

PLANES

NEWS OF THE
AVIATION
INDUSTRY

ALL MATERIAL
MAY BE
REPRODUCED

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Warns Against Any Return To Prewar Research Level

The following was written especially for PLANES

by Senator Harley M. Kilgore, Military Affairs Committee
Special Committee to Investigate the National Defense Program

The global war which has ended with victory of the United Nations over the forces of German Nazism and Japanese militarism was a conflict in which science and technology were crucial as never before in the history of the world. This fact was brought into its most dramatic focus by the development of atomic power as a weapon of war. Of comparable importance was the wartime miracle of radar; of jet and rocket propulsion, and in a dozen laboratories there were developments which, if less spectacular, added their weight to the final victory.

The United Nations won the battle of science and the battle of production, upon which military victory was built. It is a sobering thought to realize that we might not have won it. We must not forget that we did win by a full and concentrated mobilization of our scientific and technical resources.

AIR LEAD STRESSED

Technological development is crucial to our peacetime prosperity no less than to our survival in war. It takes little vision to see that we are at the very beginning of a new scientific age. Both our future security and our national well-being require that we do not go back to prewar levels of research activity. We cannot afford to dismantle our laboratories and research facilities, nor to waste the abilities of our technicians and scientists. Aeronautical research and development most particularly must be pressed forward in this field be maintained.

During the war years our Federal expenditures for research increased more than ten-fold. There is no easy answer to the question of the extent to which Federal expenditures should be continued.

ASKS SYSTEMATIC RESEARCH

The postwar increase in research from private sources, the level at which the nation's research activities need to be maintained, must be considered in the answer. But I believe it is self-evident that our national interest requires that some scientific activity be provided for systematically as a part of our normal governmental functions.

The bill which Senators Johnson and Pepper have joined with me in introducing proposes to establish a National Science Foundation which would examine all Government-financed research and development activities and recommend to the agencies concerned and to the President such changes as appear desirable.

AID TO SMALL BUSINESS

The Foundation would establish a Research Committee for National Defense and a Research Committee for Health and the Medical Sciences to approve all government military and medical research contracts. The Foundation would promote research in the fields of basic sciences, natural resources, methods and processes beneficial to small business and peacetime uses for wartime facilities.

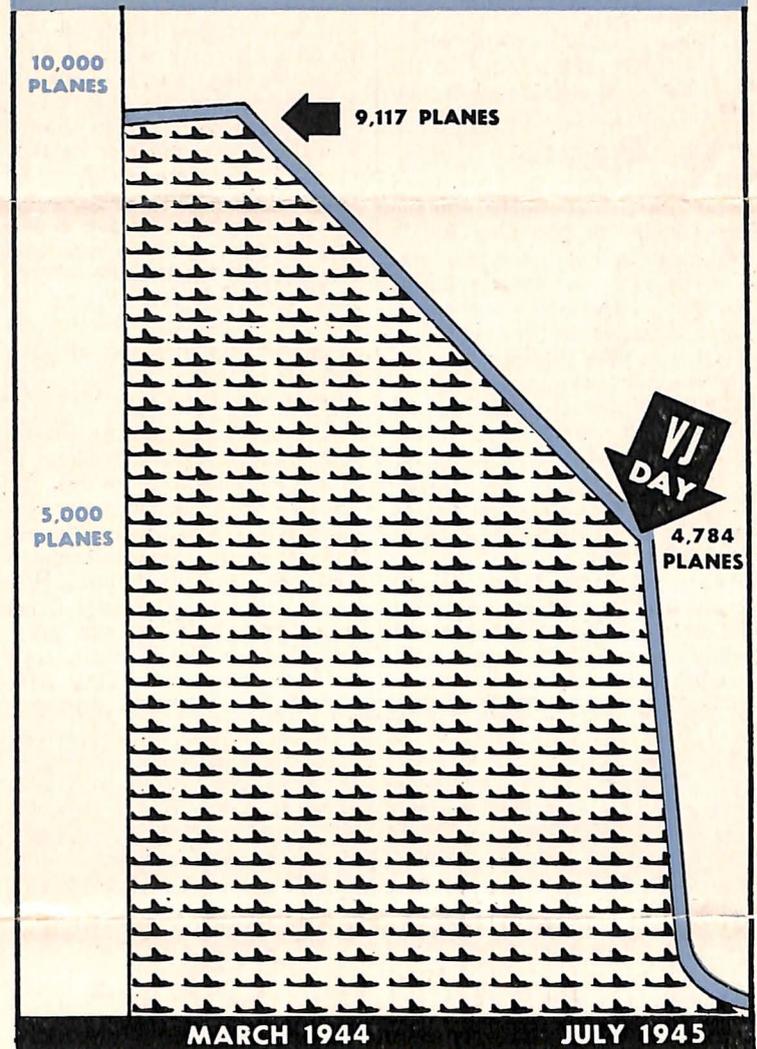
At least half of the Foundation's funds would be spent through contract with non-profit educational institutions and research institutions. The Foundation would be authorized to acquire new facilities but all research would be done under contract and the Foundation would operate no facilities itself.

