

World

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U.S. Department
of Transportation

**Federal Aviation
Administration**





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FAA for the Defense

When trouble brews for the agency and its employees, such as lawsuits from an accident, the Litigation Division of the Office of the Chief Counsel steps in. In the wake of the crash of Eastern Flight 212, FAA made a stunning defense of itself and its employees in a landmark case.

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Kudos to the Committed

An airport manager shifts the focus of attention to the controllers who stayed on the job and acquitted themselves well despite harassment and long hours.

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Keep-'Em-Flying Nerve Center

When the controller strike began on August 3, FAA was ready with contingency plans to be carried out by the Central Flow Control Facility, where air traffic for the entire system was and is being managed for optimum safety and efficiency.

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The flight of Pangborn and Herndon could have come out of a Hollywood script, for all its adventure and misadventures. Despite repeated blunders and a failure of their mission, they achieved fame, thanks to the skills of Pangborn.

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Singing the Song of the Unsung

Keeping the airways open is not only the job of controllers but of technicians, who maintain controller equipment and landing aids. Their skills are critical to aviation safety.

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Neal Callahan—Great Lakes Region
David Hess—Metro Washington Airports
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Judy Nauman, acting—Northwest Region
George Miyachi—Pacific-Asia Region
David Myers—Rocky Mountain Region
Jack Barker—Southern Region
George Burlage—Southwest Region
Michael Benson—Technical Center
Alexander Garvis—Western Region



Research Highlights

Like an ornament atop a wedding cake, the FAA Technical Center's Experimental Tower Cab now relieves the straight roof line of the Air Traffic Control Laboratory wing of the year-old complex.

Originally erected next to the Atlantic City Municipal Airport terminal, the 50-ton structure was moved this past September to directly over the Terminal Area Test Facility, whose roof had been specially reinforced during construction of the technical and administrative building.

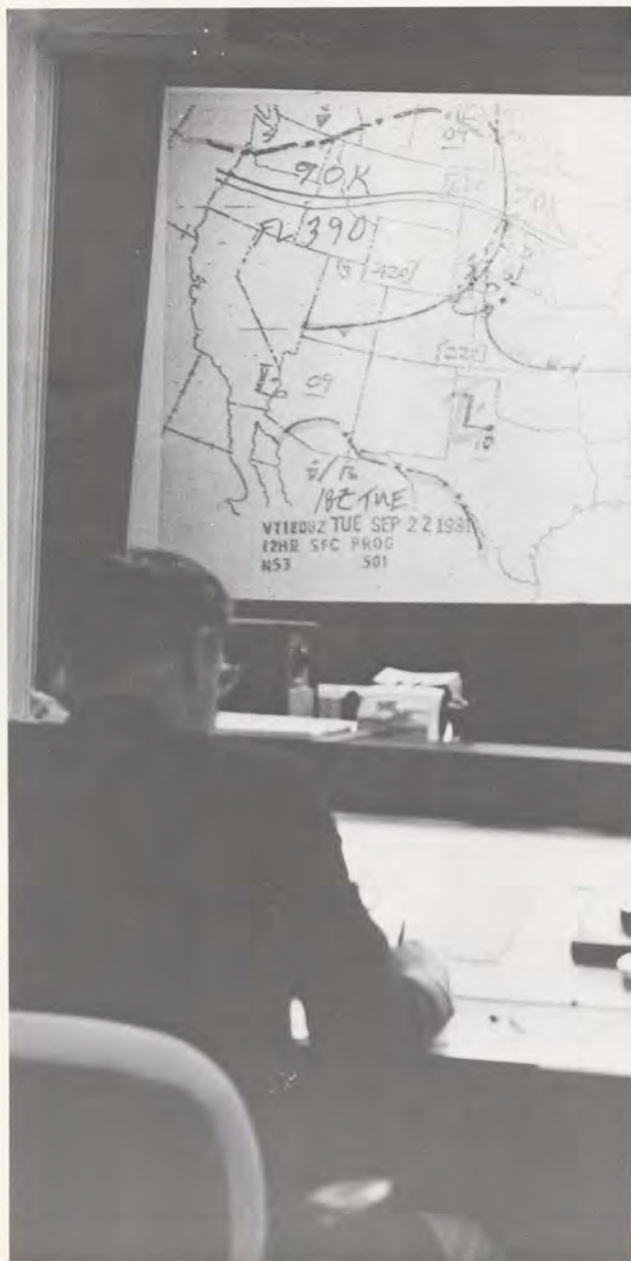
The tower cab is a modified high-activity

cab modeled after the one built in Honolulu. It is an eight-sided 24-foot-diameter structure 18 feet high without its mechanical room, which raises it another 11 feet.

It is used to evaluate pre-engineered mockups for equipment configurations and placement and the design of displays and other proposed tower equipment in a realistic setting. Among systems to be checked out here are the Terminal Information Processing System (TIPS)—a video display to replace flight data strips—and the Traffic Alert and Collision Avoidance System (TCAS), as well as equipment in the next generation of air traffic control.

Front cover: Jim Bellamy of the Central Flow Control Facility in headquarters discusses flight scheduling with an airline dispatcher to help keep air traffic moving during the controller strike.

Photo by Jay Kessel



Jim Bellamy gets detailed information on traffic flow from a flow control specialist in one of the en route centers.

"The first two weeks were the hardest. That's when all the precedent-making decisions were made. After that, it was all local adjustment and fine tuning. And we're still doing that."

The words were those of Sam Rosenzweig, operations officer for the Air Traffic Service's Central Flow Control Facility, as he looked back over the hectic days that began the morning of August 3. That was when two-thirds of the agency's air traffic controllers walked out on strike, and the facility went on to become the nerve center of the successful effort to keep most of the nation's aircraft in the air.

It was an effort that required a lot of work by a lot of people—the controllers who stayed on the job and the supervisors who went back to controlling traffic, airline employees and other FAA people, both in and out of the Air Traffic Service, as well as the military. But it was the Central Flow Control Facility that put it all together and kept the traffic moving.

It was a job for which the facility, more familiarly known as Flow Control or the CF², was uniquely suited. Ever since it was established 11 years ago, its 24-hour-a-day job has been to monitor and control the flow of air traffic in the interest of safety. Later it got the additional job of helping to reduce fuel consumption whenever possible.

It is essentially a communications and

Keep-'Em-Flying Nerve Center

Central Flow Control Manages Struck Airspace System

By Fred Farrar
A public information specialist in the Office of Public Affairs, he is a former Washington correspondent for the Chicago Tribune.



intelligence center with telephone links to all the air traffic control facilities, as well as airline dispatchers, plus a computer that can tell it what is in the air at any given time.

From the start, Flow Control's basic job was to make sure that no air traffic control facility found itself with more traffic in its area than it could safely handle. Usually, these situations were the result of bad weather or some other unexpected event that threw the system out of sync. The tools it used were re-routing and holding—re-routing the traffic around the bad weather when possible or holding it, preferably on the ground at the point of origin or in the air, if necessary, until the affected facility could handle it.

It increased the in-trail separation between aircraft from 30 to 50 miles in areas where large numbers of controllers were striking, routed traffic around other hard-hit areas and kept aircraft on the ground until each had a clear shot at its destination without any holding in the air.

That is what Flow Control did during the strike and is continuing to do.

It all went according to a contingency plan—even to the point of deciding which contingency plan to use.

"We had our choice of three contingency plans," Rosenzweig said, leaning casually against one of five telephone consoles, while weather charts, airport runway layouts and other information were projected on screens in the background. "We had one for handling 20 percent of the normal traffic, one for handling 50 percent and one for handling 75. Which one we picked would depend on how



many controllers stayed on the job.

