

WORLD

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The cover: *The world's second man-powered aircraft—the Gossamer Albatross—flew nine times as far as its predecessor this past spring, bidding fair for a later successful first crossing of the English Channel. The Albatross made it 22 miles over water, as told in the story on page 5.*

ARTS II, Better for Everyone



**“The way it is now, the ID
is right up there
on the screen where it should be.”**



One might say that ATCSs Scott Craig, Bob Gore and Hal Wise (left to right) get less eye strain in the West Palm Beach, Fla., TRACON, now that they have the 22-inch ARTS II scopes in place of the nine-inch TPX-42s. The real improvement is in having aircraft identity and altitude data tags.

“We can keep our minds and our eyes on the radar scope when we’re using this equipment,” is how Ron Taylor, a controller at the West Palm Beach, Fla., Tower answered when asked about the recently installed Automated Radar Terminal System II (ARTS II). “That’s the most important thing about this equipment,” he went on, talking shop and ignoring the TV blaring the corner of the tower ready room. Dave Rosso, another controller, explained how the ARTS frees controllers from nagging interruptions. “First,” he

said, “you have to remember that this system replaced the TPX-42, which was a partially automated system. The TPX identified planes on instrument flight plans by flashing a discrete code on the radar screen beside the target. Then the controller had to match the code number with the identification number on the flight strip if he wanted to call the plane on the radio. This meant the controllers eyes were scanning back and forth continuously between the flight strips and the radar screen.”

He paused, leaning over the table,

before he went on, “The way it is now, the ID is right up there on the screen where it should be. That saves a lot of time, which is important when you’re busy. And, man, you get busy here. During the season, this place gets crazy with traffic.”

Another controller, Bert Lowenbraun, chimed in, I moved down here from John F. Kennedy Airport in New York, and I know busy. Here we got a mix of light and heavy traffic that really keeps a controller on his toes.”

At this point, Taylor returned to the conversation. “Another important thing is that the aircraft’s altitude is up there also.”

Taylor explained that altitude is written on the screen automatically when the plane is equipped with a Mode C, or altitude-encoding, transponder. He also said that controllers can assign altitudes to other targets by asking each pilot what his altitude is and manually putting it in the plane’s data tag. This is done by manipulating a slew ball on the console.

“The system’s good,” he said, “and it’s going to be better this summer when they get it completely hooked up. One of the things I like about this system is the big screen.

“This summer,” he went on, “when they finish the interface—the computer link with Miami International Airport and the Miami Center—we’ll have ‘silent handoffs’; that is, automatic handoffs to the facilities I mentioned. The way

it is now, we have to talk to the guys on the phone. It's just one of those details that keeps us from our primary job, which is the separation, sequencing and control of air traffic.

Taylor explained that they already had silent handoffs within the facility from one sector to another. "This really helps," he said. "You don't have to do it by voice any more—just push a button. This makes the operation much smoother and cuts down on the noise level in the radar room. You don't hear the guys yelling back and forth from one sector to another now.

What we need now," Taylor continued, "in addition to the automatic handoffs I was talking about is an indication of ground speed on the data tag."

According to data systems specialist Frew W. Parsons, the computer link, or interface, with the Miami Center and Miami International will probably be completed late this summer. But he does not expect to have ground speed on the data tag in the foreseeable future. He points out that in order to get ground speed written on the data tag, the computer's operations program and memory capacity would have to be substantially enlarged. "In fact," he said, "I am not sure this will ever be done."

Speaking of the system as it is today, Parsons says, "We got something really solid with an unusual reliability record. The only time it's been off since it was first hooked up in January is when we turned it off for scheduled maintenance."

Also impressed by the reliability of the new system is Jim Block, who helped break in the ARTS IA in New York. He said he was amazed by the fact that the ARTS II has gone four whole months now with no failures—no down time. "We used to lose the ARTS I periodically. Every now and then the whole system

would go down, but this system," he said sipping his coffee, "is spectacular."

Bob Chasse of the West Palm Beach Airways Facilities Sector is also impressed by the reliability of the system—with its quick trouble-shooting and quick repairs.

"More functions are performed by each circuit board," he explained, "therefore, there are fewer components to change, which means that technicians can get the system 'up' sooner."

Chris Braun is a controller who likes to talk about "his tower." In less than five years, he has watched it grow from a non-radar tower to one of the busiest in

relative newcomer to the Palm Beach scene.

He was looking for milder weather, less traffic and less work. He found milder weather, a mixture of heavy and light plane traffic, old ATC equipment and more work. In fact, he found that controlling the mixed traffic was considerably more hectic than handling the all-jet traffic at LaGuardia, from which he came.

He arrived shortly before the arrival of the ARTS II and found the situation "chaotic and indescribable." He said that at the end of each day, "my neck was sore from scanning back and forth

**"We got something really solid
with an unusual reliability record."**

the Southern Region.

When he first came to West Palm Beach, approach control was equipped with nine-inch radar displays and, of course, no alphanumerics.

At that time, "Turn for Ident"—meaning, make a turn so we know who you are—said over the radio was the most common expression used by controllers.

Now the screens are 22 inches wide and the identification of aircraft is written electronically on the radar scope.

"What is really beautiful," Braun said, "is that now you can tell if a target is traffic that might cause conflict or if it is enroute traffic passing thousands of feet over the aircraft in the landing pattern."

Just as Braun was finishing his brief chapter of West Palm Beach history, Jerry Burwell wandered into the ready room with a cup of coffee. Burwell is a

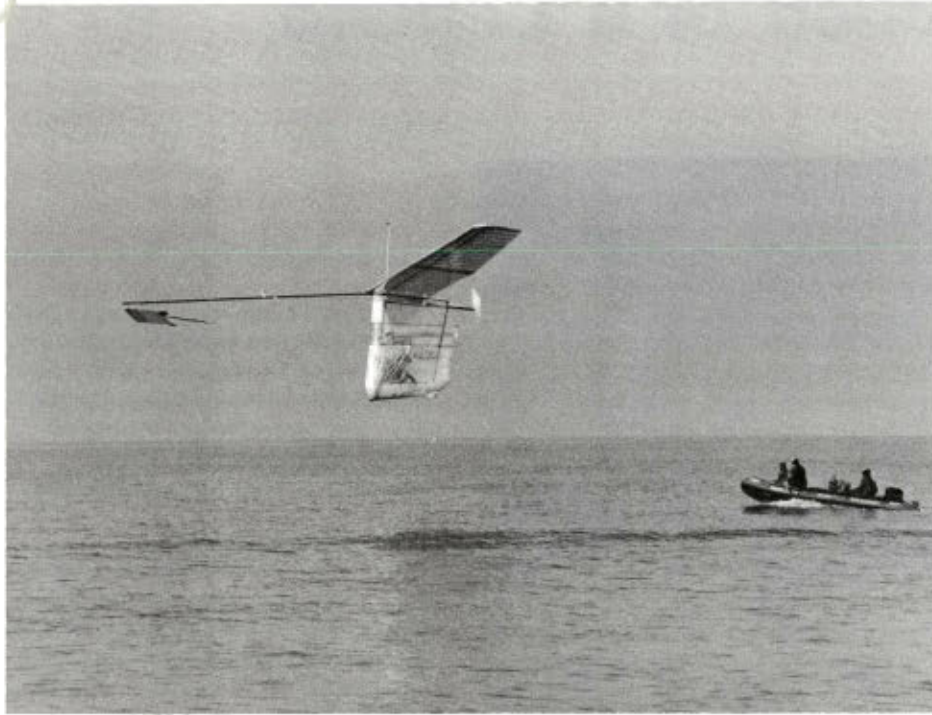
between the scope and the flight strips."

"You had to work a lot harder than you do now, and you had to talk a lot more, too. You had to talk to other controllers for every handoff within the facility. Now, it still gets busy—busier than ever. It's not easy, but it's a great deal easier than it was, even though the volume of traffic is up from previous years.

"It's better for everyone, pilots and controllers alike . . . better for everyone," Burwell added for emphasis.

