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By Fred Farrar

ADs Prescribed for Aging Aircraft

The assistant manager of the Public & Employee Communications Division in the Office of Public Affairs, Mr. Farrar is a former Washington correspondent for the Chicago Tribune.

The Federal Aviation Administration has taken a major step toward ensuring the continued operational safety of aging aircraft by issuing proposed Airworthiness Directives (ADs) that would mandate extensive structural modifications to older Boeing 727s, 737s and 747s.

These are the first in a projected series of FAA Airworthiness Directives dealing with the safety of older aircraft designs.

The action marks a fundamental change in the agency's philosophy for maintaining the airworthiness of older aircraft. Historically, the agency has relied primarily on repetitive structural inspections to identify needed

repairs due to corrosion, cracking and other signs of metal fatigue. These inspections become more frequent and demanding as aircraft get older and approach their manufacturer's "economic design goal."

Under the new approach, the agency would require the airlines to make strengthening modifications to basic critical structures to prevent fatigue problems as aircraft reach their design life. In addition, some parts, such as landing gear, must be replaced after a specified number of flight hours or cycles.

The proposed ADs initially would affect 115 U.S.-registered Boeing aircraft—67 B-727s, 28 B-737s, and (Continued on page 8)



This high-time Aloha Airlines Boeing 737 lost an 18-foot section of its fuselage in April 1988, due to "significant disbonding" from the airline's failure to maintain and inspect the airplane properly. Looking over the damage are Joseph Nall (left) and Mike Benson of the National Transportation Safety Board.

Photo by Matthew Thayer, The Maui News

When America Became 'Air Conditioned'

One of the most ambitious and far-reaching aviation training programs ever conducted marks its fiftieth anniversary on June 27, 1989.

During its five-year span from 1939 to 1944, the Civil Aeronautics Administration's Civilian Pilot Training Program (CPTP) provided preliminary training for hundreds of thousands of civilian and military pilots, fostered the idea of "air age education" by helping to produce aviation-oriented textbooks and curriculum materials, provided pilot training for blacks, women and Latin

By Dominick A. Pisano

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Americans and developed scientific techniques for selecting and testing pilots.

Although the passage of half a century has distanced us from the CPTP, the program still appears a remarkable

accomplishment. Indeed, many believe it contributed materially in helping to win World War II.

The CPTP was the brainchild of Robert H. Hinckley. A native of Ogden, Utah, Hinckley had been a teacher, automobile dealer and state legislator. During the Great Depression, Hinckley organized the Civilian Conservation Corps (CCC) in Utah, served as the director of the Federal Emergency Relief Administration for seven western states and was western regional admin-

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FAA World

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As part of opening ceremonies, a rare stunt: an inverted glider cuts a ribbon across Lakeland's runway. In the foreground is an AT-6 World War II trainer.

It Happens Every Spring

By Roger Myers

"Ladies and gentlemen, it's airshow time!" With that announcement began the second largest fly-in in the nation. It's the Experimental Aircraft Association's annual Sun 'n Fun, held at the Lakeland, Fla., Municipal Airport April 9-15.

To start, the crowd of 90,000 sees a military fly-by, tucked close in flying a diamond formation, followed by free-fall parachutists trailing red, white and blue smoke and carrying an American flag to open the show.

Individual aerobatic pilots thrill the crowd with hammer-head stalls, outside loops, snap rolls, eight-point slow rolls, tail slides and other derring-do, and team flyers pirouette through complicated maneuvers.

More than 1,055 aircraft were registered to compete, including antiques and classics, along with 195 ultralights, 132 warbirds and 295 homebuilts. Yet, despite 226,000 visitors for the week arriving by air and ground transportation, there wasn't a single accident and only three incidents.

Such success just doesn't happen. In addition to skillful flying and a growing attention to safety on the part of show participants, the mostly unseen presence of FAA is consistently felt. FAA supports air shows and fly-ins and is always ready to help ensure the safety of spectators and performers.



The Flight Standards group of operation and maintenance inspectors and support personnel pose in front of FAA's restored DC-3 flight inspection aircraft, N-34.



The Lakeland temporary flight service station crew were all from the St. Petersburg, Fla., Automated Flight Service Station.

This year's air show coordinator was Gene Kirkendall, from the Orlando, Fla., Flight Standards District Office.



All pilots needed to visit the FSS, where air traffic specialists Jim George (standing) and Carl Misselndel served up briefings, which averaged over 800 daily.



Southern Region Administrator Garland Castleberry (right) greets DOT Secretary Samuel Skinner, who watched the air show and stayed over to address visitors at the forum tent the next day.



Air show coordinator Gene Kirkendall checks the license of aerobist Patti Wagstaff on the ramp parking area.



Tower manager Dave Vergason (left) and Steve Conklin of Airway Facilities check the tower's communications frequency.

With help from regional headquarters, the Orlando FSDO provided both operations and maintenance inspectors to check the papers of aircraft and airman and answer pilot queries.

The Airway Facilities team of four, headed by Dan Pesonen from the Tampa, Fla., sector, maintained the temporary tower's communications equipment at its two sites, as well as that of the temporary flight service station.

Ken Berkey from the St. Petersburg Automated Flight Service Station was in charge of the station set up at Lakeland in a trailer near the FAA forum tent.

This is a site where discussion topics of interest to pilots were offered by accident prevention specialists and regional and headquarters executives. The FSS averaged 828 briefings a day and provided 10,827 services for the week.

Dave Vergason, manager of the Sarasota, Fla., tower, as well as of the temporary tower at Sun 'n Fun for the past 12 years, assembled a crew of 19 controllers, three supervisors and a deputy manager from all around the region. The controllers rotated duty among the Lakeland tower, the Lake Parker remote staging point and the runways. The daily activity count averaged 3,350. John Duncan, Asheville, N.C., Tower,



Air traffic controllers were drawn from around the Southern Region. Here, on duty atop the building are (from the left) James Brinkley (partially hidden), Memphis, Tenn.; Wayne Farnby, Miami, Fla.; Karen Reed, Melbourne, Fla.; and, holding binoculars at right, David Johnston, Daytona Beach, Fla.

was selected as the year's Top Controller, and Ronald Littlejohn of the Hollywood, Fla., Tower was named Rookie of the Year.

A regular at such events the last few years has been FAA's restored DC-3, N-34, whose crew offered visitors aviation education materials and tours of the plane, along with a spin in a vertigon chair from Oklahoma City. ■



The crew of N-34 that brought the flying exhibit to Lakeland and provided aviation-education materials and tours of the historic aircraft.

The Southern Region's assistant public affairs officer and a former air traffic controller, Mr. Myers' stories have been published in newspapers and literary magazines.

Photos by Roger Myers

'Air Conditioned'

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istrator for the Works Progress Administration (WPA).

With all of his experience in administering economic programs, Hinckley was the quintessential New Dealer—activist, can-doer and experimenter. He had also gained valuable experience in aviation as co-owner of Utah-Pacific Airways, a fixed-base operation in Ogden.

In mid-1938, Pres. Franklin D. Roosevelt nominated Hinckley as one of the five members of the newly organized Civil Aeronautics Authority (CAA). Shortly after he took office in August, Hinckley conceived the idea of the Civilian Pilot Training Program, which was modeled broadly on New Deal economic and social programs. The CPTP was the primary manifestation of what Hinckley called "air conditioning"—the notion that American youth not only should but must be introduced to the new air age by learning to fly and by taking courses that would familiarize them with the emerging science of aeronautics.

As Hinckley saw it, the CPTP would give young people pilot training through colleges, universities, local fixed-base operators and flying schools certified by the CAA. The colleges and universities would provide ground instruction, the fixed-base operators and flying schools, flight instruction. Hinckley's dream was that while making American youth "air minded," the CPTP would also give a New Deal-style economic boost to the lightplane industry and provide a pool of civilian pilots that could be drawn upon in a wartime emergency.

The program was not without its difficulties. The Roosevelt administration's aviation policy was somewhat suspect among many in Congress, the military and the aviation industry. Although they had been consulted beforehand, the army and navy, both of which would be directly affected by the legislation, were suspicious that the CAA would have administrative control over the training of men who might eventually become military pilots.

To understand the problems that CPTP encountered, one needs to examine the administration's controversial



Women and blacks got their first official entry into aviation with the CPTP. With World War II, the program was oriented to training military pilots. Here, base commander James Ellison inspects some of his first cadets at Moton Army Air Field in Tuskegee, Ala.

stand on what it considered monopolistic practices in the aviation industry.

Disputes began in 1934 with the Black Committee hearings on airmail contracts. Chairman Hugo Black, a Democratic senator from Alabama, accused former Republican Postmaster General Walter Folger Brown of fostering collusive tactics among members of the airline industry by awarding two trans-continental airmail contracts without competitive bidding.

As a result of the hearings, President Roosevelt cancelled the existing airmail contracts. His action led to the so-called airmail emergency in which the Army Air Forces suffered a great deal of embarrassment and some loss of life in attempting to substitute for the civilian air mail carriers.

Criticism of that policy by Congress, the military and the industry continued through 1938. Even after passage of the Civil Aeronautics Act, which was intended to rationalize an often confusing civil aviation scene, criticism of FDR and his administration's aviation policy did not end.

In late December 1938, FDR had announced the establishment of an experimental CPTP that was to be given \$100,000 in National Youth Administration money to train 300 pilots in 13 colleges and universities around the country. On Jan. 12, 1939, in a message to Congress on national defense, he asked for a \$10 million appropriation for a full-scale CPTP.

