



Number 400,000

For the first time in history, the Buffalo FSS recently recorded its 400,000th flight service within a 12-month period. That milestone was reached with the acceptance of a flight plan from Gordon Kauffman (left), chief pilot for the Buffalo Aeronautical Corp., by ATC Specialist Bob Kamna. FSS Chief Jim Locurto reports that the station's activity has almost tripled since 1964. To keep pace with the upsurge in activity, new and larger quarters for the station are planned, Locurto said.

Safety Cartoon Contest Winning Entries Picked

WASHINGTON—Twelve winning entries have been selected from the more than 400 entries submitted in the second annual FAA Aviation News Safety Cartoon Contest.

Each of the winners will receive a cash award of \$25 for winning ideas which will help advance the cause of aviation safety by providing the basis for monthly back page cartoons carried in the magazine. In addition, each winner will receive a credit line in the issue in which his suggestion appears.

Each of the winning entries will be turned over to a professional cartoonist who will portray the theme of each safety message. Cartoons will also be used as safety poster material distributed by the agency throughout this country and abroad.

Among ideas submitted in verse form are these: "Use your smarts, get current charts." "If you're lost along the way, ask for help without delay." "Preflight the plane? That's a laugh! Now it's on his epitaph."

Winners, selected by judges representing Flight Standards Service, Air Traffic Service and the Office of Public Affairs are:

Andrew Rupnick, Pittsburgh FSS.

James G. Kelley, Roanoke, Va. Tower.

Garrett C. Hayes, Miami Center.

Frank Parr, Flight Standards Service, Washington.

Frank McHugh, NAFEC.

Z. W. Kowalewski, Anchorage FIDO.

Donald E. Miller, St. Louis Tower.

Larry Larkin, Tulsa FSS (a winner for the second year).

Louis J. Rauch, Anchorage IFSS (a two-prize winner).

John W. Forsythe, San Antonio

GADO (also a two-prize winner).

The FAA Aviation News Safety Cartoon Contest was held this year for the second time to solicit ideas for safety cartoons from FAA personnel whose work in the field makes them aware of flight hazards that commonly lead to accidents.

Winning themes were selected strictly on merit without regard to geographical distribution.

Awards will be presented in appropriate ceremonies in each region.

Superjets' Effect on ILS Being Probed

By Francis J. Brandl

WASHINGTON — What will happen to ILS signal quality when the new supersize aircraft—the B-747, L-1011, DC-10 and C-5—with their six-story-high tail surfaces, taxi in areas covered by ILS



Exactly to Scale

Master model builder Charles Newcombe of Newcombe Associates, a Maryland firm, scrutinizes the 30:1 scale precision-built model of a B-747 aircraft he built for the FAA to test effects of ILS radio signals in a research and development study. The replica is copper-coated to be highly reflective to ILS localizer and glide slope signals, typical of an aircraft taxiing.

glide slopes and localizer transmissions?

What will be the effect on ILS signals of the huge hangars required to service these aircraft?

To develop a method of predicting the results of such interference,

the Navigation Development Division of the Systems Research and Development Service has undertaken a unique program, including a joint study with the Commonwealth of Australia Department of Civil Aviation. The latter portion of the project will be carried out by Sydney University on a unique airport-ILS modeling range built on a 30:1 scale. Precision-built scale models of the new generation of large aircraft will be furnished by the FAA. Data equivalent to that of a full-scale airport and aircraft will be achieved by raising the frequency of the ILS signal 30 times.

Data produced from the model facility will be matched against mathematical models developed in earlier studies. The mathematical models, produced by IBM and Ohio University under contract to the agency, are designed to predict the effects on ILS localizer and glide slope signals in an unlimited variety of positions.

Armed with both the math models and the data from the model aircraft study, SRDS will (Continued on Page 7)

Honolulu Center Wins Top Award

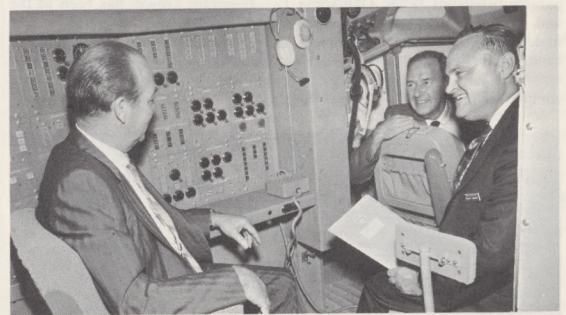
HONOLULU—The Honolulu ARTC Center has been named winner of the annual Earl F. Ward Facility of the Year Memorial Award conferred by the Air Traffic Control Association. ATCA, a professional organization representing air traffic controllers, annually selects an outstanding FAA air traffic control facility as recipient of the award from among the some 350 air traffic control facilities in the Federal Airways System. The award is named for Earl Ward, first head of the Air Traffic Service, from 1936 to 1941. Ward's actual title was Airways Traffic Control Supervisor of the Bureau of Air Commerce.

The Chief of the Honolulu Center, Jack R. Richards, will attend the association's 14th Annual Meeting in Las Vegas Sept. 29-Oct. 1 to formally accept the award on behalf of the Honolulu facility.

Richards also will be present at an awards banquet on Sept. 30, at which Administrator John H. Shaffer will be the featured speaker. Jack L. Cain, radar controller at the Honolulu Center and chairman of the Hawaii Chapter of ATCA, will also attend the meet.

The Honolulu ARTCC was cited by ATCA's selection committee for its support of the war effort in Vietnam through outstanding and expeditious handling of a greatly expanded volume of military air traffic transiting the Pacific, and for successfully coping with a 33 per cent increase in air traffic in 1968 over 1967—a figure nearly twice the national average.

The center also was honored for "noteworthy and imaginative service in support of the Apollo re-entry mission and a spirit of pride among its employees in being associated with the facility assigned responsibility for the world's largest airspace segment. [The center's land and ocean control area covers more than eight million square miles.]



On Auto Pilot

Discussing recent FAA certification of first Boeing 737-200 Simulator in Western Region are (left to right): Boyd Jorgenson, manager, synthetic trainer for Western Airlines; John L. Reynolds and Charles Hellie, both of the FAA Air Carrier District Office in Los Angeles. Simulator trio is "flying" eliminates use of costly aircraft time to give jet pilots required proficiency checks.

Jet Simulator Certificated

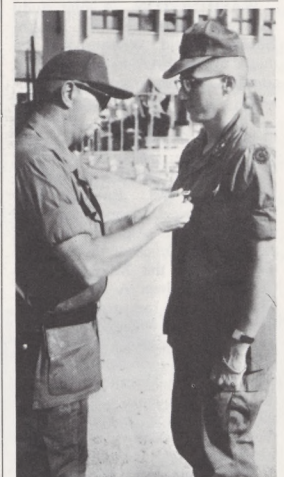
LOS ANGELES—Official approval of the first Boeing 737-200 Twinjet simulator, operated by Western Airlines, Inc., and manufactured by Redifon, Ltd., of Crawley, England, has been given by the FAA here. The simulator passed all of its tests in August.

Certification of a simulator is actually a twofold agency operation. After several weeks' work by personnel from Flight Test Engineering to assure true simulation of the actual aircraft, Flight Standards then "flies" a typical rating ride and undertakes a six-month's proficiency check. All emergency pro-

cedures utilized by the actual aircraft are tested in several 'days of painstaking operations.

