

# FAA | AVIATION NEWS

FEBRUARY 1965

F E D E R A L A V I A T I O N A G E N C Y



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VOL. 3, NO. 10

FEBRUARY 1965

## COVER

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The FAA tower at the Phoenix Sky Harbor Airport handles a continuing increase in general aviation traffic. Pages 8-9.

FAA AVIATION NEWS is published monthly by the Office of Information Services, Federal Aviation Agency, Washington, D.C., 20553, in the interest of aviation safety and to acquaint readers with the policies and programs of the Agency. The use of funds for printing FAA AVIATION NEWS was approved by the Director of the Bureau of the Budget, Feb. 1, 1963.

Subscription rates: U.S. \$1.50 a year, foreign \$2.00 a year, single copies 15 cents. Send check or money order (no stamps) as well as address changes to Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402.

In requesting a change of address, subscribers should include the mailing label from any issue to facilitate the change.

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## STUDY SHOWS ALL PHASES OF GENERAL AVIATION TO EXPAND

The nation will see a substantial growth in many facets of aviation and a resulting increase in FAA activities in fiscal years 1965-1970, according to an Agency forecast released last month. Significant changes are expected in both the volume of air traffic activity and in the type of equipment that will be flying the domestic and international air routes.

The prognostication came in a study conducted by the Federal Aviation Agency's Office of Policy Development under the title, "Aviation Forecasts, Fiscal Years 1965-1970."

While air carriers will continue to accommodate the great bulk of the demand for air transportation, there will be continuing expansion in general aviation flying. In fiscal year 1964 general aviation aircraft flew some 15.5 million hours; by fiscal year 1970 it should be about 19.5 million hours. All segments of general aviation flying are expected to participate in this growth with the transport uses (particularly business and corporate flying), air taxi and charter operations, and pleasure and personal flying showing the largest gains.

The 1970 general aviation fleet will number approximately 105,000 aircraft as against 85,088 at the beginning of 1964. Piston-engine aircraft will continue to constitute the great bulk of the fleet, but the number of turbine-powered aircraft, though relatively small, will increase substantially. General aviation rotorcraft will show sizable gains.

During the forecast period there will be a further shift to larger and faster general aviation aircraft. The number of multi-engine and large single-engine aircraft in the general aviation fleet will increase steadily. In contrast, the number of the smaller single-engine aircraft has declined gradually over recent years and a further decline seems likely.

A number of manufacturers are now offering light jet and turboprop aircraft designed especially for the business flying market. These aircraft generally have a four-to-eight passenger capacity and carry price tags ranging upwards from about \$400,000. There is considerable interest in these aircraft, but the size of the available market will probably be somewhat limited by the relatively high sales prices.

The number of general aviation aircraft which are electronically equipped will also increase. In 1962, the most recent period for which data is available, 77 per cent of the general aviation fleet was equipped either with a radio receiver

or with a receiver and transmitter. This represented a gain of about one-third over the number of general aviation aircraft which were radio-equipped in 1958. Although nearly all multi-engine and large single-engine aircraft carry some type of radio equipment, 54 per cent of the smaller single-engine 1-3 place aircraft had no radio equipment in 1962. While the number of general aviation aircraft is expected to increase throughout the country, the growth rate is expected to be particularly high in the southern and western states.

Consumption of jet fuel and aviation gasoline will show sharply divergent trends. Jet fuel consumption, which totaled almost 2.6 billion gallons in fiscal year 1964, is expected to double to approximately 5.2 billion gallons by fiscal year 1970. Aviation gasoline will continue to decline as the airlines proceed to phase-out their piston-engine transports. By fiscal year 1970 consumption will total 510 million gallons of which 310 million gallons will be used by general aviation.

Activity at FAA terminal and en route facilities is expected to reflect a moderate rate of growth in air carrier flight activity, further expansion in general aviation flying and a gradual decline in military flights.

The number of aircraft handled, which is used to measure en route IFR activity and workload at FAA air route traffic control centers, IFR aircraft departures handled by the centers, and instrument operations at airports with FAA traffic

control service, are expected to increase more rapidly than over-all flight activity during the forecast period. The proportion of IFR flights to total flights will continue to rise as more jet aircraft come into the air carrier fleet and more sophisticated aircraft enter the general aviation fleet. The lesser growth in the number of IFR aircraft handled than the number of IFR departures reflects the effects of the center consolidation program which will tend to reduce the number of "over" flights tallied.

The increase in the number of aircraft operations handled by FAA airport traffic control towers will be aided by the commissioning of new towers largely at general aviation airports.

Flight services provided by FAA flight service stations and combined station/towers will also show significant gains. Contacts made with VFR aircraft will continue their strong uptrend; general aviation aircraft constitute the great bulk of this activity.

The nation's expanding and prosperous economy and the growing population are the major factors for the continued growth.

During the forecast period the total number of aircraft in the air carrier fleet will remain virtually unchanged at approximately the 2,100 aircraft level. However, the composition of the fleet will change significantly. Substantial additions will be made to the jet and twin-engine turboprop aircraft fleets while the number of piston-engine transports in service will steadily decrease.



