

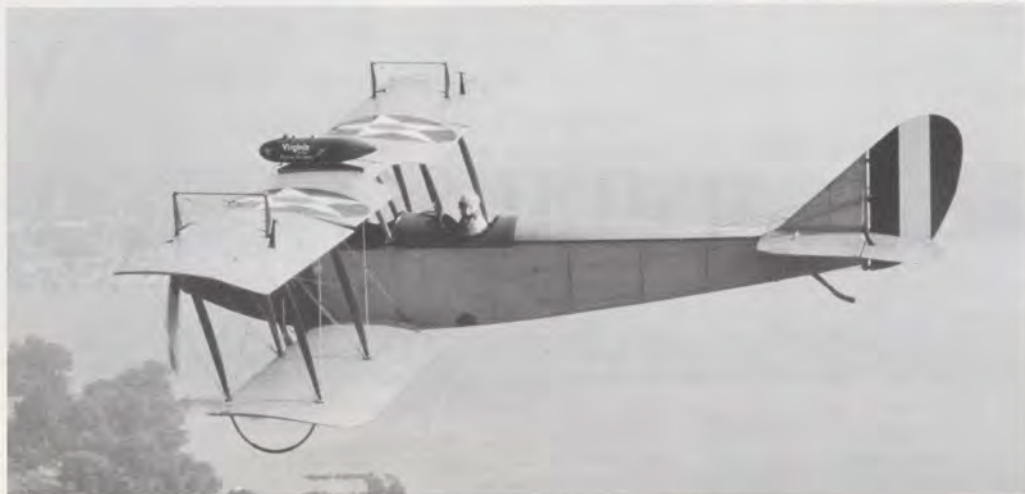


U.S. Department
of Transportation
**Federal Aviation
Administration**

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The reunion of six Curtiss JN-4 "Jennies," like this one, set the "Jennies to Jets" convention theme.

Better
than
Ever

By John Leyden

Oshkosh '89

Aviation writers long ago ran out of superlatives to describe the Experimental Aircraft Association's annual Fly-In convention at Wittman Regional Airport located in Oshkosh, WI.

Every year, it gets bigger; every year it gets better; every year, it attracts more airplane lovers from across the country and around the world.

Here are some Oshkosh '89 numbers to prove the point:

- 15,000 aircraft on the field at one time or another during the July 28-August 3 event. Included were 1,700 show planes.

- 840,000 people paid their way through the gates to ogle the aircraft, view the exhibits and watch the flight demonstrations.
- 2,300 foreign visitors arrived from 71 different countries. Included were 400 EAA members from Australia who flew in aboard a chartered Boeing 747. Of this number, 232 were pilots, and they have filed a claim with the *Guinness Book of World Records* for "most pilots on one airplane."
- 40,000 campers roughing it in the great outdoors, making the Oshkosh Fly-In not only the largest airshow in the world, but maybe the largest camp out, as well.

Mr. Leyden is the manager of the Public and Employee Communications Division in the FAA Office of Public Affairs.

This year, the convention theme was "Jennies to Jets," with half a dozen WWI Jennies on hand to rekindle fond memories of aviation's barnstorming days. At the other end of the spectrum, the SR-71 "Blackbird"—still the fastest airplane in the world with a top speed in excess of 2,000 m.p.h.—also flew in (subsonically) for the event. And as if to emphasize the new "Glasnost" spirit of U.S.-Soviet relations, it was parked adjacent to the huge Russian cargo plane, the Antoniv AN-124.

And as the Fly-In keeps growing,

(Continued on page 6)

DUATS: A New Level of Automation

By Charles Spence

The most important letter in DUATS is the 'S'; it stands for service."

That's the way the project manager sees FAA's newest approach to pilot weather briefings and flight plan filings. If all goes well, Direct User Access Terminal Service, or DUATS, should begin next month.

Using almost any computer and a modem—a device that allows one computer to communicate with another over telephone lines—a pilot can obtain detailed weather information and file a domestic flight plan. The process will accept plans for flights operating under Visual Flight Rules (VFR) or Instrument Flight Rules (IFR). Additional services may also be offered by the three independent suppliers of DUATS, but at no cost to the government.

Computerized services from private firms have been available for some time to pilots willing to pay the fees. Now the FAA will provide this service free to pilots.

DUATS is FAA's response to the

(Continued on page 2)

The author is a veteran of the Hearst newspaper chain and the Aircraft Owners and Pilots Association public relations operation. He is a frequent contributor to FAA World.

In This Issue

- 1 Oshkosh '89
- 1 DUATS Is Services
- 4 Busey Responds to Press
- 8 Doolittle's Instrument Landing

- 10 People
- 11 Retirees
- 12 Federal Notebook

DUATS from page 1



DUATS was given an extensive test at ten sites beginning in 1984. It proved extremely popular with pilots.

FAA WORLD

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continuing growth in the demand for flight services. Between 1988 and the year 2000, the number of flight services provided by FAA is projected to increase from 44.7 million to 48.2 million, an eight percent gain.

During its first 12 months in operation, DUATS is expected to satisfy 20 percent of the total system demand, according to project manager Ernie Van Vlaanderen. Each year after that, the computer system is expected to absorb an additional five percent throughout the life of the contract.

But this does not mean that there will be a sharp decline in flight service station (FSS) personnel, Van Vlaanderen emphasized. "FAA needs DUATS to keep pace with the increasing demand for flight services while maintaining the current FSS specialist staffing levels."

Paul Rosenwald, Automated Flight Service Station program manager, sees another reason for DUATS' role in accommodating growth rather than taking away from present workloads. "There is a big unknown there now in terms of pilots who are not willing to wait on the telephone for a briefing," he says. As a result, he adds, they now may seek a briefing some other way, or (if flying VFR, take off and call a flight service station for a radio briefing. He believes the people now missed for one reason or another will be able to contact an FSS in either the conventional way or obtain service through DUATS.

Neither Van Vlaanderen or Rosenwald foresee any significant decline immediately in the present workloads at flight service stations. Over the long term, however, DUATS may be a primary factor in the reduction of FSS staffing through retirement attrition, as indicated in FAA's National Airspace System Plan.

The FAA Technical Center at Atlantic City began developing a Prototype DUATS system early in 1983. The next year, test models were placed at ten sites in New Jersey, Pennsylvania and Delaware. The Center notified approximately 38,000 pilots who live in this area and urged them to use and evaluate the system.

It received an enthusiastic reception. Two out of three pilots polled stated they were either "very" or "extremely" satisfied with the system. Only three-tenths of one percent said they were totally dissatisfied.

As a result of the test and comments made by users, the DUATS project team made changes to simplify the process further and make the automated system even more attractive to pilots.

In February of this year, FAA moved

the DUATS program into a new phase. It awarded contracts to three vendors to provide pilots with toll-free, direct computer access to aviation weather and other flight planning information. The companies are Data Transformation Corp., of Turnersville, NJ; Contel, ASC, McLean, VA; and Lockheed Data Plan, Inc., Los Gatos, CA.

The contracts require each vendor to provide specific services to pilots. Each may also offer "value added" services for which they may charge the user. FAA expects each will compete for a bigger share of the market by generating improved service.

DUATS will work with a wide range of computers and modems. Any pilot with a computer capable of receiving basic text over the modem can access the system. This includes IBM and compatible models as well as the Apple Macintosh. A 300-baud modem carries the data.

The pilot also must have appropriate computer software to transmit and receive data by modem. At least one firm is offering free computer software to pilots as an incentive for using its service.

Each firm provides a toll-free telephone number. "We have plenty of incoming lines now," the manager of one system said, "and will be delighted if we capture enough of the business to add many more lines."

After a pilot connects with the system, the menu-driven software leads him or her through the program in user-friendly, easy-to-understand steps. On the initial log-on, the pilot will register, using his or her name and the FAA pilot certificate number which will be verified through FAA pilot records. Only pilots holding current medical certificates will have access.

Once into the system, the pilot essentially has access to the same information available to FSS briefers. This includes surface observations, terminal forecasts, area forecasts, winds and temperatures aloft, pilot reports, NOTAMS, radar weather reports and weather warnings that are issued to amend meteorological reports.

Pilots may ask for information in one of several ways. As an example, they may get a route data for the full flight by departure point, route and destination. DUATS will provide the weather data for the route, searching the area 25 miles on either side. Or, the pilot may ask for only parts of the route. Other options include localized data or selected products for specific locations.

Users of DUATS may stay on the line for as long as 20 minutes. The government will pay the provider a fixed fee for each call. Users may store the

data in their computers and, if a printer is available, make a hard copy for their records.

Information is presented to the pilot in the same format as received by flight service stations. Pilots who know the three-letter identifiers well should have little difficulty. Those who do not can ask the computer for help. Put in the identifier, and the system calls up the location; put in the location, and the system names the identifier.

The free service for pilots provides textual information only. Add-on services offered by the vendors can give the pilot even more information. Among the services that may be available are monochrome or color radar depiction and prognostic charts, fuel arrangements and other aviation related services.

Pilots will pay directly to the vendor for these added services. The user may go in and out of the free services any time during the 20-minute call and request the value-added service. This time away from regular DUAT service is not counted in the 20-minute allowable limit.

Additional services are seen as another incentive for competition among the three contract firms.

After completing the briefing, the pilot may file, amend or cancel a



§ 91.5 Preflight action.

Each pilot in command shall, before beginning a flight, familiarize himself with all available information concerning that flight. This information must include:

(a) For a flight under IFR or a flight not in the vicinity of an airport, weather reports and forecasts, fuel requirements, alternatives available if the planned flight cannot be completed, and any known traffic delays of which he has been advised by ATC.

domestic flight plan. IFR plans must be transmitted at least one hour before proposed departure time; VFR plans, 30 minutes.

The vendor's computer first checks the plan for accuracy and then forwards it to the appropriate air route traffic control center (ARTCC) or flight service station. Vendors are required to maintain an accuracy rate of 99 percent.

Each vendor has access to the FAA Weather Message Switching Center (Service A) data line. Also, each has two lines to NADIN—National Airspace Data Interchange Network—for filing, amending or canceling flight plans in FAA computers.

IFR flight plans will go directly to the ARTCC to be checked by the host computer. In cases where the plan is rejected, the DUAT vendor is notified and will follow approved procedures to correct it. If the plan is accepted, it goes into the system like any other filing.

VFR flight plans will be forwarded to the appropriate flight service station.

The FAA Tech Center survey of potential users showed that 47.2 percent of the pilots in the sample owned a home computer. This should not be construed as representative of the total pilot population, however, the study warned.

"It is plausible to argue that pilots who already own computers would more likely volunteer to participate in the

DUATS survey than those who do not."

A study conducted last year by the Aircraft Owners and Pilots Association among its members revealed that 59 percent either had a computer or had immediate access to one. Don Johnson, AOPA's research director, also cautions that this should not be related to the entire pilot population, but only to those holding AOPA membership.

Each vendor is aggressively promoting its service in hopes of capturing the biggest share of the market. They are using advertisements in aviation publications as well as direct mail promotions to pilots. One firm is exhibiting at aviation shows and conventions.

Another is placing computers with selected fixed-base operators to attract business from pilots who do not have access to a computer or are in transit. Transient pilots, however, who have portable, or lap top, computers may gain access in hotel rooms or airplane else where they can plug into a telephone.

