

OCTOBER 1975

FAA WORLD

Service to Man in Flight



***THE
DEVIL'S
TRIANGLE***

Federal Notebook

DOWN ISN'T DOWN

Chairman David Henderson (NC) of the House Civil Service Committee has sponsored legislation--already cleared by the Manpower Subcommittee--that would provide permanent protection of salary and grade for employees who face downgradings in job reclassifications. The bill would provide such protection as long as the employee continues in the downgraded position. Once the job is vacated, such as through transfer, retirement or resignation, the position would be reclassified to the lower level. The bill would affect only those downgraded after enactment to reduce the cost of the legislation.

A FINGER IN THE DIKE

To help hold down the cost of Federal health insurance premiums, which will rise next year, the Civil Service Commission has asked Congress to approve a bill that would stave off another increase in premiums for employees and the government. Unless Congress acts to change a section of the Social Security Act that takes effect January 1, the Federal Employee Health Benefits Plan (FEHB) will become the primary insurer for Medicare benefits with no contributions from Medicare. All Federal employees and retirees are entitled to Medicare Part B medical benefits if they meet age requirements and pay the premiums. Those with Social Security coverage are entitled to Part A hospital benefits. Under the Social Security Act, those covered by both FEHB and Medicare pay the same FEHB premium as those who do not have both coverages. CSC's plan would redistribute the cost. It would require Blue Cross/Blue Shield

and Aetna to offer Medicare supplementary health insurance options and permit other insurers to offer similar options.

SCRATCH A WEEKEND

The House Civil Service Committee has cleared a Senate-passed bill that would return Veteran's Day to November 11, beginning in 1978. The holiday is currently the fourth Monday in October, but veterans organizations have argued, apparently successfully, that the current arrangement dilutes the meaning of the holiday.

NEW DISABILITY APPEAL

Under new procedures of the Civil Service Commission for disability retirement appeals, an employee or his agency can apply directly to the director of CSC's Bureau of Retirement, Insurance and Occupational Health for a reconsideration of retirement application decision, instead of appealing to a field office of the Federal Employee Appeals Authority. Under the new system, an appeal of the director's decision can be made to the Federal Employee Appeals Authority.

WHITHER WORKTIME?

The Civil Service Commission's legislative proposal to extend the testing of flexible working hours also includes testing of compressed work schedules, such as a four-day, 10-hours-a-day workweek. Under HR 9043, agencies could submit proposals for participation for employees capable of doing so. Anticipated advantages are reduced rush-hour traffic, reduced tardiness, increased services to the public, more personal choice for recreational, educational and family activities.

FAA WORLD

OCTOBER 1975 VOL. 5, NO. 10

CONTENTS

Federal Notebook	2
Editorial	3
The Devil's Triangle	4
Small World	7
No Sunsets for ex-GADO Chief	8
Faces and Places	10
Dawn of FSS Automation	12
Be a Mechanics Booster	15
Direct Line	16
How Times Have Changed!	18
Heads Up	18
World of Wings	19
Taking a Transponder's Pulse	20

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FAA: A Great Sum Of Its Parts

Most of us work day to day on fragments of programs that are parts of some grander schemes or in facilities that often seem remote from the mainstream of the FAA. But there are times when it all comes together, when we can recognize our individual roles and accomplishments and feel a special sense of pride in the FAA.

Hallmarks of FAA's progress in meeting the needs of the aviation system were in abundance this past summer. In July, we began a year-long test of a semi-automated flight service station that may mean greater speed, accuracy, efficiency and comfort for the specialists in providing flight briefings. (See story on page 12.)

In August, the last of our 64 ARTS III systems was commissioned at the Dallas-Fort Worth TRACON, closing the loop in providing our controllers at the busiest terminals with flight data on their radar scopes. At the same time, the first Terminal Communications Switching System (TCSS) went into operation at this fifth busiest airport, bringing to all controller positions an instantaneous switching capability among radio frequencies and telephone lines.

Also in August, the commissioning of a NAS Stage A radar data processing system at the Miami ARTCC marked the last such system to go on line at the 20 centers in the conterminous U.S. As with ARTS III at terminals, the centers' system places aircraft identity, speed and altitude right alongside the aircraft radar target.

The procession of FAA accomplishments—your accomplishments—goes on in many areas: air traffic control, flight services, setting safety standards and regulations and planning and developing safe and environmentally acceptable airports.

Our mission and the scope of our programs are broad, but it still comes down to a team effort on the part of thousands of FAA employees working in their narrower specialties to produce these magnificent results. Keep up the good work; it is a vital part of this great nation of ours.

James E. Dow
JAMES E. DOW
Acting Administrator

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The Devil Got the Preacher." That's what they said in the newspaper headlines. The preacher flew into the "Devil's Triangle" in a twin-engine Piper Aztec and has never been seen since. According to the newspaper accounts at the time, the crash was particularly mysterious, suspicious and somehow sinister, because no wreckage of the aircraft was found—no trace of the disappearance.

The FAA inspectors at the Opa Locka, Fla., General Aviation District Office put the tragedy into the unexplained-disappearance category, which wasn't unusual. Disappearances occur far too often in this area, where frequently inexperienced pilots fly over a sea plagued by violent, local and, therefore, unpredictable weather.

But the mystery involving the minister did not

remain unsolved; almost a year after the plane flew into the capricious Caribbean, a wing-tip tank floated up on a beach, and FAA was notified.

From this evidence, it was clear that the plane had encountered intense turbulence, and the right aileron had been jammed into the down position when the wing-tip tank was ripped from the wing. This mystery was solved, as were others in the "Devil's Triangle," when wreckage was identified months after the accidents. In some instances, even intact planes with bodies still strapped to the seats have been found by scuba divers, but stories about supernatural forces persist.

So, let's take a close look at flying in the so-called "Bermuda Triangle" or, more sensationally, "The Devil's Triangle." First, it is an area off the Atlantic

Coast of the U.S., described by the Coast Guard as "imaginary." The base of the triangle extends from the Virgin Islands to Miami, while the apex is at Bermuda. According to a raft of magazine articles and recent best-selling books, flying into this mythical area is tantamount to sauntering through the gates of hell.

That there are unusual forces in the area is indisputable. The usually benign weather can change radically. A pilot may fly into a localized storm lurking under an apparently innocent nimbostratus cloud or into small, hurricane-like storms, known locally as neutercanes, which may be imbedded in an otherwise-harmless rainstorm. The pilot flying in restricted visibility has no warning that he is headed toward disaster until it is too late. These cyclical storms pack a punch that can rip the wings off a plane and drop the pieces into the ocean where they will never be found.

The area is characterized by ocean currents, including the Gulf Stream, which can carry floating debris or surviving airmen miles from the site of the crash, frustrating all search-and-rescue operations. There is also a great deal of traffic in the area, particularly around the Caribbean Islands, and there is a disproportionate number of pilots, inexperienced in over-ocean flying, setting off blandly from the mainland or hopping from island to island. Add to this that there are few radio navigational aids and that there are narcotics smugglers who sometimes want to get lost, and it is easy to see that we have a legion of disappearances just looking for a place to happen.

Despite the dangers, real or imagined, there are pilots who ply "The Devil's Triangle" day after day with no trouble. These are the pilots of Chalk's Airline. Flying amphibious Grumman Mallards from Miami, each pilot makes an average of two trips to Nassau and eight to Bimini in the Bahamas each week, and they refer to the "devil" out there as the "saber-tooth guppy." This scheduled air-taxi—the oldest airline in the world—has been flying these skies since 1919.

In that time, there have been no fatalities, no injuries, no mysterious disappearances, no unexplained engine or electrical or compass failures, just day-to-day visual-flight-rules (VFR) flying by weather-wise pilots.

While speaking of the unique problems of over-water flying, one of the veterans of this operation pointed out that even thousands of hours of overland flying don't prepare a pilot for flying to the islands. He said that he had over 12,000 hours of flight time when he first came to Miami, yet on his first trip to Nassau he got disoriented and lost.

