FAA WORLD

December 1978

Their Vision Changed the World

FAA WORLD

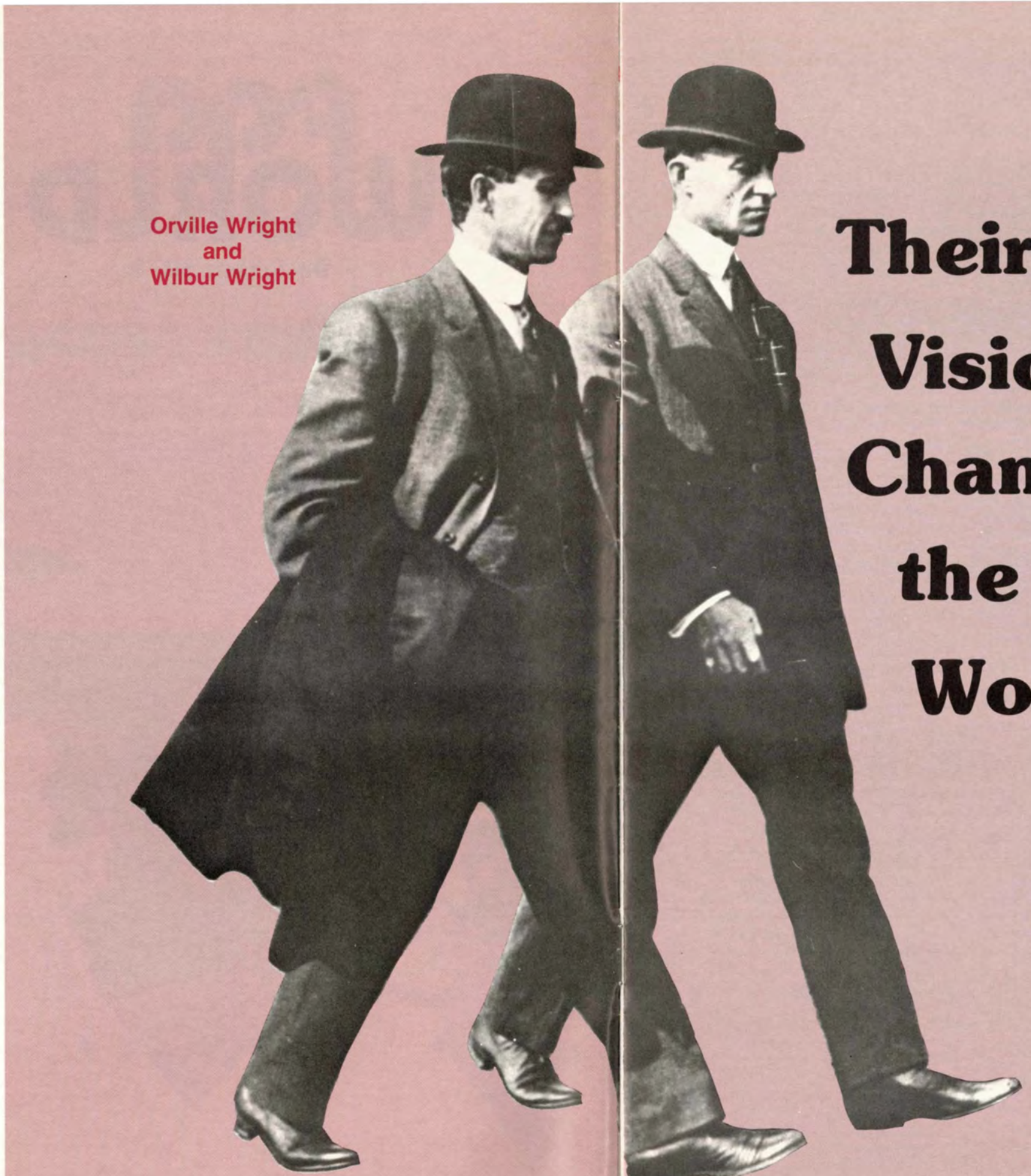
DECEMBER 1978
Volume 8 Number 12

FAA WORLD is published monthly for the employees of the Department of Transportation/Federal Aviation Administration and is the official FAA employee publication. It is prepared by the Public & Employee Communications Division, Office of Public Affairs, FAA, 800 Independence Ave. SW, Washington, D.C. 20591. Articles and photos for FAA WORLD should be submitted directly to regional FAA public affairs officers: Mark Weaver—Aeronautical Center; Clifford Cernick—Alaskan Region; Joseph Frets—Central Region; Robert Fulton—Eastern Region; Neal Callahan—Great Lakes Region; Michael Benson—NAFEC; Mike Ciccarelli—New England Region; David Myers—Northwest Region; George Miyachi—Pacific-Asia Region; Lou Lombard, acting—Rocky Mountain Region; Jack Barker—Southern Region; K. K. Jones—Southwest Region; Alexander Garvis—Western Region

75th ANNIVERSARY OF POWERED FLIGHT • 1903-1978 •

CORRECTION

In the October issue of FAA WORLD, page 13, Floyd Bese was incorrectly identified in the photograph as assisting Aeronautical Center Director Thomas Creswell. Actually shown is James Parnell, also of the Facilities Engineering Division, in that role.



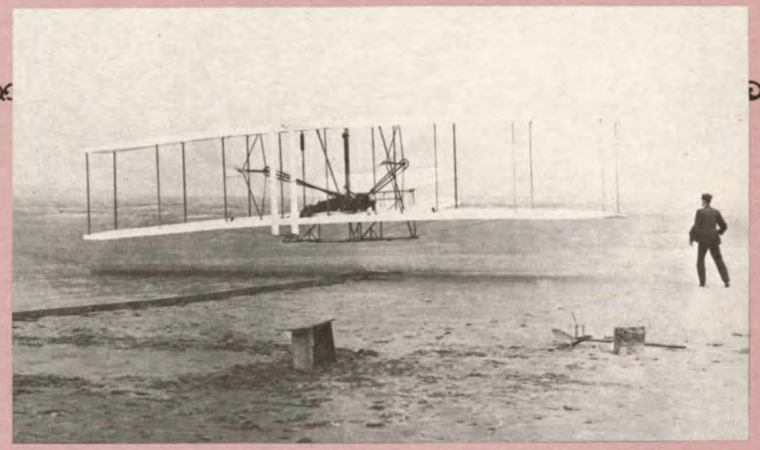
Orville Wright and Wilbur Wright

Their Vision Changed the World

The brothers were a perfectly matched pair—"as inseparable as twins," according to their father, Bishop Milton Wright of the United Brethren Church. "From the time we were children, my brother Orville and myself lived together, played together, worked together and, in fact, thought together," Wilbur Wright said. "We usually owned all our toys in common, talked over our thoughts and aspirations so that nearly everything that was done in our lives has been the result of conversations, suggestions and discussions between us."

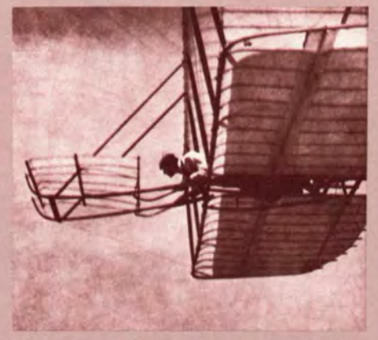
This uncommon kinship, nurtured in childhood in the atmosphere of a tightly knit family, was a critical ingredient of the brothers' ultimate success in solving the mystery of powered flight. It fused the Wrights' individual talents and emotional drives into a single creative force, enabling them to untangle one of the knottiest problems ever to engage the mind of man.

