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# FLIGHT LINES

FEDERAL AVIATION AGENCY-REGION 3



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# FLIGHT LINES

FEDERAL AVIATION AGENCY—REGION 3

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ON THE COVER  
ALLISON TURBO-PROP  
ENGINE ON THE  
TEST STAND.  
This Engine Used In The  
Lockheed Electra  
SEE FEATURE STORY ON PAGE 3

## ● DIVISION REPORTERS ●

AIR CARRIER SAFETY  
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AIRCRAFT ENGINEERING  
Ruby L. Eacock

AIR NAVIGATION FACILITIES  
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## FROM THE REGIONAL OFFICE

### FAITH

I recently read an article on "Faith in Aviation" in one of the current periodicals. This does not pertain to faith in the religious sense, but it does concern faith in our fellow man.

The article impressed me and I reflected on its specific application to all of us in FAA. We must all have faith in each other and in the flying public, and we do have such faith. Even though there are instances where our faith turns out to be poorly placed, such cases are isolated and we ignore them and continue to have faith in our fellow man. Now, at first look, you may not believe this. But if you think about it a little you will see that you do, in fact, have this faith in your fellow workers.

To prove the case, consider the following:

The pilot must have faith in the traffic controller.

The pilot must have faith in the nav aids and the people who maintain them.

The pilot must have faith in his airplane and in those who built it, and those maintaining it.

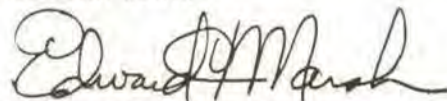
The traffic controller must have faith in the accuracy and reliability of the nav aids and communications equipment.

Mr. Jurden must have faith in all of us in the Region.

Recently Mr. Quesada addressed an investigating committee of the Congress. He was answering a general charge of misconduct on the part of the air carrier inspectors. He challenged the one making the charges to produce specific instances. This was an act of faith, since it would obviously be very embarrassing to Mr. Quesada if someone had come back with a long series of specific cases.

Mr. Quesada obviously had faith in our air carrier inspectors.

And so it goes. We must all have faith in each other. Let's remember that others—many others—**must** have faith in each of us individually. Let's all remember this and make sure that we never let them down.



ACTING DEPUTY REGIONAL MANAGER



# AIRCRAFT ENGINE TYPE CERTIFICATION

By DANIEL L. HIRSCH, KC-245

*Aeronautical Engineer, Power Plant Branch*

Have you ever wondered why aircraft engines are so reliable, even though they develop so much power for their size? Did you know that all civil aircraft other than those used for experimental or special purposes have engines that are approved by the FAA after extensive testing? This article explains the process of obtaining approval for a civil aircraft engine. We hope it will give you an insight into another of the many areas of FAA activity.

The Aircraft Engineering Division awards a Type Certificate for a given engine model to an engine manufacturer when he has shown that the design meets the requirements of Part 13 of the Civil Air Regulations. The Power Plant Branch of the Division is responsible for determining that the engine design complies with the engineering phases of the regulations. The Manufacturing Branch is responsible for conformity and compliance inspections and for production of additional engines.

The two most common types of engines used in aircraft today are gas turbine engines and reciprocating engines. Less common are rocket engines, which are usually used as boosters (jet assisted take-off or JATO), and pressure jet engines.

Gas Turbine engines, used on all new airliners, may be divided into the two broad classifications of turbo-prop and turbo-jet.

In the turbo-prop engine most of the energy of the hot combustion gas is converted to mechanical energy by the turbine. This mechanical energy is used to drive the engine compressor and accessories, and through reduction gearing it also drives the propeller. The remaining energy of the exhaust gas is converted to thrust. Two examples of turbo-

prop aircraft are the **Lockheed Electra** and **Vickers Viscount**.

The turbine in turbo-jet engine extracts from the combustion gas only the energy required to drive the engine compressor and accessories. Most of the energy is converted to thrust. The **Boeing 707** and **Douglas DC-8** are two civil airplanes with turbo-jet power.

In Region 3 turbo-prop engines are produced by the Allison Division of General Motors Corporation, Indianapolis, Indiana, and turbo-jet engines are produced by Continental Aviation and Engineering Corporation, Detroit, Michigan. A Continental Model CJ69-1025 turbo-jet engine is shown in Figure 1.

Aircraft reciprocating engines operate on the same principal as the engine in your automobile. The two most common designs in current use in this country are radial engines and horizontally opposed engines. Radial engines have the cylinders arranged like spokes on a wheel. This is the only type of reciprocating engine

used on transport category aircraft in this country.

Horizontally opposed engines have two banks of cylinders 180° apart. This type engine is common in light aircraft. Opposed cylinder engines are manufactured in Region 3 by Continental Motors Corporation, Muskegon, Michigan. A continental Model 10-470-D fuel injection, 260 horsepower engine shown in Fig. 2 is an example of the type of engines designed and produced by this manufacturer; and standard equipment in the Cessna 310, also built in Region III, Wichita, Kansas.

To obtain a Type Certificate for an engine, a manufacturer first makes formal application on a standard form. At this time the manufacturer usually has a running prototype engine which has completed extensive development testing or perhaps has military operational experience. He submits reports to show that he has a reliable engine. These preliminary reports include a general description of the engine and the proposed rating and operating limitations.

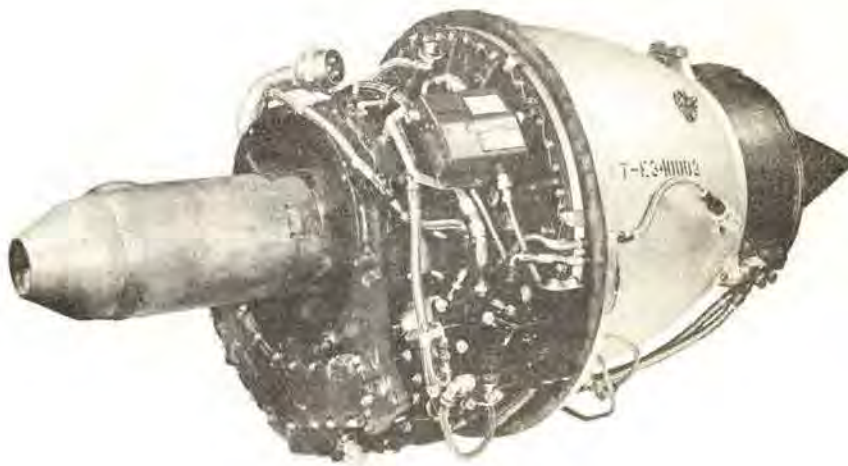


Figure 1. Continental Model CJ69-1025 Turbo-jet Engine



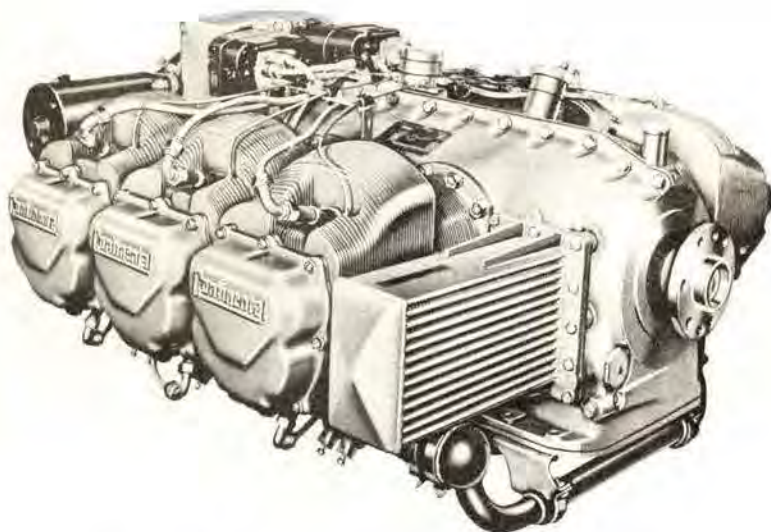


Figure 2. Continental Model 10-470-D Cessna 310

After reviewing the preliminary data, the FAA contacts the manufacturer to schedule a Preliminary Type Certification Board Meeting. At this meeting representatives of the manufacturer and the FAA discuss the engine design and preliminary data to establish a type certification test program.

The manufacturer then submits detail engineering drawings of all the engine parts to define the engine design. He presents reports of special tests on engine parts to substantiate such things as strength and endurance.

Figure 3. Turbine Wheel with Strain gauges to measure Vibration Frequency



Among these are results of vibration investigations, which enable the vibration specialist to determine whether the engine has satisfactory vibration characteristics.

Yes, we still have vibration headaches. Contrary to popular opinion, turbine engines are no cure-all. In fact, the critical vibration frequencies found in turbine engines may be over ten times as high as those encountered in reciprocating engines. This is caused by the different sources which initiate the vibration and high rotational speed of the engine. Resonant vibration of engine parts can cause high stresses in those parts, resulting in fatigue failure. A turbine wheel with strain gauges attached to the blades to measure vibration frequency is shown in Fig. 3.

Any engine components which are necessary for satisfactory engine operations, such as fuel controls, must be tested and shown to have equal or greater reliability than the rest of the engine. These components are considered to be required engine parts and the tests are witnessed

by the Power Plant Branch. The manufacturer submits reports covering the tests to the FAA.

After studying the design data, the Power Plant project engineer writes the Type Inspection Authorization which outlines the official engine tests required by the FAA. All official tests must be witnessed by an FAA representative. Two views of an Allison turbo-prop engine in a test stand are shown by the cover and Fig. 4. The cover shows the engine mounted in a Lockheed Electra nacelle.

The 150 hour endurance test is designed to "wring the engine out" and demonstrate that it is serviceable. This test consists of cycles of running at various power settings with abrupt throttle changes. By running much of the time at high power the test simulates many hours of normal

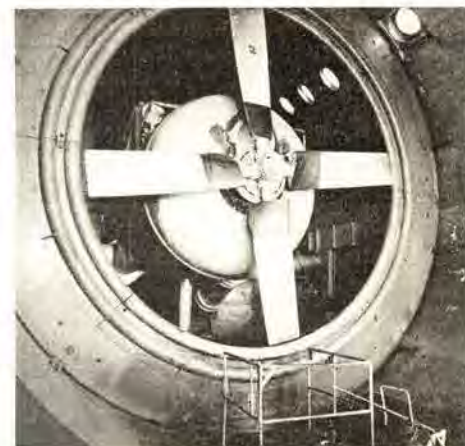


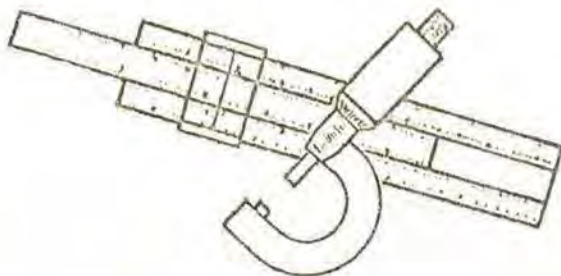
Figure 4. Allison turbo-prop engine in a test stand.

operation. The calibration test demonstrates that the engine will develop the rated power shown on the power curves so familiar to pilots.