"That was the first of our precedent-setting decisions and our first job on the morning of August 3. We had to see how many controllers we had left and test our capability—make a decision on how much traffic we could handle with that number of controllers. It was at 10 a.m. when we saw that approximately 30 percent of the controllers were going to stay on the job that we decided to use the 50 percent plan and hope we could raise it later.

"So," Rosenzweig explained, "we limited traffic at the peak hours at the 23 busiest airports to 50 percent of the pre-strike level. This evened off the peaks and the valleys and, by moving much of the peak traffic into non-peak hours, we were able to handle a relatively large amount of traffic with a lot fewer controllers.

Photos by Jay Carroll

Sam Rosenzweig (right), operations officer of Central Flow Control, and Jim Bellamy discuss strategy for moving maximum air traffic during the controllers' strike.

"It soon became clear that we could limit the restrictions to the top 22 airports and that we could move more than 50 percent of the traffic. Within a few days, we were handling 75 percent of the traffic or better, and we are continuing to do so.

"Our next big decision," Rosenzweig continued, "was what to do about general avia-



Harry Eberlin uses a console to call up flight-schedule information from the computer at the Jacksonville, Fla., ARTCC.

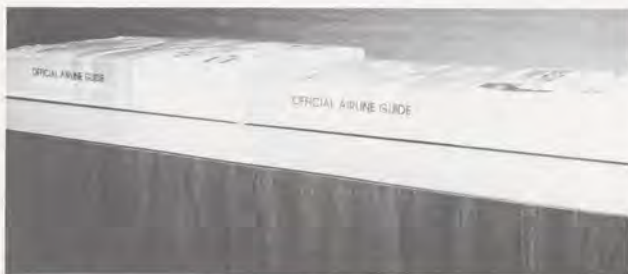
strike and the efforts to counter it from the vantage point of the Aviation Command Center—the communications center that is normally used to handle hijackings.

They kept track of the flow of traffic, the number of controllers on the job, harassment and threats of violence by the striking controllers, a rash of "phantom transmissions" broadcast over air traffic control frequencies, the legal steps being taken against the controllers' union and the process of removing the striking controllers from Federal service. All of this information was fed to FAA Administrator J. Lynn Helms, who made the key operational decisions once the strike was underway.

The task force ate a lot of C-Rations—Army field rations that were stocked there for just that purpose—and they did a lot of their sleeping on couches in nearby offices.

When it became clear that the strike was not going to close down the nation's air transportation system... that the controllers union was not going to win in its attempt to get what it wanted through an illegal action, Secretary of Transportation Drew Lewis made a special effort to visit CF¹ and the command center. His message was clear: "Thank you; we couldn't have done it without you."

Then, on a telephone hook-up to more than 200 FAA facilities outside of Washington, he said the same thing to thousands of FAA employees in the field who had stayed on the job and helped keep the system working. ■



The Official Airline Guide issued on September 9 (right) is markedly thinner than the one in effect before the strike.

tion aircraft. On the first day, we issued a NOTAM saying that we would accept no instrument flight plans from aircraft weighing 12,500 pounds or less. This, in effect, kept out most general aviation aircraft. But we quickly discovered that we didn't have to be that restrictive, so we cancelled that NOTAM and left it up to each of the centers [the Air Route Traffic Control Centers] to determine if and how much general aviation traffic it could handle.

"Five days later, only nine of the centers were refusing to handle general aviation aircraft. By the morning of the next day, only three were doing so, and by that afternoon, only one—the Chicago Center—was turning them down. After that, the situation varied, depending on traffic demands."

Flow control got invaluable help from the Air Traffic Service's computer center in Jacksonville, Fla. It kept track of how many planes were flying and what could be safely

handled, center by center, monitoring those flights that were being made to be sure the limits weren't being exceeded.

The computer center also played a crucial role when the airlines were getting ready to print their first schedules reflecting the restrictions. It used the computer to check the schedules against the restrictions to make sure that there wasn't any fudging.

But, as Rosenzweig is quick to point out with more than a little pride, "All the shots were called from here."

Meanwhile, another little-noticed group also was working around the clock. This was a task force made up of people from Airway Facilities, Air Traffic, General Counsel, Security, Labor Relations and Aviation Medicine who monitored the course of the

The information in this feature is extracted from the Personnel Management Information System (PMIS) computer. Space permitting, all actions of a change of position and/or facility at the first supervisory level and branch chiefs in offices are published. All changes cannot be accommodated because there are thousands each month.

Alaskan Region

Charles W. Muhs, chief of the Anchorage FSS/IFSS, from the Operations, Procedures and Airspace Branch, Air Traffic Division... John W. Williford, chief of the Bethel AF Sector Field Office, King Salmon AF Sector, from the Cold Bay SFO.

Central Region

Harold G. Simpson, programs officer at the Offutt AFB RAPCON, Bellevue, Neb... Jesse J. Statham, team supervisor at the Eppley Field Tower, Omaha, Neb., from the FAA Academy... Billy E. Vandorn, chief of the Lincoln, Neb., AF Sector Field Office, Grand Island AF Sector.

Eastern Region

Gerald Shipman, chief of the Employment Branch, Personnel Management Division.

Great Lakes Region

David Cherry, team supervisor at the Cleveland-Hopkins (Ohio) Tower, from the Cleveland County Tower... Jerry L. Crissinger, team supervisor at the Springfield, Ill., Tower, from the FAA Academy... Brian F. Cukrowicz, supervisor of the Radar-Communications Unit at the Mansfield, Ohio, AF Sector Field Office of the Columbus AF Sector, from the Indianapolis, Ind., Hub AF Sector Field Office... Paul A. Stendahl, crew chief at the Minneapolis, Minn., ARTCC AF Sector.

New England Region

William F. Healey, team supervisor at the Manchester, N.H., Tower... Walter M. Knof, team supervisor at the Quonset, R.I., TRACON, from the Burlington, Vt., Tower... Stanley Matthews, deputy chief of the Logan International Tower, Boston, from the Plans and Programs Branch, Air Traffic

Division... Charles Taylor, chief of the Manchester, N.H., Tower, from the Operations Procedures and Airspace Branch, Air Traffic Division.

Northwest Region

Russell L. Miller, chief of the Navigation/Communications Unit in the Spokane, Wash., AF Sector at Geiger Field... Helen M. Parke, evaluation and proficiency officer at the Seattle, Wash., ARTCC.

Pacific-Asia Region

Dennis T. Kawashima, team supervisor at the Honolulu, Hawaii, Tower, from the FAA Academy... Robert H. Moll, team supervisor at the Guam IFSS.

Rocky Mountain Region

Domenic Digiallonardo, area officer at the Denver, Colo., ARTCC.

Southern Region

Theodore J. Clark, Jr., team supervisor at the Knoxville, Tenn., Tower, from the Panama City, Fla., Tower... Russell G. Hailey, team supervisor at the Standiford Field Tower, Louisville, Ky., from the Valdosta, Ga., Tower... Alexander J. Kulikowski, chief of the Procedures Section, Airspace & Procedures Branch, Air Traffic Division, from the Anchorage, Alaska, ARTCC... Ronald J. Liszt, deputy chief of the Daytona Beach, Fla., Tower, from the Memphis, Tenn., Tower... Ralph F. Mason, unit supervisor in the Knoxville AF Sector, from the San Juan, Puerto Rico AF Sector Field Office... Robert H. Patterson, chief of the West Columbia, S.C., Tower, from the Orlando, Fla., Tower... William F. Price, Jr., team

supervisor at the Greensboro, N.C., Tower, from the Greenville, S.C., Downtown Tower... William E. Roberts, team supervisor at the Knoxville FSS, from the FAA Academy.