FAA approval of the Boeing 737-200 simulator eliminates the need for use of costly aircraft time in giving pilots the major portion of their required checks.

Completing the test program and signing off on the approval was John L. Reynolds, Boeing 737 Lead Specialist at the Air Carrier District Office in Los Angeles. Reynolds was assisted by Charles Hellie, Airman Certification Inspector on that aircraft from the same office.



Gets Bronze Star

Brigadier General Albert Hunter, USA, pins the Bronze Star on Army Captain William Kiser at Qui Nhon, Vietnam, for "meritorious service in connection with military operations against a hostile force." Captain Kiser is the son of Pacific Region's Ralph Kiser, Air Traffic Division.

Skyjumping Record Set By Son of GADO Man

FORT WORTH—Jeff Gowin, son of Hamilton B. Gowin, accident prevention specialist at the Fort Worth GADO, recently set a record at a tri-state skyjumping meet.

Jeff, a sophomore business major at Texas A&M and a member of the Texas Aggies Sky Diving Team, has more than 31 jumps to his credit.

In competition with nearly 100 parachutists from Texas, Oklahoma and Louisiana, Jeff and his teammate won the "hit-and-run" team event with the low time of eight seconds. The object of this type of competition is for two jumpers to

land and then get to the center of a target. Each team member is timed from the moment he touches ground until he touches the target.

Jeff was so accurate with his jump that it took only two seconds to cover the target. His partner made it in six seconds. The two times were totaled for the score.

After each jump, Jeff personally packs the surplus military chute he bought for \$50.

Inspector Gowin has been at the Fort Worth GADO since earlier this year. He was supervising inspector of the Richmond, Va., GADO for several years before transferring to Texas.



Chute Champs

Accident prevention specialist H. B. (Ham) Gowin likes the trophy his son, Jeff, and teammate Harold McElfish recently won in a sky-jumping competition. Jeff (right), and his buddy won a team match in eight seconds.

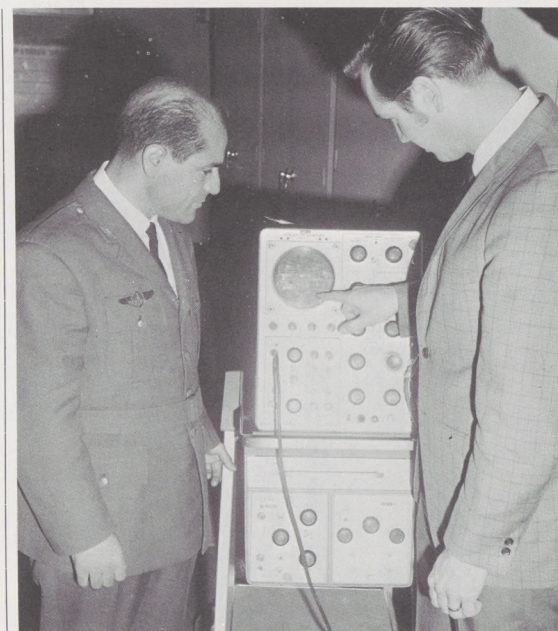
Transport Plane Air Contaminant Study Scheduled

WASHINGTON—A joint study with the Department of Health, Education and Welfare will be made by the FAA to measure the amounts of tobacco smoke contaminants in air transport aircraft.

The 12-month study, scheduled to begin in October, will be supervised by the Office of Aviation Medicine and HEW's Consumer Protection and Environmental Health Service. Cooperating also will be two U.S. Air Force organizations—the Office of the Surgeon General, and the Military Airlift Command. Edwin A. Richardson, Chief of the Industrial Hygiene Branch in the Office of Aviation Medicine is the FAA study coordinator.

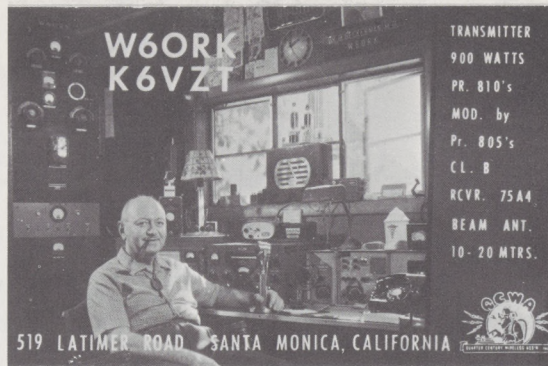
Flights carrying military personnel and dependents will serve as the "test bed" for the study because they generally provide such advantageous test factors as high density passenger loads and longer flights.

Researchers will measure the amounts of carbon monoxide and other impurities in both cockpit and passenger cabin areas. Smoker and non-smoker volunteers among the passengers will be asked to supply samples of blood and expired air prior to and immediately following flights.



Iranian Briefed

Ahmad Alizadh-Sohi (left), a staff sergeant in the Iranian Air Force, is briefed on the operation of a Type 545 oscilloscope by FAA Electronics Technician Thomas L. Antles of the Airway Facilities Sub-sector at Fairchild AFB. On-the-job training at Fairchild RAPCON near Spokane is part of the technical education the 29-year-old Iranian is receiving in this country before returning to the Mashad Radar Site in Iran.



Ham's Post Card

To acknowledge numerous far-flung radio contacts from his amateur station W6ORK, Assistant Regional Flight Surgeon Dr. George Beckerman sends out followup messages on picture post cards. He recently helped get a rare drug to stricken Peruvian girl after responding to radioed call for fast assistance.

FAA Employees Rush Aid To Hospitalized Peru Girl

LOS ANGELES—A little girl in Lima, Peru, hospitalized with encephalitis—sleeping sickness—promptly received a special drug because of speedy action by three agency employees and the cooperation of an American airline.

The plea for help—a request for the anti-convulsant drug, Dilantin, available only in the United States—was picked up on ham radio by Dr. George Beckerman, Assistant Regional Flight Surgeon here. In his leisure time, Dr. Beckerman is director of the Medical Amateur Radio Council (MARCO)—a network of some 480 U.S. and 100 foreign medical hams.

The request for aid was sent out by a ham operator in Lima, Clyde Mitchell of the UN staff in that city, who emphasized that time was critical.

In response to the plea, Dr. Beckerman tried to contact a Miami ham so the drug's shipment could be arranged from that point to save flight time. Although unable to contact Miami, he did contact a Fort Lauderdale ham who contacted Miami and arranged for a doctor there to initiate shipment of the drug.

Dr. Beckerman then contacted the Western Region Communications Duty Officer, Vaughn Buckmaster, and explained the problem of getting the drug to the girl without delay. Buckmaster brought Earl Bryan, the Southern Region Duty Officer, in on the situation and Bryan contacted Braniff Airways which serves the Miami area.

Braniff had a 2 a.m. flight leaving Miami with arrival in Lima scheduled for 7 a.m. the following day. It was arranged for the drug to be given to the Braniff captain for personal delivery on arrival.

The next morning, Clyde Mitchell met the flight in Lima, was handed the 10 ampules of Dilantin by the Braniff captain and arranged to rush the drug to a grateful physician at Lima Children's Hospital.

