



Retirement Act Is 50 Years Old; Benefits Outlined

WASHINGTON—The Civil Service Retirement Act, under which almost a million retired Government employees, including about 8,000 from the FAA, receive annuities, celebrates its 50th anniversary this month. The act was signed into law by President Wilson on May 22, 1920.

Coincident with Federal retirement's golden anniversary, the FAA has developed a Retirement Planning Program which includes a special film, a slide presentation and new retirement handouts. The FAA program highlighting retirement benefits will be of interest to all agency employees and of particular interest to the more than 8,000 FAAers who will become eligible to retire within the next five years.

The 30-minute film is designed to give employees an awareness of the need to think and plan about retirement well in advance. They should, for example, ask themselves such questions as: when should I begin planning for retirement? Where should I live? How can I spend my leisure time productively?

Retirement benefits available to Federal employees are described by illustrative color slides and accompanying sound tape.

The Civil Service Commission has commended the FAA's program highly, and is using it as a large part of a colorful display to be shown throughout the country.

FAA employees are urged to learn more about the system by participating in Retirement Planning Programs when they are made available by Personnel offices.

Benefits of the Federal retirement system as outlined in the FAA Retirement Planning Program are summarized below.

- **A choice of times to retire.** The employee may retire at his own option between ages 55 and 70, depending on length of service (age 55 with 30 years of service, age 60 with 20 years and age 62 with five years). Few systems allow employees such a wide range of choices. In addition, if an employee should lose his job for reasons

(Continued on Page 7)



Welch



Williams



Fasig



Hunt



Johnson



Chandler

Sector chiefs of winning FAA regional "Sectors of the Year" are shown above. They are (top row): John H. Welch, Worland, Wyo.; Herbert O. Williams, Molokai, Hawaii; and Gerry L. Fasig, Aurora, Ill.; (bottom row): George C. Hunt, Roanoke, Va.; John R. Johnson, Memphis; and James W. Chandler, Lubbock, Tex. Photo of James D. Long, Big Delta, Alas. was not submitted in time to be included.

Regional Winners Selected In New AF Awards Program

WASHINGTON—Regional winners have been announced in the Systems Maintenance Service's National Airway Facilities Sector of the Year program which was established to give recognition to the accomplishments of the agency's Airway Facilities personnel.

Regional winners in the program were selected from the 24 winning area sectors listed in the May 11 issue of *FAA Horizons*.

Productivity, technical contributions, public relations, employee morale, training programs, safety records and career development programs were among factors taken into consideration in selecting winning sectors.

M. M. Martin, Systems Maintenance Service Director, announced that the following sectors have been chosen as outstanding in their respective regions (the name of the sector chief follows the listing):

- **Alaskan Region**—Big Delta Sector, James D. Long.
- **Western Region**—Worland,

- Wyo., Sector, John H. Welch.
 - **Pacific Region**—Molokai Sector, Herbert O. Williams.
 - **Central Region**—Aurora, Ill., Sector, Gerry L. Fasig.
 - **Eastern Region**—Roanoke, Va., Sector, George C. Hunt (acting).
 - **Southern Region**—Memphis Center Sector, John R. Johnson.
 - **Southwest Region**—Lubbock, Tex., Sector, James W. Chandler.
- The national winner—to be designated the "FAA Airway Facilities Sector of the Year,"—will be announced at an awards luncheon in Washington scheduled for May 27. The winner will be picked from the winning regional sectors above—and the chiefs listed will be present.

Women's Group Members Confer

OKLAHOMA CITY—The 13th semi-annual meeting of the 32-member FAA Women's Advisory Committee on Aviation was held May 11-13 at the Aeronautical Center.

Administrator John H. Shaffer was the featured speaker on the final day of the session, which was being held at the center for the third time.

Other highlights of the conference included: a welcome by the Director of the FAA Aeronautical Center; a tour of the Civil Aeronautical Institute and briefings by top agency medical authorities; a tour of flight simulators, in which each member of the committee took a half-hour "flight"; and a briefing on air traffic controller training.

The committee, composed of outstanding women who are qualified pilots and active in their respective communities, was formed in 1964 to provide the Administrator with recommendations for improving aviation facilities and services. Many of its recommendations have been implemented.

Agency Modernization Programs Given Boost By Passage of New Bill

WASHINGTON—President Nixon last week signed the Airport and Airway Development and Revenue Act of 1970, a bill termed by Secretary of Transportation John A. Volpe "one of the greatest pieces of transportation legislation ever passed by Congress."

Following passage of the bill, the Secretary commented: "We now can be assured of a fund of about \$15 billion over the next ten years to modernize and expand the nation's airports and to improve our navigation and control system."

The Secretary said passage of the bill came at a time when it was urgently needed and added: "Congress is to be congratulated for prompt, decisive action in meeting a situation so important to our country's welfare."

Administrator John H. Shaffer said he considered the legislation "the most sweeping act yet in the history of civil aviation," and pointed out that its passage assures "more runways, more equipment, more people, more of everything."

Automation Spurred

In terms of its impact on the agency, the legislation will expedite complete automation of towers and centers and provide the funds required to finance research and development necessary to follow-on systems, the Administrator said.

"This enabling legislation provides the revenues and resources necessary to 'catch up' on long-overdue improvements and to carry out future airport and airway development on a par with air transportation growth rates," he stated.

The vital new landmark legislation gives the Federal government the financial "muscle" to proceed with an ambitious program aimed at major improvements in the nation's airport and airways system.

New user tax provisions of the bill are expected to take in more than \$11 billion over the next ten

years. During the first year alone, the user charges are expected to bring in approximately \$665 million. About \$60 million of this will come from general aviation users of the airway system; the remainder will come from air carrier passengers and shippers and the air carriers themselves.

User charges collected will go into a special "trust fund" to be used

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Largest Aircraft Visits NAFEC; Tests Conducted

ATLANTIC CITY—The world's largest airplane, the Air Force C-5 Galaxy, visited NAFEC recently and made approaches on a visual approach slope indicator (VASI) that had been modified for the big plane.

The lights give a red-white indication along the runway side when the pilot is on the best glide path. For the jumbo jets, like the Lockheed C-5 and the Boeing B-747, the system had to be modified because the pilot in the big jets is about 40 feet above his wheels rather than 20 feet as he is in a conventional jet.

The huge plane, weighing about 364 tons and able to carry 62 standard size autos in its fuselage, made about ten landings and was tracked by photo-theodolites to get exact glide angles. Robert Gates of the Test and Evaluation Division is in charge of the project. Home base of the plane is Wright-Patterson AFB, Ohio.



