A. Reg. 3  
JOHNSON, D. F. Reg. 4  
LOVE, W. M., Jr. Reg. 3  
LOPEZ, A. N. Mexico  
MERCADO, M. V. Mexico  
MCCLENDON, M. D. Reg. 2  
VARDAN, E. E. V. India  
WHITNEY, Harry P. Region 1

## USAF INDOCTRINATION

CARSWELL, Allen Reg. 4  
EVANS, David L. Reg. 1  
ECKMAN, William R. Reg. 1  
GANG, Capt. Louis  
GERARDS, 1st Lt. Dale L.  
GILBERT, 1st Lt. Walter L.  
MCCARTER, Haskell T. Reg. 2  
MADE, Frederick R. Reg. 2  
NUTTER, Capt. Wm. R.  
PEARSTON, Capt. Richard F.  
STERLING, 1st Lt. Ira  
TYLSON, Donald D. Reg. 6





## EMPLOYEES' ASSOCIATION VALENTINE DANCE

Valentines Day is drawing near,  
time for the big dance is almost here,  
don't forget and don't be late,  
the 13th of February is the date.  
There's fun for all with music fine,  
just bring along your valentine.

The Employees' Association is sponsoring a dance for the members and their guests, at the Moose Lodge (Blossom Heath) 3400 N.W. 39th. So make a date with your valentine, and join the crowd for a real fine time.

- Admission - \$2.75 per couple or \$1.50 per person  
(this price includes set-ups)
- Music - Bill Landrom and His Orchestra  
with Female Vocalist
- Time - 9:00 P.M. 'til 1:00 A.M.  
February 13, 1960

If you are not yet a member of the Employees' Association, contact your Branch Representative. Membership fee is \$1.00 for one year, and those who join before the dance will have their name in the pot from which ten names will be drawn for prizes of equal value. Your membership card entitles you to many privileges which will be available only upon presenting your membership card. The names for the ten prizes will be drawn at the dance, although you do not have to be present to win.

COME ONE - COME ALL, AND WE'LL ALL HAVE A BALL