The incident demonstrated the great value of amateur radio networks such as MARCO in providing emergency aid to people throughout the world. It also reflected the alertness of FAAers to emergencies—even those of international scope.

Full Center Staff 'Pitches' In to Help Stricken Colleague

LEESBURG, Va.—Pitching in to help—really pitching—controllers at the Washington Center here recently staged a softball game to benefit a colleague in financial straits and unable to work following a brain operation.

In addition to raising more than \$800 to the benefit, center personnel have been chipping in regularly to assure that Lovell Rawlett, 39, continues to get what amounts to a regular check even though his sick and annual leave have been exhausted. Rawlett was left partially paralyzed after undergoing a brain operation to remove a tumor last spring. Doctors informed him that because a lobe had to be removed, he will never be able to return to work.

Round-the-clock medical care required following the operation and heavy medical bills exceeded coverage of Rawlett's hospitalization and health care policies.

To give him a badly-needed additional financial boost, controllers decided on a baseball benefit. With the cooperation of Center Chief Joe Wilson and Assistant Chief Edward McMahon, Crew Chief Jack Kelley made arrangements for controllers manning the center's south sectors to play Crew Chief Dan Creedon's north sector controllers. (The North players won 22-4.)

Controller members of the center's all-star softball teams cheerfully donated \$5 each for the privilege of playing while fans donated \$1 each. Community support and local publicity produced a heavy turnout. Through the efforts of Controller James McMahon, arrangements were made for a number of dignitaries to be present.

Included was Sen. William B. Spong, Jr. of Virginia who spoke briefly during the game and toured the Leesburg Center with McMahon prior to the game. Also present were Leesburg Mayor Ken Rollins and Chairman of the County Board of Supervisors William Leach.

Assistant Center Chief McMahon said the entire complement at the center has been participating in the effort to help Rawlett through this difficult financial period. Regular payments to Rawlett will continue until he begins to receive disability checks, McMahon said. "I talked to Rawlett before the game," McMahon said. "He was deeply appreciative."



Champ Bowlers

Washington National Tower's "Fabulous Five" show trophies they won in the FAA Headquarters Bowling League championship. Competition was so close they didn't take the laurels until the last night of bowling. They are (left to right), Jiles Ritnour, Leighton Adams, Karen Skrei, Frank Beeton and Tom Breznay.



No Handicap

Standing behind Theresa Doherty, both literally and physically, are the three men who have done the most to prepare her for a gainful career despite her blindness. They are (left to right): J. Richard Smith, Massachusetts Division of Employment Security; Sidney L. Poe, Chief, Air Traffic Branch, Boston Area Office; and Charles R. Snow, Massachusetts Commission for the Blind, Bureau of Vocational Rehabilitation.

Sightless Employee Excels

BURLINGTON, Mass.—Eight-year-old Theresa Doherty has proven to the satisfaction of everyone in the Boston Area Office that blindness can be more of a challenge than a handicap.

Employed early in July as a clerk-typist in the Summer Aid Program and assigned to the Air Traffic Branch, Theresa soon demonstrated she was there to make a real contribution.

"She's truly amazing," said Sidney L. Poe, Chief, Air Traffic Branch. "We've given her all the usual secretarial duties to do, such as typing and answering phones, and she does everything well."

When Poe or a member of his staff have something for her to type, they use the dictaphone. Transcribing becomes a matter of using ears instead of eyes.

Theresa herself has been very

happy with her summer work assignment. "It's been a marvelous experience for me," she said, "and the people have been just grand."

Her training program is being financed by the Massachusetts Commission for the Blind, Bureau of Vocational Rehabilitation.

Charles R. Snow, counselor with that Bureau, arranged for Theresa's FAA summer job.

"Miss Doherty is a gifted young woman who has demonstrated that a person with proper training can overcome a visual disability and be successful in the business world," Snow said "I am very grateful to the FAA for giving her employment and playing such a vital role in our program to aid the visually handicapped."

Theresa is now attending a business college to further prepare for an executive secretarial career.

STOL Flight Qualities To Get Thorough Study

By Irv Ripps

LONG BEACH, Calif.—A contract has been awarded to the McDonnell Douglas Aircraft Corp. to study the low speed flight characteristics of STOL (short takeoff and landing) airplanes.

The \$136,683 study for the FAA will provide technical data for use by designers of STOL transport category aircraft as well as by the agencies to establish airworthiness standards for certification and operation of these aircraft. The contractor will furnish a final report in June 1970 of findings and recommendations resulting from the STOL study.

The contractor's specific task will be to investigate stability and control problems encountered in takeoff and landing approach phases of flight by short haul STOL transports designed to apply the principle of deflected slipstream for lift augmentation. Essential lateral maneuverability factors will be determined for VFR and IFR takeoff and landing approach, considering atmospheric turbulence, crosswinds

and related dynamic stability and flight control factors.

Research experience with various STOL prototypes has revealed potential problems associated with takeoff and landing approach handling qualities not present with conventional transport aircraft. Flight characteristics, rather than stall-speed or performance, have generally set operating restrictions for STOLs. Use of stability augmentation systems are likely to be required to achieve acceptable flight characteristics under critical operating conditions.

A pilot-operated, moving-cab transport simulator, located at NASA's Ames Research Center, Moffett Field, Calif., will be used in the study.

Use of the simulator, together with computer facilities and a projection television cockpit display, will make it possible to simulate handling characteristics of a wide variety of STOL transport configurations with a range of stability and control characteristics typical of new designs.



Vocalists

A fellow high school student and Georgetta Dixon (right), a clerical worker in the Maintenance Branch of Flight Standards Technical Division at the Aeronautical Center, comprise half of a popular local vocal quartet called "The Trinikas."

Agency Proposes Plane Validation On Annual Basis

WASHINGTON—New annual reporting requirements have been proposed by the agency to provide up-to-date information on aircraft registration and aircraft activity.

Under present rules, aircraft registration certificates remain in effect indefinitely, no renewal being necessary. Certificates become invalid, however, when the aircraft is registered under the laws of a foreign country, when aircraft ownership is transferred, the aircraft is destroyed or scrapped, or the certificate holder loses his U.S. citizenship or dies.

Under the proposed rule, persons holding aircraft registration certificates would be required to inform or verify to FAA once a year the following information:

- Owner's name and address, whether U.S. citizen, and whether aircraft is under foreign registry.
- Aircraft make, model and registration and serial number.
- Name and address of principal aircraft operator if not owner.
- Make and model of aircraft engine or engines.
- Type of communications and navigational aids installed in the aircraft.
- Airport where aircraft is based.
- Aircraft activity in terms of hours flown and purpose of flight (e.g., training, recreation, etc.)

To avoid duplication, the proposal would supersede a current requirement for reporting certain similar information to FAA.

Failure or refusal to provide the required information annually might result in suspension or revocation of the aircraft registration certificate.

Mercy Hop Facilitated By Alert FSS Specialist

CLEVELAND—A badly-injured teenage girl was rushed to a Cleveland hospital by her pilot-father in the shortest possible time, thanks to the alertness and efficiency demonstrated by FSS Specialist Richard Phelps.

The girl's father called Phelps from Middle Bass Island in Lake Erie and reported he was anxious to fly his daughter to a mainland hospital but was hesitating to take off because a violent thunderstorm was just minutes away from the

island, according to advisories.