Jack Milavic, a general aviation inspector from the Opa Locka, Fla., GADO, outlined some of the

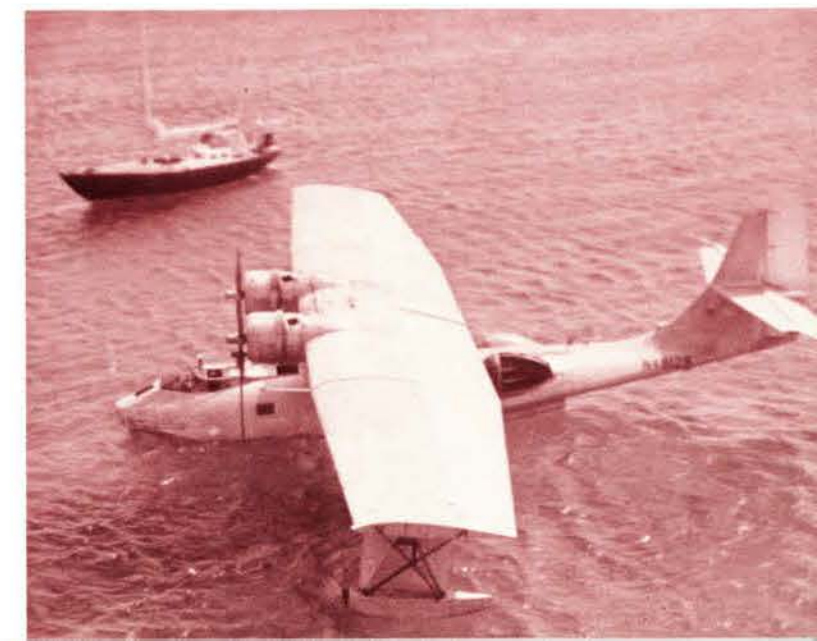
problems facing the neophyte over-water pilot. "On a misty day, the grey of the water and the sky can blend together," he said. "Then the pilot loses his horizon and becomes disoriented." Milavic added that this can happen even on a clear day, with the blues of the sky and the water blending. He went on to say that pilots can mistake the shadow of a cloud on the water for an island and believe they are somewhere they are not. He also pointed out that there is a tremendous amount of traffic in this area and that the vast majority of flights arrive, as scheduled, at their destinations.

Although the sensationalists would have us believe planes are falling out of the sky like rain drops during a tropical storm, the only airliner to crash in the triangle in the last decade was a DC-9, flown by Overseas National, a supplemental airline. The plane was ditched near the Virgin Islands without any loss of life. FAA inspectors found that the plane ran out of fuel, proving once again that within the "sinister" triangle or over the cornfields of Iowa, planes do not fly on air alone.

But it is not just fuel exhaustion or electrical failure that can invoke tragedy when flying over the ocean. The mental state of the pilot is sometimes also a factor. Several years ago, a light-plane pilot radioed Miami International Tower to say that he was lost, his compass had gone haywire, and he was going down in the sea. Newspapers picked up the story and dubbed it another mysterious disappearance.

Okay, so there was something mysterious about this particular flight, but it's hard to believe the saber-tooth guppy got this one. Sam Hamilton, now chief of the Opa Locka Tower, was working the plane, and he remembers feeling that there was something strange about the flight right from the

Clandestine activities in the triangle area include narcotics smuggling. In this case, an attempt to pass a fortune in marijuana from the PBY amphibious aircraft to an innocent-looking yacht was foiled by Coast Guard choppers.



the story of a saber-tooth guppy



Flying Grumman "Mallards," Chalk Airline pilots have been traversing the "triangle" since 1919, without so much as an injury to a single passenger or a disappearance.

start. After takeoff, the pilot requested a turn toward the southeast where there was a known hurricane brewing.

Although Hamilton asked him repeatedly, the pilot was unable or unwilling to give his destination. When he contacted the tower to report he was lost an hour and a half before ditching, he seemed already to have accepted the fact that he would go down and die. At that time, he asked to be patched through to his wife in Ohio to say goodbye to her. Then, with no apparent attempt to save himself, the pilot dictated his last will and testament to Hamilton.

Authors who would have us believe there are supernatural forces busy in the triangle harp on the fact that, after a disappearance, neither debris nor bodies are found even when search and rescue air-

Which way is north?

Articles about "The Devil's Triangle" abound in fact and fantasy, and sometimes the facts are stretched almost beyond recognition. For instance, writers are wont to emphasize that the triangle is one of two places on earth where magnetic and true north coincide so that the magnetic compass points to both. The implication is that there is something ominous about this and that this condition somehow befuddles navigators.

The fact is that the line of zero variation—where the compass and true north line up—passes west of Miami. Therefore the navigator is *blessed* by nearly zero degrees variation only in the western-most corner of the triangle. The pilot flying from Miami to San Juan experiences the same changes in variation as the pilot flying from Cincinnati to Baltimore, nothing more and nothing mysterious. In reality, zero variation does not complicate but simplifies navigation. The navigator is not obliged to transpose magnetic north to true north or vice-versa.

craft blanket the area. However they seldom bother to add that it is extremely difficult to spot a person, body or debris in the ocean.

This summer, a student pilot flying from Sebring to Pompano, Fla.—both airports on the mainland—somehow got mixed up and flew northeast instead of southeast. When he saw a freighter plowing through the water below him, he realized he was over the Atlantic and not, as he thought, over Lake Okeechobee.

The errant pilot ditched near the ship, and surprised crewmembers watched the ditching, but it wasn't until a lifeboat was lowered and the pilot's drift calculated by the ship's captain that the wet, cold student was fished from the water. It took an hour and a half to find the man, even when the seamen know exactly where he had gone down.

And then there's the "mysterious" and tragic crash of the DC-7 carrying goods from San Juan to earthquake-torn Managua, Nicaragua. Puerto Rican baseball idol Roberto Clemente was killed in this crash, and the story catapulted into headlines. There was something suspicious about the whole incident, the sensationalists hinted, but Al Swanson of the Miami Air Carrier District Office explains that the crash was not at all suspicious. "The plane performed exactly according to specifications, which indicated it would not fly with the load it was carrying," he said. "It got off the runway because of ground effect, but it was not designed to fly under those conditions, and it didn't."

This plane did not disappear, but there are still disappearances. Pilots make mistakes, and weather takes its toll of both the experienced and inexperienced airman. But there are fewer disappearances

Paul Torretti of the Miami International Flight Service Station posts the hourly weather report from the Bahamas, especially important to pilots heading out to sea.



than there might be now, thanks to the Emergency Locator Transmitter (ELT) and the Coast Guard's Search and Rescue pilots, who point out that airmen who use their radios and their ELTs after getting into trouble have a good chance of being picked up.

The ELT, which has been FAA-required equipment in most general-aviation planes since June 1974, automatically transmits a radio signal in the event of a crash. The ELT also can be activated by a pilot before a crash in order to establish his location and alert search units.

In some instances, ELTs have been carried out of the plane cockpit after a ditching, enabling Coast Guard helicopters to "home-in" on the signal and locate survivors even in storm-tossed seas. Coast Guard pilots emphasize that a swimming person is at times virtually impossible to locate in a choppy sea, and even at high noon in a relatively calm sea, a person looks very small, indeed.

But, this doesn't answer all the questions. For instance, what happened to Flight 19—the five Navy Avengers that disappeared almost 30 years ago and have become the most famous of the triangle's mysterious disappearances.

While no one will ever know exactly what happened to the five planes, this much we do know. We know the flight headed to the east as it was supposed to. We know the flight leader intended to continue eastward for about 125 miles and then turn left, or north. If he had followed this plan, and there is no reason to assume he did not, he would have flown over the Bahamas. We also know—from explicit radio transcriptions—that the flight leader thought he was over the Florida Keys (to the southwest of Miami). But we also know that if a pilot flies northeast from the Keys, he must trip over Florida, a large solid peninsula of terra firma, whereas if he flies northeast from the Bahamas, he will discover nothing but open ocean.

