TERMINALS

Busier Tomorrow?

OFFICIAL EMPLOYEE PUBLICATION OF THE FEDERAL AVIATION AGENCY / FEBRUARY 1967

FAA HORIZONS

"HORIZONS"

COVER

Crowds at terminals are one of the major problems at metropolitan airports. It is likely to get worse before it gets better unless planning for ground facilities keeps pace with aircraft development. See page 10.

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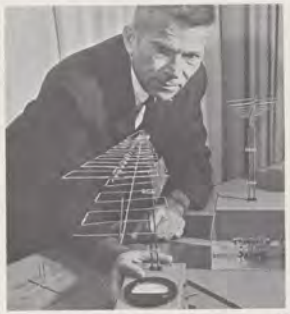

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Mexican flight plan

A bi-lingual hangar session promises to clear up flying conditions for private pilots south of the border.

The second annual meeting between Mexican aviation officials and FAA representatives from the Southwest and Western Regions and from Washington was hosted by the Mexican Government at the University of Sonora, Hermasillo, Sonora, Mexico.

Mexican and U. S. pilots got direct answers to questions on international travel via light aircraft. The group explored such topics as navigation aids, airport improvements, air travel regulations, flight plan filing, tourist regulations, aircraft taxes, insurance, charter flights, and communications.

Mexican speakers briefed participants on improvements being made south of the border. It was pointed out, for example, that by the time the Olympic Games open in Mexico City in 1968, Mexico hopes to have new navigation aids installed. Seven modern air traffic control centers are planned. At present there is only one, Mexico City.

A school is now being established in Mexico City to train technical personnel to operate and maintain newly-installed navaids. Also being trained at Mexico City are bi-lingual tower operators.

At one of the sessions, FAA's chief representative, Assistant Administrator for General Aviation Affairs, Robert Reynolds, called attention to recent recommendations for changes in rules benefiting Mexican pilots flying in the U. S. Under one such change, qualified Mexican pilots would be granted full U. S. pilot certificates instead of "special purpose permits." The second mutual agreement would apply to all dual instruction given by qualified Mexican flight instructors toward a U. S. pilot's license.

Ing. Ramon Perez Morquecho, Mexico's Director General of Civil Aeronautics, headed the Mexican delegation. Other participating Mexican officials were Luis Encinas, governor of Sonora; Don Agustin Salvat, head of the Mexico Department of Tourism, and Manuel Arango, president of the Aero Club of Mexico. Sr. Lic. Ernest Camou, assistant to the governor of Sonora, opened the session.

FAA participants from Washington in addition to Reynolds, were John Kennedy, OA-2, and Chester C. Spurgeon, IA-105.

Regional representatives were Henry Newman, Director, Southwest; Lee Warren, Deputy Director, Western; Gene Kropf, Public Affairs Officer, Western; and Rupert Herr, International Liaison Officer, Western. R. E. Tucker, chief of the Imperial (Calif.) FSS, located near the Mexican border, also took an active part in the discussions.

Non-FAA registrants at the two-nation meet included former Senator Barry Goldwater of Arizona, James Vercillino, Arizona State Aviation Director; C. F. Austin, representing the U. S. Travel Service; Joseph Kyle, Transport and Communications Officer, U. S. Embassy in Mexico; Charles Broman, general manager of the Tucson Airport Authority, and Donald Frakes, assistant manager, TAA.

The meeting, held at the University of Sonora's modern auditorium, was a direct follow-up to the First International Conference on General Aviation held in Tucson in March 1965.

FAA participants reported that meeting and mingling among officials and pilots of both nations did much to cement goodwill and create greater international understanding.

Sr. Morquecho accepts a gift from FAA Assistant Administrator for General Aviation Affairs, Robert V. Reynolds.

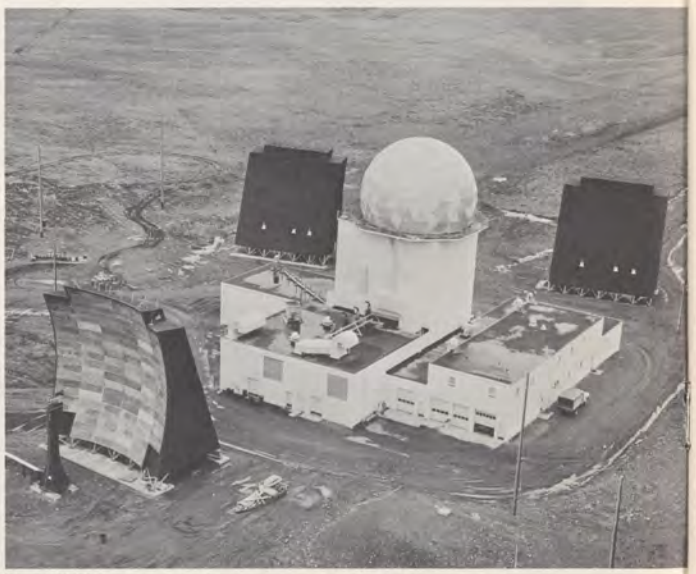
The City of Hermasillo in Sonora, site for the sessions.

This beautiful auditorium at the University Sonora, where the hangar sessions were held, typifies the progress Mexico is making.

'SCAT' is for Iron Birds

Ever on the watch for continent-spanning missiles and bombers, the men of NORAD—backed by their FAA partners in defense—will make an enemy think twice.

The defense shield for North America, made up of long range radars, ground-to-air missiles, jet fighters with atomic-tipped rockets and air-to-air missiles is controlled through this NORAD operations center at Colorado Springs, Colo.



WHITE ALICE is a communications system that overcomes, with troposcatter antennas like these, the problems or interference from the nearby magnetic pole and the ice, landslides and earthquakes that would affect ground lines. This "girl" Alice can repeat 132 messages simultaneously for nearly 200 miles.

These Royal Canadian Air Force CF-101B **Voodoos** can speed to intercept hostile targets at 1,200 mph.

Almost monotonously, the trace of light sweeps across the face of the radar scope in a circular pattern. The stationary patches of light which appear are radar echoes from isolated clouds, distant mountains, and other terrain features.

Suddenly a blip appears in a sector of the scope where none had been before. It's a moving target over the Arctic Ocean, and it's approaching the northern coastline of Alaska.

If it is a jet airliner flying the polar route from Europe to Anchorage, or a jet tanker returning from a refueling mission near the top of the world, no sweat. But there is no time for guesswork, no margin for error. The target must be positively identified—and quickly!

This is the job of the Alaskan Region of the North American Air Defense Command. Using many of the same tools and techniques used by the Alaskan Region of the Federal Aviation Agency, the NORAD Region protects the largest and fastest growing State and the top part of North America. It does this with a defensive shield made up of long range, ground-based radars, ground-to-air missiles, jet fighters armed with atomic-tipped rockets and guided air-to-air missiles.

Backing up this effort are NORAD's "Partners in Defense," the men and women of the Federal Aviation Agency who serve in the 49th State. It's their job, too, to keep track of aircraft—and to keep them safely separated. In the "Flyingest State in the Union," commercial airliners, air taxi operators and other general aviation aircraft must share the same crowded airspace with the military jets which provide "top cover" in their strategic part of North America.

Keeping aircraft identified and separated in the near saturated airspace can give a controller spots before his eyes. On a radar scope a commercial DC-3 blip looks even more like a military C-47 "Gooney Bird"—a Boeing 707 is a ringer for its military cousin, the KC-135. Yet the must be identified, and this is the job of air traffic control.

This partnership between the military services and FAA is not unique to Alaska. It exists throughout the United States in all of the regions. Numerous agreements for the control of air traffic bind the Department of Defense and FAA. One such agreement is brought into play with the word "SCAT," a code word for implementing emergency rules for the security control of air traffic. It's part of the SCATANA Plan—the Security Control of Air Traffic and Air Navigation—which defines DOD and FAA responsibilities for the security of all aircraft in the event if impending bomber or missile attack on North America. It directs the extent of security control of air traffic and air navigation aids by the NORAD Region Commander in carrying out the Air Defense mission.