Phelps, a pilot himself, reassured the distraught father that if he took off immediately, he could skirt the edge of the storm all the way to Cleveland Hopkins Airport where the sky was still clear.

Next, Phelps called Cleveland police who arranged to rush an ambulance to the airport. He then alerted airport operations to arrange for an escort vehicle to meet the ambulance and guide it to the landing area. Phelps apprised the Cleveland Tower of the emergency to obtain priority landing for the flight. Finally, in response to the father's wishes, Phelps called the hospital and arranged to have a plastic surgeon standing by when the injured girl was brought in.

The girl's father later reported to Phelps that the rapidity with which the surgeon was able to operate assured an eventual complete recovery for the girl, with no scars to mar her face.

The father expressed his deep gratitude to all who helped him and his daughter in the emergency, and paid special tribute to Phelps for his assistance.

For the manner in which he handled the incident, Phelps was recently awarded the Eastern Region's "We Point With Pride" plaque.

Low-Cost Radar Remoting Is Studied

ATLANTIC CITY—An economical method of remoting radar from a high-density airport to non-radar equipped control towers at adjacent airports is being evaluated at NAFEC.

Tests started recently on a microwave system which relays televised displays of search radar from an

antenna site to airports too distant for remoting by coaxial cable.

If feasible, the concept could enable the agency to expand radar service at airports in many areas without adding new radar units. A televised display, bright enough to be visible in the cab of a control tower, could help controllers se-

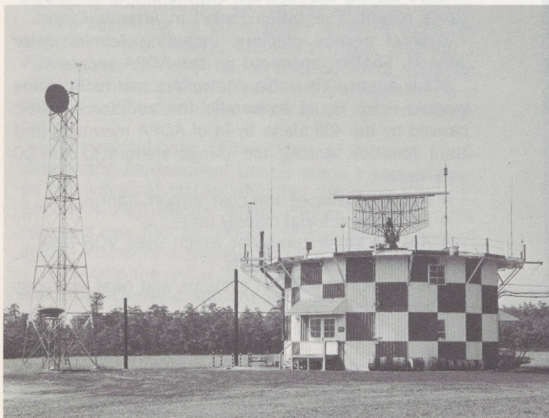
quence traffic and improve control methods while increasing efficiency and safety.

The agency normally does not relay radar by cable for more than two miles because of the high cost and degradation of the signal. Conventional radar microwave links cannot be considered for relay in this instance due to high cost, equipment complexity and the overcrowded assigned frequency bands.

For the tests, ASR-5 radar is converted to a televised display at the antenna site and beamed .68 of a mile via reflectors into a laboratory. To simulate distances up to 20 miles, attenuators are used.

The test, conducted under the direction of project manager Max Greenberg, are scheduled to be completed this December. They include human factors studies, with air traffic controllers comparing radar displays before and after remoting and at different remoting ranges under varied weather effects. R. S. (Tom) Beebe will supervise the latter studies.

The system under test operates in the 14.4 to 15.25 GHz on the Federal government band. Built to FAA specifications, the equipment is a wide-band, one-watt point-to-point radio relay with solid state circuitry and crystal-controlled transmitter and receiver.



Radar Relay

Airport radar from ASR-5 unit (right) is beamed off the reflector on the tower (left), to a lab more than one-half mile away at NAFEC. The system is under test at the Atlantic City facility in search of a new low-cost method of relaying radar from an airport to a non-radar equipped airport nearby.



HORIZONS

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Administrator

JOHN H. SHAFFER

Assistant Administrator for Public Affairs

MURRAY SNYDER

Chief, Employee Information Division

CLIFFORD CERNICK

Layout/Production

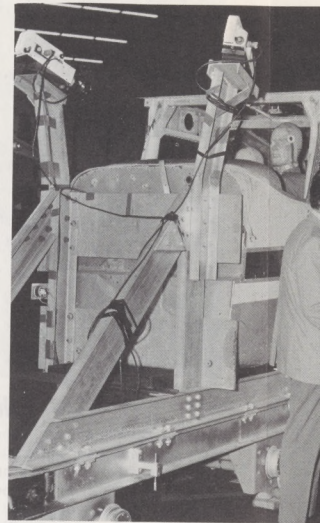
GERNOT RASMUSSEN



A mobile tower set up at Bader Field helps arrivals and departures, increased tremendously by airplanes in for the six-day meeting. Controllers are Ira Ludwig (left), of the Reading, Pa. Tower and George Benedict of Atlantic City Tower.



Warren Crook (left), explains to a couple how the low-cost collision avoidance trainer works. It employs a slide projector which flashes images of planes on the screen.



Hector Daiutolo, (left), an aircraft safety dummies are used in airplane seat restraints.



Bernhart Dinerman (right), shows pilots how a course line computer is used in navigation.



View of NAFEC-Atlantic City Airport showing some AOPA planes and Air National Guard F-100s on the tarmac.

By Frank McHugh

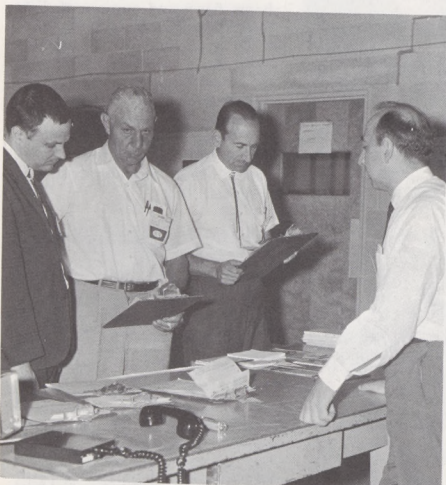
Private pilots from all over the nation were given a first-hand look at what FAA is doing in aviation research and development when 500 of them visited NAFEC during the Aircraft Owners & Pilots Association's recent "Plantation Party" in Atlantic City.

Several agency officials, including Administrator John H. Shaffer, appeared on the AOPA program.

Many agency air traffic controllers and technicians worked extra hours to handle the additional traffic caused by the 400 plane fly-in of AOPA members and their families. Among the things visitors to NAFEC saw were:

- Newly-developed low-cost airport lighting.
- Airborne pictorial display units.
- A glide slope computer which uses VOR-DME.
- Propeller vibration tests.
- A display of exhaust systems and heat exchangers under test.
- Results of burning tests of aircraft cabin materials.
- A demonstration of low-cost collision avoidance training equipment.
- A display of airplane seat restraint tests.

The visitors toured the center's air traffic simulation lab where two sites for a new Chicago airport are under study. They also visited the lab where the NAS Stage A en route automated traffic system is being tested.



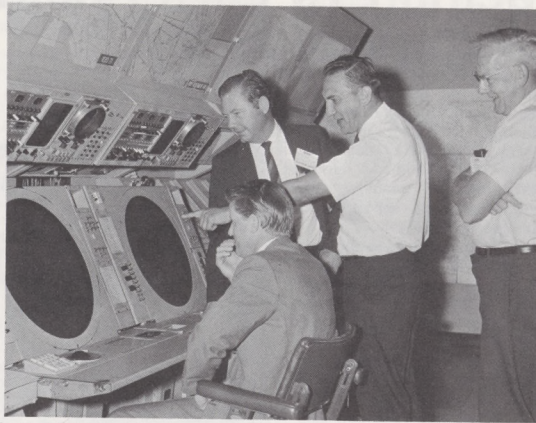
Three AOPA members at left check weather at a special flight service station set up at Atlantic City Airport. Serving them is Pat Codispoti (right), of Teterboro FSS.