The ultimate beneficiary of this competition will be general aviation pilots, however. Thanks to modern computer technology, they soon will have a range of weather products available at their fingertips. ■

***** LOCKED DATA PLAN *****	
+ VALUE ADDED SERVICES +	

VALUE ADDED SERVICE CATEGORIES	
SERVICE INFORMATION	
S1 - WHAT IS A FLIGHT LOG	S2 - WHAT ARE WEATHER MAPS
S3 - WHAT IS WEATHER RECORDING	S4 - WHAT IS AIRPORT INFO

FLIGHT PLANNING LOG PRODUCTS	
F1 - DIRECT FIX TO FIX FLIGHT LOG	F2 - DIRECT FIX TO FIX RNAV LOG
F3 - AUTOMATIC VFR FLIGHT LOG (M/A)	F4 - AIRPORT INFORMATION (M/A)

FLIGHT LOG CHOICE:	

LOCKED DATA PLAN FLIGHT PLANNING LOG	

On August 10, 1989, Administrator Busey held his first meeting with representatives of the news media. The following is an edited transcript:

Good morning. Let me share with you what I consider the key issues facing the FAA in the near term. I'll try to be brief.

System safety, of course, is the primary concern and objective that I have. I think any FAA Administrator has to have safety within the air transportation system as his number one objective. I'm certainly no different in that regard.

Secondly, procurement is a primary issue of mine. I bring some experience in the procurement arena and, as you all well know, we in the FAA have been engaged since the early 1980s in a major procurement program to upgrade and modernize the National Airspace System. I have been intensively reviewing our procurement programs, and I'm committed to the wise and efficient expenditures of the dollars the taxpayers make available to us through the budgeting process.

People is the third key issue of mine. We in the FAA face stiff competition to obtain the young people required to keep our organization alive. Everyone is after the expertise, the technical skill, the operational skill needed to make public agencies and industry go. So we need to tighten up our recruiting procedures and more effectively go after the young people that we need to keep the FAA system alive on into the next century.

Then, having obtained these people, we've got to work hard to retain them. We invest a lot of time and money in training our people to do their jobs, and we want to keep them. So we need to cultivate an aura of "This is a fun place to be, an important place to be," and work hard to hang on to those people that we need so badly.

The fourth issue that I'll mention this morning I call outreach. As a public organization, we must hear from the users of the system, the lovers of aviation, the industry groups and all the other associations. My impression is that FAA may not be perceived by some of these groups as being all that willing



Administrator Busey (second from right) "meets the press" in the Administrator's conference room in Washington Headquarters.

Administrator Busey "Meets the Press"

to hear from them. I think it's very important that we listen to the user groups, that we avail ourselves of opportunities to interface with these people so that we can hear their concerns and demonstrate our willingness to act on them when appropriate.

Outreach also affects us internally. We've got to work on our internal communications systems, and that's part of retaining our good people.

Related to the outreach effort is our review of general aviation compliance and enforcement policies that I started in the last couple of weeks. I recently traveled to Oshkosh for the EAA Fly-In—my first time there—and I was personally impressed by the vitality and the eagerness and the interest in the general aviation community. I heard from a lot of users, general aviation pilots and other interest groups, that perhaps we in the FAA have gone too strongly towards compliance and enforcement of procedures to the detriment of aviation safety.

That's why I convened the review group under Keith Potts, I want to get to the bottom of these concerns, find



out what if any factual basis there is for them and then decide what changes we may need to make in our enforcement procedures so the general aviation people will understand that we at the FAA are here to help.

The last issue that I want to mention to you before we open up for questions is the government-industry task force that I created last week to explore ways of improving survivability of wide-bodied aircraft following in-flight structural damage. I felt it was time for us to get all the best minds in aviation

together so that we can learn if there is any opportunity offered by new technology to improve the backup flight control systems on existing and, of course, future wide-body aircraft. We're going to start with wide-bodied aircraft first because of the recent incidents. But the task force will be looking at all aircraft to see what we can do to improve backup systems. We also will be looking at the engine designs to see if there are opportunities through new technology to improve the containment possibilities in new engine designs.

At this point, the Administrator opened the meeting to questions from members of the media.



Question: A lot of people have suggested that FAA needs a lot more inspectors to keep up both with the aging fleet and the increase in the fleet over the next decade. Do you really have enough people to do the job well?

Busey: I think we do. We've been asking for modest increases in the inspector work force, and we've been successful in getting those increases. I think that today we have an adequate inspection force to provide the certification oversight in the maintenance and in the flight deck areas. But you can rest assured that if I become aware that we do have significant shortages in that regard, we're going to ask for additional increases. In fact, I can share with you that as we work the '91 budget submit, we're doing just that.

Question: Yesterday's engine failure on a Northwest DC-10 incident, coming right after the Sioux City accident, is surely going to lead people to urge that these planes be grounded as a precautionary measure. How do you go about considering whether to ground a DC-10 in the face of two events that might be unrelated but bear some resemblance?

Busey: Out of my experience in the military and in naval aviation, I can tell you that when one takes a decision to ground a certain type of aircraft, one must do it very deliberately. You must know exactly what it is you are looking to correct before you go into the process. To act speculatively or on the basis of incomplete information, in my judgment, would be irresponsible. In that regard, we know of no hard facts at this time that would lead us to take any kind of action to ground the DC 10. It's safe to fly. I would fly in the aircraft today. But rest assured, that as the facts become available out of the investigative process, we are prepared to take whatever action is indicated by those facts.

Question: What's your response to the GAO report that suggested the ATC system cannot accommodate all of the information that it's now going to be getting as a result of the new rule expanding the requirement for carriage of Mode C (altitude-reporting) transponders.

Busey: As far as the Mode C rule itself is concerned, this is part of us getting a better view of the increased traffic that's flying in the system. When all aircraft in designated airspace have Mode C capability, the controller knows the altitude and kind of airplane he's dealing with. We intend to press on with the Mode C rule. That's part of the safety application that we're implementing in the airspace system for all the users, and the sole driver there is safety.

But back to your initial question, the GAO is right in criticizing FAA in some aspects of the procedures that we've followed. But I can also tell you that I'm comfortable and confident that, first of all, we do have the capacity in our computer systems in the high-density areas to deal not only with present traffic but also with the so-called avalanche of new traffic that will be visible to the controller with the advent of the Mode C rule. The capacity is there, and I'm satisfied that based on what I know thus far of



our procurement programs, we are planning for and procuring the fixes necessary to stay ahead of the capacity requirements—comfortably ahead.

Question: Are you going to have to back off the MLS [Microwave Landing System] program now because of the contract terminations with Hazeltine?

Busey: The quick answer to that is no. I don't intend to back off from it. We're still committed to our ICAO agreement to be ready to implement MLS at international airports in the late '90s. We're going to have a little slowdown because of the termination for default of the Hazeltine contract. But we intend to go commercial, off-the-shelf and pick up the necessary MLSs in that way so we can go on with an operational demonstration project. I intend to continue that so we can find out for sure what, if any, weaknesses are in our plans before we go to Category 2 and 3 MLS procurements. I believe that MLS is the precision navigation system of the future, but we're going to have to work hard through the demonstration program to convince a lot of nonbelievers of that.

Question: Are the airlines happy about paying for the TNA [thermal neutron analysis explosives detection] devices at airports?

Busey: Historically, the way we do business in this country is to put the expense and the responsibility for those types of security systems out in the public domain. I would rather continue to follow our procedures wherein the public domain handles the expense and the implementation of these devices, leaving federal dollars free to continue the R&D

efforts to decide if there are any new, more efficient, lower cost devices that we can offer into the public domain for improvement of security.

Question: Do you have any thoughts on the activity going on to try to get new airports going?

Busey: The Denver Airport is a primary concern, and I think you're aware of our participation there. The environmental study that's required by law should be about complete. We also are planning for and requesting the budget support for the FAA facilities that must be included in that new airport. In the Chicago area, there is a policy group—consisting of senior representatives from the states of Illinois and Indiana—that is looking at a possible new airport, a third airport, in the Chicago area. We are certainly participating in that and will support the funding of the studies that will lead to the determination of where a new airport needs to go. So I think we're moving in that regard.

My concern is that, as well as looking at new airport construction, we all need to be looking at—how should I define it?—underutilized concrete that's already available at airports near major metropolitan areas. My feeling is that perhaps we can make better use of some of those existing airports to help relieve some of the continuing growth or provide increased capacity in our large metropolitan areas.

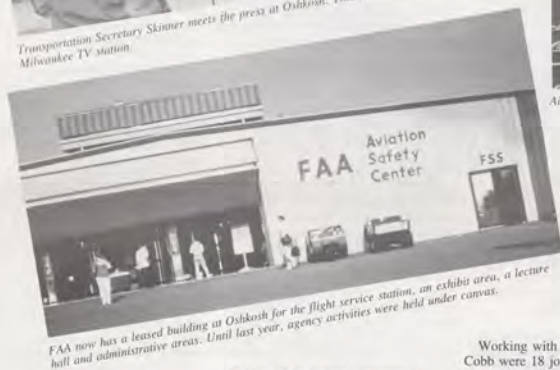
I also support joint use of military fields where it makes sense—Scott Air Force Base in southern Illinois near St. Louis, for example. As for the 'wayport'—my feeling is that it's got a place in our overall strategic plan but not a priority place by itself. We need to look at it in conjunction with everything else that we're trying to do from a capacity standpoint. ■

Oshkosh '89

from page 1



Transportation Secretary Skinner meets the press at Oshkosh. This interview was taped for a Milwaukee TV station.



FAA now has a leased building at Oshkosh for the flight service station, an exhibit area, a lecture hall and administrative areas. Until last year, agency activities were held under canvas.

FAA's role in the event continues to expand.

As usual, air traffic controllers made the whole thing work, handling an average of 5,500 flights a day over a 10-day period beginning July 25. That made Wittman Field—for a time, at least—the busiest airport in the world with more than twice the traffic volume of Chicago O'Hare.

Oshkosh tower manager Zonnie Fritsche noted that the figure would have been even higher if it hadn't been for bad weather that held down VFR activity on several days, including the weekend. But he emphasized that safety and not setting new traffic records was the tower's primary concern.

Assisting Fritsche and the normal tower complement of seven controllers this year were 47 air traffic specialists brought in from 40 different facilities in the Great Lakes Region. Included in this total were seven controllers who staffed a temporary tower at the Fon Du Lac airport.

Flight Service Station specialists performed an equally important safety function providing flight and weather information to pilots who often were lined up five and six deep at each position. This year the operation again was directed by Bill Cobb, manager of the Rapid City FSS, who says he keeps coming back to Oshkosh because he "likes the challenge."

In fact, virtually every FAA discipline is represented and makes a contribution at Oshkosh which offers agency personnel a unique opportunity to press the flesh with the "grassroots" people of general aviation. To borrow a favorite phrase of Administrator James Busey, this is where "the rubber meets the road."

Both Busey and Transportation Secretary Sam Skinner were on hand at

Working with Cobb were 18 journeymen specialists and three supervisors. Together, the team provided almost 6,000 pilot briefings in 8½ days and processed more than 1,150 flight plans. On Saturday and Sunday, July 29 and 30, when weather systems were moving through the area, they racked up a total of 2,140 briefings and 435 flight plan filings.