DATA TO BE PUBLIC

The Foundation would be required to make public full data on all significant findings. Inventions and discoveries resulting from Government-financed research would become generally available through royalty-free non-exclusive licenses.

I believe that such a National Science Foundation can do much in the years immediately ahead

MILITARY AIRCRAFT PRODUCTION REDUCED BY 97.5 PERCENT



Military aircraft production program has been slashed back to the 1939 level. Present outlook is for approximately 2,400 aircraft in the combined Army and Navy experimental and production program for 1946.

Aircraft Industry to Develop Air Missiles

The aircraft manufacturing industry is being given the primary responsibility of design and development of guided missiles and similar airborne weapons which are expected to be the backbone

to provide for our national security and to promote our general welfare.

of the air force of the future.

This responsibility is being placed on the industry by the Army Air Forces and the Navy Bureau of Aeronautics which recently were given control of procurement and production of missiles which depend primarily on aerodynamic forces. Missiles or projectiles which depend on momentum for sustenance in flight will remain the responsibility of the ordnance branches of the armed services.

Model Plane Building More Than A Hobby, It's Aviation Education

Because it boasts three million zealous practitioners, model airplane building today is the nation's No. 1 hobby and, under the impetus of war-glamorized aviation, is still spreading like a raging grass fire.

Model construction kits and accessories became a \$15,000,000 a year business before the war and few doubt that suppliers can prevent this interest from snowballing to the tune of \$60,000,000 annually within a few years—if they wanted to.

(This potential is nearly equal to the 1929 sales volume of the basic aircraft manufacturing industry).

USE GAS ENGINES

Launched on a rubber band (literally), the model plane sport today is becoming highly technical with gas-powered creations bigger than their youthful creators competing for space with their full-scale big brothers.

Of watchlike precision, the little engines turn up as high as 8,000 revolutions per minute, and can thrust their hand-made planes over roof tops at better than 100 miles per hour. Long-range designs have flown as far as 300 miles, have stayed aloft as long as 12 hours.

Even jet-propelled models have made their appearance. One jet kit went on sale at hobby shops while most adults were still reading the sensational announce-

ment of America's first jet-propulsion fighter plane.

A few have experimented with rocket-propulsion, taking their tip from the July Fourth sky-rocket, while some of the older and more technical-wise enthusiasts have even mastered the intricacies of radio-control.

LESSONS ARE PRIZES

But for the vast majority of the teen-age artisans, it still is a rubber-band and glue-pot technology with blue prints furnished with each construction kit. And they spend an average of about \$4 a month on these kits, according to a recent survey.

The same survey also showed that the average modeler wants to own his airplane some day. Of those interviewed, 69 per cent expressed a preference for a particular type, while others said they would "wait and see" the postwar models first. Flying lessons are beginning to replace cups as prizes in model airplane contests.

INSURANCE AVAILABLE

The sport has its own official sanctioning body, the Academy of Model Aeronautics which by means of \$1 a year license system effectively controls official meets and safeguards against exploitation. For another dollar a year model builders can insure themselves against injury and property damage should their craft sail out of control. They have

PLANE QUIZ

A 70 per cent score on this quiz is excellent. Sixty per cent is good. Answers on Page 4.

1. Peak military aircraft production was 96,369 in 1944. Next year's schedules for military aircraft call for approximately (20,400), (12,400), (2,400) aircraft?
2. A dirigible is lighter than air. True? False?
3. All jet-propelled airplanes have gas turbine engines. True? False?
4. Did the helicopter see active service during World War II?
5. Airline fares generally are (higher) (lower) than rail plus pullman fares?
6. A majority of the public believes



that the country (does) (does not) need more airports?