The felicitous character of the



The historic photo of Orville lifting off on the first flight on Dec. 17, 1903, as Wilbur ran alongside to help steady the wing prior to the Flyer's being airborne.

The Wright Brothers' first airframe was the 1900 glider, here being flown as a kite.



Wilbur pilots their most-successful glider, the 1902 version, over Kitty Hawk. The Wrights continued to practice with it the following year while readying the Flyer.

1901, their second year at Kitty Hawk, found Wilbur (left) and Orville flying a new glider, as they continued to gather aeronautical data and develop flight control.

Wrights' relationship was only one element of a complex equation. They were blessed, of course, with superb intellectual equipment. They possessed the requisite temperament for scientific investigation. They had an unfailing ability to ask the right questions. And they were fortunate to have been born to Milton and Susan Wright, tolerant, broadminded parents who put up with their children's eccentricities and seeming abberations.

The elder Wrights were rare among people one generation removed from the frontier—they possessed an intellectual bent. And they understood that intellectual pursuits required leisure. Bishop Wright had a well-stocked library, and he encouraged his children to dip into whatever whetted their appetites. (In addition to Wilbur, born in 1867, and Orville, 1871, Milton and Susan Wright had Reuchlin, 1861, Lorin, 1862, and Katharine, 1874.)

When Orville had become a world figure, a friend offered the opinion that the Wrights were perfect examples of how two American boys with no special advantages could get ahead in the world. Orville demurred; they had had special advantages. "We were lucky enough to grow up in a home environment where there was always much encouragement . . . to investigate whatever aroused curiosity. In a different kind of environment our curiosity might have been nipped . . . ," he explained.

Wilbur, in a moment of whimsy, expressed the matter this way: "If I were giving a young man advice as to how he might succeed in life, I would say to him, 'Pick out a good father and mother . . . .' "

Wilbur and Orville showed no early outward signs of taking advantage of their favorable circumstances. They alone among the Wright children did not attend college. Orville dropped out of high school to publish and edit a neighborhood newspaper that ultimately failed.

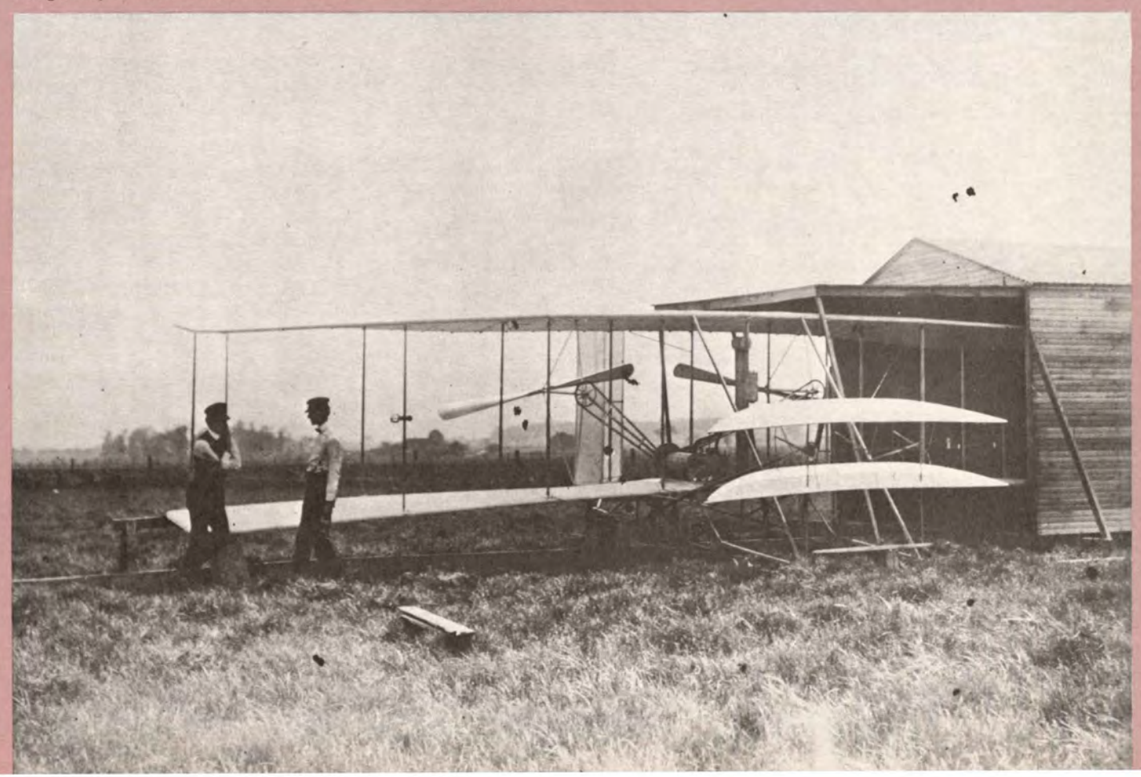
Wilbur had an even less auspicious start. Playing in a high school hockey game, he was struck in the face by an errant stick that knocked out most of his front teeth. The accident must have been a traumatic experience, for Wilbur remained at home for an extended period as a semi-invalid, complaining of stomach disorders and, more ominously, of a heart condition. He engaged in little or no gainful employment between the ages of 18 and 25. He merely puttered around doing household chores and nursing his ailing mother.

"What does Will do?" inquired Reuchlin in 1888, when Wilbur was 21. "He ought to do something. Is he still cook and chambermaid?" Susan Koerner Wright died the following year, and Wilbur no longer had a sick mother to attend to; yet, still preoccupied with his own health, he remained unemployed for another three years. But these years were by no means a total loss; Wilbur used them to devour his father's library.

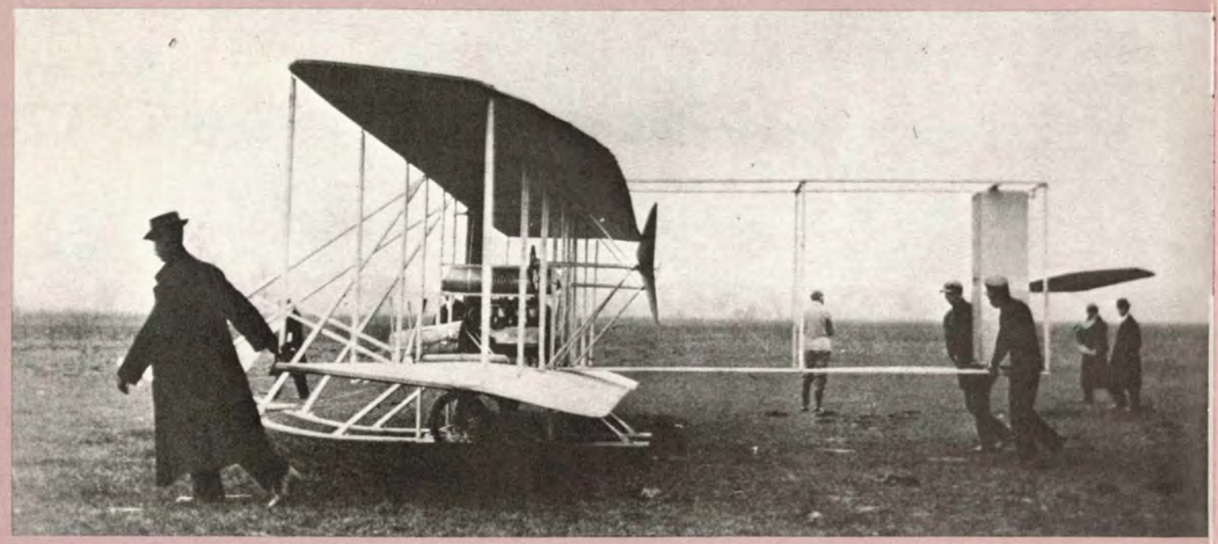
Wilbur finally came out of his shell in December 1892 when he and Orville opened up a small bicycle shop. The business, though not especially satisfying emotionally, prospered. Wilbur's health, moreover, improved, and he even had a passing thought of attending college and qualifying as a teacher. "Intellectual effort is a pleasure

The Wrights built their own wind tunnel in Dayton, Ohio, to work out their aeronautical theories and develop a more-accurate table of air pressures than Lilienthal's.