Oshkosh for a "Meet the Boss" session on Sunday morning, July 30.

For two and one-half hours, they stood shoulder to shoulder and responded to tough question after tough question about issues that affect general aviation. Their answers were candid and straight-forward and earned them a standing ovation from the audience when the session finally was brought to a close.

Skinner, an enthusiastic pilot from nearby Chicago, was making his "sixth



Airplanes! Airplanes! As far as the eye can see, there are airplanes at an EAA Fly-In. This year, some 15,000 showed up for the event.



One of the most popular attractions at the airshow was this 1950s vintage Taylor aerocar. It made several flights at Oshkosh to the amazement of spectators.

or seventh" visit to Oshkosh. For Busey, it was his first visit to Oshkosh, and he came away suitably impressed.

"People have told me that you have to see Oshkosh to believe it," Busey said. "But they didn't tell me it would be hard to believe even after you've seen it."

"I certainly came away from Oshkosh with a renewed appreciation for what general aviation flying is all

about in this country," he added. "The people are fantastic. I intend to do everything I can as Administrator to see that they get the help and support they need from FAA to ensure the continued safe growth and development of this vital segment of aviation."

The organizational pride of FAAers at Oshkosh is evidenced by the distinctive polo shirts and baseball caps they wear. This year, the color code was gray for controllers, maroon for Flight Service specialists, white for Aviation Standards and blue for administrative and support personnel.

FAA now has its own leased building at Oshkosh, as well. It houses a temporary flight service station that's activated each year for the show, an exhibit hall, a lecture hall and an office area.



The temporary flight service station was a very busy place again this year as weather fronts moved through Oshkosh. Pilots lined up five and six deep for briefings.



The FAA exhibit hall was one of the most popular stops at the Oshkosh midway. Visitors saw many FAA programs.



Administrator Busey responds to another tough question during the "Meet the Boss" session. Secretary Skinner looks on.



In the spirit of Glasnost, the USSR sent a huge Antonov AN-124 cargo plane to Oshkosh. Inside were two aerobatic airplanes being delivered to a U.S. broker.

The exhibit hall was one of the most popular attractions on the Oshkosh "midway" with tens of thousands of persons getting first-hand information on the latest FAA technical programs, familiarizing themselves with the latest flight safety materials and carrying away brochures on aviation careers for families and friends.

In the lecture hall, the agency ran safety forums from early morning to late afternoon on such subjects as construction, certification and flight testing of amateur-built aircraft; collision avoidance; learning from accidents; getting a good weather briefing; and piloting miscues ("Why Smart Pilots Do Dumb Things").

But general aviation pilots aren't the only ones who benefit from these semi-

nars. Gary Koch, who runs the Accident Prevention Program in Washington Headquarters, said these sessions promote a two-way flow of information with FAAers at all levels.

"We're particularly tickled that Oshkosh gives our top management people a chance to get out in the grassroots and really find out what's going on," he said.

He noted that EAA members tend to speak their minds and said that's all to the good. "We're a service organization, and we need that feedback," he added.

Also contributing to the success of the Fly-In are many FAAers who are card-carrying EAA members and take personal leave to participate in the event. One was Jim Davis, manager of the Operations Center in Washington Headquarters, who flew to Oshkosh in his Cessna 172.

Davis said he spent five days visiting the airshow, eating and sleeping. But it was the opportunity to "kick the tires" on hundreds of airplanes and talk with

their pilots that really turned him on. "That's why you go," he said.

He also had high praise for the Oshkosh controllers. "The air traffic control services were excellent," he said. "If you follow your instructions from the tower, it's a piece of cake, even though the traffic is very heavy."

It was Davis' first trip to Oshkosh, and his only regret was that he hadn't gone before. "But I'll tell you one thing," he added. "I'll try not to ever miss another one."

Davis' reaction is typical of so many pilots who visit Oshkosh for the Experimental Aircraft Association's annual Fly-In Convention & Sport Aviation Exhibition. And it's the reason this event keeps getting bigger and better every year. ■



The First Instrument Landing

By John G. Leyden

Sixty years ago this month, aviation's long search for a reliable all-weather landing system officially began.

On September 24, 1929, James H. (Jimmy) Doolittle logged history's first "blind landing" in a specially instrumented Consolidated NY-2 military trainer at Mitchel Field on Long Island, NY. More specifically, to use Doolittle's own description, the 15-minute flight marked "the first time an airplane had been taken off, flown over a set course and landed by instruments alone."

The next day, newspapers across the country hailed the flight as a victory over the "peril of fog." The *New York Times*, for example, said: "The demonstration was more than an exhibition of blind flying and instrument perfection. It indicated that aviation had perhaps taken its greatest single step in safety."

Doolittle, who held a doctorate in aeronautical engineering, in addition to being one of the country's foremost pilots, was more conservative and realistic. He recognized the value of his

The writer is manager of the Public and Employee Communications Division in the Public Affairs Office and a frequent contributor to FAA World.

achievement in advancing the technological frontiers of aviation but knew much work remained to be done before instrument landings were a practical reality.

The story of Doolittle's flight began more than a year before the event when Harry Guggenheim, president of the Guggenheim Foundation for the Promotion of Aeronautics, borrowed him from the Army Air Corps to run his foundation's newly created Full Flight Laboratory at Mitchel Field. This was in August 1928 when Lt. Doolittle was 31.

One of Doolittle's first acts was to purchase the rugged NY-2 biplane for use in the instrument-landing experiments. He also purchased a sleeker and faster Vought Corsair O2U-1 for cross-country practice flying.

In March 1929, seven months into his experiments, Doolittle received a very practical demonstration of the need for blind-landing capability. Flying the O2U-1 from Buffalo back to Mitchel Field, he found all local New York airports fogged in and had to make a crash landing near Elizabeth, NJ.

Although the O2U-1 was a total loss, Doolittle walked away without a scratch and later wrote that the flight would

have been "no sweat" had he been piloting the NY-2 with blind-landing equipment and with the Full Flight Laboratory radio alerted at Mitchel.

However, the initial flight tests with the NY-2 showed that even this very stable and sturdy airplane, which had been rebuilt by the manufacturer to Doolittle's specifications, required additional instrumentation to qualify it for the blind-landing experiments.

Two major problem areas were the magnetic compass and the turn-and-bank indicator. Neither instrument was adaptable to blind flying techniques. What was needed was an accurate and reliable instrument that would show the aircraft's exact heading and precise altitude at all times during approach and landing.

Doolittle enlisted the aid of Elmer Sperry, Sr., founder and president of



The winning team: Doolittle and the rugged NY-2 biplane.

"The flight from takeoff to landing lasted 15 minutes. It was the first time an airplane had been taken off, flown over a set course, and landed by instruments alone."

the Sperry Gyroscope Company, who put his son, Elmer, Jr., to work on the project. The results were the directional gyroscope and artificial horizon, the descendants of which are still standard equipment on all U.S. airline and military aircraft.

But Doolittle still needed an instrument that would provide exact altitude readings. The crude barometric altimeters then in use would give only approximate readings—to the nearest 50



Doolittle "under the hood" of the NY-2.



Instrument panel in the NY-2.

to 100 feet at the very best—making them totally unsuitable for instrument landings.

Doolittle heard about a young man named Paul Kollsman who had developed a highly sensitive barometric altimeter that would accurately measure altitude to within a few feet of the ground. He ran a series of flight tests with Kollsman riding as a passenger and found that the altimeter was perfect for the blind-landing experiments. It subsequently was installed in the NY-2 along with the instruments developed by the Sperry Company.

On September 24, with many practice blind landings behind him, Doolittle was ready for the official test. The weather conditions were perfect for his purpose since a heavy ground fog had rolled in off Long Island Sound and blanketed the area.

Doolittle sat in the shrouded rear cockpit of the NY-2 with only his instruments to guide him. At Guggenheim's insistence, Lt. Ben Kelsey, another Air Corps officer assigned to the Full Flight Laboratory, occupied the

another 180-degree turn to the left was made. The airplane was lined up on the left of the radio range located in the west side of Mitchel Field and a gradual descent started. It leveled off at 200 feet above the ground and flew at this altitude until the fan beacon on the east side of the airfield was passed. From this point, the airplane was flown into the ground, using the instrument-landing procedures previously developed. Actually, despite previous practice, the final approach and landing were sloppy... The flight from takeoff to landing lasted 15 minutes. It was the first time an airplane had been taken off, flown over a set course, and landed by instruments alone.

front cockpit to serve as a safety pilot. But he held his hands above the cowling in plain view of everyone to show that he was a spectator on this history-making flight rather than a participant.

Doolittle has written his own description of that famous flight:

"... I taxied the airplane out and turned into the takeoff direction on the radio beam. We took off and flew west in a gradual climb. At about 1,000 feet, the airplane was leveled off, and a 180-degree turn was made to the left. This course was flown several miles, and

As spectacular as this achievement was from a technical point of view, it was not the last the world would hear of Jimmy Doolittle. He continued to make headlines in the 1930s with numerous record-setting flights. He also was one of the nation's top air race pilots. Then, in April 1942, he led the first American bombing raid against Tokyo using carrier-based B-25s. The feat won him the Medal of Honor and lasting fame.

He retired from the military with the rank of lieutenant general in the spring of 1946 and today lives in California. He will be 93 in December. ■

Cabin Safety

RECENT FIRE SAFETY REGULATIONS



This illustration is proof that one picture is worth a thousand words. It shows in dramatic fashion the numerous regulatory actions taken by FAA in recent years to upgrade airline cabin safety. The steps range from fire blocking seat cushions to new lavatory smoke detectors.

People

Aeronautical Center

- **Joe D. Brown**, supervisor, Flight Operations Scheduling Section, Tokyo, Japan, FHO, from Aircraft Maintenance & Engineering Div.
- **Eugene J. Colangelo**, manager, Aviation Pathology & Toxicology Lab, Aeronautical Research Div.
- **Patricia A. Hair**, unit supervisor, Storage & Distribution Section, Storage & Transportation Branch, FAA Depot, promotion made permanent.
- **Arnold E. Higgins**, manager, Protection & Survival Lab, Aeronautical Research Div.
- **Michael E. Rone**, unit supervisor, Electro-Mechanical Production Section, Engineering & Production Branch, FAA Depot, promotion made permanent.

Alaskan Region

- **Robert W. Berges**, unit supervisor, King Salmon AFSFO, South Alaska AFS, Anchorage.
- **Robert L. Beran**, manager, Kena ATCT, from Boise, ID, ATCT.
- **Warner J. Rhodes**, manager, Investigations & Internal Security Branch, Civil Aviation Security Div., from Brussels.

Central Region

- **James L. Blair**, unit supervisor, Construction Section, Establishment Engineering Branch, Airway Facilities Div.
- **Gene Lee DeWeese**, area supervisor, St. Louis TRACON, Lambert Field.
- **Johnnie M. Fleming**, deputy manager, Human Resource Management Div.
- **Donna R. Genest**, area supervisor, Kansas City, MO, International ATCT, from FAA Academy.
- **John W. Jackson, Jr.**, area supervisor, St. Louis, MO, AFSS, promotion made permanent.
- **Joseph M. Jirschle**, manager, Johnson County ATCT, Olathe, KS, from Quality Assurance Staff.
- **Felton R. Lancaster**, manager, Resource Management Branch, Air Traffic Div.
- **Paul E. Marchbanks**, manager, System Requirements Branch, Air Traffic Div.
- **Billy G. Peacock**, manager, Systems Management Branch, Air Traffic Div.
- **Grant R. Peters**, manager, Management Systems Planning & Evaluation Branch, Resource Management Div.
- **James H. Snow**, manager, Facility Operations Branch, Air Traffic Div.
- **Roby M. Stephens**, area supervisor, St. Louis, MO, AFSS, Chesterfield, promotion made permanent.