Despite the way in which FDR had handled aviation policy and the strong



The CPTP was the idea of Robert H. Hinckley, a member and later chairman of the Civil Aeronautics Authority in 1938. Like Eugene Vidal before him, he wanted to give private aviation a shot in the arm.

isolationist sentiment in Congress, events in Europe were beginning to crystallize public opinion. In March 1939, while the CPTP bill was undergoing authorization hearings on Capitol Hill, the Munich crisis had arisen, the German army marched into Prague and Adolf Hitler partitioned the remainder of Czechoslovakia. Clearly, Europe was on

the brink of war, and the United States were being trained. The curriculum consisted of 10 hours of classroom work on the Civil Air Regulations and 35 hours each on navigation and meteorology. Flying training consisted of 35 to 50 hours of flight instruction—eight hours of dual instruction, nine hours of dual check time and 18 hours of solo flying. By Jan. 1, 1940, the CAA was making arrangements to begin training students on the basis of a competitive examination.

After six months of protracted legislative hearings and committee deliberations, the Civilian Pilot Training Act was signed into law on June 27 with an authorization of \$4 million.

By the end of 1939, the CPTP was progressing successfully: 9,350 men and women in 435 colleges and universities were being trained. The curriculum consisted of 10 hours of classroom work on the Civil Air Regulations and 35 hours each on navigation and meteorology. Flying training consisted of 35 to 50 hours of flight instruction—eight hours of dual instruction, nine hours of dual check time and 18 hours of solo flying. By Jan. 1, 1940, the CAA was making arrangements to begin training students on the basis of a competitive examination.

In June 1940, Hinckley announced that the CPTP would be expanded to train 45,000 beginning and 9,000 advanced pilots, an increase of 500 percent over the goals set the previous year. As a result of the program's success in its first year and the growing fear that the United States would eventually enter the war, Congress appropriated \$37 million for the program.

However, not even the early success of the CPTP nor its increased budget pleased everyone. An editorial in the Sept. 15, 1940, issue of *American Avia-*



Chief Alfred Anderson takes First Lady Eleanor Roosevelt for an impromptu ride in a Piper Cub at Tuskegee in 1941. Anderson was chief instructor for advanced training in the CPTP there. (Photo courtesy of Walter Smith)

tion charged that the enlarged CPTP had been "hastily prepared," that "instructors were insufficient in number" and that the limit on the number of flying hours permitted in a 24-hour period was "cheerfully ignored."

In February 1941, *Aero Digest* charged that FDR himself had criticized the CPTP as being a "failure from the standpoint of the Army and Navy." This charge subsequently led to revision of the CPTP to bring it more in line with Army Air Corps requirements, particularly for pilot instructors.

Despite the criticism and revision, the number of licensed pilots in the United States had increased from approximately 23,000 at the beginning of 1939 to 100,000 when the Japanese attacked Pearl Harbor, largely as a result of an intensified CPTP.

Although the CPTP had come increasingly under the influence of the military from early 1941, the official entry of the United States into World War II changed the nature of the program entirely. On Dec. 12, 1941, by Executive Order 8974, the President transformed the CPTP into a wartime program, called the War Training Service (WTS) in late 1942. All CAA civilian pilot training efforts were to be "exclusively devoted to the procurement and training of men for ultimate service as military pilots. . . ."

Although the Army Air Forces (AAF) had promised early in 1942 to increase its use of CPTP facilities, it continually changed its mind about what use should be made of the program and dragged its feet on implementing training quotas. (In contrast, the Navy made good use of



Among some of the more notable graduates from the Civilian Pilot Training Program were (top, left to right) Marine Lt. Colonel, Astronaut and Sen. John Glenn (D-Ohio); Marine Colonel, Medal of Honor winner and Governor Joe Foss of North Dakota, who shot down 26 enemy aircraft; and (above) Army Maj. Richard Bong, who downed 21 enemy aircraft. (USAF photo)

its CPTP graduates and viewed the program as a way of screening out those unsuited for naval aviation.)

The AAF's wavering attitude toward the CPTP/WTS can be characterized as part of a larger disagreement with the CAA as to who would control civil aviation in wartime. Assistant Secretary of War for Air Robert Lovett offered a compromise recommendation in July 1942 for maintaining "a nucleus of a CAA organization both for certain types of operation and for training." In direct response, AAF chief Gen. Henry H. "Hap" Arnold wrote: "The only sound solution, to my mind, is to transfer the CAA to the War Department for the duration." The situation was finally resolved in the CAA's favor, and the agency maintained its independence.

Despite Arnold's firmly held beliefs about the CPTP and air force control of

Meanwhile, Hinckley, who subsequently became Assistant Secretary of Commerce, left his CAA post in July 1942 and was replaced by William A.M. Burden, a former Wall Street aviation securities analyst.

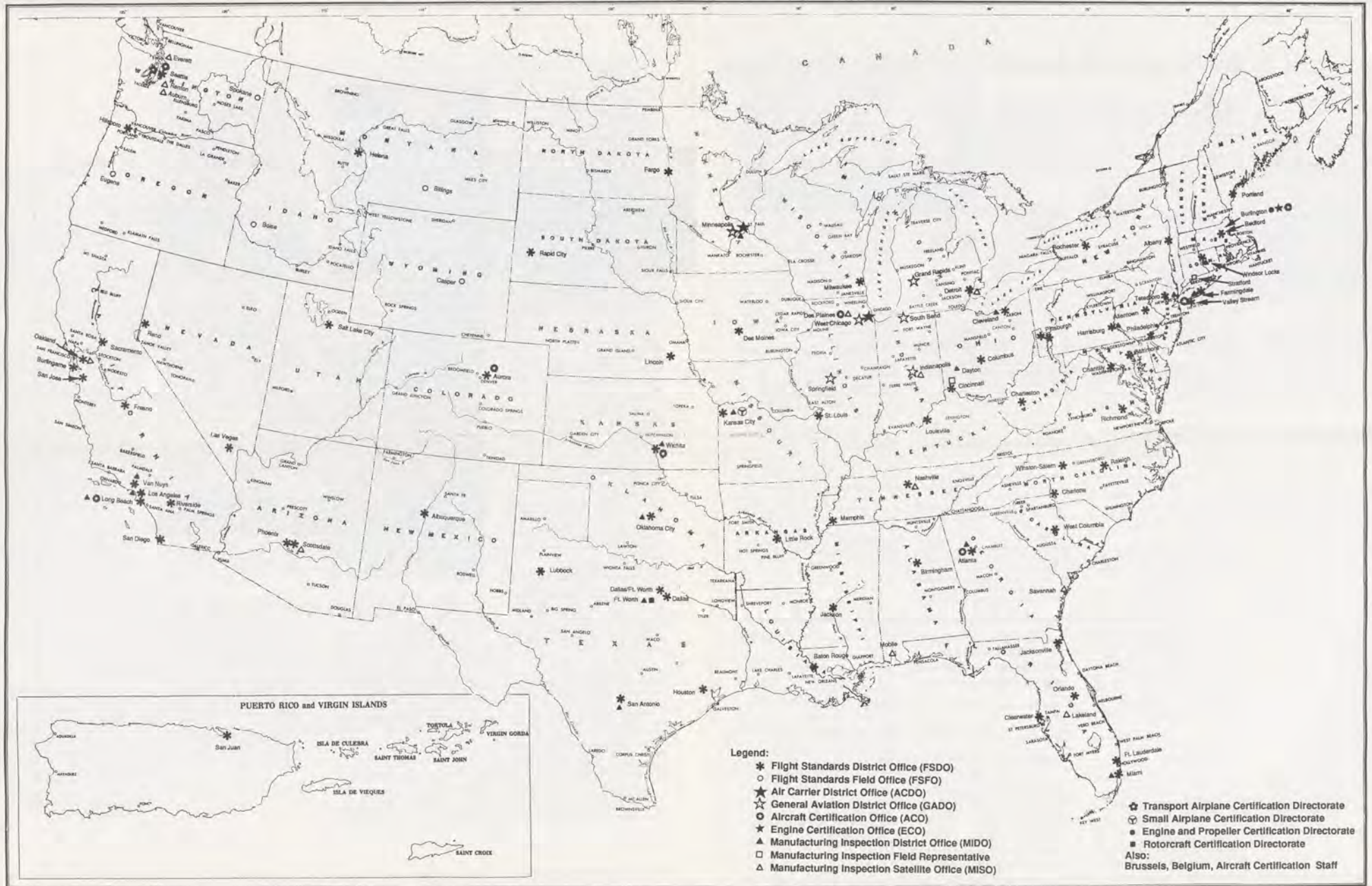
In January 1944, the AAF announced that all WTS flight instructor training was to be ended in a matter of days. The official AAF statement explained that the production rate of pilots within the air force's own system, in addition to the number of pilots returning from combat, was adequate to handle current needs. Gradually, the program wound down and by the middle of 1944, was completely eliminated.

In the midst of its death throes, Sen. Patrick McCarran of Nevada and Rep. Jennings Randolph of West Virginia, both strong advocates of aviation, attempted to prolong the life of the CPTP beyond its legally mandated expiration date of June 30, 1944. They hoped to revive the CPTP's prewar New Deal aviation goals of training civilian pilots and boosting private flying in the United States. The Senate and the House reached a compromise that extended the CPTP authorization for two years, but in fiscal 1946, when the CAA submitted an appropriations request of \$11.7 million for the program, the Bureau of the Budget rejected it.

Regardless of its troubles with the air force, the CPTP did accomplish a number of objectives. In addition to producing 435,165 pilots before and during World War II, the program was successful in other areas. In early 1942, during Robert Hinckley's tenure, the CPTP, along with the U.S. Office of Education and the Macmillan Company, was instrumental in producing textbooks that used aviation to teach a variety of subjects. The CPTP also successfully integrated blacks, women (until January 1942) and Latin Americans into the program.