Turbine rotor strength tests are required for turbine engines and turbo-supercharged and turbo-compound reciprocating engines. These tests demonstrate that the turbine rotor will not

Continued on page 6





## AIRCRAFT ENGINEERING

### MODIFICATION OF SURPLUS A-26 AIRCRAFT

We know of several organizations that are **modifying the A-26 Series aircraft to executive transports**. Some of these are located in Region Two and another is located in Region Four.

The one of most interest to this division is located at Hutchinson, Kansas. The Aircraft and Refining Company, Inc., Division of the Rock Island Oil has for some time engaged in the process of modifying the Douglas military Model A26B & C aircraft into an executive transport. Most of the engineering on this modification has been handled by Strato Engineering, Los Angeles, California, with the Fourth Region Aircraft Engineering Division. These modifications are extensive, encompassing such things as replacing the rear spar in the fuselage area with a ring which transmits the forces without obstructing the interior area; enclosure of the bomb bay to provide a cabin; an extension to the nose for installing radio gear and weather radar; incorporation of extra fuel tanks in the wing where the guns and ammunition were previously installed; removing extensive amounts of armor plate; rerouting of control systems, as necessary and a complete inspection and repair of the aircraft, as needed, to make it airworthy.

There are also some minor changes in the power plant installation which are being examined by our Power Plant Branch.

A Type Inspection Authorization was issued by Region Four based on the engineering changes submitted by Strato Engineering

and requires ground compliance and conformity inspection to the approved drawings and flight tests to show equivalence to the basic airplane since this aircraft is certificated in part 9.

Manufacturing Branch has been following this project for some time and Flight Test Branch has conducted a large percentage of the flight tests required by the T. I. A. Power Plant Branch will review the power plant modifications which were not covered by the Region Four data and if necessary, additional tests will be prescribed.

Airframe Branch has also been involved in that some of the modifications to the first airplane are not exactly as they will be on the final airplane which will be approved, and some of the flight test loadings had to be ascertained as being satisfactory structurewise for our Flight Test people to conduct tests. Rock Island Oil & Refining Company, Inc., is trying to do better than equivalence to the airplane as originally certificated since eventually they hope to be able to show that the airplane in many areas can comply with the transport category requirements. Therefore, the flight tests have been conducted against CAR 4b and some additional modifications may be necessary to provide satisfactory flight characteristics.

Rock Island expects within the next month to obtain their Supplemental Type Certificate and then they will proceed to modify additional airplanes. They may have their Supplemental Type Certificate by the time this article appears in print. They already have another airplane in the modification jigs now and have quite a few airplanes stored on the field.

### WE ISSUE SUPPLEMENTAL TYPE CERTIFICATES (STCs)

Many a man who owns an airplane believes that he can improve on it for his particular purpose. Sometimes he can. He might need a more powerful engine for the type of flying he wants to do, he might need more fuel capacity, or he might need to change the fuselage so he can take pictures, or spray crops, or carry more passengers, or become an air ambulance, or hunt coyotes, or land on snow.

His first act is (or should be) to talk it over with the local Maintenance Inspector. Probably nobody will ever know how many embryonic monstrosities have been discouraged back into non-entity by these on-the-spot boys, but every now and then there blossoms forth the possibility of a good idea, which they are quick to recognize.

Modifications or changes to airplanes can vary from items which are very easy to do correctly, such as installing a clock, to very complex and extensive modifications such as the one described in the preceding article on the Douglas A26B & C. There are all degrees of complexities in between these extremes. Some of the very simple ones are classified as minor changes, which are those which will not affect what we call the "airworthiness" of the airplane and are approved by log book notations by the licensed mechanic who makes the modifications.

All other modifications are classified as major. The Maintenance Inspector approves these which his instructions, guidelines and experience permit him to handle. Others become complex enough to go beyond his abilities and are referred to this office as requiring "engineering evalua-



tion." There are borderline cases, of course, and the "engineering evaluation" sometimes consists of merely determining a specific "detailed standard" which the inspector can use and suggesting that he approve it on the basis of this standard.

Major modifications are a big business. Several large concerns in our region do nothing else. Old, reliable airplanes like the Douglas DC-3 are altered to meet some executive's streamlined idea of what he wants in an airplane; airplanes released by the Military are altered for civilian use and so on and on.

The two General Engineers in the Division office receive the proposals first, and call upon Airframe and Equipment and Power Plant Engineers for assistance in their specialized areas. Detailed drawings, sketches, photographs and descriptions (we call them "data") are carefully reviewed. Usually it is necessary to write the modifier for more information, since nothing can be left to the imagination.

When the proposed changes are clearly understood, the next act is to determine what tests and inspections will be required to make sure that safety has not suffered and that the airplane will perform as it should in the operations for which it is intended. That often rings in the Flight Test Branch, whose function is just what the name implies. These are the boys who live dangerously.

They conduct the early flights of the altered aircraft, and let it be said to our engineering credit that we haven't lost one of them yet. What they learn during the actual flight performance determines whether changes made will be considered satisfactory, or whether added alterations will be needed.

It must also be determined by on-the-spot inspections that the modification conforms with the drawings. Sometimes problems are introduced by the modifica-

tion which could make the airplane unairworthy and which the engineer can't see on the drawings. "Conformity" and "compliance" inspections, to determine the modification is in accordance with the drawings, and to make sure there are no obscure unairworthy features, are conducted by either a Manufacturing Inspector or Maintenance Inspector located nearest to where the modification is being performed. In some cases either the Maintenance or Manufacturing Inspector is requested to witness specific tests and report on them.

Eventually, if the modified airplane gets a passing grade, we issue the STC, which is equivalent to FAA approval of all that was done to the airplane. If the data which the modifier has submitted is sufficiently detailed to permit duplication in other airplanes, the STC will include that approval and a brief description of the modification will be included in the STC listing published by the Washington office. That gives the modifier a chance to sell his approved data to others who are interested in doing the same thing. If it's a good modification on a popular airplane his sales can repay his investment in a short time. When an approved modification is duplicated, we don't enter into it at all. The Maintenance Inspector keeps in touch to make sure that all the work conforms to the previously approved data and is of equal quality, and when he has satisfied himself on that score, he certifies the airplane.

## WELCOME

It's a pleasure to welcome Hal E. Foland as a General Engineer (Aeronautical Electrical - Electronics) in the Airframe and Equipment Branch of the Aircraft Engineering Division. Mr. Foland comes to us from Westinghouse Electric Corporation where he was employed for approximately five and one-half years as Flight Test Instrumentation Engineer.

Continued from page 4  
disintegrate at a speed and maximum temperature above that expected during operations in service.

Other tests deemed necessary by the FAA are required depending on whether or not the engine design has features envisioned in Civil Air Regulations Part 13.

Prior to official testing, the engine is inspected to insure that it conforms to the data previously submitted by the manufacturer. After completion of the tests, the engine is dismantled and the individual parts are examined for signs of failure or excessive wear, which (if the part is a major engine part) would require a revised design and additional testing.

During the Type Certification program the manufacturer prepares instruction manuals covering the installation, operation, servicing, maintenance, repair, and overhaul of the engine. These manuals, which are familiar to pilots and mechanics, are reviewed by the Branch and, if acceptable, are approved. Acceptable instruction manuals are required prior to engine certification because operational reliability of an engine is assured only when it is installed, operated, and maintained in an aircraft as specified in instructions.

A final Type Certification Board meeting is scheduled when the testing is completed and all the required data have been submitted by the manufacturer. The data and test results are reviewed and if satisfactory, the manufacturer is awarded his Type Certificate.

★ ★ ★

FLASH! As of February 15th our Air Traffic Communication Stations (ATCSs) are now known as Flight Service Stations (FSSs). Affected are seventy-two of the facilities in Region Number 3.





## AIR CARRIER SAFETY DIVISION

### CONGRESSIONAL VISIT

A recent visitor to the Region was **Congressman Morgan M. Moulder** of Camdenton, Mo., who, as a member of the Transportation Sub-Committee of the House Interstate and Foreign Commerce Committee, was on an inspection tour of the TWA Overhaul and Maintenance Base at Mid-Continent Airport.

Congressman Moulder spent a busy day at TWA's facilities, including a flight in a jet training simulator at the airline's Flight Training Center in downtown Kansas City. In addition to touring the Maintenance and Overhaul Base, Congressman Moulder visited the airline's operation offices at Municipal Airport.

Purpose of the visit was in connection with the investigation by the Transportation Sub-Committee of the scheduled airline's transportation facilities throughout the nation.

Kenneth D. Mackenzie, FAA Region 3 Chief of Air Carrier Division, acted as co-host with airline officials headed by TWA Vice-President J. Woodrow Thomas, on Congressman Moulder's inspection tour.



At the controls of a JET SIMULATOR, CONGRESSMAN MORGAN M. MOULDER seems pleased with the approving comments of his cockpit associates after a "flight" at Trans World Airlines flight training center in downtown Kansas City. Left to right are J. Woodrow Thomas, Washington TWA Vice President; Congressman Moulder, Captain R. F. Kowe, Director of Flight Training for TWA, and K. D. Mackenzie, chief of the Air Carrier Safety Division, Region 3, Federal Aviation Agency.

### RADIOLOGICAL PROBLEMS

1. If an individual was exposed to a radiation intensity of  $1\frac{1}{4}$  r/hr continuously for five days would you expect that he would require hospitalization or sustain permanent disability?
2. A victim who has been exposed to radiation exhibits symptoms of nausea and vomiting within twenty minutes after exposure to an unknown intensity of nuclear radiation. Is it likely that his dose is light? Can he be

expected to have a three week latent period?

