Aviation News

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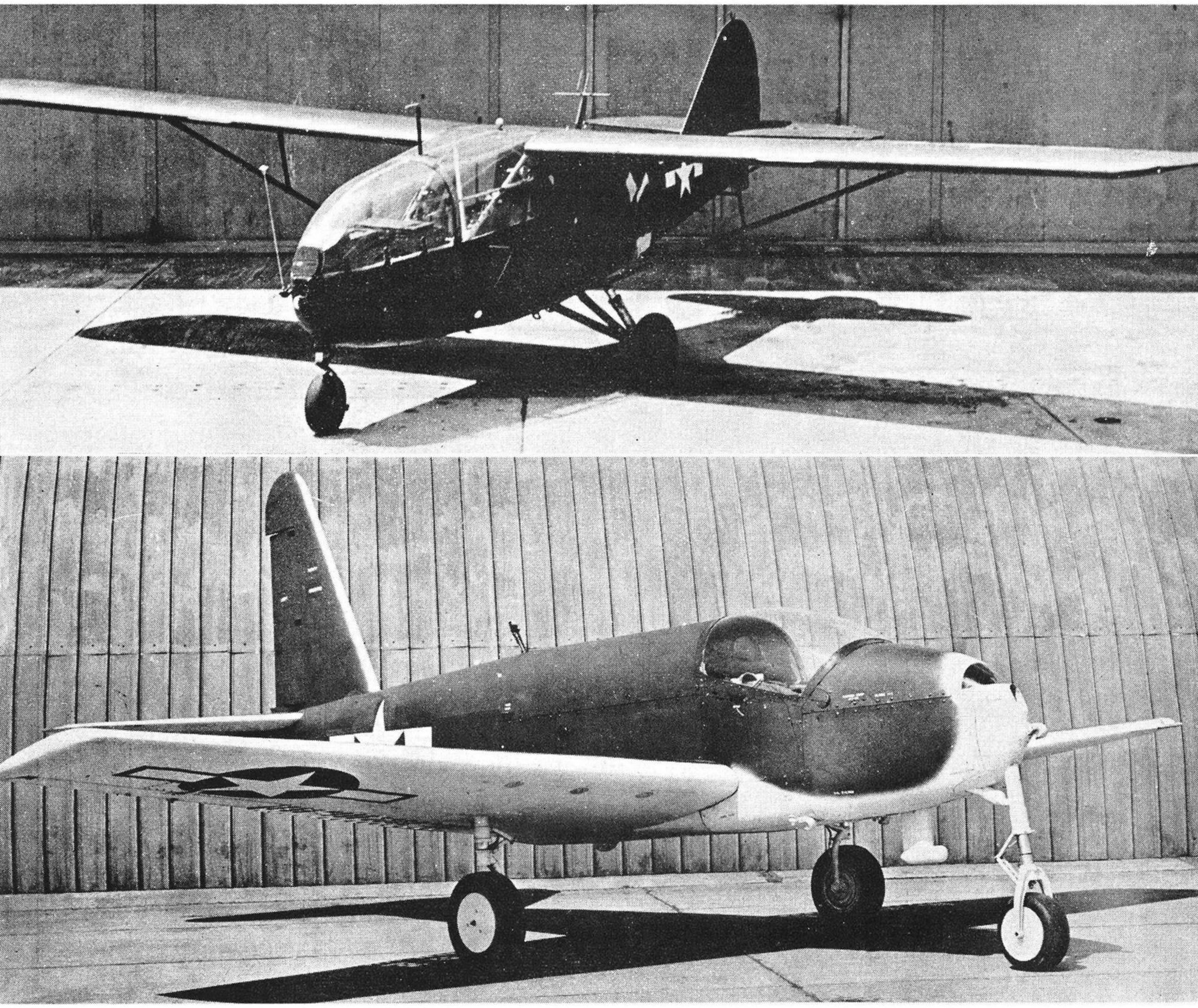


Navy's Glider Bombs: *Two of the war-developed aerial weapons that have just come off the secret list, the radio-controlled Taylorcraft-built glider, top, and the "glomb" (glider bomb), bottom. The Taylorcraft LBT-1 carries 1,670-lbs. of explosive at more than 280-mph., while the LBE-1 glomb carries an undisclosed bomb at 300-mph. Production of both has been discontinued.*

THE AVIATION NEWS

Washington Observer

COMPOSITE POWERPLANTS — The Navy's recent report on research stirred some speculation regarding composite powerplants. While stating that a composite powerplant, consisting of a reciprocating engine and a jet unit, has great promise, Navy declared this type particularly effective "for dive bombers, torpedo bombers and long-range patrol land planes." The Ryan *Fireball,* the Navy's most recent unconventional aircraft, has a composite powerplant and is a fighter but no mention was made of fighters in the Navy comment.

* * *

POST-WAR CARRIERS—The Navy's aircraft carrier fleet fared well under legislation just approved by the House which expresses the "sense" of Congress that the Navy should maintain three carriers of approximately 45,000 tons; 24 carriers of approximately 27,000 tons, 10 light carriers of approximately 11,000 tons and 79 escort carriers. That is the present composition. The legislation lacks the effect of law, however, and is merely an expression of congressional intent for Navy guidance.

* * *

SURFACE CARRIERS OUT—Close observers here see virtually no chance for a change in CAB opinion that surface carriers should be kept out of trunk airline operation. Bolstering this belief is the report that President Truman let it be known a few days ago he agrees with this interpretation of the Civil Aeronautics Act. Some steamship executives recently have been holding hope CAB would change its views in the Latin American route decision expected soon.

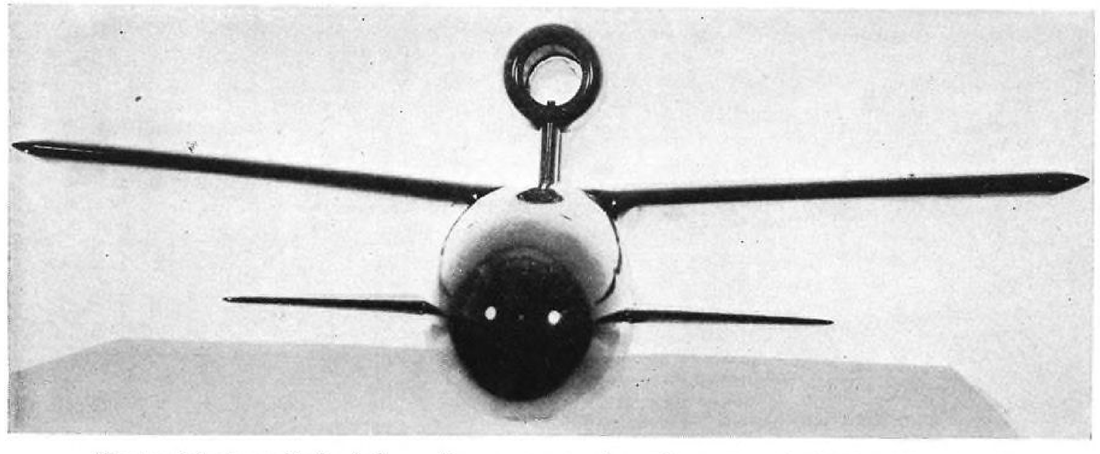
STATE JURISDICTION—CAA will make a strong attempt to resolve once and for all the question of respective jurisdiction by the federal government and by the states at the meeting of the National Association of State Aviation Officials, opening today in St. Louis. Representatives of NASAO some time ago agreed, subject to association approval, to CAA proposals on the matter, but CAA has some additional ideas it hopes will be accepted at St. Louis.

* * *

SURPLUS ENGINES—Latest proposed use of surplus aircraft engines is in pumping, electric power and other stationary installations needed in China. In response to inquiry, Chinese engineers in Washington say tests have been under consideration but small hope was held for success.

* * *

CONGRESSIONAL VIEWPOINT — Perhaps epitomizing a Congressional return to a peacetime viewpoint so far as military aviation expenditures are concerned is the following exchange between Gen. Arnold and Rep. Clarence Cannon (D-Mo.), chairman of the important House Appropriations Committee: Rep. Cannon—Gen. Arnold, your name has become synonymous with winged victory. We owe credit to a great many people for victory in this war; we owe a composite credit; but we certainly owe as much to you, if not more, than to any other one man. Gen. Arnold—Thank you very much Mr. Chairman. Rep. Cannon—We believe we will be able to save a great deal of money in your branch of the service, General. Your service is a very costly one. . . .



The model of a guided missile, a Navy weapon, planned to carry 1,000-lbs. of general purpose explosive to the target at 400-mph. The ring at the top houses the powerplant.

AVIATION NEWS

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Advertisers Index

News at Deadline

Surplus Prices

Various methods of arriving at a purchase price for surplus Douglas C-54's were discussed last week at a meeting of manufacturers, airlines, surplus property administration, and labor representatives, but no conclusions were reached and another conference is to be held later.

The discussion indicated the airlines want the four-engine ships, and don't object to leasing them for $24,000 a year, but are having trouble with the high cost of conversion and CAA restrictions. Conversion costs are running closer to $200,000 than the $150,000 allowed by SPA on a basis of 50 per cent of the $300,000 basic purchase price previously set for C-54B's and C-54E's.

There was some talk, therefore, of making the planes available on a where is—as is basis, at a lower price to allow for greater conversion costs. Some sources anticipate that by the middle of 1946 about 600 C-54's will become surplus but, since the craft have an expected economic life of about two years and are strictly a stop-gap until new equipment is available, the airlines may be hesitant to make outright purchases.

Last week's meeting was the second called by SPA chief W. Stuart Symington in order that industry advisory committees on air transport and aircraft might discuss the problem.

Cancellation Figures

Aircraft contracts terminated from July 1 through Sept. 30 and covering the VJ-day period, totaled 14,968 with a cancelled commitment value of $11,168,700,000. These figures from the Office of Contract Settlement, just disclosed, cover 9,202 contracts for the AAF involving $7,732,700,000 and 5,766 contracts for the Navy's Bureau of Aeronautics involving $3,436,000,000.

New Culver Head

T. Bowring Woodbury, has been advanced from vice-president and general manager, to president and general manager of Culver Aircraft Corp., Wichita.

▸ Latest marketing innovation of Engineering & Research Corp. is expected to be shipment to distributors of complete but unassembled *Ercoupes* by rail, seven planes to a freight car. Distributors would assemble the aircraft and have them certificated. Shipping cost may approximate $150 per plane to the west coast.

▸ Boeing hopes to have its first new experimental Navy fighter, mentioned here Oct. 22, in flight test this month. Work is progressing rapidly. Two planes of this model, designated the XF8B-1, are nearing completion.

▸ Feeling is growing that Pan American Airways will be given at least a few of the several domestic routes for which it has applied to CAB.

▸ Canadair, Ltd., Montreal government-owned factory, is converting Army C-47's for Trans-Canada, Eastern, and for airlines in Belgium, Portugal, France and Norway. Work continues on new Douglas DC4M's for TCA.

▸ Lockheed's C-49 commercial *Constellation* will receive its NC certificate momentarily. Final CAA tests were completed at Burbank last week. TWA, major customer for the *Constellation,* is expected to start transcontinental proving runs in a few days.

▸ Douglas' DC-4 transport, already certificated by CAA, is undergoing CAA tests at Los Angeles for extension of take-off load allowances. Company seeks approval of a gross take-off weight of 73,000-lbs.

▸ AAF hopes to replace the B-29 long-range *Superfortresses* with the new giant Consolidated Vultee B-36 if that ship proves out. An important feature of the B-36 is the Pratt & Whitney R-4360, which develops over 3,300-hp. The 4360 is Navy-developed, but the AAF was an eager customer and it had planned to equip as many B-29's as possible with the new plant.

▸ West Coast observers are confident that Menasco Mfg. Co. soon will begin tooling up for jet engines. A formal company announcement of the project probably will not be made for another six months, or longer.

▸ One of the nation's pioneering science centers in the field of jet propulsion, California Institute of Technology, has received a War Department appropriation of $48,000 for new structures for its jet propulsion lab. Both Caltech and Aerojet Engineering Corp. are engaged in extensive research in development of both ignited solid rocket fuel and chemically igniting liquid propellants.

▸ Henry J. Kaiser is preparing a press release which will announce a break in his sponsorship of Stanley Hiller, Jr., young Berkeley designer of the Hillercopter. Hiller is establishing his own helicopter development organization, United Helicopter Co., in Oakland. The Kaiser announcement will say that the work begun by the Hillercopter Div. of Kaiser Cargoes will proceed at Kaiser's Fleetwing plant at Bristol, Pa.

▸ Purchase of San Jose, Calif., airport and all its facilities by Pacific Airmotive Corp. in which Union Oil Co. has a heavy stock interest, is a surprise move on the part of this west coast aviation service and supply organization. The airport, 30 miles south of San Francisco, will be renamed Pacific Airmotive Airport.

▸ Foggiest Navy air station in the U. S., Arcata, Cal., has been made the scene of extensive tests of fog dispersal proposals. Most promising is use of diesel fuel with FIDO equipment. Navy observers believe the cost per landing can be reduced to $200 in contrast with $4,000 to $6,000 per plane using the British gasoline system. Tests of a sonic system in which sound waves of large sirens are focused in battery over a fog-bound airport to condense and precipitate fog particles have been made. Success has been limited, however, and the noise, audible at 90 miles and deafening a mile away, makes it impractical commercially.

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AERO-SCIENCE EMPHASIS

Intensified Research Programs Forecast By New Developments

Navy unveiling of highly advanced television and automatically guided missiles highlights crystallization of armed service plans for increased experimental funds; maintenance of aeronautical leadership is keynote.

By WILLIAM KROGER

Plans for keeping U. S. aeronautical leadership through intensified research appear clearer in the wake of disclosures of some of the achievements to date of the Navy, the aircraft industry and National Advisory Committee for Aeronautics, together with fuller details of the AAF's projected research budget this fiscal year.

Navy's sudden revelation last week of some of its new projects, and plans for the future, is seen in some quarters as advance notice that greater appropriations for research will be asked.

▸ In recent hearings before the House subcommittee on naval appropriations, Assistant Secretary for Air John L. Sullivan stressed that Navy's original estimate for research expenditures in fiscal 1946 was $148,256,500.

▸ "That was reduced to $61,000,000 when the estimates were forwarded to Congress," Sullivan stated. He emphasized that the Navy had not made the reduction, from which it is inferred that the Budget Bureau ordered the cut.

AAF research expenditures in the current fiscal year will be $115,000,000, it was disclosed to Congress, with an additional $2,400,000 being spent on controlled missiles. AAF's research expenditures also were drastically reduced by the Budget Bureau, according to Gen. H. H. Arnold. AAF asked for $245,677,400.

As example of what it has been doing in the new air weapons field, the Navy last week unveiled devices with such weird names as "glomb," *"Gorgon,"* and *"Gargoyle."*

▸ **Glomb** is a pilotless glider carrying a 4,000-lb. bomb. In appearance resembling a single-place, low-winged lightplane, it is towed by a fighter plane, then released and guided to the target by television. Labeled the LBE-1, it is capable of withstanding a speed of 300-mph. in a four-G dive.

▸ **"Gorgon"** is a jet-propelled missile carried by a bomber and guided to the target either by radio or by its own target-seeking device. It carries a 100-lb. bomb at 550-mph.

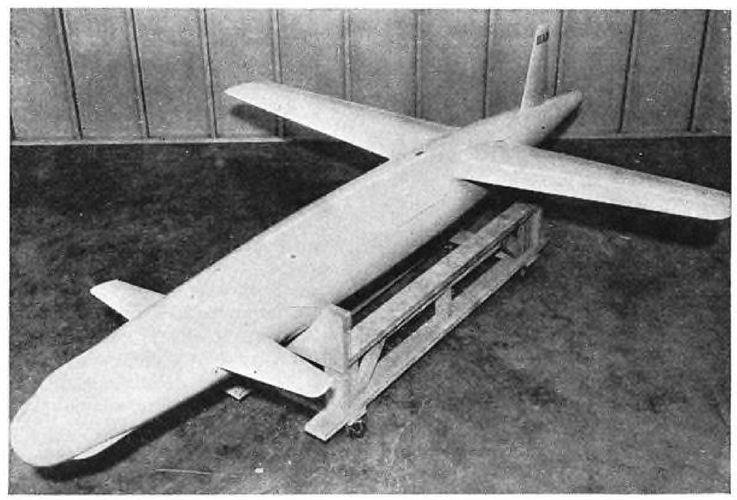
▸ **"Gargoyle"** is likewise a jet-propelled missile which carries a 1,000-lb. bomb at 600-mph. and automatically seeks its target. Its Navy designation is LBD-1, and it is being manufactured by the McDonnell Aircraft Corp. of St. Louis.

The electronic equipment which makes these controlled missiles so accurate is being continuously developed, the Navy asserts. Visualized are "airborne radars which can initiate defense and automatic circuitry which can instantly release the airborne counter-missile." Pointing up the emphasis on radar is the statement that a patrol bomber now carries 27 items of electronic equipment weighing nearly one ton.

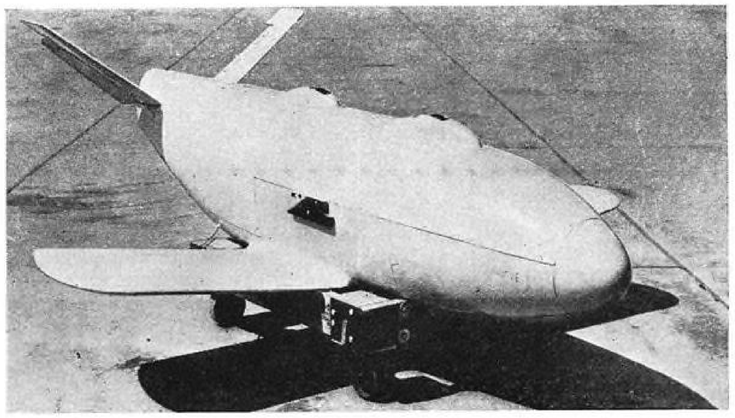
In powerplants, the Navy believes the gas turbine for jet propulsion offers the possibility of great speed but "the pure turbojet engine is not developed to the degree of reliability found in the reciprocating engine." Of special interest for the future is the turbine-propeller combination.

▸ **Speed Problem**—With the development of such power applications, designers come face to face with the problems of compressibility met at high speeds, it was stated last week by Russell G. Robinson, chief of research coordination of NACA. Those are problems which must be faced immediately, Robinson testified before the House Appropriations Committee.

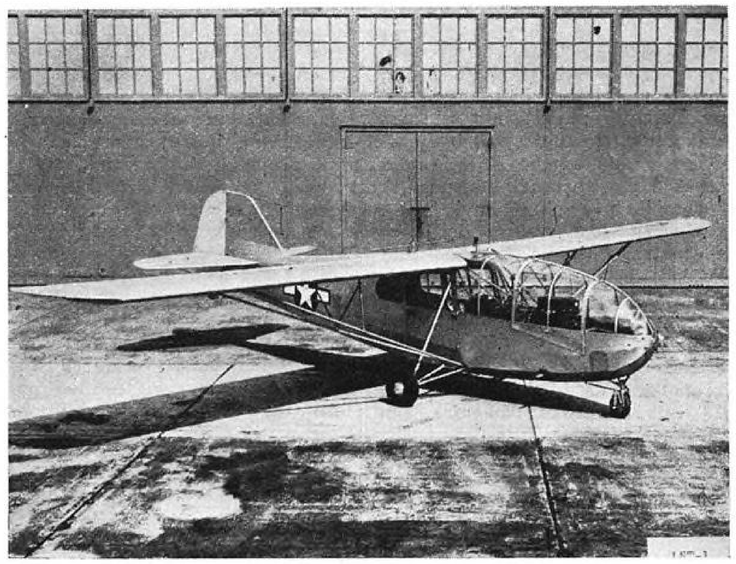
To meet the military's requirements, he said, the aircraft industry would like to have "five



"Gorgon": *A jet-propelled guided missile, this shark-like device carries a 100-lb. explosive charge at 550-mph. It was developed at the Naval Air Materials Unit, Johnsville, Penna., and named* Gorgon.



"Gargoyle": *Built for the Navy by the McDonnell Aircraft Corp. of St. Louis, this guided missile is used as a dive bomber, carries a 1,000-lb. all-purpose bomb at 600-mph., and is called* Gargoyle.



Radio Glider: *Directed and controlled by radio, this Taylorcraft-built glider carries a 325-lb. depth charge at a maximum speed of 180-mph. Designated the LNT-1, production has now been discontinued.*

times as much research data in the next six months as can be obtained from existing high speed wind tunnels."

The difficulties attendant to increased speed are not limited to one phase of aeronautical design, he emphasized. At one time aerodynamic problems, structural problems and powerplant problems could be considered separately. Now, however, they must be tackled together because all are affected by transonic and supersonic speeds.

▸ **C-W 'Devices'** — One of these problems was highlighted in the report of the experiments by Curtiss-Wright Corp. with "special flight devices" that have achieved speeds of 1,400-mph. Dr. C. C. Furnas, director of research, revealed that Curtiss-Wright engineers are studying air-conditioning methods for the outer skin of aircraft. At the 1,400-mph. clip, friction causes the temperature of the skin to rise more than 400 degrees Fahrenheit.

While not describing the device which attained that speed, nor its form of propulsion, Furnas did insist it is not a rocket, but a true flying device. Company has been working out attendant problems in its own wind tunnel.

