FAA HORIZONS

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Agency Employees Receive Top Safety Award From LBJ

LBJ Fetes FAA

"It is blind, heartless extravagance to contend we cannot afford such a safety program."—Lyndon B. Johnson.

"You have turned the slogan of safety into a fact of reality," General McKee told the standing-room-only audience which had assembled on July 13 to watch him present the 1966 President's Safety Award to all agency employees.

The award is presented annually to three Departments or agencies having the largest reduction in personal injuries. General McKee had accepted the handsome mahogany, silver, and glass plaque from President Johnson in special White House ceremonies last month.

Accepting for agency employees was Joseph C. Caldwell, who was FAA Safety Engineer until his very recent appointment to the staff of the National Transportation Safety Board. Caldwell was joined on stage by ten field safety representatives: Art McGowan, EA; Bill Hughes, NAFEC; Tony Chatham, SW; James Heath, Aeronautical Center; Charles Bogle, CE; George McCord, WE; Dick Dube, AL; Bob Hohn, SO; Art Dalton, PC; and Wanda Thompson of Washington (see group photo).

As the keynote speaker, General McKee said:

"One of the most gratifying privileges I have had as Administrator was to accept, on your behalf, President Johnson's 1966 Safety Award.

"Our Federal Aviation Administration, in competition with all Federal agencies with between 10,000 and 75,000 employees, reduced both the number and severity of personal accidents so dramatically last year that we were selected as the recipient of this most distinguished honor.

"As President Johnson said, 'We want the Federal Government to set standards of safety that will be copied by public and private groups. It is blind, heartless extravagance to contend that we cannot afford such a safety program.'

"While none of us in FAA should be complacent about our record, we nevertheless can share the great pride that comes from this coveted award. We have set the kind of example the President called for and we have proved that outstanding achievements can be made when all employees give special attention to personal safety on the job.

"It is with great pleasure that I convey to each of you the President's warmest congratulations and I am sure you share my personal hope that our agency's safety record will continue to warrant his personal praise."

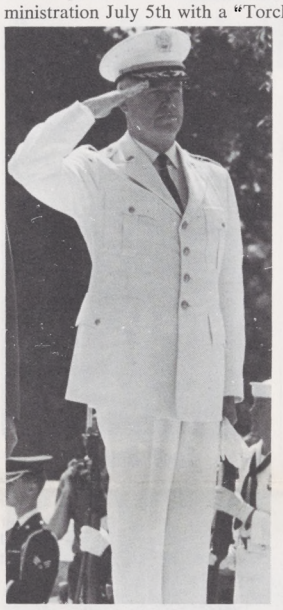
At the Ceremonies . . .

"We have set the kind of example the President has called for. . . ." —William F. McKee

Colorful Ceremonies At Basin

Army Salutes Agency In July 'Torchlight Tattoo'

WASHINGTON—With the Jefferson Memorial lending a majestic backdrop, the United States Army saluted the Federal Aviation Administration July 5th with a "Torchlight Tattoo" military ritual ranging through the history of the United States.



You're Honored!

Major General Charles S. O'Malley, Jr., Commanding General of the Military District of Washington, gave this snappy salute to all FAA employees at July 5th ceremonies honoring them.

FAA Administrator William F. McKee, other agency officials and FAA personnel in Washington swelled the capacity audience of summertime tourists who witnessed the colorful ceremonies alongside the Tidal Basin.

An Army narrator paid tribute to FAA employees who "are continually trained in their special skills to promote air safety and thereby do their part to assure the United States of America's continued leadership in world aviation."

He described FAA responsibilities in certificating new aircraft and licensing airmen so that "only qualified men and qualified aircraft take to the air." The audience learned about FAA's activities in developing a civil-military airway system, installing and maintaining navigation aids and airport safety devices.

See "Torchlight Tattoo" Photo Story Page 5

"FAA flight service stations," he told the audience in a prelude to the pageantry, "have the latest weather for pilots . . . and a big project for (FAA) is the development of more and better airports."

"Torchlight Tattoo" is a colorful, spine-tingling pageant performed by costumed soldiers representative of various periods in American history. It begins with the "arrival" of a wigged General George Washington, on horseback, and Martha Washington, in a horsedrawn carriage, at the outdoor stage from their home in nearby Mt. Vernon.

The history of the Stars and Stripes next is recounted, in periods marked-off by our nation's wars and the new states which entered the Union during those periods. Soldiers in period uniforms — Revolutionary War, War of 1812, Mexican War, Civil War, Spanish-American War, World War I and II, Korean War—march forward to the tune of a popular air of the day.

As each marches forward, the narrator announces the names of the states which have entered the Union, and the state colors are

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Dakota FAA Flying Club One Of Agency's Best

HURON, S.D.—Rotating shifts and mid-week days-off for flight service station employees present an ideal situation for a flourishing flying club. Even with a large number of students, week-end scheduling is seldom a problem. Each member always gets his turn at a long week-end with the club aircraft.

These are the sentiments of the Huron, S.D., FAA Flying Club.

Organized in 1965, the purposes of the club are "to stimulate and encourage interests in aviation and to advance the knowledge of its members in aeronautical and other related subjects; to provide an opportunity for its members to fly aircraft economically and conveniently; and to do all the things necessary in the operation of the club to accomplish its principal objectives."

(Continued on pg. 8)

Videocorder Being Tested

By Thom Hook

WASHINGTON—To most football fans, "instant replay" is the greatest thing that's happened to the game since Knute Rockne introduced the forward pass.

The device is now being applied to FAA training programs and in safety education—and, while no one claims it provides the same kicks as having watched Jimmy Brown hit the Packer line, it nev-

(Continued on pg. 8)

New Landing Device Is Being Tested In Atlanta

ATLANTA—An automatic all-weather landing system (AWLS) that will advance the state-of-the-art in blind landings is slated to pass a milestone in its development here.

The FAA, Lockheed-Georgia Company, and the Air Force are jointly developing the new AWLS, which is moving toward the goal of being able to land aircraft when ceiling and visibility are both zero.

The first major step, to obtain FAA certification under Category II, is being accomplished with a specially-equipped C-141 Starlifter, built by Lockheed at Marietta, Ga., for the Air Force. The mammoth 145-foot-long, 318,000-pound fan-jet is being put through landing tests under weather conditions in which the ceiling is 100 feet and runway visual range (RVR) is 1,200 feet. This is half the ceiling and visual requirements of Category I, under which most airliners operate today.

In these development tests, a C-141 equipped with the new

(Continued on pg. 8)

Pilots To Get CAT Warning

A device to warn jet aircraft pilots when they are approaching invisible clear air turbulence (CAT) has shown promise during recent tests reported to the FAA.

The tests were conducted for the Systems Research and Development Service by the National Aeronautical Establishment of the National Research Council of Canada.

Clear air turbulence was detected by an infrared spectrometer. Infrared techniques for detecting clear air turbulence are based on the premise that there is a correlation between temperature changes and turbulence.

Airline Passenger Seats Undergo Unusual Tests

ATLANTIC CITY—Passenger seats used in airliners recently have undergone unusual tests by aircraft safety experts at the National Aviation Facilities Experimental Center.