## INTERNATIONAL EXPOSITION PROPOSED FOR DULLES

A proposal for an International Aerospace and Science Exposition—which would spotlight the progress of American industry in the aviation, space and electronics fields—has been announced by FAA Administrator N. E. Halaby.

Dulles International Airport, near Washington, D. C., is to be the site of the proposed 10-day exposition to be held in June 1966. The purpose is to stimulate exports of American-made aviation products.

"We intend to show the world that this nation is still the leader in aviation and aerospace science and technology," Mr. Halaby said. "Our intention, is to make the exposition a permanent event like the Farnborough and Paris air shows. These expositions have proved highly successful, and it's about time America's aerospace industry had a similar showcase for its products."

Industry interest in the exposition has been increasing rapidly, the FAA Admin-

istrator said, and might warrant sponsorship of the project by the United States Government.

In this event, he continued, we would expect the exposition to be self-liquidating so that the Government might recover all or most of its investment.

Dulles Airport would be the ideal location for the exposition, Halaby noted, because of its modern jet-age facilities and its proximity to the nation's capital. A portion of the airport's 10,000 acres already has been set aside for such commercial ventures.

Dulles Airport is operated by FAA for the Federal Government. It is located in Chantilly, Va., a 40-minute bus ride from downtown Washington.

Mr. Halaby is chairman of a special interagency task force which has been studying the possibility of establishing a permanent international aerospace and science exposition in support of President Johnson's Trade Expansion Program.

## Aviation Regulations Reduced; 'Legalese' Chopped from FARs



FAA General Counsel Nathaniel H. Goodrich, right, and Associate General Counsel James B. Minor compare the simplified FARs with the old regulations.

Aviation regulations governing the nation's pilots, airlines, manufacturers and other users have been reduced by approximately 60 per cent by the FAA in a major rules simplification program that has compressed the number of regulations from 125 to 55.

Compact and easier to understand and use, the new Federal Aviation Regulations (FARs) result from a program, technically known as recodification, which was begun in 1961 and completed in December 1964. The new rules are written in simplified English with a minimum of "legalese." Each new FAR is widely circulated for public comment prior to adoption.

FAA Administrator N. E. Halaby stated that completion of the program signifies a new era in the regulatory field by making the rules a modern management tool attuned to current operating requirements.

The FAA reorganized and streamlined the regulations to eliminate duplicate, obsolete and unnecessary provisions of multiple regulatory systems inherited by the FAA from the Civil Aeronautics Board and the Civil Aeronautics Administration. The FARs consolidate and simplify the former Civil Air Regulations, Civil Aeronautics Manuals and Regulations of the Administrator. The substance and legal meaning of the FARs generally remain unchanged.

A list of the new FARs is available free of charge from the FAA, HQ-438, 800 Independence Avenue, S.W., Washington, D. C. 20553.

## Agency Points Up Procedures To Transfer Surplus Airfields

The Federal Aviation Agency, following up Secretary McNamara's announced deactivation of 19 airfields, has called attention to the procedures by which surplus military airfields can be transferred to state or local public agencies for development as civil airports.

The procedures were established by the Surplus Property Act of 1944 and its amendments. More than 600 airports have been transferred to state and local agencies under this statute since the end of World War II.

The Surplus Property Act provides that the General Services Administration may transfer to non-Federal public agencies any surplus airport property which the FAA Administrator determines is needed to serve civil aviation. This determination is based on a number of factors, such as whether the property will fit into the national system of airports and whether it will serve to promote and develop civil aviation in the local community.

The Agency works closely with interested local officials under the provisions of the Surplus Property Act.

Transfers of surplus airport property may be made without payment to the Federal Government. However, all transfers are subject to certain terms, conditions and reservations which are prescribed in the Surplus Property Act and which are intended to assure that the property will continue to be used as an airport and for the advancement of civil aviation. In the event that any of these terms, conditions or reservations are not met, the Federal Government has the option of repossessing the property.

The first step in the disposal of real property owned by the United States Government occurs when the controlling Federal agency notifies GSA that the property is excess to its needs. Then, if no other Federal Agency indicates a need for the property, it is declared surplus by GSA.

FAA maintains 24 District Airport Offices in the continental United States to assist local communities in airport development projects. They are located in Bethany, Okla.; Boston; Burlingame, Calif.; Charlotte, N. C.; Chicago; Columbus, Ohio; Denver; East Point, Ga.; Ft. Worth; Harrisburg, Pa.; Helena, Mont.; Jackson, Miss.; Kansas City, Mo.; Lansing; Lincoln, Nebr.; Los Angeles; Miami; New York; Phoenix; Reno; St. Paul; Seattle; Shreveport, and Washington, D. C., in the FAA Headquarters Building.

## FIRST STANDARD DESIGN TOWERS COMMISSIONED



Lawton, Okla., tower while under construction.