Answers on page 18

### RADIOLOGICAL NEWS

The Office of Civil and Defense Mobilization is making 10 spaces available in Radiological Monitor Instructor courses in April and June, and will conduct a special course for 25 FAA personnel in May.

The Facilities Division will notify prospective selectees in the near future.

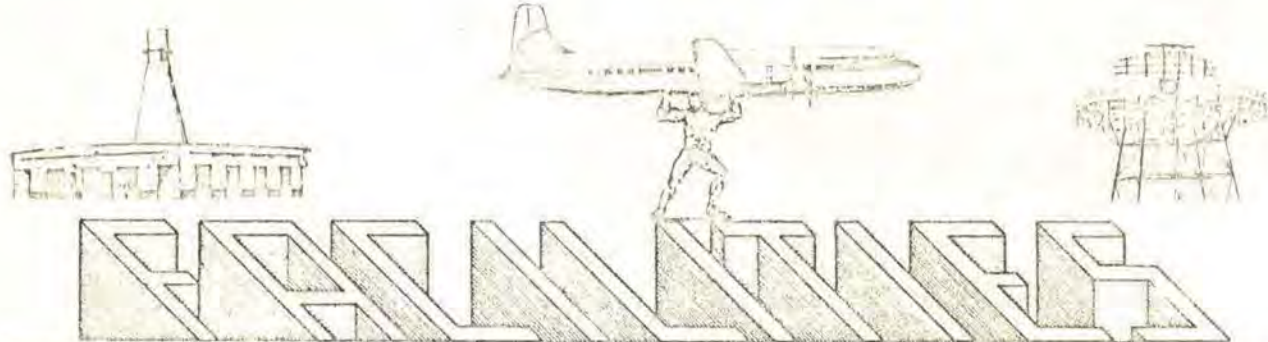
### IDENTIFICATION CARDS

On January 20 and 22 nearly 1100 FAA employees in the Kansas City area had their pictures taken for the new Identification cards. The Kansas City area was used as a "guinea pig" so that some of the bugs in the procedure could be worked out.

Complete instructions to the field will be forthcoming very shortly.







No matter where you work for FAA, Washington or Region, the Facilities people always have one day in common—Bid Opening Day. As a general rule, the main way you can tell that "B Day" has arrived is that certain engineers show up for work in white shirts and ties and, often, their best suits. Another sure sign, is bound to be that "the boss" glowers and should be handled carefully and with a smile as if he could "bark."

It will be noted that each engineer is gradually accumulating stacks of papers and charts on his desk. Secretaries are sent on mysterious errands for lined tablets and sharp pencils.

Then comes **THE HOUR!** A sticky silence descends as nervous engineers await the outcome.

This was the mood as we turned the calendar to "Center Day", January 7, 1960. In Facilities, it started with a quiet calm, but with obvious undercurrents of expectancy. Today, the bids would be opened for the Air Traffic Control Center building. It is to be built near Olathe, Kansas, and will be operated as the Kansas City CENTER. Plant Engineering Branch personnel (KC-660) stopped a minute and took a backward look at the many hours of planning, designing, drawing, coordinating, checking and re-checking, preparing and assembling drawings and specifications.

**ZERO HOUR** (2:00 pm) found the Conference Room crowded to overflowing—SRO (Standing Room Only) was the order of the day. Contractors, Engineers, Estimators, and Suppliers waited for the first bid to be read. No doubt each bidder repeated, to himself, his total bid while FAA

personnel kept in mind their estimate of \$1,500,000. While all but one contractor was disappointed at the outcome, no one would have regretted attending. It was a good show. The first bid of \$1,474,450 turned out to be the second-low bid. Tension mounted as each was read, and elation was the order of the day for Plant Engineering when the final low bid of \$1,462,575 was within \$38,000 of their estimate.

Although this is only the first milestone in a big job, congratulations are in order for all the personnel who had a hand in "getting out the job," especially since they were working under pressure, with many details to be ironed out, and with all eyes (Washington and other Regions) turned this way. Now we are anxiously awaiting authority from Washington to make award to the apparent low bidder.

And then we will start all over again with bids opening for Chicago "Aurora" Center in February.

## FOLKS, FACTS AND FACILITIES

It seems that with the Xmas holidays over, everyone is either coming or going, and in all directions.

**MARTY NOTEBOOM** and **DON HALL** KC-620, have been to Oklamoma City for the ATC short course and were much impressed by the facilities down there.

Washington is having its share of our people. **Bob TRUCHLEY**, KC-620, was detailed to FM-310 along with **BLAINE ELMORE**, KC-660, to assist with revising the 1961 Budget. **VINCE WILANE**, KC-620, has been in again to assist with the Frequency Program. **JIMMY**

**RAY** KC-625, made a rush trip in to get details on deliveries for the 1960 teletype program and technical problems on the Console program. All the girls in KC-660 miss **FRED MANGLES** who is detailed into FM-363 working on the Centers and Towers program in Plant Engineering.

**BOB LUEBBE**, KC-680, has received a nice promotion and is leaving us for the Honolulu Region. Who knows, he may even learn to be a beachcomber, but we'll miss you, Bob.

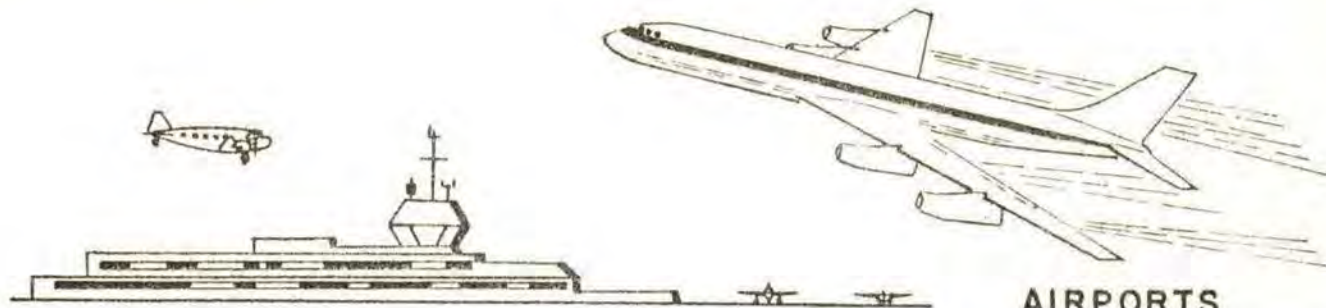
**VIC CHAB**, KC-660, also has another title, we find, Colonel, U.S. Air Force Reserve. During his recent "hitch" of military duty, in November, he had an interesting two weeks attending a Selective Service Area Conference at the Naval Air Station, Corpus Christi, Texas.

Speaking of the Pacific, **IRENE MCCLURG** has a picture of **DON COCHRAN**, (formerly KC-660), now working for FAA on Wake Island, swimming on Christmas Day in the Pacific. Real cool, Dad!

At long last we are getting around to congratulating, and "officially" recognizing **ALEX ARTIMOVICH** and **DON UPDYKE** of the Minneapolis District Office for their idea for modification of the ILS monitor & control equipment to provide an aural signal, in addition to neon light, to warn Tower personnel that the ILS monitor has not been reset following use of the ILS interphone. These men received an award from the Washington office for this idea.

**E. H. KLUTH**, **SEMT**, Hill City, Kansas, received an award for an employee suggestion for modification of blowers for safe replacement of filters in the VOR auxiliary rack. Nice going!





## POLICY CHANGE

The Airports Division portion of this issue is a result of the friendly relationship of District and Regional Offices. The Chief of the Division, not wishing to monopolize the honor that had been so graciously bestowed on the Division Editor, "suggested" that each District Office might take a turn at submitting copy. A polite hesitancy in the District Office resulted in the suggestion becoming a recommendation, and, for obvious reasons, it progressed until the District Office "volunteered" to do it. (Quotes are intentional.)

Reporting for us this month is Mr. Robert W. Clark, District Airport Engineer, Kansas City.

## TALE OF TWO AIRPORTS

There are airports in the Region with particular features or circumstances which set them apart from other airports. It appears that District 1 has been blessed with a fair share of these. Two of these illustrate the types of situations encountered by District personnel.

**Strother Field**, the Winfield-Arkansas City, Kansas, Municipal Airport, was constructed by the Federal Government at the height of World War II for use as an Air Force training base. In order to increase the number of trainees, several outlying fields were established in the immediate vicinity.

Upon conclusion of the war, most of these fields were transferred to the city. Late in 1954, oil was discovered on one of the fields, and by 1957 the cities of Winfield-Arkansas City had a total of 43 producing wells literally pumping gold into the cof-

fers of the local airport fund. This fund has played a dominant role in providing the means for locating industries at the airport, which in turn produce additional revenues and pay for all maintenance and improvements at the airport. Eighteen aircraft are based at Strother Field, a fixed-base operator has major repairs, and instruction, charter service, rentals, and air ambulance are available.

One of the most successful small town privately-owned airports in the District is the **Skyhaven Airport** about three miles west of Warrensburg, Missouri. Under the ownership of Kenneth Marr of Warrensburg, this airport has grown from a cow pasture in 1946 to one of the most active and best maintained airports in the Missouri-Kansas area.

The airport is located on U. S. 50 Highway and currently includes a new, 15 unit motel complete with coffee shop, swimming pool and private fishing lake. The landing facilities now include three, well-sodded and mowed turf landing strips with a taxiway to the administrative area, and medium intensity lighting on the North-South strip. Flight activities include a successful agriculture spray operation, complete aircraft and engine repair facilities, and a successful instruction and rental business. These activities have recently been supplemented by the construction of a Missouri Air National Guard maintenance hangar.

The Skyhaven Airport is a shining example of how aggressive operations can make the small airplane provide a most profitable business.

**Robert Clark**, District Airport Engineer, Nebraska U. and Nebraska Wesleyan U. Has two grown children and one grandchild "Little Sputnik", who, needless to say, is the apple of his eye. Before coming to the District Office, Bob worked in the Regional Office in both Airports and Facilities Divisions. He has a fine selection of books in his library, and the taste test has proven that some mighty delicious tomatoes have been grown under his green thumb.

## WHY WE NEVER GET BORED!

If you had to make a list of all the things the field force in the District Airport Engineer's office had to be, all you could do would be to put them down as engineers, architects, lawyers, auditors, surveyors, and diplomats. And what's hard about that?