To provide the closest coordination between military and civilian personnel who control traffic, the Agency assigns Air Defense Liaison Officers—ADLOs—to the

Left: NORAD's top man in Alaska, Maj. Gen. Thomas E. Moore, Commander, Alaskan Air Command, with FAA's J. Howard Watson
Right: Longer than a football field and 165 feet high, this Ballistic Missile Warning System antenna gives NORAD radar a 3,000 mile range.

Defense means paperwork for Mrs. Gerald Clements.

AL Dep. Director Kullman trades desk for "T-Bird" seat weekly.

'SCAT' is for Iron Birds /Continued

major Air Force Commands. ADLOs serve at the Air Division level to advise the Commander of the operational capabilities and the limitations of FAA's air navigation and air traffic systems as they might affect his mission and training activities. At the present time, 13 ADLOs are assigned to the major commands—two to NORAD's Alaskan Region.

Another example of close FAA-military cooperation is the ATCOR program—Air Traffic Control Representatives. Assigned to NORAD radar sites, ATCORs make certain that the military controllers are qualified to conduct interceptor operations with a minimum of conflict with other airspace users. These operations—training or otherwise—are conducted within the framework of the air traffic control system to the maximum extent possible. Twenty Agency ATCORs are assigned to the individual CONAC/NORAD radar control centers.

Alaska's three ATCORs work out of the Alaskan Air Command Headquarters at Elmendorf Air Force Base near Anchorage. They must travel back and forth to the control centers since there are no quarters or facilities for them at the Alaskan Control Centers. In the Alaskan Region, a Military Affairs Branch combines ADLO and the ATCOR functions in one office. The branch chief reports directly to the chief of the Air Traffic Division. He serves as ADLO—liaison officer—to the NORAD Commander. This arrangement permits the branch chief to cross train his five personnel as ADLOs and ATCORs.

This close working relationship between two groups of public servants—some in uniform, some in mufti—is provided for in the Federal Aviation Act of 1958. The Act authorizes and directs the:

". . . regulation of air commerce in such manner as to promote its development and safety and fulfill the requirements of national defense. . . ."

While the need and the authority for these programs are provided by the Act, the spirit of cooperation that makes this mutual support workable is provided by the men in uniform and mufti alike.

—By George Fay

Kullman says of people like Michael Forrester and Lt. George Luckett, "I'm continually impressed by the close teamwork."

James Carter is helped aboard by Vic Carter for regular trip to AF site.

James Carter, shown here with Major Waite Hanford, says, "We've a wonderful relationship with the NORAD Folks."

Missile-carrying F-102s like these share the Alaskan skies with other aviation interests served by FAA in the "flyingest state." From left, Col. M. H. Good, Walter Swanson and Major John Osterman.

"They're as sharp on their procedures as I've seen," says procedures officer Fred Jackson, shown here with Capt. James Hall.

'back to school', my grammar done told me

"No, Mr. Allen, an adverb is not a female verb," Miss Karis Ricketts explained patiently to one of her students in the English composition class she conducted in Anchorage last December at the Flight Standards District Office there.

Miss Ricketts had put aside her steno pad—she's the administrative clerk in the Flight Standards District Office (FSDO)—and was instructing her class in report writing. The "students" were air carrier and general aviation inspectors who wanted to improve their writing talents. A certified English teacher, Karis earned her degree at the University of Wyoming. She holds a private pilot's license and has logged 80 hours of flying time.

One day last fall, Bud Seltenreich, supervising inspector, FSDO-1, while trying to see over the mountain of accident reports which were piled on his desk, had a brainstorm to utilize Karis' teaching talent. "If only we could cut down on the words, if only we could reduce the number of reports which need to be rewritten," thought Bud, "we'd have more time for investigating instead of spending so much of our time writing. Karis can help us."

The response has been terrific. Karis admits it's fun to chide her bosses on their English,—and get away with it.

"We all needed some refresher training in English," remarked Frank L. Kellogg, general aviation maintenance inspector. "It's amazing how much you forget about grammar. Report writing is easier for me now."

Karis with Edward Allen, transitioning from secretary to schoolmarm.

Burlingame with teacher Cowles and student.

TIME ON HIS HANDS

teacher orbits students

How to explain the solar system to retarded grade-school students was the challenge facing Alaskan Region Employee Development Officer Kenneth L. Burlingame. Mrs. Florence M. Cowles, a special education teacher with the Anchorage Borough School District had written to the Agency asking for someone to explain to her class how time is determined in different parts of the world.

To produce a learning situation, Burlingame had to consider the level of understanding and the short attention span of these children. Pupil participation was absolutely necessary, he concluded.

"I began to realize that if they could understand that time varies from one portion of the earth to another, we could feel the class was a success," Burlingame explained.

The lesson was presented to the class as a game. After Burlingame demonstrated the day-night cycle with a globe and a flashlight, the children were instructed in the rules of the game. Nine children participated at one time. Each child was assigned a position: Sun, Earth, Noon, Evening, Morning, Midnight; three were astronauts. The astronauts orbited the earth and, upon a signal, they stopped at one of the time zones and were asked what part of the day it was. All pupils participated. The lesson ended with a question and answer period. And, the students learned—which was the name of the game.

SST Over Dallas

A supersonic transport descends for a landing at the newly-opened Dallas-Fort Worth Regional Airport. An air traffic supervisor sees the plane on a collision course with a Boeing 747 as he watches the TRACON radar scope. But his only reaction is to flip a switch.

Both planes freeze in position on the screen. A quick study will determine the reason for the impending collision and how such situations can be avoided.

Much as controllers would like it, this technique of collision avoidance is not likely to become available. But this drama *did* happen recently at NAFEC, in what might be called a "time machine," because the conditions of 1972 were simulated.

Mid-air collisions and other incidents "occurred" regularly, without disastrous results, when Southwest Region plotted air traffic patterns in the NAFEC simulation laboratories for the proposed Dallas-Fort Worth Regional Airport. Simulated air traffic conditions, as they are expected to be when the airport opens in 1972, were analyzed by computer during an eight-week study. Problems of handling more than 200 landings and take-offs an hour at the 18,000-acre airport were revealed and solved under simulated flying conditions.

Ten Southwest Region air traffic controllers manned key operating positions during the study. They represented the Fort Worth Center, Greater Southwest and Dallas, Love Field towers. One military air traffic specialist came from Carswell Air Force Base, Fort Worth. Atlantic City housewives "flew" the aircraft as they sat at consoles in another building following a master script to simulate the air traffic on the controllers' radar.

Following their scripts, these "pilots" simulated flying into and out of the airport. Dials were set to make the console operate with the characteristics of any given aircraft, thus providing a variety of situations for the radar controllers.

Detailed planning for the laboratory tests began in the Southwest Region last May under the direction of Don McHam, air traffic division chief, and Ernie Rice, program planning branch chief. Larry Robison, air traffic control specialist in the division, served as Southwest Region monitor and team captain for the study at Atlantic City. Key NAFEC personnel assisted in the planning phase and contributed greatly to the success of the study.

"Present procedures would not adequately fit the new patterns of traffic flow," Robison said. "After the runway configurations for the new airport were decided, the controllers in the simulation study were able to experiment with various systems of controlling traffic in the area."

Problems of handling the future increased volume of traffic were revealed and solved under flight conditions involving supersonic transports, jumbo jets and vertical lift aircraft.

In addition to the regional airport, the controllers handled simulated traffic for the seven existing airports in the area—Love Field, Addison, Redbird and Navy (Hensley Field) airports, in Dallas, and Meacham Field and Carswell Air Force Base in Fort Worth. The study also included a "scramble" of defense aircraft from Carswell AFB through the busy air traffic patterns.

When the eight-week study was finished in November, a completely new procedure for handling the expected pattern of traffic flow was prepared. Recommendations followed for location of radar, radio transmitters-receivers and navigation aids for safe operations in the Dallas-Fort Worth area with the maximum number of aircraft. Detailed planning involved departure and arrival routes to and from the area, stratification of airspace, coordination between air traffic controllers, the provision of separation between aircraft of various types, and noise abatement.

Phone is key tool for monitor Larry Robison.