We also know all too well that planes lost long enough over the ocean must eventually be ditched because of fuel exhaustion. Lastly, we know that no matter how carefully or skillfully the ditching is executed, metal planes sink . . . without a trace.

If you are thinking of flying commercially from, say, New York to San Juan—through the very heart of "The Devil's Triangle"—there are a couple of things to assuage your mind: First, in the last 25 years, there have been tens of thousands of airline flights in this area without a single mysterious disappearance. Second, the safety record of airliners in the "triangle" is actually better than that over the continental U.S.

If there are mysterious forces in "The Devil's Triangle," the devil is hiding them. Every crash or disappearance seems to have a plausible explanation.

—By Theodore Maher



IF I HAD THE WINGS OF AN ANGEL . . . A lawyer in Chandler, Ariz., recently made a mistake that landed him in jail. We mean that quite literally. The legal eagle brought his light aircraft down for a perfect three-pointer inside the Arizona State Prison thinking the open work area inside the walls was the prison airstrip. While he subsequently was having the airplane removed by crane—there wasn't enough room for a take off—the prison warden was complaining to the county attorney's office and the FAA but receiving very little satisfaction according to his own account. "They thought it was funny," he said. "Everybody thought it was funny—but me."

GREENING OF AMERICA . . . Leafing through the annual report of one of FAA's air route traffic control centers recently, we came across a marvelous description of a lawn sprinkler system that we would like to share with the readers of "Small World." The report notes that this equipment "helps to maintain the lawn in a green condition status." Sort of reminds us of the old adage about man's perpetual dissatisfaction with his own condition. You know, the one that says, "The other man's grass is always in a better green condition status."

C'EST L'AMOUR . . . The Canadian Government has been involved for some time now in a test program on the use of bilingual communications—French and English—in air traffic control. The test has generated considerable controversy, and we're not going to get involved in that. But we did want to pass along the comment of one Air Canada pilot on the experiment. In a letter to the *Montreal Star*, he noted that French is not as tersely precise as English and added: "I would not dream of using French in my cockpit any more than I would contemplate using English to make love."

THE NAME OF THE GAME (IS THE NAME) . . . The Santa Monica, Calif., GADO reports that it's adopted (or been adopted by) a Blue Jay that stops by several times each day for handouts of sunflower seeds and peanuts. Apparently the Blue Jay doesn't know that the GADO chief is a fellow named Bill Hawk. And Southwest Region notes that the pilot of a crop duster recently ground looped his aircraft on landing in an attempt to avoid a large bull that was standing smack dab in the middle of the runway. The accident happened at El Toro, Tex.



A Jim Dewey-restored Monocoupe.

No sunsets for the ex-GADO chief

The past eight years have been anything but retirement for retiree Jim Dewey. He's too busy in aviation.

Some GADO people predict they'll tear up their pilot tickets the day they retire, but most renege—aviation's too much in their blood. Jim Dewey knew all along he'd hang on to his certificate after leaving his job as chief of the Van Nuys, Calif., GADO. After all, he couldn't let down the flying part of his family. His wife, Gwen, is a commercial-rated pilot, and son Michael is an air show and movie pilot who has a flight school and aircraft sales agency. Another son and daughter aren't pilots.

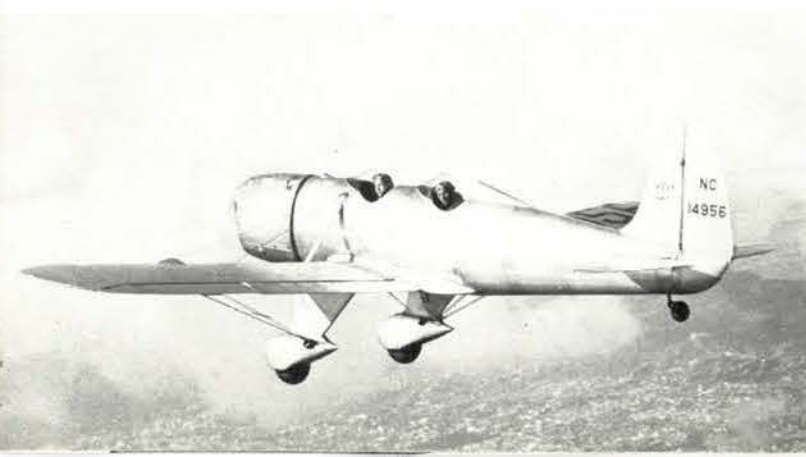
Right off, he moved in to help Michael with his expanding business at Santa Paula. He has retained his FAA pilot inspector-designee status and gives all ratings except ATR, although he is ATR rated, as well as a flight instructor for aircraft, helicopters

and instrument ratings. He also has a current A&P mechanic's rating. His latest flying program has been teaching low-key competition aerobatics, as he terms it, in a Pitts Special. He gets in about 600 hours a year in the air, adding to his not-inconsequential estimated working life flight time of 20,000 hours.

Not the least of Dewey's "retirement" activities relates to his having been a pilot-mechanic-builder all his life. There's always some sort of aircraft he's rebuilding. Since retirement, he has completely rebuilt a Ryan STA, a Luscombe Phantom I—which is one of only two currently in flying condition, a Monocoupe, a pair of Cessna 150s and two 170Bs. He renovated a Spartan and a "doggy" 1960 Commanche 250, which he reworked for family use. "It's a great transportation airplane," says Dewey. "It flies as well as a Mooney, and it should, since Al Mooney had his hand in the design work."

When he retired, one project was awaiting completion. It was his "Deweybird," a one-of-a-kind, two-place, tandem version of the Goodyear Racers

The Deweys flew over Los Angeles in 1937 in their first Ryan (below). More than three decades later the former GADO chief toolled around in a Ryan STA that he rebuilt.



Dewey totes around his "Deweybird" at Santa Paula, Calif., Airport. It's a modification of a "Cosmic Wind" racer.

"Cosmic Wind" series. The bird had a 150-hp Lycoming engine, a controllable prop, manually retractable gear and a top speed over 240 mph.

His most-recent project was to create "Ragwing," which starred before 35-40 million TV viewers on a Walt Disney special entitled, "The Sky's the Limit." A trio of wood, wire and fabric experts and Dewey achieved some sort of a plateau in off-the-cuff designing. You might say his heart was in this project, since Michael Dewey piloted it for the film, although Jim Dewey made the first flights, just as he has done with all of his restorations.

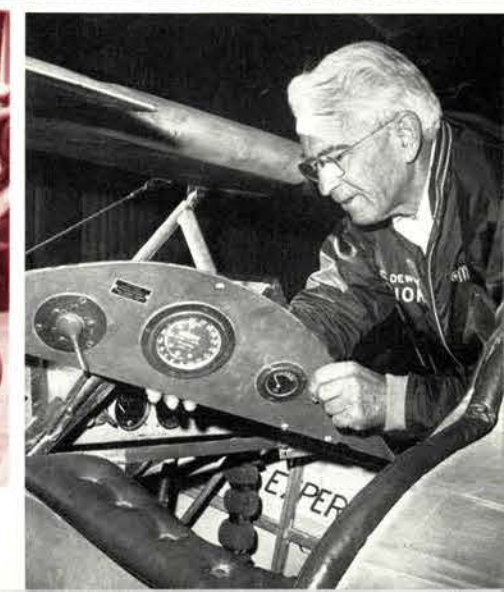
Dewey first became airborne in a "Cycloplane" at the old Alhambra, Calif., Airport in 1931. He soon opened a small flight school there and spent the next eight years just making a living boring holes in the sky. Shortly before World War II, he moved to Oxnard, where he owned a Civilian Pilot Training Program (CPT) school. He joined the CAA in 1941 as a CPT supervisor in Santa Monica.