By Theodore Maher

A Trip to Calais on Gossamer Wings



It's now three-quarters of a century since the Wright Brothers first flew a heavier-than-air plane, but not before or since has man come as close to fulfilling the dreams of Icarus as a young American did last month over the English Channel in a man-powered plane.

Bryan Allen, a Californian bicyclist and hang-glider pilot, flew Dr. Paul MacCready's 55-lb. "Gossamer Albatross" the 22 miles from Folkestone, England, to Cape Gris Nez near Calais, France, winning fame and a \$200,000 prize offered by English industrialist Henry Kremer.

MacCready and his team are the designers and builders of the "Gossamer Condor," which won a \$100,000 Kremer prize nearly two years ago for the first successful man-powered flight—a 1.4-mile flight over a figure-eight course.

Although the Albatross looks very much like the Condor, there are differences, with the Albatross being called the Porsche of man-powered aircraft and the Condor the Model-T. The Albatross has a slimmer, more efficient wing and weighs less than the Condor.

In late April, the Albatross set a record

that substantially raised hopes for a successful channel crossing: It flew for 13 miles at Harper Dry Lake, Calif., in one hour and nine minutes—a blazing 12 mph! The longer run over the channel resulted in an average speed of 7.8 mph.

Still, the task of crossing the channel was a formidable one. MacCready's flight window had to be from mid-May to the end of August when the weather would be the calmest, although the near-windless conditions required for this feather-light aircraft are not usual in that part of the world. The conditions were right on June 12.

However, of all the problems he had with the proposed flight, only 10 percent were aeronautical; the rest were logistical. He had to arrange for the transport of three Albatrosses to England. Being a realist, he recognized that accidents do happen and didn't want to be caught without critical parts at a critical time. He had to find a suitable beach in the Dover area and make sure it was accessible. And he had to acquire a fleet of at least three "chase" boats that were properly equipped and manned.

Each craft in his flotilla had a specific task. One paced the plane; one navigated for it; and the third hunted for turbulence in front of and above it.

The plane had to fly no higher than 30 feet, which had its pluses and minuses. If there was trouble, Allen could fall safely into the sea, for the plane would not plummet but drop gently like a parachute. On the other hand, the Albatross was crossing shipping lanes and would have to avoid ships and turbulence from fast-boat wakes and possibly spectator aircraft. As it turned out, Allen did have to veer off course to steer around a supertanker, as well as to follow his navigation boat when it encountered sandbars. The Albatross took off at sunrise to help avoid meteorological and man-made turbulence.

The Albatross' lightness and strength comes from epoxy-bonded fiber graphite in place of aluminum tubing and a skin of thin heat-shrunk Mylar plastic film. It has a wing span of 96 feet. Added to its 55-pound stripped weight was 137 pounds for its powerplant-fuel-pilot named Bryan Allen, who pedaled furiously to turn a pusher prop.

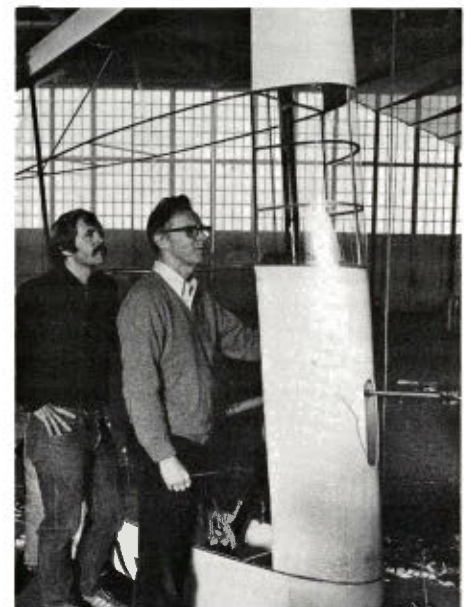
The DC-3 has a wing span of only 95 feet, but its gross takeoff weight is 25,008 pounds heavier than that of the Albatross. The DC-3 has seats for 21 passengers; the Gossamer Albatross has none.

So, what good is the Gossamer Albatross? So, what good was the Wright Flyer?

By Theodore Maher

Designer Dr. Paul MacReady (right) and Sterling Stoll, project manager, check an adjustment to the controls for the canard surface.

Photo © Don Monroe



The Resurrection of a Legend



The bill of sale records that on Sept. 26, 1928, the Ford Motor Company sold "1 Ford Tri-Motored plane 4AT38 complete with landing lights, parachute flares, and spare Wright Whirlwind engine (without starter)" to the Robertson Aircraft Corp. of St. Louis, Mo.

The price was \$51,475.

Today, almost 50 years of flying and two crashes later—the second of which demolished the front third and severely damaged the middle third—the "Tin Goose" is on the verge of being worth up to \$500,000.

This, obviously, is a lot more than the aircraft would be worth as scrap. Rather it is the amount that it is estimated that a sound, flyable Ford Tri-Motor complete with Airworthiness Certificate would bring.

And that is what the aircraft—the 38th of 198 Ford Tri-Motors to be built between 1926 and 1929—is steadily becoming in the shops of Kal-Aero, Inc., in Kalamazoo, Mich.

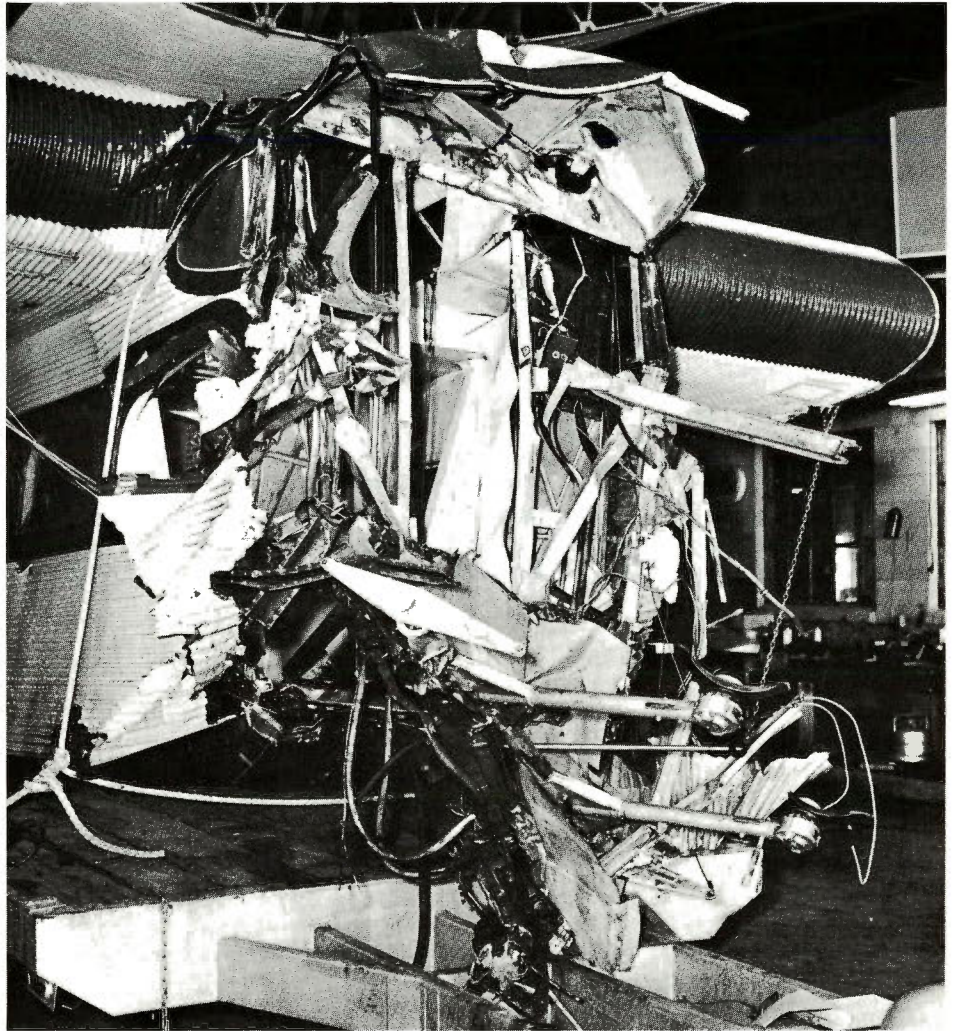
There, under the regular scrutiny of FAA inspectors from the General Aviation District Office in nearby Grand Rapids, Mich., Kal-Aero is painstakingly rebuilding it so that it can go back into regular passenger service for what bills itself as "the shortest airline in the world."