The first two of 18 FAA standard design airport control towers go into operation this month—at Lawton (Oklahoma) Municipal Airport and Anchorage International Airport. A third is to begin operation next month at the Tulsa (River-side) Airport. The tower at Lawton is the first of standard design to be con-

structed entirely with funds from FAA.

Designed to provide a standardized working environment, the towers have a distinctive functional design tailored to air traffic control requirements at VFR (Visual Flight Rules) airports. Average construction costs, including instrumentation, are estimated at \$350,000.

The Lawton tower, and others located at VFR airports, are free-standing, painted white, with a control cab placed atop a pentagon-shaped, steel-frame, supporting structure covered with metal paneling. The structure houses five floors of operating space from the base of the tower up to the tower cab floor. Stairs provide access to the tower cab. Floor-to-ceiling windows are located at each corner of the five-sided tower.

The FAA also will construct a standard concrete-shaft design tower at larger airports which provide both VFR and IFR (Instrument Flight Rules) air traffic control service. These will be built generally at location: which require towers higher than 60 feet and where future expansion of air traffic control facilities is anticipated.

Major advantage in this type of higher tower is the provision for future lateral expansion at ground level.

## MILESTONES IN AVIATION



The Goupy triplane built in the tractor tradition by the Voisin brothers in 1908 led directly to another and more famous triplane built and flown by Alliott Verdon-Roe in England.

With his first triplane, Roe "hopped" 900 feet. He then constructed a second which he used for his first significant flight of about a half a mile at Wembley Park in December 1909.

Roe's triplane was a curious design. The pilot's seat was between two sets of three superposed planes, including front planes which could be tilted and twisted

while the machine was in motion. The single-seat tractor triplane was made of wood with fabric covering, and had a 35 horsepower Green motor. Thirty feet long, it had a wingspan of 42 feet and a wing area of 294 square feet.

Roe, in partnership with his brothers, founded the Avro works and produced some of the most famous training machines of the war period. His 1912 biplane—a two-seater with 50 horsepower engine—was adopted by the military. It was the first tractor biplane with a closed fuselage to be used for military work.

## Salt Lake Tests Closed Circuit TV



FAA Systems Research and Development Service personnel conducted a series of tests of closed circuit television blind-spot surveillance at Salt Lake City's Municipal Airport No. 1. The remote-control TV cameras were located at heights of 45 and 65 feet to scan areas where visibility from the tower is restricted.

## PRIVATE PILOTS WRITTEN EXAMS REACH NEW HIGH

Public interest in private flying took a sharp upswing in 1964, a year in which the FAA gave a record number of written examinations for private pilot's licenses.

The 51,548 applicants who took the examination in 1964 represented an 18 per cent increase over the 1963 total of 44,032. This increase, the Agency said, reflects a significant public response to private flying opportunities, since previous yearly increases in the number of applicants for private pilot's licenses were much lower.

The accelerated public interest in flying was attributed by FAA Administrator N. E. Halaby to "cooperative efforts on the part of Government and industry in making private flying safer, easier and cheaper."

Mr. Halaby cited the Federal-Aid-to-Airports Program as an example of the Federal Government's effort to improve the aviation facilities available to private flying throughout the nation.

"Modernization of airports and the increase in the number of airport facilities for general aviation has done much to increase the utility of private flying," Mr. Halaby said.

"Moreover," he said, "industry has done its part by producing small planes which are less expensive than earlier models, and by equipping them with navigational aids which a significant portion of the general public can afford to buy and learn to operate.

The net result, Mr. Halaby said, has been a gratifying increase in the number of private pilots who are instrument-rated or capable of using modern navigational instruments to insure their safety in the air. As the general public becomes increasingly aware of the extensive national system of air route surveillance by radar and radio navigational guidance, as well as air traffic control services provided by FAA to all pilots, the popularity of flying will show even greater increases in the years to come.

## Interurban Travel Via V/STOL Now Under Study by Task Force

The first meeting of an eight-member Government task force to study interurban air transportation and the development of civil V/STOL (Vertical/Short Takeoff Landing) aircraft as part of the national transportation system was held last month at FAA headquarters in Washington.

During the meeting, FAA Administrator N. E. Halaby, who heads the task force, presented the results of several FAA studies on V/STOL aircraft development and of the programs under way in other Government agencies. Recommendations were made for future actions.

Mr. Halaby noted that "the background and experience represented by the task force members will assure the Federal Government outstanding leadership in guiding the future course of V/STOL progress in the commercial use of such aircraft."

At the present time, use of V/STOL planes is limited to military tactical transport of troops and cargo. Aviation experts believe, however, such aircraft can fill a vital need in the area of high density, short range, air transportation.

These aircraft could operate either from close-in metropolitan airports, which normally would be unable to accommodate conventional transports because of limited space and short runways, or from special sites at larger outlying airports. One prime attraction of V/STOL planes would be in saving ground travel time to and from the airport.