8. The aircraft manufacturing industry employed as many as (6,000), (486,000), (144,300) women during peak wartime production?
7. Is the CAA a temporary war agency, soon to be disbanded? Yes? No?
9. The basic design of military aircraft is the responsibility of (government research agencies), (armed services), (the aircraft industry)?
10. There are approximately (1,500), (3,000), (10,000) communities in the nation without landing facilities for airplanes?



found it's the cheapest way to pay for broken windows.

Model plane building, however, is more than a business—or a hobby—it is education sugar-coated.

Aviation education breeds air-mindedness and only from this can stem the fullest appreciation of the implications of the airplane to human welfare, including military security.

Editors Predict Aircraft Boom

Editors of country newspapers, in answer to a survey by The American Press, predict that rural America will purchase 500,000 planes within five years.

This latent market was predicted after interviews with editors in towns under 10,000 population.

Predicating their estimates upon a wide availability of landing fields, 91 per cent of the editors reported that either an airpark already was available within 10 miles of town or that plans for one were underway.

Farmers, according to the editors, will use the planes for flying baby chicks to market, crop dusting, herding and locating cattle, hunting and fishing and "just flying." Three quarters plan to use the craft chiefly for "family transportation and pleasure," 65 per cent for business purposes and 22 per cent for farm use.

On airpark financing, 71 per cent of the rural editors believe that the Federal government should at least share a part of the burden of providing funds; the replies varying from full government financing to complete private ownership. Most believed that community airparks should be shared 50-50 by private and government funds.

Seek Impetus To Air Marker Plan

There is increasing concern in aviation circles that the present voluntary system of air navigation marking must be implemented with funds if this national project is to keep pace with other personal flying developments.

Admittedly one of the most important prerequisites to private flying, the marking program under the Civil Aeronautics Administration has had to rely to date on voluntary assistance of state and local government and civic groups to finance and promote air marking.

START FROM SCRATCH

The CAA, whose national goal is 100,000 markers, is starting from "scratch" as a result of the enforced obliteration of markers during the war as a security measure.

The CAA, through Miss Blanche Noyes, Air Marking Specialist, for the Bureau of Federal Airways, is seeking the nationwide adoption of a uniform marking system based on studies and tests made over a period of years.

FUNDS NEEDED

Although several states are aggressively assisting the promotion of marking small towns and communities, it is feared that the CAA will fall far short of its 100,000-marker goal without funds to allot for the purpose. It is estimated that a community can suitably mark its location for as little as \$25.

Those seeking an answer to the problem point out that air markers are far more necessary to navigation by the air traveler than are road signs to the touring motorist.

BASIC RESEARCH
GOVERNMENT 15%

APPLIED RESEARCH
85% INDUSTRY

CALCULATION
4.5%



DESIGN
10%



TEST
10%



FABRICATION
70%



FINAL REPORT
5%



TEST FLIGHT
5%



"PLANES"

Private aircraft industry provides vast majority of research and development time, money and skill in making Uncle Sam's aircraft the finest in the world.

Veterans Plan Carefully Before Starting Your Airpark

The following was written as an aid to the many veterans and others who have asked us how to start and operate airpark enterprises.—EDITOR

Many returning veterans, as well as civilians, dream of their airpark with personal aircraft sales agencies, flight instruction, charter service, hangar and maintenance facilities, candy, magazines and hot lunches all coming into a flow of cash into the owner's pockets. The next question is: "Where do I go from here?"

Frankly, only the individual himself can fully answer that question. A fundamental consideration is the risk involved in the ownership of an airpark and the accompanying responsibility of real estate problems.

First step is to ascertain if your community plans a municipal airpark, if not now, at any time in the foreseeable future. (Chances are it does!) If so, give serious consideration to the competition involved and whether there will be enough business for both, before making plans for your own airpark.

An ideal arrangement is to lease the municipal airpark, thereby providing you with a tailor-made place of business and the city with active, capable operation of its facilities. However, if you would prefer to own your own facilities, there are two fundamental considerations that are entirely up to you: financing and the acquisition of a site. The other problems depend on local conditions.