That is Island Airlines, Inc., of Port Clinton, Ohio, which provides the only year-round passenger, freight, and mail service to the residents of five small Lake Erie Islands.

Island Airlines bought the plane in 1936 when the Ford Tri-Motor—the first

or to its restoration, the Ford Tri-Motor's cockpit and part of its cabin were demolished, the control yokes hanging out forward. One of the damaged wings can be seen strapped to the top of the fuselage.

Photo by E. J. Payette



all-metal American-built aircraft and a technological marvel for its time—was nearing the end of its reign as the workhorse of the nation's airline fleet and was being replaced by the then new DC-3.

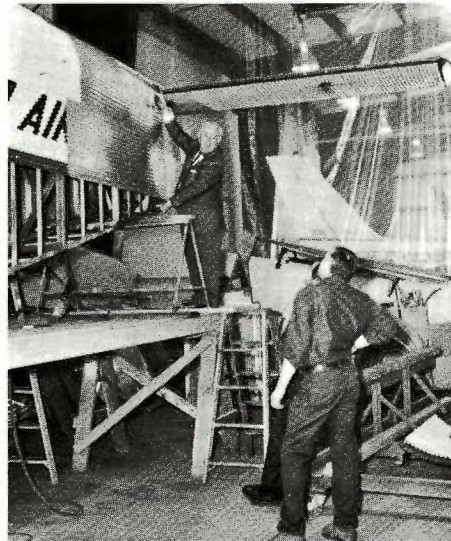
The aircraft had already been assigned the registration number N-7584 when it was purchased by the Robertson Aircraft Corp.—the firm that had employed Charles A. Lindbergh as an air mail pilot before his historic solo flight to Paris in 1927—and kept it through a succession of owners that included, for a brief period, American Airways, Inc., the predecessor of American Airlines.

With Island Airlines, it flew the 34-mile, 45-minute round trip day after day and year after year, hauling everything from passengers to mail to groceries, at a top speed of 100 miles an hour. On one trip, it carried nothing but a load of corks for a winery on one of the islands. And at least one resident of the islands used the Tri-Motor to commute to school every day.

It made its rounds without mishap—except for a crash landing in a cornfield in 1972, that caused only minor damage—and was generally conceded to be the oldest Tri-Motor still flying when it had its second accident in the summer of 1977.

This occurred when the pilot, who was injured in the accident, was trying to make it back to one of the islands after the nose engine quit. He was just about to land when a sharp gust of wind caught the aircraft and blew it into a utility pole.

The encounter sheared off most of the fuselage forward of the wing and severe-

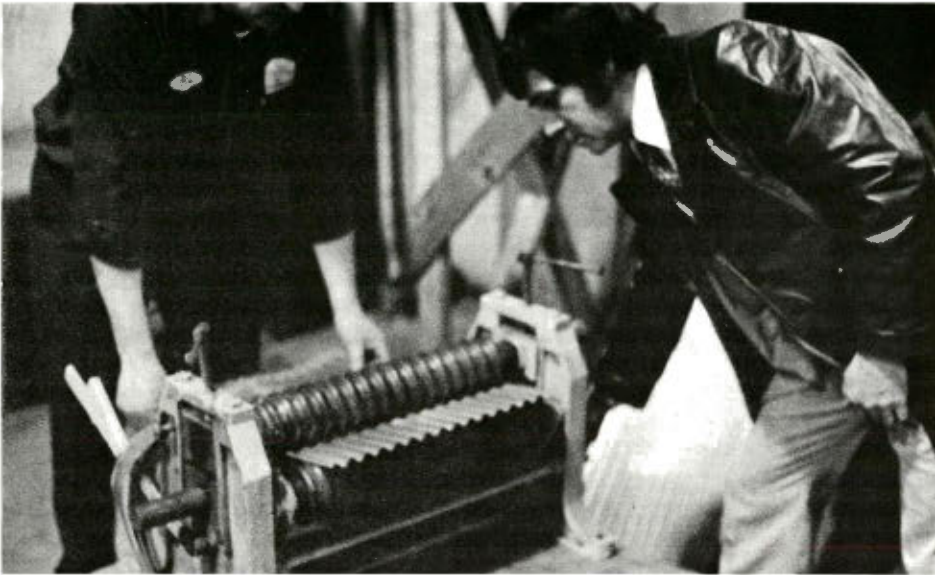


Robert Baron, who had helped build the original Tri-Motors as a Ford engineer, counsels Kal-Aero rebuilders on a structural detail of the 51-year-old plane.

Photo by E. J. Payette



Grand Rapids, Mich., GADO inspectors Bill Stewart (center), Larry Musser (with glasses) and Cliff Miller (right) make frequent checks on the progress of the rebuilding with Ken Fryling of Kal-Aero in Kalamazoo, Mich.



Ken Fryling (left) and Maurice Hovious of Kal-Aero operate a special Ford roller that bends the corrugated aluminum skin, which provides the fuselage's structural strength.

ly damaged the passenger compartment. The rear third of the fuselage was relatively unaffected.

It was from this base that the aircraft mechanics at Kal-Aero started to work, rebuilding their way forward.

Following a set of the original blueprints found in the files of the Ford Motor Company, the mechanics duplicated the original fuselage down to the last angled brace. The angled braces are a trademark of the cantilever method of construction—a method more often used to build bridges than to build airplanes—that was used in the Ford Tri-Motor.

Then, they covered it with the corrugated aluminum skin that is another trademark of the Ford Tri-Motor.

According to Lawrence K. Musser, chief of the Grand Rapids GADO, the corrugated skin was used to give longitudinal strength to the fuselage which, unlike modern aircraft, does not have longitudinal stringers to provide that strength. It served the same purpose in the wing.

The corrugated aluminum came from a supply that had originally been fabricated for the Ford Tri-Motor and which had been lying in storage since

production of the aircraft ceased.

The Kal-Aero mechanics are getting expert help in rebuilding of the Tri-Motor in the person of Robert Baron, a retired Ford Motor Company engineer who helped build the original Tri-Motors.

"He's been invaluable to us, both on the big things and the little things," says John Ellis, president of the fixed-based operation.

"For instance, when we came up against the problem of what to do with the bumps of the corrugated skin around the frame of the passenger door, Bob recalled that when they were building the Tri-Motors they made a special little tool that crimped the bumps and folded them flat. So we made one too, and it worked."

Baron also helped them locate a special metal roller that the Ford Company had built to bend the corrugated aluminum into the shapes required for the wing and other curved surfaces.

As many as possible of the original parts of the aircraft are being retained.

One of these is the fuel gauge, a simple, vertically mounted glass tube similar in appearance and function to the glass tube that shows how much coffee is left in a coffee pot.

Another is a long metal rod coming up from the floor of the cockpit that looks like a gear shift lever but which is used instead to steer the aircraft on the ground. Pushing it to the left causes the left wheel to brake, thus turning the plane to the left. Pushing it right turns the aircraft right.

Also to be retained is another distinc-

tive feature of the Ford Tri-Motor—the control cables that are on the outside of the aircraft instead of the inside.

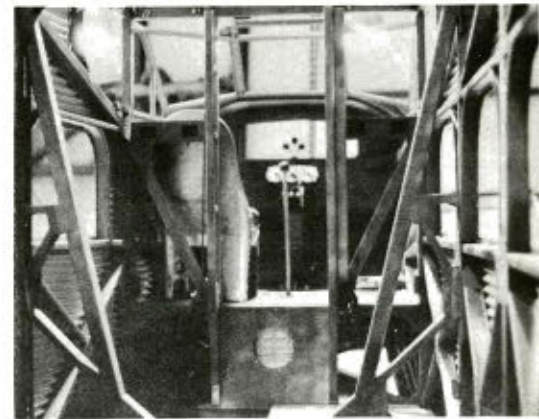
Ellis says the cost of the rebuilding will run about \$250,000, half of its estimated value once rebuilding has been completed and the aircraft has been recertified by the Grand Rapids GADO. He says he is basing the \$500,000 figure on the fact that that was the price that the last airworthy Tri-Motor to go on the market commanded.