Southwest Region

John E. Hemmert, chief of the Little Rock, Ark., GADO, from the Long Beach, Calif., FSDO... Jose R. Hernandez, team supervisor at the Beaumont, Tex., Tower... Edward J. Sinon, Jr., chief of the Moisant Tower, from the Airspace and Procedures Branch, Eastern Region Air Traffic Division... Lawrence P. Smith, team supervisor at the Houston, Tex., Intercontinental Tower, from the Lubbock, Tex., Tower.

Washington Headquarters

David L. Anderson, chief of the Manpower Systems Branch, Air Traffic Service, from the En Route/Terminal Requirements Branch... Harry I. McIntyre, chief of the Evaluation Staff, Air Traffic Service, from the Manpower Systems Branch... Donald E. McKillop, program maintenance officer, ATC Command Center, in the Jacksonville, Fla., ARTCC.

Western Region

James L. Asby, chief of the Hayward, Calif., Tower, from the San Carlos, Calif., Tower... Jimmie L. Haralson, deputy chief of the Los Angeles FSS, from the Ukiah, Calif., FSS... Benjamin C. Kennedy, chief of the Oakland, Calif., Tower, from the Tucson, Ariz., Tower... Fernando A. Lorenz, unit supervisor in the Ontario, Calif., AF Sector Field Office, from the Riverside, Calif., AF Sector... James B. Manson, Jr., team supervisor at the Ontario TRACON... Gary P. Munnell, team supervisor at the Tucson Tower, from the Tucson TRACON... Sheldon S. Olson, team supervisor at the Fresno, Calif., Tower, from the Litchfield Municipal Airport Tower, Goodyear, Ariz.

By Michael Pangia
FAA's Assistant Chief
Counsel in charge of the
Litigation Division, he
formerly served in the
Department of Justice as a
senior trial attorney.

FAA for the Defense

The Agency Defends Its Own in a Landmark Case

At 7 a.m. on Sept. 11, 1974, an Eastern Airlines DC-9—Flight 212—departed Charleston, S.C., for a scheduled trip to Chicago via Charlotte, N.C., but it had a rendezvous with tragedy near Charlotte.

It was to embroil FAA and four of its employees in a legal battle that only now is nearing its end. The case showed both the limits of responsibility of controllers and pilots for flight and the measure of support that the agency provides its people in a crisis.

The crew of Flight 212 was apparently looking forward to a rest period in Chicago. "That's what I need, rest; I don't need all this damned flying," the captain complained to his co-pilot, as the plane, with 82 persons aboard, accelerated on its takeoff roll. The cockpit voice recorder of the remaining 34 minutes of flight captured a continuing dialogue on segregation, busing, Watergate, Chappaquiddick, the Arabs, Swiss bank accounts and the importation of foreign cars.

The visibility in Charlotte that morning was about one and a half miles, and the ceiling was broken at 4,000 feet with some patchy ground fog. As the aircraft approached, the crew contacted air traffic control, eventually being transferred to the final radar approach controller, Dennis Hunter, who cleared the plane for a VOR approach. This requires the pilot merely to follow a radio signal that centers a needle on one of his instruments when he is on course.

The crew then is supposed to consult an approach plate—a printed instruction—which in this case, directs them to maintain an altitude of 1,800 feet above sea level (1,074 feet above the ground) until crossing a position known as the Ross Intersection, 5.5 miles from the airport. After passing Ross, the procedure allows them to descend to the minimum descent altitude (MDA), but no lower unless the pilots have and maintain visual contact with the runway or approach

lights. For the assigned runway, the MDA was 1,220 feet ASL (472 feet AGL). If the crew could not make visual contact, they were required to execute a missed approach—that is, climb and go around or fly to another airport.

Flight 212 intercepted the final approach and began its descent. Controller Hunter instructed the pilots to contact the tower. There, Alden Hare, a developmental under the supervision of controller Pete Hogan, af-

[This] case showed both the limits of responsibility of controllers . . . and the measure of support that the agency provides its people in a crisis.

ter insuring that there was no conflicting traffic in front of Flight 212, cleared it to land, which the crew acknowledged.

At this point, instead of going through the landing checklist—one calling out to the other necessary preparatory operations—the captain remarked to the co-pilot, "By God, that looks like the Carowinds. . . I know that, it's the Carowinds," referring to a nearby amusement park and indicating he thought it was in the wrong place. "It's supposed to be really nice," answered the co-pilot shortly before an alarm went off in the cockpit warning them that they were too low. The alarm was shut off.

Other instruments, including two rate-of-descent indicators, showed the aircraft to be descending at double the rate permitted, and

the airspeed indicators were showing excessive speed. Then, when five altimeters were showing that the aircraft was already below the MDA—the altitude below which they were not permitted unless they could see the landing area—the captain commented, "All we got to do is find the airport."

Two seconds later, as the captain yelled, "God damn," the aircraft flew into the flat ground 3.3 miles short of the runway. Seventy-two people died and 10 were injured from the impact and flames that followed.

A series of lawsuits were filed against the airline in South Carolina by the injured and the families of the dead. Before a verdict was rendered, the airline settled most of the cases.

Two seriously injured passengers and the widow of a passenger chose neither to be party to those suits nor accept a settlement. Instead, they sued the airline in Charlotte, N.C., claiming not only damages for their losses but also punitive damages. This extra recovery is permitted in North Carolina upon showing wanton misconduct on the part of the defendant. They charged that the airline's management knew or should have known of the lax, nondisciplined attitude of its flight crews evidenced by previous accidents.

The airline, in turn, filed a third-party complaint against the U.S. Government, alleging that the negligence of FAA's air traffic controllers contributed to the cause of the crash. The airline asked that the government pay half of any judgment against it. So far, the case was not highly unusual, but a separate case was to complicate it considerably.

One morning in February 1977, the chief of the Charlotte Tower, Bernie Grossclose, and each of the controllers—Hunter, Hare and Hogan—heard a knock on the door of his house. It was a U.S. marshal serving a summons and complaint from 19 of



the airline's insurance companies, suing them personally and the U.S. as well for more than \$35 million each, plus interest and costs of the trial.

The insurers accused the controllers of causing or contributing to the crash and demanded from them and the government the cost of the airplane and all or part of the South Carolina settlements. This suit, which was consolidated with the case against the airline, touched off what the *Charlotte Observer* accurately described as "a costly, intricate, often emotional legal war."

The United States cannot be sued except with its permission. Because of many requests for permission, Congress in 1946 gave general permission in a law known as the Federal Tort Claims Act, allowing suits for negligent acts or omissions of its employees while acting within the scope of their employment. There are certain exceptions—for example, the discretionary function exception, whereby the government cannot be sued for passing or not passing a law. Another exception is that the plaintiff must try the case against the U.S. without a jury—the idea be-

ing that juries may tend to find against the government based on its financial ability rather than on the merits of the case.

So, in this omnibus case, the jury had to decide all questions, including the controllers' liability, except for the liability of the government, which was up to the judge.