By 1904, with their Flyer II, Orville and Wilbur were beginning to fly out of Huffman Pasture at Simms Station, Ohio, near Dayton, no longer needing the strong winds of Kitty Hawk, although they returned to the Outer Banks for a couple of years more.



No longer a toy, the Flyer made the first cargo flight on Nov. 7, 1910, between Simms Station and Columbus, Ohio, carrying bolts of silk weighing 100 pounds and valued at $800. They were strapped into the passenger seat. The pilot, Phil O. Parmelee, who learned to fly at the Wrights' flying school, covered the 65 miles in 66 minutes.



to me," he wrote his father in 1894, "and I think I would be better fitted for reasonable success in some of the professions than in business." Milton Wright offered financial assistance, but, for reasons unknown, Wilbur abandoned the idea.

In 1896, the brothers read of the death of Otto Lilienthal, the German aerodynamicist, in a glider accident. This aroused in them a latent interest in aeronautics that had existed since childhood. Wilbur pulled down from his father's shelves a book by E. J. Marey, which treated of the mechanism of birds in flight. The problem of flight now began to slowly consume the brothers and, eventually, to possess them totally.

In a letter to Octave Chanute, a prominent engineer and aerodynamicist who would prove a great source of encouragement to the brothers, Wilbur spoke of himself as being "afflicted" with the belief that flight was possible to man. "My disease has increased in severity, and I feel that it will cost me an increased amount of money if not my life." It didn't cost him his life, but it did become his life, beginning in 1899, when he and Orville turned to serious aeronautical investigations.

The bishop's household was never the same again. The brothers turned it into a forum for propounding aeronautical theory. The discussions were endless. They usually started after supper and, while beginning quietly enough, they often degenerated into heated arguments. "We don't hear anything but flying machine and engine from morning till night," Katharine wrote her father in September 1901.

These discussions were as necessary a part of the process of discovery as their laboratory and flying experiments. "Discussion brings out new ways of looking at things and helps to round off the corners," Wilbur wrote, for he understood that "no truth is without some mixture of error, and no error so false but that it possesses some elements of truth." Honest argument was a means by which they could pick "the beams and motes" out of each other's eyes.

In the U.S., Orville was demonstrating the Flyer for the military at Ft. Myer, Va., in 1909. Here, he talks to Lt. Frank P. Lahm, the first army officer to fly as a passenger in an airplane.

Anyone who pores over their correspondence between 1899 and 1903—their most creative years—cannot fail to conclude that they had been successful in casting out those troublesome beams and motes. Their perceptions were quick, cold, clear and exact. Everything seemed to come to them in its precise shape and color, just as if they were peering through a perfect mental lens. As a result, the Wrights saw things other men had never seen before. "Isn't it astonishing," Orville wrote to a friend in June 1903, "that all these secrets have been preserved for so many years so that we could discover them!"

The Wrights were unique among aeronautical investigators in that they could take an idea from its theoretical stage, verify it in the laboratory, and then apply it by building and testing an end product. They were, in short, theoreticians, experimental scientists, engineers, mechanics and test pilots. Everything on their flying machine, from its engine to the last thread on the craft's cloth skin, passed through their hands.

Thus, besides disrupting the peace and quiet of their father's household with strange talk of drift, center of pressure and other alien matters, they also turned it into a factory. What construction work could not be done at the bicycle shop was done at home. "Will spins the sewing machine around by the hour, while Orv squats around marking the places to sew. There is no place in the house to live . . .," Katharine wrote her father a week before the brothers' 1902 trip to Kitty Hawk.

Katharine was a great help to the brothers. Neither had married (and neither would ever marry), so the brothers relied on their sister to perform many of the traditional womanly functions.

Katharine did not hesitate to administer a push and a shove whenever the brothers needed it. Wilbur was on the receiving end of Katharine's sisterly importuning when, in September 1901, he was about to decline an invitation from Chanute to address the Western Society of Engineers. Though Wilbur could express himself with uncommon precision, the thought of addressing such a body must have caused him some apprehension. Katharine saw, however, that this was a splendid opportunity for Wilbur to become acquainted with "some scientific men"; besides, a trip to Chicago would do him good. So, as she wrote her father, "I nagged him into going."

Wilbur was wanting in appropriate clothes for the occasion, so Katharine had a "picnic" decking him out in Orville's shirt, collar, cuffs, cuff links, and overcoat. "We discovered that to some extent 'clothes do make the man,' " she reported to her father, "for you never saw Will look so 'swell.' " The address, incidentally, in which Wilbur questioned the accuracy of Lilienthal's tables of air pressure, stands today as a landmark in the development of aeronautical thought.

The few doors that Chanute opened to them and the annual trips to Kitty Hawk, which began in 1900, were the extent of the contacts the Wrights had outside of Dayton during their years of discovery. The excursions to North Carolina's Outer Banks were like vacations to the Wrights.

Kitty Hawk at the turn of the century was a small fishing village whose natural environment had barely been disturbed by its few inhabitants. "The fish are so thick you see dozens of them whenever you look down into the water," Orville reported to his sister. The woods were filled with game. ("Chased hungry razorbacks," he noted in his diary.) The place was a bird watcher's paradise—eagles flapped overhead; buzzards soared by the dozen; fish hawks and seagulls hovered over the sound and ocean.

On the other hand, the trip was arduous and, once there, the brothers had to endure high winds, lashing rains and other complications. The village was so poor that the villagers had all they could do to keep "soul and body

In honor of their conquest of the air—the Wright Brothers and their Flyer. In this view

Orville Wright

Wilbur Wright

together." Securing adequate provisions at such a place was no easy proposition. "The economics of this place were so nicely balanced before our arrival that everybody here could live and yet nothing be wasted," Orville explained. The Wrights, by having more money than the natives, upset the delicate balance by buying up "the whole egg product of the town and about all the canned goods in the store." When that was gone, they were forced to go on reduced rations—biscuits and canned milk.

But the Wrights loved the place—its natural beauty and its isolation, where they could live in "blissful ignorance" cut off from nearly everything but their work. Katharine was convinced that Kitty Hawk had therapeutic powers. "Will is thin and nervous and so is Orv," she reported after the brothers had built their 1902 glider. "They will be all right when they get down in the sand where the salt breezes blow. . . ." And in truth, the Wrights would return to Dayton tanned, fit and invigorated.

The period between 1899 and 1903 was not only the Wrights' most creative period but also their happiest. The stimulating work at home, the exhilarating visits to the Outer Banks, the excitement of probing into the unknown—all made for a satisfying life. "I can remember when Wilbur and I could hardly wait for morning to come to get at something that interested us," Orville remarked many years after Wilbur's death. "That's happiness."

They were also confident years. Only for one brief period, after testing their 1901 glider, did they appear discouraged. As early as September 1900, Wilbur wrote his father that he was certain that he could "reach a point much in advance of any previous workers [in aeronautics]."