Jumbo Visits NAFEC

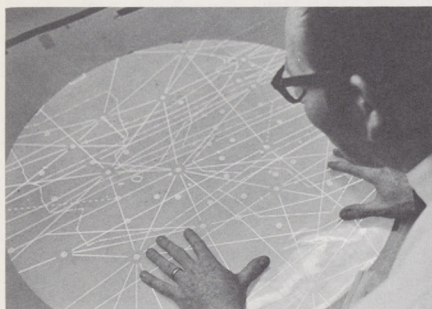
Testing the NAFEC visual approach slope indicator system after it had been modified for the big jets is an Air Force C-5 Galaxy. The huge jet, almost as long as a football field, made ten approaches and landings on its visit.



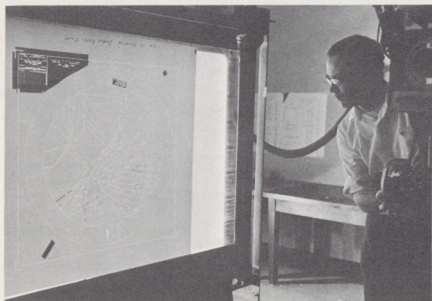
New Deputy Administrator

Deputy Administrator Kenneth M. Smith is congratulated by Secretary Volpe (left) after being sworn in May 11 at Headquarters. Speaking briefly after the ceremony, Smith said, "It is a pleasure to be part of the team and now I will try to earn my stripes."

New video map slides and other components are checked by Headquarters team during visit to the Texas Instruments plant in Dallas. Shown (from left) are: Bill Leaming, Logistics; Bill Layman, TI project engineer; Dan Hopson, Research and Development; Joe Moraski, Air Traffic; James V. Flanagan, Air Traffic and Lloyd Hankins, Systems Maintenance Service. (Texas Instruments Photo.)



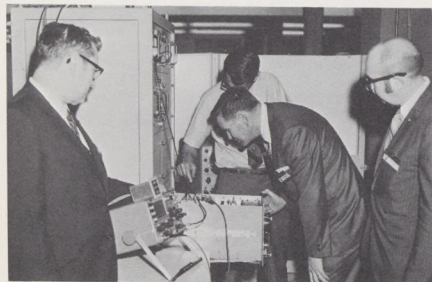
A Coast and Geodetic Survey engraver applies a "blockout mask" to an original map compilation for air traffic control use. The plate is centered geographically at the radar site which will be used with the map.



Another step in production of new FAA maps for use in new type radar map systems is shown at the Coast and Geodetic Survey. Here, the original map engraving has been placed in a camera copy board preparatory to photographing it to obtain a reduced positive. The finished job will be a three-inch in diameter video plate.



Tiny, transparent map held by Milton L. Wassman, Jr. (left), of Air Traffic's Cartographic Standards Branch is the end product of a painstaking process required at the Coast and Geodetic Survey to produce maps needed for FAA's new video mapper units. The process begins with an original engraving of the map (on table), a reduced positive, held by Donald Rahn of the C&GS (right) and, finally, the transparency. Harry Sturman, C&GS negative engraver, is at center.



A technical inspection of a newly-produced video mapper unit is made at the Texas Instruments plant in Dallas by an FAA Headquarters team shown being briefed by a plant official (background). The FAA group consisted of (from left) James V. Flanagan of Air Traffic, Lloyd E. Hankins of Systems Maintenance Service and William Leaming of Logistics. (Texas Instruments Photo.)



Something IS Being Done in . . .

VIDEO MAPPING - A Boon to Controllers

By Cliff Cernick

Editor's Note: This is the third in a series of articles on system improvements being carried out by the agency to provide better service and a technical helping hand to agency employees.

As the controller pushed a button on the console, the sharp, distinct lines of a new map immediately positioned itself on the radarscope beside him. At adjacent positions nearby, other maps, each pertinent to the nature of the particular air traffic control job being done, appeared on other scopes. Within the IFR room, a variety of different maps were readily available for use with radar simply by touching a button.

This will be the situation in the New York Common IFR room when it receives its new video mapper units early this summer. It will also be the situation at other locations where the new mapper units will be installed as they move off the production line.

FAA's sophisticated new solid-state mapper units will eventually replace the present tube-type mappers which have far less versatility and are more difficult and expensive to maintain.

Production Starting

At the Texas Instruments plant in Dallas, the first of the 29 new video mapping systems will soon begin moving off the production lines in fulfillment of two FAA contracts totalling \$1,149,505. The initial contract for 21 of the systems was let early last spring followed by a supplemental contract for eight additional units.

Texas Instruments is scheduled to deliver the first two mappers to the agency on June 20. An additional two will be delivered June 30, with four to be delivered each month thereafter until the contract is completed.

Early deliveries will go to the FAA Academy where the new mapper units will be used in training programs. The New York Common IFR room will get the first operational installations. Other high-density air traffic control facilities will also receive early deliveries. The Houston Center will be the first en route facility to get the new video mapper.

Each new mapping unit will generate what is known as "analogue video." This is an electronic reproduction of a correctly-oriented and selectively-detailed map, covering an area from 10 to 250 nautical miles from the radar site for simultaneous display with aircraft targets.

The outstanding characteristic of the new mappers is their flexibility and versatility. Up to five different video map presentations on each unit can be made available to the controller merely by depressing the appropriate buttons. These five separate maps can be channeled to as many as twelve different radar displays in whatever combination is required.

Besides their versatility, another major characteristic of the new units is the fact that they are "solid state"—that is, they utilize "printed" electronic circuits in contrast to the tube-type construction of the mappers currently in use. The solid state feature is considered a real boon to both the controller and the electronics technician on the basis of reliability. When repairs have to be made to the units, the job generally will consist of merely replacing whatever small, "printed circuit" cards (circuit boards) are defective. Ordinarily, one technician will be able to make such repairs without assistance.

Maps used in the new system consist of a slide transparency approximately three inches in diameter. The transparencies are produced from much larger maps under an arrangement the FAA has with the Coast and Geodetic Survey.

Distortion Eliminated

One common controller complaint concerning present equipment is that in enlarging a segment of a map or chart for radar presentation, lines and other map features widen out of proportion. New mappers retain correct scale factors even when radar range scales are expanded or off-centered presentations are required.

A safety feature of the new unit is the fact that no common circuits, paths or equipment are incorporated which would cause total failure of the unit. Even though a particular circuit path should fail the mappers can continue to operate, thanks to duplicate, backup circuit paths.

Reliability is further insured in a special feature incorporated to guard against power failure. Interruption of either the main or auxiliary power activates an automatic switch that cuts over instantly to the alternate power supply.

Purchase of the new video mappers represents another tangible example of continuing agency efforts to match technological progress with corresponding improvements in the tools the air traffic controller needs to do his job.



EEO Conferees

Central Region Director Edward C. Marsh (center) and Personnel and Training Division Chief Erick E. Erickson (second from right) conferred recently with regional EEO recruiters to discuss minority recruitment. Attending were (left to right): Win Davis, Chicago Area EEO Recruiter; Franc Herndon, regional Civil Rights Officer; Ruby Jo Rachal, regional EEO Recruiter; Marsh; Constance Hooks, Chicago Area EEO Recruiter; Erickson; and Alex Johnson, regional EEO Recruiter.