Flyable Tri-Motors can command such a price, he says, because they are truly antiques and truly scarce. There are only two in existence now, he adds, and the one Kal-Aero is rebuilding will make three.

While it is being rebuilt, the Tri-Motor is occupying a corner of a large hanger in which it is surrounded by several sleek modern aircraft that are several decades its junior.

And in comparison, it looks bulky and angular and outrageously slow. But when the rebuilding is completed, which is now scheduled for this summer, and it makes its first flight, it will be the stately old Tri-Motor that will be the center of attention, and the flashy youngsters will even be noticed.

Story and photos by Fred Farrar



The restored cockpit from inside the cabin.

FEDERAL NOTEBOOK

SPARING THE KNIFE

Rep. Gladys Spellman (Md) has introduced a bill to require second opinions on elective surgery under the Federal Employees Health Benefits program. Although Blue Cross and Aetna already provide for second opinions, the bill would mandate the cross-check to eliminate some of the two million unnecessary operations performed each year, thus saving taxpayers and employees from escalating premiums as well as the patients from overzealous surgeons.

HOLDING PATTERN ON INSURANCE

Although a bill to liberalize Federal employee life insurance (HR 3448) introduced by Rep. Spellman in the main has Administration support, Congress is not seen ready to vote in any benefits this year. The bill would increase the amount of primary insurance for younger employees, boost the availability of optional insurance to five times the basic salary, would require retirees to pay primary insurance premiums up to age 65, thus lowering overall premium rates, would permit family members to get insurance at Federal rates, would set the residual insurance after age 65 to 40 percent of face value instead of the current 25 percent and would increase the government's premium share to 40 percent from the current 33.3 percent. The Administration proposal would limit residual insurance to 33 percent.

PAY BILL DEBUTS

The Administration has sent its pay reform legislation to Congress. Many see it as unlikely to survive intact because of congressional dissatisfaction with a number of its proposals. The first blow was the bill's being sent to the House

Committee on Compensation and Employee Benefits, rather than the full Post Office and Civil Service Committee. The proposal includes:

- Combining pay and benefits in a total compensation comparability package, with the President having the authority to adjust pay and all benefits except retirement. Congress could overturn a decision only by a two-thirds vote.
- Pay would be set by the President on a national comparability basis and then varied up or down from that figure based on local comparability.
- Wage-grade pay would remain on local comparability but would be figured on total compensation; the top three steps would be abolished along with the Monroney Amendment, which expands the survey area and often boosts pay; and night differential would be strictly pegged to local private industry practices.
- Overtime in excess of eight hours would be eliminated and paid only for over 40 hours under FLSA.
- Public sector jobs in state and local government would be included in pay surveys.
- Cost-of-living allowances in non-foreign areas would be eliminated. Military personnel are excluded from the total compensation comparability basis for annual raises. Congress is expected to object to losing jurisdiction over benefits, and even conservative, rural congressmen may not approve of the local pay concept because of the losses to the economies of their own districts. Final action on the bill is not expected until next year.

VETERANS PREFERENCE STANDS

The Supreme Court upheld a Massachusetts law giving veterans preference in government jobs in a suit claiming sex discrimination.



NUMBER TWO—Following the groundbreaking for the South Bend, Ind., Tower comes the groundbreaking for the Springfield, Ill., Tower—both of which will have solar-assisted heating. Officiating were (left to right) Joe Gerzin, airport authority chairman; Harry Herring, airport authority commissioner; Clarence Ninke, AF Sector manager; J. M. Goodrick, Bates & Rogers Construction Corp. project manager; Edgar Smoot, Comstock Construction Co. president; Bill Yocius, tower chief; and Bob Worthington, Springfield Airway Facilities Sector Field Office chief.



TOP TALKER—Barbara Abels (right), Western Region public affairs, walked off with the winner's two-foot trophy in the area Toastmasters Club speech competition at Manhattan Beach, Calif. Presenting the award was Helen O'Rell, planning staff and educational VP of Toastmasters Club 1004.



DISASTER PRAC
Northwest airport rescue training, her off an aviation fuel



FAST FAM—Former secretary and now controller Pamela J. Hundley of the Westfield, Mass., Tower is suited up for her first military familiarization flight in an Air National Guard F-100 fighter.



SAVED THE DAY—When fire destroyed the Anchorage operations hangar, all flight inspection records and much locally unavailable equipment were lost. But the thoroughness of operations assistant Ruby Humphries (left) and administrative assistant Dorothy Blackwell of the Anchorage FIDO in routinely feeding records information into the Oklahoma City computers permitted recall of all lost information in minimum time and locating equipment needed to keep flight inspection planes in the air.

ees and Places



RESCUE—In a program jointly sponsored by the FAA through John Croft, Washington State airport firemen receive crash-fire-fighting training. In the photo, they are removing a mannikin from the cockpit of a simulated aircraft, as others fight a fire threatening the "pilot."



CONFAB DEBUT—The first of a series of meetings between top FAA officials and representatives of the Federal Aviation Science and Technological Assn. (FASTA) union was held this spring to discuss wide-ranging issues. From the left are Leroy Miracle (out of photo), AGL; Don Messer, AWE; Jack Hall, AGL; Dewey Redmond, ASD; Stan Lyman, exec VP of FASTA; Ken Lyons, NAGE president; Ed Curran, ALR-1; Warren Sharp, AAF-1; Administrator Bond; Bill Gijka, ANE; Ed McDonald, ANE; Bob Bogucki, ACE; Leon Yablonski, ASW; Tom Tomchik, AEA; Ed Gildea, FASTA attorney.



SERVED VISIT—Following attendance at ceremonies at Utah State College, Utah Gov. Scott M. Matheson visited and toured the Cedar City FSS. With him are Richard G. Morris (left), facility chief, and Richard Martinez (right), Cedar City flight service specialist.



FACILITY OF THE YEAR—George Masterson (center), chief of the Houston, Tex., GADO holds the certificate proclaiming his the top facility. It was presented by former Director of the Flight Standards Service Joseph Ferrarese (left) and Deputy Administrator Quentin Taylor.



NEW INCENTIVE—In a new program—the first of a future annual award—David A. Włodarczyk (left) was selected "Controller of the Year" at the Charleston, W. Va., Tower by his fellow controllers. The plaque, presented by chief John Swartz, was paid for by the facility's coffee fund.

"All the News
That's Fit to Print"

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FIVE CENTS

AIRLINER CARRYING 62 CRASHES IN ELIZABETH; 20 SURVIVE THIRD WRECK THERE IN 2 MONTHS; 5 DIE IN APARTMENTS; NEWARK AIRPORT CLOSED

<p>VARIATION IN RATES A COUNTY TAX S CITY PLAN</p>	<p>Harvard Seeks \$5,000,000 For Religious Study Center</p> <p><i>Divinity School / Expense</i></p>	<p>ALLIED TRUCE TEAM RESISTS SPONSORING AN ALL-ASIA PARLEY</p> <p><i>Army Military Command / Scope or Method / Peace Talks</i></p>	<p>OPERATION HALTED Authority Acts Quickly, Pending Investigation of Third Tragedy</p>	<p>Tenants, Stunned by Crash, Rush From Flaming House</p> <p><i>Tell of Impact, Fire and Bewilderment, Then Hairbreadth Escapes—Witnesses Picture Scene of Sudden Death</i></p>	<p>DC-6'S MOTOR FAIL</p> <p><i>Miami-Bound Craft Go Into Dive, Hits House Lands in Street</i></p>
<p><i>Banner headlines proclaimed the unlikely disasters that were befalling the New York area. Three crashes occurred near Newark and a pair in Queens, N.Y., in a few months.</i></p>			<p>ELIZABETH ANGERED</p>	<p><i>Special to The New York Times.</i></p> <p>ELIZABETH, N. J., Feb. 11—(with the wings facing the street, Stunned residents of the Meltzer Apartments at 652-58 Salem Ave. fled to the streets in their panic this morning.</p> <p>The plane Meltzer Apartments had been brought sufficiently under control for firemen to begin searching the wings for bodies. The two wings of</p>	<p>PLANE SPLITS APART</p> <p><i>Many in the Tail Section Saved—Wings Just Miss Orphanage</i></p>