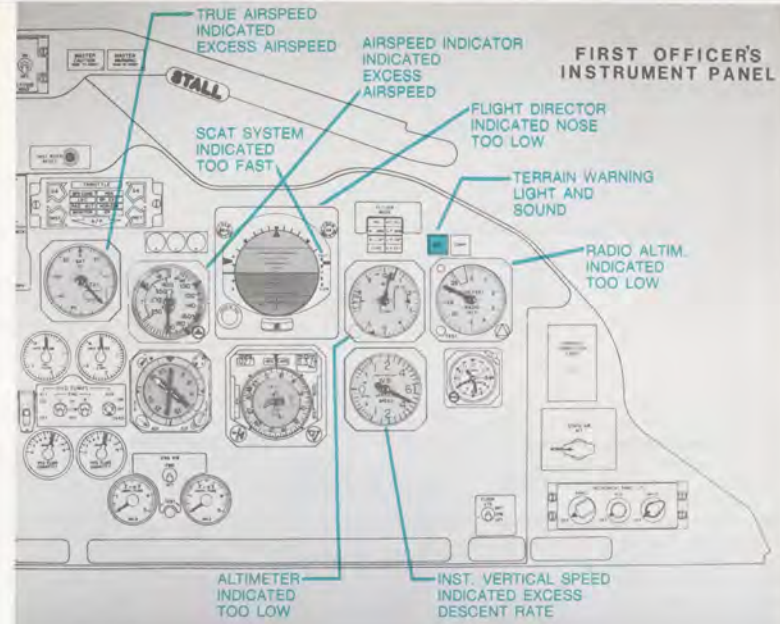
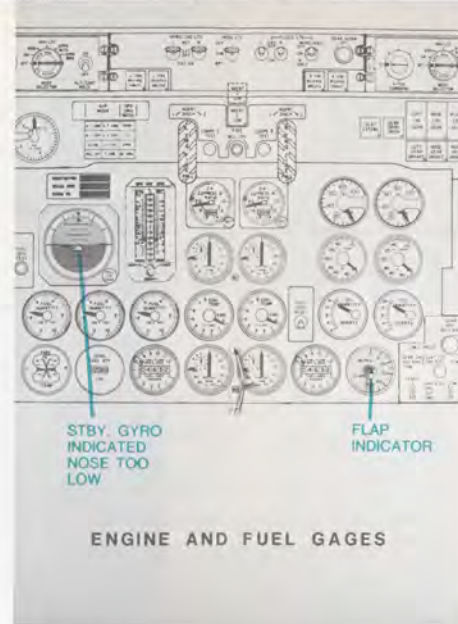
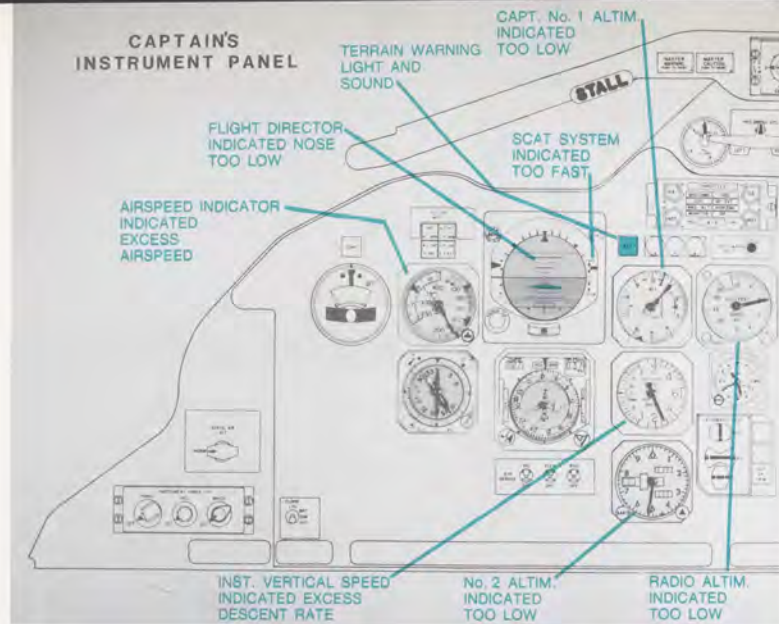
I took on the defense of this case when I was the senior trial attorney in aviation in the Justice Department and took it with me as a special assignment when I transferred to the FAA.

Almost immediately, the airline's insurers asked the court to disqualify me because of conflict of interest. They charged that I couldn't represent all of the defendants at the same time because they would not be free to cross-claim against each other—you did it, not me." The court agreed that there was a potential conflict and that I should withdraw. Within Justice, however, not all of my

The pre-trial work over, James (Jay) Dillman, deputy chief of the Litigation Division; Michael Pangia, its chief; and paralegal specialist Karen Huffman (left to right) load more than 25 boxes of documents and evidence aboard an agency Cessna 310 bound for Charlotte, N.C.

superiors agreed. Some felt I should forge ahead. Others proposed to assign separate counsel for each defendant, but that wouldn't solve the problem, because we would have identical loyalties and close communication with each other. Private counsel, on the other hand, would have cost well over \$75,000 each, and neither the government nor the controllers union was willing to pick up the tab. Even the judge said to me, "I would not be in your shoes for all the tea in China." I was really caught in the middle, and now it was I who needed a lawyer.

Since the controllers understood their rights, were all of a mind on the issues and, with a growing rapport with me, had personally asked me to continue to represent them, I asked the court to issue an order disqualifying me so that it could be appealed to



the Circuit Court of Appeals for a final ruling one way or the other. There, I had the Assistant Attorney General representing me. The appellate court not only agreed with us but labeled the insurer's attempt as "motivated more by the desire to fragmentize the defense than by any sensitivity to the ethical considerations involved." Now, I was free to proceed with the defense.

Preparation for the trial was over a period of two years. Each party has a right to serve written questions (interrogatories) on each other party that are to be answered in writing under oath. About 1,500 of these were served on the various parties.

Each side also may take testimony out of court in depositions, which here were taken of 25 witnesses. This is actually a small number for a case of this size, but some of them required many days each.

We had to bind, index and cross-reference the thousands of pages of documents and deposition testimony for use at the trial. In addition, the motions (petitions to the court)

on underlying issues that arose in the pretrial period required research and paperwork, which alone filled several file cabinet drawers. Of immense help was Karen Huffman, then a secretary in the Office of the Chief Counsel and now a paralegal specialist. We literally spent a month of nights and weekends in preparing opening statements, issuing subpoenas, arranging for travel and accommodations for witnesses, briefing fact and expert witnesses, coordinating with the FBI for the production of trial exhibits and cataloguing them and handling many other details.

As we made arrangements for our residence in Charlotte for the upcoming one-month trial, two FAA aircraft loads of more than 25 boxes of documents and exhibits were flown to Charlotte.

There was considerable emotional demand, as well. Part of my job was to help my clients keep up their spirits so they could present themselves in the best possible way at the trial. This was a challenge in this case because of the number and variety of the personalities involved, combined with the crushing workload in taking on major law firms as adversaries with the high stakes involved.

Although I thought we had a solid case, it was possible for the controllers to be held liable; if they were, the government couldn't pay their judgments without a special act of Congress. The stress began to show particularly on Dennis Hunter. He not only was a principal target of the insurance companies but was living a separate nightmare: His 10-year-old daughter was dying of leukemia. He lived with her vacillating condition during the entire pretrial period. Just before the trial, she died. I took time out to go to Houston—where Hunter was living and working then—to attend the funeral, a gesture not only to Hunter and his family but also to the other controllers, because, as their attorney, their welfare was my primary concern.

I was counting on my deputy for assistance at the trial, but just prior to it, I had to assign him elsewhere. I was fortunate to obtain the assistance of Chuck Theisen, a new attorney with the Justice Department, who quickly grasped the issues and helped significantly.

The cockpit panel typical of the Eastern Airlines DC-9 that crashed on the outskirts of Charlotte, N.C., in 1974.