The NAFEC study is part of unique preparation for the new facility. Airport planners, architects, city and county officials, representatives of the Texas Highway Department and FAA representatives cooperated in designing an airport before an acre of available land was acquired for it. This contrasts sharply with other metropolitan areas where overcrowding is rapidly outdating the effectiveness of airports and suitable land for future needs is difficult to acquire.

Southwest Region Director Henry L. Newman observed that "No other city in the nation is as far along as this area in planning for future air travel needs. That is what is good about the Dallas-Fort Worth Regional Airport—experience allows local planners to avoid the costly mistakes of other cities."

Similar simulation studies have been conducted on airports in Chicago, New York and San Francisco in the United States as well as for Rio de Janeiro and Berlin. However, each of these was conducted after the airport was in operation and an air traffic problem existed.

These ladies at NAFEC "fly" but never leave the ground. They are the ones who create the air traffic radar blips.

the future holds SOMETHING BIG

The so-called "jumbo jets" are of deep concern already to a large number of FAA employees even though the 500/900-passenger air carriers are not scheduled to fly until 1969 or later.

Unlike the SST, the larger versions of conventional turbojet-powered passenger planes are being developed independently by aircraft manufacturers with no Government sponsorship.

Government *participation*, on the other hand, is thorough, in a wide variety of forms.

Engineers of the Western and Southern Regions have been working with Boeing and Lockheed, respectively, on certification of the behemoths. Other Agency officials are looking at their potential impact on airports. A lot of people have grave concern about the attendant surface transportation problems such passenger loads will generate. But no one seems the least concerned about the market for the huge loads of passengers and cargo these aircraft will be capable of carrying.

The Boeing Model 747, for example, will accommodate 350 to 490 passengers or a cargo of 110 tons—more than twice that of today's jet freighters. Later versions may go as high as a 600-passenger capacity.

Lockheed's jumbo jet design, designated L-500, could haul 902 passengers or 242,000 pounds. It is an offspring of the Air Force's C-5A heavy logistics transport.

The Passenger Market

Boeing expects that 400 or more of its 747s will be bought by the world's airlines within the next 15 years. So far, about 50 aircraft have been ordered, according to unofficial reports. Lockheed is equally optimistic about prospects for its L-500 which, they say, could produce 1,000,000,000 passenger miles a year—or three times the volume of the largest ocean liner.

Market forecasters document a need for passenger jumbo jets on the basis of the predictable general growth of the air travel market. Boeing, for example, cites continued growth in these six socio-economic areas as the basis for its market predictions: gross national product, population, incomes, education, leisure time and propensity to travel. Coupled with these "push" factors are the continuing model improvements in aircraft, the constant moderate decrease in fares and a logical projection of the traffic growth which has averaged more than 14 per cent per year over the past five years. On the other hand, the International Air

Left: Passengers in Boeing 747 will have choice of spacious seating, left, or lounge and staterooms. **Right:** WE officials (Joe Tippets, right foreground) hear Boeing presentation on the 747 at the mockup lobby.

(continued page 13)

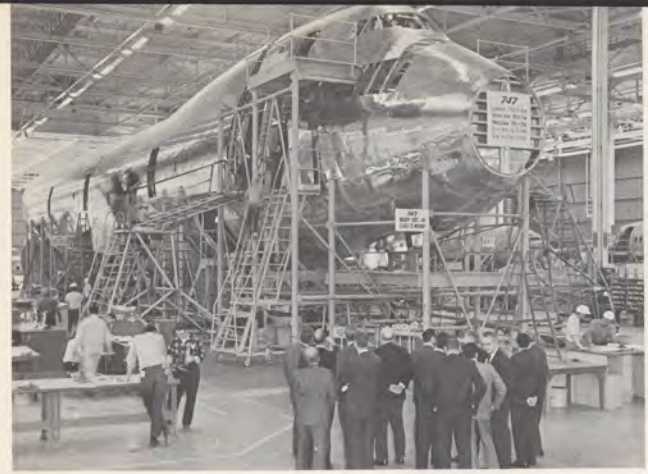
Artist's concept of 490 passenger, 625 mph Boeing 747.

Mocked-up 747 engine and nacelle is inspected by FAA type board. WE engineer Rocco L. Lippis is second from left.

Lockheed 500, commercial of C-5, largest jet planned.

Douglas DC-8 Super 51, largest existing jet airliner, carries 251 passengers, measures 187.4 feet in length.

Above: All-passenger L-500 model would have compartmented passenger areas for more privacy and easier serving. Siesta seats on upper deck would be 54 inches apart. **Above right:** Size of 747 mockup is apparent in relation to WE group in foreground. **Right:** Mock-up of Air Force C-5A, parent of Lockheed's L-500 commercial version, shows cargo section 19 feet wide, 13½ feet high and 145 feet long. Typical loads when it flies in 1968 include: M-48 bridge launcher, two UH-1D helicopters, two ambulances, two five-ton trucks, two three quarter ton trucks, and four one-quarter ton trucks or thirty-six 463L cargo pallets. Lockheed economists claim it will make some transcontinental airfreight cheaper than rail.



The Future Holds Something Big/Continued

Transport Association (IATA) has been quoted to the effect that there are few routes in the world where 1,000-passenger aircraft could find a satisfactory rate of utilization.

First Class Air Freight

Air cargo is outstripping the phenomenal growth on passenger business. Cargo ton mileage has quadrupled since 1956, and the CAB predicts that freight traffic will continue to rise by 20 to 25 per cent a year against about 14 per cent for passenger traffic. When the jumbo jets begin arriving in the 1970s, American Airlines Chairman C. R. Smith predicts that "Our freight volume will exceed our passenger traffic."

Not Without Problems

What might happen when as many as four 747s land at the same time was described by Pan American vice president N. E. Halaby. He told a Honolulu audience, "To get these visitors into town you'd need approximately 50 buses, or 20 railroad cars, or 80 helicopters, or 1,500 to 2,000 private automobiles. And think of the baggage problems, the folks out to meet arriving passengers, the crowds of departing passengers, agricultural checks, customs for international passengers—the traffic jams and the people jams."

IATA agrees that "Airport check-in formalities will have to be given a complete examination" and calls attention to the need for "an extensive revamping of customs procedures."

"Perhaps we can persuade governments to accept a passport card—like a credit card," an IATA official suggests, "Or customs officers could travel on big aircraft in the way they already do on certain ships and trains."

Changes and expansion of many ground facilities are a certainty. While some airport managers have been apprehensive, supporters of the jumbo jets point out that systems management techniques should be able to solve these relatively minor problems.

FAA's Bureau of National Capital Airports is in a good position to appreciate both points of view. At one of the two airports it manages—Washington National—it already is grappling with the problems of automobile traffic congestion, passenger accommodations and related problems. The other airport, Dulles, was designed originally for the high passenger volume of the future and the management techniques are available now for a much larger volume of traffic than it now handles.

The future of air-freight handling is already evident with the November opening of a $2,000,000 highly automated United Air Lines freight terminal in San Francisco.

The largest jumbo jet under consideration will haul three times the number of passengers as the SST at one third the latter's speed. The SST will carry only one-half to one-third of a jumbo jet's passenger payload but at three times its speed. Either aircraft should increase productivity between three and nine times the level of present commercial aircraft.

Whether the future of commercial aviation develops along the lines of the SST or the subsonic jumbo jets—or both—FAA employees will meet continuing challenge in serving the exciting industry.

AC Manager Lloyd Lane, left, presents first MITTS certificate awarded at the Center to Paul Lane, manager of the first MITTS workshop, in the presence of other members of the workshop.

LOOK! No Instructor

"Employee" Rex Merilatt in role-playing workshop session with Joe Motley.

Instructorless classes are now a part of the Agency training program. This new teaching concept, which goes by the name Management Improvement Through Team Study (MITTS), doesn't even use teaching machines.

MITTS students follow a directed study self-teaching course until they become familiar with the subject material, then they participate in group discussion (workshops) to further their knowledge. This "do-it-yourself" training has proven effective in non-technical areas where learning to participate in group discussions is part of the training objective.

Three Aeronautical Center classes have completed the MITTS course, "A Positive Approach to Discipline." During the workshop sessions, the participants discussed disciplinary case studies, engaged in role playing, wrote sample disciplinary letters, and evaluated the performance of other group members. Emphasis throughout the course was on the positive approach to discipline. This means that difficulties are resolved between the employee and his supervisor before they grow into grievances or disciplinary actions.