Purpose of the project is to improve the protection of the airplane passenger in case of an accident.

During an accident, airplane seats are subject to certain stresses and loads, explains Donald W. Voyls, who manages the project at NAFEC.

"There are standards covering the design and construction of present-day seats. They must pass static qualification tests with forces applied in the horizontal, lateral and vertical directions," he said.

Voyls' recent test program sought to learn whether improved seat standards are needed and can be developed. To realistically represent an accident situation, dynamic tests were conducted in a joint FAA-Navy program at the Naval Air Engineering Center located at the Philadelphia Naval Base.

There, three different types of passengers seats, with anthropomorphic dummies strapped aboard and facing rearward, were catapulted along a track to simulate the sudden stop of an accident. Forces representing actual accident conditions were recorded.

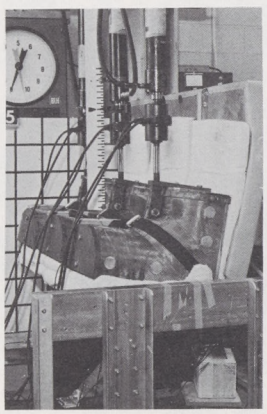
For tests in the vertical direction, the seats were dropped and arrested within a drop tower.

When the dynamic tests were finished, identical seats were run through the more routine static tests at NAFEC, collecting data to be compared with that obtained in the dynamic tests.

In the static tests, 170-pound wooden and steel body blocks were strapped to the seats, representing a human load, and then hydraulic pressure was gradually applied to the blocks until something in the seat gave way. Separate tests were run with pressure applied in vertical and horizontal directions.

Information derived from the project will be used as the basis for new and better standards for seats, Voyls said.

Assisting in those tests conducted at the Center were John Costello, Walter M. Sturko and Harry J. Hogg. Irving Goldstein handled the instrumentation, aided by Lester P. Wilson and William C. Swanseen.



Seat Bender

A three-seat unit with 170-pound body blocks, representing typical passengers strapped in, is ready for hydraulic pressure to be applied downward until breakage in recent NAFEC tests.

Six Are Cited By Aero Center

ATLANTIC CITY—Six employees in data processing at NAFEC here were presented recently with a 'PROUD' performance award by the Aeronautical Center for superior accomplishment.

The group helped develop a new aircraft maintenance reporting system for computers. They are: William E. Desabaye and Robert Wilson, both programmers; and four operators: Robert J. Luke, Donald E. Nelson, Lee E. Lichtenberger, and Leonard J. Tureen.

Together with a team from the Aero Center, the group worked for several weeks adapting an aircraft maintenance reporting system developed for one type of computer to another.

Certified Safe

Valerie Powell, Red Cross girl, is surrounded by four Chicago Center employees who completed a recent 40-hour course in industrial first aid techniques: (left to right) James A. Campbell, Neil F. Baird, Alfred D. Dreher and William Enright.

'Alan Boyd Day' At Oklahoma City

In the photo on the left, 'Chief' Boyd accepts a leather scroll from real Chief Lujape of the Otoe Indian Tribe during his visit to Oklahoma City. In the right photo, while on a tour of the Aeronautical Center, Secretary Boyd, right, and Dr. Harry Gibbons, chief of the Aeromedical Research Branch, watch Ernest McFadden stick his head, covered with a mask he invented, into gas flames to demonstrate that the newly-designed mask, which includes oxygen, might be most useful in helping airline passengers escape from fire and smoke-filled cabins.

World-Wide Flight Unit Is Changed

ATLANTIC CITY—Jurisdiction of the overseas sector of the Atlantic City flight inspection district office (ACY FIDO), located at the National Aviation Facilities Experimental Center, was changed July 1st.

Although it will continue to be based here at the Center until sometime in 1968, the unit now comes under the National Flight Inspection Division, headquartered at the Aeronautical Center in Oklahoma City. Previously, the sector operated under the Eastern Region.

Reason for the shift is that the sector's two DC-4s will be replaced sometime in the first half of 1968 with jet aircraft. At that time, the unit will transfer to Oklahoma City. The sector flight-checks navigation aids in Labrador, Greenland, Iceland, Bermuda and the Azores.

Twenty-one persons, mostly flight crews and electronics technicians, will be affected in the move, according to sector chief Arduvino Carella. The change will be a gradual phase-out, sometime between January and July of next year.

The rest of ACY FIDO, which handles domestic flight inspection work, is not affected.

Designs Stamp

A design submitted by Mrs. Larry Taranoff, wife of the Station Administrator at Sitka, has been approved by the Centennial executive committee as the official first day cover for the issue of the Alaska transfer commemorative postage stamp. The first day cover features an American flag, Castle Hill (famous Alaskan landmark), and a Russian and American soldier superimposed on an outline of Alaska with Sitka pinpointed. In a scroll below is the quotation "General Rousseau, by authority from His Majesty, the Emperor of Russia, I transfer to the United States the territory of Alaska by General Pestchouroff." The dates 1867-1967 and "First Day of Issue" also appear.

Technicians Hear Management Word On Maintenance

OKLAHOMA CITY—Engineers and technicians from airways facilities organizations throughout the FAA, including personnel from Alaska, Guam, Balboa and San Juan, met last month at the Aeronautical Center to discuss maintenance management.

The 40 key personnel who were present work in an area having approximately 11,000 electronic navigation, communications and support facilities, maintained by some 8,000 FAA employees in airways facilities field organizations.

For the past year, the maintenance management system has been used to help improve facility performance and the use of manpower and materiel resources.

Automated reports in the maintenance management system have assisted managers in planning and evaluating their operations.

The conference was sponsored by the Systems Maintenance Service, and was highlighted by a seminar in which the experiences of field managers were reviewed to help refine the management system and improve its field use and effectiveness.

DOT Secretary Boyd Visits The Aeronautical Center

OKLAHOMA CITY—Secretary of Transportation Alan S. Boyd had his "day" in Oklahoma City last month.

While visiting the capital city for the 20th anniversary of a privately owned airport, the cabinet official was honored through a proclamation signed by Governor Dewey Bartlett which proclaimed that day "Alan S. Boyd Day in Oklahoma."

In addition, the Secretary became a blood brother and chief in the Otoe Indian Tribe of Oklahoma. Boyd was given the name of "Wahn-Qua-So-Shay," which means "Chief of the Great Trail Blazers."

Introduced by Oklahoma Senator Mike Monroney, Boyd praised efforts by private industry which bring about such enterprises as the Downtown Airpark in Oklahoma City. He spoke of the proximity to the central park of the city, and mentioned that most problems in air transportation were actually ground problems in getting to and from the airport.

The Secretary visited the FAA Aeronautical Center and was honored at a reception and buffet that night.

The Aviation/Space Writers Association was host for the day's activities.

Commerce Honors FAA Weather Man: A Bronze Medal!

OKLAHOMA CITY—John W. Zimmerman, weather instructor at the FAA Academy here, has been given the Bronze Medal, highest award by the Department of Commerce.

The award was presented for outstanding performance of official duties at Dallas, Tex., during a 20-year period.

Before leaving Dallas to accept the assignment here, Zimmerman was honored by Dallas area business, civic, and news media officials for his service to the public, and particularly to the progress and safety of aviation in the Dallas area.