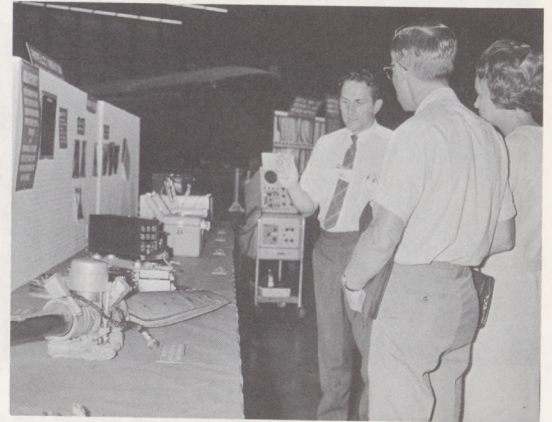
Richard Treloar (right), shows a private pilot and his wife an exhaust pipe that has undergone endurance tests in an investigation of carbon monoxide in the cabin of light planes.



craft safety engineer, shows how lifeline at restraining tests.



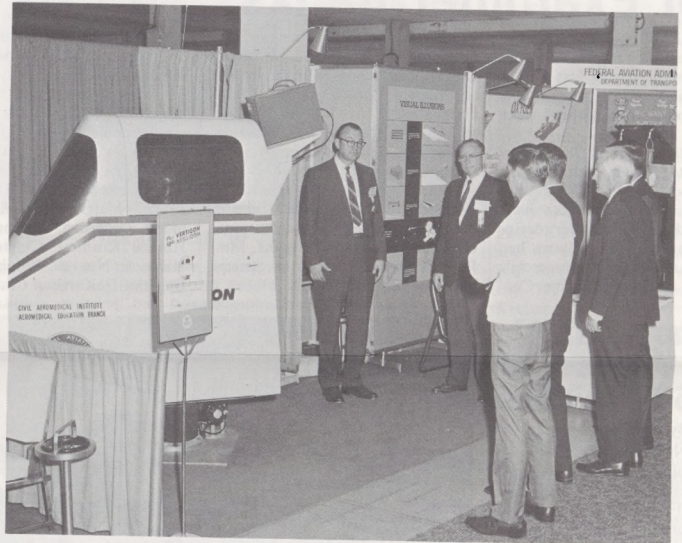
In the air traffic lab, controller Holly Barlage is seated at the console as Bernard Garbowski, (center), points out to AOPA official Don Farrington a traffic situation. At right is an AOPA "Plantation Party" attendee.



Engineer Roman Spangler, (left), explains to a couple how tests develop more information about stresses on propellers.



F-100s on ramp during recent AOPA "Plantation Party." (Photos by Jack Bradley and Bob Michaels)



A group of pilots at right watch the Vertigon in action. A simulator which demonstrates vertigo, it is part of the Aeronautical Center's exhibit. Demonstrating it and answering questions are William Staub, (left), Chief of the Physiological Operations and Training Section, and Frank Hampton, Medical Education Program Officer, both of Oklahoma City.

Appearing on the AOPA clinic panel with Administrator Shaffer were William Flener, Director of the Air Traffic Service; Ronald Pulling, Deputy Associate Administrator for Plans; James Rudolph, Director of the Flight Standards Service; and Robert V. Reynolds, Assistant Administrator for General Aviation Affairs.

Also appearing on other panel sessions were two men from the General Counsel's Office, Charles J. Peters, who sat in on an aircraft accident litigation discussion, and John Marsh, who participated in a session on medical-legal aspects of airman certification.

Dr. Harry Gibbons of the Office of Aviation Medicine at the Aeronautical Center made a presentation on physiological factors affecting the pilot. Edwin L. Shoop, NAFEC Public Affairs Officer, presented the agency's new film on NAFEC, "Today for Tomorrow," giving members a preview of center highlights.

To handle the influx of traffic at the two local airports, flight service stations were set up by air traffic personnel from Atlantic City, Millville and Teterboro, aided by technicians from AFS-105 based at NAFEC. In addition, a mobile control tower was established at Bader Field, Atlantic City's downtown airport, which has no regular tower and a temporary FSS was set up at AOPA's convention headquarters in an Atlantic City hotel.

A popular exhibit among the more than 100 at the convention was the aviation medical display of the Aeronautical Center that demonstrated vertigo and showed members how to check oxygen equipment.



Pilots crowd around flight simulator operators in the air traffic simulation lab to see how air traffic problems are recreated and solved in the lab.



Engineer John Marcy, with back to camera, explains how materials are burned in the lab to find out burning characteristics. At right is technician Ross Glidewell.



Lady Pilot Examiner

After passing a flight test from Don Frost, supervising inspector from the Seattle GADO at Boeing Field, Ilovene Potter recently became the first woman to be designated a pilot examiner in the Seattle FAA District.

Seattle Woman Joins Pilot Examiner Ranks

SEATTLE—Don Frost, Seattle GADO supervising inspector, designated Ilovene Potter the first female pilot examiner in the area upon successful completion of her recent flight test.

Mrs. Potter, one of 78 women in the United States with an Airline Transport Pilot (ATP) rating, is a flight instructor in both helicopters and airplanes. Her designation as an examiner allows her to issue FAA Private, Commercial, Instrument and Multi-Engine Cer-

tificates to pilots who successfully accomplish required flight tests. Only three other women in the northwest are privileged to hold this designation: Virginia Richardson and Helen Ernsdorff of Yakima, Wash., and Arlene Baker of Hillsboro, Ore.

Besides being a full time flight instructor, Mrs. Potter is active in the Ninety-Nines, an international organization of women pilots. Mrs. Potter's husband is also a general aviation pilot.

Pacific ETs Earn Apollo 11 Honors

HONOLULU—For outstanding communications support of the historic Apollo 11 mission which successfully put the first man on the moon, 25 Pacific Region electronics technicians have been awarded Department of Defense citations.

Maj. Gen. David M. Jones (USAF), DOD's manager for manned space flight support operations, signed the citations.

The ETs are assigned to the Ewa International Flight Service Transmitter Site and the Molokai International Flight Service Receiver Site. The Ewa transmitter station, with its 18 single sideband transmitters and the Molokai receiver station with 42 remotely controlled receivers are an integral part of NASA's worldwide voice and data communications network. Voice communications from the Apollo 11 spacecraft were relayed through Pacific Region stations to NASA's Houston Center.

In presenting the citations, Honolulu Area Manager Ed Shivers remarked: "To most of the technicians involved in the NASA communications support since the Gemini I mission, Apollo 11 was another important assigned task. However, to those familiar with their contributions, it represents a continuing and competent dedication to an indispensable assignment which is seldom in the public spotlight."

ETs cited at Ewa IFST were: Francis Blatt, Alvin DeLong, Raymond DeCastro, Norman Freitas, Horace Kushimi, Clayton Muller, Nicanor Nuevo, Ralph Pressnall, Eugene DeKarske, Charles Free-

man, Houston Jones, William Lorimer, Donald Nakamura, Kaoru Oshiro.