## NEW PUBLICATIONS AVAILABLE

*Project Long Look*, a report of the Aviation Human Resources Study Board on manpower requirements of the civil aviation industry, is now available for \$1.00 from the Superintendent of Documents, U.S. Government Printing Office (GPO), Washington, D. C., 20402.

Other available publications include:

- *Flight Instructor Practical Test Guide*, AC 61-14; GPO, 10¢.

- *Location Identifiers*, October 1964; GPO, subscription \$3.00 domestic or \$4.00 foreign, includes three issues annually.

- *Commercial Pilot—Airplane, Single-Engine*, AC 61.117-1A; GPO, 10¢.

- *Air Traffic Control Procedures, ATP 7110.1B*; GPO, \$4.00 domestic; \$5.50 foreign.

- *Instrument Pilot Examination Guide*, 1964; GPO, 50¢.

## FAA SUPPORTS RESCUE OPERATIONS DURING FLOOD ON WEST COAST



Air rescue operations were handled by the FAA from an old Navy tower at Arcata Airport to direct emergency airlifts. (Eureka Newspapers, Inc., photo.)

The worst flood in the history of the West Coast provided a waterlogged Christmas for residents of Northern California.

Floodwaters, unleashed by more than a week of drenching rains and thawing weather, isolated an area larger than the State of Rhode Island. Entire villages were washed away. Rail and highway arteries were severed. At least 16 major bridges were wiped out. The Northwestern Pacific Railroad's right-of-way for more than 100 miles was washed out or damaged. More than 7,000 men, women and children were left homeless; at least 40 lost their lives. Gov. Edmund G. Brown termed the devastation "a major American disaster."

For FAA, the flood emergency presented a special challenge. All help for the inundated area had to come by air. Land links were impassable, and some would remain so for months. The massive relief and rescue operation that swung into motion was dependent almost entirely on aircraft. In many areas, food and medicine had to be air dropped. Survivors clinging to rooftops had to be evacuated by helicopter, some of them to hospitals.

As each new report grew more ominous, FAA set in motion its plan to offer the fullest possible support to relief and rescue operations, and worked closely with military and civil defense officials.

It was clear at the outset that airports in the Arcata-Eureka vicinity, situated in the heart of the flood area, would become nerve centers for rescue, supply and evacuation.

On the day before Christmas, an air traffic control team was dispatched to Arcata Airport from the Seattle Air Route Traffic Control Center, the Portland Tower and the Seattle-Tacoma Tower to initiate control and tower service from the Arcata Flight Service Station. Fortunately, the old Navy tower cab was available for this purpose. The team had the tower in full operation on Christmas Day—just as heavy traffic began to funnel into the area.

Military C-119s, C-121s, C-130s, C-124s and helicopters began to move in and out with precious cargoes of evacuees, food, medicine and equipment. During one period, the Arcata Airport was being utilized by Army, Navy, Air Force, Coast Guard and civilian air traffic. Cargo planes brought in emergency generators, jeeps, cots, blankets and cattle feed.

Where the field formerly would accept about five aircraft per hour, the acceptance rate with FAA tower and Radar Approach Control (RAPCON) operation jumped to as many as 20 per hour, all with increased safety despite the usually hazardous mixture of rotary and fixed-wing traffic and adverse weather. In a

typical two-day period, during the height of the flood, the Arcata tower accommodated more than 500 Instrument Flight Rule and Visual Flight Rule operations.

The FAA worked closely with the Air Force Communications System, Sixth Army and Civil Defense officials in planning all details of support activity and augmenting facilities in the Arcata area. FAA personnel and equipment, including a mobile RAPCON for Arcata and towers for Murray and Rohnerville, were made available and air-lifted in by the Air Force and Army.

One of the controllers summed up his feelings in this way: "On Christmas Day, I saw a little girl come in to the Arcata terminal with her mom and dad. They had just been brought in by a rescue helicopter. The kid's clothes were wet and she was clutching a little doll. Her mother told me, 'You know, that's all that's left of her Christmas.' When I see things like that, I'm really thankful I can be here and help out in some way."

Agency personnel were praised in many quarters. One example was a wire to FAA Administrator N. E. Halaby which stated:

"The emergency operation of air traffic control at Eureka, Calif., is great. Schedule transportation moving on a near schedule basis. Please thank all parties concerned. (Signed) Harry S. White, president, Pacific Air Lines."

## New Version of Old Sport-Trainer Is Certificated



The Alon Aircoupe, a two-place sport trainer first introduced in the late 1930s, is back in production.

The model A-2 Alon Aircoupe, an improved version of the world-renowned sports-trainer that did much to advance aviation over the last 25 years, has been brought back into active production status after receiving its FAA type certification recently.

Improvements in flight performance include a 120-mph cruising speed, a range of 455 miles and a 640 fpm rate-of-climb. The new, two-place Alon Aircoupe has a service ceiling of 17,300 feet.

Major design changes include a sliding "bubble" canopy, which reduces drag and provides outstanding visibility; a conveniently-arranged instrument panel for easy removal and reinstallation, and a super-soundproof cabin interior.