Who: Make certain that you are qualified for the job of airpark owner-manager. Veteran pilots have a definite advantage over non-flyers and the best of all possible combinations is a pilot-mechanic team. Your former crew chief, for instance, might make a good man to operate the maintenance and servicing end of the business while you conduct the flying operations. A third essential member of the team, however, should be a businessman, one skilled in accounting, salesmanship and management. If it is to be a "one-man show," then you must have considerable knowledge of all these things, for an airpark is a business first and a hobby second.

Site: A large, open stretch of ground does not necessarily constitute an excellent location for an airpark. Factors in site selection should include accessibility to town, potential customers, public transportation between site and town, local cost of construction and the choice between high costs near town (desirable) and low costs away from town (undesirable). Both drainage and zoning problems must be considered.

Acquiring Land: After ascertaining the site for your airpark, make a thorough investigation of its ownership including all rights,

zoning restrictions in the area, character of the soil, the possibility of eliminating obstacles on nearby property, the possibility that drainage from your property might damage adjacent property and the possibility of the city providing telephone, power, water and sewage lines to the site.

Plans: Bear in mind the conceivable "ultimate" development of the facilities, say 20 years from now, in order that present modest plans will not constitute an obstacle several years in the future. The possibility of future feeder airline service through your town might be seriously considered within the scope of your plans.

Financing: No federal funds are available for the construction of a privately-owned airport. The required capital will have to be your own, relatives' or friends' or the local bank's. The amount required varies too widely to make accurate estimates.

Flying: Most of your income will come from the operation of a flying school, from charter flying and from old-fashioned "sight-seeing" tours. This, obviously, requires an airplane and you must put this down as your first item of expense. Liberal financing on new aircraft, comparable to automobile credit terms, can be anticipated.

Service: Oil companies will furnish and install tanks, pumps and handling facilities for oil and gas services as a part of their agreement with you. There are now available special prefabricated hangars in kit form as well as small administration buildings, maintenance shops, etc. Fuel, servicing, storage and minor repairs must be a part of your regular service for visiting aircraft.

Non-Flying Dollars: Concentrate from the start on acquiring as many non-flying dollar-producing items as possible. Coin vending machines, telephone booths, parking lot, magazines, candy, lunches, aircraft parts, accessories and supplies, rent from tenants and sale of power in local area, all help bring in much-needed cash.

Dealership: The establishment of an agency for the sale of a particular personal aircraft depends entirely on the individual company. A list of personal aircraft manufacturers may be obtained from issues of aviation magazines or from the Personal Aircraft Council, Aircraft Industries Association, 610 Shoreham Building, Washington 5, D. C. Most of these companies have attractive plans and very extensive services to offer their dealers.

Recreation: The airpark can and should become the community recreational center. Interested spectators, relatives, friends, all are part of the airpark scene. Swimming pool, tennis courts, parking lots, lawns and beach umbrellas should be available to accommodate airpark visitors and to bring additional revenue to you.

Assistance: You may wish to restrict your enterprise to the maintenance and operation of aircraft and flying services independent of airpark ownership. These might include gas and oil and concessions and maintenance and repair facilities. But whether you wish to operate an airpark in its entirety or limit yourself to one or more of its services, throughout your plans make use of the various government representatives in your area. You are freely entitled to their counsel and services and it is their job to answer just such questions as you have.

Following are the Regional Offices of the CAA:
REGION I, 385 Madison Avenue, New York 17, N. Y. (Maine, New Hamp-

shire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Delaware, West Virginia, Maryland, Virginia, District of Columbia.)

REGION II, 83 Marietta St., N. W., Atlanta 3, Ga. (North Carolina, South Carolina, Tennessee, Georgia, Florida, Alabama, Mississippi.)

REGION III, 608 South Dearborn St., Chicago 5, Ill. (Ohio, Indiana, Michigan, Kentucky, Illinois, Wisconsin, Minnesota, North Dakota.)

REGION IV, P. O. Box 1689, Fort Worth 1, Texas. (New Mexico, Texas, Arkansas, Louisiana, Oklahoma.)

REGION V, City Hall Building, Kansas City 6, Mo. (South Dakota, Nebraska, Kansas, Colorado, Wyoming, Missouri, Iowa.)

REGION VI, 1500 Fourth St., Santa Monica, Calif. (California, Nevada, Utah, Arizona.)

