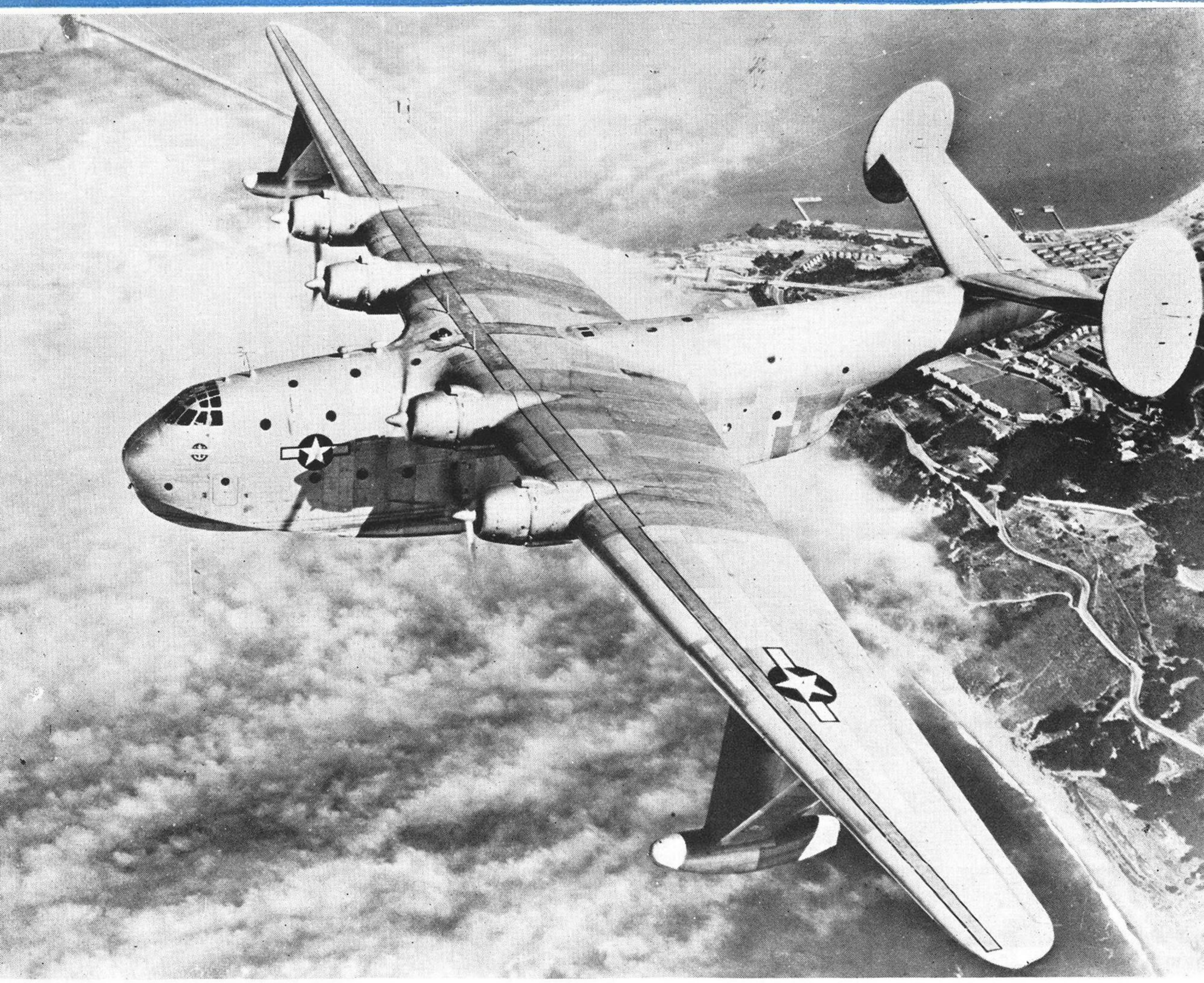
Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC. JANUARY 22, 1945



Fast Progress on *Mars'* Sister Ships: *Progress on cargo successors of the bomber-designed* Mars, *of which three of 20 for Navy are in jigs at Glenn L. Martin plant, has been so rapid that the keel of the first was down before keel-laying ceremonies could be arranged. Picture shows the prototype after removal of the paint coat she had worn in NATS, saving 628 pounds of paint weight, 580 pounds of fuel on each California-Hawaii trip, and boosting cruising speed 4.3 mph. even with 1,200 pound additional payload thereby made possible.*

Washington Observer

TRANSPORT PRICES—Most airlines are reported favoring lease agreements for surplus transports, and progress has been made in completing the form of these contracts, as well as the price basis on which they will be made. Industry sources say they feel conversion allowances will be higher than the first-suggested $25,000, possibly as high as $40,000. This last is more nearly the cost to the airlines, although in most cases it has run higher and in one more than double. Some lines at first leaned toward outright purchase of the planes, fearing interminable complications with the terminable lease compacts.

★ ★ ★

NATIONAL SERVICE—Both industry and labor are opposed to National Service, feel that they are being made the goats for an over-optimism that wasn't restricted to the civilian public, and for overpessimism now. The Administration will be lucky to get much more than gesture legislation.

★

THE CAMPAIGN—Despite the pressure from President Roosevelt, there is virtually no possibility of a full National Service Law. The Army, which has finally managed to take over the War Production Board, felt it had reached the zenith of its influence on civilian affairs, and apparently believed that its widely-publicized manpower difficulties would spur Congress to enact National Service. What is more likely is that Congress will pass some face-saving measure that will clear its own skirts with the public, but which will still be highly unsatisfactory to the Army.

★

PLACING THE BLAME——A prize example of how industry and labor have borne the brunt of the new crisis was an attempt by some publicists of the Army Air Forces to lay production materials shortages to "late ordering" by industry. The inference was withdrawn when some influential civilian groups threatened to tell the whole story. The truth is that industry used its inventories at the express request of the services, and that it has cooperated all the way through in scheduling purchases. It is now doing this even more closely to avoid as many bottlenecks as possible in the crucial second quarter of the production year. The same group of publicists took a sideswipe at labor on the West Coast after a cursory glance at the situation, and has consistently denied industry credit for the job it has done.

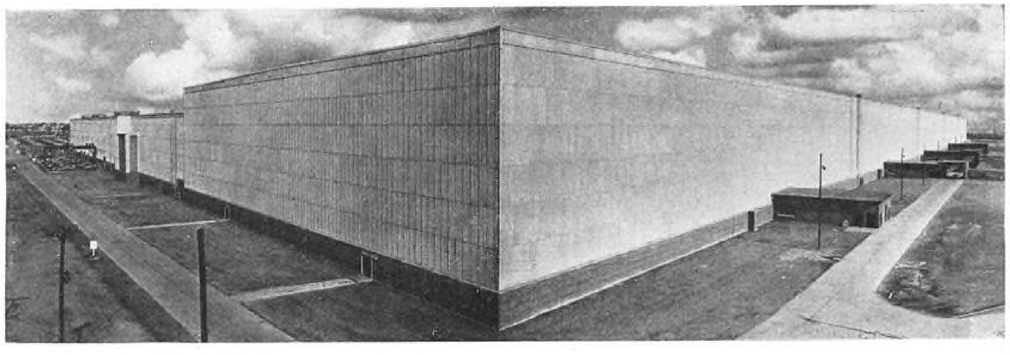
★ ★ ★

LENGTH OF THE WAR—Top Army circles feel that it is a toss-up. With the breaks, the European phase may collapse with a suddenness just as startling as the recent German offensive. Or it may drag out for a year. If it lasts too long, the Pacific timetable will be upset and some planned operations may be held up. In the period before any such decision is made, however, the crescendo of fighting in both theaters will pinch the home front as it has never been pinched before.

★ ★ ★

GASOLINE FOR EMPLOYEES — Although gasoline has been fairly easy—look for trouble. In mid-1943, when the situation was tighter, railroads were carrying 71 percent of petroleum products, tankers only 8 percent. In 1944, tankers carried 16.1 percent, railroads 37.8, pipelines the balance. The European situation and the intensified supply problems of the Pacific may require recall of many of the tankers, the pipelines are operating at capacity, and the railroads are not as well able to meet the load both in rolling stock and workers. There have already been spot shortages. Intensified share-the-ride programs, plant-designated stations and other

Bell's great Marietta plant where B-29's are now ahead of schedule.



AVIATION NEWS

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Advertisers Index

Washington Observer

methods may be wise, just in case. Aviation gasoline is short, too.

* * *

COUNCILS IN ACTION — The manner in which the Aircraft War Production Councils went into action on the aluminum situation is prime evidence of what the aircraft industry can do when it works together. Washington officials, with the industry's viewpoint before them, were better able to act and what might have been a critical situation has been avoided. The Washington office of the Council kept the Aeronautical Chamber fully advised of its moves and the cooperation all around will mean more warplanes at a time when they are needed.

* * *

Industry Observer

▸Navy has called a mass meeting of all aviation supply officers for Jan. 21-22 at its aviation supply depot in Philadelphia . . . West Coast Army officers are "throwing God's fear into plants which now talk of commercial plans," the NEWS Pacific Coast correspondent reports. Boeing, Douglas, Convair, North American, Northrop and Ryan will do no talking about post-war planning for at least 3 months.

▸Ryan Aeronautical, now swamped with war orders, is watching closely various helicopter developments on the West Coast. T. Claude Ryan, president, makes no secret of his interest in personal aircraft.

▸The new two-place, streamlined, 250-hp. version of Stanley Hiller, Jr.'s original *Hillercopter* which may be flying next month will be the first product under the wing of Henry Kaiser. Hiller's original plan was for a streamlined, welded magnesium fuselage shell.

▸Both airlines and manufacturers await CAA's "Urban Planning Guide," expected in a month or two. It probably will advocate economical airports which will be within the range of civic purses and will suggest airport planning that will reduce the congestion and excessive costs of super-airport proposals which frighten both politicians and taxpayers who will have to vote the bond issues.

▸Test flight of Howard Hughes' giant flying boat, largest ever built, may take place before Summer at Los Angeles Harbor. Company has leased 7 acres of Long Beach waterfront land and will construct docking and maintenance facilities immediately. The big boat is virtually completed at the Culver City factory.

▸Announcements may be expected soon of completion of the aircraft industry's new twin high-speed wind tunnels, at Curtiss-Wright's Buffalo plant and at California Institute of Technology, Pasadena.

▸Recently organized Air Force League, inspired by Gen. Arnold as a national, civilian group to advocate a strong post-war air force, has aroused the interest of top Navy men, who will probably become joint-sponsors.

▸Pan American's long-sought additional service between Los Angeles and Mexico City may materialize soon. Acquisition of equipment has held it up for months, limiting the service to the present one a day trip schedule. The tip is PAA's sudden flurry of publicity on the West Coast and offer of a half-rate 60-day round trip fare. Customers who respond will find themselves on a 60-day waiting list.

▸Convair's off-again, on-again, dickering for sale of its colorful Consairway Division is alive once more. The division's development from what started as a California-Australia airline operation for ATC to extensions westward to Pacific battle fronts is providing sales arguments which may bring fruit soon. Convair pilots and mechanics are hopeful and are understood to have abandoned, as a result of negotiation rumors, their one time plan to muster enough capital to buy the division and seek certificates for post-war Pacific routes.

▸Matson Navigation Co. has not abandoned hope that surface carriers will be given a slice of post-war air commerce. After completing a warplane modification contract, the steamship company's aviation division welcomed a contract with NATS for maintenance of the R-5-D, or C-54, military version of the DC-4, which Matson would like to operate between California and Hawaii.

▸A new Curtiss-Wright Army contract calls for more C-46 *Commando* transports between June and year's end and increases 1946 monthly production by a third over original schedules.

▸Aeronautical Chamber of Commerce Board of Governors, meeting in Los Angeles Jan. 26, probably will not nominate a new general manager. ACCA leaders are inclined to attach no urgency to the matter and feel that if Eugene Wilson can be persuaded to give enough time from his own company's business the Chamber will move smoothly as a staff operation. Several names have been discussed informally, however. The governors will meet simultaneously with NAWPC and Aircraft Manufacturers Council. Overnight, war production again has become their chief concern.

▸Air Transport Association, which has previously frowned on press releases, is organizing a staff under the name of Aviation Press Service to disseminate frequent announcements and articles to newspapers and magazines. Offices are in the ATA building in Washington. Perley Boone, director, has already engaged Russell Gerould, former secretary to Gov. Saltonstall and earlier a Boston Herald editor-reporter. Elmer P. Thompson, Jr., former New York Evening Post writer and editor of Travelore Magazine, is another acquisition. The publicity campaign is financed by the Joint National Advertising Committee, which includes both airline and aircraft manufacturing representation.

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Aviation News

McGRAW-HILL PUBLISHING CO., INC.

January 22, 1945

Surplus Plane Demand Increases With Prospect of Longer War

Tightened transportation conditions also factor in better market; inquiries coming in from companies engaged in war work and seeking aircraft suitable for executive transports.

By WILLIAM G. KEY

Surplus planes for which there has been little or no market are coming into demand because of the indications of a longer war and tightened transportation conditions. Fixed base operators in many sections of the country are reporting inquiries from companies engaged in war work seeking fast executive transportation.

The result has been a new interest in surplus planes suitable for conversion to executive transports. There are a number of these planes available for purchase by any fixed base operator or individual on a basis of negotiated price. Planes to be sold on this basis are those for which there has been more supply than demand.

Although lists of aircraft in this category have specified that they are surplus ships available for allocation, actually most of them now have been removed from the allocation lists for sale on a basis of type prices less depreciation and cost of repair.

▸ **Confusion**—The fact that some offers have been made and rejected, and the complex procedures set up to differentiate between allocable and non-allocable planes, has resulted in some confusion.

The question mark in the sale of the surplus planes in this category is the price factor. Some operators who have sought the planes claim that the prices being set are too high. Defense Plant Corp. and Surplus Property Board Aviation Division officials on the other hand maintain that the prices are equitable, and that they would return a fair percentage of their cost to the government. Some adjustments between the two positions probably will have to be made, and machinery exists for reductions of type prices.