After Pearl Harbor, he became an Army Air Force civilian pilot, then a second lieutenant in the Ferry Command at Long Beach. He taught IFR transition in BT-13s, BT-9s, Hudsons and B-17s, then ferried new aircraft all over the world. He was finally assigned to the "Burma Hump," flying C-46s, garnering a Distinguished Flying Cross and two Air

Tryout time for "Ragwing" (above right) specially built by Dewey for a Disney TV special and to be flown by his son, Michael. Here, Jim Downey is at the controls.

Right: Gwen Dewey and the supine Jim Dewey work on the wing fabric of "Ragwing."

Far right: Dewey installs a dummy instrument panel on the movie plane, "Ragwing."



Medals for the combat assignment that included evacuation flights out of eastern China. On his return, he flew DC-3s and C-47s from Stockton, Calif., for the Military Air Transportation System in air-evacuation work.

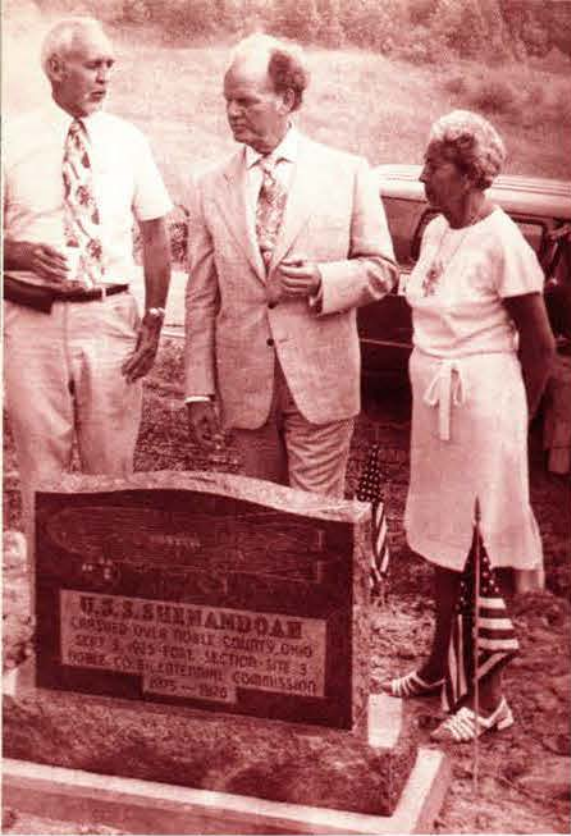
After the war, he rejoined the CAA GADO. At that time, there were just a few qualified heavy multi-engine GADO pilots in the entire region, which kept him moving around for a year. He settled in at Los Angeles for 11 years before transferring to Van Nuys.

Dewey used to commute from Santa Paula most of the time in a Goodyear midget racer, averaging 12 minutes versus an hour and a quarter by car. In marginal weather, he would proceed east over the railroad tracks and make a right turn into the runway on what is called a "VFR, known position approach."

After three years as assistant chief of the regional General Aviation Branch, he returned to Van Nuys for his last five years. He earned the distinction of being the first GADO pilot qualified to give helicopter ratings in the Western Region, which he still does.

Now he's looking forward to rebuilding a Fairchild 22, if he can find one. He asks, "Does anyone in the FAA know where I can find one, even a wreck that's hardly worth rebuilding? We'll get it back in the air." So, that's what it's like to retire!





HALF A CENTURY LATER—Tablets at last mark three farms in Noble County, Ohio, where the airship "Shenandoah" crashed Sept. 3, 1925. Attending the Sharon, Ohio, dedication were (from left) Thom Hook, Office of Information Services and author of "Shenandoah Saga"; TV network news commentator Paul Harvey; and Mrs. John McCarthy, whose husband is a survivor of the crash.



MORE'N A MOUTHFUL—These 10-15-pound lobsters "broke up" Acting Administrator James E. Dow and Program Liaison Specialist Catherine Rodiman, who were attending the New England AT Chiefs' Conference in Kennebunkport, Me. Sharing the laugh is Boston FSS chief Ralph McDonald.



GIVING THE WORD—Herman T. "Stretch" Wells, New England Civil Rights Officer, was interviewed on equal employment opportunity practices by reporter Michelle Washington of Boston TV station WNAC. Photo by Vet Payne



MINORITY SCORE—Inking a \$177,000 contract to provide security services at the New York ARTCC and Common IFR Room are (seated, from left) Martin Bass, Small Business Administration; Thomas Lynch, Logistics Division chief; Richard P. Warren, president of R. P. Warren Patrol & Security Bureau; and James R. Wells, Nassau County, Long Island Dept. of Commerce & Industry. Standing are J. W. Geisler, regional contracting officer; Charles N. Jamison, Procurement Branch chief; and George A. Jones, Nassau County Department of Commerce & Industry.

FACES and PLACES



THE SKY'S NO LIMIT—Proving it takes more than a physical handicap to keep a man down, Deming, N. M., FSS specialist Ron Kingcaid preflights a Cherokee Warrior before takeoff with his student pilot's ticket.



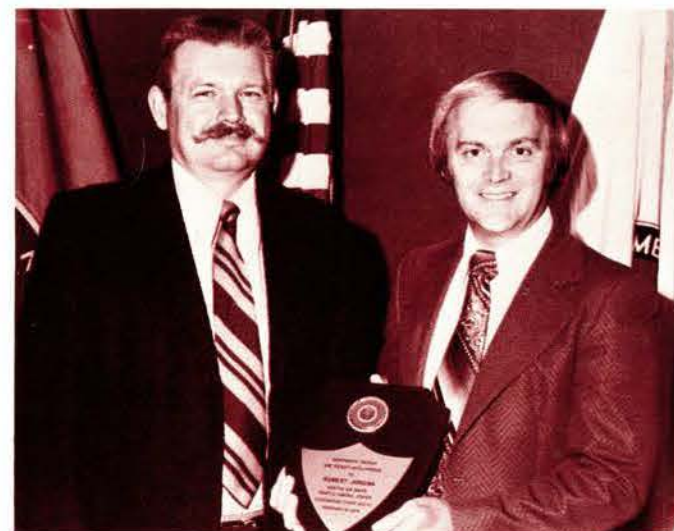
FIRST ALASKAN BIRD—William A. Diehl, president of the Arctic Aircraft Co., and his wife, Jan, received a Type Certificate to build the two-place, 150-hp Arctic Tern from Alaskan Regional Director Lyle K. Brown (second from right). It's the first aircraft to be certificated in the region and the first intended for full production in Alaska. At left is Bob Judd, acting chief of Flight Standards, and at right is Robert R. Durych, FAA test pilot, who flew the Tern.

WE POINT WITH PRIDE—Seattle Center controller R. W. Jordan (right) shows his award to deputy chief Grant Sorenson, presented for guiding a malfunctioning aircraft to an airport approach and then being alert in continuing to monitor the flight. As the plane drifted off course toward a mountain adjacent to the approach, he steered the pilot away and into a new approach. Jordan had previously been the first Northwest Region employee to win the award in 1971.

Photo by Ken Shake



GOOD IDEA—Joseph Ciciulla, a technician with the San Diego AF Sector, has patented a safety latch that he believes may someday be used on the doors of every car and truck made in the U.S. He's been inventing for the last 40 years.



HOPE FOR THE REGION—Secretaries Betty Owen of the airport commission and Gail Orlich of the Saginaw, Mich., FSS greeted Bob Hope on his arrival at Tri-City for . . . what else? A benefit performance for a hospital.



