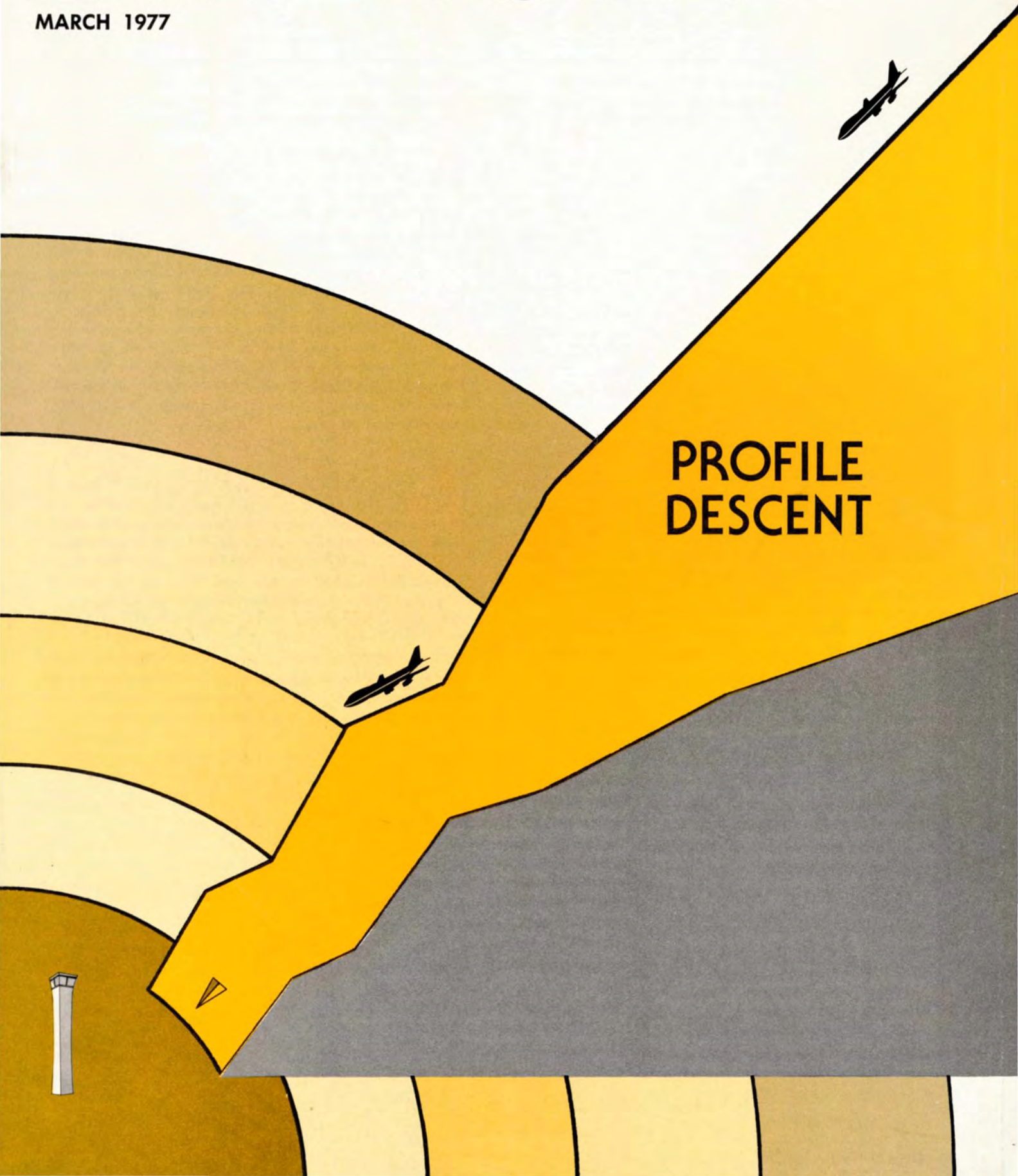


FAA WORLD

MARCH 1977





Q While attending a course at the Transportation Safety Institute, co-located at the FAA Academy, our instructor told the class that the TSI was not part of the Academy and that students were therefore entitled to the regular \$14.00 per diem plus lodging, rather than the Academy's rate of \$12.00 plus lodging. Both rates were paid by my region for the same class. When I found out and questioned the difference in payment, the other student was made to repay from the higher rate. Aren't there rules on overpayment when the individual is unaware of overpayment, and what about other regions that are paying the \$14.00 rate?

A When an employee inadvertently receives more than he or she is entitled to, the overpayment is due the Government upon discovery. The provisions for waiving an overpayment of salary do not provide relief for the overpayment of travel. When an employee discloses the possibility of improper payments, corrective action is instituted promptly. The agency has determined that the Transportation Safety Institute and the FAA Academy are considered to be the same as far as per diem regulations are concerned, and other regions have been notified of that policy.

Q I have 20 years of air traffic control in the CAA and FAA, and I am 45 years old. If I change professions and leave the FAA, will I be able to receive my retirement when I am 50 years old or will I have to wait until I am 62? I will not be going into another government agency but into the private sector. I also have four years of military air traffic control. Will this have any bearing at all on my retirement?

A Under Public Law 92-297, a DOT employee who completes 25 years as an air traffic controller or completes 20 years as a controller and becomes 50 years of age is eligible for early retirement. This is a vested right, which may be exercised as long as the individual is employed by a Federal agency. Since you indicate that you plan to leave Federal service, you would not be eligible for early retirement after reaching age 50. You would be eligible for a deferred annuity at age 62 if you left your retirement contribution in the retirement fund. Your four years of military service will be creditable in computing your annuity but not in attaining eligibility for early retirement. Either way, you would have to work five years more for an immediate annuity.

Q Referring to an earlier "Direct Line" query on the smoking hazards for a non-smoker, I believe that the determination that smoking in FAA offices does not produce tobacco-smoke combustion by-products of sufficient levels to adversely affect the

health of non-smokers to be nothing short of garbage. On the contrary, I choose to believe the Surgeon General's report. It is difficult for me to understand how a socially aware governmental office could make such a questionable statement. If I were to file a written complaint with the Office of Personnel, just what would their processing consist of?

A The Surgeon General has stated that smoking is dangerous to the health of the smoker. He did not make any reference to the effects of cigarette smoke on non-smokers. The Office of Aviation Medicine has conducted numerous air-sampling surveys in various types of FAA facilities, particularly where complaints have arisen. An instance where air contaminants have even approached the established tolerance value limits for occupational health has not been found. We believe that subjective, personal objections to smoking are matters most appropriately considered and dealt with at the local operating level. In handling complaints of this nature, the Office of Personnel would have to rely on the judgment of the Federal Air Surgeon and encourage a resolution at the facility or office involved.

Q Prior to my being hired by the FAA, I worked for five years as a full-time air technician for the Colorado Air National Guard. Are there any regulations that permit me to obtain retirement credit and pay into the retirement fund for those years. Air technicians are now covered by Federal retirement, but no one seems to care or know about previous service as air technicians.

A Prior to the passage of PL 90-486, effective in 1969, National Guard technicians were considered to be employees of the state government. However, with the passage of this law, for those employed on the effective date and who chose to be covered by the Civil Service retirement system rather than by the state system, previous technician service is creditable for retirement service. Since you were not then employed by the National Guard, your service is not creditable.