When the Laws of Chance Snapped

This article is extracted from John R. M. Wilson's *Turbulence Aloft: The Civil Aeronautics Administration Amid Wars and Rumors of Wars, 1938-1953*. Due to be published this summer by FAA, *Turbulence Aloft* is part of a four-volume history of FAA and its predecessor agencies. The first two volumes in this series, *Bonfires to Beacons, 1926-1938* (Stock No. 050-007-00419-2, \$8.00 a copy) and *Takeoff at Mid-Century, 1953-1961* (Stock No. 050-007-0355-2, \$6.00 a copy) can be purchased in a hardcover edition from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

During the winter and spring of 1952, an incredible series of air transport disasters—the likes of which has not been seen before or since—struck the New York Metropolitan Area. Within the space of four months, five airline accidents completely disrupted the town of Elizabeth, N.J., and roused citizens in the vicinity of all New York area airports to a storm of protest.

The first accident, occurring on Dec. 16, 1951, involved a Miami Airlines C-46 that was several hours late leaving Newark Airport because of engine repairs. When it finally did take off, its right engine burst into flames, and while the pilot was circling to return to the airport, the airplane crashed in Elizabeth and killed all 56 aboard.

On January 14, another C-46 hit the water a half mile short of La Guardia Airport, fortunately causing no injuries. A week later, however, an American

Airlines Convair hit a six-story building just a half mile from the first Newark crash, killing six on the ground and 23 in the plane, including former Secretary of War Robert P. Patterson.

Residents in and around Elizabeth were on the verge of hysteria. Doctors in the Elizabeth hospital ducked reflexively whenever an aircraft passed close overhead; others covered at the thought of a plane only a minor miscalculation away from smashing into them.

With the town thus fearful, the laws of chance snapped. On February 11, a National Airlines DC-6 taking off on runway 24 crashed and killed another four townspeople, along with 27 on board. Three hours later, Newark Airport, which handled one-third of the New York area air traffic, shut down.

An immediate effect of the closing was a temporary increase in the number of flights using La Guardia; but by the

Beginning of March, underutilized Idlewild Airport, the newest and farthest from Manhattan, had absorbed Newark traffic, and service returned to normal. The citizens of Queens, however, were far from happy about the increase of flights over their community. Their distress exploded when a United States Airlines C-46 missed its approach to Idlewild in early April and crashed, killing three people on the ground along with the plane's crew.

By a curious twist of fate, the nation's largest city had experienced three crashes fatal to innocent bystanders in less than three months. What had gone wrong? Equally important, what could be done to prevent a recurrence of this unprecedented string of tragedies?

Charles F. Horne, the Administrator of the Civil Aeronautics Administration, realized that little could be done overnight; he recognized, however, that the immediate problem to overcome was psychological. Following the American Airlines crash, he established a National Aviation Noise Reduction Committee. Unfortunately, the group found the prospects for reducing aviation noise

very slim; in fact, with the beginning of passenger jet service just around the corner, the outlook was for more instead of less noise. Yet noise was the most immediate and constant reminder of the hazards presented by the airports to surrounding communities.

In June, Horne confessed to his regional administrators that the aftermath of the crashes posed "the most important problem faced by aviation for a long time." But his response continued to be along Madison Avenue lines—a publicity campaign to make people more aware of CAA safety activities. Such a campaign was necessary to reassure not only Newark and Elizabeth citizens, who had taken the extreme step of shutting down Newark Airport, but other New York area residents as well, who, after the Queens crash, were clamoring to close all New York Airports. Clearly, public confidence had to be restored. But it was questionable whether a publicity campaign was enough to do the job.

Congress followed its customary procedure of holding hearings in the wake of a series of aviation disasters. A

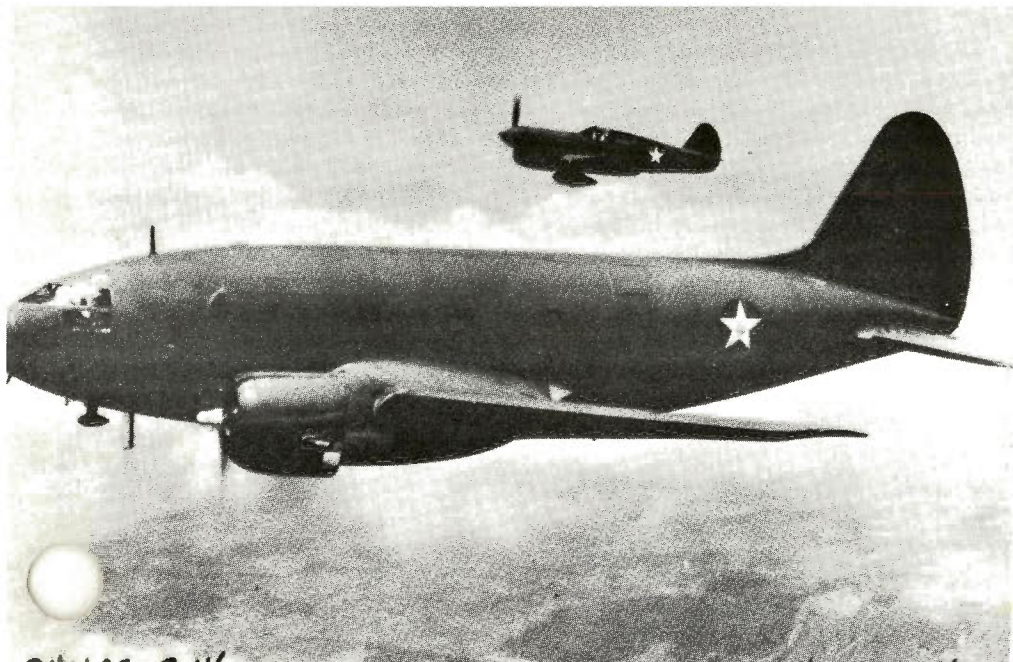
subcommittee of the House Committee on Interstate and Foreign Commerce, headed by Lindley Beckworth of Texas, spent 10 days during February and March listening to testimony in Elizabeth, New York and Washington. The hearings gave the citizenry a good chance to let off steam.

Testimony revealed that pilots at Newark and La Guardia has not been using the runway least likely to disturb the airports' neighbors and that flight patterns were flown with a similar disregard for populated areas. The homeowners, however, were not simply innocents violated by the airport; they had in many cases built their homes after the airports had begun operations, in full awareness of the planes roaring overhead. Airport operators who had continually discouraged residential building in approach and takeoff zones found it difficult to sympathize with these citizens' remonstrances.

The most worthwhile development to issue from the hearings was a reevaluation of Federal safety standards. Three accidents during the four-month period involved C-46s, surplus military aircraft not certificated for scheduled operations but employed by nonscheduled airlines—the forerunners of today's supplemental carriers—in large numbers. Testimony revealed that the nonscheduled takeoff problems stemmed from poor engine maintenance. The CAA's philosophy that the airlines had a vested interest in carefully maintaining their equipment may have been valid for the scheduled carriers; but, as events had shown, it did not necessarily hold for the nonscheduled, which operated on a shoestring and sometimes cut corners to make ends meet.

Getting a grip on the situation was not easy. The personnel level of CAA's Office of Aviation Safety had recently been cut back, and the remaining employees had been hard put to keep up with the work load. Some had even been lax in enforcing regulations and acting against the nonscheduled in cases of repeated viola-

The first production C-46 came out of the Curtiss-Wright plant in 1942, here piloted by Lloyd Childs and Dean Smith. Flying chase in an experimental Curtiss P-40 fighter is Herb Fisher, who was chief production test pilot for the C-46. A decade later, this World War II workhorse was involved in a rapid-fire series of civil disasters resulting from poor maintenance practices.



tions. The Civil Aeronautics Board blamed the operators themselves, noting that the CAA could not possibly inspect every plane. But New Jersey Congressman Charles A. Wolverton detected hints of possible payoffs to CAA inspectors for looking the other way when planes were overloaded. Admittedly, all was not as it should have been.