▸ Another company working on radio-controlled pilotless aircraft is Bell Aircraft Corp., which is also developing guided missiles and rockets. Bell's radio plane can be directed either from the air or ground.

Bourne, Airways Chief, Quits CAA

Thomas B. Bourne, Assistant CAA Administrator for Federal Airways, last week resigned after 18 years in the Government's civil aviation agencies.

He will act as a private aviation consultant, with his first project a survey for an airways system in Mexico on behalf of Aeronautical Radio, Inc. He also will be associated with Maryland Airlines, non-scheduled operator in his home state.

▸ **Pioneer**—During his long tenure in the Government, Bourne set up the present system of Federal airways, building a pioneer group of half dozen employees into the largest single bureau of CAA employing more than 3,000 people.

Bourne has been recognized as an authority on radio ranges and communications and has been active in pushing the development of VHF and other late innovations.

Inferentially referring to the personnel changes which are occurring in CAA, Bourne said in his resignation letter to Administrator T. P. Wright:

▸ "After 19 years of serving with many administrators, I know of no other administrator who has gained the admiration and respect of the organization as quickly and genuinely as you have. Many Airways personnel will come before you for advancement in the near future. In weighing the qualifications of these men for higher positions in Government, I hope you will take into consideration the philosophy upon which Airways has been built. It originated during the 'Reign of Terror' period of 1934, and it hangs in my feed mill of the Eastern Shore of Maryland as a business slogan: 'The lack of honesty is largely responsible for our economic and political confusion.'"

▸ Lauding Bourne for his "outstanding contribution," Wright replied that "The task for those of us who remain, which will be continuing the expansion and development of the Federal Airways system, will be the easier because of the sound foundation on which we can build and to which you have contributed so much."

CAA Report Forecasts Aviation Services, Expansions In 1955

Thirty percent annual increase in civil planes would bring total to 400,000 as facilities are provided; airlines seen carrying 20,000,000 domestic passengers, 2,000,000 abroad; production would require 459,800 workers.

Looking ahead 10 years at "Civil Aviation and the National Economy," the Civil Aeronautics Administration forecasts a 30 percent annual increase in aircraft as they acquire greater utility and more airports are provided, with the result that there will be more than 400,000 civil airplanes in use in the United States by 1955.

This comprehensive study of the industry's possibilities during the next 10 years concludes that of the 400,000 aircraft, some 280,000 will be used for personal business and recreation; 40,000 by business concerns to speed their sales and administration activities, and 80,000 by commercial aircraft services in crop-dusting, aerial photography and other non-scheduled operations.

▸ **Airlines** — The report predicts that airlines will carry 20,000,000 passengers in domestic operations during 1955 and 2,000,000 passengers to foreign points.

A total of 901,300 jobs in, or created by, aviation is predicted for 1955, compared with 142,300 in 1939.

▸ This total is divided as follows:

	Basic	Derived	Total
Manufacturing	307,900	151,900	459,800
Air Carrier Operations	165,500	41,400	206,900
*Non Air Carrier Operations	100,000	50,000	150,000
Airports	39,900	19,700	59,600
Government	20,000	5,000	25,000
All Aviation	633,300	268,000	901,000

(*Includes personal flying, business flying in company owned planes, and miscellaneous operations of commercial air services, such as rentals instruction, aerial photography, crop-dusting, etc.)

Greatest field for immediate expansion of civil aviation, according to the report, exists in the development of personal flying. Personal aircraft today are seen as being in a stage comparable to the automobile at the turn of the century.

▸ **Passenger Revenue**—Annual passenger revenue of about $345,000,000 is forecast for the airlines, which would take about five percent of the total amount expected to be spent for all forms of "for-sale" transportation. Airline traffic would represent 50 percent of Pullman passenger mileage, but the report said that "bulk freight-hauling business, which is the main source of income to surface carriers would be virtually untouched.

Attainment of the goals, the report states, is dependent upon a Federal program of assistance to civil aviation, essentials of which are listed as a national airport plan, pilot training and aviation education, and technical aids such as improved airways systems.

The study warns that a positive program is needed to take advantage of the present "ideal combination of circumstances for aviation growth." It points out that the end of the war has released aviation facilities which will go to seed unless immediate concrete steps are worked out.

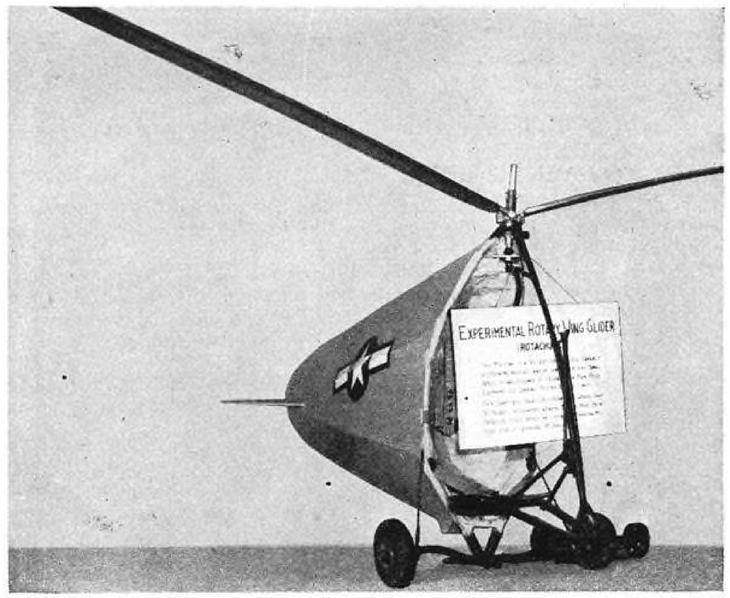
▸ **Social Effect** — Aviation growth will affect our entire way of living, the report concludes, holding that it will contribute to both industrial and residential decentralization, widen markets for perishable agricultural products, increase foreign trade and promote international understanding and step up the total amount of traveling.

'Hump' Race

From Douglas Aircraft Company's publicity office at Santa Monica comes a report of the biggest air race ever staged—and without an accident.

Personnel of two adjoining air bases are said to have settled a performance feud on Air Force Day, Aug. 1, with a 24 hour race to see who could carry the greatest quantity of cargo over the India-China "hump."

▸ Presumably, both bases were evenly matched in the number of C-54 *Skymasters* which began the sprint at the boom of a starting gun. Twenty-four hours later one group had completed 108 trips and the other 106. The record for reloading, refueling and returning to the air was nine minutes and 20 seconds for one plane.



ROTACHUTE:

Designed to drop paratroopers from planes behind enemy lines, this Rotachute has been developed at Wright Field. The 50-lb. device works like an autogyro without power, will lower a 240-lb. load of a paratrooper and his equipment to the ground. Tail of the odd looking aircraft enables occupant to steer it within a limited range.

Engineering Staff Unionization Draws Close Industry Attention

Introduction of new group to collective bargaining seen possible pattern for similar moves throughout country; overtime pay highlighted; Boeing, Convair patent right plans called model for all manufacturers.

Effects of the unionization of Lockheed's and, recently, Hughes Aircraft's engineering staffs may be expected to draw the close attention of all major aircraft manufacturers in coming months.

The one-time social and technological Engineers' and Architects' Assn. has assumed the status of an independent union to introduce the aircraft engineering fraternity to collective bargaining.

▸ **Vanguard** — Number 1 Chapter, and test unit, was the Burbank Chapter, which entered Lockheed Aircraft Corp.'s engineering domain to sell professional and subprofessional engineers the idea that they could become as collectively strong as the amply unionized production workers and take advantage of union benefits.

A former Lockheed draftsman, E. Konigsberg, did a thorough selling job as business agent, and Burbank Chapter of EAA soon was able to carry NLRB elections and become the bargaining agent for 1,800 salaried and hourly-pay members of engineering departments.

Konigsberg claims that engineers who class themselves as "professional" have been as ready to join as "sub-professional" draftsmen.

▸ He says that Burbank Chapter has as members 70 percent of Lockheed's aerodynamics engineers, 50 percent of staff engineers, and 60 percent of "A" design engineers.

▸ Hughes Aircraft's engineers at Culver City, Calif., voted 78 to 35 for EAA to be their bargaining agent.

The Triplett & Barton aircraft X-ray firm is believed to be next in line for an EAA collective bargaining vote, and there have been a scattering of membership inquiries from the engineers at both the Douglas and the Northrop aircraft companies.

Elated over its aircraft success, EAA now is spreading its unionizing activities into state government offices, paying particular attention to gathering members among engineers of the California State Division of Highways.

▸ **Overall Unit**—As a result of this diversion from the original aircraft goal, EAA soon may consolidate its pioneering Burbank Chapter and other aviation groups into a single "Aircraft Chapter, EAA" with various sections for the handling of business of various organized aircraft manufacturing firms.

When Engineers' and Architects' Assn. was organized in 1894 its purpose was to provide the engineering profession with a medium for swapping technical information and with a focal point for their social interests.

During the "Depression" EAA did a creditable job as an employment agency and job clearing house for its members.

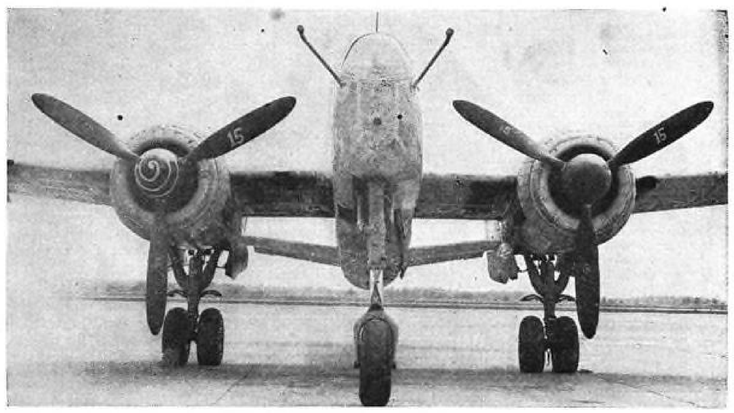
Inequities of that period probably engendered a gradual growth of the plan to create a union that might strengthen the position of engineers, and EAA membership rolls.

▸ **Present Problem** — Today EAA sees inequity in the status of production workers who are given additional pay for their overtime work and engineering "professionals" whose project enthusiasm frequently leads to added hours of work without added compensation.

Also an objective is the improvement of rating and review of engineering job classifications.

BACK-TO-BACK BOMBER:

Carrying a crew of two, seated back-to-back and with an emergency seat in the rear of the fuselage, this Heinkel 219 was used as a night fighter-bomber in 1944-45. A top speed of 385-mph. was reached at 21,000-ft. powered by two BMW 701's or GB 605's. Range has been estimated at 960 miles at optimum fuel economy setting. Of all-metal construction, it weighs 29,900-lbs. gross. Front view of the ship emphasizes the thin lines of the twin-tail terminated fuselage.



Truman Talk Off

Cancellation of President Truman's November travel engagements because of the press of affairs in Washington, will cause him to miss the Third National Aviation Clinic at Oklahoma City, No. 19-21. He was scheduled to have addressed the opening day of the clinic.

Low Sales Return Percentage Marks Wartime Financial Study

Compilation presented to Congress shows that ratio of profits to net worth, however, was increasing at same time; picture of air industry changes presented in averaging of statistics from 17 large manufacturers.

The great changes wrought in the financial structure of the aircraft industry during the war were highlighted by a percentage drop in return on sales, as measured against pre-war years, while the ratio of profits to net worth was increasing, it is revealed in figures put before Congress.

The statistics were based on reports of 17 large manufacturers compiled by the Office of Price Administration and furnished to Sen. James E. Murray (D-Mont.). The compilation averaged figures for the years 1936-39, and compared them with like calculations for 1944.

▸ **'See-Saw'**—Companies reporting had profits after taxes in 1944 of $115,888,000, on net sales of $5,540,423,000, a profit increase of 797 percent over the 1936-39 period. However, while profits in the pre-war years were 10 percent of sales, this dropped to two percent in 1944.

Net worth, in the statistics used, is the sum of common and preferred stock, surplus and surplus reserves. In pre-war years, profits after taxes were 16 percent of net worth. In 1944, this return increased to 26 percent.

The oddity of return on sales decreasing while return on net worth increased might be partially explained by examination of proportional increases. While profits were jumping 797 percent, net worth was going up, but to a lower relative scale, an increase of 515 percent. Profits did not increase as fast as sales, which skyrocketed 4,500 percent, due to higher costs of labor, materials, etc.

The effect of the high wartime taxes is also reflected in the proportional revenue figures.

▸ Before the war, profits before income taxes were 13 percent of net sales and 20 percent of net worth.

▸ In 1944, profits before income taxes were seven percent of net sales, but—indicating the extent of under-capitalization of the industry—92 percent of net worth.

What the war orders meant financially to the companies reporting is partially shown in the surplus figures. Before the war, the total surplus was $40,292,000. This went up by 1944 to $398,299,000, an increase of 888 percent. Net worth averaged $77,394,000 in the 1936-39 period, and was $476,224,000 in 1944.

Invested capital, the sum of net worth and long-term debt, showed a parallel gain. Pre-war it was $79,106,000, and $478,571,000 in 1944, up 505 percent.

Capital stock, the sum of preferred and common stock less treasury stock, did not keep pace. Average outstanding pre-war was valued at $37,102,000 and increased 110 percent to $77,925,000 in 1944.

▸ **Debt Rise**—Long-term debt, in the statistics available and characterized as obligations extending one year or more, increased also during the war but, perhaps indicative of the uncertain future of the industry, rose only 37 percent, as contrasted to the great increases in other categories.

Companies on which the OPA tabulation was based are: Aero Supply Manufacturing Co.; Air Associates; Aviation Corp.; Bellanca Aircraft Corp.; Beech Aircraft; Breeze Corp.; Cessna; Consolidated Vultee; Douglas; Martin; Grumman; Lockheed; North American Aviation; Republic Aircraft; Steel Products Engineering Corp.; United Aircraft; Warner Aircraft Corp.

Navy Started Early

All of Navy's experiments with advanced types of aerial weapons were not war-born. As early as 1940, a radio-controlled pilotless torpedo plane was directed by television from 10 miles away in an attack against a maneuvering destroyer. Its torpedo scored a direct hit. From such experiments, the Navy developed several types of assault drones which were used against the Japanese at Rabaul.

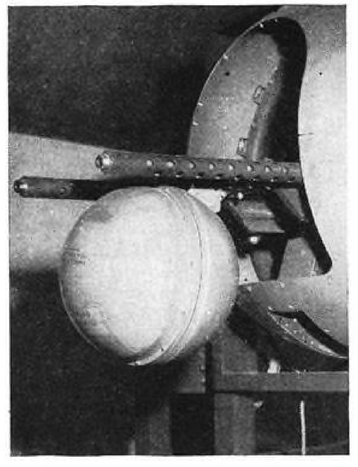
Lee Stays on Cab

Josh Lee will not resign from the CAB, nor will he run for governor of Oklahoma in the next campaign, he informs AVIATION NEWS. For several months various rumor mills have been circulating the report that Lee would leave the board in the near future.

His statement follows:

"I have been requested by AVIATION NEWS to comment on repeated rumors to the effect that I will resign from the Civil Aeronautics Board. I should like to make clear at this time that I have no intention whatsoever of resigning. It is true that I have received many requests from friends that I enter the gubernatorial campaign in Oklahoma. I am deeply appreciative of this interest. However, as long as commercial aviation is in its most crucial period of pioneering, development and promotion, especially in international and local feeder services, I feel that an exceedingly important job remains to be done here during the balance of my term."

▸ Expirations of CAB members' terms are Dec. 31 of the following years: the post resigned by Edward Warner, 1946; L. Welch Pogue, chairman, 1947; Oswald Ryan, 1948; Lee, 1949; Harllee Branch, 1950.



RADAR TAIL TURRET:

This radar scanning installation which will train the tail guns of a bomber on an enemy plane attacking from the rear, before it comes into visual range of the gunner, was disclosed recently at Wright Field.

Mail Pay Rate Set For "Big-4" Lines

Board order establishes 45 cents per ton-mile, retroactive to Jan. 1, for TWA, AA, EAL, UAL.

A mail pay rate of 45 cents per ton-mile, retroactive to Jan. 1, 1945, was set for the "Big Four" air carriers in CAB orders issued last week.

The action closed a proceeding begun by the board when, on Jan. 1, it directed American Airlines, Eastern Air Lines, Transcontinental & Western Air and United Air Lines to show cause why their mail rate should not be reduced from 60 cents to 32 cents per ton-mile.

▸**Security Need** — Subsequently, the original orders were amended to provide for the 45-cent rate (AVIATION NEWS, Aug. 20). Upward revision was necessary, CAB felt, to provide reasonable security against fluctuating and unpredictable operating conditions.

Willingness of the carriers to accept the new rate was expressed at a brief hearing (AVIATION NEWS, Sept. 10). TWA, however, accepted reluctantly, asking the board to make the rate effective as of Oct. 1.

CAB member Harllee Branch, in a separate concurring opinion, indicated that he will support an allocated mail cost formula as the solution to mail rate-making when conditions are favorable.

▸"I believe," Branch said, "that a sound permanent policy requires that service mail rates be closely related to the costs of the mail service, and if conditions now were more stable and costs could be derived and predicted with greater confidence, I would strongly urge the board to adopt a more precise procedure for deriving costs of the mail service and to place great reliance upon the costs so derived."

He agreed with CAB's action in broadening considerations to include several carriers, maintaining that costs could be used to establish service mail rates by shifting attention "from the reasonable costs of individual carriers to the reasonable average costs of the group." Branch also said he was opposed to the 60 cents per ton-mile rate because it "continued in effect a governmental subsidy for a carrier having no "need" for such subsidy payments and was, therefore, unsound and contrary to the intent of the act."

ACC Topics

Seven prime topics now are under consideration by the Air Coordinating Committee composed of Assistant Secretary of State Clayton, Assistant Secretary of War for Air Lovett, Assistant Secretary of Navy for Air Sullivan, Assistant Secretary of Commerce Burden and L. Welch Pogue, CAB chairman. T. P. Wright, Administrator of Civil Aeronautics, is executive secretary.

The committee, which has just issued a comprehensive report on the demobilization of the aircraft industry (AVIATION NEWS, Oct. 29) now has these problems under consideration:

▸Foreign air rights needed by U. S. flag aviation; relation of this Government with, and proposed programs for action by, the Provisional International Civil Aviation Organization; demobilization of the aircraft industry; post-war pilot training; post-war accessibility to the general public of technical data concerning wartime aviation experience; commercial possibilities of lighter-than-air aircraft; and post-war policy respecting air telecommunications affecting aviation.

British Air Exports Given New Impetus

Aggresiveness of the British aircraft industry in seeking export markets is further demonstrated in the appointment by the Society of British Aircraft Constructors of W. T. W. Ballantyne as the industry's "trade ambassador" in Latin America.

Ballantyne will make his headquarters in Rio de Janeiro, but his activity will embrace all of South America. His duties will be the promotion of goodwill for the entire British aircraft industry, and he will act as a clearing point for information. He will not conflict either with the sales representatives of individual manufacturers, nor with the civil air attaches.

▸**Others Seen**—While Ballantyne is the first such "ambassador" to be appointed by the society, similar appointments in other parts of the world are expected.

The U. S. aircraft industry, while watching with interest this latest British move in the export market, has no present plans to emulate it. U. S. action to retain a dominant place in the foreign field will take the form of an advertising campaign abroad. Plans for this program are about complete, and are expected to be presented shortly to the board of governors of the Aircraft Industries Association.

As the plan of the British group is admittedly experimental, the U. S. industry is refraining from any similar venture for two main reasons. In the first place, just before the war aircraft manufacturers in this country sold more abroad than the rest of the world combined. They feel this nation's aeronautical products are well-known and proven, and that therefore no goodwill program is required.

▸**Competition**—Secondly, the organization of the industry in this country, with its much greater emphasis on competition, does not lend itself very well to the innovation of the SBAC. While the companies comprising the British association are competitive, their competition in the export market is subordinate to the common national desire to have a great export trade, perhaps even to the extent of sacrificing an individual manufacturer's share in it.

BEECH BOMBER:

New photo of the 75-mm. cannon-armed Beechcraft XA-38, a low level attack bomber powered by two Wright R-3350 engines. The experimental craft was on display at the recent air fair at Wright Field.

Army's All-Radio Weather Unit Studied For New Civil Air Use

Elimination of optical tracking of radiosondes provides data up to 60,000-ft. despite visibility conditions; highly accurate system is joint project of Signal Corps and Farnsworth corporation.

A balloon-borne radiosonde and a ground receiving set which tracks the balloon and gives the direction and velocity of the wind and other weather data up to 60,000-ft. has been developed by the Army Signal Corps in cooperation with Farnsworth Television and Radio Corp.

About 300 complete sets, produced since 1943, have performed valuable services for the air forces in combat. Now, the Weather Bureau is considering operation of the equipment for the benefit of civil aviation and the many other civilian activities interested in weather.

▸**Production Progress** — Experimental production by the Signal Corps was started several years ago. The earliest direction finder was "nearly the size of a box car," company officials said.

The new radio set, SCR-658, is designed to replace optical tracking of the balloon, which is limited by lack of visibility during rain, fog, darkness. It is nearly impossible to track balloons in the Aleutians, for example. Optical tracking also must *assume* a rate of ascent, often inaccurately.