More Rigid Standards Set For Future Air Transports

WASHINGTON — Future air transports will be required to meet stiffer standards for type certification under new FAA rules.

All large transport airplanes (those over 12,500 lbs.) for which an application for a type certificate is made after May 8, 1970, will have to meet the new airworthiness standards.

"These new rules represent a major contribution to aviation safety," Administrator John H. Shaffer said. "They reflect some 100 updated changes in existing standards for certification of large airplanes."

Representing several years of Government-industry study and development, the new airworthiness standards cover the four major certification areas—flight requirements, airframe, powerplant, and systems and equipment. Among the more significant of the new requirements are:

- Provision for a warning system to alert pilots to a failing power-operated control system. A means to override or deactivate the malfunctioning system also is provided.
- Specified operating procedures for flight in turbulence. These will be included in the manual.
- Airplane structures would have to be designed for dynamic loads due to continuous turbulence as well as single gusts. Flight load measurements will be required in cases of new aircraft where methods for predicting load intensities

and distribution are not reliable.

- A means for keeping the inside of the windshield free from condensation in flight and during taxiing.

- Greater redundancy in control system designs to assure fail-safe design concept, especially in hydraulic or electric-powered portions of the system.

- Flight tests to demonstrate freedom from flutter through the transonic speed range.

- Protection of empennage from bird strikes. Structural integrity of the vertical and horizontal stabilizers must be maintained after impact with an eight-pound bird.

- Establishment of more comprehensive airframe lightning protection criteria. Fire protection of flight controls, engine mounts, flight structures and other airframe parts where flammable fluids may enter or where combustible materials are present also is stressed.

- Additional fire protection for the powerplant to safeguard pyrotechnic discharge capsules used for the extinguishing agents, insure proper distribution of extinguishing agents, and minimize hazards when fire burns through the engine case or when bleed air ducts fail.

- Dual locking for all critical removable fasteners.

- Protection of fuel system components from damage and leakage in the event of a gear-up landing.

- Design precautions to minimize hazards in the event of turbine rotor failure.

Merit Promotion Changes Outlined

WASHINGTON—The Office of Personnel recently conducted an evaluation of the agency's new Merit Promotion Program (MPP) which became effective July 1, 1969.

In addition to field inspection trips, the evaluation included an employee attitude questionnaire distributed to a representative sampling of region, center and headquarters personnel. Comments were also received from Personnel and Training offices and from representatives of employee organizations. Many agency employees have requested additional information on major aspects of the MPP program.

This article highlights significant provisions of Handbook 3330.1A, which covers this subject.

Voluntary Applications. Employees may bid on promotional opportunities in other locations within FAA or other elements of DOT by submitting a voluntary application directly to the personnel office serving the desired position. The voluntary application consists of a Personal Qualifications Statement, SF-171, a copy of the most recent Employee Appraisal Record (EAR) and a DOT Form F 3300.4, which lists all personnel offices within DOT.

Since this application is for a type of position rather than for a specific vacancy, the employee

must specify precisely the kind of position applied for and the specific location desired. Example: Electronics Engineer, GS-13, Seattle, Wash., FAA.

Voluntary applications remain active for 15 months from the end of the appraisal period as shown in block 6B of the EAR. When received, voluntary applicants must be considered by the same means and to the same extent as local applicants who apply for that kind of a position.

Promoting Rating Panels. Rating panels have been established in each region, center and Washington Headquarters to evaluate qualifications of promotion candidates and to determine those best qualified for referral to selecting officials. Normally, these panels consist of three members. The panels are convened when there are several qualified candidates—usually eleven or more—for the positions to be filled. A selecting official is prohibited from serving as a member of a panel evaluating candidates for his own vacancy.

Referral of Candidates. In accordance with Civil Service Commission regulations, five of the best-qualified available candidates are normally referred to the selecting official. When a selecting official has more than one vacancy to fill, an additional five candidates can be referred for each vacancy.

Priority for Repromotion. An employee demoted without personal cause, that is, without misconduct or inefficiency on his part, and not at his own request, is eligible to receive priority consideration for repromotion to his former grade or one at an intermediate level. (The demotion may have occurred at any time during his career in the FAA or any other organizational element of DOT.) Employees who have not already done so should let their personnel offices know whether they are eligible for priority consideration. Thereafter, if qualified, they will receive priority consideration for higher grade positions in geographic locations acceptable to them.

Employee Complaints. Every effort is made to resolve complaints informally between employees and supervisors. However, if complaints cannot be resolved in this manner, they should be processed in accordance with formal grievance procedures. An employee whose name is among those submitted to the selecting official for consideration cannot use the fact that he was not selected as the basis for a formal grievance. Complaints about Employee Appraisal Records must be submitted in writing through channels within 30 days after completion of the ratings. Complaints of discrimination based on race, religion, sex or national origin may be accepted at any time under the provisions of the agency's Equal Opportunity Handbook 3300.6A.

In-grade Promotions in Rank. A recent change in the Merit Promotion Handbook deleted the requirement for use of promotion plan procedures in making routine in-grade reassignments to higher level supervisory positions. However, if positions to be filled have a known promotion potential, they will continue to be filled under competitive MPP procedures.

Bidding on Vacancies. Employees who are not yet qualified may, nevertheless, bid on vacancies if they will meet the qualification requirements within 60 days from the closing date of the announcement. If selected, the promotion will become effective after all legal and regulatory requirements have been met.

Standardized Evaluation Plans. The Office of Personnel has developed and published in the Merit Promotion Handbook, standardized evaluation plans for selection of candidates for certain National Airspace System air traffic positions and for positions as Airway Facilities sector chiefs and assistant sector chiefs. Additional evaluation plans will be developed for particular classes or categories of positions.



Graduate

Soon after joining the Staffing Standards Branch of Management Analysis in FAA's Office of Management Systems, Edward H. Brown, Jr. (right) attended a work methods and standards course at the Defense General Supply Center, Richmond, Va. Upon completing the course, he was given his certificate by Navy Capt. J. J. Scheela. Brown is an FAA management analyst.

Headquarters Holds Fuel Safety Meet

WASHINGTON — A two-day conference on fuel system fire safety in transport airplanes was held May 6 and 7 at FAA Headquarters.

The conference began with introductory remarks by Richard S. Sliff, Deputy Director, Flight Standards Service, Herbert H. Slaughter, Chief, Engineering and Manufacturing Division, and Stephen H. Rolle, Chief, Propulsion Branch. Rolle, who served as chairman of the meeting, is to report on the goals and activities of the Govern-

ment/Industry Advisory Committee on Fuel System Fire Safety.