They had begun with an absolute faith in Lilienthal's work, and when they found it wanting ("I am now absolutely certain that Lilienthal's table is very seriously in error"), they boldly decided to rely entirely on their own findings. Within three months, Wilbur unabashedly told Chanute, "I think our [wind tunnel] experiments show conclusively that man can build wings superior to those of any bird in dynamic efficiency for soaring."

On December 14, 1903, three days before the historic first flight, Wilbur wrote home: "There is now no question of final success." The next day he wired his father: "Success assured." And succeed they did, on December 17, 1903.

Much ink has been spilt in trying to establish that one or the other of the brothers made the greater contribution. Neither Orville's nor Wilbur's proponents are very convincing. It was their father's judgment that "about equal credit is due both." And while the good bishop left little doubt as to which of his sons possessed the greater gifts ("In memory and intellect," Milton Wright said of Wilbur, "there was none like him"), intellect didn't tip the balance decisively. Orville, like Wilbur, possessed a keen mind and a gift for systematic investigation. And though he may have possessed these qualities in unequal measure, he never deferred to Wilbur in intellectual and technical matters; had he done so, those endless discussions that reverberated throughout the bishop's household would have been fruitless verbal exercises.

Nevertheless, it does not necessarily follow that theirs was a collaboration between equals. Wilbur had, after all, taken the lead in the enterprise. The advantages of seniority were his. And, beyond doubt, he possessed the stronger, more dominant personality.

Though cast from similar molds, the brothers made a good study in contrasts. Orville, particularly in his younger days, was outgoing and voluble. He dressed fashionably and wore a mustache that gave his countenance a certain freshness. He made friends easily.

The older brother appeared aloof, reserved and withdrawn in comparison; he was a man of few words and rarely engaged in small talk outside of the family circle. ("I know of only one bird, the parrot, that talks," he reportedly cracked, "and it can't fly very high.") One reporter described him as "strange and cold" and "tempered like steel." He was difficult to get close to. Yet it was he, not Orville—perhaps because of his unusual self-possession, the striking intellectual cast of his thin, lined face and his total lack of ostentation—who excited the greater curiosity and attracted more attention.

It was to the self-possessed Wilbur that Orville looked to take the lead in many matters. The personable Orville was reluctant to talk in front of any audience, giving as an excuse his "inabilities as a speaker." Speechmaking was left to Wilbur. Orville also left the bulk of the writing to his brother, claiming scant abilities in that direction, too—a strange claim by a man who had once edited a newspaper. Indeed, though he did not possess Wilbur's literary powers, Orville could write well when he chose. His letters to his sister are full of charm and wit. Perhaps he simply wished to defer to his older brother; perhaps, given his brother's greater gift for expression, he felt inadequate. The more likely explanation is that Wilbur took it upon himself to assume these roles as part of the natural course of things.

A contrast of transportation modes at Pau, France, where Wilbur demonstrated the Flyer in 1909. It had become a two-person plane with seats instead of a prone position.

With today's Kitty Hawk in the background, a memorial museum (right) contrasts sharply with the primitive sheds that housed the Wright Brothers and their flyer. In this view from Kill Devil Hill, the site of the first flights can be seen at the left.

A stone marker notes the point at which the Wright Flyer lifted off into history from the guide track (lower left). The numbered signs mark the distances of the four flights.

In 1908, when Wilbur had made his sensational European flights and Orville his equally sensational Fort Myer flights, the Wrights' lives turned in a new direction. Their important work was now behind them, and that happiness Orville spoke of began to wane. In November of that year, when Wilbur had become the toast of the European Continent, he wrote Chanute of how the trials and tribulations of fame weighed down upon him. "How I long for Kitty Hawk!" he remarked plaintively.

Kitty Hawk could never be retrieved. Four years remained before Wilbur succumbed to typhoid, in 1912, and they were filled with business concerns and the ordeal of protecting their patents from infringement. Three years after Wilbur's death, Orville severed his connection with airplane manufacturing by selling his interest in the Wright Company and establishing a small aeronautical laboratory, which he ran for 15 years. In the many years left to him (he died in 1948 at the age of 76), his only contribution to aeronautical science was the slip flap, of which he was the co-inventor.

He became increasingly reclusive, seeing few people, shunning the limelight and making no attempt to lead an active life. "You, of course, understand," Godfrey L. Cabot wrote to a friend in 1925, "that Mr. Wright is a man of a good deal of inertia . . . ."

Something was missing. In 1927, a reporter visited the surviving brother and came away with the feeling that Wilbur's spirit was hovering around Orville "like an aura." Wilbur may have been there in spirit, but it was the lack of his material presence that made the difference. It had broken up that "perfectly matched pair" and stilled that singular genius we know as the Wright brothers.

By Nick Komons

FACES and PLACES

TOP HONORS—*At the DOT Secretarial Awards ceremonies in Washington, a new "Secretary's Award for Excellence" was presented. Among the recipients were Veronica M. Mathews (left), administrative clerk in the Central Region; Alice Stevens (center), secretary to the Northwest Region Airway Facilities Division; and Carol Kennedy (right), procurement assistant in New England's Logistics Division—all shown with Secretary of Transportation Brock Adams.*

THE BEST IN EEO—*DOT Secretary Brock Adams presents the Secretary's Award for Achievement in Equal Employment Opportunity to Arthur Varnado (left), special assistant to the Director of the Flight Standards Service; and to Alfred B. Bruck, chief of the Alaskan Region Airway Facilities Division.*

BOW TO A BOOSTER—*Charles Sargent (left foreground), a retired civil engineer and airport neighbor, is smitten with aviation and ATC. A frequent and friendly visitor to Orange County, Calif, tower and others across the U.S., Sargent was recently surprised with an Honorary Controller Certificate presented by Orange County tower chief Mike Wandrick and (from the left) controllers Bob Starkey, Dean Elliott, William McKnight, Fred Johnson and Dick Stillwell.*

TOP NOTCH AT NASHUA—*Don Turner, chief of the Boston ARTCC, accepts the national Air Traffic Facility-of-the Year Award for 1977 from Administrator Langhorne Bond (right), as Boston Center controller representative George Darcey looks on.* Photo by Vet Payne

RESTOCKING HISTORY—*John Tompkins (right), San Diego AF Sector manager, shows Western Region AF Division chief Bob Frehse the automatic lamp transfer mechanism of an Airway Beacon Light being donated to the San Diego Aero-Space Museum, which was destroyed by fire earlier this year. With the help of groups like Western Region FAAers, the museum will be reopened December 17, the anniversary of the Wright Brothers' flight. Looking on is San Diego Sector technical support officer Ed Hutchinson.*

GIVING BEGETS—*What Cameron University calls one of the best scholarship programs in the school's history is the one, now in its seventh year, founded and supported by FAA students in the Management Training School. This year's recipients with FAA and CU officials are (left to right) Alla Gilbert, Earl Krug, MTS Superintendent James Lucas, Kelly Booth, Dawn Morris, Cynthia Stone, Cameron University President Dr. Don Owen, Dennis Straight and Kenneth Gainous.*

DREAM COME TRUE—*Michael Woods is congratulated by Southwest Regional Director Henry L. Newman (right) and Dr. Thomas J. Rector, vice president of Dallas Baptist College, as the region's first graduate under the Cooperative Education Program. Under the program, the student alternates between college attendance and on-the-job training. Now at the Academy and previously at the Austin, Tex., tower, Woods will become a developmental controller at the Baton Rouge, La., tower.*

WORD SEARCH

By Gary L. Johnson
ATCS, Chanute, Kan., FSS

The subject of this month's puzzle is aircraft makes and models of recent and not-so-recent vintage. They read forward, backward, up, down and diagonally, are always in a straight line and never skip letters. The words may overlap, and letters may be used more than once.