Front cover: High-profile descent is right on target in attacking environmental problems. By absorbing delays at high altitudes and providing through descents at idle thrust, the program, detailed on page 4, is saving large amounts of fuel and cutting airport-area noise.

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EDITORIAL

FAA Conservation Of Energy Can Set Example

Administrator McLucas congratulates students from Randall Junior/Senior High School, Washington, D.C., for their participation in a model airplane contest at FAA headquarters, sponsored by the Tuskegee Airmen's Assn. It was part of Black History Month observances.



The natural gas shortage has reminded us once again that the nation's energy resources are not to be taken for granted. That's the bad news. The good news is that we have found we don't need the amount of fuel we thought we did. People have turned down thermostats, bundled up to keep warm and perhaps saved some money on fuel bills in the process.

Americans generally respond well in a national pinch. It offers a challenge and proves once again that necessity is the mother of invention.

A splendid example of that creative spirit is FAA's local-flow traffic-management program that will be put into effect at major U.S. airports beginning this year (See page 4). It is designed to reduce the low-altitude flying time of jet aircraft in terminal areas where they consume enormous amounts of fuel. There are two basic elements to the program: a metering and spacing system that regulates arriving aircraft at a pace that airports can handle without delay, and the use of idle or near-idle thrust descents that reduce the amount of fuel used to a minimum.

The potential savings are enormous—perhaps hundreds

of millions of gallons of jet fuel a year—and there will be a significant reduction of noise in communities surrounding airports as an added benefit.

So, with one program—simple in concept and inexpensive to implement—some of the major problems facing aviation today can be substantially alleviated. The program will require the full support of controllers and pilots to achieve its potential.

This is a creative and effective use of existing resources that can set an example for other areas of our national economy. Aside from saving energy resources, it will contribute to keeping down the costs of operating and using the national aviation system . . . always, of course, consistent with safety.

John L. McLucas

JOHN L. McLUCAS
Administrator

It's rare day in any month when one can find an agency program that almost everyone likes. On the other hand, it's not hard to understand when it produces a jet-fuel saving of about two million gallons a year at one airport, increases safety by reducing the amount of interface between high-performance jets and light planes at low altitudes near terminals, saves time and reduces the noise for people near airports.

The new high-arrival and metering-and-spacing cooperative program evolved at the Dallas-Fort Worth ARTCC and the Dallas-Fort Worth RAPCON from procedures developed for Dallas Love Field in 1972 by a team headed by David Lee, a specialist in the Airspace and Procedures Branch of Southwest Region's Air Traffic Division, and controllers Byron Zirkle, Robert Kimbro and Jack Glaze of the Fort Worth Center. Its experimental success there and elsewhere in

the country provided the basis for a nationwide program (see story at right, "Local Flow Goes National").

Implemented on Mar. 25, 1976, at the Dallas-Fort Worth Airport, the program—also referred to as a profile-descent procedure—was specifically tailored and refined to meet the needs of high-performance aircraft operating into and out of the terminal. The final plans were the result of a joint FAA-industry-airport management effort.

Lee began work on the initial concept at Love Field when he was assigned to study and recommend improvements to the then-unacceptable air-traffic situation at the Dallas airport. His principal objective became the re-engineering of airspace procedures that were originally designed for slower, propeller-driven aircraft.

"Jet aircraft, especially large jets, function most economically at high altitudes," Lee said, "They also operate at much higher speeds than smaller propeller-driven planes.

"If we could keep the jets' time in

the terminal airspace as short as possible and make certain that any necessary delays were taken in a high-altitude environment, we were bound to save fuel and time and enhance all aspects of terminal safety, because of the natural separation between the high- and low-performance aircraft."

Many believe that this may be one of the few times that so many and varied interests have cooperatively achieved a workable solution to a problem where each party involved gains and no one loses.

Controllers, for the most part, are pleased with the procedure, because they handle each arriving aircraft for a shorter period of time, although some consider the new procedure to be more demanding of their attention.

The Fort Worth Center handles the metering and spacing portion of the procedure, starting at about 150 nautical miles away from the terminal area. Speed and adjustments to speed are assigned to the pilots by the controllers so that their arrival at the airport will not saturate the airport's normal handling capacity. Projected arrival times are determined by computer, and the controller, with the pilot's cooperation, plans the plane's

arrival at the terminal's electronic navigation fix such that the pilot can begin an idle-thrust decent to the approach point for a landing.

Airline pilots favor the new procedure because it saves them fuel and time spent in the approach profile, and the airlines like it for the same reason—it saves them money.

The airport manager like it because it enhances the airlines chance of making a fair profit at his facility, and because it reduces the noise problem for his airport's neighbors.

Here's how the arrival portion of local-flow traffic management works: The Fort Worth Center manages the enroute phase of an airline flight so it will arrive at a predetermined navigational fix (a VORTAC called a cornerpost) near Dallas-Fort Worth Airport at a specific time, speed and altitude. The center controllers know that the terminal controllers are capable of handling arrivals at an optimum of 60 per hour on their two parallel runways, and they meter the incoming aircraft so as not to saturate the airport's capacity. This eliminates the airport holding patterns or "stacks" that had plagued aircraft at Love Field.

At the four cornerpost navigation fixes, the terminal controllers accept the incoming flights from the center

Local Flow Goes National

So successful and manageable has high-profile descent proved in experiments at Dallas-Fort Worth and other facilities around the country that the agency has developed it into a national program called "Local-Flow Traffic Management" under Order 7110.72.

In the very near future, FAA facilities controlling the traffic for 16 of the nation's busiest jet airports will have submitted operational plans for this program to their Air Traffic Divisions for review and forwarding to the Air Traffic Service.

Under the order, each plan is required to project an implementation date. These facilities will have to put the program into practice by late this year. Facilities at the remaining Level IV airports will have to submit plans and implement them by next March and those at all other airports by July 1978.

Prior to each facility's implementation, coordination is required with Flight Inspection Field Offices, adjacent facilities and regions, between terminal and enroute facilities and with aviation user groups to allow at least 45 days for user familiarization.

Designed to conserve aviation fuel and diminish noise levels for airport neighbors, the procedures developed involve:

- Reducing flying time at altitudes below 10,000 feet above the airport by (1) minimizing speeds less than 210 knots, (2) eliminating holding patterns and excessive turns to absorb delays and (3) designing the shortest practical route from the descent point at which traffic flow is regulated down to the runway.
- Providing the maximum use of unrestricted descents from cruising level to the approach gate.
- Avoiding abnormally high descent rates close in to the airport so as to permit a stabilized approach with interception below the glide slope.
- Permitting departures to climb unrestricted to the extent possible and compatible with the new arrival procedures.

Since the automated spacing of aircraft by time, or metering, is currently beyond the existing terminal automation program, manual metering of aircraft will be necessary until the agency can revise the computer programs.

PROFILE DESCENT Everybody Wins

FL390

130NM

36NM
Meter Fix

End of
Profile
Descent

Final
Approach
Fix

and vector them to the approach point for the active runways. The arriving aircraft, because of their relatively high altitude near the airport, can throttle back to idle thrust and often need not add power until the final phase of the landing.