In September, the CAA and CAB announced the formation of a performance working group to draft a new, comprehensive set of transport-operation procedures and type-certificate standards. The existing regulations, developed piecemeal over a period of years, were sometimes inconsistent. The new group planned to establish normal curves for performance and draw the line for minimum acceptable performance. Thus, the nonskeds would be regulated more closely and equitably.

The series of accidents were traced to an assortment of causes—poor maintenance by Miami Airlines, a propeller reversal on the National DC-6 and poor tower instructions—none having to do with Newark Airport itself. The residential areas were not especially close to the airport: the Port of New York Authority, which operated Newark Airport, reported that 65 percent of major United States airports had housing closer by. But the airport remained closed.

Wayne Parrish, the outspoken editor of *American Aviation*, took a dim view of the shutdown, blaming meddling politicians for reacting irrationally and opportunistically to a series of freak coincidences. Parrish was a bit callous toward the affected homeowners, and stated bluntly what others admitted privately: people would just have to get used to the noise.

On Feb. 20, 1952, following the third Elizabeth crash, President Truman appointed an airport commission to investigate the whole subject of airport location and use and report to him within 90 days. Jimmy Doolittle, one of America's most famous aviators, served as chairman and was aided by Jerome



CAA Administrator Charles F. Horne

Hunsaker of the National Advisory Committee for Aeronautics, S. Paul Johnson of the Institute of Aeronautical Sciences and CAA Administrator Horne. Their assignment was to "consider means to safeguard the lives of people living in the vicinity of airports and to alleviate for them, as far as possible, the disturbance that arises from the operation of aircraft."

The Doolittle commission completed its study, entitled "The Airport and Its Neighbors," on May 16, 1952. The report acknowledged that Horne's National Noise Reduction Committee had a constructive program, though it did not hold out much hope of appreciable reductions in light of the coming jet age. It stressed, as Horne had, the need for better public relations—educating the public about airport procedures and working with airlines, pilots, and controllers to insure that flight patterns followed the least-disturbing safe routes.

The commission criticized the Federal-aid airport program (FAAP) as not well enough planned. It blamed Congress for much of the difficulty, citing its failure to provide the program with sufficient funds. It proposed that FAAP grants go primarily to ensure longer runways and more secure cleared areas

at runway ends.

Doolittle's group also expressed dissatisfaction with the general failure of communities to integrate airport and community planning. Careless zoning permitted construction around runway ends and thus increased hazards to both residents and fliers.

The report advised employing the money-pressure approach: with airport sponsors increasingly dependent on Federal aid, they could be threatened with a cutoff unless their zoning laws were acceptable. Revision of the Civil Aeronautics Act of 1938 to permit the CAA to certificate airports and thus require minimum standards for them to remain in operation would offer another lever.

Meanwhile, calm was replacing the tension that had prevailed at Newark and Elizabeth during the previous winter and spring. The Port of New York Authority wisely held off restoring the facility to full commercial operations until the completion of a new \$9 million, 7,000-foot instrument runway, which, in combination with an older runway, would permit takeoffs over Newark Bay and landing approaches over Kearny Meadows, thus avoiding populated areas. On Nov. 14, 1952, with the instrument runway completed, Newark reopened. The new runway, along with new flight rules barring operations over the heart of Elizabeth, went a long way toward soothing shattered nerves.

But while the crisis had forced a solution to one community's problems, it had little or no lasting effect beyond the New York City area. In the end, not even the Doolittle report exerted much influence on events. The urgency of February, when Truman appointed the commission, had faded by the time he received "The Airport and Its Neighbors." A measure of the impact of the report's proposals can be found in the action taken by the legislative branch: Congress cut FAAP funds from \$15 to \$10 million for fiscal year 1953. The crisis had passed, and the Federal Government returned to business as usual.

What's in a Name?—Part II

By D. Dexter Evans, Jr.
ATCS, Abilene, Tex., FSS

We threw this type of quiz at you recently on the subject of football; now, batter up—we've got baseball nicknames to identify. We've done one to get you started. If you strike out on any of them, turn to page 17 for the answers.

- 
1. Double
 2. Kemo Sabe was one
 3. Very large persons—S.F. Giants
 4. Zig-zaggers
 5. Aborigines
 6. Sea raiders
 7. Bloody punches
 8. Neil Armstrong & Co.
 9. Indian warriors
 10. Spanish priests
 11. Sailors
 12. City birds
 13. Fermenters
 14. East Indian cats
 15. Noisy birds
 16. Albino footwear
 17. Smokey's pride and joy
 18. Regals
 19. Principal points of compass
 20. Young female horses
 21. First letter of alphabets
 22. Communists
 23. Halo wearers
 24. Opera houses
 25. World fairs
 26. Northern persons

ARE YOU ON THE LIST?

If you are reading this in someone else's copy of FAA WORLD or received your copy via slow boat thanks to postal forwarding, perhaps it's time you did something about it.

At present, FAA WORLD mailing is based on the address you provide for the W-2 income tax forms. The W-2 list is maintained by your regional or center payroll office and is updated once a year by a mailed canvass.

If you have moved since the last canvass around November or December, you should notify your payroll office of your new address and list your old address for ready identification.

THE PRICE IS RIGHT . . . When an air traffic controller tells you he/she feels like a million bucks, he/she probably is overstating his/her market value. According to FAA cost accountants—those guys in green eye shades with garters on their sleeves—a journeyman controller represents an investment of \$144,976. At least, that's what the accountants say is the "estimated average cost to develop an enroute or terminal developmental to the full performance level." The figure includes salary and benefit costs, direct training and facility training costs, administrative overhead and even backfill.

BLUE MONDAYS FOR GIRL FRIDAYS . . . The top brass has the really tough jobs in any organization and those of us farther down the totem pole—secretaries, for example—are sitting around fat, dumb and happy. That's the way the top brass sees it anyway. But that doesn't necessarily make it



SMALL WORLD

true. In fact, a survey by the American Academy of Family Physicians found that executives are more likely than secretaries to think their work is stressful, but it's the secretaries who are more likely to suffer the mental and physical symptoms of stress. According to the survey report, 81 percent of executives rated their work as stressful as compared with two-thirds of the secretaries. Yet, the study noted that the executives tended to be happier and more optimistic than the secretaries and had lower incidences of muscle aches, tension, headaches and backaches. Just goes to show what a

calming influence a supergrade salary can have on a person.

WE GET LETTERS . . . Those of us who work in aviation are inclined to think that everyone feels like we do about airplanes. Not so! For example, there's a gentleman out in Fresno, California, who still rues the day the Wright Brothers forsook the safe and dependable bicycle for the wild and unpredictable flying machine. Here's an excerpt from a letter he recently wrote to FAA on the subject: "Planes should not be used to fly over land and cities from coast to coast. They should be used to replace the steamships. Ever since they started to shoot things into the sky and the big jets fly over, our weather conditions have changed and made it bad for the agriculture. What comes first—our food or the plane? Let's go back and put the good old safe passenger train on the track and bring back the good old days. After all, it got us where we are today."

With the Blue and Gray in Spirit



On a visit to Kennesaw Mountain Battlefield Park, Fields adds unexpected detail to another visitor's view of Confederate garb and explains the significance of the drum.

He doesn't believe himself to be a great warrior reincarnated, as did Gen. George Patton, but if you listen to Dean Fields describe practically any Civil War battle, you can't help but believe he was there, right in the middle of it.

From strategy to statistics, the Atlanta Tower controller can tell it all. Once while visiting a war museum, he came upon a depiction of the Battle of Sharpsburg. Fields recognized it, however, as the Battle of Fredericksburg because of the location of a small ditch that was important in affecting the outcome of the battle. He called it to the attention of the museum administrators, who, upon checking, reluctantly conceded that Fields was right.

His knowledge of such detail could stem from the fact that he owns and has read cover to cover about 50 books on the Civil War. Reading about Lincoln, he says, was what sparked his interest in the subject.