Two classes are scheduled at the Aeronautical Center for another MITTS course, "Use of Conference Techniques in Every Day Management." Other courses being prepared are "Human Relations in Supervision;" "Effective Organization of Work;" "Management by Objectives;" "Use and Conservation of Manpower, Money, and Materials."

MITTS training is an Agency-wide program which is available in most locations. Training program management officers have details on enrollment policies and procedures. Information on MITTS courses is in the "Directed Study Condensed Description of Courses" which can be obtained from the FAA Academy. This is the answer for do-it-yourself enthusiasts.

Paul Lane, selected by participants as workshop manager, remains a participant, not instructor.

TEN AMONG MANY

If the men around you with transits and slipsticks have a special look about them this month, it's only because they're celebrating a week set aside especially for them — National Engineers' Week, February 19-25.

The many engineering specialties being carried out by the 2,800 engineers of the Federal Aviation Agency are represented on these pages by men singled out by FAA regions and centers.

During National Engineers' Week, the Federal Aviation Agency salutes its engineers and their contributions to aviation safety.

ALASKAN REGION—Robert E. Welcyng

"During the four years Welcyng has worked for the FAA, he has consistently displayed his above-average ability in a variety of electronics projects of the highest complexity. His continuous self-improvement program has kept him abreast of the fast changing electronics field, resulting in his supervisors and fellow workers relying upon him for guidance in the solution of complicated and unusual engineering problems.

"Specifically, Welcyng designed the control system for the Alaskan Region's Airway 1310 communications network. The need and requirements for this system, which would provide VHF voice communications to high altitude aircraft between Alaska and the contiguous 48 States, were generated by several airlines and FAA operations personnel. The project was given to Welcyng, with a completion date of November, 1965. Not only did Welcyng meet this schedule, but he did such an excellent job that the airline users of the system congratulated the FAA heartily on the performance of the network and made several references to the improved service it provided, plus the monetary savings it is affording them."

SOUTHWEST REGION—David E. Campbell

"Among his fellow Southwest Region engineers, David E. Campbell personifies the new breed of engineers who have been able to advance rapidly in knowledge and responsibilities. He is currently a radar engineer in the El Paso Facilities Support and Evaluation Unit.

"A former Marine fighter pilot, Campbell served as a squadron electronics maintenance officer and then entered the University of Texas to study electrical engineering. Following his graduation in 1961, he entered on duty with the FAA in Fort Worth.

"Campbell's principal assignment is in the radar and microwave fields and his talents have not been confined entirely to the El Paso area. On occasion he has been called to trouble-shoot in the microwave systems that extend through the mountains into the Albuquerque and Denver ARTC Centers."

EASTERN REGION—Joseph Weinstein

"Weinstein has been with the FAA since June 1958. He is currently branch engineer in charge of civil and structural engineering involved with the establishment of the Common TRACON (IFR) Room at Kennedy Airport. Other recent projects in which he has played a similar role have been the new Westchester County Airport control tower, the microwave link atop the Williamsburg Bank Building in Brooklyn and the Philadelphia Airport TRACON. A graduate of the City College of New York with a bachelor's degree in engineering, he served in the Marine Corps for two years as an electronics technician."

WASHINGTON HEADQUARTERS—Arthur L. Catudal

"Catudal, a 36-year career civil servant and an expert in international airport engineering, has been given the Federal Aviation Agency's Special Service Award for his work in negotiating a major agreement between the Kingdom of Morocco and the U. S. Government for converting a former SAC base, Nouasseur Airport in Morocco, into a civil jet airport.

"During his two and a half year tour of duty as chief of the Civil Aviation Assistance Group in Morocco, from December 1963 to June 1966, Catudal worked with the Moroccan Direction of Air in the Ministry of Public Works and Communications. In his capacity as chief engineer, he assisted the Moroccan government in planning and engineering the military-to-civilian conversion."

AERONAUTICAL CENTER—Harold T. Swenson

"Swenson is Chief, Communications Training Section, at the FAA Academy in Oklahoma City. He joined the CAA in 1946 as an overseas transmitter technician at Lacombe, La. He subsequently served as Chief, Electronics Maintenance Sector in Palacios, Texas, from 1947-1953 and as an instructor in electronics, communications equipment and instrument landing schools at the Aeronautical Center from 1953-1955. He was then named Supervising Instructor and Chief of the ILS/VOR/Transmitter Section at the Academy in June 1956 where he served until being named Chief, Communications Training Section in June 1966.

"A native Texan, Swenson graduated from high school in San Antonio, but received his bachelor's degree in electronics at Oklahoma State University. He served in the U. S. Navy from 1938-1946 being discharged a Warrant Officer (RE)."

PACIFIC REGION—Larry Trombly

"Trombly recently made a breakthrough in training aids by developing a working miniature low-cost transmitter/receiver that demonstrates the various properties inherent in different types of antennas. The training aid was over five years in the making. It operates on the amateur band frequency of 1215 to 1300 mHz and features an interchangeable antenna system which helps electronics technicians see a "live" demonstration of the workings of different antennas—such as relative gains, polarization, directivity, high and low impedance points, and radiation patterns. It also shows the phenomenon of standing waves and can be used to teach the techniques of matching the impedance in an antenna.

"Trombly was born in 1915 in Philadelphia and attended the University of Missouri."

WESTERN REGION—Milton Bezouska

"In his 26-year career with the Agency, Bezouska has served as an assistant communications operator, aircraft communicator, electronics maintenance technician and electronics engineer. His design of a radar beacon false target eliminator recently won him a Special Service Award and a cash award. When several newly installed secondary radar systems were not commissioned in the Western Region because of false targets generated by beacon equipment, Bezouska refined a false target eliminator he had designed earlier and corrected the problem at a great savings to the Agency."

CENTRAL REGION—Vincent V. Reinert

"Reinert has been with the Agency almost ten years. A graduate aeronautical engineer from Kansas University, he worked for industry in his native Kansas before coming to FAA. He is now an aerospace engineer in the Airframe Section of the Engineering and Manufacturing Branch of Flight Standards. Here he is shown checking a new tail design on the Beech Debonair C33. The vertical fin, rudder, horizontal stabilizer and elevators are being subjected to simulated air loads through use of a 'whiffle tree.' Forces are distributed over the surfaces through wire attachments to the circular pads glued to the surface."

NAFEC—Thomas J. Barton

"One of the most exotic areas of Federal Aviation Agency research has to do with using satellites for relaying airplane communications. One of the key people in the Agency's program is Tom Barton, a 1962 graduate of the University of Tennessee. He joined the Agency shortly after his graduation, and since 1963, he has been working on the satellite communications project. His work has earned him an Agency letter of commendation and national recognition. Here he tests a special transceiver used for communicating from an airplane through a satellite."

SOUTHERN REGION—Robert H. Stanton

"As chief of Southern Region's Engineering and Manufacturing Branch, Bob Stanton is literally surrounded by one of the world's biggest aircraft. He is shown inside the mock-up of the C-5A at the Lockheed-Marietta plant in Georgia, center, with, from left, Flight Standards Chief Gordon Becker, Atlanta EMDO Supervisor Harold Mannick and two Lockheed engineers. University of Michigan graduate Stanton is assisted by aerospace engineers, Paul Castellon, Walter Horn Jr. and George Carver. All four engineers work closely with Lockheed and the Air Force and the C-5A. (See pages 10-13 for more information on jumbo jets like the C-5.)"

Tower chief Timmons "takes a break" from his downstairs desk for a visit in the tower cab with Curtis Penville and M/Sgt Carr.

BY SIDE SIDE

An ocean freighter moved slowly through the harbor, hampered by a northeast wind which was flooding Duluth, Minn., with mist, drizzle and fog.

Overhead, the pilot of a Canadian Falcon keyed his mike button and said, "Ah, Duluth Tower, Canadian Civil JIK, request clearance to our alternate, Hibbing, Minn."

"That's his second miss. Send him back to approach control," said Russ Stafne, a 25-year veteran with FAA.