But if you were asked to name all the things they **do**, you might find yourself in a little trouble. For example, how could you be expected to know that an engineer might have to inspect sites for a proposed new airport, and report on which was the most acceptable from the standpoint of land costs, ease or difficulty of grading and development, obstructions or hazards to aerial flight, conformance with local wind conditions, use being made of surrounding areas, hazards to heavily populated zones, and size in relation to existing or predicted aeronautical need?

How could you know that after selection of the site, he would then participate in design and layout discussions, review the master plan of the airport as proposed by the community, look



over the financing situation, and recommend which items of the proposed development would be eligible for Federal aid? And could you foresee that as development progressed, he would make periodic inspections to see that construction was up to standard, so that the community and the Federal Government were getting all they were paying for?

Then of course, there's the legal documentation which must be secured and checked for acceptability; partial payments to be made as work progresses; leases and agreements to be passed on; clear zones to be defined and acquired; and seeding and landscaping recommendations to be made, to hide the scars of construction.

Now, you say, surely they'll walk off and leave this shiny new airport to the community that owns it and the fly-boys who are going to use it. Nope! This same bunch of hard-working employees of the **Friendly Aviation Agency** will now proceed to make the periodic inspections for the facility record purposes, so that the airport will be properly listed on aeronautical charts, with all facilities included in the "Airman's Guide"; see that the maintenance obligations are being carried out by the community; review all new operating agreements so that no (pardon the expression) "exclusive right" creeps in; check agricultural leases for proper height restrictions, and oil and gas leases for well locations, and confer with and advise community officials on zoning problems.

Now let's add on and mix in the usual amount of day-dreaming, crystal ball gazing, opium smoking, mind reading, appeasing, arbitrating, fire - building and watch - dogging, and what do you have? A pretty busy crew, my friend, a pretty busy crew!



A new terminal-operations building at Harold McGugin Field, Coffeyville, Kansas, constructed at a cost of only \$13,104, provides an attractive waiting room, rest room, and an office for a city attendant handling line service.

## BIOGRAPHICAL MINIATURES KC-400-I

**Irene Honan**, Chief Operator of the electric typewriter, is a native of Kansas City and one of our "veterans" (USMCWR). Irene worked for "CAA" in the Facilities Division, then a short time for DHEW, before coming to the District Office. Hasn't made "Bowlin with Molen" yet, but would like to do so. When the bowling allows time, she does cook — and enjoys it.

**Janice Cargile**, Secretary, from deep down in Texas, Corpus Christi that is, discovered the mistake at an early age and moved to Missouri. Has been controlling the District Airport Engineer for 13 of her 16 years with CAA-FAA. Another sports enthusiast, Jan likes swimming and golf. Has had her attention called to a millionaire or two on the eligible list (from the cattle, wheat and oil country), but she says she's waiting for a millionaire with a bad cough.

**Don Bollard**, Program Officer, K. U. and USAF. The Bollards have a family consisting of two sons, a daughter, a dog and a

parakeet. After some 20 years with the Railway Retirement Board, Don came to the District Office for the purpose of handling, at District level, the type of work for which the Program Administration Branch is responsible in the Regional Office. Although Don is well oriented into engineering phases, Jan and Irene say he can never be an engineer because they can read his writing.



Don Bollard



**Don Stockdale**, Airport Engineer, K. U. and USN. Don and Mrs. Stockdale have three children. Don was a county surveyor for a time, was a consulting engineer, and taught at Kansas City, Kansas, Junior College before coming to the District Office. Distinguished by hair which he described for his identification card as "sandy", which Jan immediately questioned as to accuracy.

**Leo McNeill**, Airport Engineer, from the Ozarks, but wears shoes. Don't ever call him Irish. Merchant Marine Academy and University of Iowa. U. S. Merchant Marine and USN. The McNeill's are the parents of twins (at present), and he still has time to build boats. Really, his hobby is the PIC Investment Club and dreaming of what stocks he would buy if he had a few thousand.



Leo McNeill

**Howard McGuire**, Airport Engineer, Kansas State and U. S. Army. The McGuires have two sons. Howard was with a consulting engineer at Joplin, Missouri, and served as resident engineer on the most recent Federal Aid Airport Projects at Joplin, putting up with inspections by FAA engineers. He now has donned the other hat, and spends a lot of time making sure that others are doing the engineering they should.



Howard McGuire

**John Barber**, Deputy District Airport Engineer. K. U. John and Vivian have two daughters. A life with three women may be a factor in his receptiveness to suggestions of our secretarial force—? John was with "CAA" in the days of "DIAND" construction, did field engineering on several airport projects, worked as an airport engineer in the District Office and in the Regional Office, before returning to the District Office.



John Barber

## IS THIS AN ERROR?

From our correspondence: A question arose about title to a parcel of land in a clear zone of the airport because the man and wife who had purchased the property had subsequently been divorced. The major consideration as written "...substantiation of the fact that Mr. \_\_\_\_\_'s wife's martial (sic) interests have been eliminated by the divorce decree. . ." Well?

## FOR FIELD OFFICES ONLY!

Only field offices will appreciate the significance of this little anecdote. A certain man, whose FAA experience of several years had been all in the Regional Office, was detailed for "orientation" to a District Airport Office. After much file searching and brain racking about one of the first problems to come to his attention, he remarked, "If I was just in the Regional Office, I would know how to handle this. I'd send it to the District and order them to settle it. But here I am in the field. What the heck am I going to do with it?"

## ADVERTISEMENT

Free kittens (anticipated). Call Don Stockwell. Don says it's nice for your children to have pets until the pets start having children.

## WHY DADDY?

McGuire Junior: "Daddy, if I was born in Missouri, would I be Missouri born?"

Daddy Howard: "Certainly, son."

Lil Mac: "And if I was born in Colorado, would I be Colorado born?"

Daddy Howard: "Yes indeed"

Junior: "What about if I was born on an airplane flying between Colorado and Missouri? What would I be, huh, what, Daddy?"

Pop: (Always alert) "Just airborne, son, just airborne."





The midnight oil burned for two weeks recently when Airports Division, together with the DAEs from the field, evaluated requests for Federal Aid to Airports in 1961, and after much black coffee came up with the Regional program.

Announcement of the program effective July 1, 1960, is expected around the first of March, thus enabling the cities and other airport sponsors to prepare the detailed plans and specifications for construction.

The Airports Division foresees a very busy summer with the 1960 FAAP getting under way this spring and the 1961 program getting started during the middle of the summer. Construction work is expected to be in progress on nearly 150 airports this summer, which is one of the highest levels of work that we have seen for a long time.



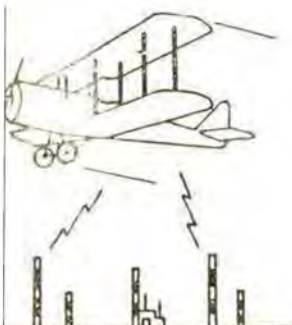
Top photo: standing, Wendell V. Butcher, Chief, Program Administration Branch; Robert L. Campbell, Deputy Chief; Enoch W. Anderson, Chief, System Planning Branch; and Omega Cummins, Acting Chief, Engineering Branch; all of Airports Division. Seated: Clyde W. Pace, Jr., Chief, Airports Division, KC-400.



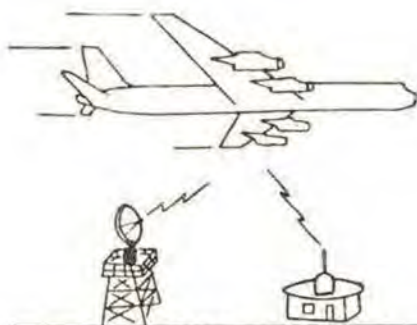
Middle Photo: Edgar P. Vie, Deputy District Airport Engineer, District No. 3, St. Paul; George P. Grote, Airport Engineer, District No. 4, Chicago; Roy C. Sagness, Airport Engineer, District No. 2, Lincoln; and James E. Waedekin, Deputy District Airport Engineer, District No. 5, Lansing.

Bottom Photo: Fulton D. Bellamy, District Airport Engineer, District No. 4, Chicago; Robert W. Clark, District Airport Engineer, District No. 1, Kansas City, Mo.; W. M. B. Boucher, District Airport Engineer, District No. 2, Lincoln; Wm. C. Knoepfle, District Airport Engineer, District No. 3, St. Paul; and Lindell D. Hale, District Airport Engineer, District No. 5, Lansing.





1925



1960



TOMORROW

# AIR TRAFFIC MANAGEMENT

*"FAA's MOST CHALLENGING MISSION"*

## DIVISION OFFICE

Before someone decides to ask a question about it (in case you noticed), we will point out that our "masthead" in this issue of **FLIGHT LINES** has undergone a slight change and now carries the title "Air Traffic Management" in place of the former caption "Air Traffic Control".

This change is in keeping with the recent change of our Division, as directed by our Washington Office, since we are now known as the Air Traffic Management Division, which is the Regional counterpart of the Bureau of Air Traffic Management (BATM) of the FAA Washington organization structure. You may have already noted the use of this new nomenclature in correspondence, Division circulars and other material within the past month. Like many other "paper changes" that occur from time to time in organization names, position titles, job descriptions, etc., whether in the Regional Office or in the field, they have little or no effect on the job that has to be done by each of us. Our primary objective must still be the accomplishment of the basic tasks we are individually responsible for to insure that the services rendered by FAA to the various aeronautical interests that comprise the "user" group are of the highest quality possible.

## VISITS

We have been unable to make any field trips since those reported in the January issue. During the period between January 8 and February 1 (the latter date is the day on which this column is being written), we have been plagued by some of



**CAN YOU REMEMBER THIS?** Can you identify this 3rd Region ARTC Center? Clue: This picture dates back to 1938. The guy on the left is the Chief Controller, if you recognize him (See page 15 for answer.)

the most "unflyable" weather we have been confronted with for many months.

Low ceilings and visibilities, with snow, rain, drizzle, fog, and icing conditions combined to make January a very poor month for travel to the field. As a number of the boys in the Operations, Planning, Procedures, and Analysis Branches can attest, even scheduled air carrier travel has been most undependable and probably more TR's were written for the benefit of the railroads by our personnel during this period than any other single month.

A note from the Procedures Branch says that they had their first opportunity to observe RR traffic control in operation — from the "cockpit" (Burlington Zephyr Astradome) while navigating via the iron rails between Kansas City and Chicago.

Furthermore, it is not likely that we will have much opportunity for travel to the field during February, since we are scheduled to attend a 2-week

course at OEX in Management Training February 7-20.