DAWN OF FSS AUTOMATION



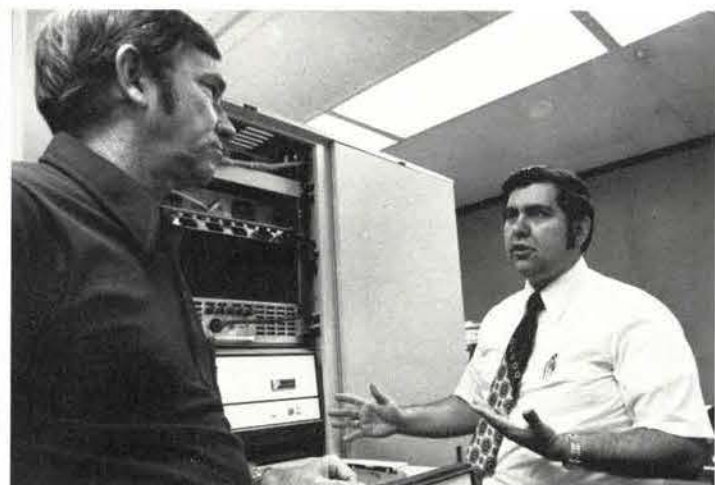
All eyes are on Atlanta during test of AWANS

Clean, quiet and orderly—and also briefly lit for this picture—the Atlanta FSS now sports an array of viewing screens and keyboards. This is the pre-flight briefing area. Large monitors near the wall show weather maps and weather radar pictures; small screens show written data as well as maps and pictures. At the far right on the table is a printer, used occasionally to make paper copies of data shown on small screens.

Photo by Bob Lewis



In the computer room, E-Systems' Joe Wakefield (left) and FAA Project Engineer Jim Harris discuss AWANS' complex electronics. The E-Systems staff will be on hand during the year-long test for maintenance and debugging.



Specialist Carol Baney uses keyboard to display a surface analysis weather map on a small viewing screen while giving a pre-flight briefing.

It's almost like walking into an enroute center or a radar room."

"No, it's like walking into an automated flight service station."

Since mid-July this has become a common exchange between visitors to the Atlanta Flight Service Station and the people who work there. After years of planning and several false starts, FAA has built an automated FSS. And no doubt about it, the flight service specialists love the place.

"It's the greatest thing that ever happened," according to specialist Ralph Hart, a 16-year FAA veteran. "It would be fabulous if this kind of system

goes into a lot more stations." Of course, FAA management thinks so, too, but for now, all eyes are on Atlanta during the year-long test of AWANS—Aviation Weather and Notice to Airmen System. The system really works as advertised, too.

Sitting in the semi-darkened room, specialist Hart bubbled with enthusiasm as he explained the system to a visitor. Then his phone lit up and he answered a call for a pre-flight briefing. A local hot-air-balloon pilot wanted to know how the weather would be that afternoon in the Atlanta area.

"All right, sir, let me check that for you." Hart typed out a short message on the keyboard in front

of him, and in the same instant that he finished, the small TV-like screen facing him lit up in green-glowing words with information on winds, ceiling, temperature and forecast. Hart gave the information to the pilot.

"Did you notice how that SIGMET was the first thing to appear on the screen?" Hart asked his visitor. The SIGMET (Significant Meteorological Information) warned of thunderstorms developing to the west of Atlanta. "The computer received it just a few seconds before the pilot called. Under the old system, I probably wouldn't have had it in time for that briefing."

"The old system"—every flight service specialist knows about that: reams of teletype paper . . . specialists dashing back and forth posting teletyped weather . . . clipboards . . . paper to the right . . . paper to the left . . . paper everywhere . . . the clickety-clack of non-stop teletype machines a few feet away. It was all quite modern—in the 1950s. But now there are just too many pilots and too much weather information for that way of doing business. As Hart said, he probably wouldn't have received that SIGMET, simply because it would not yet have been ripped off the teletype machine and posted at the pre-flight briefing position.

"AWANS does two things," FSS deputy chief Elmer Brothers emphasized. "It gives the pilot—through the specialist—a much better briefing, because the information is more recent and immediately available. And it makes a tremendous improvement in the FSS working conditions. The AWANS room is very quiet and very organized. It's a big change from the old days of noise and confusion; it was like having constant fire drills."

Douglas Rhodes, chief of the FSS and a prime force behind the creation of AWANS, pointed out that the system is not designed to include pilot self-briefing. A keyboard and display screen will be installed at a hangar at Atlanta Hartsfield Airport for use by executive and commercial pilots, but only as a fringe benefit, not as a key element of the system.

Built for the agency at a cost of \$2.8 million by E-Systems, Inc., of Texas, AWANS includes eight pre-flight briefing positions, two in-flight positions, one face-to-face position and one as yet unstaffed Enroute Flight Advisory Service (EFAS) position for more detailed weather briefings to airborne pilots. Located in the flight service station, the AWANS "mini-computer" (which doesn't exactly fit into a hip pocket) swallows with great speed huge amounts of information on weather and air-traffic movement sent over communication lines from FAA's Kansas City, Mo., National Communications Center.

Besides being fast, the computerized AWANS is

also versatile. Playing his keyboard like a virtuoso (well, almost), specialist Hart demonstrated how he could get detailed, summary or trend weather reports for specific locations, areas, states or routes of flight anywhere in the U.S., as well as for selected locations in Mexico, Canada and the Caribbean, plus NOTAMs that apply to those places or routes—instantly.

Besides the written (alphanumeric) data on their screens, the specialists can see weather maps and National Weather Service weather radar pictures at a glance by looking up at large TV monitors on the wall or by signaling the computer to display those pictures on the small screens directly in front of them.

Three large monitors always show the weather radar from the Athens, Ga., National Weather Service radar site. Up to four other radar pictures can be shown at one time from any of 35 NWS radar sites across the U.S. The watch supervisor decides which weather maps and radar pictures to display, based on air traffic and weather conditions.

Although almost everything about AWANS is an improvement over the old system, there is at least one drawback. The specialists sometimes have difficulty keeping up with rapid-fire speech from pilots filing their flight plans over the telephone. Instead of scribbling the information down on paper, the specialist must type the data on his keyboard—a somewhat more exacting task.

"I used to be a bit impatient with slow talkers," said specialist Darrell Dudley, "but now I don't mind. In fact, I've asked some pilots to talk slower than they usually do."

Even so, AWANS brings a sense of security. "I always had the feeling in the back of my mind that I might not have given the pilot some valuable information," said Dudley. "Maybe that one important teletype sheet was buried underneath all the other papers. Now I don't worry about it. My biggest fear is going back to the old system."

When it comes to handling flight plans, AWANS really is a boon. With the computer handling the

Carol Baney draws weather maps at an electronic easel. Intended as a back-up system, the easel is being used to produce all weather maps until the direct circuit for map transmission from the National Weather Service to the AWANS computer goes into operation. Paper facsimile maps from NWS are used to make the electronic tracing.





In the new way of life being tested, only an occasional note need be penned while on duty. Sig Illing (foreground) and Ralph Bixby work pre-flight positions in their neat and quiet environment. Above right are "the good old days" and, occasionally, the here-and-now days. The teletype-laden pre-flight briefing area at the FSS is used by the Atlanta specialists when the AWANS computer is turned off for trouble-shooting—an infrequent occurrence.



clerical work, only one specialist instead of three is needed to accept and file a flight plan. The specialist who used to hop back and forth with flight plans (and weather data) and the teletypist are both freed to handle pilot briefings. Each specialist calmly remains at his position ready for the next task. That may seem like a minor benefit, but anyone who has ever worked in or visited a busy FSS knows it's practically a revolutionary improvement.

Not only do pilots get better briefings, they also get faster air-traffic clearances from a center or tower after filing IFR flight plans. "We transmit the flight plan to the center before the pilot even hangs up the phone," Dudley explained. If a pilot wants to take off very soon after filing his flight plan, say 15 minutes, chances are he'll be able to make it, because the center (or tower) has already received the flight plan.

When an in-flight briefer gets a pilot report on the weather, he types it on his keyboard, and AWANS pumps the information into FAA's weather network as fast as it pulls information out. Again, there is no delay, no waiting for a piece of paper to be picked up, carried to the teletype and sent out.