Bob Hoggard, Air Force S/Sgt., whose credentials include 14 years in air traffic control, smiled, depressed his microphone and said, "Canadian Civil JIK, contact approach control on 125.8."

"Good old Lake Superior weather, and the winter yet to come," chuckled T/Sgt. Clarence G. Maddox, (Max for short), a veteran of Viet Nam and now two winters at Duluth.

"You'll get plenty of this," chided Watch Supervisor Lloyd Harold. His FAA career started at Midway and he is now supervising one of the three RAPCON/Tower teams.

"See who's at the door, Max," Russ called from across the room. Maybe it's a couple of North Central pilots who want to visit!" Max pulled the 'talkswitch' down and asked, "Can we help you?"

The downstairs speaker crackled and a voice spoke, "I'm a private pilot and there's a North Central passenger with me. We're waiting for the weather to break. Could we come up for a while?"

The supervisor nodded his approval. Max pushed the button which released the downstairs door just as Jim Timmons, the facility chief, topped the last step in the tower cab with his usual morning greeting, "Morning, gents. How are things going?"

"Pretty slow. A couple of people are on their way up for a visit," Lloyd Harold answered.

The two visitors entered. Both were dressed in business suits.

After introductions, one of the visitors asked, "Is this a military or civilian control tower?"

Timmons smiled. "Both," he said. "In fact, you might call it a 'side by side' operation! Let's go down to my office and I'll fill you in," Jim said as he led the way.

The visitors were introduced to the secretary, Mrs. Ellen Linman, a native Duluthian.

Timmons began, "This is a jointly-staffed RAPCON/Tower facility in which both FAA and military controllers work all positions in both the tower and the radar facility (RAPCON).

"Our staff of 33 people consists of 20 Air Force and seven FAA controllers, four FAA watch supervisors, the secretary, and myself, as facility chief.

"We control an area which includes all airspace up to 12,000 feet within a 25-mile radius of Duluth. It also covers a 20-mile area around Hibbing, Minn., and a 17-mile area around Eveleth. Roughly speaking, we're responsible for controlling about 4,000 square miles of airspace.

"We run approximately 100,000 traffic operations annually, half of which are military. We are one of the many arms of NORAD, the North American Air Defense Command. Our interceptors, F89Js, are flown by Duluth members of the Minnesota Air National Guard.

"Our civilian traffic is comprised of air carrier operations, North Central Airlines, steel and mining company executive flights, student flying and general aviation operations."

"How do these people get along? What I mean is, are there any, ah, special problems between your civilian and military people?" one of the visitors asked.

The smile on Jim Timmons' face revealed his understanding of the implications of the question.

"On the contrary," he said. "To begin with, there is something very difficult to define which binds controllers together, whether they're wearing the white shirts of a civilian or the blue of the Air Force.

"All of the controllers are experienced. For example, there are Mike Maxim, Russ Stafne and Al McCaffrey, all with over 20 years experience. Then there are Ed Formiller, Danny Grambush and Kyle Kiefling, whose experience averages between eight and twelve years. Curt Renville joined the Agency in 1957.

"Our Air Force controllers, M/Sgt. Vern Sawyer, T/Sgt. Leon Minor and T/Sgt. Dave Overman have over 18 years behind them and are nearing Air Force retirement.

"In the 10 to 18 year category we have M/Sgt. Romie Carr, T/Sgt. Clarence Maddox, T/Sgt. Irwin Gandy, S/Sgt. Dave Swaim and S/Sgt. Calvin Garside, S/Sgts. Carl Nelson, Bob Hoggard, Gene Carothers, Joe Wildes, John Tubbs and Malcolm St. Clair.

"The three to ten year career range includes A/1Cs Larry Greenfield, Dick Giers, Bob Feick and Joe Aylsworth. Holding up the group is A/2C Bob Beres, whose Air Force commitment ends in January."

Howard Horton, left, chief of Duluth AFS, and Roger Gafkjen check tower tape recorder.

"How about yourself, Mr. Timmons?" one of the visitors asked. "When did you arrive in Duluth?"

"My first facility chief's assignment was at Fairfax Airport in Kansas City. I spent some time at Kansas City, Mo., before being assigned here in 1958."

"How do your people like this part of the country?" the visiting passenger asked.

"Our morale is excellent and our social activities rival the recreational dreams of office-bound executives. Minnesota is the 'Land of 10,000 Lakes' and my people know which ones produce fish."

The visitors smiled; Jim Timmons continued. "As a matter of fact, during the winter months it is more difficult to schedule hunting leave than Christmas leave. Dick Giers, for example, shot three deer this year.

"Lake cabins, snowmobiles, boats and motors are almost standard items among the controllers. During the winter, snowmobiles go hand in hand with ice fishing, with at least part of the crew driving their cars out onto the 24-inch thick ice in the middle of the lakes.

"In all, we have found that working with Air Force controllers is highly enjoyable. We learn much from our common interest in air traffic control and take full advantage of their world-wide experiences. Many valuable friendships have been established.

Jim Timmons paused for a moment, glanced out the window and commented, "Looks as though the weather is improving. North Central will start loading soon."

"Thank you very much, Mr. Timmons," the visitors said as they rose to leave. "We appreciate your information and time."

The freighter is safely out of the Harbor now and the Canadian Falcon is off-loading at Hibbing. The two visitors, along with two Air Force airmen on leave, are walking toward the waiting Convair, common purpose binding them 'side by side.'

—by T/Sgt. David F. Overman, USAF (AFCS)

Now Lindbergh's Atlantic Route is flown daily by at least a hundred pilots, but aviation still belongs to the

SPIRIT of the INDIVIDUAL

When the 1967 Paris Air Show opens May 27 at Le Bourget Airport, aviation will have just celebrated the fortieth anniversary of Lindbergh's epic flight.

FAA will mark the occasion in its own exhibit hall with a series of ten displays contrasting the flight of the "Spirit of St. Louis," with the contemporary spirit of American technological ingenuity. Because FAA's 2,154 square-foot exhibit hall will serve as the gateway to the entire U. S. National Pavilion, the Agency's displays will provide a panorama of the entire aviation industry: its tools, its trends, and its tomorrows. The room was designed by Neil Fujita, New York City.

Visitors to the U. S. National Pavilion will be greeted by FAA's small movie theater immediately inside. Six short features, rotating in continuous showings, will underscore the marked differences between Lindbergh's flight and those which routinely are made today over the same general North Atlantic route.

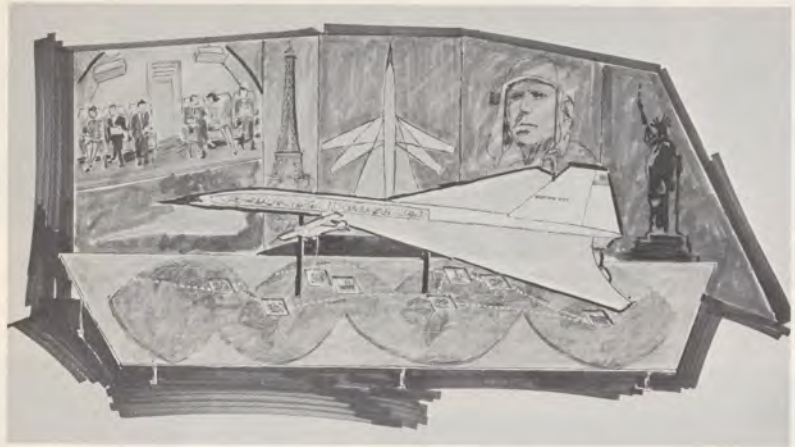
Next to the movie theater as the visitor goes farther into the hall will be the futuristic supersonic transport display. A 15 foot transparent lucite model will depict the SST in exquisite detail. That the American SST could cover the distance of Lindbergh's 33½ hour New York-to-Paris flight in less than three hours is but one of the comparisons noted by the exhibit. Another is that the size of the "Spirit of St. Louis" was a tiny fraction of the SST's wingspan.