The government position is that prices should remain relatively high during the period of the shortage. The operators' position is that the planes should not be permitted to remain idle when a definite need for them exists in companies engaged in war work. So far, these off-standard planes have remained idle, although a few sales have been made.

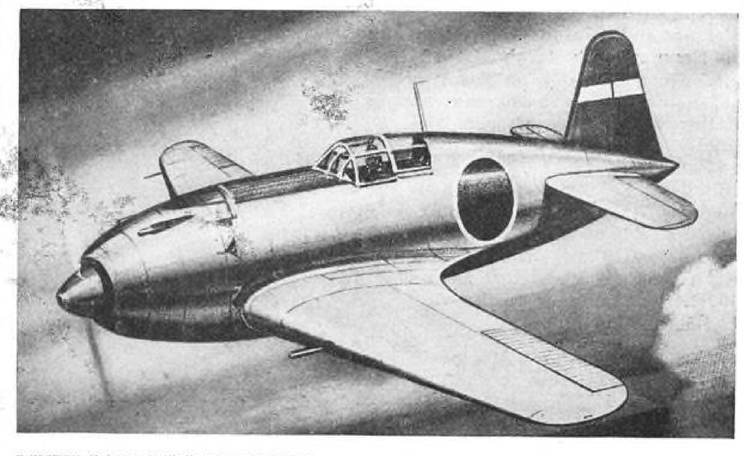
▸ **Salable Planes** — Planes which normally would not be considered usable, but which operators say can now be sold to many companies, are 36 planes of the Douglas RB-18 series, a mid-wing ship powered by two Wright R-1820-45 engines of 1,000 hp. Gross weight is approximately 26,000 pounds. There are also eight Douglas B-23 cargo conversions, now designated UC-67. This is also a mid-wing plane, built at about the same time as the first B-25's and designed for the same general purpose. They are powered by two Wright R-2600-3 engines of 1,600 hp. Gross weight is about 26,500 pounds.

Type price on this ship is listed at $25,000, from which depreciation and repair reductions would total about $14,000 or $15,000, making the price that the government seeks to obtain in the neighborhood of $10,000 or $11,000. Government sources say offers of approximately $4,000 have been rejected. One operator who sought to obtain the ships maintains that the government price, plus conversion and repair costs, would make it impossible to sell the plane at a reasonable price.

There are also 81 Lockheed AT-18's and 11 of the RA-28's and 29's —almost identical ships powered with two Wright R-1820-87 engines of 1,200 hp. Gross weight is about 18,500 pounds. Type price for these planes is $40,000.

▸ **850 Cessnas**—There are also 850 Cessnas of the AT-17 and UC-78 series in which some operators have expressed interest. These will require modifications to meet CAA requirements, which these operators say they can make, providing the planes are made available at prices they can meet.

Considerable competition also is developing for the larger planes



NEW JAP INTERCEPTER:

Artist's conception of the Jack II, *new Jap Navy plane now in action against American advances in the Western Pacific. It is said to have a range of about 1,100 miles, but probably no armor or self-sealing tanks. Drawing is from* Popular Science.

of cabin type of less than 5,000 pounds being offered for bids, with several instances reported in which bidders have been disappointed because of the provisions of the regulations that permit a buyer to purchase the planes outright at full ceiling price at any time up to 24 hours before the opening of the bids. Under this procedure, the first person to offer a ceiling price gets the plane. If two or more offers are made simultaneously, the persons offering the full ceiling draw straws—the same procedure being followed when identical prices are offered.

Low Prices Move Canadian Surplus

The Canadian government is moving its surplus aircraft at prices that are sometimes astounding to observers in this country. Sales are handled by the War Assets Corp., of Montreal, a government organization set up to dispose of surplus property.

Authoritative sources report sales such as that of eight PBY-5A's for $20,000 each. These are being placed in inter-island and over-water operations both in Canada and in the Caribbean islands. Original cost varies according to the manufacturer, with the lowest cost production running in the neighborhood of $250,000 and the highest slightly more than $300,000. A Lockheed 12 is shown on one price list for sale at $9,400. A Noorduyn Norseman is listed at $7,500—one was recently sold in this country for $35,000, but not through surplus.

Cessnas and Stinsons—More than 500 Cessnas with Jacobs L4 engines are reportedly on the Canadian market at $3,000. Sixteen Continental-powered Stinsons, originally costing $4,700, are listed at $700.

Shell Oil Co. is reported to have bought 50 Anson 4's for crop dusting use at $10,000 each—the price on the same plane several weeks later reportedly was listed at $8,000. A Grumman *Goose* is listed at $13,100, another at $10,600.

Flower Heads PAC

Election of Don Flower as chairman and James C. Welsch as vice-chairman of the Personal Aircraft Council, Aeronautical Chamber of Commerce, to serve as interim officers until the annual meeting of the council later in the year, was announced following a meeting in Washington last week.

Succeeds Geuting—Flower, sales manager of Cessna Aircraft Co., Wichita, succeeds Joseph T. Geuting, Jr., who has become acting manager of the council. Welsch, director of private plane sales for Stinson Division, Consolidated-Vultee Corp., Wayne, Mich., succeeds William A. Mara, who recently resigned from Stinson to become an executive of Bendix Aviation Corp.

The meeting included discussion reviewing progress of the council in recent months, and arrangements for enlarging the council membership which will be announced soon. Also discussed was the council's part in the proposed program of technical research for improving personal aircraft, which CAA hopes to establish, and the council's part in sponsoring the model airpark at Eldon, Mo.

Ryan Backlog Grows

New Grumman and Boeing orders for more than $2,000,000 have brought the 1945 backlog of contracts for exhaust manifolds to more than $11,000,000 for Ryan Aeronautical Co. Ryan also is building exhaust systems for Bell, Martin, Douglas, Republic, Curtiss-Wright, Goodyear and other aviation companies.

RECONVERSIONS, U. S. AND BRITISH:

High-armed chairs and movable winged headrests mark a British reconversion to passenger use of a Douglas DC-3. Douglas' conversion features a new light-weight seat with a movable back section. Note that British reconversion has only two rows of seats against three for the Douglas job. The British picture is looking forward, the other aft.

Bell-Marietta Ahead of Schedule On B-29's After Slow Start

Plant has been asked to treble output during 1945, despite difficulty in getting under way and catching up with orders; modification installed in production line.

By SCOTT HERSHEY

It is no secret that Bell Aircraft had its troubles getting into production of Boeing B-29's at their huge Marietta, Ga., plant, but it can now be disclosed that the plant was ahead of schedule last month, that they expect to continue on that basis and that they have been asked to triple production in 1945.

Larry Bell, president of the company, told newsmen who toured the Marietta plant recently that they didn't scrape the bottom of the manpower barrel when they went into Georgia, because it already had been scraped. The plant construction was started in January, 1942, a few weeks after Pearl Harbor and as an indication of how the difficulties were surmounted, began turning out *Superfortresses* a year later. Now around 25,000 workers are employed, 45 per cent of them women and most of them with little or no previous industrial experience.

Asked to Triple Production—Maj. Gen. Kenneth B. Wolfe, chief of engineering and procurement, Air Technical Service Command, the Army engineer most closely associated with the B-29 from its inception, called on the Bell bomber plant for tripled production and said that the B-29 with its exceptionally large bomb load and its high speed would be more in demand than ever as our forces advance further in the Pacific. Speed and bomb-load, cut down as a result of long-range operations, will shoot upward in attacks to come.

The Bell Bomber plant is now delivering to the Army Air Forces the most up-to-date plane technically available for combat. This plant has facilities which build the complete plane, eliminating separate or additional modification. When a B-29 leaves Bell-Marietta it is ready for combat.

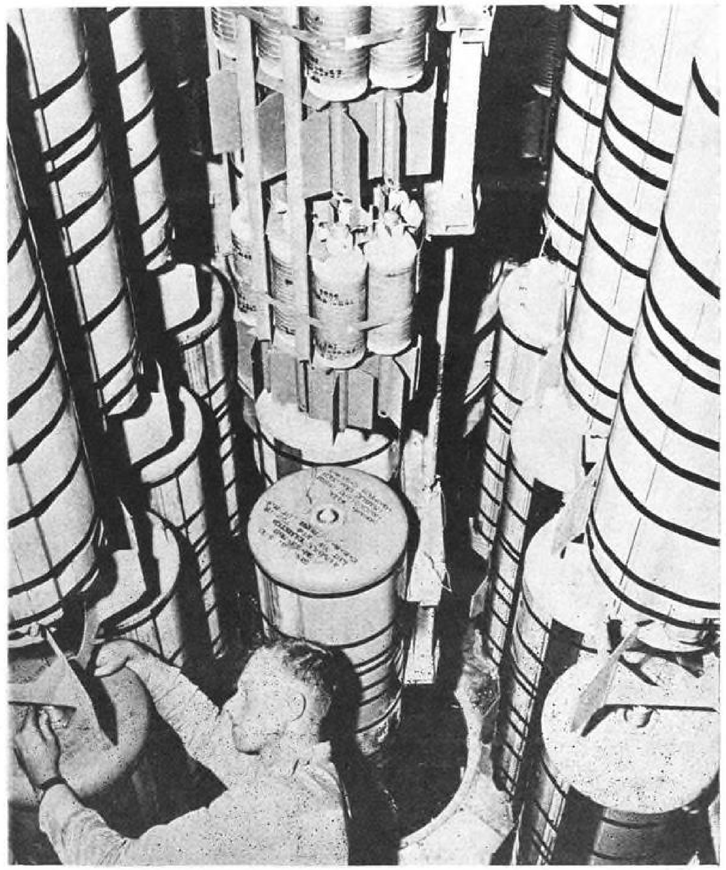
Modification System—When Bell was instructed by ATSC to deliver a completely modified plane, the company elected to use a system of installing modifications in the production line rather than put in parts which would have to be removed for installation of new ones.

This involved changes in previous production methods of engineering, planning, tooling and parts manufacture. A new department, under the name of Development, was formed in order that modifications and technical orders might be installed at the earliest moment either in pre-flight or in the manufacturing line. At present, Bell is installing all the modifications and all the technical orders directed by ATSC headquarters at Wright Field.

After production began in December, 1943, the plant operated on a cost plus fixed fee basis, until July, 1944, when it was changed to a fixed price contract. The annual payroll is around $50,000,000. Of the approximately 25,000 workers, about 85 per cent are Georgians, 12 per cent coming from states near Georgia. Less than three per cent come from New York State, home of Bell Aircraft, from which state initial instructors and supervisors were drawn.

Plant Layout—The plant itself produces about 67 per cent of the airplane, the other 33 being provided by subcontractors. The plant sub-assembly lines move at right angles to the main and final assembly line.

The entire project covers 2,830 acres, including the airport of 1,220 acres with three runways 6,000



PART OF *SUPERFORTRESS* BOMB LOAD:

Ordnance officer of the 21st Bomber Command headquarters on Saipan attaches fusing mechanisms to bombs in the bomb bay of a Boeing B-29 in preparation for another raid on Tokyo. The bomb load includes incendiaries and fragmentation bombs.

feet long and 150 feet wide; the overhead crane system comprises some 39 miles of tracks; the main factory building contains 3,250,000 square feet; there are about 66 miles of fluorescent lights in the completely blacked-out plant; the sprinkler system has 250 miles of piping.

Aviation writers who visited the project were permitted flights in the *Superfortress,* and those who had flown in the B-29 at Boeing's Wichita plant last spring, including a representative of AVIATION NEWS, were again impressed with the smoothness of the flight, the sense of reserve power, the maneuverability and speed of the huge craft and the operation of the pressurized cabin system which retains approximately 8,000-foot altitude conditions at much greater heights.

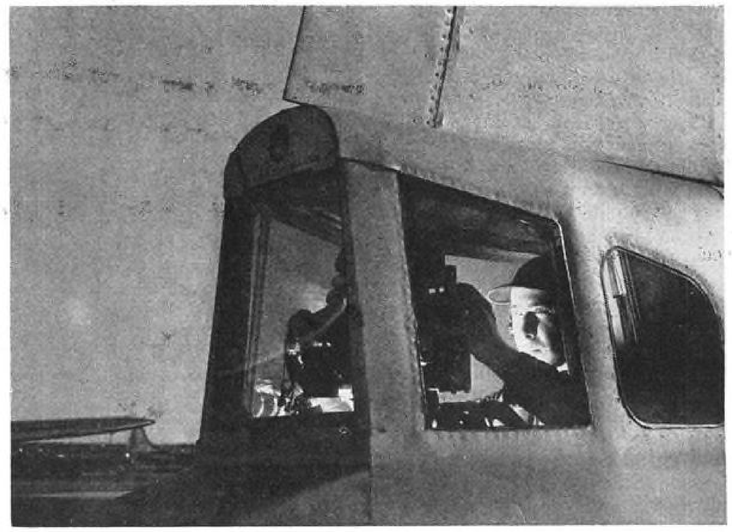
'Useful' Plane Urged by Bayard

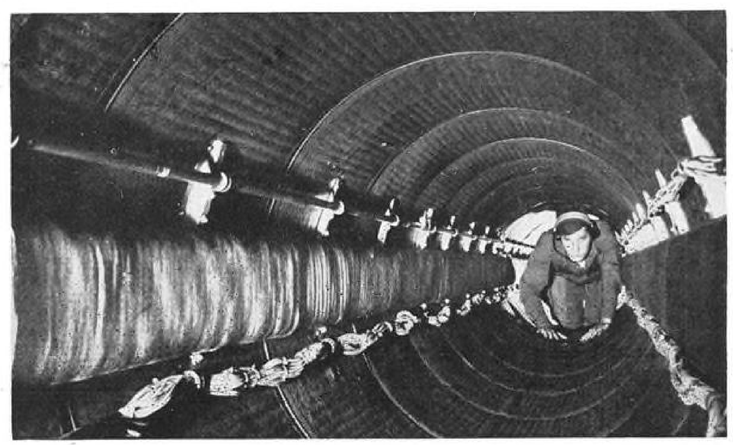
Unless the aviation industry produces the kind of personal plane which people will buy and use in large numbers, 90 per cent of the landing facilites proposed by CAA will never be used, J. B. Bayard, Jr., chief, planning and survey division, airport service, CAA, warned the Airport Users' Conference in Washington last week. Asserting that the war had held back development of the private plane, Bayard declared no sizable private flying industry can be built on planes like the new models thus far exhibited by manufacturers.