AWANS' mini-computer—a row of gray cabinets that look like gym lockers—is quite communicative with the specialists and the watch supervisor. From time to time, a little "M" flashes on the specialist's screen ("S" for the supervisor), meaning that the

computer has a message for the specialist. With a brief entry on the keyboard, the specialist can find out what it is. Usually the message will be a new weather advisory, particularly for severe weather. Taking an almost human interest in the safety of flight, the AWANS computer will alert the in-flight specialist when a VFR flight plan on an incoming aircraft is not cancelled within 30 minutes of the estimated arrival time.

Besides lending a big electronic hand to pilot briefings, the computer serves as an omniscient clerk in keeping track of the FSS's daily activity. The specialists are very fond of this function, because they used to spend a lot of time keeping these records by hand.

As in the early days of the air-traffic automation program, there are the usual "bugs" in the AWANS computer system. Sometimes the system has to be turned off, at which time all the pre-flight briefers march en masse to the old and still intact operations area, complete with teletype machines and scads of paper.

Not to be forgotten is the Macon, Ga., Flight Service Station, where AWANS equipment is also installed. Three small display screens and keyboards provide written weather information for the Macon specialists, but not weather charts or radar pictures. Taking its brain power from the mini-computer 80 miles away in Atlanta, the Macon system is under the same year-long test—in this case, to see how well the "satellite" concept works—that is, running a small automated FSS from a larger automated FSS.

Norm Barger, an assistant chief at Macon, echoes the sentiments of everyone associated with AWANS: "It beats the teletype paper," he said. The response time to a keyboard request in Macon for weather data from the Atlanta computer is a little "slow"—about three or four seconds. "But we don't mind that," Barger said. "This kind of system . . . it's the only future for FSSs."

—Story and photos by Don Braun



In a face-to-face pre-flight briefing, the specialist sits at the keyboard while the pilot takes notes. Here John Woodall briefs Ruby Guinn, an Atlanta GADO inspector.

FAA wants you to

BE A MECHANICS BOOSTER

There are many people involved with the safety of flight, both in and out of the FAA. One all-too-often unrecognized behind-the-scenes actor in the safety tableau is the aviation mechanic.

Air travelers never see these builders, repairers and maintainers of all the nation's aircraft, and pilots rarely do; but these professionals are essential to the integrity of the aircraft and systems.

As the FAA, in cooperation with the Flight Safety Foundation and the aviation industry at large, launches its 13th annual Aviation Mechanic Safety Awards Program, it is seeking to focus more public attention on these indispensable men and women.

Within the FAA, this broader-based participation touches most directly on those who have face-to-face contact with the users of mechanic services and the mechanics themselves. The flight service stations are in a unique position to promote this competition and solicit nominations for the awards by their across-the-counter dealings with pilots. Similarly, maintenance and avionics inspectors are often familiar with the work done on aircraft and the mechanics themselves through personal contact. Other facility personnel through their acquaintanceships with fixed-base operators and other businesses located at airports are in a position to be aware of what mechanics are doing there.

The program is being broadcast to the industry as well, seeking participation from aviation organizations, flying clubs and the National Association of State Aviation Officials.

In addition to providing entry forms at flight service stations and other FAA offices, the agency has distributed posters on the program throughout

the FAA and industry maintenance facilities and is making copies of Advisory Circular 60-2M available. Regional Directors have asked for Air Traffic Divisions' cooperation and have supplied FSS specialists with "Dear Pilot" letters for handing out and posting in the facilities. The letter asks pilot participation in honoring the people working in the aviation maintenance trades.

There are two separate competitions—one for general-aviation mechanics and one for air-carrier mechanics. Winners in the general-aviation category are selected first at the state level, then the regional and finally at the national level, while air-carrier participants begin on the regional level.

The criteria for selection of winners are:

- For the suggestion of a design or improvement to an aircraft or powerplant or any of its components that led to or resulted in increased reliability and/or safety in aviation.
- For the suggestion or development of a maintenance and/or inspection procedure that contributed significantly to safety in aviation.
- For the consistent demonstration of a high level of professionalism and excellence in the performance of his or her duties as an aviation mechanic that led to or resulted in increased reliability and/or safety in aviation.

Any aviation mechanic or parachute rigger, except FAA and Flight Safety Foundation employees, is eligible, and anyone may nominate a mechanic for the award. Entry forms and copies of Advisory Circular 60-2M can be obtained at any Flight Standards District Office. Nominations will be accepted through Dec. 31, 1975.

Bernard A. Geier (left), acting chief of the General Aviation Division in the Flight Standards Service, chats with the top winners in the agency's 12th annual Aviation Mechanic Safety Awards Program: John R. Zebora (center), who works for the Los Angeles City Bureau of Transportation and won the general-aviation plaque, and Andrew E. Morgan, American Airlines, national winner in the air-carrier category.



DIRECT LINE



Q. Since the implementation of the ATC Career Legislation Act of 1972, center data systems personnel and research and development and evaluation positions at NAFEC were excluded for 20 years of ATC time towards retirement at age 50. A requirement for the job was to be a radar controller for at least five years and a 2152 series, but what about time prior to the implementation of the act? Does it count toward the 20 years retirement if we go back to an active control position? What if we have 20 years in prior to the act in R&D, data systems and control time?

A. Order 3410.11A, ATC Second Career Program, Para. 6.i., explains what ATC work is creditable under PL 92-297. All "covered position" work (see Para. 5), regardless when performed, is creditable. An assignment into ATC duties that are primarily R&D, data systems or other non-covered work is not creditable under the law, regardless whether performed before or after enactment.

Q. Recently, I had to be on sick leave for a week. After returning to duty, I was told that it was the tower chief's policy that I furnish an SF-71 signed by a doctor. He said it was his policy that anytime an employee was sick for more than three days, he wanted the employee to go to a doctor. I then asked about changing the sick leave to annual leave. He said it was entirely his decision as to what type of leave I would be charged, even leave without pay. During my illness, I had consulted a doctor; in fact, I spent three days in the hospital. Shouldn't an individual be considered intelligent enough to consult a doctor concerning his own health? Does accrued leave belong to the employee or is it something given by the chief if he feels like it?

A. The nature of the evidence required for approval of sick leave is an administrative responsibility. The authority to approve leave is delegated to the lowest practicable supervisory level that will assure the proper administration of the provisions of the agency's Absence and Leave Handbook. The requirement for a medical certificate for absences because of incapacitation of more than three workdays is an agency policy. When a physician or prac-

titioner is not consulted, the supervisor may accept as evidence a signed statement by the employee giving the facts about the absence, the treatment used and the reasons for not seeing a physician. Additional evidence may be required when there is reasonable doubt as to the propriety of sick leave requests. Failure to provide the required evidence could result in the absence being charged to annual leave, leave without pay or absence without leave. The retroactive substitution of annual leave for regular sick leave that was requested and granted is prohibited. Employees covered by the leave law accrue and are entitled to leave benefits as outlined in Handbook 3600.4. Sick leave is for use and may be granted an employee when incapacitated from the performance of duties; for medical, dental or optical examination or treatment; or when a family member has a contagious disease requiring the care of the employee or when the employee's presence would endanger the health of others. Annual leave is provided for vacations, personal and emergency purposes and, subject to the operational needs of the government, may be taken as a matter of legal right of the employee. The timing and amount of leave that may be granted is a matter of administrative discretion.

Q. I am a team supervisor in a Level IV radar facility. I recently did a performance evaluation on a controller. All major job assignments were rated in the "exceeds" column, but my assistant chief informed me that with a rating this high, it was regional office policy that an award be recommended. I told him that I agreed that this man should be considered for an award, but that I did not wish to recommend one at this time. The assistant chief ordered me to make a QWIG recommendation. Is this RO policy and did the assistant chief have the right to order me?