The program included:

- A report on the activities of FAA's Advisory Committee on Fuel System Fire Safety since its activation on Aug. 1, 1968;

- Presentations by industry, Government and the military on recent developments and experience with fire protective systems, including ways and means for protecting aircraft fuel systems against accidental ignition; and
- A discussion of proposed cer-

tification and operational standards for fire protection of fuel tanks and venting systems on transport airplanes.

The proposed standards would be applicable to future generations of all transports as well as to operational transports having a maximum seating capacity of more than 260 passengers.



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Administrator JOHN H. SHAFFER
Acting Assistant Administrator for Public Affairs DENNIS FELDMAN
Chief, Employee Information Division CLIFFORD CERNICK
Layout/Production GERNOT RASMUSSEN



This is part of FAA's fire and crash-truck fleet at Wake Island, operated by fully-equipped firefighters.



Barber Greene bituminous asphalt spreader and ten-ton tandem roller were used for runway construction.

Motor Fleet Helps Keep Planes Flying

WHEN THE FAA

By Jeanne Ende and Ray

Terry Oliver, Chief of the Farmington, N.M., Airway Facilities Sector, unhooked a set of car keys from a board on his office wall.

In setting out for the Gallup long-range radar site high on the Continental Divide, Oliver knew that the government sedan he was starting out in couldn't possibly take him all the way to his destination.

He drove the sedan for 75 miles. Then he had to switch to a four-wheel-drive vehicle and drove this ten more miles. Finally, he got into an over-the-snow vehicle which took him the last few miles to the windswept mountaintop site.

Multiply Oliver's one not-too-unusual trip by the thousands and you'll get some idea of the tremendous size and scope of FAA's general purpose motor fleet and the magnitude of the daily activity required on the ground to keep America's planes flying safely.

41 Million Miles

During the 1969 fiscal year, FAA employees drove more than 4,500 general purpose vehicles of many sizes and types more than 41 million miles, the equivalent of more than 82 round trips to the moon. The vehicles included sedans, station wagons, trucks, buses, jeeps, police cars and even ambulances.

They were used in getting FAA employees and supplies to a multitude of jobs. An electronics technician driving to a remote area where a navaid is "out," an inspector setting out to check an airline for compli-

ance with safety regulations, an engineer keeping tabs on a construction job, a policeman patrolling the road to the Dulles terminal—all contributed to the travel total.

A number of special purpose vehicles—rotary snowplows, road graders, fire engines, even boats—are used by the agency in activities such as road construction, firefighting and facility maintenance.

The variety of services and activities requiring FAA vehicles are matched only by the variety of conditions under which they must operate.

Numerous Road Hazards

In traveling to the Snowbank Mountain radar site in Idaho—elevation, 10,000 feet—the FAA driver must negotiate a twisting, 14-mile-long road having at least a 12 per cent grade most of the way. In winter, he won't get through at all unless FAA snow removal equipment plows out heavy snowdrifts that often bury the road under as much as 50 feet of snow.

To reach many FAA facilities, drivers must travel narrow roads skirting deep canyons. Hub-deep mud, washouts and glare ice are common.

On the Western deserts, blistering summer heat can make steering wheels too hot to touch. In Alaska, bone-chilling winter temperatures can drop to 70 below and even with electrical heating devices the problem of keeping engines going is a never-ending challenge—and a tribute to the perseverance of FAA employees.

On Wake Island, corrosive salt water spray causes vehicle bodies and engines to deteriorate rapidly—and there's no "corner service station" or GSA vehicle maintenance center handy. Wake Island personnel have found that to "keep 'em rolling," they had to add vehicle maintenance and repair to their job descriptions.

When a road washes out, the problem of getting graders, dozers and other heavy equipment to the site must be faced. More often than not, flatbed trailers have to be used to haul in the repair equipment.

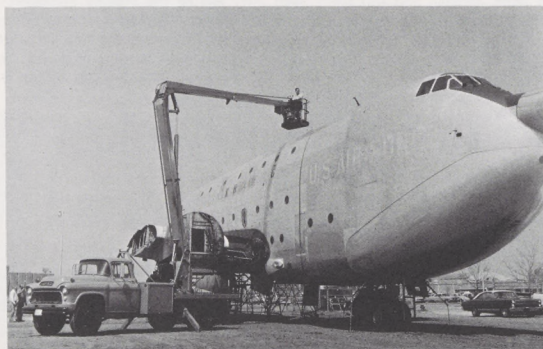
Managers Challenged

Making such arrangements—and the general responsibility for getting FAA employees to official destinations safely in vehicles that are in good operating condition—offers a daily challenge to FAA's hard-working field motor fleet managers.

Some of the toughest jobs are encountered by motor fleet managers Walter Henry in the Western Region, Curtis Hathaway in the Alaskan Region, Willie R. Liles in the Southwest Region and Homer Kurtz in the Central Region. Motor fleet managers in other regions who might challenge that statement are Arthur Ingles, Eastern; Douglas M. Gusukuma, Pacific; Marguerite H. Bannon, Southern; Henry Bridges, Aeronautical Center; Karl F. Gittelson, NAFEC; Herman W. Hendess, BNCA; and Aubrey F. Canaday, Headquarters.



Loading a ten-wheeler is Hal Wright, heavy equipment operator, at the controls of a skid-shovel. Photo was taken at Francis Peak near Salt Lake City, near one of the agency's long-range radar sites.



Aeronautical Center's "cherry picker" performs a variety of functions. Anything from changing lights in the hangars to raising radar antennae to helping Aeronautical Institute remove fairings from a C-124. The C-124 shown with the "cherry picker," is being readied for placement on the attitude positioner, preparatory to extensive evacuation tests.



Poster showing graphically the substantial FAA employees in the Pacific Region trucks is studied by Administrator John Chief of the OMS Property and Services



dem roller were used to lay asphaltic concrete runways at Wake Island Airport.



A fleet of snow removal vehicles such as this is used by FAA in maintaining access to mountaintop facilities, particularly in the Western section of the country.

Flying

FAA MOVES . . .

by Ende and Ray Schunter*

About 87 per cent of FAA's general purpose vehicles are leased from the General Services Administration—the rest are owned outright. Employee use of privately-owned vehicles on a reimbursable basis also helps meet agency transportation needs. Because it costs more than twice as much for rental cars than it does for government-owned or privately-owned vehicles, rental cars are used only when no other means of motor vehicle transportation is available.

Overall management of FAA's general purpose motor fleet is the responsibility of John Madert, Chief of the Property and Services Branch in the Office of Management Systems (OMS).

Like others concerned with the agency's vehicle operation program, Madert is highly cost-conscious, and has been instrumental in introducing a number of innovations and operational practices which have reduced the average cost per mile for operating FAA general purpose vehicles.