Zimmerman teaches flight service specialists the use of meteorological data for insuring air flight safety. He also teaches weather to FAA air crews and inspectors.

Teens Taught Radio

O'NEILL, Neb. — Edward X. Dziowgo, supervisory electronics technician here, has his hands full when not on duty. He teaches electronics to teenagers at St. Mary's High School. His class of a dozen works in teams of two each and are building six superheterodyne AM receivers. From Ed, they learn how radio theory is applied to receivers, proper soldering techniques, and are given an introduction to trouble-shooting.

Wives Club

Among guests at a recent Cardenas Women's Club luncheon in honor of Mrs. Walter Leber, wife of Panama's new Governor were (left to right): Mrs. George Koch, Mrs. R. J. Clizbe, Mrs. Charles Adair, Mrs. Leber; Mrs. John Cofer, Club President; Mrs. Arthur Eno, Honorary Club President; Mrs. Harold Parfitt, and Mrs. Russell Pynes, vocalist.

Georgia Airport

Governor Lester Maddox, 2nd from left, looks over a plat prepared by FAA Airport Engineers Robert Brown, left, and James Sheppard, right, showing location of a proposed new general aviation airport planned for Douglas County, Georgia. Also participating were State Representative Kent Dickinson, 2nd from right, State Aviation Representative John Bennett, standing, and County Commissioner R. L. Smith (not pictured).

They Help Needy Panamanians

Canal Zone Wives Are Socially Active

PANAMA—FAA wives in the Canal Zone pursue a variety of community and social activities as avidly as their husbands pursue their air safety work.

These public-spirited ladies have formed the Cardenas Women's Club, made up almost entirely of FAA wives. Their club's mission is by no means exclusively social. The club actively encourages progressive community measures, fosters cultural activities, and promotes friendship.

They organized a Panama Projects Committee which offers its own "people-to-people" assistance to needy Panamanians living in the interior. Mrs. Rosita Kirmer (wife of Arthur Kirmer) heads this program. A Youth Activities Committee, lead by Mrs. Frances Flynn (wife of Marvin Flynn), sponsored a recent Village Carnival which yielded an $800 profit. These funds are earmarked for improvements in recreation facilities and athletic equipment for Cardenas Village children.

Cardenas Village, an FAA city, has more than two miles of paved streets, and was built and is operated by the FAA for its employees and their families in Panama. Situated among rolling hills within a mile of the Canal and surrounded by picturesque jungle, Cardenas now has more than 500 residents.

If A Doctor Wouldn't Come

Medical Self-Help New At Aeronautical Center

OKLAHOMA CITY — Medical self-help training is a new supplement to the Red Cross Basic First Aid Course which has been taught for many years at the Aeronautical Center here.

Basic first aid is designed to treat the patient until the doctor arrives. Medical self-help training considers that the doctor won't arrive, as in the case of atomic attack.

Disaster poses other problems. Imagine yourself isolated in a shelter after an atomic attack. Life must go on, without the help of a doctor. Babies will be born; disease must be minimized by good sanitation practices; the sick and injured must be treated; babies and small children must be cared for under the most difficult conditions.

The medical self-help course is designed to provide the knowledge required to cope with these emergency situations.

The medical self-help course was developed by the Public Health Service, in cooperation with the Office of Civil Defense. Requiring sixteen hours, the course includes all of the subjects taught in the old basic first aid course. Additionally, there are disaster-oriented subjects which include radioactive fallout, shelter survival, care of sick and injured, infant and child care, and emergency childbirth.

An intensive medical self-help training program is now being conducted at the Center. Over a hundred employees already have been trained, with an additional 200 slated for training in the future. Eventually, 10 per cent of the employees in each Aeronautical Center organization will be qualified in medical self-help.

The faint-of-heart were given a chance to excuse themselves from the movie on emergency childbirth. Interestingly enough, attendance was exceptionally good and included many "sneak-ins" who weren't enrolled in the course—all women.

Only one fainted.

Operations at towers reached a record high of 47.9 million in FY 1967—16 percent over last year.

Governor Likes Atlanta Airport 'Reliever' Plans

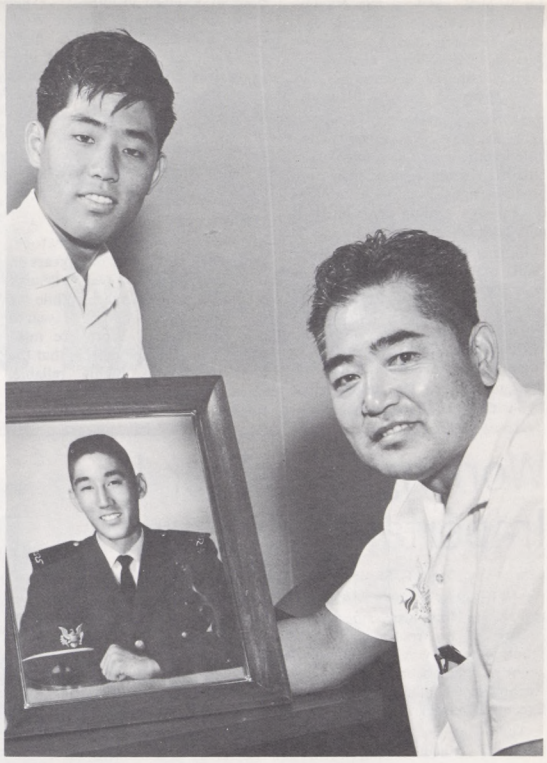
ATLANTA—FAA Airport Engineers Robert Brown and James Sheppard have completed a plat of a proposed new general aviation airport for Douglas County, Georgia.

The new VFR airport would be less than one-half mile from an interchange on U. S. Interstate Highway I-20, some 25 miles west of Fulton County Airport in Atlanta. It would serve the needs of that area plus act as a reliever airport for the west side of metropolitan Atlanta.

Under plans recently presented to Governor Lester Maddox, the airport would boast a 4,000-foot paved and lighted runway, plus stub taxiway and apron.

After hearing a presentation from Brown and Sheppard, the Governor agreed on the need for the airport and stressed his awareness of aviation's importance to the economic, social, and cultural development of Georgia.

During his first year in office, Governor Maddox approved a bill which will make available almost $1 million in state aid for airport development in Georgia.



Proud Pop

Having a son in the U. S. Air Force Academy is reason enough to pop a button off your shirt. However, Honolulu Center's Herbert Kumabe recently popped two buttons upon getting word that Number Two son Brad (left) has been appointed to the Academy, Class of '71. Brad's brother, Bert, (in portrait) begins his third year this fall. It seems that Kumabe's sons are following in the aviation footsteps of their father as we hear so many sons and daughters of FAAers are doing.

Data Strips

Janice Bargsley, a summer employee at the Fort Worth Center, explains the use of flight data strips to Transportation Under Secretary Everett Hutchinson. In center is Southwest Regional Director Henry L. Newman.

Two Oregon FAAers Save Driver In Auto Crash

MEDFORD, Ore.—Two FAA employees have been recognized by the Medford Safety Council for their efforts in helping to save a life.

The Council recently presented plaques to Maurice D. Harvester and Gilbert J. Thiel, both of the Medford combined station/tower.