Fast short-range travel also is an important part of aviation's future. Vertical and Short Takeoff and Landing (V/STOL) aircraft will be portrayed in a special exhibit. A short film, projected on a rearview screen, will illustrate designs of several research aircraft that combine vertical or short takeoff capabilities with high speeds. This display will describe FAA's role in studying the technical and economic potential of V/STOL aircraft — planes which will enable tomorrow's passengers to travel safely and swiftly between terminals located near or within metropolitan areas.

The "Spirit of St. Louis," a single-engine monoplane, today would be categorized as a "general aviation" or non-airline aircraft. General aviation has been called the "waking giant" of the entire aviation industry. Another FAA exhibit will depict the size, scope, and special uses of general aviation today, as well as projecting its activities during the next ten years.

Lindbergh's watch, compass, and chart comprised his navigational instruments during the flight over the Atlantic. Pilots covering the same route today are guided by complex electronic equipment.

Lindbergh did not share the North Atlantic skies with many other pilots on May 23, 1927, but today he would be one of nearly 100 flyers who make the crossing each day. A three-dimensional



Artist's concept of the proposed SST section of FAA's Paris Air Show exhibit.

Exhibit model is explained to Charles Cary, FAA's Assistant Administrator for International Aviation Affairs, left, by Chester Spurgeon, FAA project officer for Paris Air Show.

panel will represent both the volume and the type of aircraft—as well as their respective flight paths—which comprise the New York-to-Paris air traffic.

The tools used by FAA air traffic controllers to monitor the heavy aerial traffic also will be displayed in the Agency's exhibit hall. Visitors will see simulated activity both on semi-automatic equipment that is currently in use and demonstrations of how the "alpha numerics" system will operate tomorrow.

The remaining FAA exhibits will illustrate the Agency's other key activities, such as developing a network of airports, promoting the aviation industry, serving it, and regulating it for the sake of safety and efficiency.

The principal advantage of the entire FAA display room is that despite the underlying continuity of theme, each of the five separate exhibits later may be used by itself, or in any combination. At the end of the Paris exposition, the displays will be returned to FAA and incorporated into the Agency's regular exhibits program.

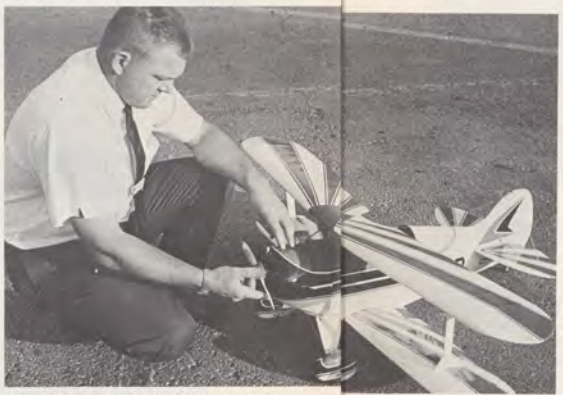
SCARED OUT OF HIS SKIN—Ed Johnson, Salina, Kan., shows skin of 6-foot snake he mistook for a cable shaft. Now he tickles all cables before splicing.

MANUAL FORCE RECOGNIZED—For producing the 2,300 page FAA Procurement Manual, 25 were recognized. Representing them, from left, are Donald S. King, IM-1; John Choroszy, CS; Dorothy Morris, GC; and Samuel Rabinowitz, IM.

FLYSAFE POW WOW—Georgia's "Flying Governor" Carl Sanders, seated, posed with FAAers while signing a proclamation launching a state aviation safety program. From left: Jack Barker, John Bennett, Lee Mercure, James Rogers and William Flener.

RUGGED RADIO MODEL—Arnold W. Reed, Wichita, Kan., has logged 400 flights on the darker plane.

MONTH FOR FAREWELLS—Four air traffic veterans with combined ATC service of 119 years plus, retired in Washington late in December. They were honored by Dep. Administrator Thomas and AT Director Archie League (left) in ceremonies typical of those throughout the Agency. From left: League, Emerson R. Mehrling, Jack Tighe, Thomas, Homer F. Cole and Raymond J. Petitte. Not pictured are AT retirees, B. E. Cooper and Curtis Riley.



INTERNATIONAL CHAMP — Walter Burgin, Ottumwa FSS, won 8th place in the 1966 International Championships with this Pitts Special.

COLLAPSIBLE TOWER — Jerry E. Graves, Springfield, Mo., designed a collapsible antenna support for temporary towers. From left: Bob Schuerer and Richard Williams.

GOLF CHAMP—Timely trophy for PC Golf Club champion Frank Stebbe is presented by club president Betty Roth.

TEACHER'S TEACHER—For upgrading flight instructor training in Iowa, C. A. Martineau, Des Moines, was honored by Iowa State U. From left, Gene Ostiguy, Martineau, Burton H. Watkins and Earl Howard.

people in focus

FSS TASK GROUP—Ways of improving service at flight service stations was explored by a 3-part working group. Here is the Aviation Weather Group chaired by Chester D. Ridgeway. From left: Arthur Pallagi, PC; Bruce Brown, EA; Emerson R. Mehrling, AT-110; and Ridgeway.

Overlooking the Flight Line

TV viewing during duty hours is okayed for controllers in Anchorage Tower, but the programming is a little dull. Closed circuit television scans a section of the ramp obscured by the new hexagonal terminal building. The State of Alaska paid for all TV equipment and installation necessary to correct the surveillance problem the new terminal created.

time for batman?

committee for dulles

Business and industry leaders in Washington observed the fourth anniversary of Dulles International airport recently by announcing that three national motel chains are bidding for the concession to build at Dulles. Construction is to start next Spring. Helicopter service to downtown Washington is also under competition.

fog machine

To simulate low visibility conditions, smoke is drifted across the instrument runway at NAFEC during a test of runway lighting. More experimental lighting and guidance systems are installed on this runway than on any other runway in the world. NAFEC is one of three major airports in the contigious states operated by FAA. News from the other two, Dulles and Washington National, shows their continuous growth.

Shear Nonsense

In addition to the four would-be ribbon cutters, more than 1,000 school students attended the dedication of the new FAA-Weather Bureau Building at Red Bluff, Calif. Manipulating the out-size "prop" shears are, from left, H. H. Bedke, Western Region Weather Bureau Director, and Lee E. Warren, WE-2. Trying to do with a tug what the shears can't do is Hervey E. Aldridge, SFO-1, and Vice Mayor Andrew J. Osborne of Red Bluff, Calif.

Blood Donors of Two Regions Save FAAer's Son

ANCHORAGE — Robert Chapman, 16, son of Lawrence Chapman, air carrier operations inspector at Anchorage, is alive today because of FAA blood donors. The boy is now on the road to recovery after he was seriously injured in a motorcycle accident.

To save the boy's life, 40 pints of plasma were provided by Alaska donors. The youth was then transferred by air to a Seattle hospital for further intensive treatment.

Frank Happy, chief of the Oakland ARTCC, ordered immediate transfer to Seattle of the Center's blood bank consisting of 30 pints. Western Region donors were Nolan G. Tucker, Davis-Monthan RAPCON; James R. Ingels, Airway Facilities Sector, San Diego; and Teddy J. Lane, Lindbergh Tower, San Diego.

The boy is recovering nicely.

EA Accountants Add New Chapter to Their Books

NEW YORK, N. Y.—Five Eastern Region accountants were key figures in establishing a Long Island chapter of the Federal Government Accountants, a national organization of professional accountants from Government agencies and Government contractors. Its purpose is to further the academic and professional background of members.

Regional representation in the new chapter is comprised of Irving Mark, Executive Officer; Irving Kreindel, chief, Audit Division; Lester Lord, chief, Accounting Division; Harry Halm, chief, Cost and Property Accounting Division; and Donald Capone, supervisory auditor.

At the chapter's first meeting, Capone was elected first vice president, and, Kriendel, director of education and training.

tech talk

Weather reports, like yesterday's newspaper, deteriorate rapidly from the moment they are generated. Full value can be achieved only by speeding the information to the ultimate user by the fastest means that can be supported economically.

All aviation weather data is received and relayed around the country over a major communications system, the National Weather Teletypewriter Network, operated by FAA. Its function is to collect and distribute data via three types of circuits, Service A for aeronautical information, Service C for general meteorological information, and Service O for military information of both types, including overseas data exchange. Together they serve over 3,000 individual receiving stations in the U. S. and carry data from more than 6,000 source locations, foreign and domestic, over nationwide circuits totalling more than 140,000 miles, plus thirteen overseas links.