A. It is not a regional policy to automatically recommend a performance award when the employee is rated in the "exceeds" column on all major job assignments. There are several factors to consider before granting a performance award; these are covered in the Recognition and Awards Handbook, 3450.7B, and the Evaluating and Improving Employee Performance Handbook, 3430.3A. Three of the basic requirements for a QWIG are (1) The employee must perform the critical major duties of his job in a manner that substantially exceeds his performance standards for a period of at least six months. (2) His performance must be at such a high level in comparison with that ordinarily found in the position that he merits faster-than-usual salary advancement. (3) There must be reasonable assurance that the same level of performance will continue indefinitely. To be eligible for a Special Achievement Award for past performance of assigned duties, the employee must significantly exceed the performance standards for a majority of the major job assignments for a period of at least six months. The average cost to the government for a quality increase is \$418, and 71 percent of quality increases (from a CSC study) provided benefits for more than four years. These high and recurring costs make it imperative that eligibility requirements be applied properly. Whether an

employee "substantially" or "significantly" exceeds his performance standards is questionable and must be a matter of interpretation and sound judgment on the part of those authorized to recommend and approve awards. It's hard to answer the second question without knowing why you did not wish to recommend the award at that time. The immediate supervisor has a responsibility to initiate performance awards for deserving employees. While a second-level supervisor may suggest to the rating official that he consider recommending an award, the final decision should normally be that of the immediate supervisor, since he is the one who works closest to the employee.

Q. I am a former center controller who was medically disqualified and is currently attending college under the Second Career Training Program. Can I still apply for International Civil Aviation Organization positions without affecting my disability retirement? The retirement has been approved by the Civil Service Commission but is not effective until I complete my training. Also, why aren't we allowed to retain our FAA identification cards while in the second-career program? We are still employees of the agency, and we find that the ID card is a very useful item.

A. If your medical condition is such that you can perform the duties of another Federal position and you are reassigned, promoted, demoted or transferred (but not detailed) to such a position, you are no longer in the job for which you were medically disabled. Hence, you would have lost your right to disability retirement as an ATCS. ICAO positions are not in the Federal civil service, but FAA announces ICAO vacancies and supports ICAO by authorizing return rights to FAA employees who accept such positions, when the employee's region/center/office/service agrees to provide return rights. To agree to extend return rights in your case, the region would have to locate—and you would have to accept—some position for which you are qualified and to which you could return upon the completion of your ICAO service. However, if you accept another FAA position, that would terminate your rights to disability retirement. As a private person, you can make an application direct to ICAO for employment on their permanent staff, outside the procedures for return rights to FAA. Should you be separated from the Federal service, entered on the Civil Service annuity rolls and employed on ICAO's permanent staff, your entitlement to disability retirement would continue under the same conditions as any other employee who goes on disability retirement and who takes a job to supplement his annuity payments. Your servicing Manpower Division will provide forms and other assistance if you are interested in applying for an ICAO position. Your point about employees in second-career training retaining their DOT/FAA ID cards is well taken. In fact, the rules were recently changed to permit second-careerists to retain them until they are separated from the agency.

Q. We feel that our flight service station has been underrated due to the interpretation of the present

FSS classification standards in our region. Many stations performing the same or even less activity than ours are enjoying a higher grade. The classification study group submitted recommendations for new standards to the FAA for forwarding to the DOT in April. Nothing has been heard from this action. When will we be advised of these new standards?

A. The FAA/NAATS Classification Study Group report is currently undergoing review at FAA headquarters. The union contract stipulates that following the Administrator's review, the recommendations of the work group will be forwarded to the Office of the Secretary. The Office of the Secretary lacks the authority to implement new classification standards without the approval of the Civil Service Commission. For this reason, it could take a considerable amount of time for a change if the study group's report results in the publishing of new classification standards.

Q. The Alaskan Region "Guidelines for Change of Official Duty Station" states that it is the policy of the agency to grant up to 40 hours of duty time as administrative leave for making pre- and/or post-moving arrangements incident to a change of official post of duty. My written request for administrative leave in connection with a change of station was verbally denied. The leave request with a reason for disapproval was not returned to me. What directives apply to this?

A. FAA Handbook 3600.4, Chapter 7, Para. 71k, provides that "... nontemporary employees who are making a change of official post of duty in the interest of the agency may be granted excused absence, not to exceed 40 hours, if necessary to enable them to make pre- and post-moving arrangements incident to such change of official post of duty." The excused absence may be authorized as needed during a change of official post of duty to complete chores such as closing on the purchase of a home, unloading of furniture, enrolling children in school, testing for a new state driver's license, hook up of telephone and utilities and other such chores that would not be required had the employee not moved. If it is not necessary for the employee to complete such chores during his regular tour of duty, excused absence is not authorized for the employee's use. While the order does not directly speak to the proper way to submit a request for excused leave nor to the obligation of a supervisor to give a reason for denial of the request, we feel that a good supervisor would answer the employee's questions with respect to the proper submission of the request. While the supervisor may not be obligated to give a reason for denial, there is no reason we can think of as to why he should object to doing so. We suggest that you first read the applicable regulations governing the granting of the excused absence of up to 40 hours and see if you still feel you were entitled to the excused absence. If you feel that you were entitled to the excused absence, then go back to your supervisor and ask for the reasons for denial of your request.

HOW TIMES HAVE CHANGED!

Many of you may have seen the following "U.S. Air Service Regulations" published before, but as the complexity of our own world of aviation and its rules grow apace, the quaintness of these "primitive" regulations is enhanced. These terse regulations were presented in the *Lockheed Southern Star* magazine in 1920.

1. Don't take the machine into the air unless you are satisfied it will fly.
2. Never leave the ground with the motor leaking.
3. Don't turn sharply when taxiing. Instead of turning short, have someone lift the tail around.
4. Never get out of the machine with the motor running until the pilot relieving you can reach the engine controls.
5. Pilots should carry hankies in a hand position to wipe off goggles.

6. Riding on the steps, wings or tail of a machine is prohibited.
7. In case the engine fails on takeoff, land straight ahead regardless of obstacles.
8. Do not trust altitude instruments.
9. If you see another machine near you, get out of its way.
10. No machine must taxi faster than a man can walk.
11. Before you begin a landing glide, see that no machines are under you.
12. Hedge-hopping will not be tolerated.
13. No spins on back or tail slides will be indulged in, as they unnecessarily strain the machine.
14. Pilots will not wear spurs while flying.
15. If an emergency occurs while flying, land as soon as possible.

HEADS UP

ALASKA

Promoted to general facilities and equipment foreman at the Fairbanks ARTCC was *David Zeller*.

CENTRAL

Former manager at NATCOM, *James Todd* has taken over as sector manager at the Kansas City International Airport . . . The new Flight Standards/General Aviation-Air Carrier Branch chief is *S.E. "Tommy" Thomas, Jr.*

GREAT LAKES

The Madison, Wis., Tower's new chief, *Tom Rauner*, hails from the O'Hare Tower, where he was an assistant chief . . . *Alan Haferbecker* moved from the AT Plans & Programs Branch to chief of the Milwaukee, Wis., FSS . . . Selected as the deputy chief of the Chicago ARTCC is *Mike Ciancanelli* from the Operations Branch . . . A new assistant chief at the Indianapolis ARTCC is *Ron Molen*.

NORTHWEST

Dennis Davis, formerly at the Aeronautical Center, is a new assistant chief at the Boise, Ida., FSS . . . The new

chief of the Operations, Procedures and Airspace Branch is *Gene Lawing*, the former chief of the March AFB RAPCON . . . *Paul Bagley* has reported in as chief of the Maintenance Engineering Section of Airway Facilities.