Harvester and Thiel, returning from a fishing trip late one evening, noticed another car traveling by them at high speed near Ashland airport. The road is extremely crooked, and when they heard a loud crash, they went back to investigate.

They found the vehicle had failed to negotiate a turn, had plunged over a steep embankment and had sailed through the air more then 40 feet, coming to rest on its top in a creek. The night was very dark as the two men made their way 60 feet down the canyon to the car.

The lone occupant, a 22-year-old construction worker, was suspended in the vehicle by his seat belt. They freed him and covered him with their own T-shirts and jackets.

Harvester stayed with the injured man while Thiel went to summon state police. Both men then helped carry the injured man to the ambulance.

The driver has since recovered from his serious injuries. He undoubtedly owes his life to a fastened seat belt and the prompt efforts of the two FAA men.

Outstanding

Among those listed in the 1967 edition of the book "Outstanding Young Men of America" is Russell Mueller, an air traffic instructor at the FAA Academy. Mueller was cited for his work with the Cheektowaga Chapter of the Junior Chamber of Commerce while a controller at the Buffalo, N.Y., tower. The Jaycees annually select some 10,000 young men of outstanding rank for inclusion in the publication.

Waveguide Glide Slope At LaGuardia Is First

NEW YORK—LaGuardia Airport became the first airport in the United States to be equipped with the Waveguide Glide Slope (WGS) when this unique navigational facility was dedicated here recently.

Speaking for the FAA at the dedication ceremony were Alexander Winick, chief of the Navigation Development Division, Systems Research and Development Service, and Wayne Hendershot, Deputy Director, Eastern Region.

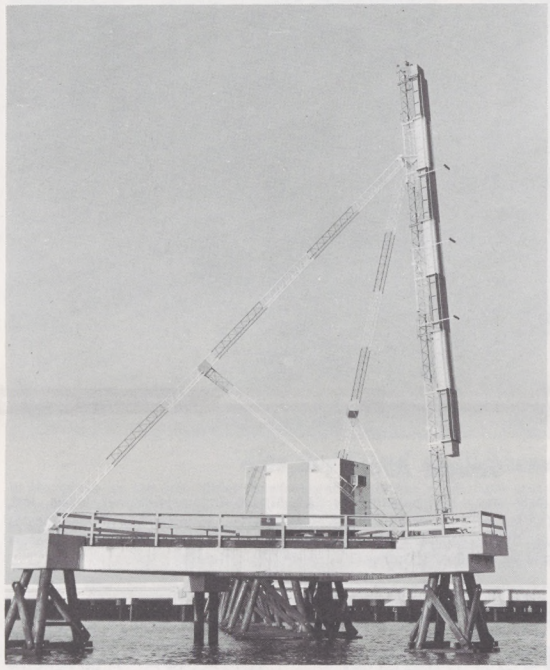
The Waveguide Glide Slope, used for approaches to LaGuardia's Runway 22, provides precision vertical guidance to inbound aircraft and allows instrument approaches under weather conditions of 200-foot ceiling and one-half mile visibility, or higher.

Eastern Region plans call for a similar facility to serve LaGuardia's Runway 13 as soon as that runway's lengthening project has been completed.

Hendershot hailed the facility as "a noteworthy contribution to aviation progress." He added that "with the public's increasing enchantment with air travel must come a constant improvement in our ability to make flying even more efficient and attractive. This facility is a forward step in that direction, in that it minimizes the problems and delays encountered with approaches made during periods of reduced visibility."

Before being installed, the WGS was put through extensive flight tests by FAA pilots. The test program was conducted at two sites on Long Island. The theoretical superiority of the waveguide antenna for transmission over tidal waters—such as those located at the end of LaGuardia's Runway 22—was confirmed through numerous flights.

The WGS, developed by Airborne Instruments Laboratory, Deer Park, L.I., was four years in the making. However, Winick pointed out in his talk, "While we must be imaginative in our research and development efforts we must at the same time be certain that the final product is highly reliable, since lives depend on its operation."



Better Glide Slope

A new antenna system installed at LaGuardia Airport improves the instrument landing system and has saved over $1½ million in runway rebuilding. The installation is mounted about 3° from the perpendicular. This aims the two radiated lobes from the antenna at the necessary glide slope angle, and simultaneous radiation produces a null reference-beam pattern by which a pilot steers his plane.

Handicapper

William Shelton, Jr., Chief, Placement Branch of Personnel and Training, and coordinator of the handicapped program at the Aeronautical Center, right, receives congratulations from Congressman Carl Albert, Majority Leader of the U. S. House of Representatives, for having received a Presidential Citation for employment of the handicapped, and especially the mentally retarded, at the FAA Aeronautical Center.

Working Together Is Important, VP Says

By Frank E. Smith

ANCHORAGE—Vice-President Hubert H. Humphrey, stopping in Alaska on his return trip from Seoul, Korea, was the guest of honor at a luncheon hosted by the Anchorage Chapter of the Federal Executive Association.

Addressing the group, the Vice-President called for "continued teamwork and cohesiveness in the administration of all federal programs in Alaska.

"We must bring all of the resources and skills of the many federal programs to bear on Alaska's problems," he said, "and we must have continuing cooperation of municipal, state, and federal agencies of government as well as participation of the private sector of the economy in identifying our problems and working out their solutions."

Director George M. Gary, who is president of the Anchorage Chapter of FEA, said, "We are working closely to provide for this type of unified approach to the many problems facing Alaskans."

Master of ceremonies was Joseph FitzGerald, head of development planning in Alaska. The Vice-President was introduced by Alaska's Senator Ernest Gruening.

The Vice-President also visited Seward and went on to Alaska's Centennial Exposition in Fairbanks.

$park Plug

Jack Sparke, specialist at the Fresno, Calif., FSS, and his two sons turned out for the recent Clovis, Calif., rodeo parade. Sparke donated an Appaloosa horse to the American Red Cross, which awarded the animal in a drawing, netting about $1,000. The Sparkes breed and sell the ponies on their Highland Glen Ranch. From left to right are: Charles, Jack, an unidentified neighbor and Bill Sparke.

200 Years in a Night!

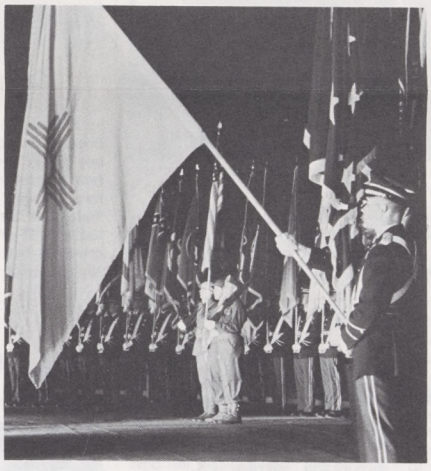
...Our Glorious Past Retold

As night falls, Administrator William F. McKee hears echoes of a nation's founding, flanked by a soldier in Revolutionary War uniform at ceremonies in which the U.S. Army paid tribute to FAA and its employees. The soldier played the role of Gen. George Washington in the colorful pageant.