The trial opened on Nov. 5, 1979. In the first few days, witnesses testified on crash rescue operations and the weather at the time. They were followed by expert witnesses on airline operations, pilot technique, weather and air traffic control procedures. The two survivors told about the horrors of the crash and their months of painful recovery.

Despite all the advance preparation, a surprise invariably pops up in a trial. When the airline's insurers called an expert witness on voice recordings—a former FAA employee, now a private entrepreneur—he unexpectedly testified that he had just learned of a statement on the ATC tape that somehow had not been heard before. "You can tell he was in trouble," he claimed a controller said, insinuating that the controller knew Flight 212 was low and did nothing about it.

To counter this, we had to do more than just play the tape; we had to prove that the witness simply was not telling the truth. I sent Chuck Theisen back to Washington to work with the FBI in re-analyzing the tape. He returned with an FBI agent, who took the

stand to tell how the FBI, with all of its equipment, could not hear the alleged statement. We then challenged the insurers' expert to play his tape, but all that could be heard at the spot were two faint syllables, "uh-uh"—hardly evidence of such a statement. Then we read comments about this witness from judges in other cases—"a highly partisan witness with a strong, clear and pronounced bias against the FAA," said one; "unacceptable and incredible," said another. The airline insurers' surprise had backfired.

The insurers then called the co-pilot of the National flight that crashed in Escambia Bay, Florida, while making a landing. They were attempting to show that misreading an altimeter is common. "I'm just here to testify how I misread my altimeter, how it's possible for a qualified crew operating under similar situations to do precisely that," the co-pilot said.

On cross-examination, I asked just one question: "Sir, any instrument can be misread if you're not paying attention. Isn't that

true?" His "yes" rendered his testimony useless for the insurers, since they could not explain how the crew of Flight 212 misread five altimeters, three airspeed indicators, two instantaneous vertical speed indicators and several attitude instruments, as well as ignored an altitude alert.

In addition, they couldn't explain why their crew could not make a VOR approach, which was so basic that it can be performed by a pilot no more than 17 years of age with only a fraction of the instruments they had and without radar or a tower. It could only be explained by the crew's conduct, which the court later categorized as "both ill-advised and indicative of a fatal complacency."

The aircraft was equipped with an encoding altimeter, which automatically sends its reading in 100-foot increments to the tower's automated radar terminal system—ARTS—where it is displayed on the radar scope. The system has a usable error of as much as plus or minus 299 feet between what the scope shows and what the pilot reports his altimeter reads. That much difference is allowed because the system was designed simply to help controllers separate aircraft from each other. It was not intended to guide an

aircraft to a landing—that's the responsibility of the pilot who has accurate altimeters. Later ARTS equipment does have a low-altitude alert for monitoring unusual altitudes or rates of descent.

Nevertheless, both the airline and its insurers based their allegations on the 1974 system in an attempt to shift the blame for the accident. They claimed that the controllers should have been extra alert to detect altitude deviation and warn the pilots.

The evidence on behalf of the controllers was overwhelming. I flew in an expert from the West Coast who did a study on the ARTS system before it was installed. He explained to the jury the purpose of the altitude information.

Then we read the deposition of the airline's former division vice president, who, after extensive cross-examination in his deposition, finally admitted that "the ARTS system was not designed for an approach aid" and that "the altitude of the aircraft on the approach is strictly the responsibility of the flight crew."

Not only is that the point, but the controller may have other duties to attend to. When Dennis Hunter testified about his other duties at the time Flight 212 was making its approach, a shocking—and telling—situation was revealed. Other Eastern Airlines aircraft—Flights 352, 370 and 590—were following 212 in the landing pattern. When 352 was on the base leg, Hunter told it to turn left on final and to contact the tower. Instead, Flight 370, which was on the downwind leg, took 352's instructions, made a 180-degree turn and left Hunter's fre-

quency, creating a potential collision hazard with a small aircraft. Flight 352 flew straight through the course and out of Hunter's sector. Before Hunter could correct the situation, the 212 crash was reported, and he had to get 352 back, vector the other aircraft and send them all into a holding pattern.

While he was now vertically separating these aircraft in the holding pattern, he saw Eastern Flight 590 disobeying its altitude assignment and ordered a correction.

As we commented to the jury, in this scenario where not only one of this airline's planes had crashed but also three others tried to—but for Hunter's quick action—the airline's insurers should have thanked the controllers, not sued them.

The jury deliberated for two and a half days and returned a verdict in favor of the plaintiffs against the airline. While not finding for punitive damages, they awarded compensatory damages three times larger than had ever been given in North Carolina.

My heart pounded as they turned to the liability of the controllers. As each of the controller's names was read off by the jury foreman, it was accompanied by "not liable." I settled back into my chair with a feeling of profound relief.

The trial had cost the government more than \$250,000 and nearly 1,000 hours of my personal time. It was worth every bit of that because the controllers had done a fine job, and I had no hesitancy in defending them all the way.

Apparently, the jury felt the same. In fact, the foreman later told me that the jury had unanimously decided in the controllers' favor in the first five minutes of their deliberation.

The judge then wrote a decision in favor of the government, stating, "I am unable to find that an additional request by a controller for the pilot to check his altitude would have changed the outcome" and that "[an] accident of this sort could only occur through pilot inadvertence and carelessness of a truly extraordinary nature."

The contest is not quite over. The insurance companies and the airline appealed. It took me several weeks of night work to write the brief and prepare for oral argument to defend the verdict before a three-judge panel in the Court of Appeals in Richmond, Va., this past spring.

Trying a case is not just knowing the law. It's orchestrating a complex symphony—knowing the strengths of each of the players, knowing when to mute your attack and when to call for the cymbals. I felt we had played it well, but now was no time to let down.

The oral argument in appeal seemed to go smoothly, except that the judges expressed their annoyance at the airline and its insurers for filing briefs totaling more than 200 pages. "Counselor, we have a good mind to hand this back to you," one of the judges told their attorney. "This borders on contempt for our rules." The court's rules were for no more than 50 pages.

I am confident that the appeals court will affirm the judgment, perhaps by the time you are reading this, and end this long ordeal for my clients. ■

Kudos to the Committed

An Airport Manager Pays Homage to Those Who Stayed



The following is excerpted from a guest column by John D. Solomon, Director of Aviation, McCarran International Airport, Las Vegas, Nev., in the Las Vegas Sun, Aug. 11, 1981. Reprinted with permission.

...While enough has been said about the strike of the air traffic controllers, it seems to me that almost nothing has been said or written about the fine people who elected to keep their oath to the U.S. Government.

During the past week, 14 supervisors and six controllers kept traffic moving safely and efficiently and are continuing to meet 100 percent of the demand for air traffic service to and from McCarran. The focus has been on the guys who have, in effect, deserted their posts, while the guys who care about the federal government and the local economy

student will also tell you that disagreement with a law does not authorize anyone to refuse to obey the law. Not without penalty. . . .

The damage to the nation's commerce will be great. The airlines say they are losing about \$35 million per day—and the damage to this city won't go unnoticed. But, it is not nearly so great as everyone expected it to be. The reason? The supervisors, the controllers who stayed on the job and the military personnel on call are keeping the air traffic control system working on a daily increasing level of efficiency.

What we need now is to let the country know that the system works, and that it is safe to fly. I personally would have absolutely no hesitation to fly anywhere on the domestic route system, and I would not hesitate to have my family fly to any city in the United States. . . .

Flight crews have been most complimentary concerning the air traffic control system and the personnel manning their stations.