REGION VII, Smith Tower Annex Building, Seattle 14, Wash. (Montana, Oregon, Washington, Idaho.)

Navy Scored in Air

A box score of Naval aircraft lost to the Japanese during World War II:

U. S. Navy Losses

1942	374
1943	312
1944	1,147
1945	948

Total 2,781

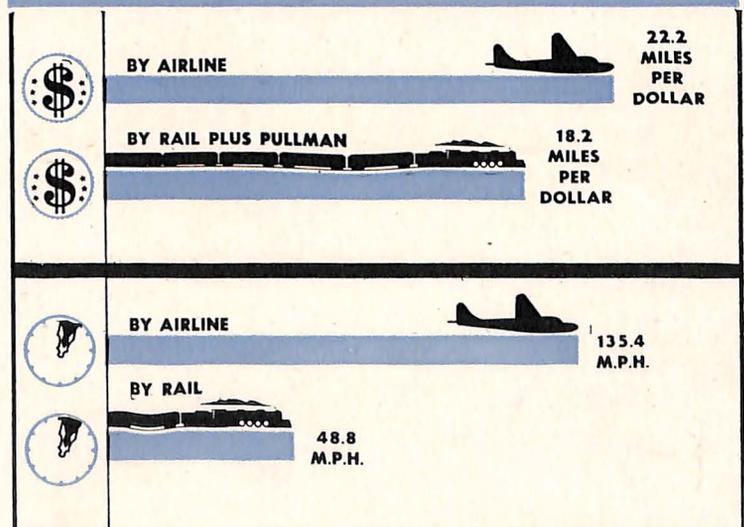
Total victories over the Japanese include 600 probable kills by anti-aircraft which were not seen to crash but which are judged to have been destroyed. A total of 353 "kamikaze" aircraft is *not* included.

Jap Losses

1941	26
1942	1,173
1943	1,809
1944	7,364
1945	6,739

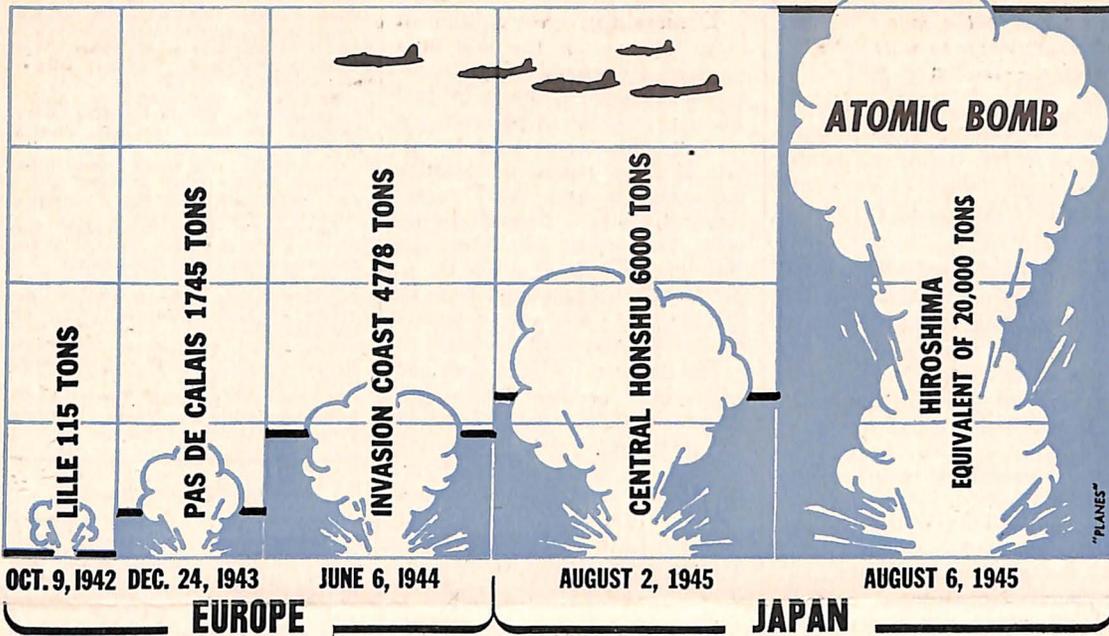
Total 17,111

FARTHER AND FASTER PER DOLLAR BY AIR



Recent air-fare cuts add economy to speed, comfort, safety and thrill of air travel advantages.