Drummers of the 3d Infantry ("The Old Guard") roll their drums rhythmically at the Wednesday evening ceremonies of "Torchlight Tattoo," spotlighting FAA's contribution to safety.

General George Washington (left), of Mt. Vernon and Thomas Jefferson, of Monticello, arrive at the latter's Memorial for the night of pageantry recreating our democracy's birth and recounting military times of crisis in the decades following.

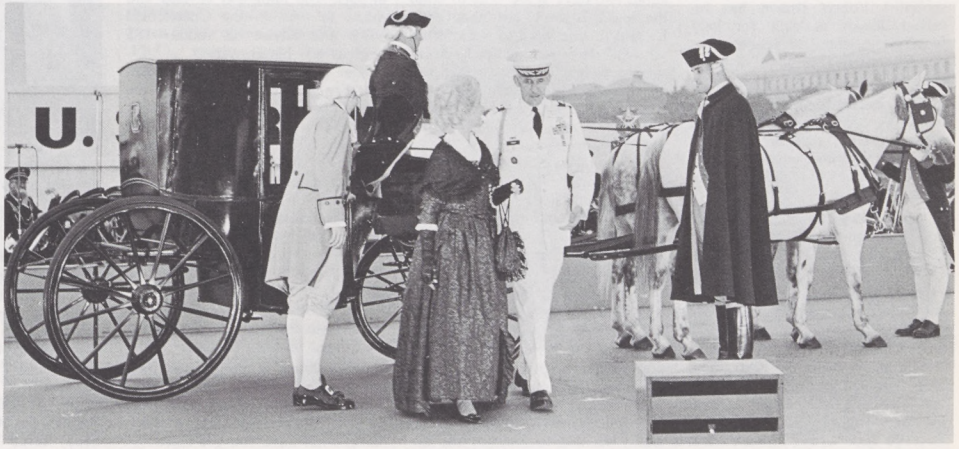
At twilight on July 5th, a magnificent sunset darkening into starry night, ceremonial and security troops of the U. S. Army gathered by the Jefferson Memorial. Their mission: a picturesque program of pageantry bridging revolutionary times and today, in tribute to all FAA employees. At the last drum roll and salute, a dazzling array of fireworks blazed in the sky from the Washington Monument nearby — a fitting climax to your night, and honor to all who assure the nation's lead in world aviation.



With doughboys and G.I.s of previous conflicts holding the Stars and Stripes, fifty flag bearers from "The Old Guard's" crack modern troops take their turns dipping each state flag in order of the state's entry into the Union.

Yankee Doodle comes to town. As red coats and buckle shoes show, they came this time without the pony. With fife and drum, the large crowd at the "Tattoo" was stirred to memories of our brave forefathers.

From tricorn hats to shaved crew cuts in an evening spectacle . . . as today's heritage protectors, in dress blues rapidly swap bayonetted rifles in a thrilling drill ceremony.



While the Father Of His Country stands by with dignity, the gracious "Martha Washington" is escorted from her carriage by Col. Joseph B. Conny, Jr., Commanding Officer of "The Old Guard." The First Lady took her place on this warm summer night to honor a deserving agency by torchlight.

Reading Air Show Draws Record Crowd And Traffic

READING, Pa.—The world's busiest airport for three-days last month was the Gen. Carl A. Spaatz Airport here.

Almost 7,300 aircraft operations were crammed into this year's 18th Annual Reading Air Show. An estimated 50,000 people turned out for the largest air show devoted exclusively to private flying.

On June 9th, aircraft operations handled by the Reading tower totaled 3,123. This exceeded the combined total of Chicago's O'Hare Airport and New York's Kennedy International on their busiest days.

To cope with this tremendous air activity, the Reading tower staff was augmented by six controllers from other nearby facilities. The six additions on duty June 8-10 were William Brill and Donald Schlegel, Harrisburg tower; John Cianci, Philadelphia tower; Eugene McCarthy, Long Island MacArthur tower; Frank Shappele, Wilkes-Barre tower; and Marvin Snoddy, Allentown combined station/tower.

Reading tower personnel on duty in the cab included Morris Slatter, Charles Guensch, Harry Hillman, Ira Ludwig, B. James McClintock, Stanley Pietrowski, Edward Podpara, Julius Smilko and tower chief Marvin Bortz.

Despite the huge volume of aircraft operations handled, no incidents or accountable delays were experienced. Jack Corliss of the New York Area Office's Air Traffic Branch, who oversees Reading tower operations, called this "truly remarkable."

Also detailed to air show duty were seven specialists from the Harrisburg Flight Service Station. In this group were FSS chief Patrick Duggan, Harold Kramer, Thomas Maloney, John Calclaser, James Lee, Vity Giavauskas, and John Horan. They did a yeoman job in giving weather briefs and providing flight planning services for the hordes of general aviation pilots who descended on the Reading airport to inspect and drool over the newest in aircraft and aircraft equipment.

Also contributing to the success of the air show were the technicians of AFS-167, led by sector chief Harry Hackerty. They provided temporary additional communications frequencies, ATIS on localizer voice, and several radio-equipped vehicles to assist the tower with mass departures. Hackerty's hard-working helpmates were Lester Eyler, Robert Kleinhagen, Otto Kosa and Ronald Swartz.

FAA participation in the air show also included addresses by Robert V. Reynolds, Assistant Administrator for General Aviation Affairs, and Eastern Region Director Oscar Bakke. The agency's new all-weather landing system exhibit was on display and attracted much attention.

Really Big Show

On the second day of last month's three-day Reading Air Show the tower handled 3,123 aircraft operations, exceeding the combined total of the nation's two busiest airports for a like period. Static displays included the gaggle of Mooneys and Aero-Commanders in the foreground at left. Activity of the largest such show for private flying proved no problem to FAA controllers (left to right) Marvin Snoddy, Julius Smilko and William Brill, seen in the tower cab.

Test New Truck

Firemen at NAFEC near Atlantic City try out the fire hose on a new aerial maintenance and fire protection tower truck. From 70 feet high, the stream of water reaches 320 feet. The truck's four outriggers prevent tipping when the boom is raised.

Boston Beauty

Janice Duffina was selected recently by the Boston Area Club as "Miss Boston Area 1967." Janice, a secretary in the Area Office, was chosen from a score of aspirants throughout New England and upper New York State. Just turned 20, hazel-eyed Janice is 5' 1" and her goal is "to become the best possible wife, mother and citizen."

Radar Weather Device Reduces RBDE Clutter

ATLANTIC CITY—A low-cost device which contours weather clutter detected by primary radars has been developed at the National Aviation Facilities Experimental Center.

According to Anthony D. Bradley, who managed the project, the contouring device would be used in air route traffic control centers at high-altitude controller positions where targets are displayed principally by the radar beacon system.

The new item is a modification to existing radar bright displays and reduces the amount of clutter, as it eliminates the controller's need to view the normal video or the moving target indicator video of the primary radar during thunderstorm activity.

Bradley said that tests showed the device gives improved weather displays. The change to existing RBDE-4 & 5 scan converters could be made with minor modifications and at minimum cost.

He Made It From Odds And Ends

Plotting Board Gives Instant 'Fix'

FLORENCE, S. C.—"Florence . . . This is Nan 3764 Fox Trot . . . VFR . . . I'm somewhere south of Florence . . . low on fuel . . . request airport advisory service . . ."