Co-founders John F. Allen, 52-year-old president, and Lee O. Higdon, 55, secretary-treasurer, expect to reach one-a-day production by this spring, and later two-a-day. Both two-control and three-control models are to be offered.

## WINGS OVERTAKE HOOFS IN THE OLD WEST



In America's expansive Southwest, horsepower in the sky has outmoded the four-legged variety on the desert sands. In the midst of this transformation is one of the busiest flying hubs—Phoenix's Sky Harbor Airport—one of the most active general aviation airports in the country.

The airport mushroomed to its current high rate of activity following World War II. In 1938 there were 15 planes at the field. Today, 465 airplanes are permanent "boarders" at Sky Harbor. Nightly, from 50 to 150 transients call it home on cross-country flights, often for visits to such Arizona tourist attractions as the Grand Canyon, the Petrified Forest, the Painted Desert or the reservations of the Hopi, Navajo and Apache Indians.

With cities in the Southwest far apart and flight conditions excellent, "about 70 per cent of the permanently-based aircraft are used for business," according to William J. Ralston, airport director. "Only a small portion of the planes are used strictly for pleasure.

"On the average, Sky Harbor is not closed for more than five or six hours a year," Mr. Ralston said. "While on rare occasions a ground fog, dust storm or thunderstorm may develop, the delay is seldom more than an hour." The airport is under visual flight rules 362 days a year.

In addition to being a large haven for general aviation, the airport is served by four major airlines, two regional lines and one intrastate line, plus accommodating other commercial establishments, an Air National Guard transport unit and branches of the FAA.

As at many other large airports, the FAA has a number of facilities to serve the nation's airmen, including the tower (see cover photo), a flight service station, a systems maintenance district office, a general aviation district office and a district airport engineering office.



Virtually all types of aviation activities are carried out at the busy Phoenix Sky Harbor Airport which houses various FAA activities including the tower on the cover and the flight service station above. An FAA-approved repair station is seen on the left. In addition to serving as a permanent base for 465 general aviation aircraft, the airport is a stop over for scores of transients and seven airlines, including four major ones.



# 90-Year-Old Pilot Participates in Aging Study

An unusual opportunity to extend the age range of subjects studied in the Physiologic Age Rating program at FAA's Georgetown Clinical Research Institute took place this winter when Dr. A. M. Wallace, a 90-year-old flying physician from Gate City, Va., volunteered as a subject.

Dr. Wallace, who was born when Gen. Ulysses S. Grant was President of the United States, was reissued a 3rd class medical certificate in July 1964. Later, he was given a flight check by Dr. Clyde Lynn, Assistant Flight Surgeon, who is also a qualified flight instructor. Dr. Wallace was rated an "excellent flyer."

As the oldest active pilot in the United States and probably in the world, Dr. Wallace was invited to be examined at the Georgetown Clinical Research Institute where FAA research scientists were interested in checking his physical condition against his ability as a pilot at a state in life when the rocking chair is more commonly used than the cockpit seat.

The tests on Dr. Wallace confirmed various clinical observations that in many persons organic functions are preserved as the years roll by and these individuals are able to perform complex operations. An Institute spokesman observed that Dr. Wallace is probably a living testimony to the truth of the old adage that "a man is as old as his arteries."

Clinical studies to detect aging changes on subjects ranging from 16 to 60 years have previously suggested the difficulty of distinguishing physiological as opposed to chronological aging patterns. No one could have safely predicted that Dr. Wallace would be flying at age 90. Improved prognostications will depend upon refinements in testing methods and more sophisticated instrumentation than is now available. Research is being carried on at the Institute to accomplish both these goals.

Dr. Wallace was examined with the aid of the best instruments in use today to detect early changes in the circulatory, visual, hearing, neurological and reflex systems.

Dr. Wallace, who began flying in 1938 at the age of 64, has logged more than 3,000 hours in single-engine aircraft. An active general practitioner who works six full days a week, he has also taught his wife and 17-year-old son to fly.

While he does not use his plane to attend patients because of the lack of landing fields in the mountainous Cumberland area, he takes short trips and makes flights simply for the feeling of exhilaration it gives him.