Despite its obvious successes, the CPTP was continually caught between its New Deal goals to revive private flying and orient American youth to the burgeoning air age and the demands of the military. This conflict tended to fragment the program and make it less effective than it could have been. Nevertheless, the CPTP was a remarkably ambitious and productive attempt to train a cadre of civilian and military pilots on a mass scale—something that had never been done before and that has not been attempted since. ■

FLIGHT STANDARDS FIELD OFFICES



Jet Standards Evolve As Airline Fleet Ages

Aging Aircraft

(continued from page 1)

20 B-747s. The estimated cost for these 115 aircraft is \$142 million over a four-year period. Additional aircraft will be covered as they accumulate time-in-service and reach the threshold for modification. The affected aircraft are those that have passed their original economic design goal: the point where the manufacturer assumed they would be retired by the airlines for economic reasons. Specifically, those points are 20 years or 60,000 flights for the B-727, 20 years or 75,000 flights for the B-737 and 20 years or 20,000 flights for the B-747.

The issuance of the proposed ADs stems from a June 1988, FAA-sponsored international conference on aging aircraft in Washington, D.C. That, in turn, was the result of the April 1988 Aloha Airlines accident in which a Boeing 737 with almost 90,000 flights lost 18 feet of its fuselage in flight but managed a safe landing.

Following the conference, a joint government/industry task force was organized under the leadership of the Air Transport Association and the Aerospace Industries Association to develop a modification program for aging aircraft. The first of the task force's work groups reported on February 28, 1989, with recommendations for modifications of Boeing jets. The recommendations were translated into comprehensive service bulletins for each aircraft by Boeing and then reviewed carefully by FAA before the issuance of the ADs. FAA has played an active role in all of the task force activities since its initiation last fall.

The proposed B-727 Airworthiness Directive calls for 74 modifications to critical structures, the B-737 AD for 58 modifications and the B-747 AD for 29. For example, the B-727 AD includes 45 modifications to the fuselage, 12 to the wing, eight to the doors, seven to the tail assembly, one to the landing gear and one to the engine strut. The modifications involve such items as structural reinforcement/replacement of skins, stringers, bulkheads, frames, ribs, spars and other structural members.

A case in point is one of the items in the B-747 AD that mandates a major modification of the fuselage shell structure from the nose to the forward main passenger entry door (Section 41). It will require 14,000 man-hours per airplane. The completion of this modification will allow operators to terminate special inspections of this area, which

most American-made jets now in service around the world were certified by FAA using the "fail safe" design criteria. Adopted in 1956, the fail-safe concept specifies that aircraft be designed with sufficient load-bearing redundancy that failure of a principal structural element will not cause a catastrophic accident.

An example are the wings, which are cross-hatched with many structural members. If one of these elements fails and should go undetected for a time, the rest of the structure is capable of carrying the maximum loading expected in normal service.

In 1978, FAA adopted the "damage tolerance" concept for aircraft certification. It has been applied to all large aircraft certified after December 1978, the first of which were the Boeing 757 and 767.

Essentially, damage tolerance is a refinement of the fail-safe concept and is based on advances in fracture mechanics that enable engineers to estimate with great accuracy how fast a crack will grow under a given load. As a result, designers can set inspection intervals that will allow cracks to be detected and corrected before they become unsafe.

Under the damage-tolerance approach, FAA assumes that damage is going to occur to a part due to fatigue, corrosion or accidental damage. Therefore, the part must be designed to safely accommodate the damage until it can be corrected. In some cases where the damage-tolerance approach is not appropriate—in landing gear, for example—a specific life use is placed on the component.

The 1970s also saw FAA and industry gear up to deal with an aging aircraft fleet, as economic circumstances com-

bined to dictate the continued use of earlier jets beyond the useful life envisioned by their designers. The top priority was to develop a program for maintaining structural integrity to ensure the operational safety of older airplanes for as long as they continued flying.

The result was the Supplemental Structural Inspection Document (SSID) program. In essence, this program applied the damage-tolerance concept to the earlier jets certified under the fail-safe concept.

In developing the SSID program, it was necessary for the manufacturers to analyze the structure of their older airplanes using extensive computer analysis and laboratory testing. These efforts established principal structural elements that required additional recurring inspections as the aircraft aged.

The program was implemented in May 1981 by FAA Advisory Circular No. 91.56 ("Supplemental Structural Inspection Program for Large Transport Category Airplanes"). This was followed by a series of Airworthiness Directives which applied specific requirements to individual aircraft. Aircraft currently covered include Boeing 707/720s, 727s, 737s, 747s and McDonnell Douglas DC-8s and DC-9s.

In addition, the major aircraft manufacturers also have initiated internal programs to learn more about the aging process of their products. In some cases, they have repurchased high-time airplanes and subjected them to extensive fatigue testing to gather data on failure modes. For example, Boeing did this with a 737 and McDonnell Douglas with a DC-9.

Some manufacturers also make regular visits to airline maintenance bases when older airplanes are undergoing overhaul to determine how well they have withstood the operational demands of day-in/day-out service.

As a result of the International Aging

By John G. Leyden

A 25-year FAA veteran, Mr. Leyden is manager of the Public & Employee Communications Division, Office of Public Affairs.

Aircraft Conference in June 1988, which followed the April 1988 Aloha Airlines accident, FAA undertook a number of new initiatives, including:

- Beginning an "Aging Fleet Evaluation Program," in which teams of FAA inspectors monitor airline maintenance checks on older jets to evaluate the effectiveness of corrosion control programs, structural-inspection techniques and other maintenance efforts.

- Developing a comprehensive Research & Development program dealing with aging aircraft issues such as multi-site cracking, corrosion, proof-pressure testing, nondestructive-testing equipment, engine nondestructive evaluations and engine repair-practice evaluations.

- Beginning a program to develop in-house expertise in nondestructive testing and inspection technologies.

- Moving to establish Supplemental Structural Inspection Document programs for commuter airplanes in conjunction with the Regional Airline Association (RAA) and the General Aviation Manufacturers Association (GAMA).

Another result of the conference was the establishment of a government/industry task force to develop a modification program for older jets. In May 1988, FAA proposed the first in a series of Airworthiness Directives based on the work of this group. They covered the Boeing 727, 737 and 747. Still to come are ADs for McDonnell Douglas, Airbus, Lockheed and other transport aircraft. ■



Undaunted by the foul weather that the new system is designed to handle well, New England Regional Administrator Arlene Feldman, New Hampshire Gov. Judd Gregg (left) and Lebanon Mayor Philip Mans cut a ribbon to commission the first federal microwave landing system in the country.

(Photo by Mike Cusack)

First Commercial MLS Bows

The first federally funded microwave landing system (MLS) at a commercial airport was commissioned at the Lebanon, N.H., Municipal Airport on April 6.

A future standard for airports around the world, MLS will provide precise landing guidance under a full range of operational requirements for all types of aircraft in all weather conditions, bringing increased airport capacity and improved noise abatement.

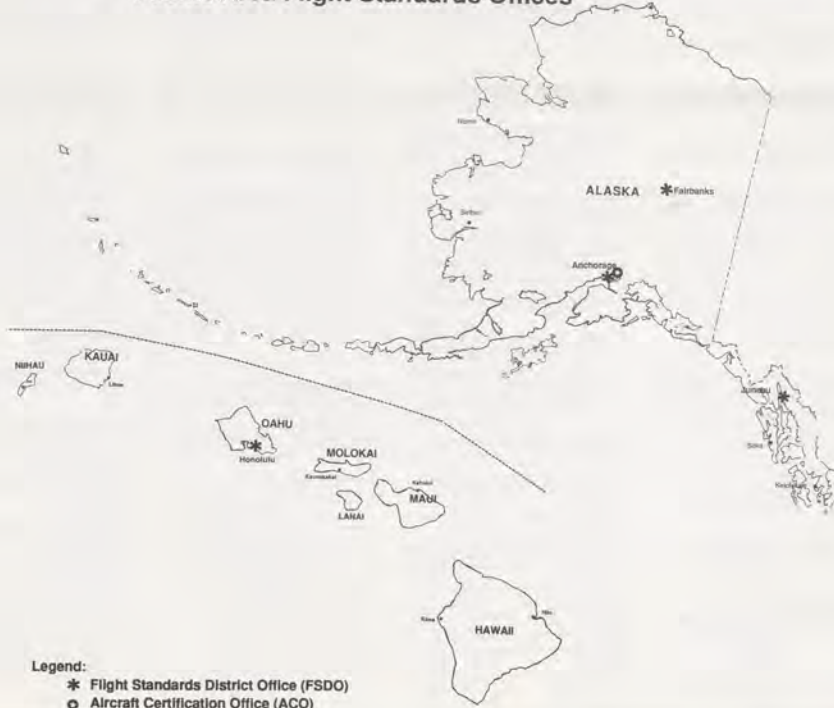
Although Lebanon airport has a small volume of traffic, it got the nod for the first of these flexible systems because it is surrounded by hills, and its instrument landing system permitted only one straight-in approach path.

MLS signals are only minimally affected by the surrounding terrain, structures and weather and are not susceptible to interference from FM radio stations. ■

The Hazeltine Model 2600 MLS Elevation Station serves Runway 18 at the Lebanon airport. Together with the Azimuth Station, the system generates a glide-path signal that provides landing guidance on a cockpit display unaffected by surrounding terrain.



Pacific Area Flight Standards Offices



The agency would require airlines to make strengthening modifications to basic critical structures

FAA surveillance and the special Supplemental Structural Inspection Program for older aircraft.

In addition to the work group that developed the recommendations for the older Boeing jets, two other groups currently are studying aging airliners produced by other manufacturers. One is working on a modification program for McDonnell Douglas aircraft, and the

other is looking at the remaining airline fleet.

Also, in April, FAA took separate action to correct the basic problem that led to the Aloha accident. It issued an AD requiring the replacement of more than 7,000 rivets in the fuselages of older B-737s.

For B-737s with more than 70,000 flights, the deadline for completing the rivet replacement is six months. For those with 60,000 to 70,000 flights, the deadline is 12 months. For those with between 50,000 and 60,000 flights, it's 18 months. For 40,000 to 50,000, it's 24 months, and for less than 40,000 flights, 36 months.