Speed and direction of the wind is calculated from angles of azimuth and elevation taken during flight at one-minute intervals. No other meteorological data is obtained simultaneously.

▸**Continual Contact** — The new Farnsworth-Signal Corps system employs radio direction finding at the ground receiving station. Course of the radiosonde balloon can be followed from the time it leaves the ground till it bursts or goes out of range.

Elevation and azimuth angles of a radiosonde transmitter are obtained from the highly-accurate radio direction finder. Exact ascent rate is determined from pressure data taken and transmitted automatically during flight of the balloon.

A ground receiver actuates a recorder of temperature and humidity of the air surrounding the balloon, and its height. Regardless of visibility, the direction finder can locate the radiosonde transmitter at any given moment.

▸**Three Units** — The equipment consists of three units: (1) The balloon with radisonde and parachute; (2) the SCR-658 direction finder, which has an azimuthal and elevation angle accuracy of about .05 degrees; (3) the radiosonde recorder unit. There are also power supply, hydrogen generator, and accessories.

Wind direction and velocity forecasts are valuable not only in the performance of air trip schedules, but also for taking advantage of air currents to save fuel.

Company states that if the B-29's flown from Tokyo had possessed all predeterminable information on the winds they might not have missed their objective, Washington, by 540 miles. The armed forces use wind data also in making ballistic corrections in aiming large guns.

The radiosonde suspended from the balloon emits a radio-frequency of 397 megacycles. The signal is of constant amplitude and constant frequency, except for short intervals (.0005 second) of frequency modulation, controlled by an electrical resistance thermometer and other factors. The FM channel actuates a recorder, on the ground, of temperature, humidity, and balloon altitude. The DF channel direction finder also operates on the 397 megacycle signal. The radiosonde with batteries, paper parachute and cord, weighs about 3.53 pounds.

CARRIER RADAR:

These complex devices are the radar equipment of the superstructure of the 45,000 ton aircraft carrier Franklin D. Roosevelt *which was commissioned recently by President Truman.*

Hotel Landings

The West's first downtown helicopter landing area will be constructed atop the Hilton Hotel, Long Beach, Calif., as part of a $1,250,000 addition for which plans are being drawn and on which construction is expected to start early next year.

The addition, at the rear of the present building and overlooking the city's harbor, will bring roof area to 230 by 90 feet with the helicopter deck erected above the roof of a supper club which will be constructed above the present roof level. A tower in the center of the front section of the building will be equipped as a control tower for the deck. United and Western airlines' offices are on the street level floor of the hotel.

Aircraft Technique Used In New Production Plan

Northrop Gaines, Inc., a wholly-owned subsidiary of Northrop Aircraft, is using airplane fabricating techniques in constructing hand trucks and industrial wheels of light materials.

First item ready for the market will be industrial wheels, cast solidly of aluminum with hard rubber tires molded firmly on the wheels by a new process. Although they weigh as little as three pounds, the Northrop Gaines wheels are built to carry 40 percent more weight than any wheel of equivalent size.

▸**Solid Frame**—The hand trucks have a frame cast in one solid piece of aluminum. Smallest of three sizes weighs only 36-lbs., yet has been stress-tested under a 5,000-lbs. load.

Northrop Gaines, formerly So-Cal Foundry, was the second largest manufacturer of airframe aluminum and castings on the Pacific Coast during the war.

Nine Air Firms List Post Changes

Gardiner to NWA; Uhl becomes CAL secretary-treasurer; Deegan resigns AA; Cooper to resign Pan Am; Fenwick leaves Hughes; Bach resigns Lockheed; Cosgrove gets Avco post; Harris, Henry return to PCA; Rome becomes Air Cargo official.

Resignations and administrative changes in aircraft companies and airlines disclosed late this week were:

▸ **Col. William Tudor Gardiner,** twice governor of Maine, has been elected to the board of directors of Northwest Airlines. Colonel Gardiner had a brilliant career in World War II and among other posts was chairman of the joint air commission which equipped the French air force in North Africa, Sardinia and Corsica. He also served as director of intelligence for the Eighth Air Force.

▸ **John C. Cooper** is going on a leave of absence from Pan American Airways, prepartory to retiring as vice-president and assistant to the president to become a member of the Institute for Advanced Study at Princeton on a research project having to do with the legal, political and economic problems of international air transport. He will continue as a member of the board of directors of Pan Am. Cooper is now chairman of the executive committee of the International Air Transport Association.

▸ **Hugh McL. Fenwick** who resigned as general sales manager of Hughes Aircraft Co., Culver City, Calif., after the company abandoned plans to enter the commercial production field. The company will continue to concentrate upon experimental business and it appears the projected Hughes feederliner has been shelved.

▸ **L. Morton Bach,** vice-president in charge of manufacturing, Lockheed Aircraft Corp., and previously designer and manufacturer of the Bach all-wood, tri-motor transport, resigned after two years with Lockheed. The firm plans to consolidate its manufacturing and material divisions.

▸ **R. C. Cosgrove,** vice-president of the Crosley Corp., control of which was recently acquired by the Aviation Corp., has been named vice-president in charge of sales for Aviation Corp. The company has entered into a contract to purchase controlling interest in New Idea, Inc., makers of a wide range of farm machinery and implements.

▸ **Col. Luther Harris** has returned to PCA as vice-president, maintenance and engineering, after four years with the Air Transport Command. He served as head of ATC maintenance at headquarters and later was sent to Europe to set up maintenance for the Command.

▸ **Col. James Henry,** formerly aide to Lieut. Gen. Lewis Brereton, has also been placed on inactive service and returns to PCA as assistant to the president.

▸ **William L. Rome** has been appointed executive vice-president of Air Cargo Transport Corp. He was formerly secretary and general manager of the concern, one of the first exclusive air cargo services in the United States.

▸ **Thomas J. Deegan** has resigned as director of public information for American Airlines, to become vice-president in charge of public relations for Abbott, Kimball, Inc., New York. **Col. Rex Smith,** formerly chief of public relations for the Air Transport Command, has been appointed director of public relations, American Airlines System, with headquarters in New York. He will report directly to the chairman of the board. Smith was chief of public relations for the 20th Air Force and the U. S. Strategic Air Force in the Pacific. He has been editor of the *Chicago Sun* and managing editor of *Newsweek*.

▸ **Joseph A. Uhl** has been elected secretary and treasurer of Continental Air Lines at a special board meeting. Uhl joined the airline in 1945 as assistant to the president to act as contract coordinator and liaison between the airline and the Continental - Denver Modification Center. Prior to going with Continental, Uhl was president of the Pueblo Savings and Trust Co.

AVIATION CALENDAR

Nov. 5-6-7—National Association of State Aviation Officials, Annual Meeting, Coronado Hotel, St. Louis, Mo.
Nov. 6-7—Society of Automotive Engineers National Fuels & Lubricants Meeting, Mayo Hotel, Tulsa, Okla.
Nov. 15-16—First Statewide Arizona Aviation Conference, Tucson.
Nov. 17—National Aeronautic Association, Board of Directors, Fourth Quarterly Meeting, Oklahoma City.
Nov. 19-20—Tenth Annual Meeting of the National Aircraft Standards Committee, Aircraft Industries Association, Chicago.
Nov. 19-21—Third National Aviation Clinic, Oklahoma City.
Nov. 26—Board of Directors of the Air Transport Association, Carlton Hotel, Washington, D.C.
Nov. 27—Air Transport Association, Annual Members meeting, Carlton Hotel, Washington, D.C.
Nov. 26-27—National Aeronautic Association—Joint Private Flyers' Conference, Statler Hotel, Washington, D. C.
Nov. 26-30—American Society of Mechanical Engineers, 66th Annual Meeting, Hotel Pennsylvania, New York.
Dec. 3-5—SAE National Air Transport Engineering Meeting, Edgewater Beach Hotel, Chicago.
Dec. 8—Sportsman Pilots Association, Carolina Hotel, Pinehurst, N.C.
Dec. 10-11—Aviation Distributors and Manufacturers Association, Hotel Statler, Cleveland, Ohio.
Dec. 13-14—Airline Finance and Accountant Conference, Dallas.
Dec. 16-17—International Aviation Day, El Paso.
Dec. 17—Institute of Aeronautical Sciences, Wright Brothers Lecture, Washington.
Dec. 17—Award of Robert J. Collier Trophy, auspices of National Aeronautic Assn. Place to be announced.

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Jan. 4-5-6—All-American Air Maneuvers, Florida Air Races.
Jan. 7-11—SAE Annual Meeting, Book-Cadillac Hotel, Detroit, Mich.
Jan. 11—Cleveland (Ohio) Aircraft Show.
Jan. 28—Institute of Aeronautical Sciences, Honors Night Dinner, Waldorf-Astoria Hotel, New York
Jan. 29-31—Institute of Aeronautical Sciences, Annual Meeting, tentatively scheduled for Pupin Laboratory, Columbia University, New York.
April 3-5—SAE National Aeronautic Spring Meeting, Hotel New Yorker, New York.

British Firm Shapes Canadian Subsidiary

Sir Roy Dobson, managing director of Hawker-Siddeley Aircraft Co., Ltd., of England, has arrived in Canada to establish the Canadian subsidiary of the firm, A. V. Roe Canada, Ltd., at Malton, Ontario. Purchase of the government-owned Victory Aircraft, Ltd., at Malton, by the British group was announced some time ago (AVIATION NEWS, Aug. 6).

While the purchase price has not been announced, it was learned that part of the agreement of sale includes continuation of the airport at Malton, now the main Toronto airport for commercial traffic. Should the Toronto area get a new airport, the Malton airport is still to be kept in operation condition.

▸ **"Lincoln's" Finish**—Plans of A. V. Roe Canada, Ltd., have not been announced but the company is completing production of five *Lincoln* bombers, unfinished at war's end.

More Rapid Switchover To VHF In Private Plane Sets Indicated

New Bendix *Flightweight* equipment to be built only for high frequency work; early federal ruling expected on designation of channels.

By ALEXANDER McSURELY

Switchover of private flying radio communications from low to very high frequency (VHF) may take place much more rapidly than has been previously indicated, according to reports current in industry and government circles last week.

One indication was the announcement by Bendix Aviation Corp., that its new *Flightweight* radio equipment for private planes would be built only for VHF work. Elimination of atmospheric static, and the reduction in size and weight for comparable output and performance made possible by using VHF are factors in this decision.

▸ **Channels Due**—It is understood, however, that another factor in the Bendix decision to make only VHF equipment for private planes, is the expectation that the three government agencies concerned: Radio Technical Commission for Aeronautics, Federal Communications Commission, and CAA, will act very soon to designate VHF channels for civil aircraft use and to clear up the other redtape now obstructing VHF conversion.

At the recent Denver meeting of the CAA Non-scheduled Flying Advisory Committee (AVIATION NEWS, Oct. 29) a proposal was approved to establish two pairs of national calling and working radio channels, each pair consisting of an air-ground and ground-air frequency, one pair for airport traffic control and the other for airway communications stations.

It was pointed out that these channels would be "congested" and would serve the private pilot at the expense of inconvenience and delay, which is the price he pays for reduction of his radio equipment to a minimum weight and cost that will permit its installation in his lightplane. It was indicated that the frequencies selected would be those which would permit the simplest construction of the airborne radio equipment.

▸ The non-scheduled committee in approving the proposal has urged Administrator T. P. Wright to work for its adoption by FCC, the final authority.

▸ **Bendix Plans** — Bendix radio equipment for personal planes, to be manufactured at Baltimore, includes:

▸ A range and broadcast receiver equipped with vibrator power supply and direction finding attachment, priced at about $95.

▸ A transmitter which may be added to the receiver, giving the pilot two-way communication with any station up to 100 miles away depending on altitude. Price of the transmitter has not yet been set.

▸ A "transceiver," which combines the two units and which may sell for $150 or less.

▸ A portable double-purpose receiver for commercial or aircraft broadcast for use in or out of the plane, equipped with a built-in loop antenna enabling the set to be used as a direction finder in the plane. It will operate either from a self-contained power pack or from 110 volt AC-DC current.

▸ A loop antenna for direction finding, hand operated with a 360 degree azimuth scale. When this is attached to the direction finding attachment of the larger receiver it equips the pilot for "aural null" direction finding. Price of the antenna and scale is approximately $37.50.

▸ **Booklet Out**—Bendix is announcing its new radio line in a booklet "For Wider Horizons" which explains the utility of radio in personal planes in non-technical terminology.

Shorter Takeoffs

Reduction of airport size through redesign of personal aircraft for shorter takeoffs and landing runs is seen by John H. Geisse, assistant to the Civil Aeronautics Administrator for personal flying, as a likely, but little-explored solution to the problem of expensive real estate investments in projected urban airparks and landing strips. Pointing out that at least one plane (presumably the Lockheed *Little Dipper*) has already been built which can operate successfully from less than 1,000 foot runways, Geisse urged further research in this direction before a recent SAE meeting in Detroit.

A check with government agencies in Washington indicates both CAA and FCC are waiting on recommendations of the Radio Technical Committee for Aeronautics, before taking action on channel designations. Some industry sources are hopeful action will be taken within the next two weeks.

▸ Although Bendix has made an advance announcement of its new equipment it is understood that it will have very few if any production radios completed before January, and presumably will not begin production of its transmitting equipment until the channels are designated.

University Airport Established In Ohio

Kent State University, at Kent, Ohio, is establishing a college aviation training program at Kent airport, purchased for $46,000 in 1943 by the school.

The field, formerly called Stow Field, is the oldest airport in the Akron area. It will be operated by Rudy Van Devere, manager of Akron Airways, Inc., who will have charge of student flight instruction, while A. W. Paton, formerly of Goodyear Aircraft Corp., and member of the university's industrial arts faculty, is in charge of ground school courses.

▸ **Veterans First**—First students to receive instruction will be returned AAF veterans with some flight experience who have enrolled at the university, and who are anxious to get flight instructor

ratings. It is expected that several of these will later become instructors at the airport purchased by the university.

Ground school classes have already opened, and first flight courses for student beginners will start in December. A class of apprentice mechanics who are taking a "G.I. Bill of Rights" course, is also starting.

The field already has a well-equipped shop and a new hangar is now under construction. Grading and draining of the field have been completed. Surplus military trainers will be used for flight training.

▸ **Past Highlights**—Stow Field was a landing place for many well-known flyers in former years. Among them: Charles Nungesser, French trans-Atlantic flyer; Amelia Earhart, and Charles Lindbergh. In 1927 the field was the Akron stop on a Cleveland-Louisville airline operation which used Waco planes. Akron flyers describe the field as one of the safest of all the landing areas in the region.

Other Ohio schools now operating their own airports include Ohio State and Miami universities, Kenyon College and Lake Erie College for Women.

Wright Gets Protest Against Using BT-13's

If the Civil Aeronautics Administration expects private flying to succeed, it had better do something about the noise-making qualities of its own inspectors' planes, Administrator T. P. Wright was told last week.

A letter from William L. Anderson, executive director of the Pennsylvania Aeronautics Commission to the Administrator, informed him that the BT-13 planes with which CAA inspection personnel are to be equipped "will create the maximum nuisance of probably any post-war light aircraft."

▸ "To the best of my knowledge a BT-13 in flat pitch is one of the noisiest planes in existence for its horsepower (450) and when it is changed from flat to high pitch you get a noise that terrifies the layman," Anderson wrote.

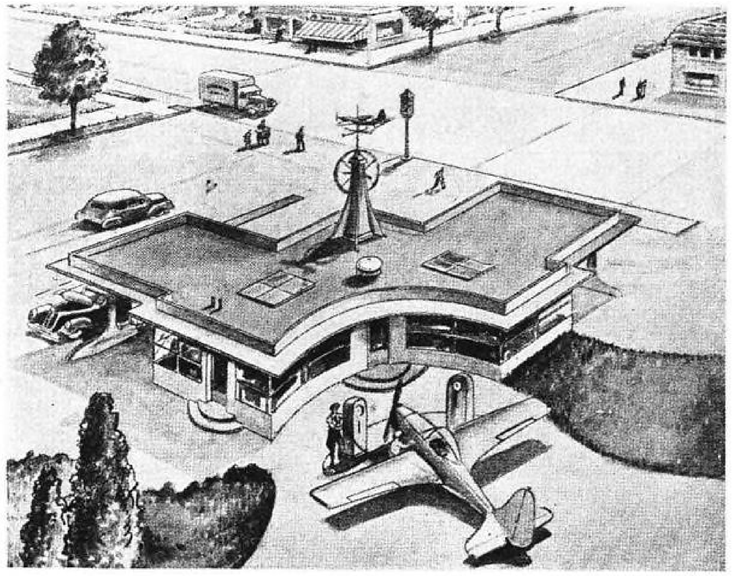
▸ **Cites Objections**—The Pennsylvania director pointed out he had just attended a zoning hearing in West Chester, Pa., on protests of property owners against establishment of "an excellent Class I sod field about three miles from the Borough of West Chester that will have two runways between 2,500 and 3,000 feet." Basis of protests was the noise nuisance of airplanes. Anderson and his representatives assured the people this type of field would not attract the large airline type planes or noisy military planes.

Anderson urged that any CAA operation of BT-13's be confined to airports where there are regular scheduled airline operations, "in which case the noise will be of very little consequence."

▸ "The use of these planes," he concluded "will be a definite setback to the efforts of your Airport section and state aviation commissions in encouraging and developing air parks and Class I sod fields. We are having enough trouble now with property owners' protests without adding BT-13's in the hands of federal inspectors."

▸ **Conflict** — Use of the noisy BT-13's contradicts the CAA's appeals made through John Geisse, assistant to Administrator Wright for personal flying development, for abatement of the noise nuisance in private planes.

Geisse said last week he believed steps would be taken to diminish the BT-13 noise factor, by prescribing a takeoff procedure which would call for minimum practical use of flat pitch by inspectors, or possibly by substitution of constant speed propellers for the two-position propellers now installed.



COMBINATION STATION:

A combination filling station for automobiles and airplanes is shown in this artist's drawing prepared by the Air Power League. Placed at a street intersection on the corner of an airpark, the station can serve both surface and air vehicles from the same fuel tanks. Similar designs are being studied by several of the oil companies for future installations at small airports, or as roadside landing strip installations.

Steers Resigns Post

Sheldon (Buck) Steers, Michigan Aeronautics Commission director, has resigned effective Dec. 1, relinquishing most of his duties Nov. 1. Thomas E. Walsh, Grand Rapids, chairman of the commission, will be acting director until return of Col. Floyd E. Evans, former director, about Jan. 1. Evans has been on military leave since 1940 and is commander of the ATC base at Great Falls, Mont., now being deactivated. Steers will preside at the St. Louis meeting of National Association of State Aviation Officials, Nov. 4-7, but has declined renomination for another term as NASAO president. He plans "a long rest" at his ranch at Ree Heights, S. D., before resuming activity in aviation. He was a leader in codification of Michigan aviation laws, resulting in the present state aeronautics commission.

Mass Output Set For New *Ensign*

All-American calls craft first of "completely new design"; safety stressed; other versions underway.

A streamlined plastic bubble canopy, fixed tricycle landing gear, flush-riveting, and a tapered wing which incorporates an "aerodynamic twist" for anti-spin and anti-stall flight characteristics, are principal features of the new All-American *Ensign*, two-place, all-metal personal plane, which is starting flight tests on the West Coast.

The *Ensign*, produced by All-American Aircraft, Inc., Long Beach, Calif., is described by its maker as "the first lightplane of completely new design to enter the post-war field with safety, performance and comfort never before obtainable and not now available in planes of its class on the market."

▸ **Sales Set-Up**—Priced at $3,000, flyaway Long Beach, the *Ensign* will be marketed by 20 factory representatives throughout this country and Europe. The company plans for them to carry full stocks of replacement parts, for easy maintenance and replacements, and expects the first production planes will be available to customers in January.

President Gerald Adler, and Chief Engineer R. C. Adler, hope to produce as many as 5,000 of the planes next year, using mass production methods developed through six years of production of aircraft parts for military plane manufacturers.

Designed to accommodate 85 to 125-hp. engines without change in plane structure, the standard plane is equipped with an 85-hp. Continental engine and fixed pitch Sensenich propeller. Constant speed and variable pitch propellers are optional.

▸ **Equipment**—The bubble plastic canopy slides aft for entrance, and may be supplied with a light reflection coating when desired by customer. All-leather (red or blue) side-by-side seats are adjustable fore and aft. Provision is made for dual controls, which are optional. Standard equipment includes self starter, compass, airspeed indicator, tachometer, altimeter, fuel pressure, fuel, oil pressure and oil temperature gauges, and ash trays.

The tricycle landing gear includes full castering nosewheel, and is equipped with Goodyear differential hydraulic brakes operated from rudder control foot pedals.

The "aerodynamic twist" wing is described as "an advanced engineering development which affords greater stability at low flying speeds and superior stalling characteristics, eliminating inadvertent spinning and obviating the necessity for slots and other obsolete devices."

▸ **Performance**—The *Ensign* is expected to cruise at 112-mph. with top speed of more than 125-mph. and landing speed of 50-mph. A rate of climb of 700 feet per minute, ceiling of 13,500-ft., and cruising range of 500 miles plus, carrying 550-lbs. useful load including 50-lbs. of baggage, are expected.

Following the *Ensign* in design stages at All-American are other models or modifications of this basic design, that are planned with increased power, retractable landing gear, flaps, and two-control system, eliminating rudder pedals.