Along with many other functions in this fast-moving age, the method of data transfer now is being modernized and upgraded to take advantage of new technology. Within the next two years the FAA will put into service a new solid-state automatic switching system to speed up the handling of weather and aeronautical messages.

Circuits are being streamlined and realigned to feed directly from all points to a centralized, programmable electronic data processor in Kansas City. There all types of weather and aeronautical messages will be accepted, verified, sorted, and retransmitted within seconds on a "need-to-get" basis according to a predetermined list. Information thus will not be sent indiscriminately to all subscribers on a total volume basis as it is now.

The data processor will perform a store-and-forward message switching function and control network operation for the teletypewriter system. The processing computer is self-monitoring, and redundant modules of various types will automatically maintain full service under a vast majority of failure situations.

According to Robert F. Decker, program manager in Systems Research and Development Service, this will result in significant operating dollar savings, and provide simpler, faster, and better message processing and distribution.

Salute

Mrs. Eleanor (Tollie) Williams proudly displays a corsage which she was presented by Radio Station KBYR in Anchorage in recognition of her many accomplishments with FAA. The station singled her out after she won a Sustained Superior Performance Award and a Suggestion Award. She is a mother of seven.

news briefs

ATLANTIC CITY, N. J.—Some projects active during the past month at the National Aviation Facilities Experimental Center, Atlantic City, N. J., include:

A weather outline generator, which outlines weather contours on radar displays to give controllers information on precipitation and turbulence, is under evaluation.

Low-cost lighted approach aids were tested in several models, both in the environmental lab and in the field.

Locator beacons for flight recorders as an aid to finding the recorders when they are under water were tested at Key West, Fla., in cooperation with the Navy. The beacons automatically transmit when immersed in water.

Electro-magnetic evaluation of cockpit-area microphones and their locations is being studied in two different airplanes. Designed to distinguish intelligible recordings of cockpit voice recorders from those that are unintelligible, the device also will be tested in other airplanes.

A new troposcatter communications facility in Hawaii was flight checked under the direction of a project manager from the Center. When commissioned, the new station will extend the range of voice communications used by the Pacific Region for air traffic control.

Flush lights with a 60 degree angle for curving runways are under test.

Double side-band doppler VOR is being investigated for compatibility with current airborne receivers.

Tests on a gelled-fueled jet engine were ended after about 75 minutes of engine time were logged with a fuel of about the consistency of shaving cream.

Horizontal console displays for terminal radar control rooms were tested with simulated traffic. The modular design consoles permit a variety of layouts.

Internal fuel tanks were tested by swinging a 22-foot outer wing panel of a DC-7 against utility poles. Impact resistance of several modified wings will follow.

Controller's Greeting to Pilot "Brother! You Need Help?"

SACRAMENTO, CALIF.—When a B-52 bomber piloted by Capt. James Harrison developed engine trouble, Harrison's distress call was answered by FAA controller Bob Harrison at the McClellan AFB RAPCON.

"Is that you, Jim?" Bob Harrison asked, when he heard a familiar voice.

"Yes, it's me, Bob," Jim answered.

Bob alerted Mather AFB, a SAC base, and arranged for an emergency landing of the crippled bomber.

After the B-52 landed safely, the Harrison brothers drove to Bob Harrison's suburban Sacramento home for an unexpected, but happy, reunion.

Record Set on Guided Tours

SALINAS, CALIF.—A. I. Allison, FAA facility chief and local coordinator here, reports setting a record in guided tours when 650 students from El Sausal Junior High and 45 from Hall Elementary School were shown through the station.

Watch supervisors Lynn Boyte, Archie Lott and Earle Smith provided tour guidance.

King Size Brownie

With its eye on space traffic, this Baker-Nunn camera can photograph light reflected from an object the size of a basketball 50,000 miles away. This one is operated by the RCAF as part of the NORAD system to obtain accurate positions on satellites. Smile, pilots. You may be on Candid Camera.

She Races Dogs

Life at a remote station in Alaska opens up many new avenues of recreation for FAAers and their families. Diane Thiede, right, hooks up her dog team for a run through the woods near the FAA station at Minchumina, Alaska. Looking on is her friend, Betty Jane Walker. Diane is the daughter of Gail E. Thiede Sr., station mechanic at Minchumina.

it happened this month

These aerospace events happened during the month of February since 1903.

Feb. 1, 1911—The first licensed aircraft manufacturer in the United States—Burgess and Curtis of Marblehead, Mass.—was signed by the Wright Company.

Feb. 2, 1925 — President Coolidge signed the Kelly Bill authorizing private contract for air transport of mail.

Feb. 4, 1949—General authorization was given by CAA for commercial planes to use ground-controlled approach radar as a primary aid for landing in bad weather.

Feb. 11, 1928—Charles (Speed) Holman established a new record of 1,093 loops at Wold Chamberlain Airport, Minneapolis.

Feb. 11, 1935—The dirigible USS Macon crashed at sea off the coast of California.

Feb. 14, 1932—Ruth Nichols, in a Lockheed Vega, set a new world altitude record for diesel-powered planes—19,928 feet—at Floyd Bennett Field, N. Y.

Feb. 16, 1914—Seaplanes and flying boats were classed as "vessels" by the Department of Commerce.

Feb. 18, 1957—The first national scientific symposium on problems associated with space travel was held.

Feb. 21, 1935—An 11 hour 35 minute transcontinental record for passenger transport planes was set between Los Angeles and Floyd Bennett Field, N. Y.

Feb. 22, 1921—First transcontinental airmail flight from San Francisco to New York, 33 hours 30 minutes, was set by Jack Knight and E. M. Allison.

Feb. 22, 1909—First Curtiss amphibian was demonstrated by Glenn H. Curtiss.

Feb. 28, 1928—Modesto, Calif., inserted a clause in its charter providing for the building and maintenance of municipal airports when needed.

Feb. 28, 1917—In San Diego, the human voice was transmitted by radio telephone from airplane to ground for the first time in the United States.

Feb. 28, 1918—Licenses were required for civilian pilots or owners of airplanes under President Wilson's proclamation.

BENTON IS TOPS ON TUBE LIFE

BENTON, PA.—The Airway Facilities Sector here achieved the highest radiate/high voltage hours on the OK-681 Amplitron tube with a total of 7,263 hours and on the 7214 tube with 12,528 hours. Air Defense Command's Certificates of Recognition were awarded under Air Force's Electron Tube Life Improvement program.

Mice Hold Secret

FORT WORTH, TEX.—New techniques for measuring Engine Pressure Ratio (EPR) have been developed for turbine engines through the joint effort of aircraft and engine manufacturers and the FAA.

A definite relationship has been established between EPR (the ratio of the turbine discharge total pressure to the engine inlet total pressure) and engine thrust.

Floyd T. Melton, chief of the Propulsion Section, Engineering and Manufacturing Branch, FAA Southwest Region, inspects "mice" which are used for adjusting tail pipe for desired exit area. A calibration in this configuration, compared to one with aft nacelle installed, provides a check on ejector effects and ejector instrumentation.

Public Relations

CLEVELAND—Area Manager Ralph Link (right) with Warren Guthrie, public relations director for the Standard Oil Company of Ohio. Guthrie spoke at the monthly key management group meeting.

LOST ITEMS RETURNED TO OWNER - LOSER BEWARE

WASHINGTON, D. C.—When a class ring inscribed with the initials "CBB" and "Coderus TWP High—1934" was turned in to Lost and Found at Washington National Airport, Policeman Herbert Wanamaker thought it was just another routine case. He had returned thousands of such articles to their rightful owners by applying the research methods he had learned as a detective during 30 years on the Washington Metropolitan Police Force.

Of course it was tough locating Coderus TWP High, especially after a search of hundreds of telephone books failed to turn one up. But once he learned that Coderus High had been renamed Susquehannock High School, it was a breeze to establish that the initials "CBB" belonged to Carlton B. Brodbeck of Silver Spring, Md.