In addition, a similar proposed AD requiring the replacement of rivets on the B-727 is pending.

Comments on the proposed ADs are due by June 30. ■

have been required since 1986 to detect cracking of the body frame structure.

Due to the magnitude of the modification program, FAA anticipates that the work will be staggered over a period of time and generally coordinated with other scheduled maintenance. Accordingly, the airlines would be allowed four years to incorporate all of the changes.

For example, FAA estimates that the B-727 program will require 17,357 man-hours per airplane; the B-737, 14,335 man-hours; and the B-747, 35,000 man-hours. This translates into approximately nine man-years for a B-727, seven man-years for a B-737 and 18 man-years for a B-747.

In the interim, operational safety will be provided by the individual operator's structural-inspection program, regular maintenance, inspection modifications required by previous ADs, increased

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■ **David Wank**, area supervisor, Newark, NJ, ATCT, promotion made permanent.

Great Lakes Region

■ **Irvyng L. Aslakson**, area supervisor, Minneapolis, MN, Int'l. ATCT.

■ **Douglas R. Bedwell**, assistant manager, traffic management, Indianapolis ARTCC.

■ **William L. Brewner**, assistant manager, traffic management, Chicago O'Hare ATCT.

■ **William W. Curry**, area supervisor, Fargo, ND, ATCT, from Bismarck, ND.

■ **Edmund C. Gish**, area supervisor, Chicago O'Hare ATCT, promotion made permanent.

■ **Jeffrey C. Graves**, area supervisor, South Philadelphia ATCT, from Port Columbus, OH.

■ **Charles D. Hobgood**, manager, Detroit, MI, Flight Standards District Office.

■ **James E. Krieger**, area supervisor, O'Hare ATCT, Chicago.

■ **Michael E. Landon**, manager, Acquisition Management Branch, Logistics Div.

■ **William F. Margis**, manager, Crystal ATCT, Minneapolis, from St. Paul, MN.

■ **Katherine A. Peterson**, area supervisor, Champaign, IL, ATCT, promotion made permanent.

■ **Mark S. Ringham**, area supervisor, Fargo, ND, ATCT, promotion made permanent.

■ **Edward W. Simpson III**, assistant manager, plans & procedures, Green Bay, WI, Automated Flight Service Station (AFSS).

■ **Daniel J. Stanek**, unit supervisor, Minneapolis ARTCC AF Sector.

■ **Carol L. Veazle**, assistant manager for training, Green Bay AFS.

■ **Lighiel L. Whitaker, Jr.**, area supervisor, Indianapolis ATCT, promotion made permanent.

New England Region

■ **Allen W. Bantley**, supervisor, Surveillance/Weather Radar Section, Facilities Establishment Branch, Airway Facilities (AF) Div., promotion made permanent.

■ **John A. Butler**, manager, Bradley Airport ATCT, Windsor Locks, CT.

■ **Richard J. Ducharme**, area supervisor, Boston ATCT, promotion made permanent.

■ **Toni P. Dusseault**, area supervisor, Boston ATCT, from Beverly, MA, ATCT.

■ **Paul G. Johnston**, manager, Boston ATCT, from Bradley ATCT.

■ **Peter K. Jorgensen**, area supervisor, Boston ARTCC, promotion made permanent.

■ **Dennis T. Koehler**, assistant manager, Boston ARTCC, from the Air Traffic Div.

■ **Robert L. Laidler**, unit supervisor.

■ **Theophilus Leyton, Jr.**, supervisor, Inter-facility Communications Flight Information Section, Facilities Establishment Branch, AF Division.

■ **William F. Maloney**, manager, Facility Support Branch, Air Traffic Division.

■ **Paul F. Montgomery**, assistant manager for training, Bridgeport, CT, Automated Flight Service Station, promotion made permanent.

■ **Richard E. O'Connor**, unit supervisor, Boston AF Sector, from the AF Division.

■ **Edmund C. Gish**, area supervisor, Boston ARTCC.

■ **Alan R. Porfert**, assistant manager for technical support, Boston AF Sector, from the Airway Facilities Division.

■ **Robert K. Roche**, assistant manager, Manchester, NH, ATCT, from the AT Div.

■ **Linda Tjossem**, area supervisor, Portland, ME, ATCT, from Air Traffic Div.

Northwest Mountain Region

■ **Richard L. Anderson**, area supervisor, Seattle, WA, ARTCC, promotion made permanent.

■ **Philip H. Bravener**, section supervisors, Portland, OR, Flight Standards District Office, promotion made permanent.

■ **David A. Darrow**, area supervisor, Boeing Field Tower, Seattle, from Sea-Tac.

■ **Christopher L. Glover**, manager, Budget Branch, Financial & Information Resources Division, promotion made permanent.

■ **Vernon D. Harkins**, manager, Grand Junction, CO, Airway Facilities Sector Field Office (AFSFO), Denver AF Sector.

■ **Samuel I. Horney**, area supervisor, Moses Lake, WA, ATCT, promotion made permanent.

■ **Theodore Mason**, area supervisor, Billings, MT, ATCT.

■ **Charles R. Nightingale**, area supervisor, Pocatello, WA, ATCT, from Portland, OR, ATCT.

■ **Donald H. Parkinson**, unit supervisor, traffic management, Seattle ARTCC, promotion made permanent.

■ **Neal S. Robinson**, area supervisor, Salt Lake City, UT, ARTCC, promotion made permanent.

■ **Jack B. Sellers**, manager, Pocatello, ID, ATCT, from Boise, ID, ATCT.

■ **Roger A. Sloan**, area manager, Seattle-Tacoma ATCT.

■ **Charles H. Terry**, unit supervisor, Glenwood Springs, CO, AFSFO, Denver AF Sector, promotion made permanent.

■ **James D. Vigil**, area supervisor, Denver ATCT, from Broomfield, CO, ATCT.

■ **ALASKAN REGION**
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Edwin T. Flower
Gus N. Rodes
Robert A. Woolsey

■ **Cecil C. Wagner**, manager, Planning, Programming & Capacity Branch, Airports Division.

■ **Donald J. Woodward**, manager, Casper, WY, Automated Flight Service Station.

■ **James P. Bulley**, area supervisor, Huntsville, AL, ATCT, from Jacksonville, FL.

■ **Herbert J. Brewer**, unit supervisor, Atlanta, GA, ARTCC Airway Facilities Sector, promotion made permanent.

■ **Ted D. Brookshire**, area supervisor, Nashville, TN, Automated Flight Service Station (AFSS), from Macon, GA, AFS.

■ **Carlo G. Calasola**, area supervisor, St. Thomas ATCT, Virgin Islands, from Miami.

■ **Thomas D. Carlton**, assistant manager, Nashville AFS, promotion made permanent.

■ **William H. Clark, Jr.**, unit supervisor, Birmingham, AL, Flight Standards District Office (FSDO), promotion made permanent.

■ **Walter L. Colvin**, manager, Raleigh, NC, ATCT, from the Atlanta ATCT.

■ **Richard M. Gavin**, unit supervisor, Miami FSDO.

■ **Craig A. Guensch**, area supervisor, Miami ATCT, promotion made permanent.

■ **Johnny R. Hardy**, manager, Birmingham FSDO.

■ **John L. Hill**, supervisor, Fayetteville, NC, Airway Facilities Sector Field Office (AFSFO), Raleigh, NC, AF Sector.

■ **William T. Murphy**, unit supervisor, North Carolina FSDO, Charlotte, promotion made permanent.

■ **Robert J. Pedrotti**, area supervisor, Atlanta ARTCC, promotion made permanent.

■ **Richard A. Post**, manager, Nashville AFS, from Raleigh AFS.

■ **Waldo E. Romero**, systems engineer, Jacksonville ARTCC.

■ **Joseph F. Saladino**, area supervisor, Miami International Airport ATCT, promotion made permanent.

Retirees

■ **AERONAUTICAL CENTER**
Charles L. Cronch
Donna M. Coy
Frank Egan, Jr.
Mary H. Foxwood
Sam C. Garner
Garth A. Goodman
Dorell L. Jones
Robert R. Jones
Elizabeth B. Rodemazer
Lloyd E. Schweitzer
Harold D. Storey
William E. Thompson
Ines S. Weaver

■ **EASTERN REGION**
Blanca N. Stierle
Richard L. Trase

■ **GREAT LAKES REGION**
Mildred B. Anderson
Robert B. Burchill
Joel W. Campbell
Thomas R. Chase

■ **SOUTHWEST REGION**
Robert J. Giuliano
James B. Johnson
Frank W. Lab
Joseph L. Erdwain
Jack E. Fletcher
Clyde Haag
Timothy C. Hatfield
Donald S. Mandove
Richard H. Wallersteadt, Jr.
James R. Williams

■ **NEW ENGLAND REGION**
Eric G. Scott

■ **NORTHWEST MOUNTAIN REGION**
William E. Drew
Richard G. Harris
Cletus D. Jacobsen
Frank W. Rowe
Donald C. Thelen

■ **David J. Schwartz**, assistant manager for training, Raleigh AFS, promotion made permanent.

■ **Robert A. Self**, area supervisor, Atlanta ARTCC, promotion made permanent.

■ **Edward R. Weyer**, supervisor, Traffic Management Unit, Atlanta ARTCC.

■ **Penny D. White**, area supervisor, Pompano Beach, FL, ATCT, from Gulfport, MS.

■ **William H. Wynn**, manager, Special Programs Recruiting Staff, Human Resource Management Division.

■ **Joseph F. Yeater**, unit supervisor, Atlanta Hub AF Sector, promotion made permanent.

■ **Robert L. Young**, unit supervisor, Ft. Lauderdale, FL, AFSFO, Miami Hub AF Sector, promotion made permanent.