Ensign Data

Specifications and estimated performance data on the new All-American *Ensign*, two-place personal plane due to begin test flights soon, include:

- Wingspan—33-ft.
- Length—22-ft.
  - Maximum width—44-in.
  - Height—8-ft., 6-in.
  - Construction — All - metal, full cantilever wing, semi-monocoque fuselage; full cantilever frieze type ailerons, self-balancing.
- Powerplant—85-hp. Continental engine, with 125-hp. engine alternate equipment.
  - Gross Weight—1,450-lbs.
  - Weight Empty—900-lbs.
  - Fuel Capacity—25 gallons
- Landing gear—fixed tricycle
  - Top speed—more than 125-mph.
  - Cruising speed—112-mph.
  - Landing speed—50-mph.
  - Cruising range—more than 500 miles
  - Climb—700 ft. per min.
  - Ceiling—13,500-ft.

Lightplane Mishaps Reported By CAB

Stalls occuring during takeoff, landing approaches, gliding turn, and simulated forced landing, accounted for five of six lightplane accidents reported recently by the Civil Aeronautics Board. The sixth mishap took place when a Piper J3C failed to clear trees on takeoff from a pasture.

Briefs of the Board's investigations follow:

BURLEY, IDAHO: Commercial Pilot Francis B. Brannan, 40, (4,000 flying hours accumulated as Army instructor and chief pilot in W.T.S. program) and Passengers Dan and Tom Howorth sustained serious injury when a Stinson SM-8B stalled during a landing approach at Burley, December 31, 1944. A third passenger, Student Pilot William Moore, 17, sustained minor injuries. Following a local pleasure flight of 15 minutes, the pilot started his landing approach. Having made his base leg too long, more than a 90 degree turn was necessary for the approach leg. During this turn at low altitude and less speed than usual, the aircraft stalled at an altitude of 100-ft. Power was applied, but altitude was insufficient for recovery. The plane struck snow-covered earth, collapsing landing gear, slid ahead right side up and came to a stop against a small elevation.

CAB FINDING: Probable cause of accident was pilot's failure to maintain flying speed during a gliding turn at low altitude.

DALLAS, TEXAS: Private Pilot Wendell Harold Jenkins, 30, (159 solo hours) and Passenger Troy Lightfoot were fatally injured when the Aeronca 65TC they were in stalled during a landing approach near the Municipal Airport, Weatherford, Texas, on December 3, 1944. Jenkins and Lightfoot took off from Victory Airport, Dallas, on a cross-country flight, planning to refuel at Weatherford. They flew over the Weatherford airport at 500-ft., but executed a 180 degree turn a short distance beyond and came back over the field at between 300 to 400-ft. and both waved to the manager of the airport. Another witness saw the plane later approaching the airport from the north at a very low altitude. A short distance north of the field, presumably on the final landing approach, the plane was stalled and dived nose-first to the ground. There was no evidence of mechanical failure and the fuel supply was ample. Carburetor heat was not on. Ceiling was 5,000-ft., visibility unlimited and wind southeast 30-mph., gusty. Turbulent air may have caused pilot to lose control during the low approach.

CAB FINDING: Probable cause of accident was stalling of aircraft while making low approach in turbulent air. Contributing factor was a partial or complete loss of power.

EL MONTE, CALIF.: Instructor Frank Edward Temple, Alhambra (commercial pilot with 1,340 flight hours), and Student Pilot Mary Dell Murrell, Pasadena (42 solo hours), were injured fatally when a stall during a simulated forced landing in a Porterfield LP-65 resulted in an accident, Mar. 27, 1945. Student and Instructor took off from the El-Monte Airport for a check flight on the maneuvers required for a private pilot's license. About 55 minutes later the plane was seen descending with reduced power toward open country. A turn was made into the wind and when only a few feet above the ground power was applied. The nose of the aircraft dropped, the left wing went down and the plane crashed and burned. Investigation revealed no evidence of malfunctioning of plane or engine.

CAB FINDING: Probable cause of accident was a stall at an altitude too low to effect recovery. Contributing factor was the instructor's permitting his student to carry a simulated forced landing beyond safe limits.

FORT DODGE, IOWA: Commercial Pilot Bob Craigmile Frotscher, 32, Gowrie (1,119 flying hours with flight instructor ratings), and his passenger, Gilbert Lawrence Freeman, Rolfe, were fatally injured in a Fairchild M-62A when the engine stopped during takeoff, Nov. 19, 1944. Frotscher, accompanied by Freeman, took off from Eno Airport for a local flight. The aircraft had reached an altitude of about 200-ft. when two witnesses heard the engine sputter, then stop. Immediately a left turn was started during which the plane stalled and entered a spin. Rotation was stopped after about one turn but the plane crashed during the pull out. Investigation revealed no reason for engine failure. An emergency landing could have been effected straight ahead in a seeded field about 2,000-ft. long.

CAB FINDING: Probable cause of accident was a stall and spin following engine failure.

SAGINAW, MICH.: Private Pilot Alvin Farr Chapman, 45 (number flying hours unknown) and Passenger Lillian Thompson, 26, of Donna, Texas, were fatally injured when his Rearwin 8135 stalled out of a steep turn near her home on March 4, 1945. The pilot and his passenger took off from the Elsa, Texas, Airport and flew approximately 10 miles south to her home. Her father and brother observed the plane approach the house at about 200 to 300 ft. altitude. After circling the house to the right the pilot made a 180 degree turn and flew back over the residence in a south-southeasterly direction into a gusty 25 to 35-mph. south wind. At an altitude of about 200-ft., the aircraft was seen to enter a steep climbing turn to the left during which it was stalled and slipped to the ground on the left wing tip between trees, skidded across a highway and came to rest against a telephone pole. No evidence of engine failure.

CAB FINDING: Probable cause of accident was a stall out of a steep climbing turn executed at a low altitude. Type of flying engaged in by this pilot requires diversion of attention from airplane to ground, causing him to steepen the climb excessively.

CARTHAGE, MO.: Student Pilot Robert Benton Ross, Jr., 17 (about 29 solo hours), was killed and Donald Aldrich, 17 (not certificated as a pilot), sustained minor injuries when a Piper J3C-65 collided with trees immediately after a second takeoff from a small pasture about 700-ft. long, near Carthage. Ross had rented the plane for a local practice flighta nd took off solo from Carthage Municipal Airport. He made one takeoff from the pasture with a passenger, barely clearing the high trees. Aldrich was the second passenger. The aircraft did not clear the trees, but plunged into the shallow Spring River.

CAB FINDING: Probable cause of this accident was failure to clear obstruction while taking off from an inadequate field. Contributing factors were poor judgment and inexperience of pilot.

New Plane Design Tested By Harlow

Unusually good performance and low-speed control characteristics are sought in a new West Coast plane designed by Max B. Harlow of Pasadena, Calif., and now undergoing test flights.

The low-wing monoplane is all-metal, powered with a 220-hp. Lycoming engine, and has a gross weight of 2,800-lbs. A constant speed propeller is used.

Performance — Harlow reports that initial flights indicate a top speed of 170-mph., cruising speed of 150-mph, landing speed of 55-mph., and a climb of 1,200-ft. per min. He says that if flight characteristics meet expectations the prototype will be rebuilt as a four-passenger plane for the personal aircraft market.

The plane's NX-37463 license was issued to Rheem Manufacturing Co., of Los Angeles, which gave financial and production assistance in development of the plane. Harlow said, however, that this does not indicate that Rheem will undertake commercial production of the plane.

The designer, who is assistant professor of aeronautics at Pasadena Junior College, formerly headed Harlow Aircraft Co., and currently is a Rheem consulting engineer. He still is a director of Harlow Aircraft.

Briefing *For Private Flying*

William T. Piper, *Life* Magazine's reported recently likes to give visitors to the Piper factory at Lock Haven, Penna., a demonstration of "how badly it is possible to fly a plane and live." "The word coordination," *Life* quotes Piper as saying, "ought to be kicked out of the dictionary." And when he takes a guest up for a ride in a *Cub*, he deliberately slips and skids his turns, "jeering contemptuously at the resultant gyrations" of the bank and turn indicator. "As long as the ball stays in the cockpit, that's all I ask," he says. All of which is part of the 64-yr.-old manufacturer's way of saying that private flying is made too difficult by instructors, and by complex federal and state regulations.

WACO SURVEY—Contrary to recent reports, Waco Aircraft Co. has not shelved the idea of a biplane for its post-war plane. Instead, it is now conducting a survey to determine what market there may be for the biplane in the personal plane market, with a strong possibility that the post-war Waco might be a biplane if the market prospects look good enough. With the possible exception of Beech, which may make some of its reverse stagger-wing 5-place biplanes again in the immediate post-war period, Waco may turn out to be the only personal plane maker still making biplanes.

AIRPORT SERVICE REQUIREMENTS—Minimum requirements for service by airports in Minnesota soon may be a matter of state regulation. The State Aeronautics Department is now considering a recommendation of Commissioner L. L. Schroeder for the following minimum service to be required of each airport which the state licenses for public operation within its boundaries: Aviation fuel supply with octane rating suitable for aircraft used on the field, together with oil service; approved tie-down facilities for at least three times as many planes as are regularly based at the field; approved drinking water and sanitary facilities; adequate supplies of chocks and ropes; fire extinguishers at all fuel pumps, on flight lines and in hangars; area maps in all airport offices; telephone for public use; offices or administration building to be located to permit public access without passing through flight lines; posting of all local airport safety regulations.

CHECK BEFORE SOLO—Campaigning to curtail the recent increase in airplane accidents attributed to "hot pilots" returned from fast military equipment who ignore the performance limitations of lightplanes, the Aero Insurance Underwriters are suggesting a safe rule for operators to follow: "For strangers and for old friends who haven't flown recently: a check flight before solo." The insurance group also recommends to all returned military pilots that they brush up on their Civil Air Regulations which have been greatly modified recently and ask for a check flight before they resume civilian flying. The insurance group is offering a booklet "Here's How" containing a summary of revised Civil Air Regulations affecting air traffic rules, pilot certificates and general operations, to assist in "refreshing" the returned flyers on laws of the air.

NEW AKRON FIELD—A 300-acre airport for private flyers is being opened by John Chamberlain, president of U. S. Stoneware Co., in the western outskirts of Akron, Ohio. Chamberlain's son, J. M. W. Chamberlain, owns and flies three planes, a Cessna, Vultee and Waco, and the father has been an enthusiatic air passenger for years.

GLOBE ENGINEERS—More volume production know-how is expected to be a major contribution of two recent additions to Globe Aircraft Corp., Jack F. Steppe, chief engineer, and John M. Wright, assistant chief engineer, both of whom came to the Ft. Worth company from North American Aviation, Inc. Steppe succeeds K. H. Knox who has been elevated to vice-president in charge of engineering. The two-place all-metal Globe "Swift" is a production airplane, built with machine tools, and is one of about four personal planes announced thus far which may be expected to lead the field in production volume, provided the demand meets expectations.

—Alexander McSurely

Plane Improvement Needs Listed By Mutual Aircraft Conference

Emphasis placed on safety by statement of Chicago parley; design changes seen as means to lower insurance rates and basis for use of personal aircraft as normal travel vehicle.

Greater emphasis on safety factors in design of personal aircraft is urged by the Mutual Aircraft Conference, Chicago, in a recent announcement specifying numerous features of the average personal plane which can be much improved for safety.

Pointing out that the statement is not intended as a criticism of manufacturers, but as an effort to point the way toward greater utility of the private airplane as a normal vehicle of travel, MAC cites its own insurance loss records to show that certain features of present day planes cause accidents or aggravate their causes. It urges the importance of reducing high aviation insurance rates by improving the accident record of personal flying.

Specific features of plane design where improvement is urged include:

- Cockpit construction.
- Visibility.
- Directional stability on the ground.
- Stall and spin characteristics.
- Propeller accidents.
- Uniform instruments and controls.
- Prevention of carburetor icing either by improved carburetor design or by fuel injection.
- Accessibility for maintenance to prevent neglect.
- Non-flammable materials.
- Crash-proof fuel tanks.
- High flash point fuels and injection type engines to eliminate a large proportion of aircraft fires.

Recommendations for cockpit construction improvements call for lengthening the cockpit so that pilot and passengers when held by their safety belts can be thrown completely forward without striking the instrument panel, stick or other obstruction. Throttle, brake-handle and other knobs or projections should be recessed into panel or door so as not to cause injury. A further recommendation is to engineer cockpit structure to resist shock from a forward direction. Many airplane fuselages have been "unnecessarily fragile" even after allowance for weight limitations, MAC asserts.

Use of tricycle landing gear offers improved visibility over conventional landing gear, but increased emphasis is urged on design for full visibility forward while the plane is taxiing, and widest possible visibility in all directions while the plane is in flight.

Ground Stability—The tricycle gear is also preferred for directional stability on the ground, although a steerable tail wheel offers "some help" to the conventional gear. A four-wheel undercarriage is recommended as more stable than any three-wheel arrangement with suggestion that additional research seek to provide a landing gear for lightplanes which will approach the directional stability of the automobile.

The MAC recommendation is to make all planes for sale to the general public spinproof or "spin resistant."

Standards of piloting skill are expected to be lowered as the number of licensed pilots increases. Highly maneuverable "hot" planes, and pilots who can handle them will continue to be needed but the primary demand will be for air transportation with maneuverability secondary if not undesirable.

Further development of the pusher airplane as a safeguard against propeller accidents is preferred over an alternate solution of placing a ring guard around the propeller.

Auto Comparison—The conference points out that automobiles of today are sufficiently uniform in controls and instruments so that a driver of one make can drive another make with little or no instruction. While it is not likely that airplanes can approach this situation for a number of years, uniformity of instruments and controls which would prevent a pilot from making an error because of different location, should be a design objective.

Inspection of controls, drainage of sumps, and all other operations requiring frequent attention should be arranged so they are obvious and easy.

This would be in line with the recent CAA tendency to permit owners to perform certain maintenance functions themselves.

Use of flammable nitro-cellulose dope on fabric is criticized as one of the most serious fire hazards. Increased use of metal for wing and fuselage is desirable, with cellulose acetate dope or some other non-flammable material recommended for fabrics where they are still necessary.

Tank Trouble—Flimsy, easily burst gasoline tanks are not necessary on airplanes, as development of bullet resisting tanks for warplanes has proved. Research for development of a crash resistant fuel system is recommended, with preference for an independent fuel tank unit over the type of tank which is integral with the wing, and strong recommendation for locating tanks in wing, and never in fuselage.

Elimination of the carburetor by use of fuel injection engines and raising the flash point of fuel above 100 degrees F. will eliminate a large proportion of aircraft fires, the MAC statement concludes.

USED PLANES OR CARS:

Both used and new airplanes will be marketed in Cleveland at the Uptown Motor Sales used car lot. The lot, shown above with a Piper Cub *among the automobiles, is operated by Norman A. Dille and Milton Laikin, partners, who have an arrangement with Herb Tanner, operator of Chagrin Harbor airport, so buyer will be trained to solo, at the airport, without extra charge.*

ALL-AMERICAN *ENSIGN:*
First photo of the $3,000 Ensign, *a two-place, all-metal personal plane built by All-American Aircraft, Inc., Long Beach, Calif., shows a West Coast entry which may be a strong bidder in plane markets if its flight tests prove its engineering design promises. Powered with an 85-hp. Continental engine, the plane has a 33-ft. wingspan, full-view Plexiglas bubble canopy, and features a wing with an "aerodynamic twist" which the manufacturer says affords greater stability at low flying speed, and superior anti-stall characteristics.*

Private Flying Due To Lag in Canada

Limited domestic production, high tariff rates expected to curtail it sharply.

Private flying in Canada is not expected to increase as rapidly as in the United States. A number of factors limit it: a relatively small Dominion lightplane production is in prospect, imported plane costs are high, maintenance is considerably more expensive and ground facilities are limited.

At first most lightplanes will have to come from the United States. Before the war only two major Canadian concerns were making this type: de Havilland Aircraft of Canada, at Toronto, and Fleet Aircraft, Fort Erie, Ont. Now a third, Cub Aircraft of Canada, Hamilton, Ont., has entered the field. But none of these three has announced its post-war models and Canadian aviation circles expect no low-cost production for about two years.

▸ **Price Differential**—A few Canadian operators, on the other hand, hold franchises for the sale of American-made planes, and American advertising is seen by most Canadians planning to buy their own aircraft. However, there is a 35 percent duty on imported aircraft, an 8 percent sales tax (which applies to Canadian aircraft as well) and the premium differential on the United States dollar now is set at 10 percent.

In addition, operation of private aircraft also is more expensive in Canada, and there are not as many airfields for the private flyer. Parts for aircraft, oil and gasoline all are imported. Since most private planes in Canada would operate mainly in summer with floats for landing on the many lakes in the resort areas and northland, the cost of operation goes up.

▸ **Airstrips Coming**—Within two years, it is expected many municipalities will be building airstrips or small airports. Canadian requirements for private flying licenses also are expected by that time to have been made somewhat easier, for present pilot requirements and Department of Transport regulations deter private flying, and the industry as well as flying interests in general are endeavoring to have the regulations, many of which date back to 1921, eased to allow more people to take to the air for pleasure flying.

▸ For the present, therefore, Canadian private flying is expected to continue at the pre-war level with most lightplanes being operated by flying clubs and air schools.

HUGE *ERCOUPE* CONTRACT:
Contracts for 1,700 Ercoupes *were covered in a distributor's agreement recently made between Allegheny Aeronautical Corp., Ambler, Penna., and the Engineering & Research Corp. Left to right, W. M. Thompson, and W. E. Schmidt, of the Allegheny organization, complete the agreement for $5,350,000 worth of* Ercoupes *with Harry Agerter, Erco sales manager. The order is one of the largest single lightplane contracts yet announced.*

Canadian Flight Bans Lifted By Government

All wartime restrictions have now been lifted on civil flying in Canada by Reconstruction Minister C. D. Howe at Ottawa.

Flights over certain military and naval establishments remain prohibited. Foreign non-commercial civil aircraft, mainly United States aircraft, may now be flown over Canada or Canadian waters, provided they conform with peacetime requirements and customs and immigration regulations.

▸ **Civil Craft**—Canadian civil aircraft may be flown within or beyond Canada without hindrance, and wartime restrictions against carrying cameras or taking aerial photographs have been lifted.

Night flying restrictions imposed during the war have also been cancelled. During the war large areas of both Atlantic and Pacific coasts were closed to civil aircraft.

THE GERMAN ECONOMIC PEACE HARD, SOFT... or WORKABLE?

IT is not surprising that difficulties are being encountered in spelling out the detailed terms of the German economic settlement.

The problem is exceedingly complex. The German economy is more or less inextricably bound up with the economy of continental Europe. Before the war that area—excluding the United Kingdom, Ireland and Russia—accounted for approximately one-fourth of the world's production, and for more than thirty-five per cent of world import and export trade. Germany's production constituted almost one-third of the output of continental Europe. It is obvious that the decisions we make now concerning the future German economy will exert profound influence not only upon the economy of Europe but also upon that of the world. It is clearly not practicable to plan for an expanding world economy unless provision is made for Europe generally to share in the development.

Despite the magnitude and complexity of the problems involved, it is crucial that we and our Allies come to swift and decisive agreement. Such agreement is important both to world economic reconstruction, and as a demonstration that those who won the war can reach accord on the terms of world economic rehabilitation.

We shall accomplish little if we continue to debate in terms of *adjectives*. Yet most of the public discussion to date has centered around whether or not the economic settlement with Germany should be *hard* or *soft*. To make progress we must focus instead upon *objectives*. A good program is one that will promote our objectives—a bad program is one that will not.

What Are We Trying To Accomplish?

Upon the economic objectives of the German peace settlement there is little fundamental debate. This is demonstrated by reference to a number of documents of recent release—the United States Directive to General Eisenhower of April 1945, the Report of the Tripartite Conference at Berlin of July, the Report of the American Advisors to the Office of Military Government of September. The latter document stresses fundamental difficulties in developing a practical program for carrying out the objectives of the other two, but it does not question their formulation of aims.

What are the objectives that we are seeking to forward:

1. The disarmament of Germany.

2. The elimination of German industries devoted primarily to armament production.

3. The assessment of reparations to compensate those nations which have suffered losses from German aggression through direct war destruction and through the German policy of confiscating industrial equipment to her own use.

How Far Are We Agreed on Procedure?

There is also a wide measure of agreement upon detailed procedure for carrying out these objectives. No one, of course, questions the policy of confiscating German arms. Equally, there is agreement that German industry devoted directly to the production of war equipment should be confiscated or destroyed, and that control measures should be instituted and sustained to prevent her from reconstituting such industries in the future. Since it is not practicable to prevent aircraft production and shipbuilding from being diverted to military use, these industries are included in the armament category. And similar reasoning generally extends the list of prohibited industries to ball bearings and abrasives.

There is an additional category of German production which all of the Allied powers agree should be uprooted and permanently barred. It embraces all economic activity which prewar Germany cultivated on an uneconomic basis through subsidy and other protection for the prime purpose of developing a self-sustaining economy to support aggressive war.

The major elements in this category are not difficult to define. A great German industry for the synthetic production of gasoline and other oil products from coal never operated upon an economic basis. The cost of such fuel products to prewar Germany averaged almost four times what it would have cost her to buy petroleum products in the world market. It is doubtful whether these plants could be operated postwar at a cost much below three times the world market price for competing petroleum products.