- **Michael L. Swortwood**, area supervisor, Olathe ARTCC, promotion made permanent.
- **William V. Williams**, supervisory electronics technician, NATCOM AFS, Kansas City, MO, promotion made permanent.

- **Carl Aber**, area supervisor, Cleveland-Hopkins Airport ATCT.
- **Charles E. Allaman**, area supervisor, Springfield, IL, ATCT, promotion made permanent.
- **Terry L. Arneson**, area supervisor, Chicago O'Hare ATCT, promotion made permanent.
- **Robert L. Bartlett II**, area supervisor, East St. Louis, IL, Downtown-Perko ATCT.
- **Douglas R. Braun**, area supervisor, Flint, MI, from East St. Louis, IL.

- **Stephen A. Borish**, area supervisor, New York AFSF, Islip, from Pittsburgh FSS.
- **Arthur N. Brownell, Jr.**, executive officer, Flight Standards Div.
- **Robert D. Bucaria**, unit supervisor, Engineering Support Section, Construction Engineering Branch, Airway Facilities Div., promotion made permanent.
- **Raymond B. Comers**, supervisory electronics technician, Washington AFS (ARTCC), Leesburg, VA.
- **Michael Dennis III**, area supervisor, Binghamton ATCT, promotion made permanent.
- **Catherine M. DeToma**, supervisor, Services & Supplies Section, Procurement Branch, Logistics Div., promotion made permanent.
- **Craig J. Gonnelli**, area supervisor, Allentown, PA, AFSS, from Pittsburgh FSS.
- **Charlotte J. Happle**, area supervisor, Teledoro, NJ, ATCT, from Newark ATCT.
- **John J. Hendershott**, manager, Charlottesville, VA, ATCT, from Norfolk ATCT.
- **Walter M. Kropowicz**, unit supervisor, Baltimore, MD, AFSD, Capital AFS, promotion made permanent.
- **Donald C. Morgan**, area supervisor, Erie, PA, ATCT.
- **Robert C. Ott**, section supervisor, Systems Requirements Branch, Air Traffic Div., promotion made permanent.
- **Thomas N. Paccione**, area supervisor, New York TRACON, Garden City, promotion made permanent.
- **William Sassaman**, section supervisor, Pittsburgh FSS, promotion made permanent.
- **Terence E. Miller**, area supervisor, Maline, IL, ATCT, from Chicago O'Hare.
- **James Shedlock**, area supervisor, Washington National ATCT, promotion made permanent.
- **Harry L. Silverstone**, area supervisor, Washington National ATCT, promotion made permanent.
- **K. Richard Stevens**, section supervisor, National Capital CASFO, Leesburg, VA, promotion made permanent.
- **Robert D. Straub**, area supervisor, Newport News FSS, promotion made permanent.
- **Judith Hahn Terrano**, area supervisor, Allentown, PA, AFSS, from Parkersburg FSS.
- **Frank J. Ujpal**, manager, Merriam, NJ, AFSD, Tri-State AFS, promotion made permanent.
- **William A. Weeks**, unit supervisor, Chantilly, VA, AFSD, Capital AFS, from Washington Headquarters.
- **Russell Williams**, unit supervisor, NY AFS (ARTCC), Islip.

- **Mark E. Evans**, area supervisor, Cleveland ARTCC, Oberlin, OH.
- **Michael C. Ficochelli**, area manager, ZAU ARTCC, Chicago, from Los Angeles ARTCC, Palmdale.
- **Donald C. Freeman**, area supervisor, Bradley ATCT, Windsor Locks, from New York TRACON.
- **Neil A. Lahan**, area supervisor, Bradley ATCT, Windsor Locks, from New York TRACON.
- **John P. Nolan**, area supervisor, Boston ARTCC, Nashua, promotion made permanent.
- **Robert D. Groszer**, GADG manager, Cincinnati, OH, FSDO.
- **Russell O. Hansen**, area manager, ZID ARTCC, Indianapolis, from Indianapolis ATCT.
- **James J. Heinen**, manager, Operations Engineering Branch, Airway Facilities Div.
- **James M. Hine**, area supervisor, Cleveland ARTCC, Oberlin, OH, promotion made permanent.
- **Margaret A. Israel**, asst. manager, Detroit Metro ATCT, from Air Traffic Div.
- **Mary A. Jackson**, asst. manager, plans & procedures, Lansing, MI, AFSS.
- **Frank L. Jeskie**, area supervisor, Cleveland ARTCC, Oberlin, OH, promotion made permanent.
- **David E. Johnson**, asst. manager, traffic management, ZMP ARTCC, Farmington, MN, promotion made permanent.
- **Thomas E. Kovacinski**, area supervisor, ZID ARTCC, Indianapolis, promotion made permanent.
- **Andrew M. Lander, Jr.**, area supervisor, Cleveland ARTCC, Oberlin, OH, promotion made permanent.
- **Mark S. Madden**, area supervisor, Cleveland ARTCC, Oberlin, OH, promotion made permanent.
- **Louis J. Martin**, unit supervisor, Minneapolis, MN, Aircraft Certification District Office.
- **Steve J. Mayhall**, area supervisor, Cleveland ARTCC, promotion made permanent.
- **Terence E. Miller**, area supervisor, Maline, IL, ATCT, from Chicago O'Hare.
- **Elda D. Mingus**, asst. manager for program support, Michigan AFS, Belleville, from Indiana AFS.
- **Phillip T. Mullis**, area supervisor, Chicago O'Hare ATCT.
- **Douglas M. Nastaly**, area supervisor, Grand Rapids, MI, ATCT, from Chicago O'Hare ATCT.
- **Martin J. Rielage**, manager, Operations Branch, Flight Standards Div.
- **Clyde D. Rinkinen**, area supervisor, Detroit Metro Airport ATCT, from Flint, MI, ATCT.
- **Pati L. Schutte**, area supervisor, Carbondale, IL, ATCT.
- **Charles P. Spada**, AF watch supervisor, AFS, Field Area, Michigan AFS, Belleville, from Wayne County, MI, AFSDO.
- **James A. Tucciarone**, asst. manager for training, ZDP ARTCC, Cleveland, from Cleveland Hopkins Airport ATCT.
- **Thomas J. Uspodyk**, area supervisor, Green Bay, WI, AFSS, promotion made permanent.
- **John E. Winegar**, unit supervisor, Coopersville, MI, AFSDO, Michigan AFS, from Muskegon County AFSFO.
- **Lynette Leary**, area supervisor, ZAU ARTCC, Chicago, promotion made permanent.

- **Raymond D. Dunn, Jr.**, area manager, Bridgeport, CT, AFSS, from Burlington, VT.
- **Peter M. Goodwin**, area supervisor, Bridgeport, CT, ATCT, from New York TRACON.
- **John P. Nolan**, area supervisor, Boston ARTCC, Nashua, promotion made permanent.
- **Bruce A. Peterson**, area supervisor, Boston ARTCC, Nashua, NH, promotion made permanent.
- **Anthony S. Serino**, manager, Lawrence, MA, ATCT, from Air Traffic Div.
- **Robert M. Voshburg**, manager, Barnstable ATCT, Hyannis, MA, from Otis Air Force Base.

- **Roger J. Anderson**, manager, Lakeside, MT, AFSSO, Billings, AFSS, promotion made permanent.
- **Mary A. Jackson**, asst. manager, plans & procedures, Lansing, MI, AFSS.
- **Arno C. Besley, Jr.**, asst. manager, airspace & procedures, Salt Lake City ARTCC.
- **Kemper W. Hall**, unit supervisor, ISDO 64, Portland, OR, from Helena, MT, FSDO.
- **Rebecca J. Hinz**, area supervisor, Salt Lake City ATCT.
- **Paul G. Laker**, manager, Lark, WY, AFSSO, Billings, MT, AFSS, promotion made permanent.
- **Amie J. McCarthy**, section supervisor, Material Management Branch, Logistics Div., promotion made permanent.
- **Eugene E. Porter**, manager, Los Angeles Manufacturing Inspection District Office.
- **Thomas J. Pratt**, section supervisor, Portland, OR, FSDO 64.
- **Rene Ramos**, unit supervisor, AFSSO 1, Stapleton Airport, Denver, AFSS, promotion made permanent.
- **Brian J. Sison**, asst. manager for training, Billings, MT, AFSS.
- **Lisa P. Thompson**, area supervisor, Boeing ATCT, Seattle, from Everett WA.
- **Alton E. Tolson**, manager, AFSSO 12, Salt Lake City, UT, AFS.
- **Martin R. Walker**, manager, Brownfield, CO ATCT, from Denver.
- **Keeton D. Zachary**, manager, FSDO 61, Seattle, from Flight Standards Div.
- **James Ziemba**, asst. manager, Logistics Div.

- **Stephen P. Alogna**, area supervisor, Hampton, GA, ARTCC, promotion made permanent.
- **Gene M. Barnett**, area manager, Miami International Airport ATCT.
- **Peter M. Blackburn**, area supervisor, Radar Air Traffic Control Facility (RATCF), Meridian, MS, promotion made permanent.
- **Sidney M. Cooper, Jr.**, area supervisor, Miami ARTCC, from FAA Academy.
- **Thomas H. Couch**, environmental support unit supervisor, San Juan AFS, from Chicago AFS.
- **John S. Davis**, area supervisor, Hampton, GA ARTCC, promotion made permanent.
- **Bille K. Deaton**, group supervisor, Miami ARTCC.
- **Anthony S. Ferrante**, area supervisor, Miami International Airport ATCT, promotion made permanent.
- **Drezen T. Gardlick**, area supervisor, San Juan CERAP, promotion made permanent.