During this transition-to-landing phase, the pilot begins a 300-foot-per-nautical-mile descent (1,500 feet per minute) from an altitude of 11,000 feet, at the end of which he is lined up with the active runway in position for an ILS or visual approach.

"Everything works well as long as both the pilot and controller adhere strictly to the published procedure," explained Capt. Robert E. Lewis, an American Airlines pilot based at DFW. "There were some complaints from both when the procedure was first put into practice, but I believe the complaints came from a slight misunderstanding of the procedure and from the natural resistance most people feel toward change. Now that 'high arrival' is an established concept, and everyone has had a chance to get used to it, I think most of us like it. It definitely saves fuel, time and money—three good

reasons for doing our part to make it work smoothly," Lewis concluded.

According to figures from the Southwest Regional Office of the Air Transport Association (ATA), the per-arrival potential fuel savings amount to about 36 gallons for a Boeing 727 and nearly 100 gallons for a Boeing 747. Tower personnel say that an average of about two minutes per arrival is saved by the new procedure, which comes to about 2,700 hours per year in aircraft operational time. According to ATA figures, that time translates to about \$2 million saved by the airlines using DFW.

Airport manager Frederick C. Ford is probably most pleased with the noise reduction. Since the aircraft remain at high altitudes until they are very near the airport, the perceived noise in nearby communities is considerably reduced. Ford also expressed delight with the money saved and the increased airport capacity. "The airline dollar is sorely strained in these times of economic uncertainty, and the economy of the airport and the communities it serves are directly linked to that of the airlines," Ford said.

Another spin-off benefit from the procedure is that of improved safety. According to Capt. A. B. Crimmins, manager of flight operations for American Airlines at DFW, it more effectively separates the faster, high-performance aircraft from the slower, propeller-driven, piston-type aircraft.

Capt. Wendell Stephens, check pilot for Braniff at DFW, was one of the principal contributors to the development of the high-arrival procedure, along with Jim Owens, DFW Tower operations officer. "We tested several arrival procedures in one of Braniff's 727s. We would usually conduct the tests around midnight when the traffic was light, and we used the 727 without its speed brakes so it would give us comparable operation to most jetliners. We're still looking to improve the procedure, but it's the best we could develop so far," Stephens said.

"We're especially pleased with the way things worked out," said Harold J. Doebler, Dallas-Fort Worth Tower chief. "Our controllers have put forth a great deal of effort in helping to make this procedure work, and I think the controllers at both the center and our RAPCON deserves a lot of the credit for its success." —By Stan McDonough

ALL IN THE FAMILY. . . . If one of your youngsters wants to do a school composition about your job at FAA, you might be well advised to turn him or her in a different direction. We say this because "Small World" recently came into possession of a school theme written by the offspring of an FAA husband and wife team employed in the agency's Western Region Headquarters in Los Angeles and . . . well, you can judge for yourself: "My Mom and Dad work at F.A.A., Federal Aviation Administration. My Dad is a GS-14 and my Mom is a GS-9. My Dad downgrades people, like if someone was a GS-8, he could downgrade them to a 7 or 6. My Mom is a great secretary, but she always has a headache after work."

FROM THE MOUTHS OF BABES. . . . A group of school children recently visited the control tower at Anchorage's Merrill Field and here are some of their impres-



sions of what it's like to be an air traffic controller:

- "Dear Traffic Policeman for Airplanes: It must be kind of sunny up there. We are happy in our room. Are you happy in your tower?"
- "Dear Controller: I am good at telling people what to do. Can I help you?"
- "Dear Pilot-Helpers: Do your eyes get tired? You have to wear earmuffs all the time, don't you? What do you do when they let you out of the tower?"
- "Dear Controllers: Does your chair turn all the way around so you can see them coming? Or do you stand up?"

• "To Our Friend: I wish you came over here to us with your earphones on. Do the big planes make too much wind for the little ones? When do you eat lunch? And when do you take a nap, also?"

• "Dear Controller: That's a good job you're doing. I hope you eat a bunch of carrots, so you can see good, because I don't want any planes to crash."

• "Hi, How are you? Send me back a letter and say 'fine'."

IF GOD HAD WANTED MAN TO FLY. . . . Children aren't the only ones who say funny things. There's a controller at Colorado Springs Municipal Airport who got off a pretty good quote recently when asked by a reporter from the local newspaper for his views on flying. The controller indicated that he avoids flying whenever he can, noting that: "I still can't figure out how you can pull a handle and go up in the air. It scares me."

MEET THE SECRETARY

Underlining his concern for regulatory reform and finding capital for airline modernization, Brock Adams told an aviation group last fall, "It's time to start moving again, and the takeoff time is now."

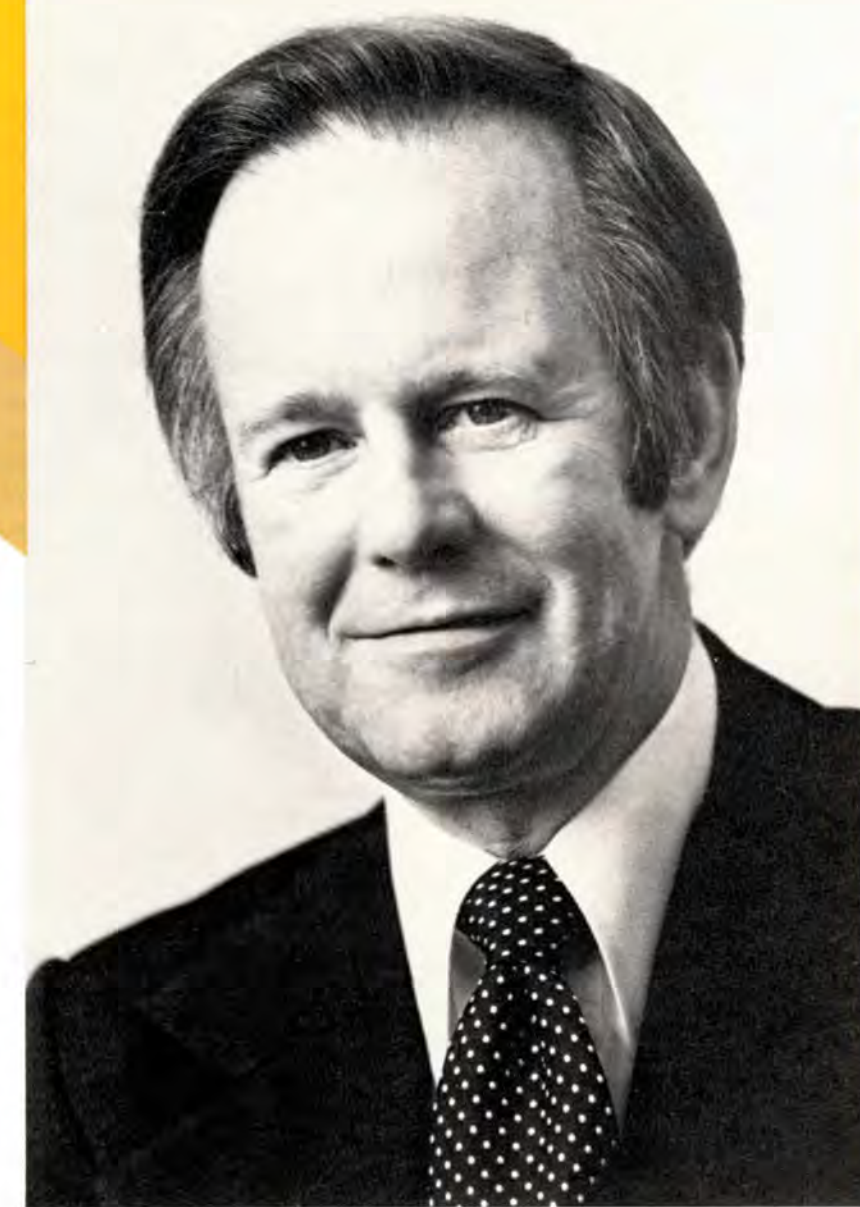
In a speech before the Aero Club of Washington before he became President Carter's choice to be Secretary of Transportation, Mr. Adams delineated some of the thinking that would set the tone for his stewardship of the nation's transportation industry. "We must balance the need of the traveler for safe, low-cost and competitive service against the need of the airlines to make a sufficient return to purchase needed equipment," he said.