"It may be that we are impatient and that the various manufacturers have new and better planes designed and ready to produce, but we can only say that the great mass of the public known to be interested in private flying, has not been offered or promised any air vehicle yet which affords more utility than previous models. If a vehicle is useful, the American public will buy it, whether they can afford it or not. If it is not useful it will not sell," he declared.

Bayard calls the development of a useful personal plane one of three "Ifs" in the future of aviation, on which large scale aviation development depends. The others are: creation of a sufficient number of airports, and existence of a general economic level among the people high enough to make possible mass owning of airplanes and mass use of airports.

"Superfortress" Production at Bell Bomber Plant: *Shown here is the rarely photographed interior of the Bell bomber plant at Marietta, Ga., which has been asked to triple its production of Boeing B-29's. Also shown is the 35-foot tube which gives access from the control cabin to the gunners' compartment and a tail view.*





See Emergency Controls Necessary To Avert Aluminum Shortage

Inventories adequate for current operations but not sufficient for second quarter, survey of situation reveals; closer scheduling of orders recommended.

Confusion in the aluminum situation which has been causing some concern among aircraft industry and government officials began to clarify this week with agreement that emergency controls are necessary to avoid development of a shortage in the second quarter of this year.

It appears that there is a threatened shortage rather than an actual shortage at this time, since inventories, although depleted in some cases, are reported sufficient to carry through the first quarter. Directives would be used to meet certain critical situations.

▸**Program Agreed On**—Working through the National Aircraft War Production Councils, industry executives are agreed on a program which would include a cancellation of all orders during the first quarter which, if received, would result in more than a 30-day inventory and all allotments for the second quarter would be canceled and new allotments made.

Order loads now are reported about 50,000,000 pounds in excess of anticipated production.

Recent meetings of the material committees of the East and West Coast Councils, followed by a meeting of industry representatives of officers of the Aircraft Scheduling Unit have developed procedure which it now appears will avoid what appeared for a time would be a most critical situation which might affect and endanger aircraft production schedules.

▸**Purchasing Procedures Recommended**—Close scheduling of orders for aluminum is a necessity and the Aircraft Scheduling Unit is urging such purchasing procedure on aircraft manufacturers to meet changes currently taking place in the supply of aircraft materials and components. Concern has been expressed by the ASU over prospective shortages and very tight supply in some components.

Failure to meet aircraft schedules has rarely of late been traceable to lack of aircraft materials or components. Credit for this belongs to contractor personnel, cooperation and resourcefulness of suppliers and producers and the efforts of the Services.

▸**Inventories Used** — There has been a disposition in some official circles to blame the threatened shortage on purchasing procedures of aircraft companies in recent weeks resulting in a depletion of usable surplus materials. As a matter of fact, the industry was operating under instructions to reduce orders and utilize available inventories.

This began late in the summer when production cutbacks were not uncommon and schedules were reduced. As a consequence, orders to aluminum fabricators fell off, output of aluminum plants was reduced and they lost workers. Then came the upward revision of schedules with its consequent demands for aluminum.

▸**Surplus Material Utilized**—Col. E. W. Rawlings, administrator of the Aircraft Scheduling Unit, said the aircraft industry has made a determined and successful effort to use surplus aircraft material in production while there is still a need for such material.

As a result, close ordering is being urged together with consideration of the flow time cycle which in many cases will mean the difference between prompt deliveries and failure to meet important schedules. C. S. H.

AIRBORNE MOTORCYCLE: *Motorcycle developed by British for use by airborne troops is shown packed in a special container to protect it during a parachute drop.*

5 Critical Materials, Components Listed

Present position in five important materials and components necessary to aircraft production is outlined as follows by Col. E. W. Rawlings, Administrator of the Aircraft Scheduling Unit:

▸**Steel Tubing:** More critical today than at any time since 1942, with surplus practicaly non-existent. Minimum flow time is 120 to 150 days.

▸**Aluminum Sheet:** Extremely heavy order loads have been placed on the aluminum producers for the first quarter with the order load being screened by the Aircraft Scheduling Unit to eliminate or postpone all orders for material required for products that are not of the highest urgency.

▸**Brass Mill Products and Copper Wire:** Sudden expansion of small arms ammunition production has increased the load on brass mills for strip production and this congestion of alloy melt facilities will obviously increase the lead time necessary in the procurement of brass mill products.

▸**Electrical Products:** Circuit breakers, fractional horsepower motors, relays and switches are in a short supply position with surpluses of these products negligible and producers reducing raw material inventories to the level of orders received.

▸**Anti-Friction Bearings:** The bearing industry reports requests for shipment of anti-friction bearings for the first quarter total only 40 per cent of actual shipments made in the previous three months and that these new orders are still far behind the stated requirements of the military services.

Army Glider Pilot Training Revised

The Army Air Forces hereafter will give glider pilot training only to officers who have their airplane pilot's wings and are proficient in flying two-engine planes.

This move is designed to meet requests of combat theaters for "double-threat" pilots. Hereafter, selected pilots of powered aircraft, most of them recent graduates of Training Command pilot schools, will be sent directly to Brig. Gen. William D. Olds Troop Carrier Command school at Laurinburg-Maxton Army Air Base, where

Wood vs Metal

Relative advantages and disadvantages of wood and metal aircraft will be discussed at a meeting of the Mid-Continent Section of the Society of Automotive Engineers at Tulsa, Jan. 26.

Principal speaker and discussion leader will be Herbert Rawdon, assistant chief engineer for Beech Aircraft, who has been in charge of design and development work for that company while it was producing both all-metal and plywood planes.

they will learn to pilot the "whisper ships" and how to defend themselves after landing gliders loaded with airborne troops. Previously the Troop Carrier Command school at Maxton had given tactical and operational training to glider pilots graduated from the Training Command School. Individual glider pilot training has been given by Lieut. Gen. Barton K. Yount's AAF Training Command at Lubbock, Tex.

▸ **Pilot Needs Revised**—The change reflects an altered condition in the pilot training program, as well as meeting needs discovered in combat. During the early part of the war the demand for airplane pilots was greater than the immediate supply, and no graduate pilots of powered aircraft could be spared to double as glider pilots. Now that the airplane pilot training program has caught up with demand, it is possible to use trained power pilots in the glider program.

Aviation Groups Oppose New Lea Bill

Civil Aviation Joint Legislative Committee objects to redraft of former measure's revision of Civil Aeronautics Code.

Opposition to the new Lea bill (HR 674) on the ground that it contains a redraft of the former Lea bill's revision of the Civil Aeronautics Code, in addition to its airport development plan, has been voiced by the Civil Aviation Joint Legislative Committee, representing various aviation organizations. Chairman William P. McCracken, of NAA, voiced the Committee's attitude that it favored federal aid airport legislation but believed it should be treated in separate bills from other aviation legislation.

Meeting recently in Washington, the Committee endorsed in general outline the proposed federal aid airport plan, contained in other bills already introduced in both houses of Congress, but named a sub-committee to study how funds should be transmitted to local airport projects whether through state agencies, or direct to local governments. The sub-committee will report at the next meeting, Feb. 12.

Other Committee action:

▸ Opposed economic control or other regulation over any phase of aviation by a non-aviation board, commission or body, and specifically opposed a bill sponsored by railroad and utility commissioners which would establish state supervision over airlines and other air transportation.

▸ Declared against economic regulation of non-scheduled aviation by any and all agencies.

▸ Favored the revised airport zoning bill proposed by CAA and CAB.

▸ Opposed federal tax on aviation gasoline and favored expending on aviation activities and projects all tax money raised from aviation sources.

▸ Endorsed proposal to establish civil aviation committees in both houses of Congress and in state legislatures.

▸ Endorsed the proposed uniform state aeronautical department model act and the uniform state airports enabling act, sponsored by the National Association of State Aviation Officials, and other state and municipal officials' groups.

Joe Garside, of Wiggins Airways, and Leo P. Brennan, of Iowa Airplane Co., Des Moines, were received as delegate and alternate from NATA, while Clarence R. Mooney, former NATA delegate, became secretary to the committee.

TARGET FOR BOMBARDIERS:

This unusual picture shows makeup of a target on a range of the 222nd Combat Crew Training Station at Ardmore, Okla. The complete target consists of a frame pyramid in the center, a 200-foot circle from which cardinal points extend to a 500-foot circle. Circles are formed by frame panels six feet long and 10 feet wide for the 200-foot circle, 20 feet square with 26-inch legs for the 500-foot circle. The pyramid, covered with white cloth, is the main target. Bombs are 100-pounders loaded with sand, and each is numbered to identify the bombardier to score his training.

Douglas Profits

Douglas Aircraft Co. has received from the Price Adjustment Board a "no excess profits" ruling on a 1943 net income of $5,952,257—a profit of 1/6 of 1 percent on delivery of warplanes and spares sold to the government for $987,687,196.

There is no indication that the company will veer from a policy of self-limiting profits adopted prior to United States entry into the war.

▸ **Pre-War Record**—In its last year of peacetime production, **1939,** Douglas showed profits of 10 3/10 percent on sales.

The company's current business is spread over six plants.

Port Users Debate U. S., State, Local Rights in Airport Regulation

Conference in Washington agrees on need of more airfields after war but voices sharp disagreement with national airport program and pending legislation.

Another round in the never-ending battle royal between local, state and federal governments for prerogatives and to protect endangered rights, marked the Joint Airport Users' conference held under NAA sponsorship in Washington last week.

About the only thing the 86 representatives of various aviation and governmental bodies agreed on was that the nation is going to need a lot more airports after the war.

Representatives of state and municipal governments lambasted each other and the federal government's national airport program with equal zest. Such veteran champions as Maj. Sheldon (Buck) Steers, Michigan Aeronautics Commissioner and president of the National Association of State Aviation Officials; L. L. Schroeder, Minnesota aeronautics commissioner, and Charles Rhyne, executive director, National Institute of Municipal Law Officers, were doing most of the verbal slugging.

▸ **Steers' Version** — Characteristic was the expression of Steers that CAA obtained the factual data on which its national airport plan was based "by a Ouija board process," and his contention that the master national plan should be a composite of 48 sections submitted by the states which were far better able to judge their own needs than the federal authorities.

Meanwhile, Rhyne was objecting to efforts of the state to take over control of the airport programs from municipal governments, some of which are seeking to deal directly with the federal government. Rhyne held that the municipal governments were just as capable and just as acquainted with local situations as the state governments, and opposed the need for an extra channeling of federal moneys, via the states, in favor of a direct federal-municipal relationship where possible.

▸ **Warns of Control Fight**—Schroeder warned that if the federal government sought controls over local airports extending past the construction period, the states would demand similar controls. He criticized the principle of dedicating funds for exclusive purposes, urged a further national survey coordinating the views of states as to the airport needs in their areas, opposed the "loose" classification of airports, and warned that many local governments would refuse to enter into airport contracts which provided for penalties against the local governments.

Meanwhile John Wilson, National Aviation Trades Association manager, appealed for a clearer classification of airports in the program as to scheduled and non-scheduled service, asserting that the fixed base operators were being squeezed out under the present proposed program and would have to set up their own little fields outside those contemplated by the national program.

While the airing of conflicting views provided the most lively part of the conference, an analysis of pending national airport legislation in Congress, presented by Arnold W. Knauth, editor of U. S. Aviation (Law) Reports, was probably the most important section of the meeting, providing the varied interests with a basis of comparison for the five existing bills.

▸ **All Practically Identical**—He explained that all are identical in main outline, differing only in detail, based on the national airport plan of CAA. He favored the five-year duration of the McCarran bill, over the 10-year plans of the other bills, and questioned the Bailey-Randolph bill's allocation of money in proportion to population and area of each state to the total population and area of all the states. The McCarran plan to divide half the money according to population and half according to area of the state is more workable, he said.

Knauth compared airport legislation to earlier highway legislation, saying that the proposed bills are patterned after highway legislation and should provide an equally workable federal-state cooperative program for airports. An important difference, however, is that in the early highway era there were many dirt roads, and the program was mainly one of widening, straightening and surfacing. In many areas today there are no airports at all, and they must be created to provide plane utility.

▸ **Insular Possessions Excluded** — He pointed out that the territories of Alaska, Hawaii and Puerto Rico were excluded from the bills, and suggested that they be brought into the program, as an answer to criticisms of "logrolling."

In addition to the Randolph and McCarran bills, other airport bills offered include those of: Senator Josiah Bailey, closely paralleling the Randolph bill, Rep. Cecil King, closely paralleling the McCarran bill, and Rep. Clarence Lea, which has been criticized by non-sched-

Airport Employment Potential

Analysis of the employment potential of the national airport program, as reported by J. B. Bayard, Jr., chief, Planning and Survey Division, CAA, at the Airport Users' Conference in Washington last week, shows:

▸ 180 airports will be used exclusively for scheduled operations, employing 100 persons each, or a total of 18,000 jobs.

▸ 999 airports will serve the 55,446,568 persons living in metropolitan districts, including the 180 exclusive airline fields, so that 810 airports will remain to accommodate an expected 168,530 planes for non-scheduled use or an average of 205 planes per airport. CAA estimates 35 persons will be required at each of these smaller fields, for a total employment of 46,665 persons.

▸ 5,175 persons are expected to be employed at 207 airports with an average of 62 planes per field, serving 4,235,587 residents of communities of 25,000 to 50,000 population.

▸ 25,440 will be employees at 1,272 airports with an average of 25 planes per field serving 10,752,384 residents of communities of 5,000 to 25,000 population.