Use the word list if you must, but try covering it first. All 61 names can be found. Circle those you do find and cross them off the list. The name "Archer" has been circled to get you started. When you give up, the answers may be found on page 18.

B O N A N Z A T R O P S E N A L Y K S A
U E A R T C E L E R C O U P E C O B E T
S R L A N C E D V Y E U H H R E J K Y F
H I R L N S E T A G F T C N O R A B L A
M A E P A W N E E G H A S D C L V H F R
A G N M V N A L B O P K U A O J A I N C
S N Z N I L C E W A O K P Q M E N T O R
T I A V O U T A R Y E N O O M Y S R G O
E K R N N W R G O O S E L U A M K X A L
R E T R A D Z Y R E N W O D N U S S R Y
C O M M A N D E R A B I C D D E F G D A
E R G R U M M A N S S E C H E A G C A T
B O B U C E N T U R I O N A R R O W I J
M C I M E L K T E D S M I T H C H I E F
O K R S T T I P A C E R G N E H A D N A
C W D T Z S P R Q P B B O N L E R G I L
S E D U A I R C O U P E V W I R R E L C
U L O Z P E G A S U S E Y X O K E O R O
L L G E E K O R E H C C A B C D I N E N
A I R B A T I C K W A H Y K S F S V M E

AEROCOMMANDER
AG-CAT
AIRBUS
AIRCOUPE
ALON
APACHE
ARCHER
ARROW
AZTEC
BARON
BEAVER
BEECH
BELLANCA
BIRD DOG
BONANZA
BUSHMASTER
CENTURION
CESSNA
CHEROKEE
CHIEF
CITABRIA
COMMANDER
CUB
DARTER
DRAGONFLY
DUKE
ELECTRA
ERCOUPE
FALCON
GATES
GRUMMAN
GOOSE
HELIO
HOWARD
HUEY
KING AIR
LAKE
LANCE
LUSCOMBE
MAULE
MENTOR
MERLIN
MOONEY
NAVAJO
NAVION
PACER
PAWNEE
PEGASUS
PIPER
PITTS
ROCKWELL
SIERRA
SKYHAWK
SKYLANE
SKYMASTER
SPORT
SUNDOWNER
TAYLORCRAFT
TED SMITH
VIKING
WIDGEON

SMALL WORLD

WE'LL DRINK TO THAT . . . Air Commodore Sir Francis Whittle, inventor of the modern jet engine, has very little patience with environmentalists and others who would curtail the progress of aviation. At a recent ceremony in which he received FAA's Award for Extraordinary Service, the 71-year old Englishman strongly endorsed supersonic commercial flight and suggested that the sonic boom problem has been "greatly exaggerated." For example, he said, the sonic boom overpressure of the Concorde flying at 60,000 feet is only two pounds per square foot and then translated that figure into terms he thought could be more readily understood by his audience. That's equivalent to the extra pressure created on the bottom of a tumbler when you pour in half an inch of Scotch, he noted. Sir Francis obviously is a man who likes his whisky neat.

NOBODY'S PERFECT . . . The *Washington Star* has zapped the agency again in its "Gobbledygook" column. This time it picked up FAA's environmental impact statement on SSTs which contained the following observation: "Sounds that are increasing in level are judged to be somewhat louder than those decreasing in level" . . . The Western Region *Intercom* recently saluted two Oakland tower controllers who ran a minimarathon together and "covered eight miles in eight minutes." If that's true the U.S. is a cinch in the 1980 Olympics . . . And there's a motorcycle daredevil in North Carolina named "Wreckless" Rex Whitehurst who plans to jump over two hovering helicopters if he can get FAA's approval. We can hardly wait to see his application for a waiver.

AFTER THE WEDDING, THE MARRIAGE WENT DOWNHILL . . . One reason the institution of marriage is in trouble is that too few people take the wedding ceremony seriously any more. The latest example is a couple in New Mexico who got married while suspended from a hang glider as the minister on the ground read the vows over a public address system. Now, normally, in reporting these items, "Small World" looks for some FAA involvement in order to make the story more meaningful to our readers. But, in this case, we're happy to report that there was none.

FEDERAL NOTEBOOK

CIVIL SERVICE REFORM ACT: LABOR-MANAGEMENT RELATIONS

■ Title VII of the Civil Service Reform Act places under law the government's labor-relations program previously operated under Executive Order 11491. The Administration sees its provisions as striking a proper balance between management's rights to operate efficiently and effectively and the basic rights of employees and their union representatives.

■ The law sets up a Federal Labor Relations Authority (FLRA), the counterpart of and modeled after the National Labor Relations Board, which operates in the private sector. FLRA will be comprised of three members appointed by the President for five-year terms and removable only for cause, a General Counsel appointed by the President to prosecute complaints and a Federal Service Impasses Panel of at least seven members appointed by the President.

■ The scope of bargaining is basically the same as under EO 11491 but does not extend to pay or benefits under law. Agencies may bargain over methods, means and technonogy of conducting agency operations but aren't required to. Unions for a substantial number of employees may bargain with agencies that issue government-wide regulations, and those representing a majority of employees may bargain regardless of agency regs on matters otherwise within the scope of bargaining.

Bargaining is not permitted on agency mission, budget organization, number of employees, internal security or non-voluntary employee payments to unions. An agency's right to take personnel actions, such as hiring, assigning, directing, promoting and disciplining employees, is retained in the law.

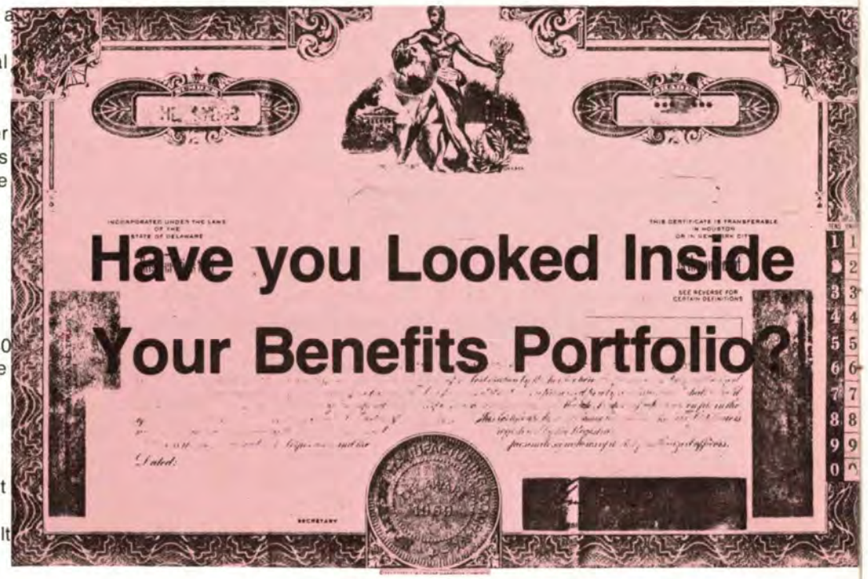
■ Now subject to negotiated grievance and arbitration procedures are such adverse actions as discharge, demotion and long-term suspensions. The negotiated grievance procedure is the only one available to bargaining-unit employees, except in adverse actions or EEO discrimination cases, where the employee may choose the procedure or appeal to the Merit Systems Protection Board. Grievance arbitration will not cover the Hatch Act, position classification, retirement, life and health insurance, suspension or removal for national security reasons, examination and certification and appointment.

Other provisions of the law include: ■ Dues checkoff at no cost to employee or union, ■ Official time for employee negotiators to the extent that management officials are on paid time, ■ FLRA decisions are subject to court enforcement, including judicial review in unfair-labor-practice and discrimination cases, ■ More authority to "make an employee whole" in unjustified or unwarranted personnel actions, including back pay and attorney fees, ■ Employee has right to union representation during questioning if employee believes discipline could result.