He pointed to the urgency for "practical reform of the existing system, not the simple abolition of regulation," and for encouraging investment in airlines to spur the development of quieter and more fuel-efficient aircraft. He believes that some Federal assistance may be required to help the airlines meet large needs for capital, but that the government must be the lender of last resort.

The new Secretary came to his present post from Congress where he was a six-term member of the House of Representatives from South Seattle and southern King County, Wash.

Transportation was his major interest during his service in the House. He was a member of the Committee on Interstate and Foreign Commerce and helped to develop and pass the Airport and Airways Development Act of

(Continued on page 15)



At 10 p.m., air traffic at Sky Harbor dwindled to an irregular trickle. Controllers and other airport employees who had covered peak evening traffic departed, leaving the skeleton night crew. A single-engine plane, completing a routine flight from central California, touched down on the north runway and taxied to the transient parking area at this Phoenix airport.

When the phone rang at 10:20, air traffic control specialist Richard J. Lawrence, on duty alone at the FSS, expected it was a pilot making a weather check for an early morning departure before he went to bed.

Without identifying herself, a woman caller demanded to talk to her husband, whom she would not name. He apparently was the pilot of the small plane that had arrived from California.

"Miss, he isn't here," Lawrence said.

"I know he's there. Put him on the phone. I have to talk to him," she yelled.

"Miss, there's no one here but me."

"I have a woman on the line who is threatening to kill her children, then herself."

Nobody has been in recently. Pilots of private airplanes usually go to the executive terminal," Lawrence explained patiently.

"Nobody'll listen to me," the woman shrieked "I'm going to do something terrible if somebody doesn't listen."

"I'm listening, but your husband still isn't here," Lawrence said. For several minutes she continued to insist that he was there. Finally, she seemed to calm down. "Miss, I have other phones ringing and aircraft calling me. I'm going to have to hang up now. But feel free to call back later if you wish, in case your husband contacts us."

Such callers usually get it out of their systems and don't call again. When he had a momentary lull, Lawrence phoned the executive terminal to men-

tion the distraught caller. Maggie Gallardo thought for a minute. "Yes I remember. Oh, my God. When a woman called to ask about it, I said, 'Yes, he just went through here with a pretty girl.'"

When Lawrence answered the outside line about ten minutes later, he heard the woman's excited voice. Explaining that the caller's husband still had not contacted him, Lawrence suggested she wait and try again in the morning.

"I need help," she screamed. "If somebody doesn't do something, I'm going to kill my children, then myself."

"You don't want to do that. Besides, it would solve nothing," he said.

"There's nothing left to live for after what my husband's done, and I'm not going to leave three- and nine-year-old boys for him to raise."

"What has he done?" Lawrence asked.

"He's with her. The woman there told me."

An aircraft called on an air-to-ground channel. Lawrence ignored it, hoping the craft, unable to get a response, would switch to the tower. He told the woman, "Maybe he was just walking through the door of the terminal at approximately the same time as some other woman and wasn't with her at all. Things aren't always what they seem and Maggie likes to joke . . ."

"No. I know who she is."

"Things won't look so bad in the morning," Lawrence said.

"You think I can't do it?"

"I don't know. I hope not. It's a difficult thing to contemplate."

It sounded as though she fired a revolver. There was the sound of children crying and screaming in the background. Then, for a few minutes, she seemed almost rational. Lawrence dialed the National Weather Service office next door and asked someone to come over. When the meteorologist arrived seconds later, Lawrence asked him to call the police. The man listened and left.

When no officer showed up in about fifteen minutes, Lawrence dialed Crime

THIS WASN'T IN THE REGS



Stop, the only police number he could remember. Flight service station phones have a noise suppression push-to-talk button. He could talk to the police officer with a telephone in his right hand without being heard by the woman on the instrument in his left hand.

"Officer, this is Dick Lawrence. I'm an air traffic control specialist at the airport flight service station. I have a woman on another line who is threatening to kill her children, then herself. Can you send somebody out to assist me right away?"

"Who did you say you are and what filling station is it where you work?" the policeman asked.

"Officer, I'm not at a filling station. I work for the Federal Aviation Ad-

"I'm going to do something terrible if somebody doesn't listen."

ministration at Sky Harbor Airport . . . Yes, I'm still here, miss. Yes, I care . . . Officer, do you have that now? . . .

Will you tell me your name, Miss?"

Lawrence talked intermittently into both phones, leaving the policeman's line open so that he could hear what was said to the caller. It was too much for the policeman to grasp.

"I'm here to help you, sir," the policeman said, attempting to placate a suspected maniac.

"Dammit officer, I was talking to the woman. Will you just send . . ."

"But how can you talk to both of us at the same time?"

The aircraft called persistently. Then the red line from Sky Harbor tower buzzed to see why the station radios weren't working. Lawrence ignored them both. "Officer, I'm keeping your line open so you can hear what I say to her but she can't hear me talking to you because I release her button. Will you get a policeman out here fast?"

"Got you. On the way."

Lawrence dialed the NWS office again and asked them to send somebody over to assist. He learned the first man hadn't called the police because he didn't understand if the threat had been over the radio or by telephone. Chuck Haas and Bob Beam, meteorologists, came to answer the many ringing phones and hot lines.

"Aaaaaahhhh!" It sounded as if someone was choking the woman.

"Are you all right?" Lawrence asked.

After a long pause she said, "Yes, I guess. Nobody gives a damn. I'm going to do it." There was the sound of a shot. "Ahhh, I hit a water pipe," she said after a minute.

"Miss, I care. In fact, when I get off at midnight I'll come by and talk to you about it if you'll tell me where you live," Lawrence said in a ploy to obtain her address.

"That's not possible. I'm a long way from you."

"Where?"

"In Tennessee."

"You must live out in the country," Lawrence suggested.

"Why?"

"Because if you were in town some-

body would hear those shots and come to see what's the matter."

"No, they don't give a damn. I live in the city but I lied to you before. I'm not in Tennessee but a suburb of Dallas-Fort Worth." She told him her first name was Pam but would give no more information.