▸ 38,270 will be employees at 3,827 airports serving the remaining population of the country (61,234,736). An average of 48 planes per airport is expected at fields serving communities under 5,000 population.

▸ A total of 125,550 continuous jobs will be provided by the 6,305 airports which would be in use at completion of the national program.

uled aviation as containing much of the old Lea Bill, which sought to reorganize civil aviation under federal control.

Senator Pat McCarran's bill calls for expenditure of $100,000,000 a year on airports for five years, while Rep. Jennings Randolph's bill calls for a similar yearly expenditure for ten years. Knauth points out that a ten-year plan would require the cooperative effort of five successive Congresses, and holds that a less ambitious projection into the future, for five years, seems more feasible.

▸**NAA Study** — Lowell Swenson, NAA manager, reported to the group that NAA is making a study of factors concerning the economic, social, political, and military importance of the airport to the community state, and nation, reviewing expenditures for other public works and comparing opportunities for immediate and continuing employment. The facts will be used in educating the public to the need for airports. He urged a realistic attitude on the part of the aviation industry toward the large percentage of the public which still must be sold on the long-term social and economic benefits of a national airport program.

William H. MacCracken, Jr., chairman of the conference, ruled that a motion to express the group's support of a national airport program was out of order, since the meeting had been called purely as a fact-finding conference, and not as a group to take action.

H. W. Welch, Sperry Sales Official, Killed

Howard W. Welch, export sales manager of Sperry Gyroscope Corp. was killed and Joseph Goodrich, Sperry representative in Montreal and Wood Henry, the corporation's Washington representative, were injured in an automobile-trolley collision recently in Montreal.

They were en route from the Montreal airport when the accident occurred and had been participating in demonstrations of three new Sperry instruments to Canadian technical men a short time before.

▸**On Mitchell's Staff**—In the first World War, Welch served as captain on the staff of Gen. "Billy" Mitchell. Later he was an officer of the Pierce Arrow and Studebaker companies, entering the aviation industry as vice-president and general manager of Bendix Export Corp. He was chairman of the Export Committee of the Aeronautical Chamber of Commerce for 14 months prior to his death, and also had represented the Chamber at post-war conferences of the National Association of Manufacturers.

A meeting of the Export Committee was postponed from Jan. 13 to last Saturday after his death, while a resolution praising his services was passed by the committee. It will be presented to his widow, together with a letter from E. E. Wilson, president of the Aeronautical Chamber.

Overflow Passengers

Sparseness of space available to civilian passengers on Naval Air Transport Service and Army Air Transport Command planes underlies a recent announcement by the Department of State that arrangements have been made for handling the overflow of prospective paying passengers on American flag steamships. State, War and Navy Departments concur in the belief that space for civilian passengers on the military lines will be strictly limited for some time.

TEN .50-CALIBER GUNS ON *INVADER:*

This Douglas A-26, equipped with the latest remote-control gun turrets of the same type used on the Superfortress, *is classed as the fastest American bomber. Armament on the model now in combat consists of six .50-caliber guns in the nose, two in the top turret and two in the bottom turret. The turret guns are aimed and fired by remote control.*

AVIATION CALENDAR

Jan. 22-26—Winter Technical Meeting, American Institute of Electrical Engineers, Engineering Societies Building, New York.
Jan. 23—National Traffic Committee, ACCA, Roosevelt Hotel, New York.
Jan. 24—Air Transport Conference, United Fresh Fruit and Vegetable Association, Hotel Stevens, Chicago.
Jan. 24-25—Rotoplane Airworthiness Requirements Meeting, Department of Commerce Auditorium, Washington, D. C.
Jan. 24-26—American Meteorological Society, annual meeting, Kansas City, Mo.
Jan. 26—Mid-Continent Section, Society of Automotive Engineers, Mayo Hotel, Tulsa, Okla.
Jan. 26—Aircraft Manufacturers Council, West Coast, Los Angeles.
Jan. 26—Board of Governors, ACCA, Los Angeles.
Jan. 30-31—National Aeronautics Association annual meeting, Brown Palace Hotel, Denver, Colo.
Jan. 30-Feb. 1—13th Annual Meeting of Institute of Aeronautical Sciences, New York, canceled.
Jan. 31—Aircraft Manufacturers Council, East Coast, New York.
Feb. 1-2—Central Regional Traffic Committee, Andrew Jackson Hotel, Nashville, Tenn.
Feb. 2—National Public Relations Advisory Committee, ACCA, Los Angeles.
Feb. 2-3—Air Carrier Performance Subcommittee, ARC and ATA, Hotel Lexington, New York.
Feb. 5-6—ARC-CAA-CAB Air Carrier Performance meeting, Statler Hotel, Washington.
Feb. 12—Civil Aviation Joint Legislative Committee, Willard Hotel, Washington, D. C.
Feb. 12-13—Joint Industrial Relations Committee, ACCA, Stevens Hotel, Chicago.
Feb. 14-16—Aircraft Manufacturers Association, semi-annual personnel conference, Palmer House, Chicago.
April 4-6—National Aeronautical Meeting, Society of Automotive Engineers, Hotel New Yorker, New York City.
Apr. 10-11—Airplane Technical Committee, ACCA, New Orleans.
Apr. 13-14—National Airworthiness Requirements Committee, ACCA, New Orleans.
May 6-9—International Aviation Fraternity, first annual convention, Miami Beach, Fla.
May 20-27—Pan-American Aircraft Exposition, Dallas.

New Coast Group Maps Program Of Merchandising Private Flying

Association of 20 managers and 70 fixed base operators seeks to sell public on private flying through strict code of safety standards and practices.

By SCHOLER BANGS

Smart merchandising of private flying by building public confidence in their rigidly-disciplined activities is the goal of a rapidly expanding association of California airport managers and fixed base operators.

Already organized as the California Aeronautical Association are 20 managers of Los Angeles and Riverside county airports and close to 70 fixed base operators using the fields.

Organizers of the movement, Charles W. Cradick, Los Angeles private flyer and attorney, and W. H. "Hank" Coffin, head of United Flying Service at Vail Field, Los Angeles, anticipate early state-wide growth of the Association to include 300 operators and managers of at least 150 airports.

▸**Faces Test of Time**—Still to be time-tested, the formative program of this Association nevertheless merits consideration of disorganized managers of small airports and fixed base operators throughout the nation.

Wartime objectives of the Association are being put into effect to strengthen military tolerance of limited civilian flying and flight training, almost non-existent on the West Coast since Pearl Harbor.

The Association has told the Army that, in return for more freedom in student training within prescribed training areas, it will endeavor to make every airport owner or manager responsible for the policing of all flight operations at the airport or in a nearby Army-approved training area.

▸**Policing Procedure** — Cradick elaborates like this: "Each airport manager in the Association will maintain at his field a signal plane for use in rounding up and grounding all aircraft using the practice area within ten minutes of the flash of an Army alert.

"Our program calls also for responsibility on the part of Association members in policing practice areas and making certain that training planes or others do not leave the areas and fly over military prohibited zones."

Enforcement of such self-discipline will be the first test of the Association's effectiveness. Members believe it will work.

▸**Discipline Provided**—They expect infractions of military restrictions, CAA regulations and fair business dealing will be reported. An Association board of review will administer discipline against the involved pilot. Maximum penalty probably will be blacklisting throughout the Association, with Association airport managers refusing to allow the pilot use of their facilities.

Post-war success of the Association will be seen to depend on the success of its wartime operations.

Association leaders foresee their organization as one that, by strict enforcement of airways regulations and business ethics, will give considerable relief to the Civil Aeronautics Administration in its policing problems.

▸**Link Name With Flying Safety**—Members of the group hope to establish Association airports and operators in the public mind as exponents of safety in civil flying and flight instruction.

Would-be flight instructors seeking Association membership will be required to gain Association approval of their competency in ethical advancement of private flying.

Present members of the Association insist that they are not trying to create a closed corporation in the post-war student training and private flying field, but are seeking primarily to assure public confidence in flying.

▸**May Limit Regulation**—As one member put it, "We believe that if we don't regulate ourselves, official agencies will do so. We hope to forestall the proposal of regulatory laws, easily harmful to aviation, by keeping a clean house."

While no official approval has come from the Civil Aeronautics Administration, CAA officials have indicated their interest in seeing the Association plan given a try.

Association delegates already have conferred with CAA officials, the Inter-departmental Air Traffic Control Board, and heads of the Army's Western Defense Command and have pledged their full support of whatever restrictions may be imposed in allowing a resumption of limited civilian flying within California.

▸**FLOWERS BY AIR** — Forecast that air transportation of cut flowers will make Southern California the flower basket of America was made at an aviation dinner of the Society of Automotive Engineers in Hollywood last week by Robert L. Smith, president of Mission Nurseries and Florists, Inc., and head of the Los Angeles Airport Commission.

He envisioned, for example, camellia corsages picked in the morning, packaged in individual acetate containers by mid-day, and flown to New York for sale the following morning or a single shipment of 5,000 pounds of California sweet peas for sale in London 24 hours later.

Plane Production On SS Critical List

Production of aircraft and parts occupies the No. 1 position on the new list of essential and critical activities to be used by Selective Service as a guide in the induction of men in the 26 through 29 age group, in accordance with the directive issued by James F. Byrnes, director of War Mobilization and Reconversion.

In this top category are: production, maintenance, and repair of aircraft, gliders, parachutes, dirigibles, balloons, aircraft engines, aircraft parts, pontoons, propellers and similar products.

▸**All Types Needed**—It was understood that originally government officials wanted to specify deferments only for men in plants producing the most urgent types of aircraft. Aircraft industry representatives, however, pointed out that all types now being manufactured were necessary or the Services would cancel the contracts.

The new list apparently took heed of this viewpoint and should be satisfactory to the industry, since it covers all important jobs in aircraft and related categories on which production depends.

Technical Aviation Developments Stressed at SAE Detroit Meeting

Progress in warplanes, helicopter designs, electronic controls, jet propulsion, etc., discussed in papers presented at annual conference; Crawford, of General Motors, elected president.

Technical aviation developments were an important factor in discussions and prepared papers of the annual 1945 meeting of the Society of Automotive Engineers at the Book-Cadillac Hotel, Detroit, with virtually four days of meetings devoted to aviation subjects.

J. M. Crawford, chief engineer, Chevrolet Division, General Motors Corp., Detroit, was elected president, succeeding W. S. James, chief engineer, Studebaker Corp., South Bend, and the following SAE vice-presidents in charge of aviation activities were elected: Air Transport, William Littlewood, engineering vice-president, American Airlines; Aircraft, J. L. Atwood, executive vice-president, North American Aviation, Inc.; Aircraft Engine, R. W. Young, chief engineer, Wright Aeronautical Corp.

▸ **"Mustang" Service Ceiling**—That the North American *Mustang* P-51, powered with the Packard Rolls-Royce engine, "has the highest service ceiling of any piston-engined aircraft in existence" was stated by Arthur P. Fraas, Packard engineer, in a paper discussing engine induction systems. He emphasized importance of reducing supercharger inlet losses for high altitude operation.

R. H. Prewitt, chief engineer of Kellett Aircraft Corp., discussing helicopter design problems emphasized the necessity for low tip speed, so that the sum of the forward speed of the helicopter and the rotational tip speed would remain below the speed of sound, avoiding compressibility effects, and rotor noise.

Improvements in aircraft lights in recent years were reviewed by Maj. A. D. Dircksen, Wright Field, and his report included description of lamp and battery lighting units used with message containers and aerial delivery containers dropped by liaison and cargo planes to ground forces.

▸ **Electronic Controls** — Development is now in progress on the use of electronic controls for operating flight control surfaces, and other primary control work, as a result of successful experience with electronic controls on secondary applications such as armament, ice indicators, supercharger regulators, etc., it was disclosed by Lieut. R. J. Colin, Wright Field.

A third ATSC engineer, Lieut. Myron Tribus, reviewed experiments in wing deicing, by passing heat through the leading edge, concluding that the experiments, at Minneapolis, using Boeing B-17, Consolidated B-24, and Lockheed 12 A planes showed superior protection to that provided by the inflatable rubber shoe system of deicing, but admitting that additional data were needed.

Simplification of controls on the XC-97, transport version of the Boeing B-29, have been achieved to a design point where the plane can be flown on ordinary short-range missions by pilot and co-pilot without a flight engineer, and in emergency by one man only, in the co-pilot's seat, Kenneth C. Gordon, Boeing engineer, informed the SAE group in a discussion of control cabin design.

▸ **Pilot Needs Stressed**—Improvements needed in control cabins from the pilot's point of view were outlined by G. F. Beal, Northwest Airlines' first pilot, who warned against sacrificing visibility of the pilot to gain a few miles per hour speed, called for improved deicing and defrosting of windows, called for two complete sets of flight instruments, including gyro instruments, for any plane as large or larger than the DC-3, and urged greater attention to pilot's comfort and convenience in designing sets, and placing instruments.

Use of power steering in aircraft design, to solve at least some of the problems of the tricycle landing gear, was advocated by Francis W. Davis, Waltham, Mass., consulting engineer.

A. T. Colwell, vice-president of Thompson Products, Inc., told the Truck and Bus Session that water-alcohol injection devices, currently used in aircraft, were equally applicable to engines of ground vehicles to increase power and improve performance. He recommended a 50-50 combination of water and alcohol to provide both shock control and internal cooling. Use of water injection would make possible lighter and higher-compression ground vehicle engines, as it has made possible such improvements in aircraft engines.

▸ **Engine-Turbine Combination** — Conversion of waste energy from diesel and gasoline engines, into useful work by combining the engines with turbines, is seen by C. F. Bachle, research vice-president of Continental Aviation & Engineering Corp., Detroit, as the most practical development for low-fuel consumption power plants for transport aircraft of the future. He rated the combination above either jet propulsion or present conventional engines, in efficiency, for long range flights at 300 mph., although he predicted jet propulsion turbines probably would replace piston engines when higher speeds became economically desirable for transport.

A symposium on control of engine detonation concluded that some airlines and military aircraft are wasting more than 20 percent of their fuel, and discussed electronic instruments which reveal fuel wastage through detonation, and enable pilots to make compensating adjustments for maximum fuel economy.