A similar situation applies to German synthetic rubber production. In an attempt to free herself at least partially from dependence upon supply lines, she produced synthetic rubber at a cost at least double the world market purchase price. Similarly, she protected or otherwise subsidized a considerable agricultural production, particularly in grains, for which her lands were so ill suited that Germans had to pay for German-grown wheat from three to four times the world market price.

These are merely outstanding examples. The maintenance of such activities in Germany constituted a drain upon the German economy rather than an advantage other than that of preserving a self-sufficiency necessary for war. Hence their elimination is clearly indicated, and generally subscribed to, though the job of defining a complete list is far from easy.

What Is The Area of Dispute?

Unfortunately, this total catalogue of agreed-upon measures is not sufficient to provide either adequate security against a resurgence of German militarism or satisfactory restitution to her European neighbors for Germany's ruthless destruction of their industrial plant and equipment. To serve these two ends it is necessary to cut down the margin of German dominance in heavy industry—in steel, in electric power, in machine tools, and other industrial equipment. Unless such steps are taken, Germany will emerge from the war with sufficient industrial power to provide a continuing and perhaps uncontrollable military threat; and we should be perpetuating a dominance that was developed, as a matter of German strategy, far beyond the requirements of her civilian domestic markets or the export potentials of normal trade.

German steel capacity was built to a wartime peak of twenty-four million tons a year. Before the war she had accumulated a store of machine tools greater than that of the United States, and her present stock of some four or five million tons of such tools is second only to ours. There is little debate over the necessity and justice of cutting down the margin of German dominance in heavy industry, particularly since it was built to its current levels through aggressive economic warfare to serve as an instrument of actual warfare. It is recognized, too, that in this sector of the German economy will be found the most useful reparations in kind for the countries damaged by German aggression.

The question is how much heavy industry and electric power equipment should be taken from Germany and transferred to others. The Russians, having experienced colossal war damage, are demanding very severe assessments. They talk of reducing postwar German steel capacity to three million tons annually.

The United States inclines to assessments in this field of less extreme dimension—we have suggested leaving in Germany an annual steel capacity of from seven to ten million tons. We naturally are concerned lest action be taken that will cause a complete breakdown of the German economy. If this should happen while we maintain occupational forces there, we should feel responsible for seeing that the Germans within our jurisdiction are provided with at least the means for subsistence. Furthermore, both we and the British know that in the long run our peoples will not support control measures over Germany which go beyond our concepts of reasonable fairness consistent with security requirements.

It is no part of our intention, as has been suggested by some, to provide for a German economy that will serve as a buffer against Russian expansion. We know, however, that our weakest course would be to commit ourselves now to continuing control measures which our people would later repudiate as falling outside democratic concepts of justice. On this issue we cannot, and should not, compromise.

How Can We Resolve Our Differences?

The best chance for resolving the differences which have appeared between the Russian position on the one hand and the American and the British position on the other lies in making a sharper distinction than has appeared in current discussion between long-term and short-term control decisions. All of us are agreed upon the policy of wiping out German military production and that part of German economic activity which has been run at economic loss to provide for a national self-sufficiency useful only for war purposes. But we are unwilling to enter into long-term commitments for holding down those parts of the German economy that do not constitute a war threat. That would unduly penalize future generations of Germans and drag down the whole economy of continental Europe.

It should be possible to reach agreement that measures for cutting down German heavy industries and power-generating facilities are immediate measures, and that no attempt will be made to sustain such controls over an extended period. If part of the German establishment in these fields is transferred to countries whose manufacturing resources have been damaged by German aggression, it can serve the purpose of effecting a reasonable balance without destroying utterly incentives for a new generation of Germans to improve by peaceful methods their status in a peacetime world.

Such a program is consistent with the concept of building a healthy and balanced European economy in which general economic interdependence provides one of the essential safeguards against a resurgence of German militarism. We must still face the problem of agreeing upon how far the non-armament segments of German industry can be cut back at the present juncture without leading to disastrous breakdown with its resultant chaos. Such definition, though formidably difficult, should not be beyond the capacities of the nations whose combined might brought victory, and who have the strongest of incentives for devising a lasting peace.

The key to agreement lies in each of us doing his best to understand the position of the other. Russia must recognize that we cannot get our people to subscribe to the permanent repression of a European economy which would deny to millions of people any hope of normal economic betterment. We should try to understand Russia's conviction that she is entitled immediately to reimburse herself for her war losses by drawing upon the German industrial establishment that still exists. It will help to resolve our differences if we separate in our thinking steps that require permanent controls from those which are merely temporary expedients.

Neither of us will be forwarding our ultimate and common objectives if we impose controls that blight the development of so large and important a segment of the world as continental Europe. In such a blight lies the germ of a Third World War.

President, McGraw-Hill Publishing Co., Inc.

THIS IS THE 41ST OF A SERIES

JET PROGRESS

Turbines Developed For AAF Include Two Distinctive Types

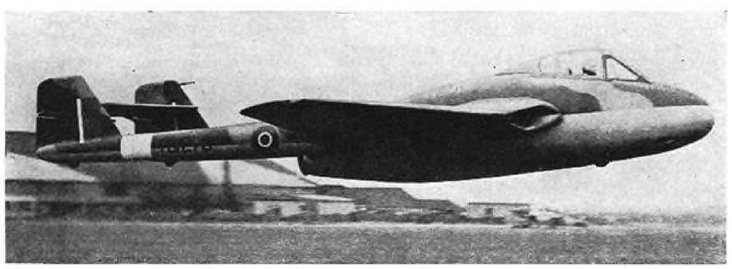
Both centrifugal and axial flow models, revealed recently at Wright Field, are likely to power warplanes still on "secret" list; developments in progress for four years.

When the veil of secrecy was removed from some of the American gas turbines for jet propulsion and propeller drive at Wright Field recently it was revealed that developments had been proceeding for over four years on two main types. Both operate on the same fundamental principles but differ in arrangement of components, which include (1) air intake duct, (2) compressor, (3) combustion chambers, (4) turbine, and (5) exhaust nozzle.

The first type is known as the centrifugal flow turbo jet, and the second as the axial flow turbo jet. This difference is somewhat analogous to that between the radial and in-line types of reciprocating engines, the centrifugal flow type being short and fat, and the axial flow type long and thin.

Whittle Design—The centrifugal flow unit uses a centrifugal air compressor, the rear casing of which is cast with several symmetrical channels radiating centrifugally outward on all sides. The exact number of channels depends on the number of combustion chambers in the engine. These channels constitute the diffuser, and through them the air is efficiently distributed into the elbows attached to the combustion chambers. The turbo jets based on the one originally designed by RAF Cadet (now Air Commodore) Frank Whittle use a centrifugal air compressor, and its exponents rightly claim, under present developments, greater power per pound of engine than in the axial flow type.

Centrifugal Units—Examples of centrifugal turbo jet engines include the Whittle W/1 which powered the Gloster E 28/39, first British jet fighter to fly; the Rolls Royce *Welland* and improved *Derwent,* in the *Meteor;* the General Electric I-16 (newly designated J-31) in the P-59A and the FR-1, and the I-40 (now the J-33) one of which is in the P-80, two in the newly revealed Bell XP-83, and one in the tail of the Vultee XP-81 (which has a GE "prop-jet" in the nose); and the Halford-designed de Havilland *Goblin,* which powers the *Vampire.* It will be noticed that these are all Allied developments, the Germans having followed almost exclusively the axial flow design.



JET-POWERED *VAMPIRE:*
One of the first photos released of Britain's latest jet-propelled fighter, the de Havilland-designed Vampire (AVIATION NEWS, *Oct. 22). Twin booms from the wings carry the tail plane which is placed high to escape the blast from the jet nozzle.*

Engineer Guide

The *Aeronautical Engineering Catalog,* 1945 edition, published by the Institute of the Aeronautical Sciences is now being distributed. It is published as a reference guide for aeronautical engineers and designers and contains specifications and engineering data on a wide variety of aircraft products available for postwar commercial and military airplanes.

The catalog lists the sources of supply of more than 2,000 items manufactured by more than 1,800 companies. The new edition offers technical information about aircraft products ranging from rivets to gas turbine jet engines, the first time jet engine copy has appeared in a general catalog. Editor of the catalog is Welman A. Shrader.

Axial Flow—The cigar-shaped axial flow units, being smaller in diameter, are aerodynamically cleaner and better suited for installation in very high speed aircraft. The main components of the unit are arranged in line to present a minimum frontal area. The air is forced through in a continuous straight flow. Whereas the compressor and turbine of the centrifugal flow type usually are single-stage, in the axial flow they often are multi-stage. This means two or more sets of blades act on the air in stages. The German BMW 003, Jumo 004 and Heinkel-Hirth 011 are all of this type. Even before the Whittle developments the British were working on axial flow gas turbines for aircraft. So were American engineers for both Army and Navy, under the direction of the National Advisory Committee for Aeronautics.

American Units — In the late 1930's the NACA developed a highly efficient axial flow unit, and in the late spring of 1941 recalled from retirement Dr. William F. Durand and asked him to head all NACA research projects related to jet propulsion of aircraft. A committee was set up to review British progress, and to cooperate with Army, Navy and U. S. turbine manufacturers to expedite American developments. It was decided Westinghouse would work with the Navy, and several axial flow units, including the "Yankee" turbo jet, are under development or in operation.

AAF Developments—GE was to

work with the AAF. Besides the Whittle-type I-16 (J-31) and I-40 (J-33) units developed at the Lynn River plant, two axial flow units were developed at Schenectady. The first was the TG-100 (newly designated XT-8) for propeller drive, installed in the Vultee XP-81. Details of this unit recently were released. The other was the TG-180 (now the J-35), which has an 11-stage axial flow compressor and eight combustion chambers.

All four of the AAF-GE units were on display at Wright Field. It may be safely assumed both the GE axial flow "prop-jet" (XT-8) and the GE axial flow "turbo-jet" (J-35) will power some of the experimental fighters, bombers and long range transports, hints of which have been appearing in the press.

Avco Income

The Aviation Corp. realized a net income, after taxes, in the nine months ending Aug. 31, of $2,159,739 on sales totaling $25,020,178. The net is equal to 37 cents per share on 5,793,513 shares.

While sales fell considerably below the figure for the same period of 1944, net income was off slightly. After adjustments for renegotiation, the income for the first nine months of 1944 was $2,264,871, or 38 cents per share, on adjusted sales of $44,853,547.

▸The earnings announced by Avco do not include the equity in the undistributed earnings of Consolidated Vultee Aircraft Corp.

British Transport Production Rising

Early export sale of *Viking* seen; two prototypes flying, others under way.

With prototypes of two post-war transports now flying, the British aircraft industry is well along on work on three others. Prospects are favorable for early export sale of at least one of the types now being tested, the Vickers *Viking*.

Two *Vikings* have been completed and are undergoing trial flights. First deliveries of this British counterpart of the DC-3 (AVIATION NEWS, July 9) will go to British Overseas Airways Corp. and to the Royal Air Force Transport Command, but it is expected that some will be allocated to the export trade in the not too-distant future. Peak production on the *Viking*, to be reached in autumn, 1946, will be from 25 to 30 monthly.

▸**Exceeds Plan**—In its first tests, the *Viking* bettered speed and fuel consumption estimates by considerable margins. Planned to have a cruising speed of 210-mph, it achieves 252-mph at 10,000-ft. with maximum weak mixture. Fuel consumption was 91 gallons an hour, against an estimated 106 gallons.

Second British postwar prototype to fly is the Avro *Tudor I*. Powered by four Merlin engines developing 1,700-hp. at takeoff, it is designed solely for North Atlantic operations and has a gross weight of 76,000-lbs.

A large version, the *Tudor II*, is under construction. It will have a bigger fuselage, and will be used on Empire routes.

▸**Air Giant**—The largest aircraft in Britain's book, the eight-engine, 250,000-lb. *Brabazon I*, is now under way at the Bristol factory, with work of progressing on the fuselage. It has now been decided to use *Centaurus* engines.

Another type outlined by Lord Brabazon's committee, the *Brabazon II* is being built by the Airspeed company under the name of *Ambassador*. It will be a two-engine aircraft in the same general category as the U. S. Curtiss-built *Commando*.

Surplus Aircraft Diesels Up For Competitive Bids

Nearly 1,500 Guiberson radial diesel engines, originally designed for aircraft but used during the war in tanks, are being sold as surplus on a competitive-bid basis by the Reconstruction Finance Corp. Bidding ends Nov. 14.

Of two types, one of 250-hp., the other 345-hp., the engines have never been type certificated by CAA for use in aircraft. Both models are air-cooled. Bulk of the engines have been used and require repairs, while 463 are used but are usable without repairs. Repair and spare parts are available in quantity, RFC states.

▸**Doubtful Future**—In view of the doubtful future of diesel engines for aircraft use, RFC has inquired as to other possible utilization, and lists such purposes as: oil well drilling; marine engines; power for irrigation, cotton gins, air conditioning, ditching machines and electricity.

DOUGLAS TULSA PLANT:
New air view of the Douglas Aircraft plant and modification center at Tulsa, now listed as surplus. Each of the four hangars is 160 by 600 feet. They are connected in pairs by two-story structures.

Electronic Gages Set For Airliners

American Airlines has contracted to equip each of fifty Douglas C-54's recently assigned to the airline, with Simmonds Pacitor Fuel Gages, the first electronic fuel gages to be used on commercial transport planes in this country.

W. R. Enyart, president of Simmonds Aerocessories, Inc., made the announcement and also said that Douglas is specifying the same gage on the DC-6's now being built for delivery to American and United Airlines.

▸ **Safety Aid**—He listed two important advantages which he said would result from the installation of the gage, first, the safety factor, pointing out that the mechanical type of fuel gaging is not always satisfactory. The Pacitor Gage, he said, is accurate to within three percent and is unaffected by changes in flight altitude or temperatures.

Second, he said, is the increase in payload which the gage permits, and added that "because of the unreliability of the previous methods of fuel gaging, the Civil Aeronautics Authority requires all commercial transport planes to carry excess fuel merely as a safety factor. The Pacitor Gage will eliminate this necessity making it possible to increase the plane's payload by an equivalent amount."

The gage has been used on more than 20 types of combat aircraft. Its basic principle makes use of a change of electrical capacity of a condenser when the conductor medium changes from liquid to air. These changes are recorded on a conventional cockpit dial, the readings usually being in terms of pounds.

New Prop Design Tested By Hamilton

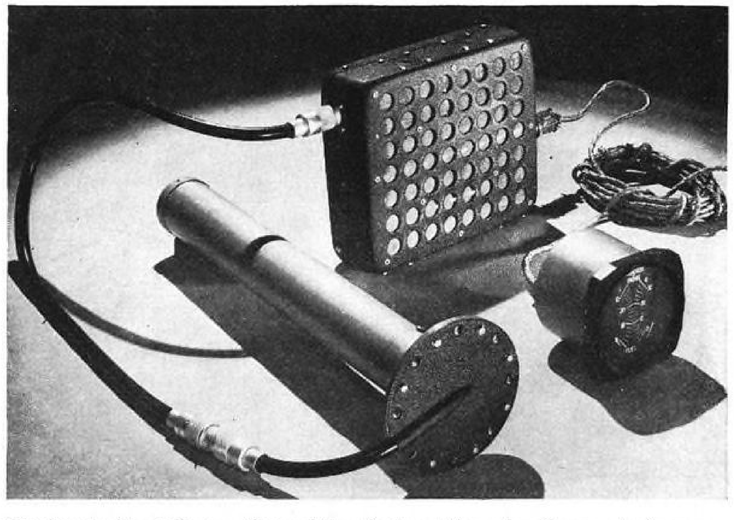
Development of a new hollow-steel propeller blade by Hamilton Standard Division of United Aircraft has been announced by Sidney A. Stewart, general manager, who said he believed it to be the lightest in the world for propellers of more than 13-ft. diameter.

He added that while the new blade is not in wide service, development testing and flight experience have established the integrity of the design. The production blades have passed Army and Navy type tests and models are employed on six experimental planes under development for the armed services.

▸ **New Methods**—The blade, designed for use with new versions of the *Hydromatic* propeller and the *Super-Hydromatic* propeller, marks a departure from customary construction and materials methods followed by Hamilton Standard for the past 15 years. All previous large-scale production propellers of this company used the duralumin blade.

The company said the decision to turn to hollow-steel blades was made several years ago when it became evident that propellers would continue to increase in size and weight. It was also determined at that time that the duralumin blade, although lighter and more advantageous for use in propellers under 13-ft., loses its weight superiority when that figure is passed.

Hamilton Standard said that blade design studies had shown that for diameters exceeding 13 to 15 ft., a hollow construction should be employed to achieve the lightest weight and that for smaller sizes, the fabrication requirements of hollow blades result in no advantage, and even a disadvantage in some cases.



Electronic Fuel Gage: *One of the first wartime developments in aeronautical electronics to be turned to commercial purposes is this fuel gage manufactured by Simmonds Aerocessories. It consists of the three parts shown, tank unit, or condenser, on the left, the power unit which contains the electric components, and the conventional cockpit indicator.*

IAS San Diego Unit To Build Headquarters

Construction of a $165,000 building for the San Diego section of the Institute of the Aeronautical Sciences will start soon after the first of the year.

Funds for the project, which will be built on Lindbergh Field were contributed by Consolidated Vultee, Rohr Aircraft, Solar Aircraft, Ryan Aeronautical and Langley Corp.

The structure will be adjacent to the new proposed airline terminal building and the San Diego group, whose membership of 200 is the largest in the country, will use it as headquarters. A large auditorium, stage facilities, dining room, lounge, offices and conference rooms will be included. Financed by a $10,000 gift from Maj. R. H. Fleet, an aeronautical library will also be provided.

SKF Bearing Book

A textbook on bearings is being published by SKF manufacturers. A book of 270 pages, it is entitled *Ball and Roller Bearing Engineering,* and was written by Dr. Arvid Palmgren, who has been active in the field for 30 years and is winner of numerous awards.

The book is designed to serve as a fundamental text on all phases of bearing application to industry, and contains about 900 drawings and tables. First copies are being distributed free by SKF to heads of corporations, technical schools and colleges and libraries. Later editions will be sold at cost.

PERSONNEL

★ ★

Col. Chrisp, Comdr. Gay Return To CAB Posts

Among armed service personnel returning to posts at the Civil Aeronautics Board are Robert W. Chrisp, who was a colonel in the Air Corps and is now an attorney in the office of the general counsel, a position he held before going on military leave. Commander George Gay has returned to civil life as a senior air safety investigator in the CAB's Safety Bureau. He served as commanding officer of carrier aircraft service unit No. II during his last assignment in the Navy.

H. C. Brown has been appointed director of training for Braniff Airways, to direct the extensive plans for training of returning veterans. For the past two and a half years, Brown was supervisor of training at North American Aviation, Dallas.

C. O. Turner, photo, becomes general manager of the new Airquipment Co., an independent division of Lockheed Aircraft Corp., which will design, manufacture and merchandise airplane ground handling equipment and service tools all over the world. **Newman L. Smith** becomes controller and assistant general manager of the new company. Turner has been employed by Lockheed for three years in subcontracting and outside production departments. Airquipment will have offices in Burbank.

Fred L. Clark has been named assistant agency manager of TACA Airways Agency, Inc. Clark will have charge of the accounting staff and general office management in the New York office of the agency. Before joining TACA he was an administrative officer in the Army Air Forces at Wright Field.

F. C. McMullen, in charge of aviation radio sales for Western Electric Co., has been appointed chairman of the Aviation Section of the Radio Manufacturers Association's Transmitter Division. He succeeds **J. W. Hammond** of Bendix Radio.

Cliff Sharpe, formerly works manager, Fort Worth division of Consolidated Vultee Aircraft Corp., has been appointed assistant to the general manager of Hughes Aircraft Co.

Lieut. Col. Harold P. Little (photo), United Air Lines pilot on military leave, has been appointed commanding officer of the 20th Ferrying Group of the ATC. A pioneer in aviation, Colonel Little was in the Air Corps in the last World War and flew the early air mail routes for the Post Office department. He formerly was with National Air Transport, predecessor to United. He delivered lend-lease aircraft to Russia for the ATC.

Col. Richard E. Fell, commanding officer at the Washington National Airport Army Air Base, has joined PCA in an executive capacity. He will be replaced at the air base by **Col. Chester E. McCarty,** who recently returned from overseas.

Glenn Markt will act as director, airports and buildings for American Airlines in the new airports and buildings section of the Engineering Department. **Elmer Sittner** has been appointed technical director, airports and buildings, and will report to Markt who in turn reports directly to the vice-president in charge of engineering.

Larry A. Robbins has been named superintendent of Standard Practice Manuals with TACA Airways Agency, Inc. He has been cost-tax accountant and analyst with Transcontinental and Western Air, Inc., and has also been with Consolidated Vultee Aircraft Co.

Deane H. Sheppard, a Navy veteran, has been named accountant at the Hollywood headquarters of Western Air Lines.

John S. White (photo) has been named personnel director of Chicago and Southern Air Lines, succeeding **R. Todd Crutchfield.** White joins C&S from the Colgate Aircraft Corp. of Amityville, N. Y., where he has been serving as personnel manager. Previously, White was manager of the industrial relations sections of the Philadelphia Chamber of Commerce.