Fields is also the proud owner of a shoebox filled with letters from a Union soldier to his wife and parents in Tioga County, Pa. The soldier is Washington Munn of the 45th Regiment, Pennsylvania Volunteers.

Fields himself is from Warren Center, Pa., and has served in the Harrisburg and Pittsburgh Towers.

With postmarks like Camp Nelson, Ky., and Frederick, Md., Munn's letters tell of Antietam and how he was wounded, of South Carolina and its beauty and of victory over Gen. Robert E. Lee's troops at South Mountain, Md. The letters cover from January 1861 to August 1863. The last is from a hospital at Camp Denison, Ohio, where Munn wrote that he was recuperating from

wounds suffered in the battle at Vicksburg, Miss. Fields plans to do some research to see if there is any further record of this soldier.

"The letters don't say much about the battles or strategies," says Fields, "but they do provide a good profile of a soldier, perhaps a typical one, and what was on his mind during that bloody war."

Fields fuels his hobby through membership in both a history and a military book club and a subscription to *Civil War Times Illustrated*, a periodical published by a historical association. According to Fields, there are innumerable sources of information and some novel items available on the Civil War. "I even have a game offered through the magazine called 'Terrible Swift Sword.' It's based on the three-day battle at Gettysburg and includes a 32-page explanation plus two sheets that give a blow-by-blow account of how to set up and carry out the game."

Fields also enjoys character studies of the military leaders. He concludes that Robert E. Lee was a very intelligent leader and top-notch military man; that the best strategists were William Sherman for the Union and J. E. Johnston for the Confederacy; and that Nathaniel B. Forrest, a self-taught cavalryman of the "Gray," was the most colorful, clever and best-loved leader.

"Someday, I may put all of this

Several prints of battle scenes adorn the walls of the den in Fields' home—this one, the Battle of Nashville by Howard Pyle. Fields holds an authentic Civil War canteen.



together and write a book," Fields muses. "I have read and studied a lot, and I'd like to do a kind of personal interpretation, as unbiased and factual as possible," he says. "Right now, though, I still find plenty to read and plenty of historical sites and museums to visit. I'm digesting it all, and enjoying every minute of it."

By Carol B. Lencki



The cannons are stilled at Kennesaw Mountain Battlefield, Ga., but Civil War buff Dean Fields relives every detail of the conflict in a search for a better understanding of what took place in the war.

So, You're Being Transferred— Part II

Moving—changing jobs and homes—can be a traumatic experience or merely a busy one if you've gained insights into how to handle the thousand-and-one details involved in the move (see "So, You're Being Transferred," *FAA WORLD*, March 1979).

Betty Roque of the Crescent City, Calif., *FSS* has provided another useful tidbit, which the editors were not aware of.

When you file a change of address (Form 3575), all first-class mail and all official government mail—like *FAA WORLD*—are forwarded free of charge. Other types of mail are not, *except*:

All second- and fourth-class mail and third-class mail of obvious value (that is, not bulk mail) will be endorsed "Change of Address Due to Official Orders" by the forwarding post office and will be forwarded free of additional charge for persons in the United States civil and military service and members of their household. All you need do is show your orders when filing the change-of-address form. (Changes involving second-class mail for APO and FPO addresses have different rules.)

If anyone asks you, the above is according to Part 158.4 of the Postal Manual.

Here's What's in a Name

Puzzle on page 15

1. Minnesota Twins
2. Texas Rangers
3. San Francisco Giants
4. Los Angeles Dodgers
5. Cleveland Indians
6. Pittsburgh Pirates
7. Boston Red Sox
8. Houston Astros
9. Atlanta Braves
10. San Diego Padres
11. Seattle Mariners
12. Baltimore Orioles
13. Milwaukee Brewers
14. Detroit Tigers
15. Toronto Blue Jays
16. Chicago White Sox
17. Chicago Cubs
18. Kansas City Royals
19. St. Louis Cardinals
20. Philadelphia Phillies
21. Oakland A's
22. Cincinnati Reds
23. California Angels
24. New York Mets
25. Montreal Expos
26. New York Yankees

DIRECT LINE



Q I was in a second-career training program under PL 92-297 to obtain an automotive certificate. I completed the requirements with honors and paid \$10 for the certificate because I was told to make the payment and then submit a claim. After several inquiries following the claim, the Training Branch denied it on the basis that the certificate was useful to me. I feel that I was conned, regardless of the amount involved. The certificate relates to program achievement. Under 92-297, are there any appeal rights for careerists? Does the FAA condone personnel having to play guessing games on program reimbursements?

A At the time the training agreement is prepared, the employee is given the option of paying for training costs and being reimbursed or making arrangements for billing. This was part of the training agreement, not a verbal instruction. A Comptroller General decision (B-185341, Feb. 13, 1976) states that agencies are not authorized to expand the statutory definition of "training" or to pay for items not contemplated by that definition. It states further that professional accreditation is personal to its holder and will remain with him whether or not he remains in the employ of the government. Thus, payment should be from personal funds. Therefore, FAA does not pay for licenses, certificates or credentials applicable beyond the training period.

Q I try very hard as a first-line supervisor to maintain faith and loyalty in our government among our team members. When the FAA kicks people like me, it hurts. Your answer to an earlier "Direct Line" about supervisors traveling to the Management Training School is junk. If classes began and ended in midweek, there would be no need for workdays of 12 or 13 hours or for overtime pay. You're evading the truth.

A The longer class days should not have been stated quite that way. It was an alternative that was merely evaluated. Class schedules involve balancing priorities such as coverage of the subject matter, providing the best environment for learning and retention, student preferences and certainly prudent expenditure of resources. We have made efforts to minimize the requirement for students to travel on non-duty time. Now, nearly all of the two-week courses start on Tuesday and end on Thursday, eight class days later. The volume and complexity of the subject matter covered by the course determine the total course length. All courses are periodically reviewed to assure that classroom time is the minimum necessary to facilitate adequate learning of the material. When feasible, courses have been changed to permit travel time during duty hours. Consideration has also been given to the recommendation of starting and ending one-week courses in the middle of the week. Although this would permit the students to travel during normal duty hours, it would require a two-day break in the brief, but intensive, training, and we believe this would be detrimental to the students' retention of the total course

material. Also, many students don't want to lose an entire weekend this way. The welfare of the students is always one of our continuing concerns, but it's one that must be balanced with the primary mission of training. Nonduty travel time will continue to be one of our main considerations in future reviews of courses at the Management Training School.

Q In August 1977, I signed a two-year employment agreement to go to Guam, which is considered a hardship tour. I applied for and was granted hardship return rights after 15 months due to my wife's health. The two choices offered me were in tiny, upstate communities, both considered undesirable locations. I objected to both but was told they could offer me nothing else. The one I went to was fully staffed, but since it was a hard place to staff, they said they could justify overstaffing by one. I have heard that it is FAA policy not to transfer a person from one hardship site to another back to back. Is this true? If true, what recourse do I have? I'm in Airway Facilities; I understand that controllers are given a choice of up to six locations when returning on 3Rs. This doesn't seem equitable.

A According to 3330.6B, Reemployment, Restoration and Return Rights, Guam is considered a remote location and not a hardship tour. A remote location is defined as a pre-designated geographic area in Alaskan, Pacific or Southern Regions that has conditions or environment substantially different from those in more populated areas because of distance, inaccessibility or isolation. Since Guam has adequate housing, schools, medical support and shopping/social facilities, it is only "remote" and not "hardship." According to your region, you were offered all vacant positions at your grade for which you were qualified, and these happened to be at those two locations. Neither of them is considered a less-than-desirable (hardship) location as specified in Appendix 1 of the regional supplement, Reassignments from Less Than Desirable Remote Locations. This reference states that in order to be a hardship location, there must be a lack of adequate housing, etc. Your region's policy is to offer employees entitled to return rights all vacancies for which the returnee qualifies, whether only one or from two or more choices. Further, your actual reassignment was to a legitimate vacancy and not to a fully staffed facility. Note that you may apply for a reassignment from your present facility under the region's internal placement procedures described in PT P 3330.9, Internal Placement.