Menasco Sales Up

Menasco Manufacturing Co., of Burbank, Calif., doubled sales in 1944 and increased working capital from $668,330 to $1,081,510, according to the annual report issued by John C. Lee, president. He left unconfirmed, however, the supposition that after the war the company again will become an important engine producer—jet engines this time.

Menasco's original production of air cooled in-line reciprocating engines has been suspended and the company now makes warplane hydraulic landing gears.

▸ **Jet Propulsion**—While Menasco is not alone on the West Coast as a potential entrant into the field of jet propulsion, its facilities and experience indicate such a venture should provide a logical outlet for its post-war energy.

Because Lockheed Aircraft Corp., now makes no secret of the fact it is a believer in jet propulsion for post-war commercial airliners, and because top Lockheed officials are Menasco directors, the assumption is that Menasco's future will follow the curve of Lockheed's success.

PRODUCTION

★ ★

1945 Schedule Increases Easier For Industry Than Year Ago

Full operations resumed by East and West Coast AWPC's to meet new demands of armed services.

Upward revisions of aircraft schedules for 1945 will be met with greater facility than would have been possible a year ago, although industry sources disclose that they anticipate spot difficulties of considerable proportion.

The East and West Coast Aircraft War Production Councils have resumed full operations to meet the new demands of the armed services, with the program stepped up from last October's projected 1945 schedule of 76,000 planes to 82,250 today. The Aircraft Division of the War Production Board is now operating and undoubtedly will have representation on the Aircraft Production Board.

The whole story is not told in the stepped up total production figures, however.

Here, in brief, is the situation confronting the aviation industry:

▸ The production schedule of 82,250 planes probably will be revised upward again.

▸ The critically needed combat and transport types must be produced in quantities proportionately far greater than demanded under any earlier overall schedule. Monthly dollar value of output must be brought from $367,000,000 in October, 1944 to $925,000,000 average for the second quarter of 1945 —the program is being tripled in a period of about six months. This means that cutbacks and readjustments of production in the cutback factories to bolster the "hot plane" program must be taken in stride.

▸ Most important planes are the B-29, the B-24 and the B-17, the C-54, the whole range of jet-propelled fighters, the Navy fighters, and presumably the B-32.

▸ The B-29 program is probably the hottest of all. Production at the Boeing plants in and near Seattle will be jumped from 35 in December to 200 a month during next summer. This program is just getting under way as the plants went out of B-17 production and retooled for the big new ship. B-29 production at Boeing-Wichita, Martin-Omaha and Bell-Marietta is also scheduled for increases, with production at Wichita now running 100 a month. No estimates are available for the Martin and Bell B-29 plants.

▸ The B-17 program will be a major headache for the reason that Boeing's withdrawal from the output schedule at Seattle requires both Douglas and Lockheed to step up production in their plants 25 percent, as well as meet the needs in their other vital program.

▸ The B-24 will be continued in full production at Willow Run and increased output there is now being considered.

▸ The whole group of Navy fighters is under the intensified program, with the *Corsair* rated most important for increased production by WPB Chairman J. A. Krug.

▸ The twin factors of materials and manpower will remain serious. One of the primary difficulties is going to be the re-manning of plants that were cut back in the fall, despite the 4-F campaign now under way. Workers laid off from these plants will seek employment first in other war plants in the belief that their original plant would again be the first to be cut back when heavy war demands end.

▸ A serious element in the manpower situation that has been lit-

4-Engine Airliner Delivery Delayed

Airlines hopeful of a start on deliveries of their orders for four-engine equipment this summer will not get them unless the war production outlook changes radically, and quickly.

It probably will be well into 1946 before first deliveries can be anticipated.

It has been learned authoritatively that there is no place in the production schedules for these planes, and that there will not be.

Douglas—with orders for 70 DC-4's, 73 DC-6's and 26 DC-7's—is involved in two critical aircraft programs, for the B-17 and the C-54.

Lockheed—with orders for 58 *Constellations*—is also involved in the B-17 program and in other "hot" schedules.

Curtiss—with orders for 26 *Commandos*—is tied up and will be in C-46, *Helldiver* production and B-29 modification as well as production on some unspecified planes.

Boeing—just unveiling its *Stratocruiser* — is completely unable to divert.

Production Record—More Coming: *Even though production records were broken by the Boeing plant at Wichita during December—with about 100 being produced, the program is being stepped up here and at Seattle, Omaha and Marietta. Some of the December planes are shown on the Wichita flight ramp undergoing final tests. Part of the plant is shown in the background.*

tle mentioned is the announced intention of Selective Service to draft men now deferred who are less than 30 years old. Stripping of the aircraft plants of men less than 26 years old hampered work last year, although the effect was minimized somewhat by the reductions in schedule. That cushion is not indicated in the present situation.

▸ Materials are going to be short. Efforts to minimize this include an agreement—reached in 10 days through the Aircraft War Production Councils—to hold all aircraft materials orders to a minimum basis, shutting off of all really critical materials from civilian production even where spot authorization for that production has been given essential aircraft, tank and rocket schedules.

▸ The fact that emphasis is being concentrated more on certain types of ships is going to affect the aviation industry through the subsidiary problems of housing, transportation and food. As an example, schedule increases in the Bell plant at Marietta will require new housing for several thousand workers who cannot readily be recruited in that immediate area—the same will be true in many other cities. Whether they can be built or provided in time is another question entirely. There are further indication of a tightened gasoline supply, and bus tires and bus replacements are already extremely tight.

▸ Production of any civilian personal aircraft is "out." Requests for permission to resume production in loose labor areas in plants without war contracts have been sidetracked and war contract production is being siphoned into these plants as fast as arrangements can be made.

▸ If the problem becomes any more serious, dispersion of small subassembly work to community workshops outside of effective commuting range of factories will be intensified. The British idea of professional workers and non-war workers of various groups contributing from two to four hours a day to war production in addition to their own work is another far possibility. It all depends on how long the intensified schedule must be maintained.

Developments

Coincident with announcement of stepped up warplane schedules were these developments:

▸ The National Aircraft War Production Council extended to WPB Chairman J. A. Krug its pledge of full support of member companies in meeting expanded programs. The companies offered renewed assurances that nothing would be permitted to interfere with their determination to keep military production schedules. "We feel," said the manufacturers, "that intensified efforts by our fighting men in both the European and Asiatic fronts will be matched in the intensity of work by our own industrial forces. We believe we speak for our employees in pledging increased vigor in the war production program!"

▸ Military agencies have been cautioned against using incentive scheduling as a club over production. Military chieftains have been bluntly critical of every crumb of post-war planning, and are forcing schedules higher than they normally would be set to as a lever. Civilian production experts are fearful that continued "production shortage" campaigns will create only confusion and fear without actually stimulating production.

Electric Prop Test

Glenn L. Martin Co. engineers have developed a new electrical system checker that makes it possible to test the complete circuit of an electric propeller with the engine running, locating defects in a few seconds.

The new device consists of a small fibre box mounting four lights hooked up in a multiple-purpose circuit, and can be plugged into the propeller electrical system either forward or aft of the prop relay box, or into the governor to provide three separate sets of checks. Because of a varied combination of circuits and attaching points, only four lights are needed to give a complete check of the propeller electrical system.

Plan New Products

A new products department in the aeronautical division of the B. F. Goodrich Co., Akron, O., has been established to work with aviation companies on the development of products for the industry.

The department will cooperate in development of new products of rubber, synthetic rubber and plastics, the company has announced. It is staffed with engineers assigned to work with all branches of the aeronautical industry.

Scientific Painting Aids Convair Output

Color schemes at plants designed to reduce eye strain, nervous tension and mental depression; rise in production efficiency and reduction in accidents and absenteeism claimed.

A marked increase in production efficiency, with a decrease in accidents and absenteeism, followed scientific painting of the Consolidated Vultee plants in San Diego, Nashville, and New Orleans, according to J. M. Druliner, chief industrial engineer of Consolidated at San Diego.

The color system, designed to provide "eye-rest" for workers, is one of the biggest jobs of its kind in the country, and was carried out by Pittsburgh Plate Glass Co.

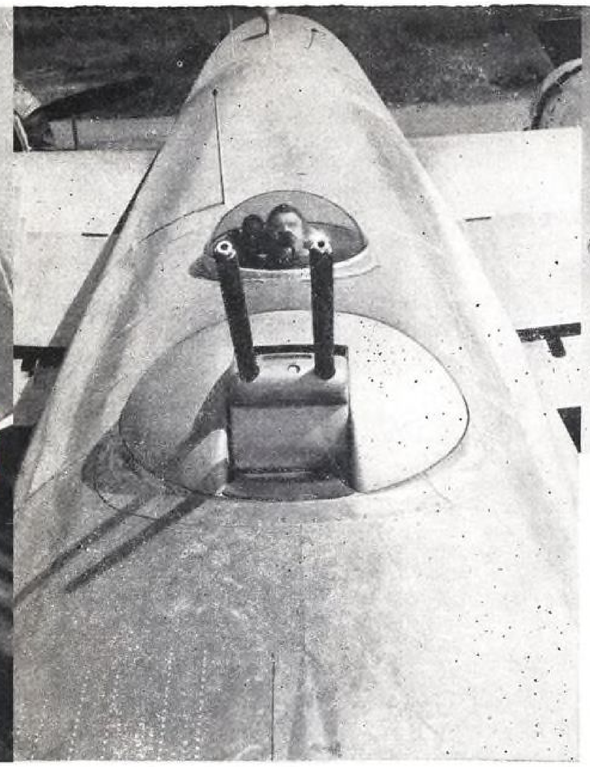
▸ **Color Research**—Studies made of manufacturing processes and worker fatigue show eye strain is reflected in lowered output and nervous tension and mental depression where colors were monotonous and where light intensities vary between machines and wall areas.

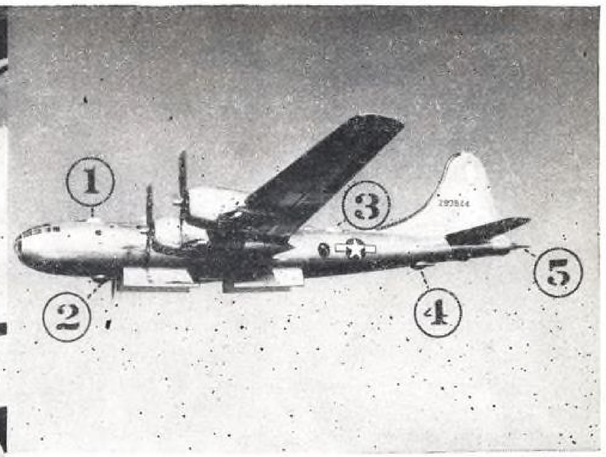
In the Consolidated Vultee plants, machines have been painted in colors that highlight important sections with different but not too widely contrasting colors while walls have been painted in "eye-rest" colors that do not force the worker to make readjustments to meet light intensities every time he looks up. The contrasting machine colors also are utilized to guide the eyes to specific points requiring attention.

'Feeder' Shop Opened

Dispersion of manufacturing operations to take advantage of manpower in communities within 40 to 50 miles from the Consolidated Vultee plant in Nashville, Tenn., has been started with the opening of a "feeder" shop at Dickson, Tenn. The shop will be used for assembly of small parts for the Lockheed P-38 *Lightning*, being built at the Nashville plant.

Schedules for the plane call for an immediate increase in personnel, and it has not been possible to recruit workers fast enough in Nashville.





● (opposite page) The tail turret of the B-29 mounts a 20-mm cannon flanked by two 50-caliber machine guns. All are controlled electrically from the compartment above the turret.

● (left) Rear top turret of the Superfortress with two 50-caliber machine guns. Forward of the turret is the sighting station from which these guns are controlled.

● (above) The five turrets on the B-29 are so located that several guns can be concentrated in any direction.

. . . and here's how the integrated G-E armament system provides a tremendous increase in firepower with no increase in guns.

It is not that the Jap-blasting B-29 bristles with more guns. It doesn't – other bombers have carried as many.

The unprecedented combat stamina of the B-29 is due to its *deadlier* fire-power. Deadlier because of its increased accuracy. Deadlier because it makes possible a more devastating concentration of fire *in any area.* Deadlier because it gives gunners greater comfort and safety.

The B-29 carries something entirely new in aircraft armament—the first remote-control system and the first completely integrated armament system to be applied to any production aircraft.

Begun in 1942

In response to the urgent call, early in 1940, for a power-operated turret, G.E. applied its newly developed amplidyne and its aircraft experience to work out an electrical system for locally controlled turrets.

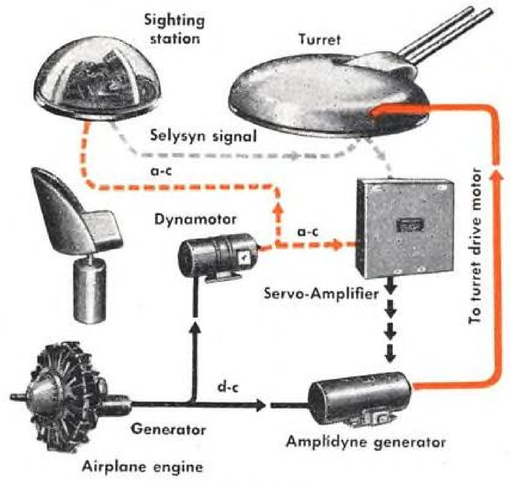
Then, beginning in 1942, G.E. developed its new remote-control system for the B-29 and other new planes. Utilizing G-E amplidynes, selsyns, dynamotors, as well as G-E computers, turrets, and other equipment, these completely integrated systems are now also being built in enormous quantities.

Many Advantages

By providing extremely accurate, *remote* control of gunfire, the new G-E system has made it possible to locate sighting stations where they give gunners greater visibility, physical comfort, and armor protection. It has facilitated the placing of gunners in pressurized areas, and put them where noise and vibration are markedly less. All of these factors contribute much to the combat efficiency of gunners.