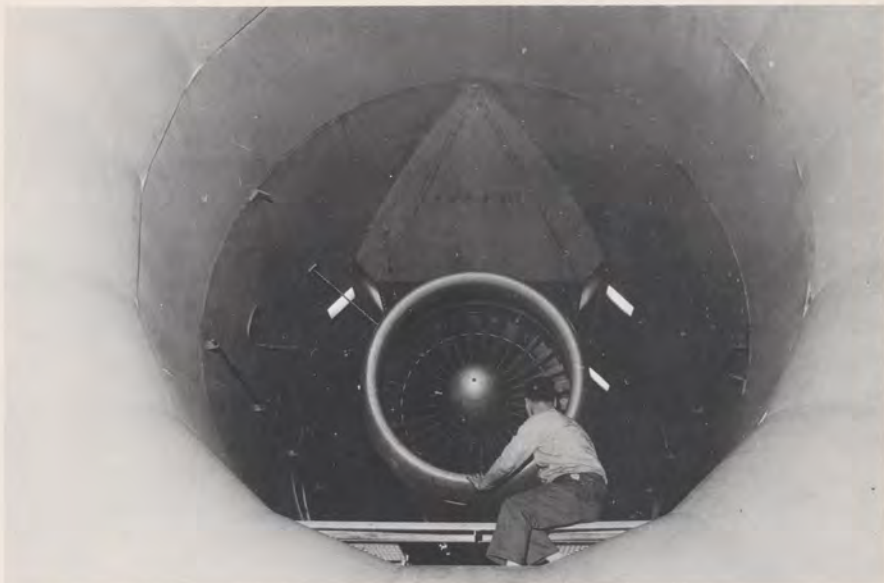
The Nation's oldest pilot, Dr. A. M. Wallace, above with his wife and son, agreed to be examined in the Physiologic Age Rating program. Below, Earl Butler tests his pulmonary functions.



Left, Dr. W. R. Scarborough conducts a ballistocardiogram on Dr. Wallace. Below, Dr. Wallace checks his hearing sensitivity at the Georgetown Clinic. (Photo below, Washington Evening Star.)



Testing Dr. Wallace, left, is a cardiovascular technician, Miss Ruth Weinmann. Above, Dr. Doralee Lewis assists Dr. Richard Feinberg with a test of Dr. Wallace's visual and neurological functions. (Above photo courtesy Washington Evening Star.)



## ENGINES UNDERGO FIRE TESTS

Ever striving for increased safety in jet aviation, the FAA is now conducting intensive aircraft power plant fire protection tests in an effort to eliminate or minimize potential fire hazards.

Full-scale fire tests of a turbofan power plant are being made to obtain engineering data and safer design criteria for modern day and future aircraft power plant installations.

Current testing program investigations include:

- Static and inflight potential explosive and fire hazards.
- Methods of detecting, extinguishing and controlling fires.
- Effects of fire on adjacent areas of the aircraft.

The power plant fire protection studies, which are a part of other FAA fire-related testing programs in progress at the National Aviation Facilities Experimental Center, Atlantic City, are being conducted at the U.S. Naval Air Turbine Test Station (NATTS), Trenton, N. J.

NATTS, under contract with the FAA, is providing the facilities, materials, equipment, instrumentation and personnel

required to conduct the tests. Eugene P. Kleug, an aeronautical engineer, serves as FAA's project manager.

The specialized NATTS facility designed especially for this type program is capable of testing a full-scale commercial turbofan engine including its housing at subsonic speeds up to Mach 0.7.

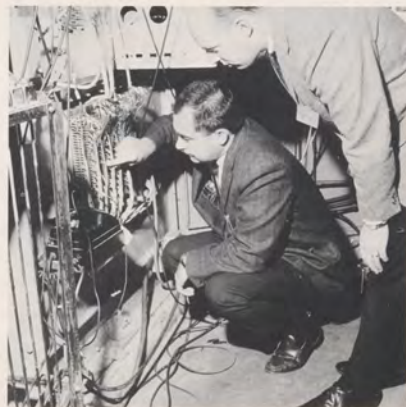
The Boeing 720B power plant used in the tests is mounted and complete with nacelle, strut and a Pratt & Whitney JT3D-1 turbofan engine.

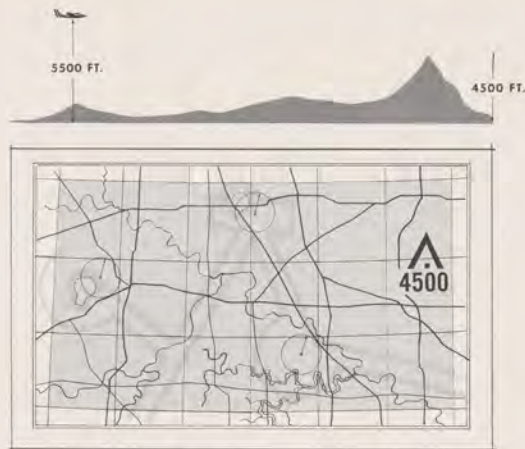
Cruise speeds of modern jet transports are simulated aerodynamically in the test facility which is an open circuit induction wind tunnel powered by two J-75 turbojet engines.

Many new proposals were incorporated into the test program following several FAA invitational meetings attended by leaders of the aviation industry, the military and representatives of the Aerospace Industries Association of America, the Air Transport Association of America, the Air Line Pilots Association and others.



Left, NATTS engineer enters a wind tunnel to check the Pratt & Whitney JR3D-1 turbo fan engine used in fire tests. Above, NATTS personnel handle the controls during the tests. Top right, FAA Project Manager Eugene P. Kleug checks the tunnel pressure. Bottom right, William T. Westfield, NATTS senior aerospace engineer, and Mr. Kleug study the complex interior. Below, Mr. Kleug and Mr. Westfield check the progress being recorded.