- **Lawrence G. Gray**, area supervisor, Miami International Airport ATCT.
- **John F. Hanna**, manager, St. Thomas, VI, AFSDO, San Juan AFS, from San Angelo, TX, ARTCC.
- **Sandra K. Harper**, area supervisor, Memphis ARTCC, promotion made permanent.
- **John W. Hayhurst**, area supervisor, Nashville, TN, AFSS.
- **Jerry E. Holmes**, unit supervisor, Fulton County Airport AFSSO, Atlanta Hub AFS, from Atlanta.
- **Marvin E. Hudspeth**, asst. manager, plans & procedures, Tampa, FL, ATCT.
- **Garrett D. Huskins**, unit supervisor, Ft. Lauderdale AFSO, Hub AFS, Miami, from St. Thomas, VI.
- **William H. Jordan**, asst. manager for training, Tampa ATCT.
- **Roger A. Lahaie**, asst. manager for training, San Juan, PR, CERAP.
- **Henry R. Leggett**, unit supervisor, Memphis AFS (ARTCC), promotion made permanent.
- **Robert R. Lloyd**, unit supervisor, Miami, FL, FSDO.
- **Kevin B. Marlin**, area supervisor, Executive Airport AACT, Ft. Lauderdale, FL, from Miami International ATCT.
- **Thomas R. Martin**, area manager, Nashville, TN, ATCT, from St. Louis, MO, TRACON.
- **Jerry L. Miller**, area supervisor, Vero Beach, FL, ATCT, from Miami International.
- **Colleen F. Morrow**, area manager, Hampton-GA, ARTCC, from Air Traffic Div.
- **Randell D. Nutt**, asst. manager, plans and procedures, Orlando International Airport ATCT.
- **Arnold N. Oling**, area supervisor, Jacksonville, FL, ATCT, from Miami Int'l.
- **Alvaro A. Quesada**, manager, Lexington, KY, ATCT, from Miami International ATCT.
- **David K. Riestler**, area supervisor, Hiliand, FL, ARTCC, from Jacksonville.
- **Charles G. Rohr**, asst. manager for training, Anderson, SC, AFSS, from Ft. Myers, FL, FSS.
- **Welfon E. Smith**, unit supervisor, Huntsville, AL, AFSSO, Hub AFS, Memphis.
- **Donald M. Sorrell**, area supervisor, Jacksonville FSS, promotion made permanent.

- **Carl Steedman**, unit supervisor, Hampton, GA, ARTCC, Atlanta AFS, promotion made permanent.
- **Isaone J. Toledo-Anderson**, area supervisor, San Juan, PR, CERAP, promotion made permanent.
- **Carren L. Valdes**, area supervisor, San Juan, PR, International FSS.
- **Melvin C. Wilson**, area supervisor, Memphis, TN, ARTCC, promotion made permanent.

- **Larry H. Akers**, unit supervisor, Ft. Worth, TX, ARTCC (AFSS).
- **Lanette W. Angst**, unit supervisor, Houston, TX, ARTCC (AFSS).
- **Daryl W. Austry**, area supervisor, Ft. Worth AFSF, from Wichita Falls, TX, FSS.
- **Raymond D. Blue**, asst. manager for training, Jusebous, AR, AFSS, from San Angelo, TX, AFS.
- **Jimmy C. Burgess**, area supervisor, Jonesboro, AR, AFSS, from Little Rock FSS.
- **Richard L. Clancy**, area supervisor, San Angelo, TX, AFSS, from Albuquerque, NM.
- **Gwin C. Drummond**, supervisor, Field Program & Services Section, Maintenance Operations Branch, Airway Facilities Div.
- **David C. Frame**, traffic management unit supervisor, Houston, TX, ARTCC.
- **Zane F. Harper**, traffic management unit supervisor, Ft. Worth, TX, ARTCC.
- **George R. Howard, Jr.**, watch supervisor, Ft. Worth ARTCC (AFSS).
- **Michael F. Jackson**, area supervisor, Midland, TX, ATCT, promotion made permanent.
- **Darwin L. Klotz**, area supervisor, Lake Charles, LA, ATCT, from Houston International Airport ATCT.
- **Robert C. Leader**, manager, Keller, TX, AFSSO, Dallas/Ft. Worth AFS.
- **Anthony J. Merrill**, manager, Manufacturing Inspection Office, Aircraft Certification Div., from Washington Headquarters.
- **David Miles**, section manager, Houston ARTCC (AFSS), from Phoenix, AZ, AFSS.
- **Jack L. Nimmo, Jr.**, manager, Jonesboro, AR, AFSS, from Little Rock FSS.

- **Edward P. O'Keefe**, asst. systems engineer, Houston ARTCC (AFSS), promotion made permanent.
- **Michael L. Peltier**, supervisor, Technical Support Staff, Electronics Engineering Branch, Airway Facilities Div., promotion made permanent.
- **Charles R. Schulke**, manager, Amarillo, TX, ATCT, from Fels Field ATCT, Spokane.
- **Bernard V. Smitz**, asst. manager, airspace and procedures, Ft. Worth ARTCC.
- **Trey Wilson, Jr.**, supervisory electronics technician, Harlingen, TX, AFSSO, San Antonio AFS, from Little Rock, AR, AFS.
- **Max E. Young**, team supervisor, Dallas, TX, FSDO.
- **Arthur A. Zepeda**, asst. systems engineer, Houston ARTCC (AFSS).

- **Dorothy L. Buckanin**, manager, Information Systems Engineering Branch, Management Systems Div.
- **Virginia S. Gavin**, supervisor, NY TRACON Section, National Terminal Field Support Maintenance Branch, Automation Software Div., promotion made permanent.
- **Robert B. Hall**, manager, Plant Services Branch, Plant Engineering & Services Div.
- **Luther C. McClellan**, manager, Advanced Animation Systems Branch, Automation Div.

- **Jeri L. Altes**, manager, International Policy Analysis Branch, International Planning & Analysis Div., Office of International Aviation, promotion made permanent.
- **Walter J. Anderson**, manager, Management Support Branch, Plans Evaluation & Management Support Div., Office of Aviation Medicine.
- **Timothy G. Fleming**, manager, Airspace Systems Branch, Operations Div., Air Traffic Operations Service.
- **Garrison P. Franklin**, manager, Information Management Program, Maintenance Operations Div., Systems Maintenance Service.
- **Valdis I. Krutmanis**, manager, System Engineering Staff, Airway Facilities.

- **Shirley Y. Purnell-Rice**, manager, Operations Branch, Human Resource Management Div., Associate Administrator for Human Resources Management.
- **William G. Russell**, manager, Program Management Branch, NAS Planning & Program Management Div., Office of System Engineering & Program Management.
- **Harleigh J. Stokes**, manager, Training Requirements & Certification Branch, Air Traffic Executive Staff, from Sacramento.

- **Harvey A. Belgard**, section supervisor, Oakland, CA, TRACON.
- **Spencer E. Burton**, manager, Reno, NV, FSDO, from Flight Standards Service.
- **Thomas E. Carman**, asst. manager for automation, Los Angeles TRACON.
- **John J. Faletti**, manager, San Diego, CA, AFS, from Airway Facilities Div.
- **Ronald D. Gerber**, area supervisor, Burbank ATCT/TRACON, from Los Angeles.
- **Terry L. Gordon**, supervisory aviation safety inspector (operations), Oakland, CA, FSDO.
- **Dennis M. Hughes**, area supervisor, El Toro, CA, TRACON, Santa Ana, from Sacramento TRACON.
- **Russell M. Johnson**, manager, Burbank, CA, AFSSO (Radar/Comm/Data), Los Angeles AFS, from Airway Facilities Div.
- **Merrill V. Scott**, section supervisor, Hayward, CA, promotion made permanent.
- **Jon P. Shively**, area supervisor, Santa Barbara, CA, ATCT, from Guam CERAP.
- **George J. Slade, Jr.**, program officer, Burbank, CA, TRACON.
- **Mont E. Strickler**, supervisor, Section A, Contracting & Acquisition Management Branch, Logistics Div.
- **Bev G. Taylor**, area supervisor, Oakland, CA, FSS, promotion made permanent.
- **John B. Tompkins**, manager, Golden Gate AFS, Hayward, CA, from San Diego AFS.
- **James S. Wilhelm**, area supervisor, Long Beach, CA, ATCT, promotion made permanent.

- **Robert O. Meulin, Jr.**, Henry R. Parker, Jr., Frederick W. Parsons, Joe W. Schneider, Daniel D. Walker, Ray F. Terry, Frank M. Smith III, Arthur L. Wallace, Jr., Bill J. Wells.

- **John W. Long**, Thomas R. Price, Steven N. Reinke, John P. Chard.

- **James L. Austin**, Clinton J. Baker, James A. Beasley, Alan W. Behrmitt, Lucien B. Bierny, William E. Branch, Dennis W. Burden, Dwight W. Combs, Roger L. Folsom, James A. Gallaber, Walter W. Gruber, Jr., Charles H. Hanick, George W. Hatt, Edward E. Hicks, John T. Schwappach, Royce H. Sweet, Phillip J. White.

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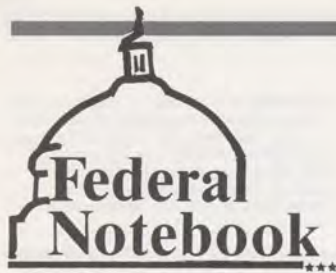
- **Robert O. Meulin, Jr.**, Henry R. Parker, Jr., Frederick W. Parsons, Joe W. Schneider, Daniel D. Walker, Ray F. Terry, Frank M. Smith III, Arthur L. Wallace, Jr., Bill J. Wells.

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3.6 PERCENT RAISE LOOKS ASSURED

Don't spend it yet, but a 3.6 percent federal pay raise in January looks like a sure thing. Before they left Washington for the Labor Day recess, both the House and Senate approved that amount in fiscal 1990 spending bills, but minor differences still must be worked out in conference. The raise covers employees up to and including Executive Level III (currently \$82,500).

'AULD LANG SYNE' FOR MORE BENEFITS

Another chapter has been written in the on-going saga entitled 'The Strange Disappearance of Federal Employee Retirement Benefits.' Effective with the new year, retiring federal workers under 65 will pay two-thirds of the cost of the basic Federal Employees Group Life Insurance coverage until they hit 65. Currently active employees make the two-thirds payment, but the government picks up the entire tab for retirees until they hit 65, at which point basic life premiums cease. Since current monthly premiums run about 40 cents per \$1,000, the change will cost a post-1989 retiree with a \$30,000 basic policy about \$96 per year. Current

retirees are not affected by the change; neither will those who turn in their retirement papers before we all start singing 'Auld Lang Syne' at the New Year's Eve parties.

LUMP SUM GUIDELINES

Approximately seven out of every 10 federal retirees take a lump-sum pension payment when they leave the government. However, it's not a decision to be made lightly since choosing this option reduces the monthly annuity retirees receive from then on. The size of the reduction depends on each retiree's age and length of service. Accordingly, retirees should study the matter carefully and discuss it with experts before making a decision. But here are a few guidelines that might be helpful, courtesy of the *Washington Post's* 'Federal Diary':

- If under 55, the lump sum probably is the best option, even though there is an additional 10 percent surtax involved.
- Between 55 and 65, it's a case-by-case decision, with lump sum becoming less attractive the closer one gets to 65.
- Over 65, the best course may be to decline the lump sum since monthly pension reductions can be as much as 20 percent.

Of course, this discussion assumes that Congress will continue the lump sum option in one form or another. And remember, most of it is taxable!

CONGRESS OKS RETIREE HIRING MEASURE

The Senate has joined the House in approving a bill designed to encourage federal, postal and military retirees to take temporary jobs associated with the 1990 census. President Bush also supports the legislation, which provides a six-month waiver from a law that otherwise would reduce the annuities of retirees who are re-employed by the government. The Census Bureau will need about 480,000 temporary employees for the decade's head-count. Sponsors of the bill believe federal retirees would be prime candidates, since they would need less training.

COMPTROLLER GENERAL NIXES NIKES

The Office of the U.S. Comptroller General has ruled that federal agencies may not purchase running shoes for employees who are required to meet certain physical standards. The decision came in a case brought by the Energy Department to determine the legality of purchasing running shoes for its nuclear materials couriers. The CG found that running shoes could not be considered 'special clothing and equipment' for that purpose.