THE HEALTH INSURANCE SCENE

A two-year pilot project approved by the Civil Service Commission for the "Blue Cross and Blue Shield Comprehensive Medical Plans Network" will begin next month in 12 states. It will consist of 18 group-practice and individual-practice prepayment plans that will have uniform benefits and a single, nationwide premium that will permit the plans to offer reciprocal benefits to all members.

This news is based on information from non-FAA publications and does not reflect FAA policy or opinions.



Have you Looked Inside Your Benefits Portfolio?

How much are you worth? You are a capitalized asset on your job in FAA, but few of us ever think of our real net worth—a term we suppose is only for the rich.

But you should think about it, for after considering your house, a car, perhaps stocks or other real estate and even the clothes in your closet, your net worth really takes off when you tack on your investment in your job at FAA.

Hardly anyone is average in all respects, but we need something to gauge the career benefits available. Let's take a GS-11, Step 3, who has 30 years of service (just to be close to the big payoff of retirement). Without considering personal variables like premium pay, night differential, overtime, etc., the employee's pay is $20,547, or $9.87 an hour. But straight pay isn't all. There are nine holidays that are paid—that's $711 of leave built into your paycheck.

Then there's annual leave. If the employee hangs on to the ceiling before retirement, usually 240 hours, and hasn't used all of the current year's leave—say, he or she has a week left—there will be 280 hours to be paid. Tote up another $2,766.

We're not through yet. If sick leave has been used judiciously, the balance can be added to service time at retirement. You might easily have 1,500 hours, which translates into eight months and 11 days With the 30 years of actual service, which results in a 56 percent annuity, or about $10,900, this sick leave would add 1.3 percent, or another $141 a year to the annuity.

And take a look at the annuity itself. Not counting cost-of-living adjustments, a 55-year-old retiree could expect to collect a total annuity in excess of a quarter of a million dollars! Try to buy that with a bank's Individual Retirement Account (IRA).

On-the-job initiative also can produce gains. Cash awards, as well as additional consideration in bidding on jobs, can result from your participation in the Suggestion Awards program and from efforts that bring Quality Within Grade increases, Special Achievement Awards and other honors.

That's the cold cash. But if you were our GS-11 employee, you also would have a $23,000 life insurance policy. And you can carry that free of premiums and the optional insurance right into retirement. At age 65, they'll stop charging you premiums on the optional insurance. At that point, however, both policies' face values will begin to decline two percent a month until they reach 25 percent of their original face values. At that age, though, you won't need so much insurance, except as a bonus in your estate for your children.

Your health-insurance protection is generally better than you can get elsewhere. It can't be canceled by the plan and no medical examination is required to get it. As with the life insurance, if you've been a Federal employee and covered for the last five years before retirement, you can carry the health benefits right into retirement. If you've provided for a survivor annuity, the survivor can keep the health benefits.

Much of this discussion of benefits revolves around retirement, so what about retirement itself?

As the chart at right shows, there are a number of ways to retire, depending upon one's circumstances, health and career field.

An air traffic control specialist has available retirement under PL 92-297. This is a definite advantage if total government service is under 27 years, since a minimum annuity of 50 percent is guaranteed for those controllers and first-line supervisors who have 20 years of controlling air traffic and are 50 years of age or have 25 years at any age. There is no reduction in annuity for being under 55 years of age, as there is under optional retirement, except for firefighters.

Optional retirement is the usual form for everyone else and begins at age 55. Should it begin earlier, such as with Discontinued Service—otherwise known as Early Out—there is a reduction in the annuity of two percent per year below the age of 55.

A Deferred Annuity is where you leave the government too early—in terms of age or years of service—to qualify for an annuity, but you leave your contributions in the retirement fund. You are then eligible for whatever annuity you've earned when you reach age 62.

When it's your time to think seriously about retirement—and that could be up to five years before you take the plunge—ask for retirement counseling, and let your Personnel office check the completeness of your papers and do the computations for you. In the meantime, you can ballpark your annuity by subtracting two from your years of service and multiply the remainder by two to obtain the percentage of your high-three-years average salary.

As long as you have five years of Federal service, you may be eligible for a disability retirement if you are disabled and no longer able to perform your job. The amount of the annuity depends on your salary, age and length of service but does have a guaranteed minimum. If service is less than 21 years and 11 months, the minimum disability annuity is the lesser of 40 percent of your high-three average salary or the normal percentage of your high-three salary based on actual service, plus the difference between your present age and age 60. This last computation is based on compensating the disabled for the years lost in their careers.

If your disability is believed to be job-related, you can apply for both disability retirement and benefits from the Office of Workers' Compensation Programs (OWCP). You won't get both at the same time, but you can choose the better deal. If you elect OWCP benefits, unless you are certainly permanently disabled, it's best to leave your contributions in the retirement fund in case compensation benefits cease. It's also desirable for protecting survivor benefits if death should come from causes other than those on which OWCP compensation was based. Among the advantages of the OWCP compensation are that it isn't subject to Federal income tax. Moreover, you may receive up to four years of training at government expense for other employment.

There are other benefits to working for FAA that don't appear on the payslip. Medically disqualified controllers may receive consideration for current vacancies if they meet the qualifications for employment elsewhere in FAA or the Federal government. Like employees anywhere in the country, you are entitled to unemployment compensation, and the government picks up the tab for it.

Then, too, there's the value of training provided free—whether the technical training at the FAA Academy, the supervisory training at the Management Training School or the myriad self-development opportunities with correspondence courses, cooperative and formal education and work-study and directed-study courses.

Career development is enhanced with opportunities in long-term training; basic, mid-level and executive development; upward mobility; Presidential Intern program; Intergovernmental Personnel Act Mobility program; DOT Intern program; assignments with international organizations; and internal exchange to positions overseas, the Academy, NAFEC and headquarters.

Truly, your career in FAA is a sizable investment to manage and make prosper. Take advantage of the "investment specialists" in your Personnel Management Division for more information and to help make your "portfolio" grow.

TYPES OF RETIREMENT AND ELIGIBILITY REQUIREMENTS

TYPE OF RETIREMENT	MINIMUM AGE	YEARS OF SERVICE REQUIRED	SPECIAL REQUIREMENTS
Optional	62	5	None
Optional	60	20	None
Optional	55	30	None
Optional for ATCS subject to PL 92-297	50	20	Must have been actively engaged in or the immediate supervisor of one who is engaged in the separation and control of air traffic for entire service period.
"	Any Age	25	
Optional for Firefighters	50	20	A minimum of 20 years must have been served performing civilian firefighting duties.
Discontinued Service	Any Age	25	Separation must be involuntary without cause.
"	50	20	
Mandatory Age Separation			
ATCS Subject to PL 92-297	56	20	Applies to persons whose original ATCS appointment is after 5/15/72.
Firefighter	55	20	The entire 20 years must be involved in civilian firefighting duties.
Deferred Annuity	62	5	Must leave lump-sum credit in Retirement Fund.
Disability	Any Age	5	Must be totally disabled for service in his/her position or any other position of the same grade or class.

The President Launches the New NAFEC

NAFEC Director Robert Faith and Administrator Langhorne Bond (second from right) clasp hands in joy as President Carter and other FAA and New Jersey dignitaries applaud the successful ground-breaking detonation via voice-actuated computer.

The President said "yes" and the earth opened up, along with a new era for NAFEC.