SECTIONAL AERONAUTICAL CHART

**SAFETY FIRST**

## Flying VFR? Use Sectional Charts

A dangerous trend is developing in VFR cross-country flying. To some VFR pilots the sectional aeronautical chart is becoming unpopular and these pilots are risking their lives by using low altitude en route instrument charts which are designed specifically for instrument flight.

Unless pilots pay strict attention and adhere to the minimum en route altitudes specified on the low altitude en route instrument charts, they are risking an accident.

Sectional charts carry the height of various obstructions. Low altitude en route instrument charts do not. Nor do they carry the names of ground checkpoints which are so necessary to controllers who refer to certain landmarks during periods of emergency when a pilot may be lost.

Obstacles—all kinds—are accident makers. During the latest 12-month period for which figures are available, there were 769 accidents in which general aviation aircraft collided with an obstruction other than another aircraft. Fifty-five of these were fatal accidents in which 86 persons died.

While the great bulk of the 769 accidents occurred during

crop dusting and other agriculture and industrial operations, many involved VFR pleasure and business pilots on cross-country flights.

But not all accidents occur during the en route phase of flight. Many take place during take-off and on final approach.

A little planning on your part will fill you in on the location of obstructions on take-off and what to look for when you reach your destination. This can be done at the time you file your flight plan at the flight service station by checking NOTAMs and the *Airman's Information Manual*, and by consulting and using local aeronautical charts.

The value of this becomes apparent when you consider that almost 200 accidents involving obstacles took place near airports—167 during take-off and 27 during the final approach.

Statistics for the 12-month period also show that there were a total of 366 collisions with wires, poles and trees. Sixty-five persons died. In some cases, buzzing was involved. (See the cartoon on the back page.)

## Letters

FAA

FAA Aviation News welcomes comments from the aviation community. We will reserve this page for an exchange of views. No anonymous letters will be used, but names will be withheld on request.

### ● Temporary Airman Certificate

I would like some information regarding the issuance of temporary pilot certificates by the FAA examiner conducting the flight test. Is he supposed to issue the temporary license at once, in the field, or is he permitted to take away your old license (student, private, etc.), ground you, then mail your temporary license to you?

It hardly makes sense for someone to inform you that you have successfully completed all the tests and then discover that you have been grounded.

O. S.  
Pocomoke City, Md.

*A temporary airman certificate should be issued immediately following the completion of a satisfactory flight test for a pilot certificate or rating. If a question exists regarding an applicant's qualifications, an examiner would be justified in delaying issuance. In such an event, however, the applicant should be told and be permitted to retain his current pilot certificate.*

*We are now checking with the appropriate General Aviation District Office and regret any inconvenience you were caused.*

### ● Stall Recovery

As a student pilot I've come across a confusing point involving recovery from stalls. My flight instructor has always emphasized full throttle used in conjunction with forward pressure on the stick to build up air speed with a minimum loss of altitude. In *Facts of Flight* (Rev. May 1958), you state that the throttle is opened after speed and lift are regained through use of the stick. Please explain.

D. F.  
Jamaica, N. Y.

*The description of a stall recovery which you cite in the 1958 edition of the Facts of Flight is applicable to the performance of stalls in gliding flight. Recommended training procedures include the recovery from stalls entered both with and without power. This is to teach student pilots that stalls are not the direct result of a loss of power, and that recovery is possible without power.*

*In an actual emergency recovery from an inadvertent stall, however, you should use all means available to recover with the least loss of altitude consistent with the maintenance of safe control. This normally involves reducing the angle of attack by using the elevator control, maintaining straight and laterally level flight by coordinated use*

*of the controls, and the smooth application of all available power.*

*The paragraph you have cited has been revised in the May 1963 edition of Facts of Flight. Copies are available at 50 cents each from the Superintendent of Documents, GPO, Washington, D. C. 20402.*

### ● Flight Instruction

An advertisement carried in a national magazine stated that with \$5.00 and the ad, the bearer was entitled to pilot a Cessna 150, accompanied by a Government-licensed commercial pilot. Since when can a commercial pilot give flight instruction?

D. D. B.  
Monterey Park, Calif.

*There is nothing in current Federal Aviation Regulations that prohibits a private or commercial pilot from carrying a passenger in an aircraft for which he is rated, and permitting such a passenger to handle the flight controls, provided that he, the certificated pilot, has ready access to all necessary controls.*

*But we would like to point out that while a commercial pilot may give flight instruction, the only instruction that can be counted for a private or higher certificate must come from an appropriately-rated flight instructor.*

*Although the term "to pilot" was defined in the old Civil Air Regulations as "to serve as pilot-in-command," it is no longer defined in the regulations. It is therefore not proper to describe informally the act of handling the flight controls as "piloting."*

### ● Decision Applauded

I feel that it is appropriate to express approval of an FAA decision which appears to those of us who are active in general aviation to contribute to the safety and growth of general aviation.