HEADS CAA 8TH REGION:

Walter P. Plett becomes Administrator of the Eighth Region (Alaska) of the Civil Aeronautics Administration replacing Marshall C. Hoppin, who left the CAA to become president of Alaska Airlines. Plett, who began work with the CAA in 1934, is responsible for directing much of the wartime airway and airport construction in Alaska during the war.

Frank A. Sunderland (photo) has been named advertising and sales promotion manager of Edo Aircraft Corp., College Point, L. I. In addition to directing sales promotional activity for Edo seaplane floats, Sunderland will handle advertising and promotional work on Edo's line of non-aeronautical equipment, to be announced. Prior to the war he was advertising and sales promotion manager for Taylorcraft Aviation Corp. He is an expert in the production of visual aids training devices.

Jack Cornelius, a veteran of the American Volunteer Group, has been elected vice-president in charge of maintenance of the National Skyway Freight Corporation, charter air freight line recently organized by former Flying Tigers. A few months ago, Cornelius became senior engineer at LaGuardia Field for American Export Airlines. He resigned to join National Skyway Freight Corp.

T. P. Wright, Civil Aeronautics Administrator, has been elected vice-chairman of the National Advisory Committee for Aeronautics. Dr. J. C. Hunsaker was reelected chairman and also chairman of the executive committee.

Aircraft Financial Trend Study Shows Dividends Down In '45

Present income reports begin to reflect reduced levels of operation; AVIATION NEWS analysis projects aggregate stockholder expectancy; post-war reserve charges below last years.

Aircraft dividends to stockholders will aggregate less for 1945 than for the previous year. This is disclosed in an analysis, based on recent trends, compiled by AVIATION NEWS.

With widespread military contract cancellations, many aircraft companies have developed conservative tendencies and are inclined to husband all available cash resources.

Current earnings appearing for a few of the aircraft builders show slight declines to comparable periods of a year ago. It is noteworthy, however, that in most instances, current earnings have not been subjected to the extraordinary charges to build post-war reserves which accompanied last year's reports.

In other words, on a comparative basis, present income reports are beginning to reflect a sharply reduced level of operations.

Recently, Boeing Aircraft Company decided not to pay a dividend at this time. During 1944, a total of $2.00 per share was paid. In April, 1945, $1.00 per share was paid. This was a surprise to the market, as the price of the stock declined on this non-dividend action. Similarly, Cessna, which paid 40 cents per share in 1944, is only paying 25 cents this year.

Douglas maintained its consistent dividend record by again declaring $5.00 per share, payable to stockholders on Nov. 20. Regardless of its high rate of earnings, Douglas has paid this uniform $5.00 annually since 1940.

Bell also came through with its usual $1.00 cash declaration, payable to stockholders of record on Jan. 24, 1946. In addition, the company declared a 10 percent stock dividend. However, this later declaration does not give the stockholders anything new which they did not already have.

The accompanying table shows the 1944 dividend and earnings record for representative aircraft companies. Further, payments made thus far in 1945 are also shown.

AVIATION NEWS, in surveying current earnings has attempted to estimate forthcoming dividend action for various companies and advances the following projections:

Beech Aircraft paid $1.00 per share on Oct. 26, 1944, but has not yet acted this year. It is believed that at least 50 cents per share may be paid during 1945.

Bendix is estimated to have earned $5.00 per share for the year ended Sept. 30, 1945, compared to $7.22 for the previous fiscal period. Nevertheless, it is believed that the quarterly rate of 75 cents per share will be maintained.

Convair has continued on a 50 cents quarterly basis and it is believed will continue that policy for the near term at least.

Aviation Corp., which owns about 30 percent of Convair, could use the dividend income.

Curtiss-Wright which paid 75 cents per share on the common last year, will probably pay at least 50 cents this time.

Grumman has already declared its $1.50 payment for 1945, the same as for last year, but some sources estimate that 1946 will see this rate increased in view of the company's over-all excellent outlook.

Lockheed has been paying 50 cents quarterly and may be expected to continue at least for the remainder of this year.

Martin, following a $3.00 annual rate, has paid $1.50 earlier this year and is expected to repeat this payment for 1945.

North American Aviation will, for this year, most likely pay less than the $1.25 per share paid during 1944.

Republic Aviation will pay at least another 25 cents per share, bringing its payments to 50 cents —the same as for 1944.

Sperry, which has always followed a conservative dividend policy, will most likely pay another $1.00 this year for a total of $2.00.

United Aircraft paid only $1.00 earlier this year and is expected to equal this amount for the second half. Last year, the company paid $3.00 per share.

While year-end dividends are usually expected as common corporate custom, the aircraft group may make special disbursements at the turn of the year after the industry outlook is clarified.

It is likely that special liquidation dividends may be declared as operations are trimmed to present day requirements and the need for extensive working capital will be diminished.

DIVIDEND AND EARNINGS RECORD
REPRESENTATIVE AIRCRAFT COMPANIES
(Per Common Share)

Company	1944 Earnings‡	1944 Dividends	1945 Dividends Paid or Declared
Beech	$6.76(a)	$1.00	
Bell	8.01	1.00	1.00*
Bendix	7.22(a)	3.00	3.00
Boeing	4.86	2.00	1.00
Cessna	1.57(a)	.40	.25
Convair	8.80(b)	2.00	2.00
Curtiss-Wright	1.62	0.75	
Douglas	12.81(b)	5.00	5.00
Grumman	9.73	1.50	1.50
Lockheed	4.20	2.00	1.50
Martin	4.37	3.00	1.50
No. Amer.	2.44	1.25	
Republic Avi.	3.76	0.50	.25
Sperry	4.05	2.00	1.00
United Air.	5.37	3.00	1.00

Key: ‡After extraordinary charges
**Plus a 10 percent stock dividend*
(a) For the period ended Sept. 30, 1944
(b) For the period ended Nov. 30, 1944

Convair, Fairchild File SEC Earning Reports

Securities and Exchange Commission reports have listed recent earnings of Consolidated Vultee Aircraft Corp. and Fairchild Camera and Instrument Corp.

▸Convair, during the three months ended Aug. 31, reported total sales of $96,703,000 of which only $178,000 represented other than war contract output. On June 1, the company listed $674,000,000 worth of unfilled war contracts and by Aug. 31 had reduced this amount to $236,000,000.

▸For the Fairchild firm, SEC listed sales, during the six months ended June 30, amounting to $11,926,000 of which $11,827,000 were estimated to be war contract receipts. Unfilled war orders as of Jan. 1 totalled $22,085,000 but had risen to $28,043,000 by June 30.

Steamship Firm Plans Intrastate Airline, Outside Control of CAB

Waterman, which first applied for interstate air services in 1940, schedules Mobile-Muscle Shoals flights beginning Nov. 15, using surplus Lockheeds.

Augmenting its efforts of the past five years to enter the air transportation field, a steamship company expects to start an intrastate airline outside the jurisdiction of the Civil Aeronautics Board and the Civil Aeronautics Act.

Waterman Airlines, Inc., a wholly-owned subsidiary of Waterman Steamship Corp., plans to begin cargo flights in Alabama, Nov. 15, adding passenger service shortly thereafter. State Public Service Commission is granting a certificate of public convenience and necessity.

▸**Passenger Date**—A company spokesman in Mobile, headquarters of the airline, said passengers will be carried as soon as three surplus Lockheed 12-passenger planes are delivered and converted.

Under initial schedule, a plane will leave Mobile in the early morning, stopping at Dothan, Montgomery, Birmingham, Huntsville, and Muscle Shoals. Returning trip will start about noon, over the same route. Elapsed time each way will be about 2 hours, 45 minutes.

This schedule was arranged to enable South Alabama business men to transact business upstate and return the same day. A trade survey will be made soon to determine whether additional cities should be added to the pioneer route.

▸**Main Base**—Mobile's Bates Field will be site of the company's main operations and maintenance base. Sales offices will be established in major cities. Representatives will be on duty at all stops.

Waterman Airlines first filed an application with CAB in 1940, requesting New Orleans-San Juan service via Tampa and Miami, for mail and passengers. In 1941 the requests for mail, and to serve Miami, were withdrawn. The company did not seek to carry local traffic between New Orleans and Tampa. In February, 1944, the name of the applicant for the 1,740 mile route was changed to the steamship company.

In addition to several steamship company subsidiaries, the parent Waterman Company controls three firms in freight forwarding which were suspended during wartime: Pan Atlantic Carloading Dispatch Service, Inc., Pan Atlantic Carloading Dispatch Service of Texas, and Louisiana Rail Package Car Service, Inc. Ryan Stevedoring Co. Inc. is another subsidiary, as is Gulf Florida Terminal Co., Inc., which operates a warehouse, a steamship terminal, a dry and cold storage plant, and a steamship agency business, all at Tampa. Waterman also owns virtually 100 percent of the stock of Gulf Shipbuilding Corp. and Waterman Dock Co. It is a co-operator of the Arrow Line, another steamship company.

▸**Precedent**—If Waterman starts this service, it is believed to be the first time that a surface carrier will have utilized the device of restricting commercial air operations to one state in order to remain outside the Civil Aeronautics Act. —R. H. W.

Convair Officials Form Charter Line

A new San Diego airplane charter and sales company has been organized by a group of present and former Consolidated Vultee Aircraft Corp. officials.

▸The firm, Nelson-Kelley Co., is headed by A. S. Nelson, former Convair chief of material, and Douglas Kelley, former director of flight.

Floating 'Airports'

A system of floating "airports" throughout the Northern Ontario lake country has been proposed by a Canadian bush operator who would install pontoon hangars on 20 to 35 lakes to permit tourists to fly into densely wooded areas for hunting and fishing.

A veteran of both world wars, J. M. Gray of Air Service Floats, Ltd., Orillia, Ont., has also applied to Canadian Air Transport Board for a license permitting scheduled service from Toronto waterfront to Orillia, two hours' flight, using Noorduyn *Norseman* planes, charging $5 one way, $9.50 round trip. From Orillia passengers would be taken in smaller four-place float planes on non-scheduled charter basis to the northland lakes.

▸Gray also visions a complete holiday service, with guides, boats, lodges, and other accommodations. He would employ only air force veterans.

ATS Members Voting Against U. S. Rule

Association to file brief at oral argument on examiners report proposing CAB regulations.

Members of Aeronautical Training Society, leading aircraft service operators, dealers and distributors, are voting almost 100 percent against regulation by the Civil Aeronautics Board of non-scheduled aviation. They propose that the association file a brief to this effect when oral arguments are heard on an examiner's report Nov. 25.

"Up to now the vote shows strongly that our members want the door of aviation opportunity left open not alone for independent operators like themselves but for returning AAF veterans," Wayne Weishaar, ATS secretary, said.

▸**Proposals**—Under recommendations of the examiners, report on the subject, non-scheduled operators would be restricted to services from fixed bases, and trips limited to 10 trips a month into places having "reasonably direct" service by certificated, scheduled carriers. Non-scheduled operators declare this would kill the air taxi and charter business before it starts and cut off thousands of jobs.

Maryland Line Adding Cities; Increasing Fleet to 7 Planes

Company which started service in July between Washington and Delaware resort, plans equipment and facilities expansion; guide for similar ventures seen.

By BLAINE STUBBLEFIELD

Application has been filed with CAB by Maryland Airlines, Inc., for an interstate 587-mile scheduled airline system, centering in air-minded Maryland. It would cut Washington, D. C., train time to ocean beaches from 6 hours and 10 minutes to 45 minutes, at about the same fares.

Maryland's division by Chesapeake Bay, and its mountains, make it a special setup for time-saving by airplanes over ferry boats and circuitous bridge routes. Three intrastate air operations have been approved by the Maryland Public Service Commission (AVIATION NEWS, Oct. 22).

▸**Great Demand**—But officials of Maryland Airlines felt there was urgent demand last summer for service between Wilmington and Rehoboth, Del., where air time saving over surface transport is only normal. The company contends its feeder application, made on the basis of tested demand, is another strong argument in support of Representative Jennings Randolph's resolution pending in Congress: That the government support the extension of the country's air system to small communities.

Maryland Airlines has been operating interstate charter service between Washington National Airport and Rehoboth since July 20, with three Cessna T-50's, or Army UC-78's. Company expects to start charter operations between Baltimore and Salisbury, connecting with Washington at Easton, within two or three weeks, regardless of future action on its interstate application, which includes present routes and those shown on the accompanying map. Advertising of regular interstate charter runs is not permitted, but observers say the company has been operating virtually on schedule.

During a 30-day period last summer the company carried 752 passengers Washington to Rehoboth, and 741 the other way, operating 7 days a week, 8 trips per day, 4 passengers per trip. Trips per day were later cut to 3.

▸**Loading**—The stop at Easton was begun Sept. 20, when Navy released its field there.

The Cessnas carry 3 persons in the back seat and 2 pilots in front. On this operation, one pilot flies the plane and the fourth passenger rides the co-pilot seat. Forty pounds of baggage are allowed per passenger.

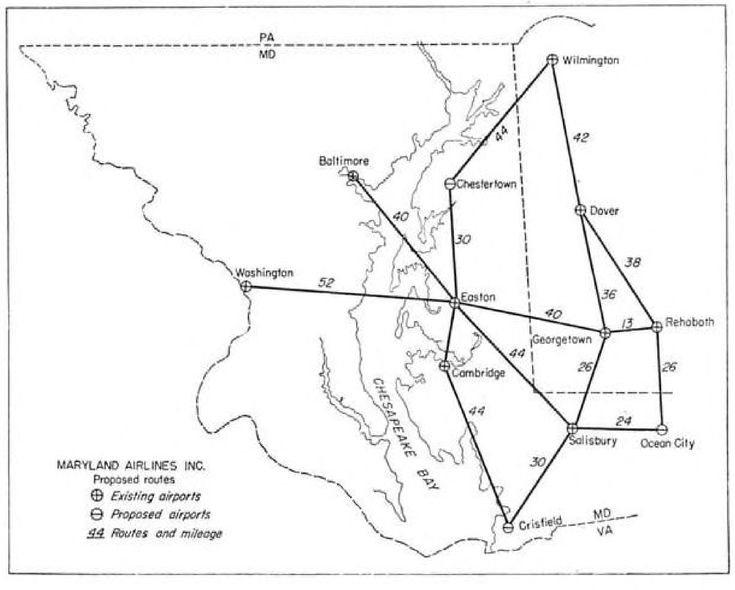
Company reports its average passenger fare at about 3 cents per mile. It has not enough data as yet to determine exact operating costs, but is convinced they are less than revenue. Officials of the company told AVIATION NEWS they believe their proposed certificated system could operate profitably without the mail or cargo which it will carry if certificated. During the summer season the present system ran at about 100 percent load factor, and since then the factor has been about 65 percent.

Maryland Airlines converted the first surplus UC-78 that was released, pioneering all the problems involved, including minor structural, electrical and other changes. Total cost per airplane, including decorating, painting, insignia, and certification, is about $2,500. They feel that their groundwork on the conversion will be valuable to other prospective users of this plane, of which they say about 1,500 will be available.

▸**Pilot Question**—The question of operation by one pilot on instrument and night flight is up for consideration by CAA-CAB in several different cases. A decision for two pilots probably would make the operation of this size airplane prohibitive on scheduled routes. The company believes that one pilot provides adequate safety, and is confident the government will so rule.

Maryland Airlines officials are keenly aware of the fact that intrastate, uncertificated airlines will have substantial advantages over certificated operations, because of federal safety and economic regulations imposed upon the latter. They call attention to a Supreme Court decision to the effect that there is no such thing as intrastate air traffic, and state that in their opinion authorization of air services by state commissions eventually will be done away with.

The company has made additional purchases and will have 7 planes in all: 6 in operation and 1 standby. Capitalization is $100,000 paid in. Headquarters is Easton, Md., where $50,000 will be spent for hangars, $25,000 for administration buildings and $25,000 for shops. A "model aviation lubrication station" will be established there in cooperation with Cities



Service of New York.

▸ **Officials** — The management is Granville K. Baker, president; Wayne Johnson, director and associate; Harrison B. McCauley, attorney; Malcolm L. Hathaway, director and officer; James E. Ryan, director and officer.

Spartan Operating 105-Mile Airline

About 900 passengers carried between Tulsa and Oklahoma City in three months.

Operators of Spartan Airlines, Inc., between Tulsa and Oklahoma City, 105-mile hop, contend they are proving that a short-haul line can parallel a major airline successfully, to public advantage, until trunk carriers can meet local traffic demands.

Using a Lockheed 10, the company, affiliated with Spartan School of Aeronautics and Spartan Aircraft Co., flies two round trips a day. Load factor is announced as close to 60 percent. Fare is $5 each way. In the three months of operation about 900 passengers have been carried. Oklahoma Corporation Commission approved the service after two hearings.

▸ **Two Demands**—Officials believe two public demands are being met. First is the assurance that space is available for the short haul customer who in recent years has usually been unable to get a seat for such short hops. Second, major airlines do not yet have enough schedules to offer early morning and late evening service between many nearby pairs of cities.

"Later, when major airlines will have schedules every hour, the need for such service by a parallel carrier probably will not exist," a company official said. "Certainly this will be the case if the big lines go in for local runs similar to those on the railroads."

Spartan set up its schedules after an extensive survey of potential patrons. Three thousand letters were sent out asking:

▸ Are you interested in such a service?

▸ What schedule would you like?

▸ What could you afford to pay?

About 1,500 replies were received and from these the two round trips a day were set to give a full business day in either city and return on the same day.

The transport leaves Tulsa at 7:30 a.m., arriving at Oklahoma City at 8:20 a.m., leaving again at 8:35 a.m. and arriving in Tulsa at 9:25. The afternoon flight leaves Tulsa at 4:35 p.m., departing from Oklahoma City at 5:40 p.m.

▸ **Landing Problem**—Considerable difficulty in obtaining landing rights at Oklahoma City was encountered because Will Rogers Field had heavy military traffic. Spartan set up its own telephone, and a stage house at Bethany Field, north of Oklahoma City. Permission has now been received to operate from Will Rogers, which will improve service.

The line has established an office in Oklahoma City's Biltmore Hotel with a full time representative. In Tulsa, reservations are made through the Mayo Hotel or at the reservation desk at Hangar 2 at Spartan School. Ground transportation is furnished by the Tulsa limousine service and by a cab company in Oklahoma City.

So far, the service does not pay its way financially but officials believe it could do so with more and larger equipment, when the public has been educated to its availability and convenience.

Seven Cessnas In Maryland Fleet: *Passengers shown aboard one of three Cessna transports of Maryland Airlines, Inc., which have operated on a non-scheduled basis since July 20 between Washington, D. C., and Rehoboth, Del., with a stop at Easton, Md. Four more Cessnas are being added to the company's fleet, and service to Baltimore and other Maryland points will be added soon, under the present ambitious plans of the new operators.*

Feeder Aid

Essair, the Texas feederline, had an early sample of airline cooperation. Despite absence of an interline ticketing agreement, the company found a number of its passengers carrying tickets on its Amarillo-Houston route issued by other airlines. Essair started carrying passengers Aug. 25.

Feeder Expenses Studied By CAB

Cost of prospective feederline operations, both to the government and the carriers, appears with increasing frequency as a major factor in Civil Aeronautics Board consideration of requests to provide service of this type.

Two oral arguments have been held on regional feederline applications—the Rocky Mountain case and the West Coast case. In the latter, as in the Rocky Mountain proceeding, questions by Board members indicated concern over evident high expenses of feeder operations, cost to the government in mail subsidies, traffic potential of small communities, and feasibility of service with equipment now available.

▸ **Rail Precedent**—Member Harllee Branch, apprehensive lest sufficient business to justify high feeder operational cost fail to materialize in the West Coast area, recalled experience with short-line railroads sustained with mail pay, and wondered whether CAB, by certificating certain feederlines, might find itself in a similar dilemma.

General opposition to feeder service by new carriers was led chiefly by United Air Lines and the Western-Inland System. It brought forth extensive questioning on possibility of such service from trunk line operators. The questioning indicated that in this event, if the service operated at a loss, the problem was whether such loss would be absorbed by the carrier or the government through mail pay.

The West Coast case is the first carrying an examiner's recommendation for combined passenger-pickup service.

Airport Operators Face Crisis As CAA Shuts Down 20 Towers

Bulk of municipalities and private interests are finding cost of maintaining war-expanded service is far too costly.

Discontinuance of Federal operation of 20 airport control towers, and the threatened shutdown of many others, brings to a head many problems involving national and local government relations, airport operating procedures and the extent to which air transport should pay for facilities.

Exercising a right repeatedly affirmed in courts, CAA has long assumed jurisdiction over air traffic along airways. During the war, it operated airport control towers with money supplied by Army and Navy.

▸ **Funds Withdrawn** — Those services now have withdrawn the funds; CAA maintains it has no budget of its own for the purpose; therefore the towers must be supported either by municipalities or private interests, or shut down.

Unwilling to see the towers closed, large cities or private operators have assumed support in 13 cases, but operation is too costly for the bulk of the cities concerned. Many already are plagued with deficits at their airports and, additionally, most of the towers affected have been expanded during the war so that operation is more expensive than when cities previously paid the bill.

▸ **Aid Sought**—CAA is asking the Budget Bureau to approve a supplemental appropriation to continue operation of the towers, and a like appropriation in its budget for fiscal 1947. It also is trying to persuade the Army and Navy to continue providing funds until money for the purpose is made available to CAA.

Meanwhile, towers have been closed and notification has been sent out that CAA operation of 24 others will be discontinued within 60 to 90 days.