Perhaps there is a larger lesson to be learned from this tragic event. It appears that productivity has suffered greatly over the past several years as a result of the activities of some PATCO employees. Secretary of Transportation Lewis, who has a monumental rebuilding program facing him, has an opportunity to increase productivity while reducing the number of employees at the same time.

Instead of worrying about how to sell themselves and a large segment of the American public on how stressful the job is, perhaps the new employees can expend the same amount of energy on doing the best possible job of providing the best and safest air traffic system in the world. ■

By Samuel Milner

Now on the FAA historical staff, as an Army historian, he wrote *Victory in Papua*, a volume in the Pacific series of *The U.S. Army in World War II*.



Star-Crossed and Lost

Pangborn and Herndon Achieve Fame Despite Many Blunders

When the fuel-heavy Bellanca Pacemaker failed to make it off the runway at Roosevelt Field, Long Island, and the action had to switch to the longer runway at Floyd Bennett Field in Brooklyn 11 days later, it was not the first miscue to plague Clyde Pangborn. A lesser man and pilot might have rechecked his horoscope and gone back to bed.

Murphy's Law—what can go wrong, will—was to work overtime in frustrating Pangborn's aeronautical goals. That he achieved fame as the first to fly non-stop across the Pacific Ocean—not what he started out to do—was in spite of an albatross in the person of Hugh Herndon, Jr., his navigator.

Pangborn, 37 in 1931, had been an Army flying instructor in World War I and chief pilot and part-owner of the Gates Flying Circus, where he earned a considerable reputation for his skill as a flier.

Herndon, 27, had built a considerable reputation as a playboy. Born into a wealthy family, he had, after dropping out of Princeton and the family oil business, learned to fly and, finding it suited him, decided on a flying career.

He had barnstormed with Pangborn the year before, and, in February 1931, unaware then of Wiley Post and Harold Gatty, the two decided to try an around-the-world flight.

Pangborn was broke. His partner, Ivan Gates, had taken his share of the money earned from the flying circus and invested it in the New Standard Aircraft Corp., which set about building passé airplanes for barnstorming and went bankrupt. Herndon's mother, Alice Carter Boardman, a Standard Oil heiress, anxious for Junior to make a name for himself, wrote a check for \$100,

000 as a first installment on the flight.

Thanks to Herndon, the pair was nowhere ready to go when Post and Gatty stole their thunder and girdled the earth in eight days, 15 hours and 51 minutes on July 1, 1931. They could no longer be the first; they now could aspire only to being the fastest.

But without consulting Pangborn, Herndon had bought the six-place Bellanca, an airplane never known for its speed. Pangborn had to insist on replacing the 300-h.p. J-6 Whirlwind engine with a 425-h.p. Pratt & Whitney Wasp nine-cylinder, air-cooled radial engine. Under an advertising contract with an oil company—not that to which Mama Boardman owed her money—the plane was painted red and dubbed "Miss Veedol."

Then, too, instead of buckling down to prepare for the flight and concentrating on his navigation studies, since he was deficient in this area, Herndon spent almost all of his time courting a young lady in upstate New York. Because Pangborn had to go to Herndon for funds for everything, very little in the way of preparations was done until Herndon married the girl.

With speed now the goal, Pangborn figured out how to beat Post's time. While Post's supercharged Lockheed *Winnie Mae* could cruise at 180 miles per hour, *Miss Veedol* at 100 miles per hour had greater lift and could carry more fuel for greater range. Thus, the Bellanca could fly from New York to Moscow non-stop and make fewer fuel stops the rest of the way.

Finally, Pangborn's problems really began—they took off from Floyd Bennett Field on July 28, 1931. They headed north

over Harbor Grace, Newfoundland, and out over the North Atlantic. Then, Herndon took the controls while Pangborn slept. Herndon's dalliance paid off almost immediately—he wandered off course a full 10 degrees. As a result of this navigational blunder, Pangborn found himself in a dense fogbank and had to land at the first opportunity, which turned out to be Wales, rather than the planned Moscow, after a crossing that took 32 hours, as compared to Post's 16 hours and 32 minutes. The next morning—July 30—they flew to Croydon near London to refuel.

Instead to taking off immediately, the *Miss Veedol* sat on the ground while Herndon ran off to London to visit with relatives for six hours.

The flight reached Moscow July 31; the pair was feted with a banquet and took off that evening for Irkutsk and Khabarovsk, the two planned stops in Siberia. It took Pangborn a great deal of time and effort to cross the Ural Mountains, and the weather on the other side was so bad that he had to put down briefly at Dzhetysay, an isolated gold-mining center in western Siberia. Omsk, the nearest city of any size, had better facilities, but the men still had to wait 3½ hours to get refueled there.

Pangborn, who had flown all the way from Croydon, now turned the controls over to Herndon and went to sleep. Sure enough, when he awoke, he found that Herndon had wandered off course, well south of Irkutsk into Outer Mongolia. When *Miss Veedol* was set down, they found that officials would not tell them where they were nor let them leave for about seven hours.

Then, Pangborn found his way to Chita in Siberia, set a heading for Khabarovsk, returned the controls to Herndon and went back to sleep.

The next morning, August 3, Khabarovsk



Members of the press and newsreels take their final photos at Floyd Bennett Field before the big red Bellanca, *Miss Veedol*, took off for an around-the-world flight.

was mired in mud. Pangborn, who had had a lot of experience in landing on water-logged, slippery runways, thought it would be good experience for Herndon to land here. Although he told Herndon how to handle it, the younger man came in too fast and too hard. The plane hydroplaned and slid off the runway into even deeper mud and damaged its wing.

There was no way of getting *Miss Veedol* out of the mud that day, and it no longer mattered. They had taken 30 hours more than Post and Gatty to get to where they were and had no chance of beating their time. It was time to turn around and go home.

Fate determined it otherwise. An opportunity came to turn abject failure into



Clyde Pangborn (left) and Hugh Herndon, Jr., before a biplane during their barnstorming and circus flying days in 1930.



In uniforms considered dashing in their day, Ivan Gates and Clyde Pangborn (right) pose with one of their Flying Circus aircraft in 1926 in the only photo made of the pair.

resounding success . . . but not without Herndon's contributions to near disaster.

On that very day, they received a wire from the editor of the *Japan Times* urging them to try for the \$25,000 prize offered by Japan's largest newspaper, the *Asahi Shimbun*, for the first non-stop flight between Japan and the United States. It was fate, for their Bellanca's superior load-carrying ability ideally suited it to fly the 4,500-mile distance—no greater than the originally planned New York-to-Moscow hop.

Herndon cabled his mother for funds to support the venture, and Pangborn cabled the editor of the *Japan Times*, thanking him and asking him to get the American embassy to file the necessary papers for landing at Tokyo's Tachikawa Airport.

With the damage repaired and a new

storm forecast for the Khabarovsk area, the men took off on August 6, passing an incoming flight bearing a message from the editor of the *Japan Times*, which told them to make their own arrangements with the embassy.

Pangborn flew to Tokyo. Herndon, a photography buff, had taken movies and stills along their route without objection from the Russians and now took pictures over the Tsuguru Strait, Hokkaido and down the east coast of Honshu to Tokyo Bay. They arrived at Tachikawa on the evening of August 6, where their troubles really began.

With Japan at war in Manchuria, the plane's approach had been reported by Japanese picket ships in the Sea of Japan and off Hokkaido and Honshu and by military installations at Tsuguru Strait and Ominato. Pangborn had no sooner landed than officials demanded landing papers, spotted the cameras and called the police. Suspecting espionage, the police seized their maps and cameras and hauled the men off for questioning for three days, up to eight hours a day.