ETs at Molokai IFSR cited were: Herbert Williams, Kensuke Shin-

sato, Benjamin San Miguel, Eugene Lung, Philip Okada, John Vimaire, Robert Gayden, Rinzo Nakama, Rolland Moran, Jose Yadao, and E. Earl Sawyer.



Words Tell Message

When all 34 cadets of the Minnesota Wing of the C.A.P. completed their solo flights at Duluth, Minn., International Airport recently, they paraded on the ramp in a gesture of gratitude to Duluth Tower personnel for their help. The cadets saluted the tower and presented the watch supervisor with this "Thank You" card signed by all the officers and cadets.

International Air Rules Are Issued To 350 Facilities

By Don Byers

WASHINGTON—As a service to pilots planning flights beyond the continental limits of the United States, the FAA is providing copies of the International Rules of the Air to some 350 of its field facilities.

Knowledge of these rules is important to U.S. pilots planning foreign flights, since they are required to abide by them when operating aircraft of U.S. registry over the high seas or over any of the more than 100 countries that are signatories of the International Civil Aviation Convention.

Copies of the rules will be available for public review at all FAA flight service stations, international flight service stations and combined station-towers. Heretofore, this document has not been readily available to pilots.

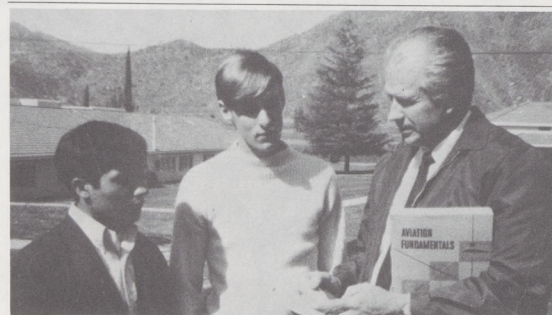
Joseph J. Regan, Chief of the Flight Services Division in Air Traffic Service, said the agency's action is part of a continuing program to increase the availability of international flight information in the face of the mushrooming growth of international travel by U.S. civil aircraft. Among other recent actions, he noted, was the publication of international search and rescue facilities, practices and procedures in the International Flight Information Manual.

The International Rules of the Air—designated as Annex 2 to the Convention on International Civil Aviation—are published by the International Civil Aviation Organization (ICAO) and contain that organization's standards, practices and procedures and the exceptions noted by most of the major signatories.



Grass Roots Study

Quentin S. Taylor (left), Director of FAA's Office of Civil Rights, recently spent two days in Fort Worth to discuss agency job opportunities for members of minority groups in that area. Here, he discusses with Ola Sanford, a clerk-typist in the personnel office, her job responsibilities as Southwest Regional Director Henry L. Newman looks on.



Aviation Confab

Discussing navigation fundamentals with Erick Ximinez and Robert Benjamin, San Pasqual High School students, is Eric Larson (right), Chief of the San Diego Tower, who recently presented an aviation program before 250 students. With the help of Local Coordinator Larsen, the school has a well-rounded aviation program which includes ground school leading to the private pilot written exam.

\$14.2 Million in Hardware Requisitioned for ARTS III

ST. PAUL, Minn.—More than \$14.2 million worth of modular add-on components will be purchased by the FAA from UNIVAC Federal Systems Division of Sperry Rand Corporation. The \$14,270,082 contract covers work to increase the capacity and reliability of the 64 automated radar terminal systems (ARTS III) currently on order. An additional \$85,000 contract with the firm covers work on radar tracking systems.

In taking the action, the agency exercised its option to buy the additional ARTS III components under terms and prices established in the original larger contract awarded to UNIVAC last February. These components are data processing modules—such as input-output processors, memory modules and computer module and data acquisition subsystems, azimuth pulse generators and displays.

Administrator John H. Shaffer noted that the agency's option to buy the additional ARTS III components at the prices specified in the contract was about to expire.

"By acting now to fill our known additional equipment needs," he added, "we should realize substantial savings and help expedite eventual delivery of this equipment."

ARTS III, when added to existing airport surveillance radars, provides air traffic controllers with such vital flight information as air-

craft identity and altitude directly on their radarscopes. This information is presented in the form of an alphanumeric (letters-numbers) data tag which is attached to and moves with the appropriate aircraft target or "blip" on the radarscope.

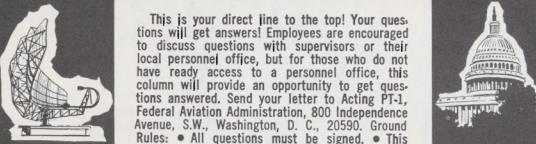
Implementation of ARTS III will facilitate the flow of air traffic, thus helping to reduce congestion and delays and improving airspace and airport utilization. It also will help to maintain safety levels as air traffic increases and at the same time decrease the workload of pilots and air traffic controllers.

The ARTS III terminal system will be fully integrated with the automated systems now being implemented at the agency's 20 air route traffic control centers in the conterminous 48 states. Both terminal and en route systems are scheduled to be operated by the end of 1973.

The same supplier's \$85,000 contract from the FAA aims to increase capabilities of automated radar tracking systems (ARTS III) scheduled for installation at the nation's busiest airports.

Under the contract, a modular unit called the radar tracking level (ARTS IIIA) will be developed that will expand and diversify the ARTS III system. It would enable air traffic controllers at airports to track radar targets from aircraft not equipped with beacon transponders.

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 Acting PT-1, Federal Aviation Administration, 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?

I have three questions concerning Order 6030.31, Restoration of Operational Facilities, and Order 3550.8, Standby and Telephone Availability Policy:

Question: if a technician is away from a telephone and must drive to one in order to comply with the one-hour call requirements of 6030.31, may he claim mileage to and from the telephone?

Answer: No. It is part of the job requirements for a systems maintenance technician, under certain conditions, to be on telephone availability status. If he goes to a place where he cannot be reached by telephone, he is not entitled to mileage reimbursement for traveling by privately owned vehicle to the nearest phone.

Question: What is the duty status of a technician engaged in travel for the express purpose of complying with Order 6030.31?

Answer: An employee who is required to remain available by telephone is off duty for pay purposes. However, if called back to work, he would be considered on duty and would receive premium compensation in accordance with PT P 3550.11.

Question: What circumstances would warrant use of government-furnished radio paging systems such as the "Bellboy" system.

Answer: Through the years, electronic technicians have used many ingenious devices and methods to assure that they could be reached when needed. Any reliable means can be used, including monitoring FAA voice facilities as well as using "Bellboy" and other commercial paging systems. Where an actual cost to the Government is involved in the service, justification must be prepared and a budget request submitted through proper channels. As a minimum, the justification should show that the system will be needed and used frequently, that it will provide reliable coverage to areas involved, and that it is not feasible to "swap off" scheduled telephone availability assignments among the technicians. This last consideration may be most appropriate for small sectors. The intent is to permit development of local practices that will reduce restrictions on an employee's free time as much as possible while assuring responsiveness to operational requirements.