In addition, separation of sighting station from turret has resulted in less drag and better aerodynamic design. Highly important, too, the total weight of the new armament system is less than that of locally controlled armament now in use.

We at G.E. are proud of the part this new gunfire-control system is playing to hasten V-Day. We are proud of it, too, as an outstanding example of how, in peacetime, G-E "can do" will make planes more economical, and easier and safer to fly. *General Electric Company, Schenectady 5, N. Y.*



IT'S A SYSTEM!

This diagram shows, simply, how the system works in controlling guns in elevation. Another amplidyne and set of position-indicating devices are used to provide similar control in azimuth.

Assume the gunner raises his sight. Immediately, there is a "difference" between the elevation selsyn transmitter and receiver, resulting in a minute electric signal. This signal is instantly amplified by the electronic servo-amplifier. It is then magnified again by the amplidyne into "working power" which energizes the turret drive motor, causing it to turn. As the guns come into the desired position, the signal fades out, and the motor stops.

Although there are several electrical "steps" involved, the response of the guns is practically instantaneous. So smoothly do the guns follow the sight that guns and gunner seem one.

Other G-E engineered systems include d-c and a-c power supply equipment, engine temperature control, high-tension ignition, automatic cowl-flap positioning, and the electric-gyro automatic pilot.

GENERAL ELECTRIC

674-31-8872

Buy all the BONDS you can—*and keep all you buy*

PRECISION PRODUCTS AND ENGINEERED SYSTEMS FOR AIRCRAFT

COMMENTARY

U. S. Capture of Luzon to Move Bomber Line Closer to Japan

Gigantic strides made in past year give American forces virtual control of air and sea; cleanup of mighty land-sea-air base in Pacific to be beginning of end for Nippon empire.

The past year has seen gigantic strides on the road back to Tokyo, and the landings on Luzon mark the end of the beginning. The clean-up of this mighty land-sea-air base will be the beginning of the end. The loss of Luzon will mean the end of the Japanese Empire as such.

The struggle will be desperate, but with practically complete control of the air and sea, the final result is certain, and for the enemy, catastrophic. It will help the overall campaign in a variety of ways. Control of the South China Sea cuts off China west of the vital Canton-Hong Kong area, French Indo-China, Thailand, Malay States, Sumatra, Java and Borneo.

Upturn in China—Despite the loss of most of their big bases in South China, General Chennault's 14th Air Force record from Nov. 15 to Jan. 15 is the best in its history from the standpoint of damage to shipping and military objectives on land, and it has demonstrated the extreme unlikelihood of the Japanese ever gaining effective use of their North China to Singapore rail line. This means a free hand for the British to clean up the Burma campaign and win back Southeast Asia. A revitalized China could then be amply supplied. All this is but the left arm of a mighty pincers movement, of which an equally spectacular advance through the Central Pacific forms the right.

Solomons to Admiralties — With the occupation of the tiny Green Islands in early February, 1944, the air base of Buka, north of Bougainville, was outflanked and strategically, the long battle of the Solomons was over. The powerful base of Rabaul, New Britain, had been badly smashed up by flyers of the 5th Air Force on New Guinea, and by units of the 13th Air Force and Marine groups in the Solomons.

In March, Manus in the Admiralty Islands was occupied. April saw the leapfrog operation which bypassed Wewak to capture Aitape and Hollandia in New Guinea, advancing the bomber line 1,000 miles nearer Tokyo than it had been in the spring of 1943. The 13th Air Force, now commanded by Maj. Gen. W. St. Clair Streett, took up headquarters on Manus, in June, a jump of 1,000 miles from Guadalcanal. Here it was incorporated into General Kenney's Far Eastern Air Forces.

New Guinea to Philippines—The 13th helped in the conquest of the remainder of New Guinea's northern coast, and by late summer had made another 1,000-mile move to Watke Island. From here it hammered away at the Caroline bases to Yap and Ulithi, neutralizing them for the landing on Palau, and at the Halmaheras in preparation for MacArthur's jump to Morotai, while also smashing Ceram, Timor and the Celebes to the south. As Maj. Gen. Ennis Whitehead's 5th Air Force moved up into the Philippines in October-November, the 13th hopped into Morotai. From these bases they played a vital part in the conquest of Leyte and the neutralizing of air bases on the other islands, while continuing their air blockade of all points south and west.

Central Pacific Progress—On the right flank the progress was no less impressive. A year ago the air team composed of Navy, Marines, 7th Air Force flyers was clearing the decks for the brilliant campaign which seized the strategic bases of Kwajalein and Eniwetok in the Marshalls.

June and July witnessed the occupation of Saipan, Tinian and Guam in the Marianas, a jump of 1,200 miles to the west. This group of highly strategic islands constitutes the nearest base to the Jap inner Empire gained by the Nimitz right flank. However, persistent air and surface attacks against the Bonins and Volcanos may indicate an imminent move to shove the bomber line within striking range of *Liberators* and escorting *Lightnings* and long-range *Thunderbolts*. In the meantime, while Guam was being built up, a powerful assist to the MacArthur left flank drive was rendered by the occupation of Palau, now a strong base for 7th Air Force *Liberators*.

Strategic Air Power Unleashed—With the establishment of the Seventh Air Force in Saipan in July, and the 21st Bomber Command's bases on Saipan, Tinian and Guam during the succeeding months, the way was opened up to strike mighty blows at Nipponese war-making capacity, with the aircraft and engine industry high up on the priority list. Lieut. Gen. Millard F. Harmon, commander of Army Air Forces, Pacific Ocean Area (AAFPOA), moved his headquarters to Guam and became Commander of Strategic Air Forces in the Pacific (COMSTRATAIR), a job on Admiral Nimitz' staff similar in its military objectives to that of his fellow pioneer airman of the World War, Lieut. Gen. Carl A. Spaatz, chief of USSTAF. Both are all-out in their conviction that heavy precision attacks by air against vital targets will in the long run "fatally weaken" the enemy's power of resistance.

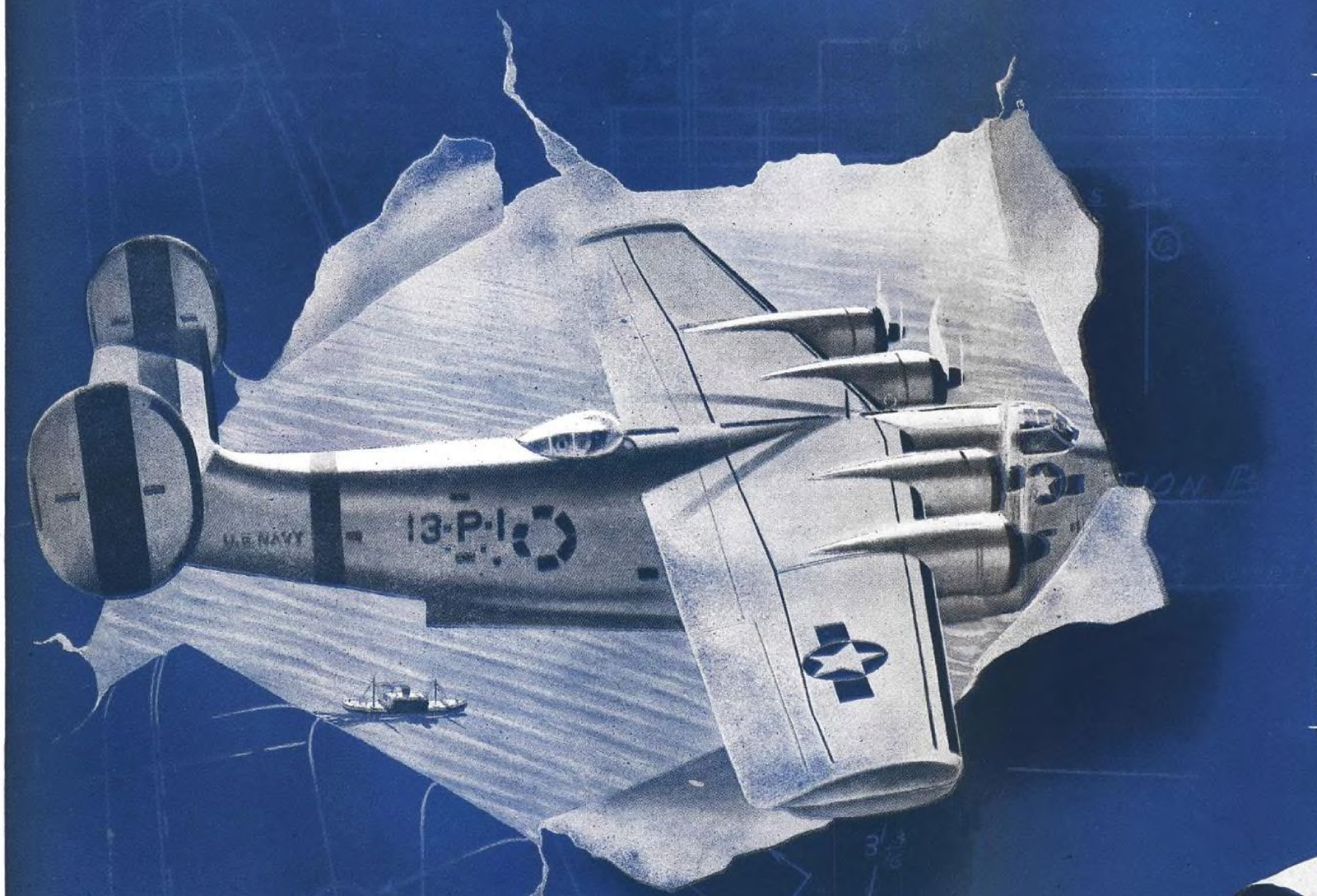
NAVIGATOR

114,253 Airmen Trained in Canada

The British Commonwealth Air Training Plan in Canada trained 114,253 pilots and aircrewmen, an official breakdown released by the Canadian government discloses.

In all, 158,221 trainees entered the program. Of the total graduating, 5,296 were trained in Royal Air Force and Fleet Air Arm schools in Canada. The remainder trained at Royal Canadian Air Force bases under the plan, providing 42,500 pilots, 37,500 navigators, 15,000 radio operators-air gunners, 12,500 air gunners, and 667 flight engineers and other specialists. While the air training is being curtailed, some 15,000 are still in training and about 5,000 are awaiting training.

GOODYEAR AIRCRAFT PRODUCTION REPORT



CONTRACTS: 78903, 85402, 97126

CONSOLIDATED PB2Y3
(Coronado)

FLIGHT DECKS, AILERONS, ELEVATORS, RUDDERS, STABILIZERS, FINS, FLAPS, OUTER WINGS AND FLOATS FOR 250 PLANES

FIRST CONTRACT RECEIVED: *DECEMBER 1940*

FIRST PRODUCTION UNIT DELIVERED: *JANUARY 1942*

CONTRACTS COMPLETED: *MAY 1944*

Goodyear Aircraft's part in making possible the quantity production of these huge four-engined Navy Patrol Bombers (115' wing-spread, 79' length) included the complete re-engineering for production of all above-named assemblies except flight deck. Once re-engineered, Goodyear's ingenuity made it possible for these major components to be produced on time. Record of these big flying boats in the Pacific testifies to the success of Goodyear's share of light metal engineering in solving the complex production and engineering problems.

Goodyear is building components for 16 different Army-Navy types of aircraft, including complete Corsair fighters and Navy airships.

HOW GOODYEAR AIRCRAFT CORPORATION SERVES THE AIRCRAFT INDUSTRY

1. By constructing major components to manufacturers' specifications.

2. By designing parts for all types of airplanes.

3. By re-engineering parts for quantity production.

4. By building complete airplanes and airships.

5. By extending facilities of Goodyear Research Laboratories to aid the solution of any design or engineering problem.

GOODYEAR AIRCRAFT

GOODYEAR AIRCRAFT CORPORATION
Akron, Ohio • Litchfield Park, Arizona

PERSONNEL

★ ★

Alfred H. Marshall has been elected vice president and director of United Aircraft Service Corp., a subsidiary of United Aircraft Corp., which

Alfred H. Marshall

functions as the field service and installation engineering organization for Pratt and Whitney aircraft engines. Hamilton Standard propellers and Chance Vought airplanes. In 1943 he was appointed assistant sales manager of Pratt and Whitney Aircraft, a position which he retains.

W. R. Moreland has been appointed assistant to the president of Mid-Continent Airlines and will make his headquarters in Kansas City. Mid-Continent's newest executive returns to air transportation following war time service with the War Fund of the American National Red Cross where he served in administrative and public relations work.

Furlonge H. Flynn has been named service manager of Pratt and Whit-

Flynn

Igo

ney Aircraft Division of United Aircraft Corp. **Henry N. Igo** has been appointed assistant service manager. Flynn, formerly assistant service manager, succeeds **John L. Bunce,** who recently became chief engineer of Pratt and Whitney Aircraft of Missouri.

Comdr. William C. Chambliss has assumed his duties as head of the program planning branch of the Navy's Office of Public Relations. An aviator, Commander Chambliss entered the Naval Reserve in 1929. He was on the staff of Admiral William F. Halsey, Jr., when he was Commander Aircraft Battle Force.

Paul E. Hovgard has been appointed associate director of the research laboratory at the Airplane Division of Curtiss-Wright Corp. He was previously director of flight test for the division.

Capt. Harold B. Miller, now staff public relations officer, Commander in Chief, U. S. Pacific Fleet and Pacific Ocean Areas, and well known aviation writer, has been awarded the Legion of Merit for his services as aide and flag secretary on the staff of the commander of a task force, U. S. Atlantic Fleet. He and his wife, **Jean Dupont Miller,** have collaborated on three books on aviation subjects.

Dr. Ross A. McFarland, medical coordinator for Pan-American Airways, is in Miami for conferences with pilots and engineers in connection with alleviating crew and passenger fatigue on long-range high-altitude flights by cabin supercharging; control of sound; vibration and instrument lighting; regulation of temperature, humidity and ventilation. Dr. McFarland also is connected with the Division of Industrial Research at Harvard University.