The police report was turned over to the local procurator (the equivalent of a district attorney), who questioned them for two days more. On August 15, they were tried and convicted of illegally landing, illegally flying

over fortified areas and illegally photographing those areas. A fine of \$1,025 each was assessed, or 205 days in jail, and their maps and cameras were confiscated.

Herndon immediately cabled his mother for money to pay the fines and to put the *Miss Veedol* in shape for the Pacific Flight. When the fines were paid on August 18, the embassy asked permission of the Japanese Aviation Bureau for the *Miss Veedol* to be flown to Sabishiro Beach, an 8,000-foot strip 280 miles north of Tokyo. It was the only runway in Japan long enough for a fuel-heavy *Miss Veedol* to take off from.

There was a wide difference of opinion as to whether or not to issue the permit. The Japanese Aviation Bureau, whose regulations were modeled after those of our Bureau of Air Commerce, were breathing fire at the infractions of its regulations and refused to issue the permit. The controversy extended to the Japanese press. Finally, the Japanese Cabinet ruled against the bureau, released the plane on September 2 and had the aviation

bureau issue the permit on September 18.

Pangborn prepared for the flight. He collected the needed maps and charts, arranged for a Pratt & Whitney dealership to check out the engine and hired a contractor to add a cabin fuel tank that would give the Bellanca a capacity of 915 gallons.

Used to modifying aircraft for special effects during his flying circus days, he planned to get more speed and range out of *Miss Veedol* by a device that would permit him to drop the entire landing gear into the ocean once airborne. In addition, the fuselage would be strengthened for a belly landing by internal bracing and a steel plate bolted to its underside. The modifications, he figured, would increase the plane's speed 15 to 20 m.p.h. and its range 600 miles.

It was certain that from a safety point of view, the Japanese would not permit the plane to depart if they learned of his plans. With the help of local Americans, Pangborn was put in touch with an American machinist, who set to work clandestinely when the plane was released.

On September 30, *Miss Veedol* was flown to Sabishiro beach on a route 50 miles out to sea, as required by the ever-watchful Japanese Aviation Bureau. Openly skeptical that the plane could lift off with its load, the bureau ruled that only one attempt at takeoff would be allowed. If it failed, the pair and the plane would have to leave Japan by boat.

To forestall that possibility, Pangborn walked the sandy runway the next morning, finding the first 4,000 feet relatively smooth and the next 4,000 feet much less so. At the end, was a large pile of driftwood logs that could spell disaster. At the beginning of the runway was a wooden ramp built on a large sand dune, used in previous trans-Pacific attempts, that would provide some initial momentum. Local laborers repaired the ramp for about 15 cents.



Miss Veedol suffered only a bent prop on its belly landing at Wenatchee, Wash., after the 31-hour flight from Japan. Herndon suffered a cut from a flying oil can.

When all was ready, first they were delayed by heavy cross-winds, then by the theft of their maps and charts by an anti-American group, replacement of which took 14 hours.

On the morning of October 4 (Japan Standard Time), *Miss Veedol* rolled down the ramp. The fuel-heavy plane used up a full mile of runway to reach 60 m.p.h. A quarter of a mile later, with the pile of logs dead ahead, the airspeed was 90 m.p.h., and the plane still was not flying. Pangborn tried rocking the plane from wheel to wheel to get it airborne but without success. Then, less than 200 yards from the log barrier, the airspeed indicator hit 100 m.p.h., and the plane struggled into the air just above stall speed.

It wallowed and climbed with difficulty. Pangborn headed out over the ocean and made a wide, cautious turn back, circling Sabishiro until *Miss Veedol* settled down. Pangborn headed up toward Hokkaido and the Kuriles and toward the Aleutians to stay near land, since the plane had neither radio nor life raft.

In view of the extended range he had provided for the plane, his goal was not just the first non-stop trans-Pacific flight but also, he hoped, the long-distance, non-stop record. His destination was Salt Lake City, 5,205 miles away.

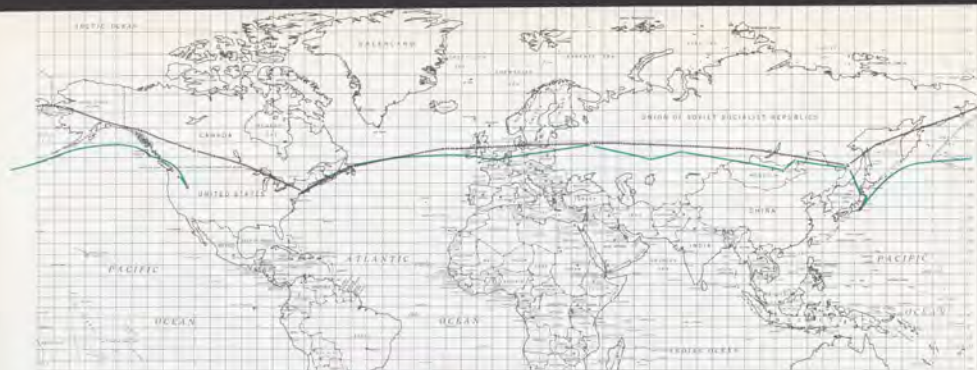
About 300 miles out, Pangborn decided to drop the landing gear. He pulled the cable he

had rigged to retaining pins, and the undercarriage dropped—except for two rods left dangling. This had to be dealt with, for they would pose a danger for landing.

With increased speed and buoyancy from the new streamlining, the engine purred. The advancing night and the northern latitudes made the cabin colder, numbing their hands and feet, freezing some hot tea and causing ice to form on the wing.

As the night wore on, the ice abated, and Pangborn turned over the controls to Herndon and took a brief nap. A couple of hours later, *Miss Veedol* emerged on top of a cloud layer at about 17,000 feet, and Pangborn decided it was a good time to take care of the dangling rods. He climbed out of the cockpit in his stocking feet onto the wing braces, a not unfamiliar exercise from his days in the flying circus. He braced himself with one hand in the bitter cold and loosened the rods with the other, the job taking about 20 minutes.

The plane passed over Dutch Harbor and the Gulf of Alaska. There was more than enough fuel for the rest of the intended record flight, but it had to be transferred from the cabin tank to the main wing tank via a hand pump. This was one of Herndon's few responsibilities during the flight, but



■■■■■■■■ Intended Route Actual Route

twice he let the main tank run dry. The first time it happened, he was able to restart the flow.

Now, the second episode became a nightmare. The engine sputtered and died, the propeller stopped, and *Mits Veedol* was set to plunge into the gulf below. Pangborn had seen emergencies of this sort and knew what to do. With Herndon frantically pumping away, Pangborn dived the plane straight down in the hope of getting the engine restarted by windmilling the propeller. The plane dropped more than 13,000 feet before the prop turned over and the engine started. Not until he was only 1,500 feet above the water was he able to pull the aircraft out of its dive. It was a close brush with death because of inexcusable laxity.

After some 35 hours in the air, they were over the northern tip of Queen Charlotte Island. Since Pangborn was going to make the difficult landing and had had only a brief nap since leaving Sabishiro, he turned the controls over to Herndon in the wee hours of October 5 so he could get some sleep, telling Herndon to hold the course and wake him when he saw the lights of a large city, which would be Vancouver.

Once again, Herndon's inattention to his navigation lessons brought them to grief. When Pangborn was awakened several hours later, it was apparent that Herndon had wandered off course again. Not only had he managed to miss nighttime Vancouver with its miles of blazing lights, but he had burned

a lot more fuel than anticipated. *Mits Veedol* was now over Mount Rainier southeast of Seattle, and Salt Lake City was out of its range.