LARGEST SINGLE RAID TONNAGES OF THE WAR



Facts and Figures

Virtually all bombers on the design drawing boards now will have a speed of more than 3,000 miles per hour, greater than the fastest fighters of 1940.

The average airline trip has more than doubled in recent years. Whereas the average passenger flew 224 miles in 1930 he flew an average of 476 miles in 1943.

Because seasonal sales and quickly changing styles place a premium on speedy shipment of men's and boys' tailored clothing, this type of merchandise is expected to be one of the biggest potential markets for air cargo.

By the end of the war, the Germans had developed at least nine different models of jet and rocket propelled aircraft in addition to V-1 and V-2. Of this number at least seven had flown, either as prototypes or as production models.

There are approximately five certificated pilots for every certificated civil airplane in the United States according to latest available figures.

It requires three times to hire and train workers on tooling and get an plant into production as it does to construct the building and install the basic machinery.

The Army Air Forces plans to allot more of its procurement funds for the development of the guided missile than for any other single type of aircraft.

Answers to Plane Quiz

1. Approximately 2,400, less than 1940 production.
2. False. The Akron and Macon weighed more than 250,000 lbs. each. Buoyancy is provided by the weight of helium being less than the air it displaces.
3. False. The German V-1, first mass-produced jet-propelled aircraft, had no gas turbine engine.
4. Yes. On Atlantic anti-submarine patrol and for rescue work in Burma.
5. Generally lower than first class railway with lower berth. Railroad coach rates remain cheaper, however.
6. A recent independent poll showed 66 per cent believe more landing facilities are needed.
7. No. The Civil Aeronautics Administration, under various names, has been the governing body for civil aviation since 1926.
8. 486,000 during November, 1943.
9. The aircraft manufacturing industry.
10. 10,000. Only about 3,000 communities now have airports.

Foreign Interest in American Aircraft

Sixty per cent of inquiries from foreign groups seeking opportunities to buy or deal in American civil aircraft show interest in personal aircraft, a check of government and industry sources reveals.

A majority of requests received by the Aircraft Industries Association ask agency licenses from American aircraft manufacturers.

A breakdown of several hundred recent inquiries shows:

Personal aircraft	60%
Transports	14%
Helicopters	10%
Engines	8%
Instruments	8%

Many of the communications also ask technical and operative aid from manufactures and government civil aviation agencies.

Mr. Wright Shows Error

We were wrong and no less an authority than Orville Wright has proved us so.

In our Plane Quiz feature of the September issue, PLANES credited R. C. Fowler with completing the first transcontinental flight in January of 1912, based on information from standard reference works.

Mr. Wright reports that not Mr. Fowler but Calbraith R. Rodgers was first to cross the continent, completing a 50-day flight on November 5, 1911.

"Both of these men were trained at our flying school at Dayton, and both of them used Wright planes," he wrote.

We are corrected, Mr. Wright. Thanks.

Veterans Want Aviation Jobs

On the basis of a poll of 8,000 men in the Army Air Forces by the Personnel Distribution Command, 33% desire to remain in aviation. Of this group, the following plans were expressed:

Stay in the AAF	25%
Fly with airlines	13%
Test pilots, instructors, etc.	8%
Administrative jobs	10%
Own school or airline	5%
Undecided specifically	39%

Nineteen per cent expressed a desire to study aeronautical subjects. On school versus job, the following turned up:

Go to work	48%
Full-time school	20%
Part-time school and work	21%
Undecided	11%

Regarding salary expected, officers desired \$250 a month with \$350 in 10 years; enlisted men \$177 a month with \$275 a month in 10 years.

World's Largest Airline

At its peak, a few days after V-J Day, the Air Transport Command was operating a total of 2,860 major transport planes or a fleet nearly eight times the size of that operated by the combined U. S. domestic airlines. It is estimated that this global military airline carried 3,525,000 passengers in speeding the war effort, and of these, more than 300,000 were sick and wounded.

The British Admiralty has announced successful tests of a sea-going airport made up of hundreds of buoyant cans tied together to form a runway.



Today's giant airliner, nearing completion, could accommodate Columbus' 90-man crew in a single deck with room for 110 others; index to transportation progress.