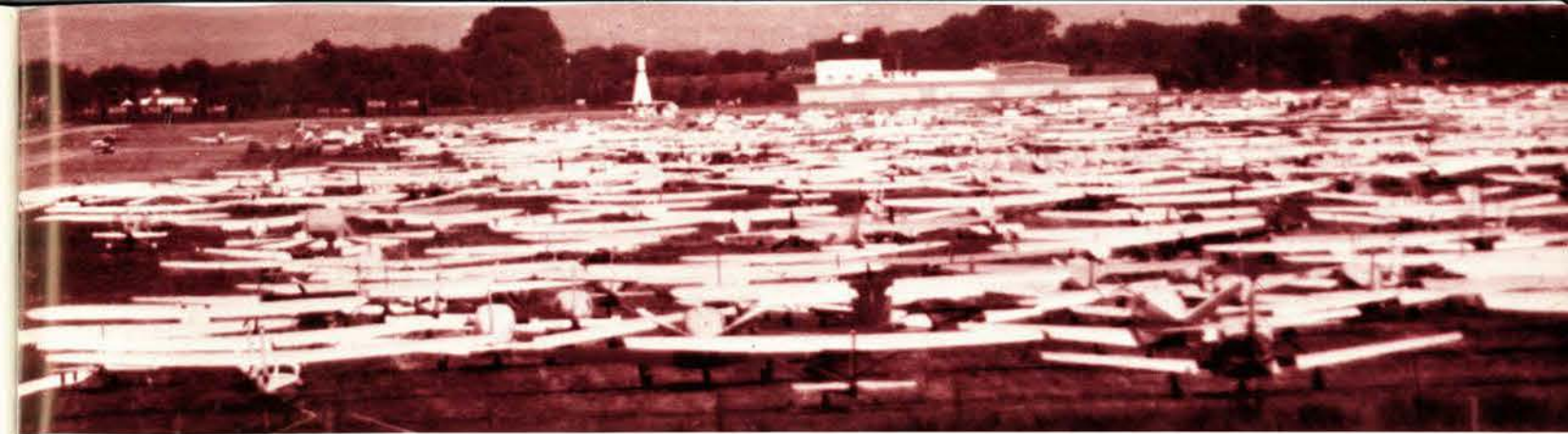
SOUTHWEST

Elwyn W. Hash and *Jack M. Paschich* were selected as assistant chiefs at the Albuquerque, N.M., Tower . . . Chosen as chief of the Hobbs, N.M., CS/T was *Claude W. Odom* . . . *Bobby L. Couch* got the nod to be an assistant chief at the Abilene, Tex., RAPCON . . . The Lubbock, Tex., Tower has a new assistant chief in *Roy E. Harmon* . . . Selected as an assistant chief at the Austin, Tex., RAPCON was *Asa R. Miller* . . . *Bobby A. Jones* was promoted to an assistant chief's position at the Amarillo, Tex., Tower . . . Aboard the Fort Worth, Tex., ARTCC as deputy chief is *Sabe M. Comley* . . . *Norman H. Scroggins* has assumed the duties of deputy chief of the Dallas-Fort Worth TRACON . . . Selected as an assistant chief at the Texarkana, Ark., CS/T was *Robert V. Dye* . . . *Paul H. Story* from the McAllen, Tex., AF Sector is now manager of the Albuquerque Sector . . . *Paul Nelson* has been installed as the chief of the Farmington, N.M., CS/T . . . *John C. Winters* was chosen an assistant chief for the Lafayette, La., FSS . . . The Harrison, Ark., FSS got a new chief in the person of *William G. Meyers* of Albuquerque . . . *Derald W. Bartimus* was chosen as an assistant chief of the Lafayette, La., Tower . . . *John C. White* got boosted to an assistant chief's slot at the Dallas, Tex., TRACAB . . . *William Haynes* got the nod as chief of the Carlsbad, N.M., FSS . . . Selected as

chief of the AF Sector Field Office in College Station, Tex., was *William Poston* . . . *Greg Seybold* was chosen chief of the San Antonio, Tex., Air Transportation Security Field Office . . . *Al Reed* has become chief of the Albuquerque GADO . . . The new chief of the Wichita Falls, Tex., AF Sector Field Office is *Joe F. Ward* . . . The new assistant sector manager of the Little Rock, Ark., AF Sector is *Luther W. Cox* . . . Named the assistant manager of the Austin, Tex., AF Sector was *John D. Green* . . . *Wayne Conn* moved to the Longview, Tex., Tower from the Phoenix TRACON as an assistant chief.

WESTERN

The new deputy chief of the McClellan AFB RAPCON in California is *Joe Cadere* from Stockton, Calif. . . . *Ventura, Calif.*, Tower assistant chief *Michael Kearney* is in his new job as assistant chief at the Edwards AFB RAPCON . . . Installed as a new assistant chief at the Ontario, Calif., TRACON is *Richard Cox* . . . *Emil Sereda* of the Oakland, Calif., FSS is aboard the Blythe, Calif., FSS as an assistant chief . . . *Don Alford* was promoted to an assistant chief in the Long Beach, Calif., TRACON . . . *Lanny McCaslin* transferred from the Phoenix, Ariz., TRACON to the Phoenix Tower as an assistant chief . . . The Reno, Nev., Tower/TRACON got *Jarrod Ellison* as an assistant chief from the Phoenix TRACON . . . *Henry Barbachano* is assistant chief of the Palo Alto, Calif., Tower, not chief, as reported in the August issue—with apologies to *Jim McMeans* . . . Aboard as the new chief of the Aircraft Engineering Division is *M. C. (Craig) Beard*.



World of Wings Descends on Oshkosh

Through this gate passed 275,000 visitors to the Experimental Aircraft Association's 23rd Annual Fly-In Convention at Wittman Field in Oshkosh, Wis., this summer. Flags rippling in the sun—hotter than at any previous convention—are testimony to the international flavor of the event: 31 foreign nations were represented.



The "No No's" pole has been a fixture at EEA fly-ins for years, giving pilots common-sense pointers.



FAA assembles a special team of controllers from several ATC facilities in the Great Lakes Region to handle the virtually non-stop fly-in traffic, easing an otherwise overwhelming burden for the regular tower crew. Here, *Doug Radtke* of the Chicago Midway Tower guides one in. This year, 67,314 aircraft movements were recorded, slightly less than last year, but still enough to keep the team of tower controllers jumping.



Only when it's on the ground can Ed Lesher's "Teal" be easily discerned as rightside-up. This unique plane's five-year old distance record in its category was broken by the new VariEze at this year's convention.

How's the weather? . . . More than a casual question, this inquiry was answered hourly by a National Weather Service expert who gave weather briefings to groups of pilots visiting the Fly-In. A temporary FAA flight service station in a tent also gave briefings. Leaving nothing to chance, FAA controllers gave hourly briefings on the fly-by pattern to craftsmen-pilots who were on hand with an array of 1,338 display aircraft, including custom built, specials and antiques, classics and warbirds (all beautifully restored).





Taking a Transponder's Pulse

Turning up at a number of airports recently is a horn antenna sitting on the ground, backed up by a large van. These two elements make up a first-of-its-kind computerized test-equipment package that can analyze the operation of an airplane transponder right on the ramp and in less than a minute.

Developed at NAFEC, the equipment—termed a transponder performance analyzer—is designed to probe radar-beacon problems and to improve the air traffic control system, according to its designer, engineer George Mahnken, Air Traffic Systems Div.

The equipment includes a mini-computer and is housed in a self-contained mobile van with radio communications. It uses a horn antenna aimed at the plane's transponder. For the ramp check, the pilot

merely switches on his transponder and switches to the specific codes requested by the test personnel.

The computer controls the tests, analyzes the data and displays the results on a video display or makes a print-out. The check gives a breakdown of performance characteristics, including: transponder sensitivity, output power level and frequency, reply pulsewidth and spacing, side-lobe suppression operation and decoding accuracy.

The analyzer was rolled out for the first time this spring at the Reading Air Show, where it was used to obtain a statistical sample of the performance of the varying types of transponders in use. About 100 transponders were tested in three days.

—By Frank McHugh

A crew of three operates the transponder performance analyzer. Technicians Edward Stanks (left) and Bernard Korsak adjust the dolly-mounted horn antenna aimed at a Lear jet's transponder, while Harry Peterson plugs the antenna's power line into the van. Inside the van, Peterson operates the computer that processes the signals.