## NEW FACES

Since the January issue went to press, we can report some personnel assignments that may be of general interest.

Two additional Air Traffic Areas Supervisor positions were filled! **Fred L. Lorch**, formerly Deputy Branch Chief, Operations Branch, is now the ATAS for the Kansas City Area; **Fred Blackburn**, formerly in Planning Branch (En Route), is the ATAS for the St. Louis area. Both "Freds" will be looking for office space to set up shop in their respective locations.

Since we are not authorized an ATAS position for the MSP Area, this now brings our Supervisor positions up to the full quota of five for this Region. The lack of a position to serve the MSP area created an awkward situation, since we have been requested by Washington to have one or more of the Supervisors assigned to other areas cover the MSP



Area and we are considering arrangements whereby the DTW and MKC ATAS will divide the MSP area between them. Probably the STL ATAS will take over the eastern portion of the MKC Area to equalize the travel and work load. More information will come out on this soon.

Procedures Branch claims a recent "import from Paris" (Paris, Mo., that is), in the person of Frances (Fran) Livesay, who reported for duty January 21. Her previous experience was with U. S. Army Audit Agency 1956-58, followed by a tour at home from April 1958 to January 1960 on a motherhood project.

Two other newcomers to our Division office: Evelyn Fitzjarrell, now a steno in our Analysis Branch (KS-540), came with us 12/13/59 from the Kansas City Records Center.

Loreta Garber, a steno in the Operations Management Section (KC-524) of the Operations Branch, EOD with us 1/18/60, also from the Kansas City Records Center.

## SHOT IN THE ARM

Several members of our Division were observed nursing tender spots on their arms Wednesday, January 27, following a shot of flu vaccine given to a lineup of over 300 R. O. personnel who filed through Room 124 throughout the day. Doc McMillin and a R. N. hired for the occasion gave the people in line the needle.

Similar inoculations were administered to some 282 personnel of the various facilities and field offices in the Kansas City Metropolitan Area at another lineup conducted at the Kansas City Center on Tuesday and Thursday. We assume that many of you in the field will have enjoyed (?) similar experiences at your respective locations as the result of the FAA-sponsored program to give all "willing" employees a free shot-in-the-arm in the interest of protecting our personnel from the effects of sickness

caused by flu, which apparently has reached near epidemic proportions in some areas.

You can thank Bob Davison (KC-522), who served as Chairman of the Flu Task Force at the R. O., comprised of representatives from most Division and Staff offices, and Doc McMillin, who organized and coordinated the many details for administering the flu shots to FAA personnel throughout the Region — no small undertaking.

## HONORABLE MENTION

This is due Frank Gaynor, Station Chief, MKC ATCS, for his recent nomination for the "Federal Civil Servant of the Year" (1959) award to the most deserving Federal employee in the Greater Kansas City area. This award is sponsored by the Kiwanis Council of Greater Kansas City annually.

Candidates are selected from various Federal agencies in the area by a committee of representatives from participating agencies. Frank was selected as the FAA candidate and was in final competition for the award along with eight candidates from other agencies. Although Frank did not receive the principal award, he and the seven other competitors received a special certificate in recognition of their selection as candidates in competition for the award.

## SICK LIST

During the past month some of our Division members have had the misfortune to be hospitalized. Bill Stewart (KC-522) spent some time in the Downtown Hospital with ulcer trouble. He was discharged January 23, spent another week convalescing at home, and came back to duty February 1.

Myron Worcester (KC-540) entered Trinity Lutheran Hospital January 22 for a check-up and diagnosis. Latest report is that he will undergo surgery for colon trouble.

Kay Gardner (Secretary, KC-501) entered St. Luke's Hospital on January 25 to undergo surgery. We understand she is making a good recovery.

A number of other people have been absent with flu and similar ailments from time to time. We hope that January is not indicative for the remaining 11 months of 1960.

## DEATHS

During the month of January two of our personnel in field facilities passed away.

("Doc") Essex, South Bend Tower, died January 1. "Doc" originally was employed as a controller at SBN when the tower was operated by the City during the period December 1941 - September 1943. He came with CAA when operation of the Tower was assumed by CAA, September 16, 1943, and remained at SBN TWR during his entire period of CAA/FAA service.

Royal L. Peterson, Station Chief, Kirksville ATCS, died January 18. He entered on duty with the Bureau of Air Commerce on November 9, 1931, as an Assistant Airways Keeper at Wabasha, Minn., from previous duty with the Navy as a Radioman. He had been at IRK for 26 years, and was Chief at that facility for the past 18 years.

## LOST AND FOUND

On December 20 an Aeronca (1365 Hotel), at approximately 1935E, was lost somewhere between FDY-TOL (apparently "on top"), VFR at 2,800 feet. CLE Center called DTW Center and requested assistance in locating the "lost" item. Weather, 0000Z, TOL M180VC3S, 0100Z TOL F22X2S. DTW Center requested CLE Center to have the aircraft climb to a higher altitude for radar pick-up and fly heading 360. Approximately 1955E, using radar and DF, DTW Center located a target 12 west of Waterville VOR, on heading 360, believed to be



CAN YOU REMEMBER THIS?—Answer

The picture on page is one of the Detroit Center, taken in 1938, when the Center was located in the hangar now used by Zantop. Harry Copeland, then Chief Controller, is on the left. Sorry, we can't find anyone in the R. O. who recognizes the man on the right. Unless you can give us a "clue", he will have to be "Mr. X".



1365H. CLE Center was requested to have 1365H make turns to permit positive radar identification. After identification was accomplished, vectors were relayed through CLE to the aircraft. By using the PPI scope de-centered, on 50-mile range, 1365H was vectored to a position 1-1/2 miles from Toledo Express Airport and landed at 2043E. Congratulations are in order for the "finders", Claude Ackerman and Don Kruger, of the DTW Center, for a good job well done! (Note: We apologize for not including this item in the January issue of FLIGHT LINES, but it got temporarily lost in the paper shuffle.)

## CONFERENCES

Headquarters, Strategic Air Command played host at Offutt AFB to FAA representatives from Regions 1, 2, 3 and 4 during the week of January 11.

Purpose: to discuss future SAC "OIL BURNER" mission routes. You undoubtedly have seen a lot of information and publicity on this large scale SAC project in the AIRGI, your community newspapers, aviation magazines, etc. Out of seven currently authorized "OIL BURNER" routes, four are in Region 3. Apparently due to the generosity of Clay Hedges, DTW Center Chief, we may well acquire a fifth route, which will give us the dubious and unchallenged distinction of having the mostest!

Third Region representatives attending the conference: Bob Bounds, CARF Chief (then); "Doc" Swartz, MKC Center; Dick Walsh, MSP Center; "Mac" McGourty, MDW Center; Clay Hedges, DTW Center; Harry Salyer, STL Center; Charles Irwin, IND Center; plus Bill Bruce (KC-522) and Leroy Nedrow (KC-530), representing the R. O.

15th Air Force (SAC) held a planning conference at March AFB, Riverside, Calif., January 19-21, to set up a large scale mission which will be known as "PLAY BACK", to be flown in February by SAC units at 15AF bases.

Third Region representatives attending this clambake: Al Schact, Resident Inspector, Ellsworth AFB; Bert Bates, MSP Center Chief; Art Baldwin, MKC Center; John Koppe, CARF; and Leroy Nedrow (KC-530), representing the R. O.

Another big conference was held by the Wright Air Development Division (WADD) at Patterson AFB January 11-13, to discuss ways and means of providing airspace and/or "positive control" measures for the many special flight test programs conducted by WADD in present Restricted Area 109. Representatives from Regions 1 and 3, and Washington attended. Jack Wubbolding, IND Center Chief; Lyle K. Brown, ATAS/IND; Lou Helbock (KC-530); and Ralph Brockman (KC-510) were our representatives. The outcome of this meeting will involve procedures that will have a considerable effect on IND Center operations.

During the month of January, meetings were held with representatives from the Bell System Telephone Companies concerned, AT&T, our Washington Office, Facilities Division and our own Division to review the requirements for interphone systems, key equipments and other related TELCO equipments to serve the new ARTC Center

buildings at Kansas City (Olathe), Chicago (Aurora), and Minneapolis (Farmington).

The Kansas City Center meeting on January 12, involving Southwestern Bell TELCO and the Minneapolis Center meeting on January 28, with Northwestern Bell and Central (independent) TELCO were held at the Regional Office. The Chicago Center meeting with Illinois Bell TELCO was held in Chicago on January 26. In connection with the new Center buildings programmed for construction at Region 3 locations, we are having a set of 35mm color slides made for the use of each of our six Centers. These slides are actual pictures taken of the new Cleveland Center building at Oberlin, Ohio, by Jim Bromley, DTW Center, during a visit to CLE last fall, and consist of both exterior and interior views of the new building. These can be used by each Center to show the personnel what one of the new type buildings looks like.



NOTE: We would like to receive photos, preferably with the negative, if available, of other Region 3 ATM facilities which show what the facility looked like "in the good old days(?)". Undoubtedly, some of you old timers have such pictures in your files or know someone who has pictures of this type. We would like to use them in future issues of FLIGHT LINES on the ATM page. Please send them to the attention of KC-500, with some identifying information either written on the back of the picture or in an accompanying note. We will return the photo or negative (or both) to the sender.

One example that comes to mind is the old MOT ATCS that formerly operated out of "box-car" quarters. You can think of many others, we are sure. Let's have your ideas.





FOCUSING ON



Wendell W. Byrn, Engineering Aide (Civil), received a Suggestion Award from C. George Benzon, for a new method of photographing facility sites.



Springfield, Ill. General Safety staff caught working in Champaign, Ill. recently. Left to right: Robert R. Blain, George W. Wagner, Supervising Inspector, Wm. E. Burton, Sidney C. Kimball and James W. Flanagan.



Fritz L. Puls, left, Deputy Regional Attorney, discussing a difficult legal matter (probably a violation) with Harry S. Troxell, Supervising Inspector, General Safety District Office, Chicago.



New I.D. cards for everybody caught our boss, Leonard W. Jurden, having his picture taken.



# Ground Breaking at Olathe for the New Kansas City Air Route Traffic Control Center



Kansas Governor George Docking, on the left, welcoming Senator Andrew F. Schoeppel, Congressman Newell George and FAA Regional Manager Leonard W. Jurden, as they arrived at the site by helicopter.