Costs Reduced

The 41 million miles driven by FAA personnel in agency-operated vehicles in Fiscal 1969 was 236,000 miles more than the total for the previous year, yet Fiscal 1969's vehicle costs amounted to \$7,000 less than the total for the previous year.

Madert explains it this way: "We bought fuel at bulk prices from Government dispensing facilities, realizing substantial savings over service station rates. Because sedan deliveries and carryalls are

more expensive to operate, we used 'lower-cost' vehicles such as sedans whenever we could. Wherever possible, we set up motor pools because we found that by doing so we could cut the total number of vehicles required and trim standby time racked up by idle vehicles."

Bert LaCroix, FAA Cost Management Officer, told how FAA cut vehicle costs in other ways.

Savings Realized

"Wake Island needed trucks with special utility compartments and the Pacific Region could have bought them at \$2,496 each—but they didn't," LaCroix said. "Instead, they purchased regular pickup trucks at \$1,892 and separate utility compartments at \$293 each. They installed these compartments themselves at a cost of \$65 each. This brought the total cost per truck, fully-equipped for Wake Island needs, to \$2,250—a saving of \$246 per unit. These savings were possible because the Pacific Region Motor Fleet Manager, Doug Gusukuma, 'thought cost' and because FAA employees on Wake Island used ingenuity and initiative."

John Moore, Acting Chief of the Administrative Standards Division in OMS, urges FAA vehicle users to join fleet managers in actively seeking out ways to make the most efficient and economical use of vehicle resources and improve the quality of vehicle operations.

"The impressive rate of past and projected avia-

tion growth and the ever-increasing demand for vehicle support services makes such efforts all the more imperative," he said.

Standard procedures for management and operation of both leased and government-owned general purpose vehicles were established by OMS and are contained in Handbook 4670.2. Periodically, OMS analyzes the overall vehicle management program on the basis of reports submitted by various agency operating elements. The latest such analyses and other details on the program for Fiscal 1969 will be found in Order 4670.4, dated Dec. 15, 1969.

*Mrs. Ende is on the Executive Staff of the Office of Management Systems. Mr. Schunter is a Property and Services Officer in the OMS Property and Services Branch.

ORGANIZATIONAL CHANGE

As part of a continuing agency effort to concentrate the attentions of the Office of Management Systems on the development and improvement of agency management systems and relieve it of operating responsibility for support services, the administrative support service provided by the Motor Fleet Management functions recently was transferred to the reconstituted Logistics Service, under the Associate Administrator for Administration. In the new environment, compatible management controls will be applied to both general purpose and special purpose vehicles.



ically the substantial savings which resulted when the Pacific Region "thought cost" in purchasing new Administrator John H. Shaffer (right) and John Madert, Property and Services Branch.



NAFEC firemen at the top of the 70-foot high aerial tower truck use a hose line in a practice session. The truck, which has outriggers to prevent tipping, is also used by workman for access into high places.



One of the agency's most unusual vehicles is this 21-foot Hydrodyne boat used by the Civil Aeronautical Institute at the Aeronautical Center to conduct studies of flotation equipment and means of escape from ditched and submerged aircraft. Here, divers and photographers prepare to install underwater apparatus used in photographing impact tests of a flotation device which will be dropped from nearby cliffs.

Aviation Growth Slows

By David H. Brown

WASHINGTON—The soaring seventies will see the aviation industry return to a more normal and sustainable—but still vigorous—rate of growth than that experienced in recent years, the FAA predicts in its latest multi-year "Aviation Forecasts."

According to the report, which covers the fiscal year period 1970-1981, the number of passengers carried by U.S. carriers in scheduled service will grow after 1971 at an average annual rate of 12 per cent, following a two year leveling-off period in which the annual growth rate will be between eight and nine per cent.

This 12 per cent growth figure is more than double that forecast for the rest of the national economy, but below the 18 per cent annual rate experienced during the last four fiscal years, 1965-1969. The report says the 18 per cent rate resulted from a combination of factors such as the unusually high rate of growth in the nation's economy, the war in Vietnam, and a sharp decline in the average passenger fare.

522 Million Passengers

The number of passengers carried by U.S. scheduled carriers will reach 522 million in 1981, the report says. This is more than triple the 1969 total of 168 million. Domestic travel will account for 460 million of 1981 total with international travel accounting for the remaining 62 million.

Revenue passenger miles flown by U.S. scheduled carriers will experience a similar growth, the report predicts, going from 120 billion in 1969 to 450 billion in 1981.

Other significant trends noted in the forecasts include:

- The air carrier fleet will grow from 2,586 in 1969, of which 69

per cent was jet-powered, to 3,960, of which 93 per cent will be jet-powered. The number of turbo-prop planes will decline from 458 to 216.

- General aviation (non-airline) aircraft are expected to number 235,000, compared with 124,237 in 1969. Multi-engine piston and turbine-powered aircraft will account for an increasing percentage of this total. Turbine-powered aircraft will total 9,100, compared with 1,833 in 1969.

Greater Production

- Civil aircraft production is expected to double the 1969 output of 14,673, reaching 32,820. While air carrier transport aircraft will drop from an industry high of 665 in 1969 to 420 in 1981, general aviation airplanes will jump to 32,400 from 14,008.

- Domestic civil aviation fuel consumption in 1981 of 18.7 million gallons will be 140 per cent greater than the 1969 total of 7.8 million gallons. Jet fuel will account for most of the increase, going from 7.2 million gallons to more than 17.6 million gallons.

- With the recent passage of the Aviation Facilities Expansion Act, more facilities will be added to the National Aviation System to provide better service. As a result, operations at FAA control tower airports are expected to more than triple, going from 55.9 million in 1969 to 174.2 in 1981.

- The number of IFR (instrument flight rules) aircraft handled will more than double the 1969 level of 20.6 million, reaching 45.3 million. General aviation use of IFR will show the biggest increase, quintupling from a 1969 total of 3.2 million to 16.9 million.

FAA air traffic predictions are used by the agency to plan its aviation facilities and services.



Handy Helper

Eastern Region ingenuity and improvisation built this radar display, being monitored by Washington ARTCC Controller Harry L. Williams.

Radar Unit Is 'Home-Built'

LEESBURG, Va.—Temporarily unable to obtain a horizontal radar display for use in the Washington center, the Eastern Region did the next best thing—it built its own.

Word from the facility is that the do-it-yourself radar display is doing quite well, thank you.

Traffic volume at the center surpassed expectations to such an extent that sectors previously without radar now require radar.

New displays have not been added to the agency inventory recently in anticipation of the arrival of new-generation displays associated with NAS Stage A.