Southwest Region

■ **John E. Abel**, team supervisor, Baton Rouge, LA, Flight Standards District Office (FSDO).

■ **Frank L. Allen**, unit supervisor, Oklahoma City FSDO.

■ **Joseph T. Castles**, area supervisor, Houston ARTCC, promotion made permanent.

■ **Charles E. Gawronski**, area supervisor, Shreveport, LA, RAPCON.

■ **Steven G. Hannah**, area supervisor, Albuquerque, NM, Flight Service Station (FSS).

■ **Phillip S. Hokit**, area supervisor, Ft. Worth, TX, ARTCC, promotion made permanent.

■ **James L. Jones**, assistant systems engineer, Ft. Worth ARTCC AF Sector.

■ **Allen E. King**, unit supervisor, Dallas, TX, FSDO, from Flight Standards Division.

■ **Jesse D. Spencer, Jr.**, area supervisor, Houston ARTCC, promotion made permanent.

■ **Boyce W. Tate**, area supervisor, Hobby Airport ATCT, Houston, TX.

■ **Joyce T. Thomas**, manager, Shreveport, LA, FSS, from the Jonesboro, AR, AFS.

■ **Raul C. Trevino**, area supervisor, Ft. Worth ARTCC, from the Air Traffic Div.

■ **Roger Vorndran, Jr.**, area supervisor, Addison, TX, ATCT.

■ **Evelyn J. Washington**, manager, Dallas FSS, from the Tulsa, OK, FSS.

Technical Center

■ **Luther C. McClellan**, technical program manager, Advanced Automation Systems Branch, Automation Division.

■ **Gerard Spanier**, technical program manager, System Design & Transition Branch, Automation Division.

Washington Headquarters

■ **Darlene M. Hickov**, manager, Airport Safety Group, Safety & Compliance Division, Office of Airport Standards, promotion made permanent.

■ **Shirley Y. Purnell-Rice**, section supervisor, Operations Branch, Office of the Associate Administrator for Human Resource Management.

■ **Geoffrey L. Shearer**, manager, Terminal En Route Branch, System Plans & Programs Division, Air Traffic Plans & Requirements Service.

■ **Robert N. Stevens**, manager, Policy & Procedures Branch, Automation Software Div., Air Traffic Plans & Requirements Service, from Indianapolis ARTCC.

■ **George W. Terrell**, manager, Technical Standards Program, Maintenance Engineering Division, Systems Maintenance Service, from the Great Lakes Region.

■ **Glenda J. Whiting**, section supervisor, Operations Branch, Human Resource Management Div., Office of the Associate Administrator for Human Resource Management.

■ **Rayce W. Wilkerson**, manager, ASR-10 Program, Ground to Air Systems Div., Advanced System Acquisition Service.

■ **David S. Yeager**, deputy manager, Maintenance Engineering Division, Systems Maintenance Service.

Western-Pacific Region

■ **Joseph M. Coyne**, unit supervisor, Los Angeles Civil Aviation Security Field Office.

■ **Arlen C. Donner**, manager, Gillespie Field ATCT, San Diego.

■ **Clifford A. Eldt, Jr.**, unit supervisor, Van Nuys, CA, Flight Standards District Office.

■ **Stephen M. Fore**, area supervisor, Oakland ARTCC, promotion made permanent.

■ **Dianne J. Hall**, area supervisor, Oakland ARTCC, promotion made permanent.

■ **Wesley T. Hall**, area supervisor, Oakland ARTCC, promotion made permanent.

■ **Charles S. Hatheway**, area supervisor, Prescott, AZ, Automated Flight Service Station.

■ **Manuel Hernandez**, manager, Maui Airway Facilities Sector Field Office (AFSFO)—Nav/Comm, Kahului, Hawaii-Pacific AF Sector, Honolulu, from Tucson.

■ **Kenichi Nomura**, area supervisor, Honolulu Center/RAPCON.

■ **William E. Preston**, area supervisor, Oakland ARTCC, promotion made permanent.

■ **Patricia A. Risner**, area supervisor, Long Beach, CA, ATCT, promotion made permanent.

■ **Francis M. Sweeney**, area supervisor, Oakland ARTCC, promotion made permanent.

■ **Gary D. Taylor**, assistant manager, quality assurance, Oakland ARTCC, Pre-empt.

■ **Robert L. Thompson**, area supervisor, San Diego AFS, from Fresno, CA, FSS.

■ **Gary L. Tomak**, area supervisor, Los Angeles ARTCC, promotion made permanent.

■ **Wilbert D. Willis**, assistant systems engineer, Oakland ARTCC AF Sector, promotion made permanent.

■ **Benjamin A. Worley**, assistant systems engineer, Oakland ARTCC AF Sector, promotion made permanent.

CENTRAL REGION

Allen C. Burrows
David J. Clark
Joseph L. Erdwain
Jack E. Fletcher
Clyde Haag
Timothy C. Hatfield
Donald S. Mandove
Richard H. Wallersteadt, Jr.
James R. Williams

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NEW ENGLAND REGION

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Federal Notebook

SO FAR, SO GOOD ON PAY AND RETIREMENT

Congressional budget conferees have agreed to a 3.6 percent pay boost next January, full cost-of-living raise for retirees and likely continuation of the lump-sum in its 60/40 configuration.

WINDS OF CHANGE FOR HEALTH INSURANCE

There's a consensus among the Executive Branch, Congress, health insurers, employees and employee organizations that changes are needed in the Federal Employee Health Benefit Plan (FEHBP). Congress already has heard testimony on changes and from one of several studies on the subject—that of the Urban Institute.

Now, the Congressional Research Service (CRS) has reported in, contradicting previous studies and beliefs, saying that revising the FEHBP will not save money unless the government cuts benefits, makes employees and retirees pay more or imposes cost controls on providers of medical services. CRS believes that the number of health plans offered has no impact on costs, that federal costs are not rising faster than in the private sector and that the federal plans are not overpriced for their level of benefits nor that their overhead and profits are high.

However, Aetna Life Insurance Co. has announced that after the end of this year, it will no longer offer its fee-for-service health insurance coverage to federal employees, citing rising costs and "significant structural defects" in the FEHB. One of its executives said, "FEHBP needs fixing. The taxpayer and the federal government pay more than they need to. The cost [to participants] ... has no relationship to the value of the benefits available."

According to Rep. Peter DeFazio (D-Ore), individuals with annual per capita income above \$13,000, which

is just below that of the average federal retiree, will lose under the present Medicare catastrophic insurance law. Citing a non-government study, he said that about 47 percent of the nation's elderly will pay more than \$150 next year just for the catastrophic surtax and that 72 percent of senior citizens already have the benefits provided by the law. A typical federal retiree could expect to pay at least \$333 a year more for no increased benefit.

BOOST FOR NEW WORK ARRANGEMENTS

A bill to permit federal employees to work at home and encourage work-sharing has been introduced by Rep. Frank Wolf (R-Va). The Federal Employee Flexible Work Arrangement Act would allow agencies to let employees do their jobs outside of the normal worksite when feasible, as is done in many large private firms.

Authorization for work-sharing already exists, but the bill would require the Office of Personnel Management (OPM) to set up a clearinghouse for such job

opportunities. Work-sharing permits two similarly skilled individuals to split the chores and salary of one position where only part-time work is feasible for them.

DISHONESTY DOESN'T PAY ... AT ALL

The Comptroller General has ruled (B-232858) that after falsifying claims on travel vouchers, submission of properly supported claims for those expenses will not be honored. The per diem or actual expenses for the entire day on which a falsified claim was made will be disallowed.

ETHICS BILL LAUNCHED

Rep. Lamar Smith (R-Texas) has introduced the administration's ethics legislation, which sets standards for financial disclosure, conflicts of interest, acceptance of gifts and honoraria and post-employment cooling-off periods. The rules would apply to members and employees of Congress and the Judicial and Executive branches.

New TRACON Opens



The TRACON for the Manchester, N.H., Municipal Airport was commissioned in April, having moved there from the Boston ARTCC. Participating in the ceremonies were (from the left) tower Manager Raymond German; Dean Falcichio, acting manager, New England Region Airway Facilities Division; James Lucas, manager, Air Traffic Division; and Harold Buker, New Hampshire director of aeronautics.

Photo by Mike Ciccarelli

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ADs Prescribed for Aging Aircraft

By Fred Farrar

The assistant manager of the Public & Employee Communications Division in the Office of Public Affairs, Mr. Farrar is a former Washington correspondent for the Chicago Tribune.

The Federal Aviation Administration has taken a major step toward ensuring the continued operational safety of aging aircraft by issuing proposed Airworthiness Directives (ADs) that would mandate extensive structural modifications to older Boeing 727s, 737s and 747s.

These are the first in a projected series of FAA Airworthiness Directives dealing with the safety of older aircraft designs.

The action marks a fundamental change in the agency's philosophy for maintaining the airworthiness of older aircraft. Historically, the agency has relied primarily on repetitive structural inspections to identify needed

repairs due to corrosion, cracking and other signs of metal fatigue. These inspections become more frequent and demanding as aircraft get older and approach their manufacturer's "economic design goal."

Under the new approach, the agency would require the airlines to make strengthening modifications to basic critical structures to prevent fatigue problems as aircraft reach their design life. In addition, some parts, such as landing gear, must be replaced after a specified number of flight hours or cycles.

The proposed ADs initially would affect 115 U.S.-registered Boeing aircraft—67 B-727s, 28 B-737s, and (Continued on page 8)



This high-time Aloha Airlines Boeing 737 lost an 18-foot section of its fuselage in April 1988, due to "significant disbonding" from the airline's failure to maintain and inspect the airplane properly. Looking over the damage are Joseph Nall (left) and Mike Benson of the National Transportation Safety Board.

Photo by Matthew Thayer, The Maui News

When America Became 'Air Conditioned'

One of the most ambitious and far-reaching aviation training programs ever conducted marks its fiftieth anniversary on June 27, 1989.