During his five years at the Florence Flight Service Station, specialist Robert Brown has received dozens of calls for help from pilots who had become lost or otherwise found themselves caught in an emergency situation.

Experience has proven that the basic ingredients of a successful flight assist are a calm, reassuring manner, the utmost speed and absolute accuracy in flight service advice to pilots.

With these thoughts in mind, Brown designed and custom-built a DF Plotting Board to use in conjunction with FAA's Doppler Direction Finder (DF) equipment at Florence FSS. Brown's plotting board, a reasonably uncomplicated device, is nonetheless ingenious.

The board has a 30" x 30" map area mounted on a box-like base and equipped with rollers. Circular clear plastic protractors are fastened with screws at each VOR and DF location on the map, and small holes are drilled in the centers. Weighted strings are passed through the holes and attached to the map pins. When not in use, the weight pulls the string out of the way. The map pin rests in the hole.

Brown relates that it took him about two days' spare time to build the board. It would cost about $20, he said, if one were to start "from scratch." However, a quick inventory of a few basements would provide most of the odds and ends needed: lead sinkers, fishing line, plywood scraps, and nails, with little cost involved.

Brown offered one word of caution, however . . . "Beware of mashed fingers!" He admitted his own building enthusiasm cost him a mashed thumbnail, and it took him about 5 months, 2 weeks, and 3 days to grow a new one.

Use of the DF plotting board is relatively simple. For instance: An aircraft was cleared for an instrument approach to Florence Airport. When the pilot reported from 10 miles south that he was leaving 3,000 feet, he was barely audible.

Suspecting trouble, the FS specialist decided to monitor the aircraft DF. A short time later, the pilot reported over the Florence VOR, 3.7 miles *northeast* of the airport and cancelled IFR.

A DF bearing taken during his radio transmission indicated his reported position to be in error—that he was actually *southwest* of the airport. The pilot was advised and asked to tune in the Chesterfield VOR and advise his radial—185 degrees was his answer.

The FS specialist simply pulled the map pin and string out of the center of the circular protractor centered over the Chesterfield VOR and aligned it with the 185-degree radial.

Another string was pulled from the center of the station protractor, aligned with the DF bearing. Within seconds, the strings were crossed, pinpointing the actual location of the pilot—*42 miles southwest* of Florence.

The pilot was advised, then given steers into Florence Airport where he landed with no trouble.

The almost instantaneous location of lost aircraft by the Florence FS specialists has prompted such remarks from pilots as "Florence, what have you got there . . . radar . . . or X-ray vision, maybe?"

DF From Scrap

Receiving a call for help from a lost pilot in the Florence, S.C., area, Flight Service Specialist Robert Brown quickly plots the Doppler Direction Finder (DF) bearing and the pilot's reported VOR radial bearing on his new, homemade, DF plotting board. In seconds, he radios his exact location to the lost pilot. With this device and continuous 'steers' from Brown, the pilot is able to land safely. Brown credits the use of the board, in conjunction with FAA's Doppler DF at Florence, with 30 recent "saves" involving a hundred lives.

Engineers Are FAA 'Go-Go' Guys

LOS ANGELES—"We're known around here as the "pack-your-bag-bunch," Charles Blomer said one morning at 10:00. He had just learned that he would be jetting to Liberia, West Africa, on an 8:00 plane that evening.

Blomer is on the staff of Western Region's Aircraft Engineering Division whose personnel are a most itinerant bunch, indeed. Theirs is an instant global responsibility, to scurry to the scene of accidents or incidents anywhere in the world that involve aircraft certificated by FAA's Western Region.

Other wayfarers in the group—most of whom are given annual worldwide travel orders—include J. K. Bussey of AED's airframe branch, who was a member of the investigation team at the crash site of Mt. Fujiyama, Japan; and W. B. Spelman, head of the systems and equipment branch, who recently returned from Brazil.

Aviation Safety Report Says

Non-professional Pilots Need More Upgrading

Aircraft flown by pilots lacking professional ability present the greatest threat to aviation safety, according to the 17th Annual Survey of Research Projects in the Field of Aviation Safety made by the Cornell-Guggenheim Aviation Safety Center.

Fatalities involving general aviation aircraft in 1966 in the United States totaled 1,069, as against a loss of 59 passengers by scheduled domestic airlines, the Center notes.

Observing that some 30 per cent of fatal accidents in general aviation result from loss of control in instrument weather, the Center calls for more stable and controllable aircraft by improving design and installing devices for better stability as original equipment.

"It is apparently futile to try to persuade the majority of pilots to secure and maintain instrument proficiency, although the trend is happily growing," the survey says. The Center nevertheless calls for improved pilot training and educational programs.

Civil Aeronautics Board figures for 1966 indicate that an estimated 96,000 general aviation aircraft were involved in 5,425 accidents, of which 538 resulted in fatalities.

The survey notes nine other "most important areas" for further action in aviation safety research and practice.

1. *Airport and Navigational Aids:* Provide navigational and landing aids at inadequately equipped airports, including funds for maintenance and retention of trained personnel.

2. *Approach and Landing:* Concentrate efforts in this area through improved training, modern lighting and electronic aids, review of techniques, and more attention to limiting human factors.

3. *Learning Curve:* Review certification procedures and operational techniques of new second generation aircraft, to determine the reason for repetition of high accident rates as compared with favorable experience with older aircraft. Combat complacency.

4. *Emergency Evacuation:* Incorporate available information in design and operating procedures. Use systems analyses to include factors affecting survival with larger passenger loads and congested seating arrangements.

5. *Crash Fire Protection:* Utilize latest developments on fire suppression, fuel containment, and "on board" fire protection. Intensify development of modified fuels which do not burn explosively.

6. *Weather Information:* Improve accuracy and accelerate distribution of weather data, particularly on airport visibility, wind shear, and turbulence data.

7. *Structural and Component Problems:* Continue research to obtain data on strength of turbulence for design purposes. Develop means to detect incipient metal fatigue.

8. *Collision Avoidance:* Concentrate on testing and installation of pilot warning devices and collision avoidance systems.

9. *Human Factors:* Make greater use of known human factors data. Utilize systems analysis to incorporate the human factors that affect all phases of aircraft design and operation. More research in human capacity limits and personality factors are required.

The survey lists over 600 current research projects in the United States and abroad, including several hundred new projects.

The Cornell-Guggenheim Aviation Safety Center was established in 1950 to foster improvement of aviation safety through research, education, training and dissemination of safety studies in the industry and of air safety information to the general public. Its ultimate objective is to make flying the safest form of transportation.

Small, Baffling Problem Solved

ATLANTIC CITY—A troublesome problem encountered by traffic controllers at the New York Center at MacArthur Field, L.I., was solved recently by two at NAFEC.

The problem was a ripple that moved or stayed stationary on the TV screen of RBDE-5 displays, interfering with the radar picture.

Investigations made by Floyd B. Woodson and Leo J. Wapelhorst showed that it was caused by AC interference.

The two men found that the ripple, called "swimming," could be reduced to a negligible amount by improving the bond between the "H" ground and the chassis ground. Although the solution sounds simple, the condition had baffled maintenance experts for some time.