C FUND IS BIG WINNER

Federal employees who chose the Thrift Savings Plan's common stock (C) fund knew what they were doing apparently. In the 12-month period ending in July, the C fund yielded a return of 31.8 percent. This compares with 14.9 percent for the fixed asset (F) fund and 9.15 percent for the government securities (G) fund.

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U.S. Department
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**Federal Aviation
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FAA World

September 1989
Volume 19 Number 9



The reunion of six Curtiss JN-4 "Jennies," like this one, set the "Jennies to Jets" convention theme.

Better
than
Ever

By John Leyden

Oshkosh '89

Aviation writers long ago ran out of superlatives to describe the Experimental Aircraft Association's annual Fly-In convention at Wittman Regional Airport located in Oshkosh, WI.

Every year, it gets bigger; every year it gets better; every year, it attracts more airplane lovers from across the country and around the world.

Here are some Oshkosh '89 numbers to prove the point:

- 15,000 aircraft on the field at one time or another during the July 28-August 3 event. Included were 1,700 show planes.

- 840,000 people paid their way through the gates to ogle the aircraft, view the exhibits and watch the flight demonstrations.
- 2,300 foreign visitors arrived from 71 different countries. Included were 400 EAA members from Australia who flew in aboard a chartered Boeing 747. Of this number, 232 were pilots, and they have filed a claim with the *Guinness Book of World Records* for "most pilots on one airplane."
- 40,000 campers roughing it in the great outdoors, making the Oshkosh Fly-In not only the largest airshow in the world, but maybe the largest camp out, as well.

Mr. Leyden is the manager of the Public and Employee Communications Division in the FAA Office of Public Affairs.

This year, the convention theme was "Jennies to Jets," with half a dozen WWI Jennies on hand to rekindle fond memories of aviation's barnstorming days. At the other end of the spectrum, the SR-71 "Blackbird"—still the fastest airplane in the world with a top speed in excess of 2,000 m.p.h.—also flew in (subsonically) for the event. And as if to emphasize the new "Glasnost" spirit of U.S.-Soviet relations, it was parked adjacent to the huge Russian cargo plane, the Antoniv AN-124.

And as the Fly-In keeps growing,

(Continued on page 6)

DUATS: A New Level of Automation

By Charles Spence

The most important letter in DUATS is the 'S'; it stands for service."

That's the way the project manager sees FAA's newest approach to pilot weather briefings and flight plan filings. If all goes well, Direct User Access Terminal Service, or DUATS, should begin next month.

Using almost any computer and a modem—a device that allows one computer to communicate with another over telephone lines—a pilot can obtain detailed weather information and file a domestic flight plan. The process will accept plans for flights operating under Visual Flight Rules (VFR) or Instrument Flight Rules (IFR). Additional services may also be offered by the three independent suppliers of DUATS, but at no cost to the government.

Computerized services from private firms have been available for some time to pilots willing to pay the fees. Now the FAA will provide this service free to pilots.

DUATS is FAA's response to the

(Continued on page 2)

The author is a veteran of the Hearst newspaper chain and the Aircraft Owners and Pilots Association public relations operation. He is a frequent contributor to FAA World.

In This Issue

- 1 Oshkosh '89
- 1 DUATS Is Services
- 4 Busey Responds to Press
- 8 Doolittle's Instrument Landing

- 10 People
- 11 Retirees
- 12 Federal Notebook

DUATS from page 1

FAA World

September 1989

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DUATS was given an extensive test at ten sites beginning in 1984. It proved extremely popular with pilots.

continuing growth in the demand for flight services. Between 1988 and the year 2000, the number of flight services provided by FAA is projected to increase from 44.7 million to 48.2 million, an eight percent gain.

During its first 12 months in operation, DUATS is expected to satisfy 20 percent of the total system demand, according to project manager Ernie Van Vlaanderen. Each year after that, the computer system is expected to absorb an additional five percent throughout the life of the contract.

But this does not mean that there will be a sharp decline in flight service station (FSS) personnel, Van Vlaanderen emphasized. "FAA needs DUATS to keep pace with the increasing demand for flight services while maintaining the current FSS specialist staffing levels," Paul Rosenwald, Automated Flight Service Station program manager, sees another reason for DUATS' role in accommodating growth rather than taking away from present workloads.

"There is a big unknown there now in terms of pilots who are not willing to wait on the telephone for a briefing," he says. As a result, he adds, they now may seek a briefing some other way, or flying VFR, take off and call a flight service station for a radio briefing. He believes the people now missed for one reason or another will be able to contact an FSS in either the conventional way or obtain service through DUATS.

Neither Van Vlaanderen or Rosenwald foresee any significant decline immediately in the present workloads at flight service stations. Over the long term, however, DUATS may be a primary factor in the reduction of FSS staffing through retirement attrition, as indicated in FAA's National Airspace System Plan.

The FAA Technical Center at Atlantic City began developing a Prototype DUATS system early in 1983. The next year, test models were placed at ten sites in New Jersey, Pennsylvania and Delaware. The Center notified approximately 38,000 pilots who live in this area and urged them to use and evaluate the system.

It received an enthusiastic reception. Two out of three pilots polled stated they were either "very" or "extremely" satisfied with the system. Only three-tenths of one percent said they were totally dissatisfied.

As a result of the test and comments made by users, the DUATS project team made changes to simplify the process further and make the automated system even more attractive to pilots.

In February of this year, FAA moved

the DUATS program into a new phase. It awarded contracts to three vendors to provide pilots with toll-free, direct computer access to aviation weather and other flight planning information. The companies are Data Transformation Corp., of Turnersville, NJ; Contel, ASC, McLean, VA; and Lockheed Data Plan, Inc., Los Gatos, CA.

The contracts require each vendor to provide specific services to pilots. Each may also offer "value added" services for which they may charge the user. FAA expects each will compete for a bigger share of the market by generating improved service.

DUATS will work with a wide range of computers and modems. Any pilot with a computer capable of receiving basic text over the modem can access the system. This includes IBM and compatible models as well as the Apple Macintosh. A 300-baud modem carries the data.

The pilot also must have appropriate computer software to transmit and receive data by modem. At least one firm is offering free computer software to pilots as an incentive for using its service.

Each firm provides a toll-free telephone number. "We have plenty of incoming lines now," the manager of one system said, "and will be delighted if we capture enough of the business to add many more lines."

After a pilot connects with the system, the menu-driven software leads him or her through the program in user-friendly, easy-to-understand steps. On the initial log-on, the pilot will register, using his or her name and the FAA pilot certificate number which will be verified through FAA pilot records. Only pilots holding current medical certificates will have access.

Once into the system, the pilot essentially has access to the same information available to FSS briefers. This includes surface observations, terminal forecasts, area forecasts, winds and temperatures aloft, pilot reports, NOTAMS, radar weather reports and weather warnings that are issued to amend meteorological reports.

Pilots may ask for information in one of several ways. As an example, they may get a route data for the full flight by departure point, route and destination. DUATS will provide the weather data for the route, searching the area 25 miles on either side. Or, the pilot may ask for only parts of the route. Other options include localized data or selected products for specific locations.

Users of DUATS may stay on the line for as long as 20 minutes. The government will pay the provider a fixed fee for each call. Users may store the

data in their computers and, if a printer is available, make a hard copy for their records.

Information is presented to the pilot in the same format as received by flight service stations. Pilots who know the three-letter identifiers well should have little difficulty. Those who do not can ask the computer for help. Put in the identifier, and the system calls up the location; put in the location, and the system names the identifier.

The free service for pilots provides textual information only. Add-on services offered by the vendors can give the pilot even more information. Among the services that may be available are monochrome or color radar depiction and prognostic charts, fuel arrangements and other aviation related services. Pilots will pay directly to the vendor for these added services. The user may go in and out of the free services any time during the 20-minute call and request the value-added service. This time away from regular DUAT service is not counted in the 20-minute allowable limit.

Additional services are seen as another incentive for competition among the three contract firms.

After completing the briefing, the pilot may file, amend or cancel a



891.5 Preflight action.

Each pilot in command shall, before beginning a flight, familiarize himself with all available information concerning that flight. This information must include:

(a) For a flight under IFR or a flight not in the vicinity of an airport, weather reports and forecasts, fuel requirements, alternatives available if the planned flight cannot be completed, and any known traffic delays of which he has been advised by ATC.

domestic flight plan. IFR plans must be transmitted at least one hour before proposed departure time; VFR plans, 30 minutes.

The vendor's computer first checks the plan for accuracy and then forwards it to the appropriate air route traffic control center (ARTCC) or flight service station. Vendors are required to maintain an accuracy rate of 99 percent.

Each vendor has access to the FAA Weather Message Switching Center (Service A) data line. Also, each has two lines to NADIN—National Airspace Data Interchange Network—for filing, amending or canceling flight plans in FAA computers.

IFR flight plans will go directly to the ARTCC to be checked by the host computer. In cases where the plan is rejected, the DUAT vendor is notified and will follow approved procedures to correct it. If the plan is accepted, it goes into the system like any other filing.

VFR flight plans will be forwarded to the appropriate flight service station.

The FAA Tech Center survey of potential users showed that 47.2 percent of the pilots in the sample owned a home computer. This should not be construed as representative of the total pilot population, however, the study warned. "It is plausible to argue that pilots who already own computers would more likely volunteer to participate in the

DUATS survey than those who do not."

A study conducted last year by the Aircraft Owners and Pilots Association among its members revealed that 59 percent either had a computer or had immediate access to one. Don Johnson, AOPA's research director, also cautions that this should not be related to the entire pilot population, but only to those holding AOPA membership.

Each vendor is aggressively promoting its service in hopes of capturing the biggest share of the market. They are using advertisements in aviation publications as well as direct mail promotions to pilots. One firm is exhibiting at aviation shows and conventions.

Another is placing computers with selected fixed-base operators to attract business from pilots who do not have access to a computer or are in transit. Transient pilots, however, who have portable, or lap top, computers may gain access in hotel rooms or airplane elsewhere where they can plug into a telephone.