Brodbeck's letter acknowledging return of the ring was the only surprise. The ring had been "removed" from a bureau drawer in 1949. Where it had been during the 17 years is still a mystery.

Air Controller Invades Coast Guard Territory to Rescue Boat

SALT LAKE CITY—It isn't often that an air traffic controller assists a boat in distress, but it happened here recently.

Radar controller John Kimball received a call from a pilot who had seen a light flashing an SOS over Farmington Bay, about 14 miles north of the Municipal Airport. It was a duck hunter whose boat was out of gas.

Kimball established the location of the aircraft, then asked the pilot to fly over the light for a fix.

A Utah State Fish and Game boat was then dispatched to pick up the hunter.

Milestone

MONTGOMERY, ALA. — The 1,000th airman written examination to be administered by this Flight Service Station is recorded as Charles Trotter takes the 6-hour instrument rating examination under the supervision of Watch Supervisor Grady Denson, left.

Firefighters' Friend

SALT LAKE CITY — The Forest Service was battling 20 blazes simultaneously when they called FAA for traffic control help. McCall Airport was bustling with aircraft carrying fire retardants and a control tower was needed immediately. Boise tower controller Robert L. Brayton (above) and Cleve G. Spring, provided the service for 32 hours and logged 422 aircraft during the period.

Homegrown Manpower

ANCHORAGE—FAA participates in avionics training with the Anchorage Community College to meet the growing demand in Alaska for radio and radar repairmen. Here Edward Sharpe, left, student at Anchorage Community College, uses an oscilloscope to calibrate a navigation aid under guidance of Instructor Dale Horner, electronics technician at Anchorage International Airport.

book blips

Selected new library acquisitions for professional reading. Check your local FAA library for these aids to professional development

The Broken Wing: A Study in the British Exercise of Air Power. David Divine. The author examines, in searching detail, the past, present and future role of the Royal Air Force. (London, Hutchinson, 1966. 400p.)

Comfortable Words. Bergen Evans. Known to millions of people as the witty moderator of such television programs as "The Last Word", Bergen Evans not only shows how and why word meanings change with time, but he dispels the clouds of pretense, affectation and vaguely understood structures about proper grammar and usage. (N. Y., Random House, 1962. 279p.)

Management Uses of the Computer. Irving I. Soloman and Laurence O. Weingart. This book, addressed to business people in middle and top management positions (1) examines the computer in the context of business data processing; (2) considers the feasibility study for conversion to computer processing; (3) examines the continuation from a successful feasibility study to the development of a usable computer system and, (4) treats the problems of converting to the computer system and the continuing responsibility of management to maintain its usefulness. (N. Y., Harper & Row, c1966. 225p.)

Transportation: Facts and Trends. (3rd ed.) This booklet will provide a quick reference source of transportation data which will be useful for speeches, articles, discussion and similar purposes. It is a statistical analysis showing the importance of transportation to the United States, as well as to transportation trends —including both for-hire and private carriage. (Wash., D. C., Transportation Association of America. Apr. 1966. 48p.)

Your Career in Civil Service. Robert A. Liston. The federal, state and local governments together employ nearly ten million people, making government the largest employer in the country. This book describes the major federal agencies and the kind of work being performed, gives explicit information and advice on qualifications and tells how and where to apply, and what salaries and other benefits are offered. N. Y., J. Messner, 1966. 223p.)

personnel pipeline

Get Ahead with MITTS

Courses offered under the Agency Program, Management Improvement Through Team Study (MITTS) are: "Use of Conference Techniques in Everyday Management," "A Positive Approach to Discipline," "Human Relations in Supervision" and "Effective Organization of Work." To be available soon are: "Management by Objectives" and "Uses and Conservation of Manpower," "Money and Material." (See page 14, this issue, for more information on MITTS.)

Outstanding

James Krueger, who is employed as an aerospace engineer in Western Region's aircraft modification staff, has been recognized for his engineering achievements even though he suffers from acute arthritis. Krueger was selected from nominations made by all FAA regions and centers as the outstanding physically handicapped employee in the Agency. Other nominees were: Walter J. Shaw, Procurement Office, Aeronautical Center; David Glazer, supervisory payroll clerk, Eastern Region; Charles R. Harper, computer programmer, Headquarters; Raymond D. Wilson, electronic maintenance technician, Central Region; Walter I. Parks, ektalith operator, NAFEC; and James H. Myers, electronic maintenance technician, Southern Region. FAA, as the first Federal agency to develop a national program to honor its outstanding handicapped employees, has been cited by both the President's Committee on Employment of the Handicapped and the Civil Service Commission.

Airport Overseers

Chester G. Bowers, left, was named Director, Airports Service in Washington Headquarters and William M. Flener, right, became Deputy Director. Bowers had been Deputy Director of the Service and Flener had been Deputy Regional Director, SO. Announced at the same time was Robert H. Stanton's selection as Chief, Aircraft Engineering Division, WE, from Flight Standards Division, SO. (See pages 15, 16, 17).

Standouts

Typical of people all over the Agency, the above 12 were brought together for some flashbulb popping and certificate awarding. From left: Robert Oswald is Controller of the month; Harold Greenleaf, 25 years service; Max Kay, Outstanding Rating; Deward D. Urry, SSP; Daniel Clark, 15 years service; Mary M. McMinds, SSP; Kenneth Oman, 25 years service; Roy Potter, Controller of the Month; Kenneth W. Pratt, SSP; Ray Riches, Controller of the Month; and Kenneth D. McMillan, Controller of the Month. For others in the limelight, see next page.

She is First

A new Civil Service Regulation permits the appointment of outstanding college graduates without their taking the FSEE. First to be hired under the rule was Carolyn Miles, who was hired at the Aeronautical Center as an administrative assistant. She graduated from Langston U., Okla., in the top ten per cent of her class. Center Director Lloyd Lane, left, and George B. Hudson pose with her above.

Girl Friday

Claire M. Collins is one of outstanding "Girl Fridays" whose work was recognized with a Sustained Superior Performance Award. Gilbert T. Loynt, chief advisor, New York IFO, EU Region, makes the award. At left is Robert K. Crothers.

First Chairman

George M. Gary, Alaskan Region Director, was honored by the CSC with a plaque naming him as first chairman of the Board of Directors of CSC's Interagency Board of Examiners in Alaska. From left, Robert Dunn, CSC, Gary, and Frank Rice.

Top Performers

Earl A. Batchelor and Kenneth Shake, center, receive performance awards from Idaho Falls, Asst. Area Manager DeEstaing R. Newton.

Reason to Smile

Controller Bobby J. Bailey, center, received a commendation and a promotion too while John Bush, left, got an SSP and a cash award. Tower chief William Maxwell, Isla Verde, San Juan, makes the awards.

"The Sea of Ethics" sometimes may seem like uncharted waters, but a good map is available to public servants. The pamphlet, **Ethical Conduct,** provides guidance on the much more complex range of challenges faced by the officers and employees of the Federal Government. If you have lost your copy of Agency Order 3750.3, March 31, 1966, and the attachment, **Ethical Conduct,** get a new copy through normal distribution channels. This way you're sure to be on course.

A Letter From Home

OKLAHOMA CITY—The picture behind Harold R. Hanna was taken in a grass field not far from Hanna's Oklahoma City home, but the grasses of Vietnam are so similar, only an expert could spot the difference. The photo was selected for exhibition by Famous Photographers School, Inc., of Westport, Conn. Hanna, a 17-year veteran of civil service, is an engineering draftsman at the Aeronautical Center's Plant Engineering Division. The acclaim-winning photo is a result of an avocation Hanna took up right after World War II, but he didn't take photography seriously until four years ago. Photography as a full-time job is his goal.

after hours

Let's Dance

Stepping forward to meet her dance partner, Joan Davis is about to enjoy one of her three favorite pastimes—dancing, bowling and movies, in that order. Joan, who calls Summerville, Pa., home, has been with Agency headquarters for five years. She is now a secretary in the Office of Supersonic Transport Development. When the picture was made, Joan was taking the role of Miss FAA at the annual Christmas Dance of the Washington FA Club. Here she is the second in a series of photogenic girls who will occupy this space in the future.

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