During its five-year span from 1939 to 1944, the Civil Aeronautics Administration's Civilian Pilot Training Program (CPTP) provided preliminary training for hundreds of thousands of civilian and military pilots, fostered the idea of "air age education" by helping to produce aviation-oriented textbooks and curriculum materials, provided pilot training for blacks, women and Latin

By Dominick A. Pisano

Mr. Pisano is Associate Curator, Department of Aeronautics in the National Air and Space Museum, Smithsonian Institution.

Americans and developed scientific techniques for selecting and testing pilots.

Although the passage of half a century has distanced us from the CPTP, the program still appears a remarkable

accomplishment. Indeed, many believe it contributed materially in helping to win World War II.

The CPTP was the brainchild of Robert H. Hinckley. A native of Ogden, Utah, Hinckley had been a teacher, automobile dealer and state legislator. During the Great Depression, Hinckley organized the Civilian Conservation Corps (CCC) in Utah, served as the director of the Federal Emergency Relief Administration for seven western states and was western regional admin-

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FAA World

June 1989

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As part of opening ceremonies, a rare stunt: an inverted glider cuts a ribbon across Lakeland's runway. In the foreground is an AT-6 World War II trainer.

It Happens Every Spring

By Roger Myers

"Ladies and gentlemen, it's airshow time!" With that announcement began the second largest fly-in in the nation. It's the Experimental Aircraft Association's annual Sun 'n Fun, held at the Lakeland, Fla., Municipal Airport April 9-15.

To start, the crowd of 90,000 sees a military fly-by, tucked close in flying a diamond formation, followed by free-fall parachutists trailing red, white and blue smoke and carrying an American flag to open the show.

Individual aerobic pilots thrill the crowd with hammer-head stalls, outside loops, snap rolls, eight-point slow rolls, tail slides and other derring-do, and team flyers pirouette through complicated maneuvers.

More than 1,055 aircraft were registered to compete, including antiques and classics, along with 195 ultralights, 132 warbirds and 295 homebuilts. Yet, despite 226,000 visitors for the week arriving by air and ground transportation, there wasn't a single accident and only three incidents.

Such success just doesn't happen. In addition to skillful flying and a growing attention to safety on the part of show participants, the mostly unseen presence of FAA is consistently felt. FAA supports air shows and fly-ins and is always ready to help ensure the safety of spectators and performers.



The Flight Standards group of operation and maintenance inspectors and support personnel pose in front of FAA's restored DC-3 flight inspection aircraft, N-34.



The Lakeland temporary flight service station crew were all from the St. Petersburg, Fla., Automated Flight Service Station.

This year's air show coordinator was Gene Kirkendall, from the Orlando, Fla., Flight Standards District Office.



All pilots needed to visit the FSS, where air traffic specialists Jim George (standing) and Carl Misseldine served up briefings, which averaged over 800 daily.

With help from regional headquarters, the Orlando FSSDO provided both operations and maintenance inspectors to check the papers of aircraft and airmen and answer pilot queries.

The Airway Facilities team of four, headed by Dan Pesonen from the Tampa, Fla., sector, maintained the temporary tower's communications equipment at its two sites, as well as that of the temporary flight service station.

Ken Berkey from the St. Petersburg Automated Flight Service Station was in charge of the station set up at Lakeland in a trailer near the FAA forum tent. This is a site where discussion topics of interest to pilots were offered by accident prevention specialists and regional and headquarters executives. The FSS averaged 828 briefings a day and provided 10,827 services for the week.

Dave Vergason, manager of the Sarasota, Fla., tower, as well as of the temporary tower at Sun 'n Fun for the past 12 years, assembled a crew of 19 controllers, three supervisors and a deputy manager from all around the region. The controllers rotated duty among the Lakeland tower, the Lake Parker remote staging point and the runways. The daily activity count averaged 3,350. John Duncan, Asheville, N.C., Tower.



Southern Region Administrator Garland Castleberry (right) greets DOT Secretary Samuel Skinner, who watched the air show and stayed over to address visitors at the forum tent the next day.



Air show coordinator Gene Kirkendall checks the license of aerobit Patti Wagstaff on the ramp parking area.



Tower manager Dave Vergason (left) and Steve Conklin of Airway Facilities check the tower's communications frequency.



Air traffic controllers were drawn from around the Southern Region. Here, on duty atop the building are (from the left) James Brinkley (partially hidden), Memphis, Tenn.; Wayne Formby, Miami, Fla.; Karen Reed, Melbourne, Fla.; and, holding binoculars at right, David Johnston, Daytona Beach, Fla.

was selected as the year's Top Controller, and Ronald Littlejohn of the Hollywood, Fla., Tower was named Rookie of the Year.

A regular at such events the last few years has been FAA's restored DC-3, N-34, whose crew offered visitors aviation education materials and tours of the plane, along with a spin in a vertigon chair from Oklahoma City. ■



The crew of N-34 that brought the flying exhibit to Lakeland and provided aviation-education materials and tours of the historic aircraft.

The Southern Region's assistant public affairs officer and a former air traffic controller, Mr. Myers' stories have been published in newspapers and literary magazines.

Photos by Roger Myers

'Air Conditioned'

continued from page 1

istrator for the Works Progress Administration (WPA).

With all of his experience in administering economic programs, Hinckley was the quintessential New Dealer—activist, can-doer and experimenter. He had also gained valuable experience in aviation as co-owner of Utah-Pacific Airways, a fixed-base operation in Ogden.

In mid-1938, Pres. Franklin D. Roosevelt nominated Hinckley as one of the five members of the newly organized Civil Aeronautics Authority (CAA). Shortly after he took office in August, Hinckley conceived the idea of the Civilian Pilot Training Program, which was modeled broadly on New Deal economic and social programs. The CPTP was the primary manifestation of what Hinckley called "air conditioning"—the notion that American youth not only should but must be introduced to the new air age by learning to fly and by taking courses that would familiarize them with the emerging science of aeronautics.

As Hinckley saw it, the CPTP would give young people pilot training through colleges, universities, local fixed-base operators and flying schools certified by the CAA. The colleges and universities would provide ground instruction; the fixed-base operators and flying schools, flight instruction. Hinckley's dream was that while making American youth "air minded," the CPTP would also give a New Deal-style economic boost to the lightplane industry and provide a pool of civilian pilots that could be drawn upon in a wartime emergency.

The program was not without its difficulties. The Roosevelt administration's aviation policy was somewhat suspect among many in Congress, the military and the aviation industry. Although they had been consulted beforehand, the army and navy, both of which would be directly affected by the legislation, were suspicious that the CAA would have administrative control over the training of men who might eventually become military pilots.

To understand the problems that CPTP encountered, one needs to examine the administration's controversial



Women and blacks got their first official entrée into aviation with the CPTP. With World War II, the program was oriented to training military pilots. Here, base commander James Ellison inspects some of his first cadets at Moton Army Air Field in Tuskegee, Ala.

stand on what it considered monopolistic practices in the aviation industry. Disputes began in 1934 with the Black Committee hearings on airmail contracts. Chairman Hugo Black, a Democratic senator from Alabama, accused former Republican Postmaster General Walter Folger Brown of fostering collusive tactics among members of the airline industry by awarding two trans-continental airmail contracts without competitive bidding.

As a result of the hearings, President Roosevelt cancelled the existing airmail contracts. His action led to the so-called airmail emergency in which the Army Air Forces suffered a great deal of embarrassment and some loss of life in attempting to substitute for the civilian air mail carriers.

Criticism of that policy by Congress, the military and the industry continued through 1938. Even after passage of the Civil Aeronautics Act, which was intended to nationalize an often confusing civil aviation scene, criticism of FDR and his administration's aviation policy did not end.

In late December 1938, FDR had announced the establishment of an experimental CPTP that was to be given \$100,000 in National Youth Administration money to train 330 pilots in 13 colleges and universities around the country. On Jan. 12, 1939, in a message to Congress on national defense, he asked for a \$10 million appropriation for a full-scale CPTP.

Despite the way in which FDR had handled aviation policy and the strong



The CPTP was the idea of Robert H. Hinckley, a member and later chairman of the Civil Aeronautics Authority in 1938. Like Eugene Vidal before him, he wanted to give private aviation a shot in the arm.

isolationist sentiment in Congress, events in Europe were beginning to crystallize public opinion. In March 1939, while the CPTP bill was undergoing authorization hearings on Capitol Hill, the Munich crisis had arisen, the German army marched into Prague and Adolf Hitler partitioned the remainder of Czechoslovakia. Clearly, Europe was on

the brink of war, and the United States was forced into military preparedness. Consequently, the idea of having a pool of trained pilots ready for what the administration saw as a war that would be fought largely in the air appealed to all but Roosevelt's severest critics.

After six months of protracted legislative hearings and committee deliberations, the Civilian Pilot Training Act was signed into law on June 27 with an authorization of \$4 million.

By the end of 1939, the CPTP was progressing successfully: 9,350 men and women in 435 colleges and universities were being trained. The curriculum consisted of 10 hours of classroom work on the Civil Air Regulations and 35 hours each on navigation and meteorology. Flying training consisted of 35 to 50 hours of flight instruction—eight hours of dual instruction, nine hours of dual check time and 18 hours of solo flying. By Jan. 1, 1940, the CAA was making arrangements to begin training students on the basis of a competitive examination.

In June 1940, Hinckley announced that the CPTP would be expanded to train 45,000 beginning and 9,000 advanced pilots, an increase of 500 percent over the goals set the previous year. As a result of the program's success in its first year and the growing fear that the United States would eventually enter the war, Congress appropriated \$37 million for the program.