HIGH PRICED HELP. Left to right: Harvey Jetmore, President Olathe Chamber of Commerce; Olathe Mayor J. I. Laptad; Governor George Docking, Senator Andrew F. Schoeppel, Congressman Newell George, and Leonard W. Jurden; who helped with the erection of the sign marking the new Center site.



Smiling Don E. Sharp (third from left), receiving contract for building new Kansas City Center at Olathe, as (left to right) Boss Leonard W. Jurden, Glen C. Kimsey and Keith Dannefer look on.

Up Goes The Sign marking the site of the new Kansas City Air Route Traffic Control Center located in Olathe. Official ground breaking occurred on February 13th, 1960.





## STATE OF THE ART—1911

(We borrowed this from the January 1960 issue of *APPROACH*.)

Back in the old days operating instructions for aircraft were relatively simple. The following is quoted from an actual excerpt from the operating instructions issued with the 1911 Glenn Curtiss "Pusher" airplane.

"1. The Aeronaut should seat himself in the apparatus, and secure himself firmly to the chair by means of the strap provided. On the attendant crying 'contact' the Aeronaut should close the switch which supplies electrical current to the motor, thus enabling the attendant to set the same in motion.

"2. Opening the control valve of the motor, the Aeronaut should at the same time firmly grasp the vertical stick or control pole which is to be found directly before the chair. The power from the motor will cause the device to roll gently forward, and the Aeronaut should govern its direction of motion by use of the rudder bars.

"3. When the mechanism is facing the wind, the Aeronaut should open the control valve of the motor to its fullest extent, at the same time pulling the control pole toward his (the Aeronaut's) middle anatomy.

"4 When sufficient speed has been attained, the device will leave the ground and assume the position of aeronautical ascent.

"5. Should the Aeronaut decide to return to terra firma, he should close the control valve of the motor. This will cause the apparatus to assume what is known as 'gliding position,' except in the cases of those flying machines which are inherently unstable. These latter will assume the position known as 'involuntary spin' and will return to earth without further action on the part of the Aeronaut.

"6. On approaching closely to the chosen field or terrain, the

Aeronaut should move the control pole gently toward himself, thus causing the mechanism to alight more or less gently on terra firma."

## Survey Finds General Aviation Flying Is Heaviest In Western States

A survey of general aviation visual flight rules (VFR) flying, published by the FAA, shows there is more general aviation good weather flight plan flying in the Far West than anywhere else in the United States.

The survey is the first ever made by sampling visual flight rules (VFR) flight plans each day over an extended period of time. The FAA data is summarized in a limited distribution publication, "Air Traffic Pattern for VFR General Aviation."

General aviation represents all domestic civil flying except that performed by certified, supplemental and intra-state air carriers. In hours and miles flown, general aviation is always ahead of other categories.

The city with the airport having the highest count of good weather general aviation flight plans is Las Vegas, Nevada. Other top ten airports are located in Phoenix and Tucson, Arizona; Wichita, Kansas; Orlando, Florida; El Paso, Texas; Farmington, New Mexico; Denver, Colorado.

## Answers To Radiological Problems —

1. The individual would have been subjected to approximately 150 r, which could be expected to cause vomiting and sickness in approximately 25% of persons so exposed.
2. The victim has likely been exposed to an extreme dose that will probably prove fatal in less than three weeks time.

## Quick Quiz HOW WELL DO YOU KNOW YOUR INDUSTRY?

1. U.S. scheduled airlines operate a total fleet of:  
a. 2,000 planes  
b. 5,000 planes  
c. 19,000 planes
2. Everytime the airlines buy a gallon of gas, they are taxed.  
a. 2 cents  
b. 4 cents  
c. 7-1/2 cents
3. For every dollar of revenue the airlines took in in 1959, they managed to keep as profit:  
a. 6 cents  
b. 3 cents  
c. 15 cents
4. Last year, the airlines paid airport landing fees and rentals totaling:  
a. \$25 million  
b. \$250 million  
c. \$1 million
5. The government agency concerned with the airlines' economic regulation is the:  
a. Federal Aviation Agency  
b. Civil Aeronautics Board  
c. Bureau of the Budget

Correct answers are shown below:

1. (c) 2. (c) 3. (c) 4. (b) 5. (a)  
From THE SHIELD, United Air Lines publication

## BOUQUETS FOR SUGGESTERS



Administrator Quasada recently received a congratulatory letter from the Civil Service Commission complimenting the FAA on its outstanding work through the Incentive Awards Program for fiscal 1959.

In this letter the FAA was recognized as having greater than the average government-wide participation, our record being at the rate of 173 suggestions per thousand employees. Those who contributed suggestions to the program are to be complimented for contributing to the record set by the FAA.





## GSDO-1, BISMARCK, NORTH DAKOTA

Bismarck, N. Dakota, is our most Northwesternly office where Jack Mathison and Pearl Hultgren have also been hibernating for the winter. We asked Jack to give us a brief resume of activities there during his first winter season and here is his story:



Jack Mathison

Bismarck has been affectionately referred to by its past inspectors as outer Siberia, the North Pole of the districts, etc. With Saskatchewan on our northern border it is Region Three's northern outpost camp so to speak. The thing that impressed me most in moving up here last July was the weather. The severity of it at times, the sudden changes, and the sparkling clear air (at times), July and August frequently had 100°, and 115° isn't uncommon in the sun-baked plains.

The temperature in itself isn't too startling, but add a 30 or 40-mile an hour wind and it's the nearest thing to a king-size blast furnace I've ever seen. On hot, windy days my wife Helen has hung out a wash for five people to dry and by the time it is all hung up, the first hung is al-



Control Tower and Terminal at Bismarck Airport

ready dry. When the dust starts to blow with the hot wind, there is no way to keep it out of the house. This condition isn't too frequent and is more than offset by some of the brilliant orange sunsets, low humidity, excellent municipal swimming pool and drinking cold beer in the backyard shade.

This past summer was a severe, dry one for the Dakotas. Bismarck had only about 7" of rainfall for the year by July. The wheat and cattle ranchers and pheasant crop suffered accordingly.

Our secretary, Mrs. Pearl Hultgren, has the afternoon sun to contend with and is looking forward to air conditioning for next summer. Speaking of air conditioning brings us to the present season. The heating system we depend on for survival in our office is an ingenious system of four gasping, unpredictable, gas space heaters. Fortunately I don't smoke. This is important as Pearl advised me at the beginning of the heating season that she never lights a match in the office first thing in

the morning. If a heater blows out during the night we open all the windows and then light up. A central heating system is to replace this in the future. Nothing has blown up yet and we have been quite comfortable.

A severe blizzard in November got us off to a rough start. A premature freeze-up forced an early exodus of all ducks. The airports up along the border were closed to all but ski-equipped aircraft for quite awhile as were some of the side roads. Deer sea-



Mrs. Pearl Hultgren



son was quite successful as deer are plentiful along the Missouri River bottoms and in the badlands. Our family got its deer the last day of the season. The winter since then has been fairly mild and considerable flight activity prevails.

Our district covers roughly the western two-thirds of North Dakota with flat terrain, rolling and badlands offered for variation of scenery. The largest earth-filled dam, Garrison Dam, backs up almost 200 miles of water and offers an aerial check point that can be seen from most any point in our district, if high enough. With the dry conditions here, the reservoir has another 40 feet to rise to be up to the desired level.

This district, with statewide population of only 600,000 people, is suffering from growing pains. Maintenance activity is increasing as well as flight training and airplane sales. Minot, North Dakota municipal airport three short years ago was very quiet. Now it is one of the busiest in the district with new administration buildings, a nearby ADC air base and much enthusiasm in the newly organized Air Force flying club.

The district's biggest single aviation activity is agriculture aircraft with 264 active sprayers in the state during 1959.

The North Dakota state airport operators association recently met and are organizing the states growing industry. An aviation round table discussion sponsored by the State Aeronautics Commission was held last November and December in Minot and Fargo with FAA and weather bureau personnel attending both meetings.

Many aircraft are exported from North Dakota to Canada.

During an accident investigation in the southwestern part of this district, I met a man whose hobby is collecting rattlesnakes to sell to the reptile gardens as tourist attractions. He lands

his Aeronca Champ on the buttes and raids the dens while the snakes are basking in the sun, and hauls them home in a burlap sack under the seat. A Snafu developed one day which resulted in his Champ taking off the Butte by itself and it was demolished. The snakes under the back seat were unharmed. I was invited to accompany him on a snake hunt to take pictures; I declined the offer. If I had on steel boots up to my arm pits, I still couldn't sit over a bag of rattlers. A storage box in the man's place of business (padlocked) contained 40 or 50, all rattling at the same time. That is a sound to be remembered.

Our secretary, Mrs. Pearl Hultgren, spends weekends in Minot and occasionally has to battle the elements during her traveling, such as icy roads, drifting snow, zero visibility from blowing snow. All of this helps keep the weather a standard topic up here. The radio is good about advising motorists that certain highways are completely blocked and travel is not recommended.

When I read through this story, I couldn't decide whether or not to send it to Tom Davis; but I decided to let our fearless reviewer of accident files edit this too, and then I too will have the surprise of seeing it accepted.



## NEWS FROM THE DISTRICT OFFICES

The district offices must have been using their leave because the Highlights for December were singularly lacking in information.

However, Lincoln advises that the State of Nebraska is getting 2 helicopters for Highway Patrol. Milwaukee GSDO says that the Parker Pen Company has purchased a helicopter and GSDO No. 18, South Bend, says they have three new helicopter owners in their district.

In addition, the release of Convoys by the airlines is soon going to provide a substantial increase in these aircraft for executive operation.

## ONE-MAN OFFICES

It has been a long, cold winter and our thoughts have turned to those hardy individuals from our more or less isolated areas. Dodge City, Kansas, has been awfully quiet this winter, but this is normal. Martin Oosta, the one-man gang, has been in Dodge City about 6 months and has really taken charge, despite considerable opposition from Matt Dillon and Wyatt Earp. That, however, is only during the tourist season and most of that, of course, is in Dodge City proper. Martin and his girl "Tuesday", Ferne Hargrove, are shown busily at work.



Dodge City's Martin Oosta and Ferne Hargrove





## PERSONNEL HI-LITES

Employee Development Officers, Cleo A. Brock and Bernard M. Anderson, conducted a 40-hour Management Course at St. Louis Air Route Traffic Control Center the week of January 18, 1960. Nineteen supervisors completed the following instructions: Responsibilities of a Supervisor, 2 hours; Work Improvement, 6 hours; Production, 6 hours; Training, 8 hours; Human Relations, 16 hours, and Concepts of Leadership, 2 hours.