Question: My flight service station is located near the boundary line of two area offices. Due to promotion plan restrictions on areas of consideration, vacancy announcements at a nearby facility are not circulated at our station. We are closer to that facility than many other employees in the adjoining area and, if selected, it would cost the Government less to move us than many of the other employees who are entitled to bid. Is it possible to have vacancy announcements from one area circulated to

facilities in an adjacent area?

Answer: The situation you describe might also occur if all vacancies were announced regionwide since many facilities are located near the boundary lines of regional offices. Generally speaking, the area of consideration may vary depending on the grades and types of positions to be filled and the availability of eligible candidates. It represents the area in which the selecting official can reasonably expect to find a sufficient number of highly qualified candidates. For certain types of positions at the GS-14 and 15 levels and all supergrades, the area of consideration is throughout the entire Department of Transportation. The new promotion plan (Handbook 3330-1A) effective July 1, 1969 allows employees outside the minimum area to submit voluntary applications for promotion to specific positions in other geographic locations. Under the new plan, you are allowed to apply for promotion at that adjacent facility regardless of whether the area of consideration includes your present location. See N 3330.26 for more information.

Question: Why did the agency administer aptitude tests to applicants for NAS Stage A System Engineer positions? Once initiated, why were they discontinued?

Answer: On Jan. 24, 1967 the agency issued a selection guide for certain maintenance positions in the NAS ATC Subsystem (N 3330-15). Aptitude tests were included as part of this guide because they measured the abilities that might predict a person's capacity to absorb the required training and to perform effectively on the job. The Civil Service Commission, Air Force, Army, IBM and others have used similar tests in the past. Since 1967, an in-depth study was conducted to make sure that all selection guidelines were appropriate for continued use. Results of this study showed that experience, job-related skills and capabilities, and personal qualities were more appropriate than aptitude tests for determining success on the job. Accordingly, the selection process was revised and use of aptitude tests discontinued.

Question: Are applicants notified when FARE applications are received? How long does it take?

Answer: Since your question was submitted, there has been a change in the Foreign Assignments Resource Employees (FARE) System. Because of the requirements of the new Merit Promotion Program, the agency has discontinued the automated search portion of FARE. As a result, all foreign assignments are being advertised agency-wide. Employees interested in specific positions are required to bid under Merit Promotion Program procedures. Currently, foreign assignment applications will be acknowledged in the same manner as domestic vacancy bids.

GADO Inspector's Sons Achieve Captain's Rank

CHICAGO—A West Chicago GADO inspector with more than 22,000 hours of flying time recently realized a life-long ambition: seeing each of his two sons wearing an airline captain's stripes.

Ned Powers, who has been flying for 32 years, taught his sons Ronald and Douglas to fly. Each soloed on his 16th birthday.

Ronald, now 29, and Douglas, 26, are 727 captains for Northwest Orient Airlines.

Douglas, who joined Northwest in June 1965, now has more than 3,000 hours of flying time.

Ronald, who worked his way through the University of Arizona as a crop duster, joined Northwest in March 1965. Prior to that, he was an aviation advisor to the Republic of Sudan.

Dad Powers joined the FAA in April 1967 after a long career with the Department of Agriculture. During this time he also served as an aviation advisor to the Republic of Sudan.

When asked if he had any plans for his grandchildren, Ned smiled and asked right back: "What do you think?"



Taught 'em to Fly

West Chicago GADO general aviation operations inspector Ned Powers stands between sons Doug (left), 26, and Ronald, 29, who recently became Northwest Airlines captains. Dad Powers' enthusiasm for flying got them started in their careers when each turned 16 and became eligible to solo.

ATC Specialist Finds Fun In Hunt for Rare Stones

SALT LAKE CITY—Searching for rare and beautiful stones is the off-duty pastime of David Jenkins, supervisory ATC specialist at the Salt Lake City Center, and his wife.

"When the 'rock hounds' say 'let's go!' we're always ready," Jenkins says. "We work hard, moving tons of dirt. And that's only the half of it. The stones have to be toted home, then they have to be ground and polished to bring out their real beauty."

So far, they've brought back such stones as agates, topaz, obsidian,

jasper, crystals, coral, petrified wood and picture sandstone.

"Part of the fun of rock hunting is just getting out of the house and away from the crowded city environment—getting into the wide open spaces," he said.

What advice does Jenkins have for would-be rock hounds? "Join an organization," he advised. "Don't go wandering off by yourself in the back country. Always travel with at least one other person. And always have two vehicles available in case one breaks down."



Rock Hounds

Searching the Utah back country for rare rock specimens is supervisory ATC specialist David Jenkins of the Salt Lake City ARTCC and his wife.



By Sue Silverman

Most of us stagger through the early morning blue meaneys to catch the car pool or bus. Not Terry Jacobs. Each morning he eases himself into his boat and heads out to FAA's lonely island in the middle of Lake Ponchartrain, the site of a key VORTAC facility.

Then there's Harwin Feemster. Har might not have the form it takes to win at the Olympics, but this Texan manages government-issue skis and poles well enough to get home from work—8,900 feet atop Squaw Valley Peak where FAA positioned an important VOR.

"From the Ground Up" is an exquisitely filmed documentary on FAA's Systems Maintenance Service. In approximately 25 minutes, it pinpoints the vital safety responsibilities of the agency's Airway Facilities technicians. Terry Jacobs and Har Feemster play themselves, as do Kansas City's Bob Shadowin and his staff; Duke Duquette and Phil McGill in Old Town, Maine; Jim Walker of Washington, and Reuben Powell—a guy who drew the desolate isolation of a Puerto Rican rain forest for his assignment with tours of three-day shifts and spent his off hours studying for an engineering degree. By the time the film's production had been completed, Powell was in Washington to start his climb in management.

The film's technical advisor, Chandler Griggs of SMS, and director John Nugent chose six colorful episodes to illustrate Airway Facilities men at work. They were careful to bring out the essential point of the movie: behind every takeoff and every landing there is a world of men and equipment—an invisible world most of the time, but the passenger can be glad it's there. It's a world of the men who maintain the system, the men who make it work, the men who have trained themselves to treat the routine inspection of the nation's airways as if it were a first-time experience—with determination and drive, and the habit of checking and double-checking to keep the Navids operating flawlessly.

Prints of "From the Ground Up" are available from the FAA Film Library in Oklahoma City. Other inquiries should be addressed to PA-30, Office of Public Affairs.

ILS

(Continued from Page 1)

later carry out full-scale tests to validate the findings.

The program is expected to be completed within a year. "This study should produce a valuable tool for advance selection of the most suitable sites for airport structures and for developing procedures and criteria for moving and parking aircraft on taxiways around the airport," said Alexander B. Winick, SRDS Navigation Development Division Chief.

Target: Hijackers

By David H. Brown

There are those who claim that aircraft hijacking is just like the weather—everyone talks about it but no one does anything about it.

So far as the FAA is concerned, nothing could be farther from the truth.

A special eight-man FAA Task Force on Hijacking, organized earlier this year, has just completed evaluating results of field trials of an anti-hijacking system held in nine cities.

The evaluation concluded that:

- It is a workable system that could be an effective deterrent to a good deal of U.S. hijacking.
- It can be operated without interfering with normal loading procedures.
- It can initially clear of suspicion more than 99 per cent of the air traveling public, thus leaving 1 per cent to be seriously concerned with.