The Eastern Region's Air Traffic and Airway Facilities Divisions collaborated on the radar project. Fabrication was accomplished by the region's Lab and Fab shop, beginning with conversion of a 16-inch vertical monitor to a horizontal installation. This was fitted into a customized base console and provided with recessed receptacles for radio jacks. All cabling is terminated in plugs so the unit can easily be moved, if need be, to any sector. Finished in tan paint with red non-skid padding on the horizontal surface, the unit is attractive as well as useful.

Report Suggests Solutions To Congestion at Airports

By David Hess

WASHINGTON—A new report that identifies the primary causes of congestion at ten of the nation's busiest airports and recommends remedial measures has been published by the FAA.

The report is a supplement to one issued last year analyzing congestion at 18 other high density airports.

The ten airports listed in the supplement are: Greater Buffalo International Airport; Dallas Love Field; Detroit Metropolitan Airport; Mid-Continent International Airport, Kansas City, Mo.; General Mitchell Field, Milwaukee, Wis.; Minneapolis, St. Paul International Airport—Wold Chamberlain Field; New Orleans International—Mois-

ant Field; Greater Pittsburgh Airport; San Jose Municipal Airport, San Jose, Calif.; and Tampa International Airport.

Like the first report, the new supplemental report is concerned primarily with short and medium range construction projects (those requiring one to four years to complete) that could relieve congestion by increasing operational capacities of these airports. In addition, it suggests procedural changes for expediting traffic at these locations.

The report is intended to serve as a planning guide and as such does not necessarily reflect the policy of the FAA or the Department of Transportation in all respects. Neither does it imply the commitment of Federal or local funds to accomplish its recommendations.

To achieve early relief from airport congestion, the report recommends that initial efforts be directed at projects that would improve the traffic flow on airports—such as construction of high speed or angled runway exits, improved taxiways, expanded apron areas and installation of new and/or additional lighting and landing aids.

Certain procedural improvements also are discussed, including greater use of intersection takeoffs, part-time use of taxiways as VFR (visual flight rules) runways and designation of short takeoff and landing (STOL) runways.

The report, "A Suggested Action Program for the Relief of Airfield Congestion at Selected Airports—Supplement" (AD 702 777)-(AD 689 107), is available from CFSTI.

REPORTS and PAPERS

Unless noted otherwise, the source for the reports and papers listed is TAD-484.3.

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Operational Test and Evaluation of DAIR, Tarr, Robert L. and Capt. Robert J. Sule, USAF. Technical Final Report No. RD-70-5 prepared for SRDS by NAFEC, April 1970.

Inertial Navigation Support, Phase III, Mayer, Robert H. Technical Final Report No. NA-70-24 (RD-70-3) prepared for SRDS by NAFEC, March 1970.

Integrated Visual Aids Control and Status Monitoring System, Hampsch, Gary E. and Gary E. Williams. Contract technical Final Report No. RD-69-55 prepared for SRDS by Motorola Instrumentation and Control, Inc., Phoenix, December 1969.

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Evaluation of a Chemosensor for Detecting Dynamite Aboard Aircraft (For Official Use Only), Samuel V. Zinn, Jr., Project Engineer, Interim Report No. FAA-NA-70-4 (FAA-DS-70-5), March 1970.

Criteria for Aircraft Installation and Utilization of an Extinguishing Agent Concentration Recorder, George Chamberlain, Project Engineer, Report No. FAA-NA-70-17 (FAA-DS-70-3), March 1970.

Economic Studies and Some Test Results From Fog Dissipation Systems in France, translated from French; edited by Robert L. Northedge, FAA. Technical Final Report No. RD-70-16; originally four separate reports prepared by Paris Airport Authority, April 1970.

Analysis of Phosphor Combinations for Multicolor, Multipersistence Cathode Ray Tubes, Cusher, R. E. Contract Final Report No. RD-69-57 prepared for SRDS by Sylvania Electronic Systems, Needham Heights, Mass., December 1969.

VOR Propagation and Stability Study, McFarland, Richard H. Fred Kiko and G. E. Smith. Contract Final Report No. RD-69-44 prepared for SRDS by Avionics Research Group, Department of Electrical Engineering, Ohio University, Athens, Ohio., January 1970.

Time/Frequency and the FAA, Buck, Robert M. Technical paper presented at the National Aerospace and Electronics Conference (NAECON), Dayton, May, 1970. Source: RD-52.

FAA Holds Career Seminar

WARWICK, R. I.—More than 50 area high school guidance counselors recently attended an all-day Aviation Career Opportunity Seminar at the National Guard auditorium here. It was the first such FAA-sponsored seminar held in the state.

Spearheaded by the Boston Area Office, the seminar's goal was to spur Rhode Island students' interest in aviation careers—particularly with the FAA. As one means of doing this, guidance counselors were told how to go about establishing meaningful aviation education courses.

Special attention was given to

developing courses which would attract disadvantaged persons from ghetto areas. It was pointed out the FAA itself could redesign position requirements to reach manpower resources not available so far.

A panel discussion titled "College Bound" was led by Robert O'Neil, General Aviation Affairs.



Other program features included a presentation on FAA employment by Boston Area Personnel Chief Carl Amelio; a welcoming message by Area Manager William E. Cullinan, Jr.; and a tour of the Providence Combined Station/Tower at T. F. Greene Airport.



Seminar Panel

A panel appearing before an Aviation Career Seminar in Warwick, R.I., listens to William DeLuca, Chief of the Providence, R.I., combined station-tower, tell about his facility prior to touring the T. F. Greene Airport complex. Pictured are (from left): DeLuca; Robert O'Neil, FAA Headquarters; Dennis Blackburn, Hawthorne College; Joseph Benkert, Bryant-McIntosh Jr. College; Brig. Gen. (ret.) Harrison Thyng, New England Aeronautical Institute; Dr. Mason Wilson, Jr., University of Rhode Island; and Kenneth Faulkner, East Coast Aero Technical Institute.

DIRECT LINE

This is your direct line to the top! Your questions will get answers! Employees are encouraged to discuss questions with supervisors or their local personnel office, but for those who do not have ready access to a personnel office, this column will provide an opportunity to get questions answered. Send your letter to: The Associate Administrator for Manpower, Direct Line, FAA, 800 Independence Avenue, S.W., Washington, D.C., 20590. Ground Rules: • All questions must be signed. • This column should not be used to supplant formal grievance and appeals procedures. • Questions should concern personnel and training policies, programs and procedures, not operational or technical matters. What's your question?

Question: When an employee cannot report for duty because of hazardous weather conditions he may be excused from duty in accordance with Paragraph 78(m), 3600.2 Absence and Leave. However when the same hazardous weather conditions exist on a holiday on which he is scheduled to work, it seems to me that an employee should receive more than eight hours off. Under normal conditions he would have worked the holiday and received twice his rate of basic compensation. Why the inequity?