The Employee Development Officers also presented a 10-hour Human Relations Course at the St. Louis Center during the same week. Forty-four FAA employees attended this instruction held from 7:00 to 9:30 p.m., Monday through Thursday.

A ten-hour Writing Improvement Course was completed by twelve FAA employees at the St. Louis Center the week of January 18. The five sessions emphasized shortness, simplicity, strength and sincerity in Writing.

### THE ERROR CORRECTION TALK

In preparing for the interview and conducting it, there are a number of things the supervisor can do that will boost his chances for success.

**Get the facts.** To begin with, the oft-repeated "get the facts" is as important and appropriate here as in any human relations situation. Unless you actually find out what has happened, you will be forced to rely on inference and assumption alone. Both can be exceedingly unreliable. Both can lead to the wrong conclusion. To assume that the employee's error automatically reflects a certain personal fault or inability on his part is jumping to conclusions.



**MASTERING MANAGEMENT.** Those attending the course for Supervisors at the St. Louis Center January 18-22 were: Front row (left to right) Oliver M. Hasek, Theo. Pope, William F. Oestreich, Jr., James A. Dille, Ralph K. Murkin and Jerome F. Moonier; Middle row (left to right) Robert C. Chamberlain, Fred A. Becchetti, Juel G. Black, Walter Van Steiger, William R. Dallam, Frederick W. Chincholl, Jr., and Charles M. Palmer; Back Row (left to right) Clark S. Zucker, Frank B. Hildenbrand, Raymond E. Baldridge, B. M. Anderson, Bernard R. Curtis, Alexander C. Spears, Jr., and Cleo A. Brock.



**Write Righters.** St. Louis personnel completing the Writing improvement course January 18-22 were: Front row (left to right) Harry D. Salyer, John D. Lawrence, Carol Ann Huck, Lawrence F. Daily and Ferdinand L. Belz, Jr.; Back row (left to right) Thomas S. Murphy, Marion F. O'Brien, William T. Prochaska, B. M. Anderson, Chief Proficiency Development Branch, Edward J. Rothery, Alfred J. Laitner, and Walter C. Cederlund.



**Choose the right time and place.** . . The right time and place for the supervisor should be only when he has had an opportunity (if needed) to cool off, and to properly analyze the situation confronting him.

**Correct rather than blame.** . . The supervisor who falls into this trap of personalizing and placing blame is only intensifying what he has started out to correct, while rapidly creating problems that may return to haunt him.

**Let the employee look at the error.** . . In this process of "looking" at the error, benefit can be derived from allowing the employee to discover the error for himself. Restating the instructions—telling him again what is wanted—is a technique that can help him to make this discovery. It is here that he may exclaim, "I'm wrong! I didn't do it that way. I made a mistake!" Let him tell you, being the first to use such words as "wrong" or "mistake." This is quite different from your telling him.

**Find how to avoid repetition of the error . . .** In considering preventive measure, the employee can play an important part. Realizing this, the supervisor should encourage him to take an active part in the interview. It is quite possible that, being closer to the specific job than the supervisor, the employee's view of the situation may be more detailed and his suggestions of considerable merit.

**Key questions inviting his contributions could be:** "How might we do this next time?" "Can this be simplified?" "Is there a better way of doing this?" . . .

**Strengthen responsibility toward job.** . . It is a chance to let the employee know that he is needed and is important to the success of the organization. It can be an occasion not only to strengthen his responsibility toward the job, but also to create and cultivate within him a desire to do better in the future.

## PERFORMANCE RATINGS-TIME IS HERE

Have you discussed each employee's performance with him? If not be sure you do, and have each employee sign the employee performance rating certification form, KC-551 (10/59).

Why should a supervisor discuss performance ratings with each individual employee? There are regulatory requirements that a discussion be held. Why was it necessary to establish a regulatory requirement? Because management feels that there are many intangible benefits to be derived from employee-supervisor performance evaluation discussions and, as shown by Civil Service inspections, some supervisors miss the boat.

What are some of the benefits to be derived through the discussions? The proper use of employee performance evaluation and performance ratings helps to improve employee performance through (1) strengthening supervisor - employee relationships, (2) identifying work standards and requirements, (3) informing employees of work standards and requirements, (4) recognizing commendatory and outstanding work performance, (5) recognizing and correcting work deficiencies, and (6) using performance ratings as a guide to formal personal actions.

## HEALTH BENEFITS PROGRAM PROGRESSING

Through the medium of a Regional Bulletin, employees were furnished the broad concept of the Federal Employees Health Benefits Program.

In Region Three we designated an agency representative who will attend Civil Service meetings to learn the new regulations and be responsible for keeping employees advised. He will hold meetings throughout the Region as necessary and furnish informational literature to permit em-

ployees to make an informed selection from among the various plans.

Generally speaking, all FAA employees will be eligible to participate in the Program unless their employment is temporary or intermittent. Initial enrollment will probably begin about June 1, 1960, and may extend through August. Employees wishing to participate as soon as the program becomes effective will be given the opportunity to enroll before the first day of the first pay period in July.

Employees desiring insurance coverage prior to effective date of the Health Program should continue their present coverage or take action to purchase the desired insurance to cover the interim period. A free choice among the various plans can be made regardless of insurance coverage or whether or not the employee is insured prior to the effective date of the plan.

## YOUR RETIREMENT SYSTEM

The following questions and answers are excerpts from the Civil Service Commission Pamphlet 18, dated April, 1959. You may want to keep these for future reference.

What classes of civilian service may be credited for retirement purposes?

Credit may be given for all service performed as an employee of the Federal Government or the District of Columbia Government. There is one minor exception to this rule: No credit may be allowed for service in which an employee acquired social security coverage under the Social Security Amendments of 1954. This exception applies only to service of a comparatively few individuals, most of whom are temporary or indefinite employees in the field service of the Post Office Department.

Must the service involved be consecutive, or may separate periods of service be counted?



More questions and answers  
to come in the next issue.

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## BROTHERHOOD WEEK

The Federal Aviation Agency is cooperating with other Federal agencies and the National Conference of Christians and Jews in the observance of National Brotherhood Week, February 21-28.

Brotherhood Week presents a challenge to men of good will everywhere to make our country's pledge of "one Nation under God - indivisible - with liberty and justice for all." It provides a means whereby every community in America can reaffirm those religiously inspired moral values which are the foundation of our democratic society.

President Eisenhower, Honorary Chairman of the observance, stated "The achievement of brotherhood is the crowning objective of our society. On this circling planet (with nations poised for mutual advancement or destruction, we must enlarge our spirit of brotherhood to include all men who live under the banners of liberty and law. . ."

### WHAT IS THE NATIONAL CONFERENCE OF CHRISTIANS AND JEWS?

The NCCJ is a civic organization in a nationwide program of intergroup education. It enlists Protestants, Catholics and Jews who without compromise of conscience or of their distinctive and important religious differences work together to build better relationships among men of all religions, races and nationalities.

Its operation is civic and social although, obviously, the roots of the brotherhood which it seeks to build are in the moral law and in religious faith.

We in the FAA are members of a force that is vital to the promotion of universal brotherhood—aviation. This force, particularly in this new jet age, has shrunk the world to unbelievably small proportions—and the shrinking continues daily. Far-off lands are easily accessible, but more importantly, strange and distant ways of life, philosophies, and objectives are brought together daily in a common world-wide forum.

It is incumbent upon us—in these times of a shrinking world—not to allow our attitudes, our interests, and our tolerance of our fellow men to shrink accordingly. Conversely, if there is any truth in the old saying that "familiarity breeds contempt," then in this small world we must enlarge upon our own thinking—our own principles and moral values. We must deal with people as individuals—not as members of a good group or a bad one. We must cut across the boundaries of race, religion and nationality and develop broadened interests, understanding and friendships. We must, in short, believe in brotherhood, live it and support it in our daily thoughts and actions.

### TELL YOUR FLYING FRIENDS

As an aid to flight instructors and student pilots alike, Jesse W. Stonecipher and Robert L. Ayers of the University of Illinois School of Aeronautics have prepared a manual titled "Altitude Instrument Flying."

This manual is designed to meet the demands of the new FAA requirements for private and commercial pilot certificates issued after March 16th which call for a demonstration of instrument flying capabilities.

This manual, which may be obtained from Aero-Dyne Service, Urbana, Illinois, for \$3.00, contains the information needed to meet the requirements and as such is of value to both student and instrument instructors.

## FAA SAFETY INSPECTORS CONDUCTING FLIGHT INSTRUCTOR MEETINGS REGARDING NEW INSTRUMENT REQUIREMENTS

Flight inspectors from the Federal Aviation Agency General Safety District offices throughout the mid-west have scheduled meetings throughout Region 3 of the FAA to acquaint flight instructors with the new instrument requirements for pilots licenses.

Effective March 16, 1960, the new Civil Air Regulation (CAR 20-12) becomes effective, which requires a demonstration of instrument flying ability for all applicants for private or commercial pilots' licenses.

Indoctrination of flight instructors in integrated IFR-VFR instruction procedures by the FAA through these meetings is designed to familiarize flight instructors with the criteria which will be applied to these new instrument requirements which call for 5 hours instrument training for a private license and 10 hours instrument training for a commercial pilot rating. These requirements are for licenses issued after March 16, 1960, and are not retroactive.

In addition to the new instrument requirements, FAA Safety Inspectors who will conduct the meetings will discuss basic instrument instruction principles as well as specific use of instruments.

Some 40 meetings have been scheduled throughout the Region in an effort to contact as many flight instructors as possible prior to March 16th.







# MEDICAL MEMOS

## REGIONAL MEDICAL OFFICE

### INFLUENZA

Influenza is an acute respiratory infection of specific viral etiology characterized by sudden onset of headache, myalgia, fever, and prostration. The terms influenza and "flu" should not be loosely applied to all common respiratory diseases with systemic manifestations but should be restricted to those cases with clear-cut epidemiologic or laboratory evidence of infection with influenza viruses.

Influenza is an Italian word meaning "influence" (originally referring to the influence of the stars), which first came into common English usage during the European epidemic of 1743. According to the best available records, the disease was uncommon in Europe during the nineteenth century until the pandemic of 1889. Subsequently, the frequency and severity of epidemics increased, culminating in the disastrous pandemic of 1918, which caused an estimated 20 to 40 million deaths.