Air traffic specialist Dick Mercado, due in at midnight, habitually arrives for work early. That night he came in the door at 11:20 and at Lawrence's signal listened in on one of the station's many telephone extensions. Working rapidly, Mercado retrieved

"I'd be crushed thinking I'd failed you."

the inbound flight notification message and determined the aircraft had departed from the Fresno area. Reasoning that the pilot's name and address would be on the original flight plan, he called the Fresno flight service station and got the data. When Lawrence mentioned the name, the woman admitted the man was her husband. This information was quickly relayed to the Phoenix Police Department, which contacted police in Garland, Texas.

"Nobody cares. What would you do if I shoot the children right now so you can hear?" she asked. The mention of her husband's name seemed to have agitated her again.

"I'd be crushed thinking I'd failed you. I'd probably cry," Lawrence said in a calm voice, despite shaking hands and perspiration. He continued to parry and cajole.

"Well, I'm going to, then come out there and blow up his airplane, then myself," the woman declared.

"You know you wouldn't be able to carry out the last part of that plan knowing your children were dead. You should take care of the airplane first," Lawrence suggested, playing for time.

"It'd be tough all right, but I know I could do it. I'm not going to leave (Continued on page 18)



TREKKING NORTH—That familiar face in the middle belongs to William Shatner of Star Trek fame, visiting with Red Bluff, Calif., FSS personnel during the filming of a scene for a new TV series called "Breakaway."



MASS FAM—New England controllers from Team Two of the Bradley International Airport Tower, Windsor Locks, Conn., recently made a familiarization trip to the New York ARTCC, courtesy of the Connecticut Air National Guard. The controllers are (left to right) Gary Fitzgerald, Fran Selby, Ted Crawford, Ray Bedard, assistant chief Bill Wesche, Ron Hellmann, Ed Morrall, Rich Mangiafico, Pete Boehm, Caryl Monke (from Team Three), Jeff MacDonald, Joe Murtari, Gunar Vanags and Ken Edmondson.

A FRIENDLY HAND—The Upland, Calif., AF Sector provided training and hospitality last fall to Ho I-Chen (right) of the Taiwan CAA. With him are (left to right) Ray Garcia, host training officer; Grant Workman, assistant sector manager and Dick Williams, sector manager.



A SELLOUT—Western Region's six Multi-Engine Seminars last fall drew overflow crowds—1,000 in Van Nuys where 200 had to be turned away, thanks to the work of accident-prevention specialists Hank Richardson, Long Beach FSDO; and (in photo) Vince Brophy (left), Van Nuys GADO; and Dick Kregel, AP coordinator, flanking a trio of speakers from Piper, Beech and Cessna. A second series of three meetings is planned for this month.

FACES and PLACES



AVIATION EDUCATION STAR—Eastern Region Director William Morgan (right) presented the DOT Distinguished Service Award to Santo Frontario, former principal of the Long Island City Aviation High School for his pioneer work in the field of aviation education.



OLD TIMES—Thirty-three years ago, Jim Santa Anna (left) and Bill Robinson parted ways after graduation from Brooks Field, San Antonio, Tex., as pilots. They met recently, still in the same game and the same region. Robinson is a general-aviation inspector in Lubbock, Tex.; Santa Anna heads the regional appraisal staff in Fort Worth.



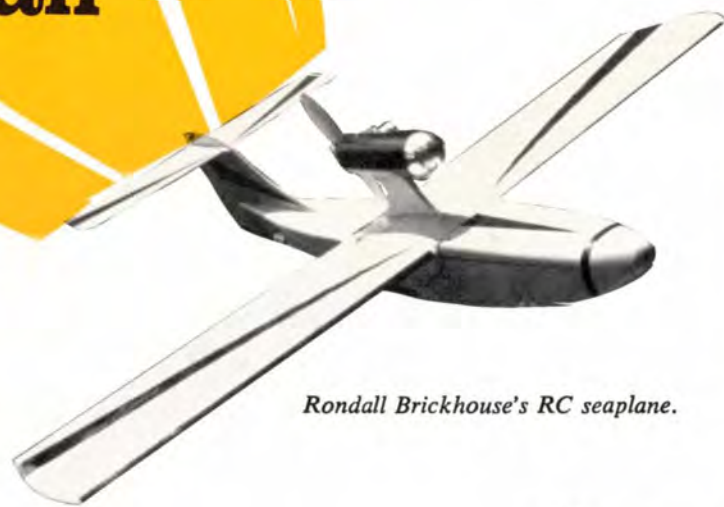
IN THE WAKE OF HIS WORK—Joseph J. Tymczyszyn, Sr. (left), of the Special Projects and Advanced Planning Office in the Western Region, received the Aviation Week & Space Technology Distinguished Service Award at a Flight Safety Foundation banquet for his efforts in minimizing wake vortex hazards of large aircraft. Making the presentation is the magazine's technical editor, Donald E. Fink.

BOOTSTRAPPERS—Looking pleased with themselves are (left to right) Jim Strange, chief of the Chicago ACDO; Glen Lewis, Chicago ACDO avionics unit chief; and Roscoe Ewalt, Air Carrier Branch maintenance specialist. They earned Bachelor of Arts degrees in January from Northeastern Illinois University by participating in after-hours classes that were held at the Great Lakes Regional Office under the FAA College Opportunity Program.

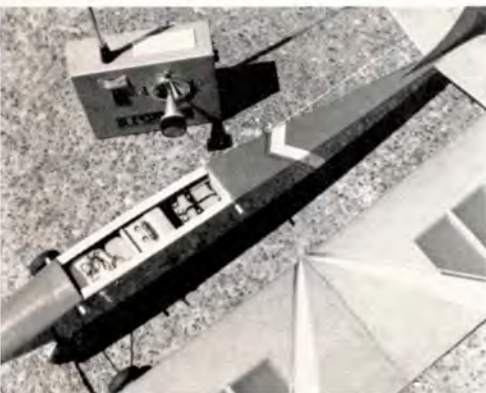


The Challenges of Thinking Small

The legend on this old hangar at Checkerboard Field, Chicago, suggests the heroes who trod this airport in yesteryear, as Wallace Stinson reads his RC model for a test, and hobbyists Barry Clements and Denise Marzano look on.



Rondall Brickhouse's RC seaplane.



RC glider, biplane and trainers are among John Reynolds' fleet. Pennants on transmitter antenna identify its frequency. (Top) RC plane's fuselage is packed with motor and (left to right) batteries, motor speed control, with receiver underneath, and control pushrod servos.

Some people like to fly in airplanes, others just like to fly them. The distinction is that the latter are the remote-controlled model-aircraft buffs.

It may be a far cry from the outlay in money, time and patience involved in building and flying one's own real airplane, but in many ways it requires no less skill in building and flying the miniatures. The current passion among serious devotees is for the more versatile radio-controlled flying.

A pilot of large aircraft, John M. Reynolds, chief of the Flight Procedures Section at the Seattle FIFO, says, "I find that the modeler must learn to fly all other again. Instead of being seated in the cockpit facing forward, the radio-control pilot stands on the ground and must practice visualizing himself in the aircraft until his actions on the controls are instinctive—

whether the plane is flying toward him or away, upright or inverted! It's a real challenge."