Q At my facility, we have written in our local procedures a phrase that reads, "Transfer of communications is transfer of control." The phrase is defined in 7110.65 as "that action whereby the responsibility for the separation of an aircraft is transferred from one controller to another." Does this mean that the receiving controller may climb, descend, change the heading of the aircraft while it is still in the transferring controller's airspace without coordinating

with the transferring controller? Para. 705 of the manual gives an explanation that has been interpreted to mean that it can be done without coordinating, if the transferring controller passed on no restrictions to the contrary to the receiving controller. What is the official interpretation?

A The definition of transfer of control is that which is found in the Pilot/Controller Glossary. The statement "transfer of communications is transfer of control" is not acceptable in that it imposes no conditions or limitations on the receiving controller and what he does with the aircraft. When an aircraft in your area is being controlled by another controller without conditions or limitations, transfer of control has not been completed. Both share separation responsibility. To complete transfer, the extent to which the receiving controller may exercise control in the other's area must be stipulated. This may be done by stating the conditions verbally at the time of handoff or by stating them in a directive or Letter of Agreement. This must be done to clearly define where responsibility ends for the transferring controller and begins for the receiving controller. Normally, this transfer of responsibility occurs automatically when the aircraft crosses the boundary separating the areas of jurisdiction. The statement "transfer of communications is transfer of control" by itself without any accompanying limitations or conditions would contradict the intent of Para. 705; the interpretation you've given to that paragraph is not correct.

Q Why does it take from six to eight weeks or more to get a promotion plan announcement on the street? I'm talking about an on-going position vacant due to transfer, retirement, etc.—not for a new position. Specifically, one took two months for the bid to be advertised, one month for the selection list to be sent to the sector and then a month or more to pick up the new employee after selection. This four months or more without someone to do the work places an extra load on the employees in the sector. At a small sector field office, this added workload can amount to as much as 50 percent increase. Why does it have to take so long?

A There are many factors that can affect the time between the development of a vacancy and the publication of the announcement. First the manager of the sector must decide whether or not to fill the vacancy. If so, he must submit a request for personnel action to the Personnel Management Division. There, a determination must be made if there are any repromotion priority candidates. If there are, they must be referred to the selecting official for consideration. If none of those referred are selected, the announcement may be issued. The announcement is prepared using the appropriate qualification requirements and area of consideration, which affects the lead time for setting the opening date of the announcement. In your region, if the area of consideration is regionwide or less, a five-day lead time must be given to allow for printing and distributing it by the open-

ing date. If the announcement is FAA-wide, a 10-lead must be used, since the announcement must be sent to headquarters for printing and FAA-wide distribution. Thus, several weeks may elapse between the development of the vacancy and the appearance of the merit promotion announcement.

Q Recently, the chief of my ARTCC had a "Big Brother" system installed in his office to be able to monitor any position in the center. Are all air traffic facilities installing this? What will the overall cost be? What is the FAA regulation that authorizes this type of monitoring procedure? If it's illegal, what recourse does a controller have if called on the carpet through this monitoring?

A The device in question is not a national or regional program, but merely a desk-top speaker attached to the facility's operational voice recorders. When desired, the assistant chief on duty can patch the chief into any control position to keep him abreast. The chief does this as part of his normal duties to monitor the progress of the facility. There is nothing clandestine about the arrangement, since the operational voice recorder tapes are always available to the chief for review. Because of some concern by the local employee organization, the chief agreed to discontinue using the device until an agreement on its use could be reached. However, the chief has a legal right and is encouraged to monitor the operation of ATC positions for facility-improvement purposes.

Q While the Thirteen Phase training program for en route facilities is good in theory, there might be a situation in which the facility and employee might benefit from an exception to the rule, such as when continuity of training is delayed because of facility problems—like short staffing or a high-attrition rate. This can cause a high number of personnel in a training status. Therefore, is it possible to waive the requirements of any of these phases through on-the-job training? Can an individual receive controller ratings without the "technical" segments outlined in the Thirteen Phase program?

A As stated in the foreword to the National Air Traffic Training Program Enroute Instructional Program Guide, the Thirteen Phase program "is designed to improve certain aspects of the previous program. Primarily, these are identifiable as (1) Providing the developmental with a more extensive background in air traffic fundamentals, (2) An earlier evaluation of the trainee's potential, (3) Reduction of on-the-job training time and (4) Cost-benefit effectiveness." It's not possible to both waive the requirements of any phase through on-the-job training, as you suggest, and still reduce the on-the-job training time, as stated in the Instructional Program Guide. Strict adherence to the nationally standardized facility training is mandated to assure a well-qualified complement of facility-rated controllers.

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Heads Up

CENTRAL REGION

Eugene K. Anderson, assistant chief at the Garden City, Kan., FSS, from the Air Traffic Branch at the FAA Academy . . . **Robert J. Bogdan**, assistant chief at Kansas City ARTCC, from the regional Operations, Procedures and Airspace Branch . . . **Ralph E. Brockman**, chief of the Evaluation & Automation Branch, Air Traffic Division, from the Kansas City ARTCC . . . **William F. Stringfield**, assistant chief at the Kansas City FSS, from the Emporia, Kan., FSS.

EASTERN REGION

Larry J. Jewell, chief of the Wilkes-Barre, Pa., Tower, from the Utica, N.Y., Tower.

GREAT LAKES REGION

Raymond S. Baran, chief of the Mitchell Field Tower in Milwaukee, Wis., from the Minneapolis Wold-Chamberlain Tower . . . **Joseph T. Bossley**, chief of the Air Traffic Operations Branch . . . **John A. Heath**, chief of the Green Bay, Wis., FSS, from the Houghton, Mich., FSS . . . **Herbert M. Hopper**, manager of the Cleveland ARTCC Airway Facilities Sector, from the Columbus, Ohio, AF Sector.

NORTHWEST REGION

John W. Keller, chief of the Klamath Falls, Ore., Tower, from the Pasco, Wash., Tower . . . **Clyde E. Shoe**, chief of the Training Branch, Personnel Management Division.

PACIFIC-ASIA REGION

Paul L. A. Duvauchelle, chief of the Plans, Programs and Evaluation Branch, Air Traffic Division.

ROCKY MOUNTAIN REGION

John W. Fasching, assistant manager of the Denver ARTCC Airway Facilities Sector, from the Billings, Mont., Sector.

SOUTHERN REGION

Charles C. Blankenship, assistant chief at the Mobile, Ala., FSS, from the Florence, S.C., FSS . . . **Ernest E. George**, assistant chief at the Louisville, Ky., FSS, from the Paducah, Ky., FSS . . . **James W. McQuigg**, assistant chief at the Jacksonville ARTCC, from the Cleveland ARTCC . . . **Janet L. Morris**, assistant chief at the Fort Myers, Fla., FSS, from the Dothan, Ala., FSS . . . **Harold N. Olsen**, chief of the San Juan, Puerto Rico, IFSS . . . **Henry R.**

Parker, Jr., assistant chief at the New Bern, N.C., FSS, from the Hickory, N.C., FSS . . . **Robert K. Seagle**, assistant chief at the Atlanta FSS, from the St. Petersburg-Clearwater, Fla., FSS . . . **Stephen T. Wright**, chief of the Procurement Branch, Logistics Division.

SOUTHWEST REGION

Doyle G. Herrington, chief of the Bethany AF Sector Field Office in Oklahoma City, from the FAA Academy . . . **John D. Hunter**, chief of the Jonesboro, Ark., FSS, from the New Orleans FSS . . . **Harold E. Laroux**, chief of the General Aviation Branch, Flight Standards Division, from the New Orleans GADO . . . **William L. Walraven**, chief of the Abilene, Tex., Tower, from the Lubbock, Tex., Tower.

WESTERN REGION

Richard W. Barker, chief of the Las Vegas, Nev., Tower, from the Mitchell Field Tower in Milwaukee . . . **Ivan F. Hunt**, chief of the Los Angeles Tower, from the Traffic Division . . . **Benjamin C. Kenne**, chief of the Tucson, Ariz., Tower, from the Davis-Monthan AFB RAPCON in Arizona.