Answer: When a holiday falls on a workday, the employee receives the day off with pay and no charge to leave. For those who must work, the law provides the holiday premium pay—normally twice the rate of basic compensation. When hazardous weather conditions preclude the performance of scheduled work on a holiday, the employee may be excused for his eight hour tour. No provisions of law, Executive Order, or administrative regulation permit FAA to grant the employee extra time off because he did not work as scheduled on the holiday.

Question: A special pay rate is given to engineers. Shouldn't engineering technicians be similarly recognized?

Answer: Requests for special pay rates may be approved by the Civil Service Commission when it is difficult to recruit or retain well-qualified employees, a situation which sometimes exists in large metropolitan areas where there is intense competition for employees with critical skills. Special pay rates may also be established for certain geographic areas or occupational skills. As yet, engineering technicians do not meet criteria for special rates.

Question: Under what authority can a wage grade employee be placed on scheduled telephone availability?

Answer: When necessary for important aviation activities, either Classification Act (GS) or Wage Grade (WG) employees may be placed on scheduled telephone availability during off duty hours. (See 3550.8, Standby and Telephone Availability Policy, Para. 5.) This requirement comes under the Administrator's authority to direct the FAA workforce and is delegated through the chain of command. Wage Grade employees called in to perform work receive at least two hours premium pay in accordance with PT 3550.11, paragraph 16.

Question: Under what authority can the agency require a wage board employee to install a telephone for the convenience of the agency?

Answer: There is no such agency requirement. However, under provisions of Order 6030.31, Restoration of Operational Facilities, you

may be required to be available by telephone because of operational necessity. Where air safety is involved, FAA must take every precaution to avoid possible situations which could threaten life or property.

Question: Are there any plans to compensate employees for telephone availability?

Answer: The Civil Service Commission has drafted proposed legislation which would give an employee ten per cent of his hourly overtime rate if "on call" status is officially required during non-duty hours. (See Intercom of Apr. 20, 1970.) Wage Grade employees are not covered by this legislation. However, if the proposed legislation is passed, it is anticipated that the Civil Service Commission will cover Wage Grade employees by regulation.

Question: I plan to retire at age 55 with 34 years service. Twenty-one of my 34 years of government service consisted of active duty with the Air Force (not a reserve component). I am presently drawing retirement pay for 21 years active military service. At the time I entered Civil Service my 21 years of military service were creditable toward Civil Service. Is it possible for me to waive my military retirement pay so that the military service will be credited under the Civil Service Retirement Act?

Answer: Yes. You may waive military retirement pay at the time you retire from Civil Service. However, if you are ever eligible for an old age benefit from Social Security, the CSC retirement will be re-computed to exclude all active military duty after Dec. 31, 1956 (except for periods covered by military leave with pay). This subject is covered in Paragraph 75 of the FAA Employee Benefits Handbook 3800.5A.

Question: I understand that Project Quick Fix stated that relief electronics technician positions with five or more different GS-11 systems or equipments would be reclassified to GS-12. Would an RTC-3 TACAN be classified differently than military or other civil TACAN? Will D/VOR be classified differently than VOR? In each case, different training courses and certification authorities are involved.

Answer: There is no "Quick Fix" classification guide that provides GS-12 grades based upon five or more GS-11 systems. There is a "Quick Fix" item in which a relief technician is classified at the grade of the highest nonsupervisory level that he believes, but only when certain other criteria are met. The examples you cite are all potential duty assignments which encompass analyzing, evaluating and certifying whole system performance by GS-856-11 electronics technicians.

Retirement

(Continued from Page 1)

other than misconduct, he is eligible for immediate monthly benefits regardless of his age, provided he has 25 years of service or is 50 and has 20 years of service.

• **Generous career benefits.** If an employee works a full career with Government, the retiree's annuity will be adequate, even generous. A retirement system is generally considered adequate if it produces retirement income equaling one-half of pay after 30 to 35 years of service. The Federal system meets that test after 27 years of service by providing an annuity equal to 50 percent of the average pay during the three years of highest earnings, 35 years produces two-thirds of pay, and 41 years and 11 months produces 80 percent of pay.

• **Early vesting of benefits.** If an employee leaves Government after completing five years of service but before he reaches retirement age, he has a vested right to annuity payable at age 62 for that portion of his working years spent in Federal service. That annuity will provide a fair, proportionate part of his total retirement income. If he chooses not to take advantage of this right, he may have refunded to him all the money he contributed to the retirement fund.

• **Disability benefits.** If an employee is physically or mentally disabled after five years of service he is guaranteed an annuity. The minimum annuity for disability retirement is normally 40 percent of his average high three years of earnings.

• **Protection for survivors.** The system promises the employee that if he should die in service after completing as little as 18 months of service his widow and children will receive monthly benefits. The widow of a younger employee will receive at least 55 percent of the annuity to which the employee would be entitled if retired. If he should die after retiring, the benefit for his widow will generally be 55 percent of his annuity. All widow's benefits, unlike social security, are payable whether or not there are dependent children. Each child's benefit is now \$79 a month up to



Meets With Controllers

During a recent impromptu visit to the Atlanta Center, Secretary of Transportation John Volpe explains to some 40 controllers and trainees what FAA has done and is doing as well as future plans for modernizing the National Airways System. Administrator John Shaffer (out of camera range at right when photo was taken) accompanied Secretary Volpe and briefed the group on new programs affecting controllers including new hiring plans.

a maximum of \$235 a month for three or more dependent children.

• **Benefit increases after retirement.** The system promises the employee that he will not be forgotten after he retires. There have been numerous increases through the years for those who have already retired. Today every annuitant is assured prompt and automatic increases, related directly to rises in cost of living, to preserve the basic purchasing power of his annuity. Moreover, since October 1969, an extra one per cent is added to each such increase to help improve his standard of living.

• **Assurance of timely complete payment.** Thanks to the October 1969 retirement law amendments, the system is now soundly financed for the first time in its 50-year history—an anniversary event well worth noting.

• **Life insurance and health benefits.** Employees who keep their life insurance and health benefits throughout Federal employment will have continued protection in retirement. If an employee or a retiree dies, his family will collect the life insurance, and continue to be covered by health benefits.

Legislation

(Continued from Page 1)

exclusively for the operation, maintenance and development of the national airport-airways system.

\$3 Billion for Airports

Under provisions of the bill, at least \$3 billion will be made available over the next ten years for airport development. This is almost three times the \$1.2 billion allocated under the Federal Aid to Airports program (FAAP) during the entire period of its existence—the past 24 years.

A minimum of \$2.5 billion will be provided for expansion of the nation's airways system over the next ten years. This compares with the approximately \$1.1 billion the agency was provided with during the past ten years for the entire airways complex.