- Public reaction is highly favorable. There was not one complaint from the thousands of passengers screened by the system; rather, the general comment was that "it's about time somebody did something."

The system combines use of behavioral characteristics known to be common to potential hijackers with application of a weapons screening device. Details of the behavioral aspect are closely guarded because their public dissemination would render the system useless.

The system is relatively simple. When a person's behavior matches that of a potential hijacker (as evolved by the Task Force), he is designated a "selectee." Through a special technique, the "selectee" comes under close surveillance, especially when he passes through the weapons screening device at the boarding gate. The device indicates whether or not a person is carrying enough ferrous metal to be considered a weapon.

During the test phase, only a fraction of the thousands of passengers screened qualified as "selectees," and most of them were cleared by the weapons screening device. None of the screened flights were hijacked.

(When the system becomes fully operational—and the Task Force hopes airline approval for this will come soon—the "selectee" who is not cleared by the device would be interviewed and his identity verified. A law enforcement officer would be available in case personal search was necessary.)

Development of the system is the product of months of hard work by the Task Force, which had to overcome skepticism both within and outside the FAA. Dr. H. L. Reighard, Deputy Federal Air Surgeon, is chairman of the Task Force. Serving with him are such Headquarters officials as:

Dr. John T. Dailey, Chief, Psychology Staff, Office of Aviation Medicine. He and his staff developed the behavioral characteristics after careful study and analysis. They redefined the hijacking problem into one of manageable proportions, where beforehand it had been considered insoluble.

Lowell L. Davis, air carrier regulations officer, Flight Standards Service. He headed the field traveling team and was responsible for developing the technique of observing potential hijacker behavior during the test phase.

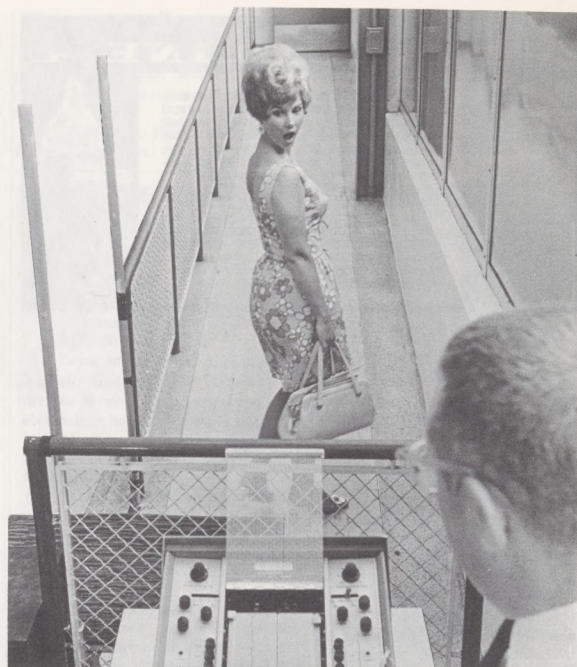
Max F. Collins, program manager, Aircraft Development Service. He operated the weapons screening device in the field tests, and is responsible for research and development of detection equipment and its procurement.

John E. Marsh, Chief, Special Projects and Appellate Branch, Office of General Counsel. His responsibility is legal advice, plus coordination with the Department of Justice.

Joseph K. Blank, Program Officer, Security Division, Office of Compliance and Security. His mission is information gathering and intelligence, plus liaison with police and law enforcement groups.

Robert K. Friedman, Chief, Management Survey Branch, Office of Management Systems. He is charged with management strategy, data analysis, briefings

Wow, what did I register? That's what Atlanta TV personality Linda Faye seemed to be saying after she passed between sensors in the Weapons Screening Device during a test at Atlanta International Airport. Graph recorder in foreground measures amount of ferrous metal carried by a person. Aluminum pole in foreground containing sensors is anchored to a base; the other one is strapped to the gate. Passengers using this gate had full view of test apparatus but no complaints were registered.



News briefings for local media were conducted by Lowell L. Davis, traveling team leader. Task Force advocated full disclosure and maximum publicity, except for details of behavioral characteristics. Coverage was overwhelmingly favorable. Traveling team evaluated overnight television, radio and newspaper coverage before leaving test-site city.

(Atlanta Journal photos by Bill Wilson)

and presentations, as well as project reports and controls.

David H. Brown, public information specialist, News Division, Office of Public Affairs. He is responsible for liaison with the news media, and coordinated briefings at field test sites.

After the initial trial in Washington, D. C., in mid-March, the field team of Davis, Collins and Brown conducted tests in New York City, St. Louis, Miami, Atlanta, San Juan, Dallas, New Orleans and Tampa. On many of these trips, which extended over a four-month period, the team was augmented by John Haben, an electronics consultant on loan from the Naval Ordnance Laboratory.

The team, which worked exclusively with Eastern Airlines, would visit each city at least one week in advance of the test to brief local airlines, airports and FAA personnel and to arrange logistical support.

On the day prior to each test, the team would travel by commercial aircraft to the city. Their equipment, packaged in 10 easily-transportable containers, went along on the same flight in a special bay of the plane.

The morning of the test, the team would report to the airport as early as 5 a.m. in order to have the equipment ready for operation by the first flight, which often came between 7 a.m. and 8 a.m. The early set-up time avoided curiosity seekers and delays in normal boarding procedures. The press briefing was usually held around 1 p.m. that same day. Testing was completed by late afternoon.

A specially adapted magnetometer constituted the weapons screening device during the test. Two aluminum poles, about 63 inches high, each contained a set of sensors to measure any interference with the earth's magnetic field caused when a mass of ferrous metal passed between them. The poles were placed about 32 inches apart at the boarding gate, through which all Eastern passengers had to pass.

Connected to the sensors was a graph recorder,

much like that used in the EKG portion of a heart examination. Measurements of a variety of "planted" weapons were registered along with "readings" of items normally carried aboard by passengers. A video tape recorder filmed all the actual loadings under test to further analyze and validate the data thus gathered.

In the operational phase, the sensors could be situated in almost any kind and shape of container. In addition, the graph recorder and video tape recorder would not be used. A simple alarm system would be substituted, as the device can be calibrated to any predetermined level of detection.

Passengers normally were not aware of the test in advance, and none paid any undue attention to the poles or graph recorder. In San Juan, one EAL stewardess literally draped herself around one of the poles while talking to fellow employees. Many elderly people used the poles to steady themselves while boarding.

Most passengers merely recognized the video camera and often asked whether some celebrity was on their flight. (And there were some: Sen. George Smathers in Washington, D. C.; former U.N. Ambassador-U. S. Supreme Court Justice-Secretary of Labor Arthur Goldberg in Atlanta; and jazz clarinetist Pete Fountain and his entire band in New Orleans.)

The anti-hijacking system is aimed at preventing the potential hijacker from boarding the aircraft. Companion efforts are being pursued to deal with the hijacker should he get aboard undetected by the system. The Task Force does not claim to have a fool-proof system, nor all the answers to hijacking, but it believes this system can be an effective deterrent to the U.S. problem. No longer can the hijacker feel completely safe. He may be apprehended and the penalties are severe.

Details are now being worked out as to whether the system should continue to be solely an FAA operation in the next phase, or a completely airline function, or a combination of both.