Echoing those thoughts is C.O. "Slim" Reasoner, an about-to-retire former chief of the Fort Worth, Houston and New Orleans Centers. Reasoner, a builder and single-engine and glider pilot, says, "Flying radio-controlled models is considerably more difficult than piloting a full-sized aircraft, because you don't have the same visual perspective. You can't actually see the runway coming up at you; you just have to estimate your distances and hope you make the right judgment. RC models are also very easy to stall on takeoff, because you have no instrumentation or kinesthetic feel for an approaching stall. You must rely solely on visual estimation."

The care with which these models

are designed and built reflect on their flyability.

Here's how Rondall R. Brickhouse, a Houston Center controller, describes his fun machine: A seaplane with a 58-inch wingspan, constant-chord wing, semisymmetrical airfoil with a one-inch dihedral each tip, powered by an Enya 35 with pusher prop. It has good handling qualities and is very forgiving. It will do all the basic maneuvers and has functioning elevator, ailerons, rudder, throttle and wheels for land use.

Chris Bouwhuis, Rocky Mountain employee development specialist, says

of his "Sweet Stick," "It can handle any maneuver that a full-size airplane can, and then some," adding, "Flying radio-controlled miniature airplanes has been more enjoyable and a greater challenge than flying full-size aircraft when I was a commercial pilot and flight instructor."

Then, too, there are intriguing similarities and differences in the construction of the models and real planes that reveal a serious side to the fun.

"There is a similarity between scale models and reality," relates Barry Clements, chief of the Aeronautical

Manchester, N. H., Tower controller Stuart B. Harnden is proud of his radio-controlled models of a PT-17 Stearman and a Sig "Kadet."



At left, Wayne Skousen (left) works on his Eindecker, as George Dane readies his acrobatic "Taurus" in El Segundo, Calif. Above, Skousen shows his Goodyear Racer model that is capable of speeds of up to 150 mph.



"The New Orleanean" has been flying for Dan Pereira, El Paso, Tex., FSS, for nearly nine years. The Cessna 177 in the rear is his, too, which he flies without the benefit of an RC transmitter.

Quality Assurance Field Office in the Great Lakes Region. "It has made me more understanding of the processes in aircraft factories, because I have gone through all of the procedures myself, albeit on a much smaller scale."

Looking at it another way, Wallace Stinson, a manufacturing inspector in the same office and a relative of aircraft designer and pilot Eddie Stinson, says, "It's not enough just to follow the directions in building a model. You have to know something about aircraft, about weight and balance, the power plant and aerodynamics."

Many of the models have wings more highly stressed than those of real planes and are often more efficient, or "clean," even though their weight-to-power ratios are inferior to full-scale counterparts. Many of these miniatures have used techniques and materials years before they found their way into

real airplanes. In fact, many real planes are built as radio-controlled models and tested before the prototypes are built. One such innovation was the use of foam-formed wings instead of ribs.

A radio-controlled miniature, like that of Western Region frequency management specialist Wayne Skousen's model of the Goodyear Racer that rockets along at 150 mph, had a G-meter installed by its builder out of curiosity. He was shocked to find that the foam-winged craft had registered over 30 Gs in pylon turns!

The aficionados of radio-controlled models sometimes have real airfields from which to fly. Chicago's Checkerboard Field once reverberated to the putt-putt and sputter of early aircraft. Lindbergh and a long line of daredevil airmail pilots trod the turf there. Then aviation grew up and moved elsewhere. Now, Checkerboard Field has come alive again because it's just the right size for radio-controlled aircraft. Clements and Stinson fly from there.

Within the control zone of Los Angeles International Airport, there are planes operating without clearances or radio contact with FAA facilities, for below the downwind leg for Runway 25L is the Northrop/Rockwell Model Airport. The modelers are careful to observe the maximum altitude of 400 feet MSL. Skousen and Western Region appraisal officer/ombudsman George Dane are among the buffs who frequent this site.

Tens of thousands of modelers patronize these fields and other wide-open spaces around the country. According to Dane, the technological explosion in electronics can be credited with the rapid growth of this hobby, mainly the spin-off of the space industry. "The space age," he said, "brought about miniaturization, price range, weight and size characteristics, among other breakthroughs. Early versions of radio-controlled gear were like table model radios." The engines themselves



Bob Strohmeyer of the El Paso, Tex., FSS sports a "Senior Falcon" model. His fleet also includes sailplanes and he does much of his own designing.

are wonders of miniaturization. They range from .02 to 2 horsepower and from half an ounce to about a pound and a half.

Despite its popularity, this is not a cheap hobby. As Dane explains, "You can go out and buy a single-engine light plane for several thousand dollars and then put many thousands more into radio and electronics equipment. The same goes for radio-controlled model aircraft." Price ranges for kits vary from \$10 to \$75. Commercially built units will run from \$150 to \$200. But then the radio equipment can run \$250 to \$500, although radio kits may be only \$150 to \$200. And with that, the modelers have to share frequencies. If an interfering radio signal does get through, Dane commented, "You cry

(Continued on page 18)

WORD SEARCH

By Sidney A Lee, Jr.
Controller, Indianapolis ARTCC

This month's puzzle is a potpourri of words and contractions in flying and air traffic. The words read forward, backward, up, down and diagonally, are always in a straight line and never skip letters. The words may overlap, and letters are used more than once.

Use the word list if you must, but try covering it first. All 67 words can be found. Circle those you do find and cross them off the list. The word "beacon" has been circled to get you started. When you give up, the answers may be found on page 18.

If you enjoy solving these puzzles, you might also enjoy creating one. Send us a word list of a category of words or names in the FAA or aviation lexicon, a grid of letters and another copy of the grid showing the circled answers, together with your name, functional title and facility. Limit the grid to approximately 20 characters in each direction and the number of clues to no more than 70 words or contractions.

RADARNOOTARTSINOMDOE
FERNILANIMRETAPETEEL
VDGNMCRQOIGHTLYDUTYI
NRNUEIEALEGEARSUCSPF
OOIALMWSBIDEPARTEEOE
ICDLUAOYLFICCUPIDUSR
TELLWITFARCRIALTAQIP
AROEBOAIDOGARDOLRETI
VVHNAPPROACHCIUAGRID
EGINNYUBANRELLORTNOC
LNAAGELFIGSRETNECONN
EIHUKCFRROSECTORIOI
GDTCMFAOWNMENGINEIA
RNOCAEBEAPeseIKSWATT
OAMADMMKYRTERSLBTRAN
PLANEELIASASREJETAI
ILTILRLTTLYVVFONDPVA
LAINYACIONSALIFTEAM
OTOTELONARECEVAEASRA
TSNOINUYTAXELMMOCTAP

AIRCRAFT
AIRWAYS
ALTITUDE
ANNUAL
APPROACH
ARTS
ASR
AUTOMATION
AVIATION
BEACON
CAT
CENTER
CHANNEL
CIRCLE

CLIMB
CONTROLLER
CREW
CUE
DEPART
DRAG
DUTY
ELEVATION
ENGINE
FAA
FAR
FLIGHT
FLY
GEARS

GRADE CUT
GRID
HOLDING
ICE
IFR
ILS
JET
LANDING
LEAVE
LIFT
LWOP
MAINTAIN
MAP

PATCO
PLANE
PILOT
POSITION
PREFILE
RADAR
RECORD
REGULATION
REQUEST
RIME
SECTOR
SEPARATION
SERVO

SKIES
STALL
STATION
SYSTEM
TAKEOFF
TAPE
TEAM
TERMINAL
TOWER
UNION
VFR
VOLUME
YAW

One for the Books

Most of us might think that record-setting flights for a prop plane were a thing of the past—a relic of the Teens, Twenties and Thirties. But there was a new one set not long ago . . . by a model airplane.