However, not even the early success of the CPTP nor its increased budget pleased everyone. An editorial in the Sept. 15, 1940, issue of *American Avia-*



Chief Alfred Anderson takes First Lady Eleanor Roosevelt for an impromptu ride in a Piper Cub at Tuskegee in 1941. Anderson was chief instructor for advanced training in the CPTP there. Photo courtesy of Walter Scott

tion charged that the enlarged CPTP had been "hastily prepared," that "instructors were insufficient in number" and that the limit on the number of flying hours permitted in a 24-hour period was "cheerfully ignored."

In February 1941, *Aero Digest* charged that FDR himself had criticized the CPTP as being a "failure from the standpoint of the Army and Navy." This charge subsequently led to revision of the CPTP to bring it more in line with Army Air Corps requirements, particularly for pilot instructors.

Despite the criticism and revision, the number of licensed pilots in the United States had increased from approximately 23,000 at the beginning of 1939 to 100,000 when the Japanese attacked Pearl Harbor, largely as a result of an intensified CPTP.

Although the CPTP had come increasingly under the influence of the military from early 1941, the official entry of the United States into World War II changed the nature of the program entirely. On Dec. 12, 1941, by Executive Order 8974, the President transformed the CPTP into a wartime program, called the War Training Service (WTS) in late 1942. All CAA civilian pilot training efforts were to be "exclusively devoted to the procurement and training of men for ultimate service as military pilots."

Although the Army Air Forces (AAF) had promised early in 1942 to increase its use of CPTP facilities, it continually changed its mind about what use should be made of the program and dragged its feet on implementing training quotas. (In contrast, the Navy made good use of



Among some of the more notable graduates from the Civilian Pilot Training Program were (top, left to right) Marine Lt. Colonel, Astronaut and Sen. John Glenn (D-Ohio); Marine Colonel, Medal of Honor winner and Governor Joe Foss of North Dakota, who shot down 26 enemy aircraft; and (above) Army Maj. Richard Bong, who downed 21 enemy aircraft. USAF photo

its CPTP graduates and viewed the program as a way of screening out those unsuited for naval aviation.)

The AAF's wavering attitude toward the CPTP/WTS can be characterized as part of a larger disagreement with the CAA as to who would control civil aviation in wartime. Assistant Secretary of War for Air Robert Lovett offered a compromise recommendation in July 1942 for maintaining "a nucleus of a CAA organization both for certain types of operation and for training." In direct response, AAF chief Gen. Henry H. "Hap" Arnold wrote: "The only sound solution, to my mind, is to transfer the CAA to the War Department for the duration." The situation was finally resolved in the CAA's favor, and the agency maintained its independence.

Despite Arnold's firmly held beliefs about the CPTP and air force control of

Meanwhile, Hinckley, who subsequently became Assistant Secretary of Commerce, left his CAA post in July 1942 and was replaced by William A.M. Burden, a former Wall Street aviation securities analyst.

In January 1944, the AAF announced that all WTS flight instructor training was to be ended in a matter of days. The official AAF statement explained that the production rate of pilots within the air force's own system, in addition to the number of pilots returning from combat, was adequate to handle current needs. Gradually, the program wound down and by the middle of 1944, was completely eliminated.

In the midst of its death throes, Sen. Patrick McCarran of Nevada and Rep. Jennings Randolph of West Virginia, both strong advocates of aviation, attempted to prolong the life of the CPTP beyond its legally mandated expiration date of June 30, 1944. They hoped to revive the CPTP's prewar New Deal aviation goals of training civilian pilots and boosting private flying in the United States. The Senate and the House reached a compromise that extended the CPTP authorization for two years, but in fiscal 1946, when the CAA submitted an appropriations request of \$11.7 million for the program, the Bureau of the Budget rejected it.

Regardless of its troubles with the air force, the CPTP did accomplish a number of objectives. In addition to producing 435,165 pilots before and during World War II, the program was successful in other areas. In early 1942, during Robert Hinckley's tenure, the CPTP, along with the U.S. Office of Education and the Macmillan Company,

was instrumental in producing textbooks that used aviation to teach a variety of subjects. The CPTP also successfully integrated blacks, women (until January 1942) and Latin Americans into the program.

Even after an arrangement had finally been made between the CAA and the AAF over the use of the CPTP, the air force continued to be unhappy about the program's failure to meet agreed-upon training quotas. Nevertheless, the program did prepare men eventually trained by the military to be better pilots.

Despite its obvious successes, the CPTP was continually caught between its New Deal goals to revive private flying and orient American youth to the burgeoning air age and the demands of the military. This conflict tended to fragment the program and make it less effective than it could have been. Nevertheless, the CPTP was a remarkably ambitious and productive attempt to train a cadre of civilian and military pilots on a mass scale—something that had never been done before and that has not been attempted since. ■

Aging Aircraft

(continued from page 1)

20 B-747s. The estimated cost for these 115 aircraft is \$142 million over a four-year period. Additional aircraft will be covered as they accumulate time-in-service and reach the threshold for modification.

The affected aircraft are those that have passed their original economic design goal: the point where the manufacturer assumed they would be retired by the airlines for economic reasons. Specifically, those points are B-727, 20 years or 60,000 flights for the B-727, 20 years or 75,000 flights for the B-737 and 20 years or 20,000 flights for the B-747.

The issuance of the proposed ADs stems from a June 1988, FAA-sponsored international conference on aging aircraft in Washington, D.C. That, in turn, was the result of the April 1988 Aloha Airlines accident in which a Boeing 737 with almost 90,000 flights lost 48 feet of its fuselage in flight but managed a safe landing.

Following the conference, a joint government/industry task force was organized under the leadership of the Air Transport Association and the Aerospace Industries Association to develop a modification program for aging aircraft. The first of the task force's work groups reported on February 28, 1989, with recommendations for modifications of Boeing jets. The recommendations were translated into comprehensive service bulletins for each aircraft by Boeing and then reviewed carefully by FAA before the issuance of the ADs. FAA has played an active role in all of the task force activities since its initiation last fall.

The proposed B-727 Airworthiness Directive calls for 74 modifications to critical structures, the B-737 AD for 58 modifications and the B-747 AD for 29. For example, the B-727 AD includes 45 modifications to the fuselage, 12 to the wing, eight to the doors, seven to the tail assembly, one to the landing gear and one to the engine strut. The modifications involve such items as structural reinforcement/replacement of skins, stringers, bulkheads, frames, ribs, spars and other structural members.

A case in point is one of the items in the B-747 AD that mandates a major modification of the fuselage shell structure from the nose to the forward main passenger entry door (Section 41). It will require 14,000 man-hours per airplane. The completion of this modification will allow operators to terminate special inspections of this area, which

Jet Standards Evolve As Airline Fleet Ages

Most American-made jets now in service around the world were certified by FAA using the "fail-safe" design criteria. Adopted in 1956, the fail-safe concept specifies that aircraft be designed with sufficient load-bearing redundancy that failure of a principal structural element will not cause a catastrophic accident.

An example are the wings, which are cross-hatched with many structural members. If one of these elements fails and should go undetected for a time, the rest of the structure is capable of carrying the maximum loading expected in normal service.

In 1978, FAA adopted the "damage tolerance" concept for aircraft certification. It has been applied to all large aircraft certified after December 1978, the first of which were the Boeing 757 and 767.

Essentially, damage tolerance is a refinement of the fail-safe concept and is based on advances in fracture mechanics that enable engineers to estimate with great accuracy how fast a crack will grow under a given load. As a result, designers can set inspection intervals that will allow cracks to be detected and corrected before they become unsafe.

Under the damage-tolerance approach, FAA assumes that damage is going to occur to a part due to fatigue, corrosion or accidental damage. Therefore, the part must be designed to safely accommodate the damage until it can be corrected. In some cases where the damage-tolerance approach is not appropriate—in landing gear, for example—a specific life use is placed on the component.

The 1970s also saw FAA and industry gear up to deal with an aging aircraft fleet, as economic circumstances com-

binated to dictate the continued use of earlier jets beyond the useful life envisioned by their designers. The top priority was to develop a program for maintaining structural integrity to ensure the operational safety of older airplanes for as long as they continued flying.

The result was the Supplemental Structural Inspection Document (SSID) program. In essence, this program applied the damage-tolerance concept to the earlier jets certified under the fail-safe concept.

In developing the SSID program, it was necessary for the manufacturers to analyze the structure of their older airplanes using extensive computer analysis and laboratory testing. These efforts established principal structural elements that required additional recurrent inspections as the aircraft aged.

The program was implemented in May 1981 by FAA Advisory Circular No. 91-56 ("Supplemental Structural Inspection Program for Large Transport Category Airplanes"). This was followed by a series of Airworthiness Directives which applied specific requirements to individual aircraft. Aircraft currently covered include Boeing 707/720s, 727s, 737s, 747s and McDonnell Douglas DC-8s and DC-9s.

In addition, the major aircraft manufacturers also have initiated internal programs to learn more about the aging process of their products. In some cases, they have repurchased high-time airplanes and subjected them to extensive fatigue testing to gather data on failure modes. For example, Boeing did this with a 737 and McDonnell Douglas with a DC-9.

Some manufacturers also make regular visits to airline maintenance bases when older airplanes are undergoing overhaul to determine how well they have withstood the operational demands of day-in/day-out service.

As a result of the International Aging

By John G. Leyden

A 25-year FAA veteran, Mr. Leyden is manager of the Public & Employee Communications Division, Office of Public Affairs.

Aircraft Conference in June 1988, which followed the April 1988 Aloha Airlines accident, FAA undertook a number of new initiatives, including:

- Beginning an "Aging Fleet Evaluation Program," in which teams of FAA inspectors monitor airline maintenance checks on older jets to evaluate the effectiveness of corrosion control programs, structural-inspection techniques and other maintenance efforts.

- Developing a comprehensive Research & Development program dealing with aging aircraft issues such as multi-site cracking, corrosion, proof-pressure testing, nondestructive-testing equipment, engine nondestructive evaluations and engine repair-practice evaluations.