Air Reduction has announced the following appointments: **H. F. Henriques,** formerly sales manager of the north central division, is appointed general sales manager; **J. J. Lincoln,** formerly sales manager of the south central division, is director of sales services; **C. M. Bloodgood** who has been serving as sales manager of the Pacific Coast Division, is named assistant to the vice president in charge of sales. In addition **H. P. Etter,** heretofore manager of the Los Angeles District of Air Reduction, is appointed sales manager of the Pacific Coast Division.

Col. Franklin P. Rose, a veteran of World War I and a prominent figure in peacetime aviation, has been assigned commander of Buckley Field, near Denver. Colonel Rose replaces **Col. E. A. Lohman,** who was assigned to command Sheppard Field, Tex.

AWARD TO BELL:
Lawrence D. Bell, president of Bell Aircraft Corp., left, is shown receiving the 1944 Daniel Guggenheim award for achievement in the design and production of military aircraft. Mac Short, past president of the Society of Automotive Engineers, made the presentation at the Society's annual meeting recently.

L. H. Cooper, manager of Consolidated Vultee's Miami division, has assumed a similar post at the New Orleans division. Former director of Convair field operations, Cooper was manager of the Elizabeth City division when called to Miami.

Dr. Robert V. Yohe, manager for B. F. Goodrich Co., of a government synthetic rubber plant near Louisville, has been elected vice president of American Anode, Inc., a company affiliate.

D. A. O'Connor has been named director of passenger sales in the eastern region for Transcontinental and Western Air, Inc. O'Connor was formerly northern division traffic manager for Eastern Air Lines and has been in the airline traffic business since 1931, when he joined the Ludington Air Line, and then moved to Eastern when it acquired Ludington.

Comdr. William R. Kane has been appointed head of the Naval Aviation Physical and Military Training Program, succeeding **Comdr. Frank H. Wickhorst,** who has reported for duty at sea. Commander Kane has been on duty in the Pacific where he headed the famous "Grim Reapers" Squadron.

Col. Melvin J. Maas has reported for duty in the Aviation Division, Marine Corps headquarters. Colonel Maas has been a representative in Congress for the past 16 years and was ranking Republican on the House Naval Affairs Committee. He was in a Marine aviation unit in the last war and remained in the reserves.

Brig. Gen. Victor E. Bertrandias has been named chief of maintenance for the Air Technical Service Command. He will be stationed at Wright Field. Before going on active duty, General Bertrandias was vice president of Douglas Aircraft Co., Inc. He has served as deputy commander to Lieut. Gen. George C. Kenney in the Far East Air Service Command. In his new post he will be responsible for the worldwide maintenance and overhaul operations that keep the AAF's air fleets in action.

Four important promotions in the manufacturing division have been announced by Glenn L. Martin Co., Baltimore. **Nils H. Lou,** formerly factory manager, has been advanced

Lou

Young

Stewart

Bounds

to assistant to the vice-president, manufacturing. He has been succeeded as factory manager by **Robert Young,** previously assistant factory manager. **Norman Stewart,** formerly factory superintendent, Army Division, has been promoted to assistant factory manager, and **Robert Bounds** has been advanced from night superintendent, Army Division, to factory superintendent, Army Division.

NEW C & S OFFICER:

H. Robert Bolander, Jr., whose election to the vice-presidency of Chicago & Southern Air Lines has been announced, has been secretary and general counsel of the airline. Bolander joined C & S in 1941 as assistant general counsel and advanced to general counsel in 1942.

Wallace I. Gates, district traffic manager for PCA, is the first airline representative to head the Buffalo Passenger Association. He has been elected president of the traffic group. **Fred R. Clemens,** PCA's district traffic manager in Pittsburgh, has been named to the newly-organized Pittsburgh District Aviation Commission, a group sponsored by the Chamber of Commerce.

W. C. Burks has been named as cargo development manager in charge of all cargo promotion by Chicago & Southern Air Lines, Inc. **Eugene Ostheimer** has been named assistant to the general traffic manager and will continue to handle schedules and statistics in addition to his new responsibilities.

Lieut. (j.g.) Mary Ellen O'Connor (photo), a former United Air Lines' stewardess, has been designated flight nurse in charge of the Navy school for air evacuation of casualties just established at Alameda, Calif. The school will train flying Navy nurses for the first time. After ten years with United, Lieutenant O'Connor became a Navy nurse in 1943. Three other former United stewardesses: have been selected to attend the school which will comprise 24 nurses in the first course. They are: **Ensign Lydia Masserine, Ensign Gweneth Nolan,** and **Ensign Winifred Jennings.**

J. W. Thomas, revenue auditor for Northwest Airlines, has been appointed head of a new revenue division in the company's Treasury Department. He is a member of the revenue accounting committee of the finance and accounting conference, Air Transport Association. He formerly served as chairman of the subcommittee which helped work out details for establishment of the Airline Clearing House.

Staff changes involving four veteran United Air Lines men have been announced. **Max C. Henne** has returned to his former position as station manager at Medford, Ore., after serving in United's military operations for the ATC at Anchorage, Alaska. He replaces **John Y. Meyer,** who has become station manager at Monterey, Calif. **Everett W. Hull,** station manager at Monterey, has been transferred to the Pendleton, Ore., station. **Phil L. Edwards,** assistant station manager at Salt Lake City, is station manager at Long Beach, Calif.

Charles L. Morris (photo) who, as engineering test pilot with **Igor I. Sikorsky** since early in 1941 piled up more hours than any other man in helicopter test flying, has joined Bendix Helicopter, Inc., in connection with the development of helicopters of new and radical design. He will be director of field operations for the organization. In 1931 Morris was commissioner of aeronautics for the State of Connecticut. He is a past president of the National Association of State Aviation Officials, president and a founder of the American Helicopter Society, Inc., and a member of Quiet Birdmen.

Formal announcement has been made of the appointment of **Louis H. Inwood** as special aircraft assistant to the board of directors of Reconstruction Finance Corp., in connection with its surplus aircraft disposal activities. Inwood is on leave of absence from Trancontinental and Western Air, Inc. Prior to joining the airline in an executive capacity he served with the Aircraft Division of War Production Board, Civil Aeronautics Board and Interstate Commerce Commission.

William R. Gillen has been made regional traffic manager for Chicago and Southern Air Lines at Memphis. He will handle all cities on the route between Memphis and Detroit and also St. Louis, Peoria and Chicago. **J. K. Howe,** city traffic manager at Little Rock, becomes district traffic manager for the new office to be opened shortly in Indianapolis.

Two New Insurance Firms Enter Airline Field; Third in Offing

Continental Casualty Co. offering public liability, passenger liability and property damage and affiliated firm, Transportation Insurance Co., will write hull insurance; Liberty Mutual to offer liability coverage.

Two new insurance companies have entered the airline field, one now working both hull and liability coverage, the other at present soliciting only liability accounts. A third large company is preparing to enter the market.

The only formal announcement has been that of Continental Casualty Co., and its affiliate, the Transportation Insurance Co., both of Chicago. Continental is offering public liability, passenger liability and property damage, and Transportation will write hull insurance. The Continental participation in aviation insurance is not limited to the airlines, but will cover all phases.

▸ **Liability Coverage**—Liberty Mutual Insurance Co., has laid the groundwork for writing aviation insurance and has approached airlines offering liability coverage. Hull insurance will be offered through another company, it is understood. Liberty is one of the largest companies operating in the automobile field, and its entry into the aviation field is an outgrowth of discussions held last year and the year before by an Air Transport Association committee with mutual companies. Reports are that Liberty has completed its arrangements for re-insurance.

The third company preparing to enter the field is Lumberman's Mutual, one of the largest of the mutual fire companies. Presumably this company will offer hull insurance, possibly writing liability through an affiliated company.

▸ **Rates Comparable** — Airline sources have disclosed that the rates being offered by the new entrants are comparable to those of the three established groups, but that broader coverage is expected to result from the additional competition. The bulk of aviation insurance in the airline category has been written in the past by two groups—Associated Aviation Underwriters and United States Aviation Underwriters—with a third group, Aero Insurance Underwriters, handling in the neighborhood of 60 percent of the private flying field. This third group, however, has re-entered the airline field in the past year and is understood to have written policies for Colonial Airlines and Alaska Star Airlines. It also has been submitting offers to other airlines.

These three groups are reported by the Civil Aeronautics Board to have written among them some 96 percent of aviation insurance reported to the New York State Insurance Department, which has been the only one requiring an aviation rating board. The three groups, with the firm of Newhouse & Sayre, compose the rating board.

▸ **Controversy**—Although a controversy has been raging for several years, it is significant that reports of new companies entering the field show that rates are comparable. There has been little disposition on the part of most airline executives to belittle the part played by the three groups, and rates of the group have been reduced as experience indicated better safety factors in airline flying. However, it has been felt that profits have remained high in relation to loss ratio. The groups, on the other hand, have answered that the profit ratio has appeared high, but the catastrophic losses conceivably could wipe out reserves.

It is felt, however, the more competition and particularly the entry of the mutuals in the picture, will stabilize the field and permit greater savings as the safety factor climbs.

▸ **Others to Follow**—There are indications that the market will be thrown wide open by the fact that these new companies are entering the field, since others are expected to follow. The advantages will accrue not only to the airlines, but to fixed base operators, private flyers and passengers in both commercial and noncommercial flight.

It will be recalled that several accident companies have offered reduced rates, and that a general revision of life insurance policies has been made in the past month by Connecticut General Life Insurance Co., largest of the companies writing airline group insurance and insurance for commercial and private flyers and passengers.—W. G. K.

UAL Operations Up Sharply in 1944

United Air Lines estimates its planes carried 18,721,000 ton miles of mail in 1944, a gain of 70 percent over 1943, which at the carrier's present rate of mail pay would net approximately $11,232,600. The figure exceeds Civil Aeronautics Board's estimate of United's mail traffic for a year ending Sept. 30 1944, by 2,750,246 ton miles.

United believes its 1943 revenue passenger mileage of 357,196,592 miles will be exceeded in 1944 by 28 percent to reach a new record high of nearly 456,806,000 miles. Total ton miles flown during the past year are estimated to have been 68,569,424, an increase of 35 percent over 1943.

▸ **Plane Utilization**—The high mileage totals reflect plane utilization of 13 hours 20 minutes or 2000 miles per plane per day. Pre-war utilization was roughly 8 hours 15 minutes or 1200 miles per plane.

P-47 Man-hours Cut

Man-hours for construction of a Republic P-47 *Thunderbolt* have been cut from the 22,927 required in 1942 to 6,290, reducing cost of plane from $68,750 to $45,600.

The man-hour savings have been achieved through installation of continuous production lines and simplification of the work of each employee on the lines, and also through elimination of unnecessary equipment and re-design of many elements.

Financial Reports

▸ **Air Associates, Inc.** reports for the year ended Sept. 30, last, net income of $372,853, equal to $2.76 a common share, compared with $582,649 or $4.32 a share for the previous year. Net sales amounted to $12,940,765 compared with $18,504,800 the previous year.

New Air Marker System to Give More Precision in Plane Location

Method revised by CAA to show air address in degrees and minutes of latitude and longitude instead of degrees and tenths of degrees.

By BLAINE STUBBLEFIELD

More precision in establishing plane locations from the air will result from a change in the air marking system which the Civil Aeronautics Administration is putting into effect, at request of Army and Navy.

The new form gives the air address, marked on the ground and visible from planes, in degrees and minutes of latitude and longitude. It has received approval from all the nations which sent representatives to the international aviation conference at Chicago, and ultimately is expected to be used in all parts of the world.

Gives Finer Definition—As initially set up last summer, the air addresses were designated in degrees and tenths of degrees of latitude and longitude. The new system gives finer definition, locating the pilot or observer within less than a mile.

Thus an address now reading 4146/9456 (41 degrees, 46 minutes latitude and 94 degrees 56 minutes longitude) previously would have read 41.8/94.9 (41.8 degrees latitude and 94.9 degrees longitude.)

One other change has been made by CAA: addresses actually on or bordering airports are lettered within circles; others are not circled.

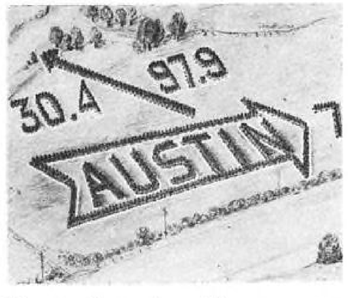
Marker Programs—Most of the states now have marker programs. Funds are provided entirely by State and local governments; CAA furnishes only advice, technical data, and standards of measurements and materials for construction. Blanche Noyes is in charge of the marker program. A booklet giving all information is available at Civil Aeronautics Administration, Washington, D. C.

Advertisers and advertising agencies are increasingly taking part in air marking. Standard Oil of New Jersey, Standard Oil of New York, Texas Oil, Gulf Oil, Goodyear, and others are already working out plans and some have set up markers. It is expected advertiser marking will boom when materials are available. If advertisers depart from recommended standards in such a way as to confuse pilots, a federal control statute may be enacted.

At least four steel and porcelain manufacturers are planning to produce ready-made lettering to be installed on raised structures. These will be especially useful on swamp and desert land, and in regions where lettering on the ground and on roofs would be covered by snow.

Sectional Charts Proposed—A further modification of air markings, to reduce air addresses to minutes, eliminating degrees, has been recommended by Cessna Aircraft Co., and has received some support from officials of various aviation associations. Under this system sectional charts would be marked off in numbered grid patterns, with lines drawn every ten minutes of latitude and longitude, so that intersections of the grids would indicate true North-South-East and West. The numerical system under the Cessna plan would use abbreviation. For example: 38 degrees north latitude would equal 2,280 minutes. The first digit, representing thousands of minutes, is dropped. It is explained that the average airplane has considerably less flying range than 1,000 miles, so that there would be no change in the first digit within the plane's range. The final zero is dropped, and the reading becomes 28 N.

It appears, however, that since the CAA system has met with wide international approval, it will be adopted for the sake of uniformity and exactness.