The "Liberty Bell," a high-wing radio-controlled aircraft with a 62-inch span, flew nearly 3,027 miles from Kitty Hawk, N.C., to Los Angeles, setting a record for the longest planned flight of a model aircraft.

The flight took place in October 1975 as a Bicentennial project because

that period had been declared National Hobby Month by Congress. Piloted by owners Bob and Doris Rich of Chicago from a caravan of ground vehicles, the red, white and blue "Liberty Bell" averaged three hours of flight time a day for 23 days at an average speed of 61 mph. The trip required 118 takeoffs and landings and the grand amount of 16.5 gallons of fuel.

The plane made its final landing in the parking lot of the California Museum of Science and Industry, where it was placed on exhibit. And now, you can also find the "Liberty Bell" reposing in the Guinness Book of World Records.

BROCK ADAMS (Continued from page 7)

1970; the Rail Passenger Service Act of 1970, which created Amtrak; the Regional Rail Reorganization Act of 1973, which created Conrail; and the Rail Revitalization and Regulatory Reform Act of 1976.

He also served as chairman of the House Budget Committee during its first two years of existence and led the successful flight to restore Congressional control over the Federal budget. Previously, he had been chairman of the D.C. Government Operations Subcommittee and of a Democratic Study

Group Task Force on Law Enforcement and Crime Control. He has been active in budget reform as well as internal House reform, advocating rules changes, recorded voting for amendments, open committee meetings and greater subcommittee autonomy.

Brock Adams was born in Atlanta on Jan. 13, 1927, and was educated in the public schools of Iowa, Oregon and Washington. In 1944, he enlisted in the Navy and was discharged two years later as a petty officer. He attended the University of Washington, from which

he was graduated *summa cum laude* in Economics and where he was the only person ever to serve as President of the Student Body and earn the President's Medal as the university's top scholar.

In 1952, he earned a Doctor of Laws degree from Harvard University and entered into practice in Seattle. In 1961, President John F. Kennedy appointed him U.S. District Attorney for Western Washington. He was elected to Congress in 1964.

Mr. Adams is married to Mary Elizabeth Scott of Jacksonville, Fla., and they have four children: Scott, Dean, Katherine and Aleen.



Inspector Hortense McGehee chats with Bill McCarthy, Providence, R.I., tower chief, on the flight line at the Quonset Point Air Show, in front of one of the Navy's "Blue Angels" A-4 aircraft.



McGehee checks the flying credentials of a pair of Pitts pilots. At left is Debbie Gary, a well-known air show pilot, with her Pitts S-2A. Above is Charlie Hillard, leader of the "Red Devils" precision aerobatic team, in front of one of the team's three Pitts S-1s.

She Handles Everything Well

None of the 135,000 persons who saw the Quonset Point, R.I., Air Show last summer were aware that their enjoyment and safety rested on the shoulders of a single person—the FAA inspector—in this case, a quiet and unassuming woman.

Hortense McGehee, formerly of Eden, N.C., and now of Norwood, Mass., was the official representative and senior monitor for the FAA. She's been described by many of her peers and colleagues as being anything from a "new centurion" to one of the agency's "best and brightest."

"Tense," who was the first woman aviation safety inspector in the New England Region, had never held the heavy responsibility of monitoring any air show, much less an elaborate one. An experienced pilot in her own right, she had to be well versed not only with agency regulations but with the 29 special provisions of the agency's Certificate of Waiver, which would boggle the mind of non-aviation types. Perhaps



most important, according to veteran FAA inspectors, she had to have common sense to carry it off.

Wearing the hat of an FAA monitor gave Tense the authority to stop the air show if the situation warranted, such as if any of the hundreds of safety precautions were violated that could have endangered the public or any of the air-show performers. However, she didn't have to exercise that authority, since all went well.

Nevertheless there were a few instances where she had to bring her comprehension of FAA regulations, common sense and diplomacy to bear in resolving "flaps"—like the nationally known aerobatic performer who resisted showing his FAA tickets or Demonstrated Statement of Ability before he could perform. There also was the time many eager air-show visitors, anxious to obtain a good view of the center of the air field where performers were doing their acts, began creeping into a restricted area. She could have

stopped the show when the 500-foot separation between viewers and performers was violated, but a well-placed word with the show's sponsors quickly corrected the problem.

Inspector McGehee was not alone in carrying out her duties. As usual at air shows, there were controllers who had set up a mobile control tower, plus a brace of inspectors who were old-timers at air-show monitoring. For the two days of the show, she was in constant contact with them, the performers, the show's sponsors and various Rhode Island state aviation authorities.

The show had attracted the "heavies" of the national air-show circuit. The performers included the Navy's precision flight-demonstration team, the "Blue Angels"; Joe Hughes and Steve Trevor and their wing-walking act; Art Scholl in his Super Chipmunk; the "Red Devils" demonstration team; and the Army's "Silver Eagles" helicopter team.

For Ms. McGehee, it wasn't just two days—she became involved well in advance of the weekend it was held. It meant participating in a briefing for the advance man of the "Blue Angels"

three days before the team's arrival and it meant participating in a detailed pilot briefing for all of the show's performers.

Throughout the show, she kept company with the operations trailer, parked in a beach chair, where she could keep her eyes on the runway, the audience and the skies. Virtually none of the spectators knew who she was as she sat in her comfortable chair, sporting a beer-brand hat.

A steady stream of officials came up to her, believing her just being a face in the crowd, to provide information for her evaluation—from estimations of the crowd to weather ceilings, visibility, air traffic in the area and ground-level temperature.

Few people like change, and many of the air-show participants initially were leary of a woman air-show monitor. As the show progressed, however, it became evident that Tense had built a camaraderie among the officials and participants through her aviation expertise and congeniality.

How did Inspector McGehee feel after her first experience as an FAA monitor?

"Relieved!"

—By S. G. Payne



Aviation safety inspector McGehee beams after alighting from a Learjet after she became the first woman to qualify as a jet pilot at the Aeronautical Center last year. With her are Jim Martin (center), jet instructor, and Jim Butler, Washington Headquarters aviation safety inspector.

During one of the briefing segments, show monitor McGehee sits among the participants with tower chief Bill McCarthy, as she talks to Cmdr. Casey Jones, leader of the "Blue Angels" aerobatic team.