Other Provisions

Also provided in the newly-enacted legislation are:

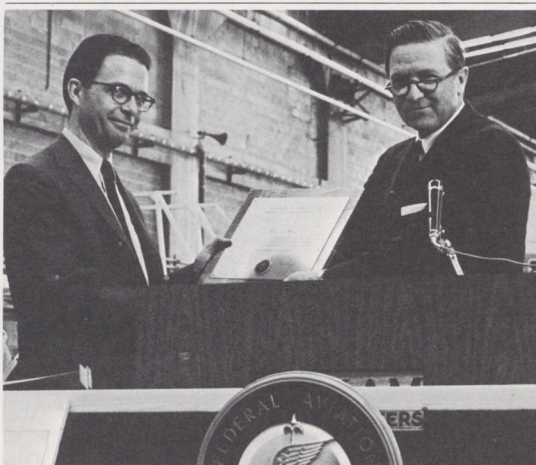
• Approximately \$30 million annually for the next ten years for development of non-urban general aviation airports. This figure is included in the airport development total cited above.

• Approximately \$15 million annually to assist local governments in airport planning. This sum is also included in the airport development figure.

An important provision of the bill gives the FAA the responsibility for certifying airports for the first time in its history. All airports serving air carriers will be required to meet minimum safety standards before qualifying for certification. To provide time for developing standards and the certification process, a two-year grace period has been provided for under the bill.

CORRECTION

In a photo caption in the May 11 issue of *FAA Horizons*, Edward C. Krupinski of Air Traffic Service was incorrectly identified as having received a plaque from the Weather Bureau for assistance in last summer's Barbados Oceanographic and Meteorological Experiment. The person receiving the award, and pictured in the page 1 photo, was Stanley Ratomsky of the Air Traffic Service Foreign and Overseas Staff.



European Region Winner

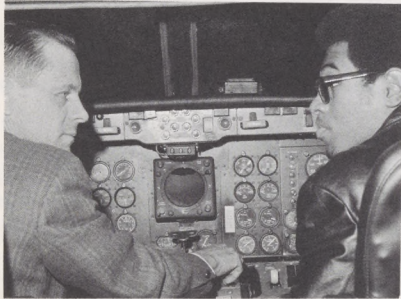
Plaque for the air carrier winner in the FAA's seventh annual Aviation Mechanics Safety Awards program is presented in New York by European Regional Director Raymond Maloy (right) to Harold Moss, technical foreman with Pan American World Airways. Moss developed a procedure for monitoring the condition of jet engines in service, enabling the airline to remove "sick" engines from service prior to actual internal failure. The general aviation category winner in the program was John K. Rude, Jr., maintenance supervisor and inspector for Pilgrim Aviation at the Groton, Conn., airport.



Talking over aviation education programs are: Dr. Mervin K. Strickler (left), General Aviation Affairs education staff; Robert J. Mullen (center), Unified School District; and Gerald R. Brown, Principal of Cardozo High School in Washington. The trio got together at the 1970 Air Force Association teaching lab to discuss the programs.



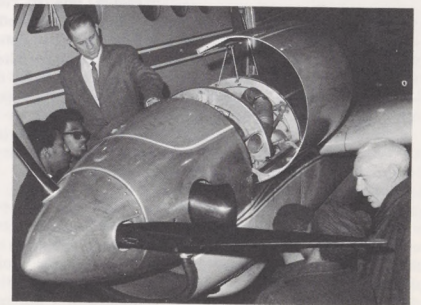
Clarence A. Richter (right), Evaluation and Proficiency Specialist at Dulles Tower, explains some of the problems in air traffic control to a group of "Learning Through Aviation" students from Cardozo High School.



Kenneth W. Hazlett, Chief of the Headquarters Management Branch, Flight Standards Service, runs through the engine start procedure in the agency's jet-star, Nan-1, for Cardozo student Ed Shepardon.

Learning Through Aviation

By Theodore Maher



Explaining the intricacies of a turbine engine is Kenneth W. Hazlett (top) of Flight Standards while Cardozo students, Joseph Baker (left) and Ed Shepardon look on. Jay McCausland (right) of Washington FSDO introduces two other students to the engine.

In the field of aviation education the agency is an innovator, supplier of materials and sometimes a catalyst. In the case of the "Learning Through Aviation" program at Cardozo High School in Washington, D.C., the agency was the force that brought several groups together and made the program possible.

The goal of the education project is to encourage learning through aviation—particularly for minority groups—and to tap another source of qualified, future FAAers. Under the program, students are introduced to the dynamic world of aviation through tours, field trips and demonstration flights and through integrating aviation concepts into regular classes.

The flight phase of the program was made possible by the Aero Club of Washington with the cooperation of club president Arven H. Saunders, Director, Bureau of National Capital Airports, and Robert F. O'Neil of the Office of General Aviation Affairs, the chairman of the club's aviation education committee. Also helping to get the students into the air are members of the Negro Airmen's International.

The agency participated directly in the program by

taking several students into the work-study program. These students work and learn at FAA facilities on a part-time after-school basis.

The story of the Cardozo project goes back to January 1969 when the Office of General Aviation Affairs exhibited at the National Laboratory for the Advancement of Education in Washington.

At the exhibit a Cardozo faculty member, Mrs. Bernice P. Thorpe, saw the agency's display. She talked at length with Dr. Mervin K. Strickler and O'Neil, both of the aviation education staff.

As a result of several discussions, the staff arranged to have Mrs. Thorpe visit the John F. Kennedy High School in Richmond, Calif., where an aviation education program was proving to be eminently successful. And just a year after the original meeting the course was started at Cardozo.

A pilot group of 30 students were enrolled. They are learning to apply what they learn in such courses as English, mathematics and geometry to the field of aviation. It is still too early to evaluate concrete results, but intangible results are so encouraging that the D. C. school board has already made funds avail-

able for a continuing and expanding program.

Last March, five students were selected to participate in the aviation education stay-in-school program and are employed by the agency on a training basis. The program is administered through the Washington Area Office under the direction of Manager Stanley Henceroth.

The students are assigned to Jay McCausland of the Flight Standards District Office and are currently working in the FSDO. Before September they will also work in the FSS, the control tower at Washington National, the airway facilities sector and at the Hangar Six facility.

Coordinating the work-study program and helping students to find jobs in aviation is Leo F. Powell of Headquarters Operations.

Aviation education staff members hope that some of the students may go on from the high school course to enroll in Washington Technical Institute and participate in the agency's Experimental Aviation Education Technology Project. The program, it is hoped, will provide the agency with future technicians, controllers and other specialized skills.



Flanked by Dulles Tower controllers William L. Molnar (left) and Carl P. Fields is Mrs. Bernice Thorpe, coordinator of the Job Conditioning and Work Scholarship Program at Cardozo High School. She was the prime mover in stimulating aviation education opportunities at the school.



Explaining the system at Dulles Tower is Sanford P. Rogers of General Aviation Affairs. Cardozo students Helena Smith (center) and a classmate concentrate on the problems. Miss Smith works for the agency after school in the Office of General Aviation Affairs.