This pertains to the recent withdrawal of the proposal to establish TSO requirements for general aviation Distance Measuring Equipment. Many flyers, like myself, have deferred the purchase of such equipment due to the uncertainty of the position that FAA might take with respect to the more popular models of DME available at a price that many pilots can afford.

Since this announcement, I am sure there will be many who have deferred the purchase of such equipment who will now feel free to buy. It will result in much greater use of DME. This, in turn, should bring about a further reduction in the price of

such equipment and place it in a price range that will be within the reach of the average general aviation aircraft owner.

L. V. W.  
Portland, Ore.

### ● Standardization

In the interest of safety through simplification, why doesn't FAA encourage standardization of units for pilots: centigrade-fahrenheit; inches of Hg-millibars; knots-mpg-Mach . . . the speed of sound.

We flew mph during the war, then changed to knots after the war. Now am using mph again as a private pilot. The change was never difficult, but the multiple system of mph for VFR and knots for IFR is a nuisance with no apparent asset.

C. R. H.  
Portland, Maine

*The FAA does encourage such standardization, not only for use in the United States but, as a member of the International Civil Aviation Organization (ICAO), we urge it for the entire world. The FAA has adopted some of the ICAO standards, but not all of them as there would be too much confusion in using unfamiliar units. For example, the Agency does not use the ICAO standards of meters instead of feet for measuring altitude, kilometers or meters in place of statute miles for visibility, millibars for inches of mercury in altimeter settings, or kilograms for pounds in referring to weight. It does use both the ICAO standard time (Greenwich) and local time to avoid confusing many pilots.*

*All agree that there should be one standard; the problem is in agreeing what that standard should be. No one wants to use unfamiliar units. You may recall the furor raised in 1954 when the Agency adopted the nautical mile for measuring distance in navigation, and knots for measuring horizontal speed including wind speed.*

*FAA will continue to encourage standardization where it can be accomplished without compromising safety and with a minimum of inconvenience to pilots.*

### ● Delay for Exam

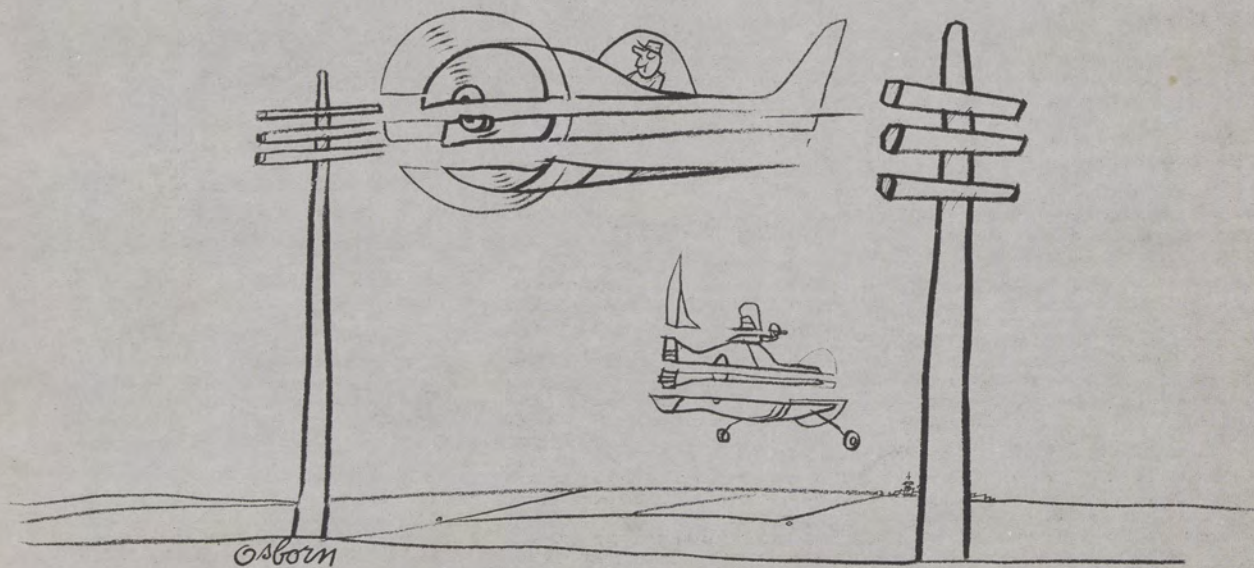
Is it possible to extend for 60 days the validity period of the results of my private pilot knowledge test? My job takes me away from home a lot so that in the last two years I have been out of the country 12 times and will be gone again most of next month.

U. R. M.  
Gladwyne, Pa.

*A 24-month validity period for the written test for private pilots has been established as a prerequisite for a flight test. The reason for this is to ensure that an applicant is current with the operational and regulatory aspects associated with this piloting privilege. Under existing FAA regulations there is no provision for an extension of the 24-month period.*

*You may, however, petition for an exemption from Federal Aviation Regulation Part 61, Section 61.21(a) by following the procedures set forth in FAR Part II, "General Rule-Making Procedures."*

Buzzing may be fine for bees



But, pilots, stay up higher, please.