RADIO (Continued from page 14)

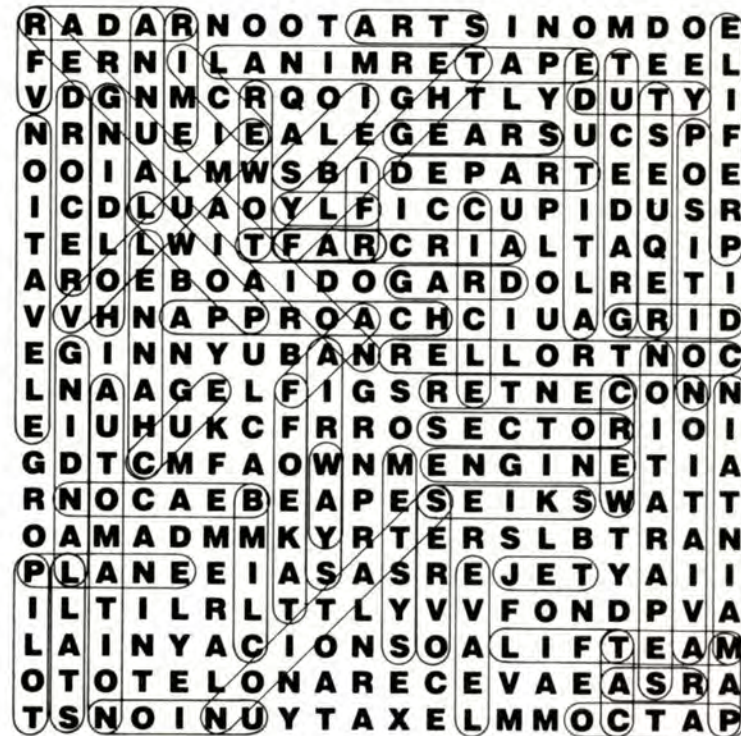
a little as you watch your airplane go down."

According to Skousen, a big part of the enjoyment is in building the model and installing the radio equipment, in addition to flying the finished product. Many modelers design their own, he added. "Half the modelers are frustrated aeronautical design engineers. Sooner or later, you get the bug and want to design your own. Even the kit models I build, I modify."

And when the bug bites, it bites hard. Back at Checkerboard Field, Denise Marzano, secretary in the Quality Assurance office, makes and flies control-line aircraft, while chatting with and helping Clements and Stinson. Now, she's saving for a radio-control kit.

Major portions of the material for this story were supplied by Bob Huber and Marjorie Kriz.

Word Search Answer Puzzle on page 15



SUICIDE SAVE (Continued from page 9)

innocent children for him to raise, not after what he's done." She was becoming edgy again. She fired the gun. Glass crashed and children begged and screamed. Several others were monitoring the conversation now but had to remain silent while Lawrence carried on. He was almost ready to give it up, since this was far from his responsibility, but the sound of children pleading with their distraught mother kept him talking.

The woman made the sound again of someone being choked. She seemed to be going to pieces completely. Lawrence knew the crisis was coming to a head.

"I'm going to do it now," she screamed.

"Wait," Lawrence said, desperately trying for a gimmick that would buy a few more minutes. "I think the executive terminal keeps a record of the motels where transient pilots are

staying." He knew this was untrue. "If you'll wait, I'll run over there and get it for you. It'll only take a few minutes. You want to talk to him first, don't you?"

"Okay, I'll wait a little bit," she agreed reluctantly, "but I don't think you'll be able to find him."

"Let's hope the police are moving in fast. I can't keep her much longer," Lawrence said to the others. Waiting a few minutes, he picked up the phone with shaking hands to report, falsely, that they had located her husband and he would be on the line in a little while. No one was there, although the line was still open. "Pam. Pam. PAM. Are you there? Pam!"

"What's going on here?" a gruff voice barked.

"Who's this?" Lawrence asked.

"The police. Who are you?"

"Officer, be very careful. That woman has a loaded gun."

"The situation is under control here

now," the Texas policeman said.

"Do you think she would have gone through with it?" a Phoenix policeman asked the Texan.

"Who knows? She sure had the arsenal for it. Besides the thirty-eight, there's a three-fifty-seven magnum and a high-powered rifle. The place is a shambles, room shot up and cartridges all over the floor."

No one, neighbors or passerby, had come or sent the police to investigate the shooting and screaming over a long period of time in the Texas suburb.

One hour and thirty-five minutes after receiving the strange call, Lawrence unsteadily placed the phone on the receiver and left the Phoenix flight service station for home.

—By John J. Ward

This story was reprinted from The Arizona Republic. The author is an air traffic specialist at the Sky Harbor flight service station, Phoenix, Ariz.

FEDERAL NOTEBOOK

TOMORROW'S PAY

In President Ford's final budget message to Congress, he recommended a 6.5 percent pay increase for this October and provided \$3 billion for the purpose in his budget. A 6.25 percent pay raise for October 1978 was also projected. While all the budget proposals are subject to change by President Carter, the pay recommendation is expected to be retained.

■ On the negative side, the budget also called for a study to determine if Federal pay comparability should include fringe benefits in the computations. The study will need to make a comparison of costs and level of benefits with private industry, but some feel that the reliability of the data that can be gathered may be insufficient.

RETIREMENT FLUXES

Effective this month and shown in the checks mailed April 1 is a 4.8 percent cost-of-living increase for Federal retirees. The first raise under new legislation passed in 1976, it represents the Consumer Price Index rise through last December—only a three-month lag. Future raises will be automatic every six months, based on the inflation rate. The increase no longer includes the one percent "kicker" that was given to make up for longer delays between CPI data and the pension checks. ■ Sen. Ted Stevens (Alas) has introduced a bill to give Alaskan retirees with at least 10 years service in Alaska a 25 percent cost-of-living bonus, arguing that the high price of living in that state is no less for retirees than for employees who do get the COLA. ■ On the negative side, some Congressmen are said to believe that the retirement program is still too liberal.

While the Civil Service Commission says the retirement fund is currently in good condition, many fear that the cost of the program will become a heavy financial drain on the government and suggest increasing the age for optional retirement, increasing employees' 7 percent contributions and cutting survivor benefits.

THE TROUBLE WITH HEALTH INSURANCE
The General Accounting Office has chided the Civil Service Commission for not exercising greater control over health insurance carriers to hold costs down. In a survey of Blue Cross-Blue Shield and Aetna, GAO found that 13.5 percent of the claims approved by Blue Cross weren't justified or even covered by the contract. For Aetna, it was 12 percent of the claims that shouldn't have been paid. GAO asked for more control by CSC over costs and adopting incentives for the carriers to cut costs or for Congressional legislation to require it. The higher costs have consistently been passed on via higher premiums.

HATCH ACT, 1977 EDITION

Last year's sponsor of Hatch Act revision, Rep. William Clay (Mo), has introduced the identical bill again, HR-10. On the Senate side, Sen. Quentin Burdick (ND), the was-to-have-been chairman of the now-abolished Post Office and Civil Service Committee, reintroduced his bill to revamp the Hatch Act. Such legislation is expected to pass this time around because it is supported by the new Administration. ■ In December, PL 94-453 was enacted to provide criminal penalties for those found guilty of coercing Federal employees into partisan political activity.

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C. O. "Slim" Reasoner, former chief of the Fort Worth, Houston and New Orleans ARTCCs, owns seven radio-controlled model aircraft. An instructive hobby that provides pilots with a new wrinkle in flying and insights into aircraft construction, RC planes are a boomer, and FAAers are involved. See story on page 12.