From 1920 until the present, there has been a gradual but inconstant decline in the incident and severity of the disease.

There are, at present, three known antigenic types of influenza virus, designated A, B, and C, in the order which they were discovered. Infection with one type confers no immunity against the other two. Influenza B and C usually occur sporadically or in localized outbreaks, particularly in schools and military camps.

Influenza A viruses are the cause of major epidemics which tend to recur in the winter months at intervals of 2 to 4 years. A marked change in the antigenicity of type A viruses occurred in 1946-47, when viruses

extant between 1933 and 1945 completely disappeared and were replaced by strains designated as influenza A.

A further, more pronounced, alteration in the serotype of influenza A was detected in China early in 1957. These "Asian" influenza strains were widely disseminated in the Orient in the following spring and subsequently throughout the world, giving rise to the "Asian" influenza pandemic of 1957.

Fatal influenza, uncomplicated by bacterial infection, is rare at present.

Influenza C is particularly difficult to recognize because of its mildness. Although the manifestations and severity of influenza A vary from year to year, cases in a single epidemic often follow a remarkable similar pattern. The incubation period is usually 18 to 36 hours, but may be as long as 3 days. The chief complications of influenza are secondary bacterial infections of the para-nasal sinuses, middle ear, bronchi, and lungs. The incident of bacterial pneumonia is greatly increased during influenza epidemics. Recovery from uncomplicated influenza is often complete in 2 or 3 days, or, occasionally, in a week.

Here's a good story from our files—an airman was asked for the third time to produce evidence his ulcer was healed. He said he thought his doctor had taken care of this matter for he had seen and called him a dozen or more times about it, and had done everything in his power to get him to fill out the report, but to no avail. Wondered if this office could get after him and build a fire under him to get him going. As far as he was concerned, though, he couldn't see

how having ulcers had anything to do with flying, but we could rest assured he would get them back if this kept going on. The airman asked if we could hold off making him return his medical certificate, for he would go to the doctor and stand over him with a club until he completed the report. And, he would consider it a personal favor if we would write the doctor and explain the facts of life to him. He had been practicing a few years and it seemed to him that he made a federal case out of a headache, but he would say the doctor was good.



### SPANO RESIGNS FAA POST

Bart Spano, Assistant Chief, Jet Plans Division, Office of Plans and Requirements, Federal Aviation Agency, has resigned to enter private industry after 14 years with the FAA and the former Civil Aeronautics Administration.

Mr. Spano is leaving government service to start his own acoustical research and engineering consultant firm in Washington, D. C. He will be available to serve the FAA as a consultant on noise problems.

As Chairman of the former Civil Aeronautics Administration's Jet Planning Group from its inception in 1956 until the establishment of the FAA, Mr. Spano did much original work on the acoustics and psycho-acoustics of airport communities, and is considered an authority in this field. Under the FAA, Spano continued this work as head of the FAA Noise Abatement Team.



## FAA PROMOTES TWO AIR TRAFFIC CONTROL VETERANS

Announcement has just been made by George Kriske, Region 3 Chief of Air Traffic Management, of the appointment of Air Traffic Supervisors in the Kansas City and the St. Louis areas.

Fred L. Lorch, former Deputy Chief Operations Branch ATC in the Regional Office, has been appointed Air Traffic Control Specialist for the Kansas City area and Fred A. Blackburn, formerly of the Enroute Planning Section of ATC in the R. O. has been named Air Traffic Control Specialist in the St. Louis area.

Announcement of these appointments creates a new position in each of these areas. Lorch and Blackburn will each be responsible in this area for planning efficient utilization of all navigable airspace; needed improvement in existing ATC and Communications Services and pressing need for new services; and problems concerned with VFR flying outside control zones and areas. Other responsibilities include serving as Chairman of the Center ATC Advisory Committee and Terminal Area Advisory Committee, and serving as an active member of the Regional Special Use Airspace Team.

Fred Lorch, who is assigned to the Kansas City area, which includes Kansas, parts of Missouri, Nebraska, Iowa, Minnesota from the Minneapolis terminal area west, and North and South Dakota, began his CAA/FAA career 18 years ago as an Assistant Controller in the Cleveland Center.

Over these 18 years, Lorch has been assigned to the former Chicago Regional Office, and as District Supervisor in Detroit before coming to the R. O. in 1953. In his previous position he has been supervising some 3300 employees in 122 ATC facilities in 9 states.

Fred Blackburn, assigned to the St. Louis area, covers parts of Missouri, Illinois, Oklahoma and Arkansas. Blackburn began his career with us in January of 1942 in the Minneapolis Center as Assistant controller. He has worked in Centers in Cincinnati, Anchorage, and Indianapolis and came to the R. O. in early 1957, first in the Facility Operations Section, then the Planning Branch-Enroute Section where he was responsible for planning of space and equipment for existing centers and for new center buildings.

In carrying on their activities in the field, both men will be in contact with officials of other aviation organizations, military establishments, airlines, airport authorities, fixed base operations and others, as well as all the FAA facilities in the area.

Appointment of the Freds—Lorch and Blackburn—brings to 5 the number of Air Traffic Supervisors in Region 3. The others include Lyle K. Brown, Indianapolis; Ralph C. Hottman, Chicago; and Harley Shotliff, Detroit.

At press time Fred Lorch was still looking for office space in the K. C. Airport area and Fred Blackburn was still waiting for his offices to be refurbished in Young's Hangar (west), Lambert Field, St. Louis.

## FAA OPENS BIDS FOR CONSTRUCTION OF NEW AIR TRAFFIC CONTROL CENTER AT AURORA, ILLINOIS

The Arnold Lies Company of 1515 New York Street, Aurora, Illinois, is the apparent low bidder among 11 bids submitted to the Federal Aviation Agency for the construction of an FAA Air Route Traffic Control Center at Aurora, Illinois. The apparent low bid by the Arnold Lies Company was \$1,554,713.

Bids were opened at the FAA Regional Office in Kansas City

The construction contract for the FAA Air Route Traffic Control Center at Aurora calls for a two-story Main Center Building of approximately 50,000 square feet, including two additional buildings which will house administrative offices.

The new Air Traffic Control Center, according to Leonard W. Jurden, Regional Manager of the FAA, will replace the present Center now located at Chicago Midway Airport and will control air traffic in portions of a 5-state area which includes Wisconsin, Michigan, Indiana, Illinois and Iowa.

Location of the Center is on a 12-3/4 acre plot at the north city limits of Aurora and near the northwest intersection of Indian Trail Road and the Chicago, Burlington and Quincy Railroad.

The contract calls for completion of the construction in 300 days. According to FAA officials, it will take approximately 9 months to install the more than \$2,000,000 in electronic equipment in the New Center.

## BELATED NOTICE

For the information of Region Three field personnel who may not have heard, Herbert R. Harris, Chief, Contracting Section for the past several years, passed away on December 19, 1959 from a heart attack. No apparent illness preceded his untimely death. Mr. Harris transferred from Region One in July 1938 to become Deputy Chief, Accounts Branch. He was active in the Aeronautics Toastmaster's Club. Immediate survivors include his wife, Katherine, and two sons, Herbert and Charles. Funeral services and burial were held in Kansas City on December 21.

It is regretted that circumstances did not permit the publishing of an earlier notice in Flight Lines.



### ACCIDENT CASE HISTORIES

A review of the 1959 vehicle accidents reveals that certain accidents probably could have been eliminated by the use of better driver judgment. A few of the incidents that appeared avoidable are shown below:

CASE #1: As a driver attempted to allow room for another car to pass through a gate, his car grazed the entrance post.

CASE #2: The right door didn't latch as passengers left the car. Driver, not noticing door swing open, started backing and the door struck objects near the right side of the driveway.

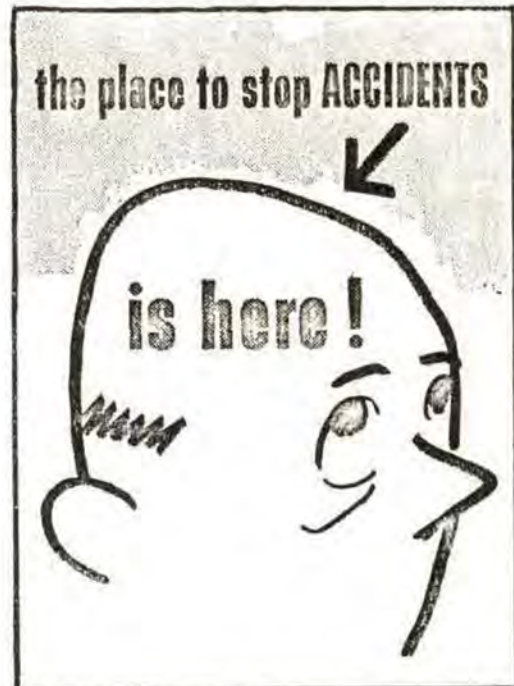
CASE #3: After driver turned his car in a parking area, it rolled over a storm sewer, causing lid to flip up and strike the left front fender.

CASE #4: Driver opened the gate to a VORTAC and started to drive through when the gate blew shut, damaging the car.

CASE #5: In backing onto a highway from the parking area, driver was looking over his right shoulder at the traffic, turned his wheels too short and hit a light post with the fender of his car.

All the safety devices provided in modern cars are not substitutes that allow us to turn the driving responsibility over to the car. Driving can never be an unthinking physical process involving just skill in manipulating the vehicle's controls.

Safe driving is a mental process requiring thought, attention, courtesy, consideration and an alert sense of responsibility. The best piece of equipment in your car is an alert driver.





THE WHITE HOUSE

WASHINGTON

January 26, 1960

JOB SAFETY WEEK

During the 1960's, to meet the competition of our age, America needs an ever-increasing number of skilled working men and women. These are the Nation's pride and strength. And their safety at work is a national concern.

During Job Safety Week, February 28 - March 5, I have invited leaders from business, agriculture, labor, Government, educational, insurance and safety organizations to meet in Washington for the President's Conference on Occupational Safety. I hope this Conference will devise a program of voluntary action to bring about a better safety record in all places where Americans are at work.

I hope that State and local officials will join in similar efforts during Job Safety Week to emphasize the need to raise the standards and practices of occupational safety across the land.

*Lyndon B. Johnson*