The problem has been well delineated by William L. Anderson, executive director of the Pennsylvania Aeronautics Commission. The tower at Harrisburg Airport is slated to be closed Dec. 1 unless the state pays CAA $30,000 a year to continue operation. Anderson wrote to Administrator T. P. Wright:

▸ "CAA representatives and subsequently your office have opposed the states' having anything to do with state airways or the flow of traffic through states. I feel that traffic control towers are part and parcel of your Airways Traffic Control System; and in fact the principal reason for the large increase in the cost of operating the Harrisburg tower (from $10,000 to $30,000) is due to the increased responsibilities you have placed upon control tower operators. . . ."

▸ **Wants Test**—Anderson proposes to make a test case of Harrisburg, permitting the tower to close in order to focus attention on the entire situation.

The objection of many municipalities' to reassuming cost of tower operation is not based entirely on expense. There is considerable feeling that cities owning airports have been "subsidizing" airlines through low landing fees. Control tower operation is viewed as a form of further subsidization, and municipalities argue that the airlines—chief beneficiaries of the towers—should pay at least part of the service which the towers provide for them.

▸ While it is true that average landing fees are less than cost of repair and maintenance of runways, they are being increased. Further, airlines are recognizing that the fees in some cases are too low and have initiated discussions on increases.

Towers Dropped

Air traffic control towers at which CAA has discontinued operations are listed by the Association of Airport Executives as:

Tri-Cities, Bristol, Tenn.
Mobile, Ala.
Augusta, Me.
Augusta, Ga.
Burlington, Vt.
Philadelphia, Pa.
Lynchburg, Va.
Raleigh, N. C.
Chattanooga, Tenn.
Battle Creek, Mich.
Coeur d'Alene, Idaho
Pocatello, Idaho
Helena, Mont.
Ogden, Utah
Palm Springs, Calif.
Daggett, Calif.
Fairbanks, Alaska
Anchorage, Alaska
Indianapolis (Stout Field), Ind.
Tampa (Peter O'Knight), Fla.

▸ Towers now being operated by CAA which have strong possibility of discontinuance:

Baltimore, Md.
Hartford, Conn.
Niagara Falls, N. Y.
Providence, R. I.
Harrisburg, Pa.
Petersburg, Va.
Charlotte, N. C.
Greensboro, N. C.
Bismarck, N. D.
Fargo, N. D.
Louisville (Standiford), Ky.
Rochester, Minn.
South Bend, Ind.
St. Paul, Minn.
Abilene, Texas
Kansas City (Fairfax), Kans.
Hutchinson, Kans.
Bakersfield, Calif.
Phoenix, Ariz.
Sacramento, Calif.
Winslow, Ariz.
Billings, Mont.
Yakima, Wash.
Akron, Ohio

▸ Operation of several of those listed is being continued by cities or by private interests.

SHORT FORM TICKET: *Convenience of the new short form ticket being used by the airlines is shown in this picture from Braniff Airways. Comparing it with the longer form it supersedes, is Jack Brough, Braniff's superintendent of operations. Three new-type ticket books could handle the trip covered by the old style ticket held by Frank Walker of Aircraft Mechanics, Inc.*

Mexican Line Extended

The Mexican government recently granted Communicaciones Aereas de Vera Cruz, S. A. (CAVSA) an extension of its routes in southeastern Mexico from Villahermosa to Mexico City. CAVSA may now provide a direct link between the Mexican capital and the 40 communities it already serves.

PICAO Research Coordinating Role Gains Impetus At Parley

Membership seen in agreement that organization should not undertake independent projects but cites need of agency to bind together international efforts; Burden visits session.

Possibility that the Provisional International Civil Aviation Organization will assume the role of a world-wide coordinating agency for technical research in aviation problems was foreshadowed in last week's meeting of PICAO's Air Navigation Committee in Montreal.

The question was brought to the attention of the committee by the secretariat, with the further suggestion that the organization itself might engage in some research work which would not involve extensive laboratory and other facilities.

▸ **No Research**—Committee members, however, generally agreed with Sir Frederick Bowhill, United Kingdom representative, that it would be impossible for the organization to carry on research in addition to its other functions.

At the same time, they agreed that PICAO should act as a coordinating agency to prevent the wasted effort of parallel projects which might have been scheduled by different member-states. Under the Committee's recommendation PICAO would also bring forward specific problems to the nations best qualified to undertake the research.

Now firmly established as a working international organization, PICAO was visited by William A. M. Burden, Assistant Secretary of Commerce for Air.

▸ **Exaggeration** — Discussing some of the problems of international air transport at a press conference, Burden said he thought economic difficulties embodied in the controversial "fifth freedom" question were exaggerated.

"Many of the economic problems we worried about at Chicago," he said, "don't seem to arise in actual practice."

PICAO's interim council has confirmed a few senior appointments to the secretariat. Among them is that of E. R. Marlin, a specialist on international organization in the Bureau of the Budget, who was appointed liaison officer in the office of the PICAO president.

EASTERN'S LAST MILITARY FLIGHT:

Flight and ground personnel from Caribbean and South Atlantic bases of Eastern Air Lines' Military Transport Division, an Air Transport Command operation, stream off the C-46 that ended EAL's last military flight, at Miami Oct. 15. Fifteen thousand service men were returned to the U. S. from South American bases during the last four months of Eastern's three and one-half year ATC operation.

PICAO 'Climate'

Climate may be an important factor in determining where the Interim Assembly of the Provisional International Civil Aviation Organization will meet early next year, judging from discussions at the PICAO Interim Council meeting at Montreal.

The assembly will hold its first meeting probably in April. Apparently, Montreal will not be the site. Lone supporter of the Canadian city as the place for the sessions was Sir Frederick Bowhill, U. K. representative, who maintained it would be logical to meet where the PICAO secretariat is located.

▸ Inquiry was made of Dr. Cesar Grillo, Brazilian delegate, about Rio de Janeiro, and a formal invitation came from Mohamed Roushdy Bey of Egypt to convene the assembly in Cairo, where the International Air Transport Association is to meet in October, 1946.

Essair Operation Revision Requested

Essair, Inc., has asked the Civil Aeronautics Board for permission to run turn-around flights from Houston to Austin on its intrastate Texas route.

The line's certificate requires that each point on its route be served on every schedule, but its brief experience has shown that Houston-Austin traffic is the heaviest.

▸ **Travel Tendency** — Of the 461 revenue passengers carried during the first 10 days of September, only 27 went straight through between the two terminals. But 108 traveled between Houston and Austin.

The line began operating Aug. 1, carrying cargo and mail. From Aug. 1 to Aug. 27 all schedules were completed. Passenger service was inaugurated Aug. 25 with two schedules daily. These were raised to four Aug. 31. The company's Lockheed *Electras* have been running with a 55 to 65 percent load factor.

During August, 2,753-lb. of mail were carried from Amarillo to Houston and 6,895 in the other direction. Poundage has increased, and lately the line has been leaving Houston with about 300-lb. of mail per day.

TWA Survey Trip Covers Wide Area

Fourteen thousand mile flight over European routes returns after studying many points still lacking air treaty agreements.

Transcontinental & Western Air's survey flight of its European routes returned to Washington a few days ago after stopping at 19 foreign points, many of them not yet covered by agreement and some not on TWA's certificated routes.

The flight left Washington with 14 observers and crew members, Sept. 20, going on the outbound trip to Gander, Newfoundland; Goose Bay, Labrador; Foynes and Dublin, Ireland; Paris; Geneva; Madrid; Rome and Naples; Athens, and Cairo.

▸ **Flight Log**—The C-54E returned to Washington after more than 14,000 miles of flying, Oct. 26, from Cairo via Bengasi and Tripoli, Libya; Tunis, Tunisia; Algiers, Algeria; Casablanca, Morocco; Lisbon, Portugal; Santa Maria, Azores, and Stephenville, Newfoundland.

Of these, Newfoundland, Foynes, Paris, Switzerland, Madrid, Rome, Athens, Cairo, Bengasi, Tripoli, Tunis, Algiers and Lisbon are on the Civil Aeronautics Board's initial service pattern for TWA's overseas operation. Goose Bay, Dublin, Naples, and Stephenville are alternates. Casablanca and the Azores are not included in TWA's certificate, which does, however, permit it to operate eastward from Cairo to Bombay. Survey flights over this part of the route will be made later.

Of the route surveyed, points on the northern leg are most likely to receive the first passenger service when TWA begins its commercial operation, probably not before the end of this month. State Department is working to effect air agreement with other nations on the route.

▸ **Treaty Hopes**—Among the latter is France, with which officials hope an agreement can be concluded soon. There is also hope that some agreement can be reached with Greece and Egypt whereby landings may be made at Athens and Cairo with fifth freedom, or intermediate, traffic, although possibly on an interim basis. Arrangements to be made with Portugal will govern landings at Lisbon and probably the Azores. Similarly, the situation at Tunis and Algiers likely will be affected by arrangements with France. Libya is under British military control. Assurances have been given that a U. S. flag line can operate through Libya, but traffic considerations have yet to be resolved. Data obtained by TWA on the survey flight has been sent to its Kansas City headquarters for study. The men who compiled it are:

Guy L. Arnold, chief navigator; R. C. Ayres, communications engineer; A. A. Brick, chief flight engineer; Waldon G. Golien, supervisor of operations and captain on the flight; F. R. Henderson, special assistant and first officer; J. J. Kennyhertz, chief flight radio operator; Gerard Metzger, survey secretary; Alvin D. Niemeyer, Civil Aeronautics Administration; J. Harold Poole, maintenance and equipment; Peter H. Redpath, technical executive; Roy Stears, airport surveyor; William J. Sumits, photographer, T. M. Sullivan, airport engineer, and Earl Taylor, C-54 equipment engineer.

TWA Ends Survey Flight: *Part of the crew on the TWA European survey flight are shown after their return to Washington National Airport, puzzling over a passport problem. Left to right they are F. R. Henderson, first officer; Clark Tawzer, Air Transport Command flight superintendent for TWA's Inter-Continental Division (not on the survey flight); J. J. Kennyhertz, chief flight radio operator; W. G. Golien, flight captain; Gerard Metzger, survey secretary, and Thomas M. Sullivan, TWA airport engineer.*

Avco AA Control Ended By Order

The Civil Aeronautics Board has directed Aviation Corp. to divest itself of control of American Airlines by reducing its voting stock in AA to not more than 4 percent of such stock outstanding.

In an order issued last week, the board made final conclusions set forth in its show cause order (AVIATION NEWS, Oct. 15), finding further that Avco "has not shown any cause why a final order . . . should not now be issued." Under terms of the order, Avco must file monthly reports, through August 1946, with CAB on divestiture status and, within 10 months, such additional evidence as the board may require to show compliance. Divestment must be accomplished by July 31 of next year.

▸ **Case Ends**—Last week's order closed CAB's investigation begun Sept. 19 to determine whether Avco's holding of 287,538 shares of AA stock constituted control.

IATA Rate Conference Procedure Strongly Criticized By Pan Am

Line sees increased fares as outcome but government officials give informal approval to system set up at Montreal meeting.

The rate conference procedure devised by the International Air Transport Association at its first annual meeting in Montreal has received informal approval of government officials connected with aviation policy but strong condemnation from Pan American Airways.

While the work of IATA was said by officials not to be a proper subject for quotable comment, it was recalled that the conference mechanism has been favored consistently by this government in preference to rate-fixing by any intergovernmental organization. On this basis persons in the government unofficially lauded the IATA arrangement.

▸**Criticism**—It was predicted in Montreal that early acceleration of worldwide air transport would result from the IATA meeting and operators expressed the opinion that the traffic conferences would promote efficient services at reasonable rates.

But, despite its representation at the IATA meeting where the conferences were approved unanimously, Pan Am contended before the Civil Aeronautics Board last week that high fares would result and left the inference that it would not participate.

▸Giving his oral argument in the Pacific case, Pan Am attorney Henry J. Friendly predicted establishment of traffic quotas and in reference to United States carriers said "Some of those who were most enthusiastic for competition have now turned their enthusiasm to the use of the conference procedure for the purpose of holding fares up."

Not specifically mentioning IATA, he added, "If we are going to have quotas and conferences, competitive American-flag service abroad means all the waste and inefficiency associated with duplication of services and facilities with none of the advantages which competition is supposed to bring."

▸**Early Action**—It was predicted meanwhile, that the traffic conferences, especially that for the North Atlantic, would be called soon so that the multitude of problems confronting airline operators in given areas and along various routes may be tackled and solutions worked out. There still was hope in some quarters that the problem created by Pan Am's rate reduction between New York and London could be settled amicably.

▸"I have never left a meeting with more hope than I do this one," said IATA President H. J. Symington, in response to which John C. Cooper of Pan Am said IATA's success depended in large measure upon Symington's "advice, courage and far-sighted judgment."

One of the next steps IATA is expected to take, through its executive committee of which Cooper is chairman, is to make representations to the Provisional International Civil Aviation Organization regarding removal or relaxation of immigration, customs and other governmental restrictions "which are prejudicial to rapid and efficient air transportation." A resolution directing this action, presented by John E. Slater of American Export Airlines, was unanimously adopted at the Montreal meeting.

▸**Results**—In resume, the meeting also recorded these results:

1. Election of Sir William Percival Hildred, director-general of civil aviation for the United Kingdom, to be director-general of IATA from April 1, 1946, to December 31, 1952, at a reported salary of $20,000 (Canadian) annually.

2. Election of Hafez Afifi Pasha of MISR Airwork, Egyptian line, to suceed Symington when the next annual meeting opens next October in Cairo.

3. Enlargement of the executive committee from nine to 12 by the addition of Dr. Hassen Sadik Pasha of MISR to hold office until the close of next year's meeting, Brig. Gen. T. B. Wilson of TWA until the close of the 1947 meeting, and Maj. Gen. T. H. Shen of China National Aviation Corp. until the close of the 1948 meeting.

4. Adoption of a resolution authorizing establishment of branch offices at New York, Paris, Rio de Janeiro, Cairo, Johannesburg and Sydney as and when deemed advisable.

5. Appointment of Dr. L. C. Tombs to continue as acting secretary and treasurer.

6. Appointments of members of the financial, legal, technical and traffic committees.

7. Approval of a budget, not made public, for 1946 as submitted by the executive committee and a schedule of dues for the different categories of members for 1946.

8. Adopting of a resolution to the effect that provisions of the Articles of Association regarding termination of membership for failure to operate shall not apply before January 1, 1947.

9. Approval of the report of the executive committee, including the organization of a secretariat and head office, and the rules and regulations as adopted by the committee at its meeting last summer in Paris.

Pattern Controls Set To Terminate

A letter terminating wartime controls over the air service pattern has been submitted to Secretary of War Patterson. He was expected to sign it momentarily, possibly over the weekend.

Removal of these controls, under which changes in the wartime service pattern proposed by the airlines were subject to War Department approval, has been due since the end of priorities, Oct. 15 (AVIATION NEWS, Sept. 10).

▸**War Role**—Exercised to attain the utmost utilization of equipment during the war, the controls reached their peak in 1943 and early 1944. In March, last year, the Army turned over to Civil Aeronautics Board the duty of passing on proposed changes, though it was notified in each case and reserved the right to veto. In recent months that right has been used less and less.

The controls were authorized by Executive Order 8974, which in turn was augmented by a memorandum May 6, 1942, covering both priorities and service change control. This memorandum was rescinded last Sept. 6. Since that time there has been but one instance in which the control was employed. In that, the Department approved a request by American Airlines to withdraw service to Long Beach and Palm Springs, Calif.

Traffic Potentials Mark Pacific Case

Final determination seen largely dependent upon detailed examination of passenger possibilities as stressed during oral argument.

Traffic generating possibilities will figure prominently in the Civil Aeronautics Board's final determination of routes to be certificated across the Pacific and between the United States and Alaska, judging from oral argument in the Pacific case last week. Various phases of the traffic question were emphasized by most of the applicants and explored further through CAB interrogation.

▸**Request Roster** — Arguing for a North Pacific route were Northwest Airlines, Pan American Airways, Pennsylvania-Central Airlines, and Transcontinental & Western Air. Northwest, recommended by Examiners Ross I. Newmann and Lawrence J. Kosters for a route from New York and Chicago to the Philippines (AVIATION NEWS, Sept. 3), asked the board to make Seattle a gateway to the Orient by granting it a Seattle-Alaska segment connecting at Anchorage. The extension, Northwest contended, would strengthen the entire North Pacific route by tapping additional traffic in the Pacific Northwest area.

▸Pan American, adhering to its traditional view against competition, maintained that the volume of air traffic in the Pacific would not be sufficient to permit two competing lines to operate economically and efficiently. Should the board certificate another carrier to the Orient, PAA felt that it should be allowed to "compete" over the best and shortest route—a route which "it has the vision to foresee and the courage to pioneer." Rather than be "shackled" to the central Pacific route recommended by the examiners, PAA asked to be given a chance of competing for traffic from Chicago and points east by operating over the northern route from Seattle.

▸PCA contended that the board should follow the trade area concept established in the North Atlantic case and select the carrier on the basis of ability to generate traffic. In this connection, PCA pointed to the large number of cities it serves and could link with the Orient, including New York, Chicago, Detroit and Washington.

▸TWA argued for a route from San Francisco to India via Seattle, Alaska, and traffic producing areas in Japan, Korea, Manchuria, and China. Such route would connect with that granted TWA in the North Atlantic case and enable it to provide round-the-world service. The carrier said that such extension of its route was necessary in order not to place it in a disadvantageous position resulting from breaking the route in the middle of the important Europe-Asia traffic flow.

CAB Member Oswald Ryan raised a significant question which the board will probably consider in making its final decision. He asked whether CAB is under duty, in view of section 2 of the Civil Aeronautics Act requiring preservation of inherent advantages of air transportation, to permit non-stop international operations over Great Circle routes. Also to be considered in cases where a carrier is required to stop at intermediate points is the factor of traffic diversion from other carriers.

Proposals for new or additional U. S.-Alaska service, involving applications by Alaska Airlines, PAA, United Air Lines, Western Air Lines, and Woodley Airways, were closely scrutinized by board members. Applicants were questioned on sources and destination of traffic, passenger estimates, effect of competition, and ratio between traffic and population.

Philadelphia Terminal

Representatives of Eastern, National, TWA, and United airlines have submitted plans for an international air terminal at Philadelphia's Southwest Airport, a co-terminal on North Atlantic air routes.

Blueprints envision an ultra-modern administration building, ultimately to have four wings and cost an estimated $3,600,000. The first structure would cost between $700,000 and $1,000,000.

At Pacific Case Argument: *The Civil Aeronautics Board, operating at 80 percent of its statutory five-man strength, is shown above as it listened last week to oral arguments in the Pacific route case. The four Board members have heard five oral arguments since the resignation of Vice Chairman Edward P. Warner, Sept. 20, of which the Pacific case, involving international routes, was the most pretentious. Others were in the Hawaiian, Rocky Mountain, West Coast, and Florida route proceedings. The Board's restoration to full strength awaits appointment by President Truman of a successor to Warner. Left to right, members shown are Oswald Ryan, Chairman L. Welch Pogue, Harllee Branch and Josh Lee. Other picture shows the crowd at the Pacific argument. Seth Richardson, attorney for Northwest Airlines, is speaking.*

Chicago Board Picks New Airport Site

$40,000,000 project would be located 17 miles northwest of Loop, beyond present field.

Prospects for Chicago's new airport improved last week with a recommendation by the city's Airport Selection Board of a site near Park Ridge, Ill., about 17 miles northwest of the Loop and four and a half miles west and 12 miles north of the present municipal airport.

The new location, unanimous choice of the Selection Board, is a field adjoining the closed plant, owned by the Army, where Douglas Aircraft Corp. made four-engine cargo planes during the war.

▸ **Cost**—Total tract may encompass 5,235 acres, with two highway relocations. Cost is estimated at $40,000,000.

Since two weeks will be required to draft the report and prepare accompanying exhibits, it will not be presented formally to Mayor Edward J. Kelly before Nov. 15. Chicago's city council will have final say on the selection, but since the mayor is assumed to have approved the report, the council is expected to go along.

The Board recommends that the present airport be used pending completion of the new one, and thereafter for whatever need it can best fill. After the new airport is placed in service the present one likely will be used for cargo and unscheduled flying for a time, and eventually for cargo only.

▸ **Details**—Under the Board's plans, terminal buildings would occupy an area 8,000 x 4,500 ft. in the center of the new field, reached by a tunnel from a superhighway. Airline hangars would be placed on 1,647 acres of rental land at the edge of the airport and between runways. Runways would be of the tangential type, eight of them 6,150 ft. long, and 12 of 7,700 ft. Two of the latter might possibly be extended later to 17,000 ft.

Estimates are that the distance of the proposed airport from the Loop will be cut to 15 miles by present and contemplated superhighways, with eventual motoring time well under the 50 minutes needed to get to the present municipal airport 12 miles from downtown Chicago.

▸ Expectation is that the new field will be big enough to handle whatever traffic may develop in the next 25 years. Compared with the present municipal airport, which handles about 258 operations daily and has a top capacity of 120 an hour, a port of the size contemplated could handle 360 arrivals and departures hourly, according to supporters of the plan.

Chairman of the Selection Board, which also is charged with continuing studies to develop the pattern for the entire airport program of the Chicago area, is Merrill C. Meigs, aviation enthusiast and former newspaper publisher.