Before a crowd of 6,000 on September 20, President Carter broke ground for a new $50 million Technical and Administrative Headquarters Building. The ceremony made use of an experimental voice-actuated computer being developed for flight service station automatic preflight weather briefings.

The computer greeted the President, instructed him what to say and when, and told him how and where the ground-breaking explosive charge would be detonated.

To the 2,000 FAA employees who have been working here in World War II-vintage buildings, the blast signaled both the start of the two-year construction project and the permanence of NAFEC at the airport and test complex 12 miles northwest of Atlantic City, N.J.

The President told the gathering that "Throughout its 20 years of existence and service, this facility has led the way in development of new technologies for civilian air flight, which have given our nation the safest possible record in the air of all modes of transportation."

Now a new structure is under way that will house about 1,600 employees and over $100 million of advanced computers and other electronic equipment to further the pursuit of greater aviation safety and efficiency. Those NAFEC employees working out of the relatively new hangar/office structure, the Crash/Fire Rescue Station and the aero research and development test facilities will remain there.

Being built by the Atlantic County Improvement Authority for lease to FAA, the Technical and Administrative Headquarters facility is expected to be completed by June 1980. It will be more than 900 feet long and 350 feet wide, incorporating 516,000 square feet of floor space, of which 412,000 square feet will be net usable space.

The building will consist of a two-story section surrounded on two sides by a larger, four-story main section. These will be separated by a skylight-covered, landscaped courtyard.

The two-story unit will house the ATC System Laboratories—the NAS En Route System Support Facility, the NAS Terminal System Support Facility, the Terminal Automation Test Facility, the NAS 9020 Central Computer Complex, the NAFEC Data Processing Facility, the ATC Digital Simulation Facility, the Flight Service Support and Enhancement Systems and all the subsystems and equipment needed to support these laboratories. On the roof will be installed NAFEC's new Experimental Tower Cab.

Across the central courtyard, or mall, the main building will house Administration, Central Services and General Laboratories and Technical Support Services. Each level of the ATC building will be connected by bridges across the mall. The General Laboratories and Technical Support Services area will include range operations, flight simulation, a high-bay laboratory, graphic arts, printing and distribution, equipment testing, a radar distribution and main frame area and the engineering offices.

Most of the offices will follow a modular design concept, with movable partitions used to create functional work areas. Visual breaks will be used to avoid a massive open-bay image.

The exterior of the building complex will be of buff-colored precast concrete, brick and earth-colored tiles. The parking lots will accommodate about 1,200 cars. Due to the facility's proximity to the Atlantic City reservoir, great pains are being taken to protect the watershed area and insure the purity of the water supply. Oil-water separators and a sedimentation pond will be used to improve the quality of water runoff from the site.

Phase 1 of the building program between 1964 and 1968 saw the construction of a new hangar and operations building, a new aircraft ramp, new taxiways, a lengthened main runway, a central utility plant, a CFR station and roadways. Phase 2 is the current construction. Phase 3 being planned for the future calls for new warehouses, material support facilities and maintenance shops for vehicles, buildings and grounds.

LOBBY/COURT

Robert A. Yannetti, program requirements engineer, was responsible for getting users' requirements into the architect's design.

Thomas F. Brennan, Jr., manager of NAFEC's Building Program Management Staff, has been with the program since its inception with Phase 1.

Heads Up

AERONAUTICAL CENTER

Roy L. Wofford has advanced from section chief to chief of the Special Equipment Maintenance Branch in the Facility Support Division.

ALASKAN REGION

Now an assistant chief at the Nome FSS is **William E. Nelson** . . . **Richard P. Kauffman** of the Anchorage FSS/IFSS has been selected chief of the Big Delta FSS . . . Named chief of the Nome FSS was **Norman R. Weeks,** an assistant chief at the Fairbanks FSS . . . **Robert D. Bruner** has been promoted to chief of the Data Processing Branch in the Management Systems Division.

CENTRAL REGION

Boosted to assistant chief at the St. Louis FSS was **Clarence E. Pyles** . . . Assistant Chief **Elbert G. Parks** of the Springfield, Mo., FSS has been promoted to the same job at the Kansas City FSS . . . A new assistant chief at the Omaha, Neb., FSS is **Floyd L. Switzer** from the Kansas City FSS . . . Elevated to assistant chief at the Wichita, Kan., Tower was **Arthur E. Gumtau**.

GREAT LAKES REGION

Moving into an assistant chief's slot at the Rockford, Ill., FSS was **Robert W. Greiner** of the Aeronautical Center . . . **Harold M. Fairbanks,** the assistant manager of the Lansing, Mich., Airway Facilities Sector, has transferred to Grand Rapids, Mich., as sector field office chief . . . **Walter T. Daigle, Jr.,** of South Bend, Ind., is now a field office chief in the Midway Airport AF Sector in Chicago . . . **Theodore A. Wendland, Jr.,** who hails from the regional office, is now chief of the Minneapolis Airport District Office . . . **Roe C. Kincannon** has been promoted to chief of the Air Carrier Branch of the Flight Standards Division . . . Selected chief of the Janesville, Wis., Tower was **Harold L. Arneson . . . Harold L. Nordstrom** headed south from the Fairbanks, Alaska, FSS to take the same post of assistant chief at the Alexandria, Minn., FSS . . . Sector manager **Bobby J. Lutes** of South Bend has gotten the job of field office chief at the Indianapolis Hub AF Sector.

NORTHWEST REGION

Promoted to assistant chief at the Boise, Ida., Tower was **Richard M. Mitchell** . . . The Spokane, Wash., Tower has a new assistant chief in **Steven F. Ward,** who hails from the McChord AFB RAPCON in Washington . . . Also from McChord is **Rex K. Pugmire,** who was named an assistant chief at the Boise Tower . . . The Boise Tower gets another assistant chief in **Edward M. Gass** from the Las Vegas, Nev., Tower.

ROCKY MOUNTAIN REGION

Assistant chief **Benny A. Notti** was selected as deputy chief at the Denver FSS.

SOUTHERN REGION

Victor C. Byrd has left the Memphis, Tenn., FSS to take an assistant chief's slot at the Dothan, Ala., FSS.

WESTERN REGION

William B. Jones, chief of the Salinas, Calif., FSS, has transferred to the Fresno, Calif., FSS as its chief . . . The new field office chief of the Red Bluff, Calif., Nav/Comm Sector Field Office is **Norman L. Miller** . . . **Wiley P. Sewell** has taken a transfer from chief of the Fresno FSS to assistant chief of the San Diego FSS.

Word Search Answer

Puzzle on page 12

B	O	N	A	N	Z	A	T	R	O	P	S	E	N	A	L	Y	K	S	A
U	E	A	R	T	C	E	L	E	R	C	O	U	P	E	C	O	B	E	T
S	R	L	A	N	C	E	D	V	Y	E	U	H	H	R	E	J	K	Y	F
H	I	R	L	N	S	E	T	A	G	F	T	C	N	O	R	A	B	L	A
M	A	E	P	A	W	N	E	E	G	H	A	S	D	C	L	V	H	F	R
A	G	N	M	V	N	A	L	B	O	P	K	U	A	O	J	A	I	N	C
S	N	Z	N	I	L	C	E	W	A	O	K	P	Q	M	E	N	T	O	R
T	I	A	V	O	U	T	A	R	Y	E	N	O	O	M	Y	S	R	G	O
E	K	R	N	N	W	R	G	O	O	S	E	L	U	A	M	K	X	A	L
R	E	T	R	A	D	Z	Y	R	E	N	W	O	D	N	U	S	S	R	Y
C	O	M	M	A	N	D	E	R	A	B	I	C	D	D	E	F	G	D	A
E	R	G	R	U	M	M	A	N	S	S	E	C	H	E	A	G	C	A	T
B	O	B	U	C	E	N	T	U	R	I	O	N	A	R	R	O	W	I	J
M	C	I	M	E	L	K	T	E	D	S	M	I	T	H	C	H	I	E	F
O	K	R	S	T	T	I	P	A	C	E	R	G	N	E	H	A	D	N	A
C	W	D	T	Z	S	P	R	Q	P	B	B	O	N	L	E	R	G	I	L
S	E	D	U	A	I	R	C	O	U	P	E	V	W	I	R	R	E	L	C
U	L	O	Z	P	E	G	A	S	U	S	E	Y	X	O	K	E	O	R	O
L	L	G	E	E	K	O	R	E	H	C	C	A	B	C	D	I	N	E	N
A	I	R	B	A	T	I	C	K	W	A	H	Y	K	S	F	S	V	M	E