The ultimate beneficiary of this competition will be general aviation pilots, however. Thanks to modern computer technology, they soon will have a range of weather products available at their fingertips. ■

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***** DATA PLAN *****
+ LOCATED DATA PLAN +
+ VALUE ADDED SERVICES +
*****

VALUE ADDED SERVICE CATEGORIES

SERVICE INFORMATION
*****
S1 - WHAT IS A FLIGHT LOG
S2 - WHAT ARE WEATHER MAPS
S3 - WHAT IS WEATHER RECORDING
S4 - WHAT IS AIRPORT INFO

FLIGHT PLANNING LOG PRODUCTS
*****
F1 - DIRECT FIX TO FIX FLIGHT LOG
F2 - DIRECT FIX TO FIX RWY LOG
F3 - AUTOMATIC WOB FLIGHT LOG (W/A)
F4 - AIRPORT INFORMATION (W/A)

FLIGHT LOG CHOICE:
LOCATED DATA PLAN FLIGHT PLANNING LOG
  
```

On August 10, 1989, Administrator Busey held his first meeting with representatives of the news media. The following is an edited transcript:

Good morning. Let me share with you what I consider the key issues facing the FAA in the near term. I'll try to be brief.

System safety, of course, is the primary concern and objective that I have. I think any FAA Administrator has to have safety within the air transportation system as his number one objective. I'm certainly no different in that regard.

Secondly, procurement is a primary issue of mine. I bring some experience in the procurement arena and, as you all well know, we in the FAA have been engaged since the early 1980s in a major procurement program to upgrade and modernize the National Airspace System. I have been intensively reviewing our procurement programs, and I'm committed to the wise and efficient expenditures of the dollars the taxpayers make available to us through the budgeting process.

People is the third key issue of mine. We in the FAA face stiff competition to obtain the young people required to keep our organization alive. Everyone is after the expertise, the technical skill, the operational skill needed to make public agencies and industry go. So we need to tighten up our recruiting procedures and more effectively go after the young people that we need to keep the FAA system alive on into the next century.

Then, having obtained these people, we've got to work hard to retain them. We invest a lot of time and money in training our people to do their jobs, and we want to keep them. So we need to cultivate an aura of "This is a fun place to be, an important place to be," and work hard to hang on to those people that we need so badly.

The fourth issue that I'll mention this morning I call outreach. As a public organization, we must hear from the users of the system, the lovers of aviation, the industry groups and all the other associations. My impression is that FAA may not be perceived by some of these groups as being all that willing



Administrator Busey (second from right) "meets the press" in the Administrator's conference room in Washington Headquarters.

Administrator Busey "Meets the Press"

to hear from them. I think it's very important that we listen to the user groups, that we avail ourselves of opportunities to interface with these people so that we can hear their concerns and demonstrate our willingness to act on them when appropriate.

Outreach also affects us internally. We've got to work on our internal communications systems, and that's part of retaining our good people.

Related to the outreach effort is our review of general aviation compliance and enforcement policies that I started in the last couple of weeks. I recently traveled to Oshkosh for the EAA Fly-In—my first time there—and I was personally impressed by the vitality and the eagerness and the interest in the general aviation community. I heard from a lot of users, general aviation pilots and other interest groups, that perhaps we in the FAA have gone too strongly towards compliance and enforcement of procedures to the detriment of aviation safety.

That's why I convened the review group under Keith Potts. I want to get to the bottom of these concerns, find



out what if any factual basis there is for them and then decide what changes we may need to make in our enforcement procedures so the general aviation people will understand that we at the FAA are here to help.

The last issue that I want to mention to you before we open up for questions is the government-industry task force that I created last week to explore ways of improving survivability of wide-bodied aircraft following in-flight structural damage. I felt it was time for us to get all the best minds in aviation

together so that we can learn if there is any opportunity offered by new technology to improve the backup flight control systems on existing and, of course, future wide-body aircraft. We're going to start with wide-bodied aircraft first because of the recent incidents. But the task force will be looking at all aircraft to see what we can do to improve backup systems. We also will be looking at the engine designs to see if there are opportunities through new technology to improve the containment possibilities in new engine designs.

At this point, the Administrator opened the meeting to questions from members of the media.



Question: A lot of people have suggested that FAA needs a lot more inspectors to keep up both with the aging fleet and the increase in the fleet over the next decade. Do you really have enough people to do the job well?

Busey: I think we do. We've been asking for modest increases in the inspector work force, and we've been successful in getting those increases. I think that today we have an adequate inspection force to provide the certification oversight in the maintenance and in the flight deck areas. But you can rest assured that if I become aware that we do have significant shortages in that regard, we're going to ask for additional increases. In fact, I can share with you that as we work the '91 budget submit, we're doing just that.

Question: Yesterday's engine failure on a Northwest DC-10 incident, coming right after the Sioux City accident, is surely going to lead people to urge that these planes be grounded as a precautionary measure. How do you go about considering whether to ground a DC-10 in the face of two events that might be unrelated but bear some resemblance?

Busey: Out of my experience in the military and in naval aviation, I can tell you that when one takes a decision to ground a certain type of aircraft, one must do it very deliberately. You must know exactly what it is you are looking to correct before you go into the process. To act speculatively or on the basis of incomplete information, in my judgment, would be irresponsible. In that regard, we know of no hard facts at this time that would lead us to take any kind of action to ground the DC 10. It's safe to fly. I would fly in the aircraft today. But rest assured, that as the facts become available out of the investigative process, we are prepared to take whatever action is indicated by those facts.

Question: What's your response to the GAO report that suggested the ATC system cannot accommodate all of the information that it's now going to be getting as a result of the new rule expanding the requirement for carriage of Mode C (altitude-reporting) transponders.

Busey: As far as the Mode C rule itself is concerned, this is part of us getting a better view of the increased traffic that's flying in the system. When all aircraft in designated airspace have Mode C capability, the controller knows the altitude and kind of airplane he's dealing with. We intend to press on with the Mode C rule. That's part of the safety application that we're implementing in the airspace system for all the users, and the sole driver there is safety.

But back to your initial question, the GAO is right in criticizing FAA in some aspects of the procedures that we've followed. But I can also tell you that I'm comfortable and confident that, first of all, we do have the capacity in our computer systems in the high-density areas to deal not only with present traffic but also with the so-called avalanche of new traffic that will be visible to the controller with the advent of the Mode C rule. The capacity is there, and I'm satisfied that based on what I know thus far of



our procurement programs, we are planning for and procuring the fixes necessary to stay ahead of the capacity requirements—comfortably ahead.

Question: Are you going to have to back off the MLS [Microwave Landing System] program now because of the contract terminations with Hazletine?

Busey: The quick answer to that is no. I don't intend to back off from it. We're still committed to our ICAO agreement to be ready to implement MLS at international airports in the late '90s. We're going to have a little slowdown because of the termination for default of the Hazletine contract. But we intend to go commercial, off-the-shelf and pick up the necessary MLSs in that way so we can go on with an operational demonstration project. I intend to continue that so we can find out for sure what, if any, weaknesses are in our plans before we go to Category 2 and 3 MLS procurements. I believe that MLS is the precision navigation system of the future, but we're going to have to work hard through the demonstration program to convince a lot of nonbelievers of that.

Question: Are the airlines happy about paying for the TNA [thermal neutron analysis explosives detection] devices at airports?

Busey: Historically, the way we do business in this country is to put the expense and the responsibility for those types of security systems out in the public domain. I would rather continue to follow our procedures wherein the public domain handles the expense and the implementation of these devices, leaving federal dollars free to continue the R&D

efforts to decide if there are any new, more efficient, lower cost devices that we can offer into the public domain for improvement of security.

Question: Do you have any thoughts on the activity going on to try to get new airports going?

Busey: The Denver Airport is a primary concern, and I think you're aware of our participation there. The environmental study that's required by law should be about complete. We also are planning for and requesting the budget support for the FAA facilities that must be included in that new airport. In the Chicago area, there is a policy group—consisting of senior representatives from the states of Illinois and Indiana—that is looking at a possible new airport, a third airport, in the Chicago area. We are certainly participating in that and will support the funding of the studies that will lead to the determination of where a new airport needs to go. So I think we're moving in that regard.

My concern is that, as well as looking at new airport construction, we all need to be looking at—how should I define it?—underutilized concrete that's already available at airports near major metropolitan areas. My feeling is that perhaps we can make better use of some of those existing airports to help relieve some of the continuing growth or provide increased capacity in our large metropolitan areas.

I also support joint use of military fields where it makes sense—Scott Air Force Base in southern Illinois near St. Louis, for example. As for the "wayport"—my feeling is that it's got a place in our overall strategic plan but not a priority place by itself. We need to look at it in conjunction with everything else that we're trying to do from a capacity standpoint. ■

Oshkosh '89

from page 1



Transportation Secretary Skinner meets the press at Oshkosh. This interview was taped for a Milwaukee TV station.



FAA now has a leased building at Oshkosh for the flight service station, an exhibit area, a lecture hall and administrative areas. Until last year, agency activities were held under canvas.

FAA's role in the event continues to expand.

As usual, air traffic controllers made the whole thing work, handling an average of 5,500 flights a day over a 10-day period beginning July 25. That made Wittman Field—for a time, at least—the busiest airport in the world with more than twice the traffic volume of Chicago O'Hare.

Oshkosh tower manager Zonnie Fritsche noted that the figure would have been even higher if it hadn't been for bad weather that held down VFR activity on several days, including the weekend. But he emphasized that safety and not setting new traffic records was the tower's primary concern.

Assisting Fritsche and the normal tower complement of seven controllers this year were 47 air traffic specialists brought in from 40 different facilities in the Great Lakes Region. Included in this total were seven controllers who staffed a temporary tower at the Fon Du Lac airport.

Flight Service Station specialists performed an equally important safety function providing flight and weather information to pilots who often were lined up five and six deep at each position. This year the operation again was directed by Bill Cobb, manager of the Rapid City FSS, who says he keeps coming back to Oshkosh because he "likes the challenge."

In fact, virtually every FAA discipline is represented and makes a contribution at Oshkosh which offers agency personnel a unique opportunity to press the flesh with the "grassroots" people of general aviation. To borrow a favorite phrase of Administrator James Busey, this is where "the rubber meets the road."

Both Busey and Transportation Secretary Sam Skinner were on hand at

Working with Cobb were 18 journeymen specialists and three supervisors. Together, the team provided almost 6,000 pilot briefings in 8½ days and processed more than 1,150 flight plans. On Saturday and Sunday, July 29 and 30, when weather systems were moving through the area, they racked up a total of 2,140 briefings and 435 flight plan filings.

Oshkosh for a "Meet the Boss" session on Sunday morning, July 30.

For two and one-half hours, they stood shoulder to shoulder and responded to tough question after tough question about issues that affect general aviation. Their answers were candid and straight-forward and earned them a standing ovation from the audience when the session finally was brought to a close.

Skinner, an enthusiastic pilot from nearby Chicago, was making his "sixth

or seventh" visit to Oshkosh. For Busey, it was his first visit to Oshkosh, and he came away suitably impressed.

"People have told me that you have to see Oshkosh to believe it," Busey said. "But they didn't tell me it would be hard to believe even after you've seen it."

"I certainly came away from Oshkosh with a renewed appreciation for what general aviation flying is all