Weather Kit Devoured By NAFEC Jet

ATLANTIC CITY—The effect of ingesting a small package of meteorological instruments in an aircraft jet engine was investigated recently at the National Aviation Facilities Experimental Center, near here.

The instruments were introduced into a surplus J-47 engine as it was operating to see what would happen if a plane accidentally ran into a weather observation balloon in flight.

Damage was minimal and had little effect on the performance of the engine.

Donald M. Miller conducted the test, assisted by Gerald F. Walter, James H. Dailey, Maurice B. Dungan and John J. Collins.

Instrument Gobbler

This release mechanism was used on a recent NAFEC test investigating what would happen if a B-47 bomber's turbojet engine were to run into a weather observation balloon in flight. The small package of instruments did minimal damage and had little effect on engine performance.

Historians Three

Looking over a Historical Fact Book they produced which covers 37 years of FAA history are (left to right): Dr. Nick A. Komons, Dr. Ellmore (Ed) A. Champie and Dr. Arnold E. Briddon. In front of Dr. Briddon, who set up the Historian's Office in 1960, are annual reports the group has compiled. One for Fiscal 1966 was published recently.

Agency Office of Historian Staffed Entirely By 'Doctors'

FAA's role in aviation history is in scholarly hands. Three men, with 10 degrees and 8 languages among them, form the only office in FAA—the Historian's Office—staffed entirely by Ph. D.'s.

The office is headed by Dr. Arnold E. Briddon. His two Doctor of Philosophy associates are Ellmore ("Ed") A. Champie and Nick A. Komons.

Their work includes preparing not only a history of FAA but also an account of the Federal role in aeronautics. In addition to working on a comprehensive history, they produce historical monographs and reference materials such as the *FAA Historical Fact Book,* which was published last year; prepare the *Administrator's Annual Report;* and work with the National Aeronautics and Space Council on the President's yearly report to the Congress.

The historians are frequently called upon to do staff support studies. "Our contribution to management is to provide the historical dimension for the decision-making process," says Dr. Briddon, whose responsibility it was to set up the Historian's Office back in 1960. And the doctor brings a high level of experience and competence to the job.

He received a liberal arts degree from Syracuse University in 1940, his master's from the University of Rochester, a licentiate (a degree given in European universities) and Ph.D., magna cum laude, from the University of Brussels.

He wrote his doctoral dissertation in French on the public career of Henry Sanford, U. S. Minister to Belgium during the American Civil War and who helped King Leopold II develop the Belgian Congo.

After returning to the U. S., he taught school for a time; then joined the faculty of the U. S. Army Engineer School at Fort Belvoir, Va. Before coming to FAA in 1960, he spent three and a half years as a senior historian for the Joint Chiefs of Staff.

Dr. Briddon was a "ground pounder" in World War II, but later transferred to the Air Force Reserve. For the past 14 years he has served with the Air National Guard, being recalled to active duty and winning the Air Force Commendation Medal during the 1961-1962 Berlin crisis.

He is currently a colonel and Director of Materiel for the 113th Tactical Fighter Wing, an F-100 outfit based at Andrews AFB but with fighter groups in New York, Maryland, and D. C.

A private pilot, Dr. Briddon is a charter member of the FAA Flying Club.

"Voltaire, Fossils, and the World Machine" is the title of the dissertation that won Dr. Champie his Ph.D. from Harvard last March. He had received his B.A., summa cum laude, and M.A. from the University of Texas in 1947 and 1948, respectively, and in 1950 had completed all requirements for the Ph.D. at Harvard except the dissertation.

The illness of his wife, who was hospitalized for many years before her death in 1962, slowed his work on his dissertation. Besides working for a living, he had to be both father and mother to two children who are now teenagers.

Dr. Champie was an archivist at the National Archives for three years, a historian for the Marine Corps for a year, and a historian for the Joint Chiefs of Staff for five years—part of that time with Dr. Briddon—before coming to FAA in 1961. He was an administrative officer in the Air Corps in World War II.

The third member of the brain trust, Dr. Komons, joined the agency last October. He was born in Greece and emigrated to this country as a child. He completed studies for his bachelor's degree at Marshall University in Huntington, W. Va., in 1951. He received both his Master's and Ph.D. from George Washington University. His subject was politics, and his dissertation was written on reform politics in Chicago at the turn of the century.

While still a candidate for the Ph.D., Komons served two years as a research assistant.

Winged Retirees

Three former FAAers whose service totaled 60 years are currently associated with the National Aviation Academy, a flight school at St. Petersburg, Fla. They are (left to right) D. M. (Tommy) Thompson, Odell Garrison and Tom Mills. Garrison claims to be the only flight instructor on the Medicare membership rolls.

Videocorder Tried Out As Safety Education Aid

(Continued from pg. 1)

ertheless is scoring high among those who have seen it work.

Its trade name is "Videocorder." The complete kit comprises a small camera, portable video/audio tape recorder, and TV screens that are available in different sizes—ranging from eight to 22 inches—depending upon the number of people who will be watching it.

Whether in Fort Worth, Kansas City, Oklahoma City, Chicago or Atlanta, wherever a group gathered to find out how Videocorder equipment could be used in presenting safety education programs better, all rated the system ideal for use as a training aid. This handy new visual tool was used at a recent revalidation course held at Callaway Gardens, near Atlanta. Some 130 flight instructors listened to experts from FAA, Ohio State University, and the Aircraft Owners and Pilots Association endeavoring to improve the instructors' skill as teachers. Discussion ranged from specific "nuts and bolts" topics on local flying problems to how to be a better teacher of aerodynamics to the desirability of integrated training (use of instruments at the beginning of training).

Tapes Can Be Mailed Worldwide

"By capturing presentations of these experts at gatherings such as Callaway Gardens," explained Roy F. Morris, Flight Standards Service, who is in charge of investigating Videocorder possibilities, "we can consider shipping out reproduction tapes of their best thinking, diagrams and demonstrations for up to 500-600 replays, anywhere in the world."

To equip each region with a basic capability to participate in this visual network would run, in round figures, in the neighborhood of $1,500. Basic cost of a tape running 10 minutes is under $10; a half-hour costs $21.95, and an hour tape is about $40.

The equipment is seen as not a competitor to 16mm movies, since neither detailed scripting nor professional acting is used. The average size of FAA field safety meetings is approximately 30 people. With the eight-inch screen Videocorder, taped presentations can be shown to small groups of up to 15 people, or a larger 22-inch screen monitor is available for from 50 to 60 people. Movies, of course, can be shown to much larger audiences, and require detailed preparation and often many changes of location to tell the story.

It is felt that while not as high in quality as motion pictures and in reality a different tool, the Videocorder is superior in presentation to the written page, charts, slides, the overhead projector or other static media.

"If a speaker at a meeting uses words alone, three days later his listeners will recall 10 per cent," Mr. Morris explained. "Add something visual, and the audience will have 65 per cent recall after three days."

A big potential for using taped presentations is as an aid in revalidating 40,000 flight instructors every two years. A dozen men on the FAA Academy teams, or the General Aviation District Offices, may be unable to handle the workload of some 12,000 renewals each year. The Videocorder could bring team presentations into regions where area office personnel would answer questions at the lectures.