Pangborn figured there was more than enough fuel to reach a good field at Boise, Idaho, but Boise was fogged in. He now needed a clear-enough field that was within reach. He tried Spokane, Wash., but it, too, was fogbound. Now, fuel was a problem. There was only one of his original alternates left: Pangborn's own hometown of Wenatchee, Wash.

The field was clear as he expected. He began dumping his fuel and moved Herndon to the back of the cabin to keep the tail down. He executed a low glide, swung the tail violently from side to side to slow his speed, slowed the engine to just above stall and turned off the switch. The plane skidded for more than half a mile, the tail flipped up and the prop dug into the ground. Otherwise the plane was intact. The landing was truly a virtuoso performance.

It was 7:14 a.m., Oct. 5, 1931—only 41 hours and 13 minutes after leaving Japan. The distance, including the detours to Boise and Spokane, was 4,883 miles. Pangborn

stepped out of *Mits Veedol* into the arms of his prescient mother and brother. Even more amazing was that a representative of the *Asahi Shimbun* was there in Wenatchee to present the \$25,000 check.

Their fame spread, with congratulatory messages from the President, the Cabinet and others around the country. The Japanese Imperial Aeronautical Society awarded them its White Medal of Merit.

Pangborn deserved his honors, but Herndon hadn't. Of the 200 hours flown in both flights, Herndon piloted for about 10, getting lost three times, plus nearly killing them by fuel mismanagement and losing them a shot at the distance record. Although he later became a competent pilot, Herndon had been inept in the flights that built his reputation.

Unfortunately, Pangborn got little more than the honors. A skilled pilot but an incompetent businessman, he was "taken" in the days of the Gates Flying Circus and the New Standard Aircraft Corp., and now he was "taken" by Herndon's mother. When Pangborn was busy preparing for the around-the-world flight, Herndon had presented him with some legal papers concerning the flight, which Pangborn signed without reading. One of them provided that Mrs. Boardman would be paid back every penny she spent before he would share in the proceeds. As a result, Pangborn was left with under \$2,400.

Pangborn was to find his reward elsewhere. Adding to his well-deserved reputation in aviation circles, the two flights led to his being awarded the prestigious Harmon Trophy for 1931—an honor he shared only with a select few: Frank Hawks, Jimmy Doolittle and Charles Lindbergh. ■

Photos courtesy of Carl M. Cleveland from his book "Upside-Down" Pangborn, 1978.

Singing the Song of the Unsung

FAA Technicians' Job Critical to Safety of Airways

Excerpted with permission from the *Springfield (Mass.) Daily News*.

By Charlotte Libov

When Warren Davis came to work at Bradley International Airport, Windsor Locks, Conn., 22 years ago, the airport had only one runway and wasn't even equipped with radar.

During the ensuing years, Davis has seen the airport's operation grow to triple that size, and has helped supervise the installation of radar and computers.

During the years, he's narrowly escaped the fury of a tornado, weathered a blizzard and, most recently, helped keep the airport operating in the wake of the air controllers' strike.

He is one of the legions of electronics technicians in airports throughout the country who are the "unsung heroes of the skies," according to David Rickard, an FAA spokesman in the agency's [New England Regional Office].

Davis, a stocky man with thinning white hair and a wry sense of humor, chuckled when a visitor quoted Rickard's words.

But he acknowledged that technicians had long felt frustrated because the importance of their work is ignored while, in hundreds of Hollywood movies, the fate of nations hang on the tersely uttered words of controllers and pilots.

Davis acknowledged one reason for the public's lack of interest in technicians may be

their lack of understanding of the technician's critical role and of the tough training that goes with it.

At Bradley, 34 technicians are responsible for making certain that roughly \$50 million worth of equipment is operating correctly.

This includes an instrument landing system for each of the three runways, radar, computers and about 70 units of transmitting equipment.

To provide the service which, Davis stressed, must be accurate to ensure that a pilot isn't inadvertently given a fatally wrong signal, technicians "learn the equipment inside and out.

"They could pretty well build it from scratch," he said.

Such expertise comes from partaking in a training program not unlike the one the controllers face at the FAA Academy in Oklahoma City.

While there, the technicians study each piece of equipment, sometimes for months, then take written examinations. When a new piece of equipment is developed, they must go back to Oklahoma City to learn it, a journey Davis said he's taken several times.

He also contended that, like the controllers, his technicians face stress. He noted that they must work rotating shifts, which he did for 17 years. And they also have the responsibility for guaranteeing that the delicate instruments controllers and pilots read are working perfectly.

Although his job doesn't seem glamorous to the public, Davis said the past few years at Bradley have been almost too exciting.

Striding past a weathered-looking small warehouse, he pointed it out, saying, "that building saved my life."

He was standing alone inside the building one October day in 1979 when the sky

darkened and he spotted the coming storm.

"I felt the changing air pressure caused by the tornado, so I quickly opened the windows," he recalled.

That act, he said, saved his life by equalizing the pressure and preventing the building from exploding, as did many of the neighboring structures.

He bid in the building until the danger was over, then joined his fellow workers in restoring power to the stricken airport.

When the blizzard struck in 1978, the airport again suffered a loss of power, and technicians had to work quickly to get battery-operated generators working.

He also said that when help was called in to help dig out the state, the landing instruments had to be working perfectly, because "when a plane has to be guided in to a runway surrounded by a snowbank, there's no margin for error."

Bradley's latest crisis came when the controllers made good on their threat to strike.

Himself now a supervisor, Davis said his main concern was wondering whether his technicians would strike in sympathy, leaving his division short-staffed.

They didn't and the airport appears to be running relatively smoothly.

Standing at the entrance to a [TRACON], the only sign of the strike appears to be the heightened security. Inside the dark room, a busy crew of nonstriking controllers are busy reading the blinking lights and flashing signals that Davis' technicians strive to keep in peak shape. ■

Update



Wiley Post a Hard Act To Follow

Not only Clyde Pangborn in 1931 (see page 14) but also Calvin Pitts in 1981 had a hard time trying to beat or even duplicate Wiley Post's epic round-the-world flight (see FAA WORLD, July 1981).

Thanks to bureaucratic foulups, it took Pitts 63 days for a 25,000-mile trip, compared to Post's 15,000 miles in eight days, 15 hours and 51 minutes.

"Fifty years ago, it took two men in a \$20,000 airplane eight days to fly around the world. Now it takes four men [in relays] in a quarter-million-dollar airplane eight weeks.

Now, that's progress," Pitts said wryly.

His Beechcraft Bonanza—the *Spirit of Winnie Mae*—took off on June 23 from Manchester, N.H., instead of New York because of a threatened controller strike. Over the Atlantic, his radio broke down, causing him to divert from England to Germany to seek repairs. There, he found that his prior arrangements with the Soviet Union wouldn't hold. Not only couldn't he make Post's stops but he would have to fly 4,000 miles over Siberia without a fuel stop, which was impossible.

Pitts detoured to Athens where his plane was impounded briefly. In Egypt, he couldn't

Calvin Pitts (right) and his last co-pilot, Emmet Fry, alight at Manchester, N.H., after a 25,000-mile globe-girdling flight.

Wide World Photos

refuel at first because he had hit a two-day Moslem holiday and officials wouldn't take his U.S. currency.

Then, he headed for India, but monsoons forced him into further detours, eventually taking him to Australia and island-hopping across the Pacific.

He returned to the Manchester airport, but with the feeling that not only were his flying skills tested but also his patience. ■

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