DIRECT LINE

Q **Could you clarify the procedures to be used when separating Special VFR (SVFR) aircraft from other SVFR and IFR aircraft without radar? When a direction to depart or enter the control zone is specified by air traffic control, must the pilot comply or may he deviate to remain clear of clouds without advising ATC? If, for example, an aircraft is cleared to depart the control zone to the north SVFR and departs Runway 36, can the tower release an IFR aircraft to the south from Runway 18? Must the tower wait until the SVFR departure is clear of the zone or is runway separation sufficient?**

A When you include a direction in an SVFR clearance, the pilot is expected to comply with the entire clearance, including the direction specified (see FAR 91.75). However, all SVFR flights must comply with the "clear of clouds" criteria specified in FAR 91.107. If deviation from the SVFR clearance is necessary to remain clear of clouds, the pilot is expected to advise the tower and obtain an amended clearance. A pilot may circumnavigate clouds while continuing to proceed in a northerly direction and remain in compliance with a clearance to depart the control zone to the north, but any deviation from the "northerly" direction would require the amended clearance. Thus, when direction is specified in an SVFR clearance, separation of other aircraft, whether IFR or SVFR, may be based on pilot compliance with the clearance. The separation used is that prescribed in Handbook 7110.65A (see 7110.65A, Para. 473—Note). In the example you gave, diverging course minima (see 7110.65A, Para. 340) could be used, since the directions specified in the clearance would ensure that the departure courses diverge by more than 45 degrees. There would be no need, in your example, to protect the entire control zone or to wait until the SVFR aircraft had departed the zone.

Q **I read the "Direct Line" item in the July issue on travel to training assignments with great interest. It may be "necessary to start training at times that result in employees traveling on their normal non-work days" when the government has no control over the courses being offered by the private sector. This is not the case for most courses at FAA's own facilities in Oklahoma City and Lawton. A case in point is a two-week course I took on Management for Program Managers, which began on a Monday and ended on a Friday. Lodging was in a dormitory used exclusively by participants in FAA courses. Classroom instruction was in a classroom used exclusively for FAA courses, and the course was taught by instructors who taught only FAA courses. It seems totally unreasonable that this and similar courses must begin on Mondays and end on Fridays, forcing FLSA-exempt employees to travel on their own time and with no compensation. It appears that this scheduling is purely for the benefit of the government: It reduces *per diem* by two days and reduces the time absent from the regular job by about two days. I appreciate additional training and don't mind traveling on my own time to get it, but that's not true of everyone; yet whether we're recompensed or not depends on whether we're FLSA-exempt or not. We ought to be allowed to travel on government time, but if not, all of us should be stuck for it. Where is the equality in this? Will Title 5 be changed to correct this inequity?**

A Your query surfaces two basic issues. The first is the overtime-pay provision in the Fair Labor Standards Act (FLSA) amendments relating to exempt and nonexempt employees in a travel status. The act establishes these two categories of employees by law. The intent of FLSA is to provide compensation for nonexempt employees who, by necessity, must travel during their duty hours on their regular days off. There are no known plans to change or modify this law. The second issue deals with the administration of the training courses. There are several ways the agency could schedule classes that would permit employees to travel during duty hours. However, each of these possibilities would require work days of 12 or 13 hours while at MTS or would require holding students over at MTS for one or two additional weekends. MTS training courses have been validated during the developmental phase and during operational tryout of each course. In addition, the cost benefit of rescheduling courses to accommodate student travel during duty time has been studied; it would increase the cost by 10,000 additional student days each fiscal year. After careful review of each possibility and of comments by FAA employees attending MTS courses, the agency decided to continue as presently scheduled.

Is there something bugging you? Something you don't understand? Tell it to "Direct Line." We don't want your name unless you want to give it, but we do need to know your region. We want your query, your comment, your idea—with specifics, so that a specific answer can be provided. All will be answered here and/or by mail if you provide an address.

Better two-way communication in "Direct Line" is what it's all about.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Washington, D C 20591

Postage and Fees Paid
Federal Aviation Administration
DOT 515

U.S.MAIL

Mr. Claus Gets an Exemption

FAA has given a legendary Arctic aviator the green light to conduct a series of philanthrophic flights during the evening of December 24 and the early morning hours of December 25.

Acting favorably on a petition from the aviator, the agency issued a "Grant of Exemption," which permits him to deviate from certain flight rules and other operational requirements in carrying out his mission. FAA held that the exemption would serve the public interest and would not create a hazard to other aircraft or to persons or property on the surface.

The exemption expires at dawn on Christmas Day unless sooner superseded or rescinded.

As a result of the FAA action, the petitioner in this case will be relieved of the requirement for certificating his aircraft in accordance with the airworthiness standards of Federal Aviation Regulation (FAR) Part 23, which covers normal, utility and acrobatic-category aircraft. FAA maintained that the aircraft in question is unique and does not appear to fall within any of the above categories. Nevertheless, it has a demonstrated capability to maintain safe and level flight.

Also waived are the experience, knowledge and proficiency requirements for a pilot's license under FAR Part 61. The agency noted that the petitioner has compiled a perfect, accident-free safety record over a period of many years, and the application of formal testing procedures in this instance would constitute an unwarranted expenditure of government funds. Besides, FAA conceded that none of its inspectors have sufficient experience with the aircraft in question to administer the required flight check.

The exemption further recognized the petitioner's status as a once-a-year flyer by waiving the FAR Part 61 requirement that he must have certain, specified flight experience in the preceding three months in order to carry passengers. FAA pointed out that requiring him to fly without his helpers would jeopardize the success of his mission and impact adversely on his employment of certain minority persons—i.e., elves.

Other waivers relate primarily to the "General Operating and Flight Rules" contained in FAR Part 91. These include:

- 91.67 and 91.68—The petitioner has the right of way over all other aircraft—including balloons, gliders, airships and rotorcraft—in order to complete his mission within the designated time frame. Quoting from Robert Frost, the agency noted that the petitioner has many "promises to keep and miles to go before he sleeps."
- 91.73—The petitioner is authorized to operate without prescribed position lights in order to prevent detection by small, wide-eyed children.
- 91.79—The petitioner may fly below prescribed minimum altitudes, which are 1,000 feet over cities and towns and 500 feet over open country. Petitioner normally operates at rooftop level.
- 91.13—Rule against dropping objects from aircraft in flight may be ignored. This will permit the petitioner to drop brightly-wrapped packages, as well as himself, down chimneys.
- 91.31—Petitioner may disregard aircraft identification and marking requirements in order to preserve his anonymity.
- 91.17 and 91.18—The petitioner is authorized to tow extra sections in order to meet the needs of the world's growing population, provided he displays a long white banner after the final section which states in red letters:

Merry Christmas to all from the Federal Aviation Administration