- Beginning a program to develop in-house expertise in nondestructive testing and inspection technologies.

- Moving to establish Supplemental Structural Inspection Document programs for commuter airplanes in conjunction with the Regional Airline Association (RAA) and the General Aviation Manufacturers Association (GAMA).

Another result of the conference was the establishment of a government/industry task force to develop a modification program for older jets. In May 1988, FAA proposed the first in a series of Airworthiness Directives based on the work of this group. They covered the Boeing 727, 737 and 747. Still to come are ADs for McDonnell Douglas, Airbus, Lockheed and other transport aircraft. ■

other is looking at the remaining airline fleet.

Also, in April, FAA took separate action to correct the basic problem that led to the Aloha accident. It issued an AD requiring the replacement of more than 7,000 rivets in the fuselages of older B-737s.

For B-737s with more than 70,000 flights, the deadline for completing the rivet replacement is six months. For those with 60,000 to 70,000 flights, the deadline is 12 months. For those with 50,000 and 60,000 flights, it's 18 months. For 40,000 to 50,000, it's 24 months, and for less than 40,000 flights, 36 months.

In addition, a similar proposed AD requiring the replacement of rivets on the B-727 is pending.

Comments on the proposed ADs are due by June 30. ■



Undimmed by the foul weather that the new system is designed to handle well, New England Regional Administrator Arlene Feldman, New Hampshire Gov. Judd Gregg (left) and Lebanon Mayor Philip Mans cut a ribbon to commission the first federal microwave landing system in the country.

(Photo by Mike Cicchetti)

First Commercial MLS Bows

The first federally funded microwave landing system (MLS) at a commercial airport was commissioned at the Lebanon, N.H., Municipal Airport on April 6.

A future standard for airports around the world, MLS will provide precise landing guidance under a full range of operational requirements for all types of aircraft in all weather conditions, bringing increased airport capacity and improved noise abatement.

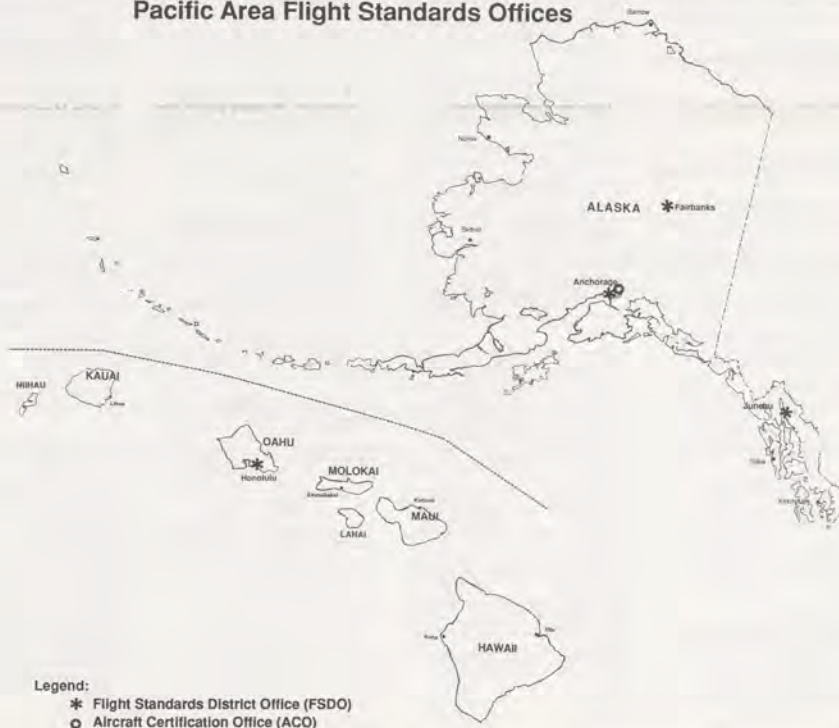
Although Lebanon airport has a small volume of traffic, it got the nod for the first of these flexible systems because it is surrounded by hills, and its instrument landing system permitted only one straight-in approach path.

MLS signals are only minimally affected by the surrounding terrain, structures and weather and are not susceptible to interference from FM radio stations. ■

The Hazeltine Model 2600 MLS Elevation Station serves Runway 18 at the Lebanon airport. Together with the Azimuth Station, the system generates a glide-path signal that provides landing guidance on a cockpit display unaffected by surrounding terrain.



Pacific Area Flight Standards Offices



People

Aeronautical Center

■ **Elvert J. Barlow**, supervisor, Airmen Systems Section, Aviation Systems Branch, Data Services Division.

■ **Raymond L. Bradford**, supervisor, Electronic Production Section, Engineering & Production Branch, FAA Depot.

■ **Carl E. Cowgill**, manager, Air Traffic Branch, FAA Academy, from Oklahoma City RAPCON.

■ **Fred E. Green**, supervisor, Aviation Section, Procurement & Systems Branch, Procurement Div., promotion made permanent.

Alaskan Region

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■ **Allan J. Patchett, Jr.**, asst. manager, quality assurance, Anchorage ARTCC.

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■ **James R. Fitzroy**, unit supervisor, JFK Airport AFSFO, Metro NY AF Sector.

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■ **Lovei Rawlett, Jr.**, area supervisor, Washington ARTCC, from Headquarters.

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■ **David Wnuk**, area supervisor, Newark, NJ, ATCT, promotion made permanent.

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■ **Douglas R. Bedwell**, assistant manager, traffic management, Indianapolis ARTCC.

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■ **William W. Curry**, area supervisor, Fargo, ND, ATCT, from Bismarck, ND.

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■ **Tom P. Duseault**, area supervisor, Boston ATCT, from Beverly, MA, ATCT.

■ **Paul G. Johnston**, manager, Boston ATCT from Bradley ATCT.

■ **Peter K. Jorgensen**, area supervisor, Boston ARTCC, promotion made permanent.

■ **James D. Vigil**, area supervisor, Denver ATCT, from Broomfield, CO, ATCT.

■ **Allen W. Bantley**, supervisor, Surveillance/Weather Radar Section, Facilities Establishment Branch, Airway Facilities (AF) Div., promotion made permanent.

■ **John A. Butler**, manager, Bradley Airport ATCT, Windsor Locks, CT.

■ **Richard J. Ducharme**, area supervisor, Boston ATCT, promotion made permanent.

■ **Jack B. Selders**, manager, Pocatello, ID, ATCT, from Boise, ID, ATCT.

■ **Tom P. Duseault**, area supervisor, Boston ATCT, from Beverly, MA, ATCT.

■ **Paul G. Johnston**, manager, Boston ATCT from Bradley ATCT.

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Federal Notebook

SO FAR, SO GOOD ON PAY AND RETIREMENT

Congressional budget conferees have agreed to a 3.6 percent pay boost next January, full cost-of-living raise for retirees and likely continuation of the lump-sum in its 60/40 configuration.

WINDS OF CHANGE FOR HEALTH INSURANCE

There's a consensus among the Executive Branch, Congress, health insurers, employees and employee organizations that changes are needed in the Federal Employee Health Benefit Plan (FEHBP). Congress already has heard testimony on changes and from one of several studies on the subject—that of the Urban Institute.

Now, the Congressional Research Service (CRS) has reported in, contradicting previous studies and beliefs, saying that revising the FEHBP will not save money unless the government cuts benefits, makes employees and retirees pay more or imposes cost controls on providers of medical services. CRS believes that the number of health plans offered has no impact on costs, that federal costs are not rising faster than in the private sector and that the federal plans are not over-priced for their level of benefits nor that their overhead and profits are high.

However, Aetna Life Insurance Co. has announced that after the end of this year, it will no longer offer its for-service health insurance coverage to federal employees, citing rising costs and "significant structural defects" in the FEHB. One of its executives said, "FEHBP needs fixing. The taxpayer and the federal government pay more than they need to. The cost [to participants] ... has no relationship to the value of the benefits available."

According to Rep. Peter DeFazio (D-Ore), individuals with annual per capita income above \$13,000, which

is just below that of the average federal retiree, will lose under the present Medicare catastrophic insurance law. Citing a non-government study, he said that about 47 percent of the nation's elderly will pay more than \$150 next year just for the catastrophic surtax and that 72 percent of senior citizens already have the benefits provided by the law. A typical federal retiree could expect to pay at least \$333 a year more for no increased benefit.

BOOST FOR NEW WORK ARRANGEMENTS

A bill to permit federal employees to work at home and encourage work-sharing has been introduced by Rep. Frank Wolf (R-Va). The Federal Employee Flexible Work Arrangement Act would allow agencies to let employees do their jobs outside of the normal worksite when feasible, as is done in many large private firms.

Authorization for work-sharing already exists, but the bill would require the Office of Personnel Management (OPM) to set up a clearinghouse for such job

opportunities. Work-sharing permits two similarly skilled individuals to split the chores and salary of one position where only part-time work is feasible for them.

DISHONESTY DOESN'T PAY ... AT ALL

The Comptroller General has ruled (B-232858) that after falsifying claims on travel vouchers, submission of properly supported claims for those expenses will not be honored. The per diem or actual expenses for the entire day on which a falsified claim was made will be disallowed.

ETHICS BILL LAUNCHED

Rep. Lamar Smith (R-Texas) has introduced the administration's ethics legislation, which sets standards for financial disclosure, conflicts of interest, acceptance of gifts and honoraria and post-employment cooling-off periods. The rules would apply to members and employees of Congress and the Judicial and Executive branches.

New TRACON Opens



The TRACON for the Manchester, N.H., Municipal Airport was commissioned in April, having moved there from the Boston ARTCC. Participating in the ceremonies were (from the left) tower Manager Raymond German; Dean Falcichio, acting manager, New England Region Airway Facilities Division; James Lucas, manager, Air Traffic Division; and Harold Buker, New Hampshire director of aeronautics.

Photo by Mike Ciccarelli

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