about in this country," he added. "The people are fantastic. I intend to do everything I can as Administrator to see that they get the help and support they need from FAA to ensure the continued safe growth and development of this vital segment of aviation."

The organizational pride of FAAers at Oshkosh is evidenced by the distinctive polo shirts and baseball caps they wear. This year, the color code was gray for controllers, maroon for Flight Service specialists, white for Aviation Standards and blue for administrative and support personnel.

FAA now has its own leased building at Oshkosh, as well. It houses a temporary flight service station that's activated each year for the show, an exhibit hall, a lecture hall and an office area.



Airplanes! Airplanes! As far as the eye can see, there are airplanes at an EAA Fly-In. This year, some 15,000 showed up for the event.



One of the most popular attractions at the airshow was this 1950s vintage Taylor aerocar. It made several flights at Oshkosh to the amazement of spectators.



The temporary flight service station was a very busy place again this year as weather fronts moved through Oshkosh. Pilots lined up five and six deep for briefings.



The FAA exhibit hall was one of the most popular stops on the Oshkosh midway. Visitors saw many FAA programs.



Administrator Busey responds to another tough question during the "Meet the Boss" session. Secretary Skinner looks on.



In the spirit of Glasnost, the USSR sent a huge Antonov AN-124 cargo plane to Oshkosh. Inside were two aerobatic airplanes being delivered to a U.S. broker.

The exhibit hall was one of the most popular attractions on the Oshkosh "midway" with tens of thousands of persons getting first-hand information on the latest FAA technical programs, familiarizing themselves with the latest flight safety materials and carrying away brochures on aviation careers for families and friends.

In the lecture hall, the agency ran safety forums from early morning to late afternoon on such subjects as construction, certification and flight testing of amateur-built aircraft; collision avoidance; learning from accidents; getting a good weather briefing; and piloting miscues ("Why Smart Pilots Do Dumb Things").

But general aviation pilots aren't the only ones who benefit from these semi-

nars. Gary Koch, who runs the Accident Prevention Program in Washington Headquarters, said these sessions promote a two-way flow of information with FAAers at all levels.

"We're particularly tickled that Oshkosh gives our top management people a chance to get out in the grassroots and really find out what's going on," he said.

He noted that EAA members tend to speak their minds and said that's all to the good. "We're a service organization, and we need that feedback," he added.

Also contributing to the success of the Fly-In are many FAAers who are card-carrying EAA members and take personal leave to participate in the event. One was Jim Davis, manager of the Operations Center in Washington Headquarters, who flew to Oshkosh in his Cessna 172.

Davis said he spent five days visiting the airshow, eating and sleeping. But it was the opportunity to "kick the tires" on hundreds of airplanes and talk with

their pilots that really turned him on. "That's why you go," he said.

He also had high praise for the Oshkosh controllers. "The air traffic control services were excellent," he said. "If you follow your instructions from the tower, it's a piece of cake, even though the traffic is very heavy."

It was Davis' first trip to Oshkosh, and his only regret was that he hadn't gone before. "But I'll tell you one thing," he added. "I'll try not to ever miss another one."

Davis' reaction is typical of so many pilots who visit Oshkosh for the Experimental Aircraft Association's annual Fly-In Convention & Sport Aviation Exhibition. And it's the reason this event keeps getting bigger and better every year. ■



The First Instrument Landing

By John G. Leyden

The writer is manager of the Public and Employee Communications Division in the Public Affairs Office and a frequent contributor to FAA World.

Sixty years ago this month, aviation's long search for a reliable all-weather landing system officially began.

On September 24, 1929, James H. (Jimmy) Doolittle logged history's first "blind landing" in a specially instrumented Consolidated NY-2 military trainer at Mitchel Field on Long Island, NY. More specifically, to use Doolittle's own description, the 15-minute flight marked "the first time an airplane had been taken off, flown over a set course and landed by instruments alone."

The next day, newspapers across the country hailed the flight as a victory over the "peril of fog." The *New York Times*, for example, said: "The demonstration was more than an exhibition of blind flying and instrument perfection. It indicated that aviation had perhaps taken its greatest single step in safety."

Doolittle, who held a doctorate in aeronautical engineering, in addition to being one of the country's foremost pilots, was more conservative and realistic. He recognized the value of his

achievement in advancing the technological frontiers of aviation but knew much work remained to be done before instrument landings were a practical reality.

The story of Doolittle's flight began more than a year before the event when Harry Guggenheim, president of the Guggenheim Foundation for the Promotion of Aeronautics, borrowed him from the Army Air Corps to run his foundation's newly created Full Flight Laboratory at Mitchel Field. This was in August 1928 when Lt. Doolittle was 31. One of Doolittle's first acts was to purchase the rugged NY-2 biplane for use in the instrument-landing experiments. He also purchased a sleeker and faster Vought Corsair O2U-1 for cross-country practice flying.

In March 1929, seven months into his experiments, Doolittle received a very practical demonstration of the need for blind-landing capability. Flying the O2U-1 from Buffalo back to Mitchel Field, he found all local New York airports fogged in and had to make a crash landing near Elizabeth, NJ.

Although the O2U-1 was a total loss, Doolittle walked away without a scratch and later wrote that the flight would

have been "no sweat" had he been piloting the NY-2 with blind-landing equipment and with the Full Flight Laboratory radio alerted at Mitchel.

However, the initial flight tests with the NY-2 showed that even this very stable and sturdy airplane, which had been rebuilt by the manufacturer to Doolittle's specifications, required additional instrumentation to qualify it for the blind-landing experiments.

Two major problem areas were the magnetic compass and the turn-and-bank indicator. Neither instrument was adaptable to blind flying techniques. What was needed was an accurate and reliable instrument that would show the aircraft's exact heading and precise altitude at all times during approach and landing.

Doolittle enlisted the aid of Elmer Sperry, Sr., founder and president of



The winning team: Doolittle and the rugged NY-2 biplane.

"The flight from takeoff to landing lasted 15 minutes. It was the first time an airplane had been taken off, flown over a set course, and landed by instruments alone."

the Sperry Gyroscope Company, who put his son, Elmer, Jr., to work on the project. The results were the directional gyroscope and artificial horizon, the descendants of which are still standard equipment on all U.S. airline and military aircraft.

But Doolittle still needed an instrument that would provide exact altitude readings. The crude barometric altimeters then in use would give only approximate readings—to the nearest 50



Doolittle "under the hood" of the NY-2.



Instrument panel in the NY-2.

to 100 feet at the very best—making them totally unsuitable for instrument landings.

Doolittle heard about a young man named Paul Kollsman who had developed a highly sensitive barometric altimeter that would accurately measure altitude to within a few feet of the ground. He ran a series of flight tests with Kollsman riding as a passenger and found that the altimeter was perfect for the blind-landing experiments. It subsequently was installed in the NY-2 along with the instruments developed by the Sperry Company.

On September 24, with many practice blind landings behind him, Doolittle was ready for the official test. The weather conditions were perfect for his purpose since a heavy ground fog had rolled in off Long Island Sound and blanketed the area.

Doolittle sat in the shrouded rear cockpit of the NY-2 with only his instruments to guide him. At Guggenheim's insistence, Lt. Ben Kelsey, another Air Corps officer assigned to the Full Flight Laboratory, occupied the

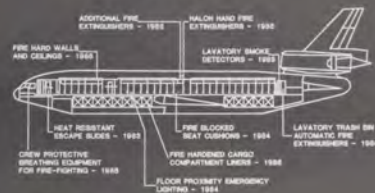
front cockpit to serve as a safety pilot. But he held his hands above the cowling in plain view of everyone to show that he was a spectator on this history-making flight rather than a participant. Doolittle has written his own description of that famous flight: "... I taxied the airplane out and turned into the takeoff direction on the radio beam. We took off and flew west in a gradual climb. At about 1,000 feet, the airplane was leveled off, and a 180-degree turn was made to the left. This course was flown several miles, and another 180-degree turn to the left was made. The airplane was lined up on the left side of Mitchel Field and a gradual descent started. I leveled off at 200 feet above the ground and flew at this altitude until the fan beacon on the east side of the airfield was passed. From this point, the airplane was flown into the ground, using the instrument-landing procedures previously developed. Actually, despite previous practice, the final approach and landing were sloppy ... The flight from takeoff to landing lasted 15 minutes. It was the first time an airplane had been taken off, flown over a set course, and landed by instruments alone."

As spectacular as this achievement was from a technical point of view, it was not the last the world would hear of Jimmy Doolittle. He continued to make headlines in the 1930s with numerous record-setting flights. He also was one of the nation's top air race pilots. Then, in April 1942, he led the first American bombing raid against Tokyo using carrier-based B-25s. The feat won him the Medal of Honor and lasting fame.

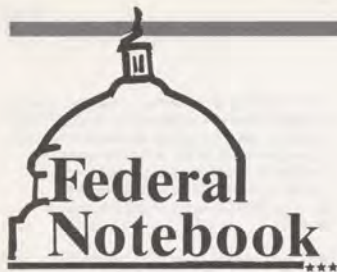
He retired from the military with the rank of lieutenant general in the spring of 1946 and today lives in California. He will be 93 in December. ■

Cabin Safety

RECENT FIRE SAFETY REGULATIONS



This illustration is proof that one picture is worth a thousand words. It shows in dramatic fashion the numerous regulatory actions taken by FAA in recent years to upgrade airline cabin safety. The steps range from fire blocking seat cushions to new lavatory smoke detectors.



3.6 PERCENT RAISE LOOKS ASSURED

Don't spend it yet, but a 3.6 percent federal pay raise in January looks like a sure thing. Before they left Washington for the Labor Day recess, both the House and Senate approved that amount in fiscal 1990 spending bills, but minor differences still must be worked out in conference. The raise covers employees up to and including Executive Level III (currently \$82,500).

'AULD LANG SYNE' FOR MORE BENEFITS

Another chapter has been written in the ongoing saga entitled "The Strange Disappearance of Federal Employee Retirement Benefits." Effective with the new year, retiring federal workers under 65 will pay two-thirds of the cost of the basic Federal Employees Group Life Insurance coverage until they hit 65. Currently active employees make the two-thirds payment, but the government picks up the entire tab for retirees until they hit 65, at which point basic life premiums cease. Since current monthly premiums run about 40 cents per \$1,000, the change will cost a post-1989 retiree with a \$30,000 basic policy about \$96 per year. Current

retirees are not affected by the change; neither will those be who turn in their retirement papers before we all start singing "Auld Lang Syne" at the New Year's Eve parties.

LUMP SUM GUIDELINES

Approximately seven out of every 10 federal retirees take a lump-sum pension payment when they leave the government. However, it's not a decision to be made lightly since choosing this option reduces the monthly annuity retirees receive from then on. The size of the reduction depends on each retiree's age and length of service. Accordingly, retirees should study the matter carefully and discuss it with experts before making a decision. But here are a few guidelines that might be helpful, courtesy of the *Washington Post's* "Federal Diary":

- If under 55, the lump sum probably is the best option, even though there is an additional 10 percent surtax involved.
- Between 55 and 65, it's a case-by-case decision, with lump sum becoming less attractive the closer one gets to 65.
- Over 65, the best course may be to decline the lump sum since monthly pension reductions can be as much as 20 percent.

Of course, this discussion assumes that Congress will continue the lump sum option in one form or another. And remember, most of it is taxable!

CONGRESS OKs RETIREE HIRING MEASURE

The Senate has joined the House in approving a bill designed to encourage federal, postal and military retirees to take temporary jobs associated with the 1990 census. President Bush also supports the legislation, which provides a six-month waiver from a law that otherwise would reduce the annuities of retirees who are re-employed by the government. The Census Bureau will need about 480,000 temporary employees for the decade's head-count. Sponsors of the bill believe federal retirees would be prime candidates, since they would need less training.

COMPTROLLER GENERAL NIXES NIKES

The Office of the U.S. Comptroller General has ruled that federal agencies may not purchase running shoes for employees who are required to meet certain physical standards. The decision came in a case brought by the Energy Department to determine the legality of purchasing running shoes for its nuclear materials couriers. The CG found that running shoes could not be considered "special clothing and equipment" for that purpose.

C FUND IS BIG WINNER

Federal employees who chose the Thrift Savings Plan's common stock (C) fund knew what they were doing apparently. In the 12-month period ending in July, the C fund yielded a return of 31.8 percent. This compares with 14.9 percent for the fixed asset (F) fund and 9.15 percent for the government securities (G) fund.

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