Cost of reproducing an hour's presentation on tape in worthwhile quantity runs about one-fourth the cost of a 16mm color motion picture print. When the presentation is obsolete the tape can be recalled, erased, and used again for up to 600 replays.

Potential uses may include instrumentation, lectures, maintenance presentations, accident investigation, briefings on new aircraft, and rules interpretation it might be most valuable. A number of uses may be found besides safety education and instructor revalidation. A partial list of applications would include: weather briefings, important speeches, flight delivery. A possibility is as an aid to solving a very real problem.

In two years there may be twice as may student pilots and half as many instructors as there now are.

Training Tool

At the close of one of the 3-day flight instructor revalidation sessions J. W. (Pete) Campbell (left) shows Ralph Nelson, head of AOPA's Flight Foundation, a play back of a speaker's presentation made earlier. Basic set-up of this new training tool is the Videocorder deck, TV monitor and a small tripod-mounted TV camera.

FAA Flying Club One Of Best

(Continued from pg. 1)

The club operates as a partnership, each member owning a share of the club aircraft. Originally, the club acquired a 4-place Stinson *Station Wagon* for its use, but the plane was destroyed by a South Dakota windstorm in the spring of 1966. Fortunately, insurance covered most of the loss.

The club then purchased a Cessna 140 and now owns its own hangar at the W. W. Howes municipal airport, not far from the flight service station here.

Membership in the club consists of all Huron flight service specialists and an electronics technician from the associated Airway Facilities Sector. However, membership is open to all FAA employees without restriction.

Flying experience of club members ranges from students to ex-bomber pilots.

Glenn Huset, a former B-29 pilot in World War II has well over 2,000 hours flying time but had to suffer the indignity of another solo and was required to take the private written exam.

Club instructor George Batchelder, who flew B-17s during W.W. II, treats all members alike. Beginner or ex-bomber pilot, they all get the same treatment.

Each club member is presented a key to the airplane following his or her first solo.

Favorite short trips are to the lakes in the area for a day of fishing or boating, to Minneapolis to see the Twins or Vikings play, or just a pleasure outing.

Longer trips include ones such as Don and Marge Valentine's flight to the Bahamas and several trips by Huron FSS Chief, I. W. Olson and his wife Kay, ranging from Canada to the Gulf of Mexico.

Chief Olson is an old hand at FAA/CAA flying clubs, having organized the INSAC Flying Club at Salina, Kansas, in 1952, and the Russell FAA Flying Club at Russell, Kansas, in 1961.

To a student, a flying club offers the opportunity to obtain a license at a fraction of the cost by any other means, and to the old professional, it is a way to keep his hand in the flying game at the lowest possible cost.

Army Salutes FAA In Twilight Tattoo

(Continued from pg. 1)

dipped by a color bearer.

A Fife and Drum Corps, dressed in brilliant red coats and white breeches of the Revolutionary period, marches to the Colonial cadence of 90 rather than 120 steps to the minute, playing old calls and tunes.

The U.S. Army Drill Team, in contemporary dress blues — their bayonets glistening in the semi-darkness—dazzles the crowd with its intricate marching steps and rifle-twirling routines.

Soldiers participating in the "Torchlight Tattoo" are members of the 3d Infantry ("The Old Guard"), the Army's oldest active unit. It was established in 1784 by the Continental Congress and first saw action under General "Mad Anthony" Wayne in 1794 at the battle of Fort Recovery. Since its first engagement, "The Old Guard" has flown its colors as far away as Germany, Iceland, Mexico and the Philippines.

In 1948 the unit was stationed at Fort Myer, Va., across the Potomac River from the Nation's capital. It is the Army's official ceremonial and security outfit for the Washington area. Members of "The Old Guard" guard the Tomb of the Unknowns in Arlington National Cemetery, serve as a personal escort to U.S. Presidents, conduct funerals at Arlington, and render honors to arriving and departing dignitaries.

Lockheed Tests Landing System

(Continued from pg. 1)

AWLS already has simulated more than 200 fully automatic "zero-zero" landings at Dobbins Air Force Base, near Atlanta. The second phase of this program is expected to begin this summer at FAA's National Aviation Facilities Experimental Center (NAFEC), Atlantic City, N.J. Two specially-equipped C-141s will be used simultaneously by Lockheed and FAA crews at NAFEC, in Atlantic City.

According to FAA and Lockheed test pilots, demonstrating approaches to FAA's Category II (100-foot ceiling and 1,200-foot visibility) requirement was no trouble.

Controls Landing All the Way

They said they did not have to take back control of the aircraft when it descended to an altitude of 100 feet. They just let the All-Weather Landing System take the plane all the way to the ground automatically.

FAA Southern region flight test pilots participating in these tests are Frank McGowan and J. O. Robinson.

The AWLS-equipped C-141 has landed automatically within five feet of the runway's center line during these tests and within 300 feet of the normal touchdown point on the runway. The aircraft flew at FAA's recommended approach speed, ranging from 125 to 155 m.p.h., its initial rate of descent being 700 feet-per-minute, slowing to 200 feet-per-minute at touchdown.

While a few commercial transports have been certificated for the 100-foot ceiling and 1,200-foot visibility landings, the C-141 has the most sophisticated and most complete All-Weather Landing System, because it has built-in capabilities for the "zero-zero" follow-on landing tests.

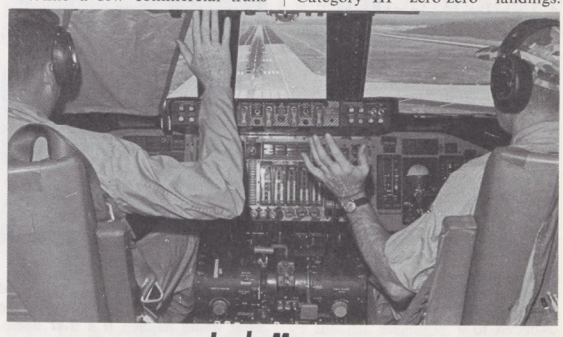
A 39-pound airborne computer coupled with the autopilot, heart of this new AWLS, has repeatedly demonstrated its ability to follow normal instrument landing (ILS) beams down to fully-automatic flareout and touchdown, including auto-throttle control, during test flights.

Zero-zero landing is the ultimate goal being sought by the United States, Great Britain, France and other nations.

Programs Aircraft's Path

The basic function of the AWLS is to program the aircraft's flight path, speed, angle of approach and attitude at various points in the approach and touchdown path. The system generates and provides necessary information either to the pilot, who then flies the proper path and speeds—or to the autopilot, which can land the plane automatically.

Upon satisfactory completion of landing tests at Dobbins Air Force Base, where Lockheed's manufacturing facility is located, and at NAFEC, the AWLS will become operational on the Air Force's global fleet of C-141s. Equally important is the fact that the C-141 AWLS is moving toward the goal of developing criteria for FAA's Category III "zero-zero" landings.



Look Ma . . .

Both hands in the air and off controls, test pilots let a computerized all-weather landing system automatically land their giant C-141 at Dobbins Air Force Base, Marietta, Georgia, near Atlanta.