Comment Asked

The question of a separate airworthiness category for transport planes used exclusively for cargo is being revived, and airlines have been asked to submit comment on the issue to the Air Transport Association not later than Nov. 10.

In promulgating a new Part 04 of the Civil Air Regulations, governing airworthiness requirements for transport planes, the CAB recently held insufficient evidence was presented at the hearing on proposed changes in the regulations to justify establishment of separate standards of airworthiness for passenger and cargo aircraft. The result is that certification requirements will be the same for planes in either group.

Representatives of the airlines took no stand on the question, pleading lack of time to study it. Manufacturers advocated a separate cargo category, and the Aircraft Industries Association expects to renew the request, with the support of additional data.

▸ ATA, calling attention to the possibility that a separate cargo category might mean different safety standards for cargo planes than those used only to carry passengers, has asked airline comment to aid it in formulating its own policy.

ATA Meeting Set

Annual meeting of the Air Transport Association membership will be held at the Carlton hotel in Washington Nov. 27 for election of directors and consideration of other business. The present board will meet a day earlier.

Prompt Market Bid Asked By Officials

An appeal for prompt and efficient action by all U. S. aviation, government and private, in competition for post-war aviation markets was made last week by three CAA officials recently returned from a world trip as guests of the Air Transport Command.

The three, who visited 42 points along a 37,000-mile route to study air operations and facilities, are Fred M. Lanter, assistant administrator for safety regulations; Chris M. Lample, director, Air Navigation Facilities Service, and J. L. Kinney, director, Flight Operations Service.

▸ **"Customer" Loss**—Among the 14 points in their conclusions was the finding that lack of promptness on the part of U. S. aviation is causing "customers" to buy equipment and seek advice elsewhere. They also urged immediate action by the U. S. to obtain control of certain landing areas and associated facilities when de-activated by the military, among them certain Pacific islands needed as alternate stops.

Citing a wide difference between military and commercial transport operations, the trio cautioned against relaxation in CAA requirements for navigational facilities for civil air carriers and competence standards for pilots and crews. They urged that carefully selected CAA personnel be stationed in each of the countries to be served by U. S. flag lines.

PCA Files Notice Of Service Changes

Pennsylvania - Central Airlines notified the CAB last week of a number of service changes effective Nov. 15, among them resumption of service between Norfolk and Knoxville via five intermediate points on AM 51. The service had been suspended since May, 1942, because of the war.

New point on the route will be Elizabeth City, N. C. Others, previously served, are Rocky Mount, Raleigh-Durham, Greensboro-High Point, and Asheville-Hendersonville. Hickory, N. C., will be included after completion of airport improvements there.

PCA on the same date will inaugurate service to Elmira-Corning and Rochester, N. Y., on AM 34. Service to Williamsport, Pa., on the same route, suspended since October, 1940, because of inadequate airport facilities, will be resumed.

Four non-stop round trips daily are being started between Washington and Akron on AM 14, Detroit and Youngstown on AM 14, Flint and Grand Rapids on AM 32, and Washington and Rochester on AM 34.

▸ PCA's notification was the only new one received by the Board up until late last week, but United Air Lines announced separately it will inaugurate direct service into Detroit, effective Jan. 3.

TWA International Officials Announced

Top officials of Transcontinental & Western Air's new International Division were announced last week by T. B. Wilson, managing director and chairman of TWA's Board.

Otis F. Bryan will be vice-president, operations; Dean J. Hanscom, director of traffic, and Maurice E. Sheahan, director of budgets and methods.

▸ Bryan has been with TWA since 1929. A 2,000,000-mile pilot, he was vice-president in charge of war projects, directing TWA's Intercontinental Division which operated for the Air Transport Command. Hanscom previously was in the steamship business, going to TWA from the American President Lines, with which he was general passenger agent in charge of the Eastern area until 1933.

▸ Sheahan was appointed to TWA after three and a half years with the Army Transportation Corps in the China theater. He has 28 years of transportation background.

The new division was created recently by TWA directors to handle its overseas operations. The company now consists of one executive staff and two operating divisions — International and Transcontinental. Paul E. Richter, formerly of the Naval Air Transport Service, has returned to TWA as executive vice-president. E. Lee Talman is senior vice-president. J. A. Collings, vice-president of transportation, will continue in charge of the Transcontinental Division operation, according to President Jack Frye.

As part of the changes in the creation of the International Division, Robert E. Lees will be executive assistant to Wilson. Lees has been with TWA since April, 1943.

PCA INSPECTS C-54 CONVERSION:

PCA officials visited the Glenn L. Martin Co. plant at Baltimore last week to inspect conversion progress on the basic type C-54's recently acquired by the airline. The ships are being fitted to carry 56 passengers. First is to go into service by the end of the year and others in an initial fleet of 12 early in 1946. Photo shows, left to right, Vice-presidents J. H. Carmichael and Luther Harris, Chief Engineer B. J. Vierling, and President C. Bedell Monro of PCA, and Peyton Magruder and Warren Jones of Martin.

CAB SCHEDULE

Nov. 5. Briefs due in New England case. (Docket 399 et al.)
Nov. 5. Prehearing conference on Pan American Airways application for amendment of trans-Atlantic air routes. (Docket 2076.)
Nov. 5. Hearing in Mississippi Valley case at New Orleans, La. (Docket 548 et al.)
Nov. 5. Start of a series of 27 hearings, chiefly on proposals for non-scheduled and charter service in Alaska. Hearings, continuing through Dec. 18, will be held before Examiners Stough and Fitzmaurice.
Nov. 7. Briefs dues in International Government Travel Discount case. Postponed from Oct. 25. (Docket 1941.)
Nov. 13. Prehearing conference on Danish Air Lines (DDL) application for foreign air carrier permit. (Docket 2077.)
Nov. 14. Briefs due in Trans-Marine case. (Docket 1967.)
Nov. 26. Hearing on Swedish Intercontinental Airlines (SILA) application for foreign air carrier permit. (Docket 2071)
Nov. 26. Oral argument in investigation of non-scheduled air services. (Docket 1501.)
Nov. 30. Briefs due in South Atlantic case. Postponed from Oct. 18 and 29. (Docket 1171 et al.)
Dec. 3. Oral argument in National-Caribbean Atlantic control case. (Docket 1907 et al.)
Dec. 3. Briefs due in Great Lakes Area case. (Docket 535 et al.)
Dec. 12. Oral argument in South Atlantic case. Postponed from Nov. 12. (Docket 1171 et al.)
Dec. 14. Exchange of exhibits in Middle Atlantic case. Postponed from Nov. 1 and 30. (Docket 674 et al.)
Dec. 28. Exchange of rebuttal exhibits in Middle Atlantic case. (Docket 674 at al.)
Jan. 4. Exchange of exhibits in Kansas City-Memphis-Florida case. Postponed from Nov. 1 and Dec. 7. (Docket 1051 et al.)
Jan 14. Hearing in Middle Atlantic case. (Docket 764 et al.)
Jan 21. Rebuttal exhibits due in Kansas City-Memphis-Florida case. Postponed from Nov. 20 and Dec. 24. (Docket 1051 et al.)
Jan 31. Comments due on proposed new Part 42, Civil Air Regulations, non-scheduled air carrier certification and operation rules. Extended from Oct. 1.
Feb. 5. Hearing in Kansas City-Memphis-Florida case. (Docket 1051 et al.)
Feb. 18. Exchange of exhibits in Pan American Airways application for domestic routes. (Docket 1803.)
Mar. 18. Rebuttal exhibits due in Pan American Airways application for domestic routes. (Docket 1803.)
Apr. 1. Hearing on Pan American Airways application for domestic routes. (Docket 1803.)

Surplus Airliners Spur New Output

Eastern Air Lines' cancellation of its order with Curtiss-Wright Corp. for CW-20E *Commandos* in favor of surplus transports was seen in some circles as evidence of the impetus surplus is providing for the production of new models.

Curtiss-Wright, which announced mutual agreement to cancel Eastern's order, referred simultaneously to the CW-28 twin-engine, high performance transport, as being offered the airlines "for their future requirements." This was the company's entry in American Airlines' request for offers from the manufacturers on a 30-passenger, 275-mph. plane with larger cabin windows and bigger passenger door, (AVIATION NEWS, Sept. 17).

Dwindling Order—Eastern originally spoke for 20 of the CW-20E's, of which the familiar C-46 is the military version, but by the time of its cancellation the order had dropped to about 10.

Decision to cancel, the announcement said, was made after "careful consideration of present government policy on the disposal of surplus transport planes such as the Curtiss C-46 and Douglas C-47 and C-54."

While some C-46's have been declared surplus, it is doubtful that they will be allocated to the airlines. They are not yet licensed for commercial use, and Surplus Property Board sources say that advices from the Civil Aeronautics Administration indicate they cannot be licensed for passenger use, although possibly they could be for cargo and special service operation.

Unsuitable Version — C-47's are also on surplus but not being allocated. These are cargo versions of the DC-3 and said to be unsuitable for conversion.

Airline Finance Parley

Discussion of airline financial problems and election of new officers are principal items on the agenda for the Airline Finance and Accountant Conference quarterly meeting in Dallas, Dec. 13 and 14.

About 36 members, treasurers and assistant treasurers of all U. S. domestic and flag carriers and two Canadian lines, will consider new methods of corporate finance and necessity of financing purchase of new aircraft fleets for service on all airlines.

SHORTLINES

Braniff Airways has filed tariffs for airfreight service, to start on all its routes Dec. 1. Company claims the airfreight program is the first to be put into operation by an airline without mileage restrictions. Great Circle mileage will be used for rate computation. Rates range from 30 to 45 cents a ton-mile.

Canadian Pacific Airlines is using Lockheed *Lodestars* on the route it is operating for Trans-Canada Airlines daily except Sunday between Whitehorse, Yukon, and Fairbanks, Alaska. TCA subcontracted the operation because of shortage of equipment.

Chicago & Southern has announced it will request Civil Aeronautics Board permission to reduce passenger fares between many points on its system an average of 7 percent, effective Dec. 1.

Continental Air Lines' research department is busy in connection with the carrier's Denver-Chicago and Denver-St. Louis applications . . . Company expects to start service in January over its Tulsa-Oklahoma City-Hobbs route. Total scheduled mileage in the first quarter of 1946 will approximate 500,000 a month.

Delta Air Lines expects to have in service by Jan. 1 the two C-54's recently allocated the line. They are being converted at the Douglas plant at Santa Monica.

Eastern Air Lines' president, Capt. Eddie Rickenbacker, expects that airline service will bring every city in the world within 24 hours of every other in five years, and 1,000-mph. speeds will be routine within a decade, according to recent press reports.

Mid-Continent Airlines' September operating revenue of $338,939 was 77 percent higher than the same month last year. Revenue passengers were up 126 percent to 17,004.

Pan American Airways recently began carrying photographic copies of the *London Daily Mail* weekly digest to New York for reproduction in a trans-Atlantic edition.

Trans-Canada Air Lines has been authorized to carry local passengers between Vancouver and Victoria on transcontinental flights originating or terminating at Victoria, but cannot institute a purely local service between the two points. Canadian Pacific Airlines connects them with seven flights daily each way. . . . Delays in conversion and pilot training will make it Dec. 1 (instead of Nov. 1) when TCA starts using DC-3's on its Toronto-New York and Windsor-Montreal runs.

TWA has introduced a miniature time table, about half regulation size, for easy handling by the airline traveler.

Western Air Lines notes these increases in September, compared with the same month last year: revenue passenger miles, up 68.43 percent to 9,522,697; express pounds, up 56.62 percent to 108,028; express pound-miles, up 10.37 percent to 34,114,627. Increase for Western's Inland division passenger miles was 98.81 percent, to 1,532,768.

CAB ACTION

The Civil Aeronautics Board:

- Authorized Eastern Air Lines to inaugurate service between Columbia, S. C., and Detroit, Mich., on AM 6.
- Dismissed, from Great Lakes Area case (Docket 535 et al.) at applicant's request, application of Ohio Airlines (Docket 1072).
- Denied Pan American Airways temporary exemption from section 401 of Civil Aeronautics Act in order to serve Aruba, N. W. I.
- Dismissed from Mississippi Valley case (Docket 548 et al.), at applicants' request, applications of Arkansas Valley Airlines (Docket 1089), Frisco Transportation Co. (Docket 967), James R. Holstead (Docket 1713), and Southair, Inc. (Docket 1098).
- Rescinded service suspensions orders to permit Northwest Airlines to resume service between Minneapolis-St. Paul and Duluth-Superior on AM 45.
- Extended for three months from Oct. 31 temporary foreign air carrier permits of Royal Dutch Air Lines (KLM) and Expreso Aereo Inter-Americano, S. A.
- Granted Ray Peterson Flying Service, Bristol Bay Air Service, Minneapolis-St. Paul Metropolitan Airports Commission, and city of Great Falls, Mont., permission to intervene in Pacific case (Docket 547 et al.) and denied intervention to port, city, and Chamber of Commerce of Portland, Ore.
- Approved agreement relating to furnishing of personnel by Braniff Airways to Aerovias Braniff, S. A.
- Denied Pan American-Grace Airways temporary exemption from section 401 of Civil Aeronautics Act in order to provide service between Salta, Argentina, and Yacuiba, Bolivia, via Oran, Argentina.
- Rescinded temporary exemption order granted Alaska Central Airlines. The carrier has abandoned operations.
- Withdrew without prejudice application of Asbury Park-New York Transit Corp. (Docket 946) previously consolidated in Middle Atlantic case (Docket 674 et al.).
- Denied motion of American Airlines to dismiss investigation of domestic government travel discount case (Docket 1939).

Representation for Dealers

THE SURPLUS PROPERTY ADMINISTRATOR, W. Stuart Symington, has indicated to AVIATION NEWS a willingness to organize a fourth aviation industry advisory committee representing the nation's thousands of independent aircraft dealers and distributors.

An editorial on this page Oct. 15, titled "Mr. Symington's Oversight," noted that while the Administrator was setting up separate committees of advisers from the airlines, the aircraft manufacturers, and government aviation agencies, there were no indications of his intention to utilize the years of experience of the many thousands of the country's aircraft dealers.

"The only reason for our being here is to serve everybody in every group, and certainly we should include the independent aircraft distributors and dealers," Mr. Symington writes AVIATION NEWS.

The sensible attitude and willingness to right a wrong which the new Administrator displays is heartening contrast to the mismanagement and bungling inaction in surplus disposal which prevailed for many months before Mr. Symington came to town.

Public Relations in California

A SWELLING PUBLIC RESENTMENT at low flying aircraft and noise, with stubborn opposition to new airports in some areas, should be reminding many an aviation business man that not all citizens have yet been converted to starry eyed air enthusiasts. Nor, strangely enough, do many of them display any eagerness to become imbued.

The war is over, and John Q. Citizen considers that he put up with at least his share of inconveniences and taxes to get it over. He concedes that aviation went a long way to wipe out the axis. For that he is grateful. But from here on, he says, what does he owe to commercial aviation? Let it get along as best it can, on its own initiative and competitive merit like any other business. He feels commercial flying cannot expect to capitalize indefinitely on the wartime achievements of the air forces. He may need to be shown more and more as war memories dim why he should, for example, put up more taxes for airports.

Of course, if John Citizen acquires a personal interest in flying, or gets into aviation himself for a livelihood, or learns first hand the advantages of air transportation in his own business, that is the answer which assures the future of commercial aviation. It is the answer to the plea for more airports, lower fares, cheaper lightplanes and better lightplanes, and all the rest of aviation's far-flung dreams.

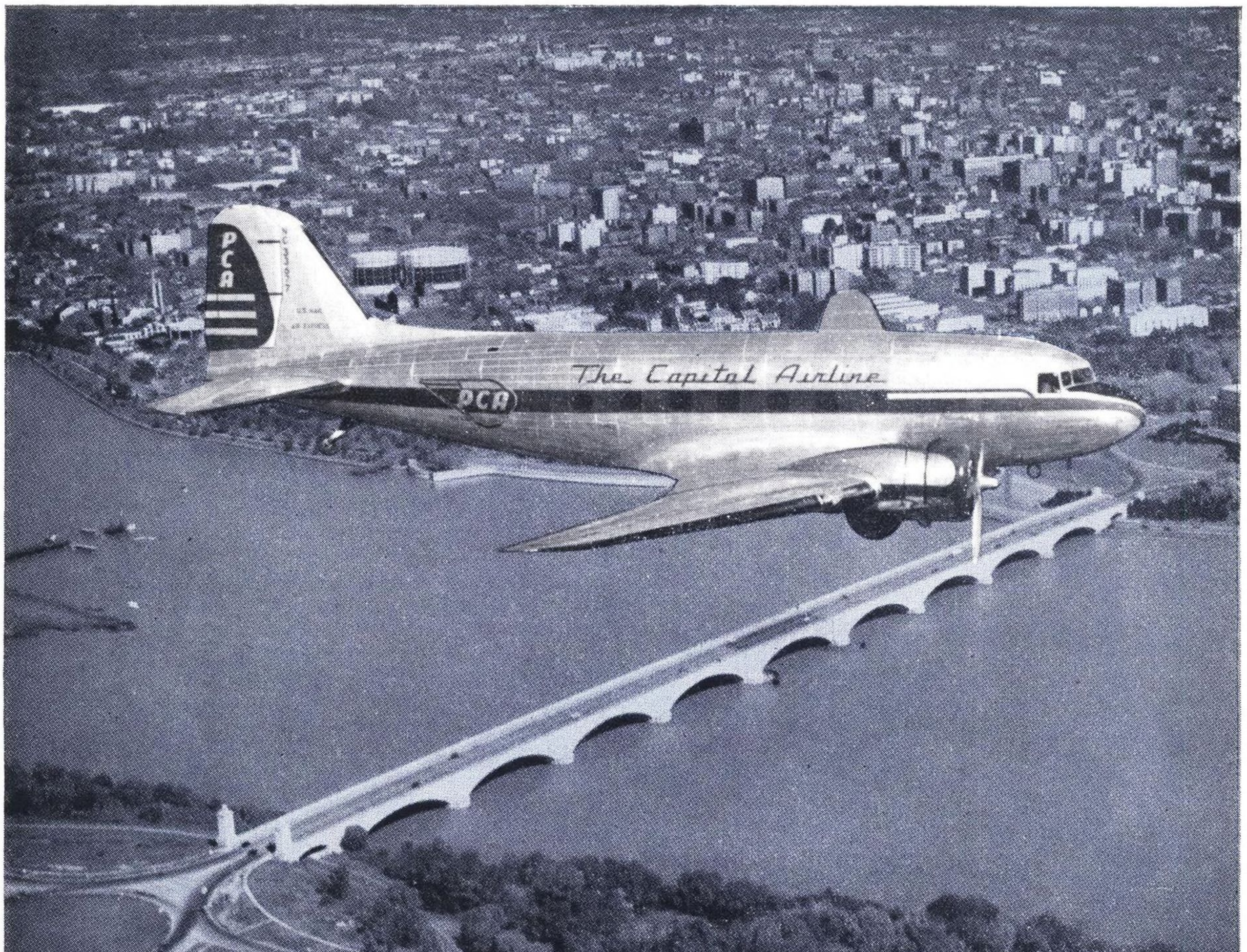
The most conspicuous example of a community's realization that it must win the public is a surge of organizational activities in California, prompted by the prospect of a special session of the state legislature to consider aviation legislation proposals.

A significant action has been Gov. Earl Warren's reinstatement of the Aviation Projects Committee of the California Reconstruction and Reemployment Commission, and the scheduling of a series of committee hearings in San Francisco and Los Angeles to consider airport problems, aviation taxation, and the possible creation of a state aviation commission.

At Los Angeles an attempt is being made to band together airlines, aircraft manufacturers, airport operators, and aircraft distributors in an association to raise a working fund of at least $50,000 a year to finance a state-wide aviation public relations program which will "sell" aviation to that big non-flying segment of the public and bring into focus at the state capital the attitude of the various branches of aviation concerning future proposed legislation.

During the past month a series of localized aviation conferences has been held by Chambers of Commerce in the state's population centers, and in Southern California the Los Angeles Chamber of Commerce is planning to hold its second California Aviation Conference within a few months. Other communities could well take a lesson from the progressive Californians in this matter of public relations. It is noteworthy, too, that, in this region at least, the airlines, fixed base operators, and the other varied interests who depend, directly or indirectly, upon flying for a livelihood, give indication of working together.

ROBERT H. WOOD



The Bearings that have never been Replaced

The six sturdy Timken Bearings in the main landing gear of the PCA Capitaliner shown above have never been replaced, even after thousands of landings under all conditions.

What's more, according to John Dale, PCA's lead mechanic, "No Timken Bearings have *ever* had to be replaced in the main landing gear of *any* PCA Capitaliner!"

Typical of the many outstanding performance records established by Timken Bearings for PCA is that of the veteran Capitaliner "Cleveland", which, in the words of Barney Vierling, PCA's Chief Engineer, "has just rounded out 16,761 hours of flight time. The "Cleveland" was drafted for military service by the Army Air Corps early in the war and has just recently been returned to PCA and is flying again on our regular routes."

"On the basis of airline estimates," Vierling continues, "this plane has made a total of 13,027 landings — averaging four landings for every three hours of flight during military service, and one landing per hour during commercial work."

★ ★ ★

If stamina like this—plus the other unique features of matchless Timken Bearings —can work for you, write us. Our engineers will be glad to make specific recommendations. The Timken Roller Bearing Company, Canton 6, Ohio.

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