Change Airmarker: *More accuracy in air marking is expected by CAA as a result of its new system, which will give "air addresses" in degrees and minutes of latitude and longitude," instead of in degrees and tenths of degrees. A typical airmarker using the former system is shown above. Changed to comply with the new system, the same air address would read: 3024/9754 (30 degrees 24 minutes latitude and 97 degrees 54 minutes longitude.)*

VE Delay Sets Back Private Plane Plans

Program for production of postwar personal airplane types held up by indications of longer war in Europe.

Pushing back the expected V-day in Europe, as a result of the too successful German counter-attacks, is having a far-reaching effect in the personal aircraft branch of the industry including manufacturers, fixed base operators, and potential consumers. The effect is naturally a postponement of any expectations of producing postwar types, marketing them or buying them until the delayed VE-day arrives.

There is more than a little concern, among many of the fixed base operators particularly, about how they are going to keep their operations going over this extra period which has upset many of their best-laid plans. As a result the more enterprising are looking around for stop-gap money making plans which can carry their overhead until the eventual relaxation.

Contracts Canceled—Fact that only a very small number of the fixed base schools are being continued as Army and Navy training operations, is of course no help in the problem. Some operators have turned to used and surplus plane markets in an effort to make some money. There is strong demand for civilian planes of any kind. Some operators are buying used planes, putting them in top shape in their shops and realizing a neat profit. But opportunities are limited in this field by the small num-

ber of used planes available. Surplus planes in the categories interesting to civilian buyers are rather well combed over already except for an occasional larger type which might be useful as an executive or company plane, or perhaps for some business like crop-dusting. There will probably be more of the small liaison, personnel transport and small cargo planes released but just now pickings aren't too good.

The personal plane manufacturers, likewise, are stymied on post-war work. A number of them have completed and flown prototypes of their first post-war planes. But most of them are up to their ears still in war contracts, and those who aren't are losing labor to other war plants, as WPB puts on the pressure for badly-needed war materiel.

The big need for manpower in war production at present is a relief, to some extent for over-extended operators of fixed bases and schools, since it absorbs employees whom they cannot afford to carry in the present lean period, but whom they will need again as soon as restrictions are relaxed.

Merchandising

A midwest airport operator, enterprising beyond many of his fellows in the same field, currently is merchandising flight training to employees of industrial plants in his area, on a group basis. While the idea is not yet far enough along for a full report on its success, basically the plan is:

The operator approaches the management of a large plant, usually a plant connected with the aviation industry, with a program of aviation training for its employees at a low group rate. In order to obtain that rate, the management agrees to underwrite part of the flight training cost as an investment in better employee relations, thereby enabling the workers to get flying time at a cost well below that of prevailing rates charged in the area, as well as supplying them with aviation knowledge which will make them more valuable employees. The rate applies only to employees who fly at least an hour a week, and only if a certain minimum group from a plant sign for the training program, which could include ground school classes as well as flight instruction.

War Comes First — Of course there is no argument about the necessity for war production first. Day-dreaming about post-war civil aviation and neglecting the present war emergency is obviously a stupid, short-sighted policy, which the aviation industry, above all others, must guard against, since aviation has carried and will continue to carry a major portion of the total war load until victory.

Typical of the personal aircraft builders whose post-war thinking is shelved because of their more immediate war jobs, are Waco, Beech, and Cessna, who turned out some of the best personal planes available pre-war, albeit at a price higher than most could afford. Waco's experience during the war has been on gliders, while Beech has been turning out small transports, photographic planes and advanced trainers, with Cessna concentrating mostly on twin-engine trainers. With gliders proving more and more useful in combat, certainly Waco can't expect to make any personal planes for quite a while. And Beech and Cessna's hands are full with war sub-contracts.

Wiggins Takes Over Westfield, Mass., Port

E. W. Wiggins Airways has taken over Barnes Municipal Airport at Westfield, Mass., for flight training, charter flights, aircraft and engine overhaul and repairs. George Van Epps, commercial pilot, flight instructor and CAA flight examiner, will be the company's airport manager there.

Joseph Garside, president of the Boston and Norwood, Mass., company, predicted that the airport at Westfield, which he described as one of the best in New England, would be important as a junction point if CAB grants the firm's application for a feeder line system in that area.

The company's fleet at Westfield is to be increased, with four- and five-place cabin planes available for cabin flying.

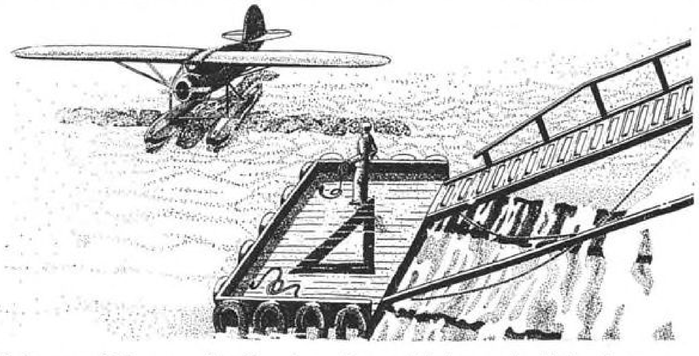
CAA Booklet Gives Airharbor Plans

Small-scale seaplane base is easily constructed and inexpensive landing area for small communities.

Except for a wide open space, where no land-leveling is required, probably the most inexpensive landing area is a small seaplane base. Almost any community which has a body of water as much as a mile long in the prevailing wind direction and with moderate depth, say two feet or more, can provide itself with an airharbor for very small cost.

And while the base would be limited to serving float planes and amphibians, there is indication that the amphibian may be one of the most popular forms of personal plane, judging from dealer acceptance and public interest in the Republic four-place $3500 amphibian.

Drawings Available — All of which leads up to the fact that CAA has available a booklet of drawings on seaplane facilities, which any community with an adequate adjacent body of water might study with profit. Drawings



Minimum of Expense for Seaplane Base: *Minimum facilities for a seaplane base, as depicted above by CAA Airports Section, offer a solution to the airport problem of the small community which wishes to begin its landing facility program modestly. All that is required is the body of water, an inexpensive float, gangplank, boom, wind cone, and mooring buoy. More facilities can be added later.*

illustrate in detail how the base can be built first as a modest affair, with a single float, gangplank, boom, wind cone, and mooring buoy, all of inexpensive construction. These can be supplemented with a ramp leading into the water, for beaching the plane.

In the first stage of construction, the float is a wooden platform, 22 by 10 feet, surrounded by bumpers. The float is supported by empty gasoline drums, and is attached to shore by a gangplank on one end and a long boom on the other end. Such a setup would be only for the smaller float-planes.

Details of Construction — Other detailed drawings in the book show fabrication of a two-wheel dolly for launching light floatplanes, details of construction of various ramps, and floats, including finally a concrete ramp which will carry loads up to 100,000 pounds.

While none of the drawings is sufficiently detailed to use as working drawings, they show clearly the designs contemplated, and offer a good basis from which any competent engineer can work. Copies of the book in limited number are available at the CAA.

Port Accounting

The comparatively small group of private airport operators who have used good accounting systems and other business-like procedures, and have been able to show a profit or at least break even in their operations over the last several years, are in a position to cash in on their experience with other communities which need their know-how in setting up new airparks. Several veteran airport managers and operators are already acting as consultants, part or full-time, although the field will not really open up until some action is taken on the proposed partial federal financing of local airport projects.

A variation of the same general idea is the establishment of organizations which will provide "tailor-made" airports to fit a community's need. One midwest group is considering banding together to provide the various facilities needed by an airport through a central marketing organization, which will also provide the engineering and advisory knowledge necessary to establish the airport and train the personnel to operate it.

Briefing *For Private Flyers and Non-Scheduled Aviation*

Bendix Helicopter, Inc., says its projected four-passenger dual-rotation helicopter will sell for the price of "a good automobile" if produced in sufficient numbers, that it requires only two controls and that it will be easier to instruct a novice in its operation than a person who has had pilot's experience in a conventional plane.

Auto Breakfast Flight—Oakland, Calif., AOPA members recently held their first breakfast "flight" since Pearl Harbor, but with planes still grounded by national defense restriction, they made it in automobiles and went out to Sherman field where they looked at their planes in the hangars.

Over the Hump—Two 14th Air Force flyers recently took a pair of Stinson 185 hp. liaison planes from a base in Assam to an advanced base in China, flying over the Himalayas. Although the planes carried auxiliary fuel tanks, they attained a necessary 10,000 foot altitude on the flight.

Flying Priests—Arrangements for 30 Catholic missionary priests to take an intensive flight training and engineering course at Parks Air College, East St. Louis, have been completed. The priests will use their planes in the remote areas of Canada around Hudson Bay, and have been ordered by their Bishop, Most Rev. Marc Lacroix, to learn details of engine maintenance, meteorology, radio, and instrument repair, since they will be without skilled assistance. The Hudson Bay diocese including 1,652,000 square miles, and extending to the north pole, is now covered by missionaries using dog teams. Completion of the course will give the priests commercial pilot's licenses, as well as maintenance and repair training.

Aid for Private Airports—The last newsletter of United Pilots & Mechanics Association suggests possibility of federal aid for private airports as well as for public ones if the private airports make their facilities available to the government and to the public on the same basis as public airports. Such an extension of the national airport program would create a complex problem in determining what revenues the private owner was entitled to take from his airport, after it was partly financed by public funds. Perhaps a federal loan to private airports would be a better solution.

Education Needed—Apparently more aviation education is needed among residents of Adams County, Ind., where an airport development project calling for $25,000 in contributions for financing was dropped when only $10,000 was subscribed, although the county had been offered a 160-acre airport site free if it raised the development funds. Perhaps the project was too large and the committee erred in attempting it all at one time. At any rate, the Adams county case is a sample of what other airport enthusiasts may expect unless they lay their ground work carefully, making residents of a community fully conscious of the future economic benefits to be derived from an adequate landing facility before they solicit contributions or ask for allocations from tax money or bond issues.

Five New Airparks—At Seattle, Wash., the King County Aviation advisory board advocates plans for five additional fields for private flyers including one combination landplane and seaplane base. These would be in addition to seven airports now in the Seattle-Puget Sound area.

New Classification—Classifying airports by hundreds of yards of length has been proposed by Arnold Knauth, aviation law specialist. Knauth contends American airport measurement should be in yards rather than in feet, because the yard is similar to the meter, and would be almost interchangeable for practical purposes, thus creating an international standard. Under the Knauth system a No. 6 airport would be one with 600 yards or 1,800 feet of landing area available, No. 9 would be one with 2,700 feet of landing area available, going into the Class II airports, and No. 19 would indicate 1,900 yards or 5,700 feet. Under his plan the pilot would know immediately the length of the runways by the airport number. A. McS.

Radios, Ground Controls Expected To Spur Private Flying Expansion

Director of federal airways, CAA, sees personal plane operator as biggest post-war customer for radio aids to navigation.

The post-war personal plane pilot will be the biggest customer for radio aids to navigation and will demand equipment on the ground which will permit him to fly with reasonable dependability merely through use of a low-cost, lightweight radio receiver and transmitter, in the opinion of Thomas B. Bourne, director of federal airways, CAA.

Speaking before the Dayton (Ohio) Engineers' Club, Bourne reported he knows of at least four new "all-inclusive systems of air navigation and air traffic control which are the answer to the pilot's prayer." He is asking that radio development researchers consider the private pilot and economy in dollars and weight of equipment needed by the pilot in the plane. The CAA is sure many private pilots will want to fly internationally with no more equipment in their planes than would be required to fly within the United States.

Shift to VHF—With consensus of the larger nations that the very high frequency omni-directional visual-type radio range is the ideal short distance navigational system, steps are being taken to convert present low frequency ranges to VHF, and it is estimated that over half the present 37,000 mile airway system in this country will be served by VHF ranges by July, 1946. Initial installations are of the two-course visual, two-course aural type, but it is planned to convert these to omni-directional ranges as rapidly as possible.

Post-war CAA plans also call for a system of low-frequency, high-powered, omni-directional ranges to permit long distance flights by direction-finding, on completion of the VHF range program. The long-distance facilities are to be designed to permit directional guidance to an aircraft even if it is not equipped with direction-finding receiver.

He reported VHF instrument landing system developed by CAA in 1939 has been adopted by Army, Navy and most of the world as standard. By the end of the fiscal year 1946, CAA will have 58 of these systems in operation, in addition to 50 which are being installed for the army, 35 of which already have been completed. Of the civilian 58, 18 now are installed or in process of installation and the remainder will be completed in the next 18 months.

Glide Path Receiver — For the private pilot to take full benefit of the instrument landing system, he would require a glide path receiver. However, Bourne believes most pilots will be satisfied with the guidance of the runway localizers only, due to maneuverability and slower speed of the average private plane. When the pilot has completed his approach and is underneath the overcast he will shift his receiver to the local control frequency for final landing instructions. Thus the plan contemplates that most CAA navigation, communications and traffic control radio aids will be available to the pilot by use of but one receiver, which must be capable of covering the frequency band of 108 to 132 megacycles, without interruption, equipped with push-button or tuneable controls or a combination of both.

CAA hopes soon to put under service test an automatic communications system for traffic control, along the New York-Washington airway, and after ground equipment is installed, to develop equipment for the plane which will automatically report aircraft position as it flies along the airway, and which will automatically display traffic control instructions, perhaps visibly, in the plane's cockpit. Bourne believes this plane equipment will be more economically practicable for larger commercial transports than for small private aircraft.

Other Developments — Other scheduled instrument developments in CAA's future program include a "scanning screen" for control towers, operated on electronic principles, which will show the traffic controller the actual position of all aircraft at all times within a radius of 25 miles of the airport, a collision-warning device for installation in all planes operating in instrument flight weather, and a distance indicator, which will enable the pilot to measure his distance from a range station, the end of a runway at an airport, or perhaps another aircraft. Such a distance indicator has already been developed for wartime use and is expected to be adaptable for the peacetime application.

The collision warning device may be either a development of wartime electronic devices, or a refinement of 1940 CAA development known as a vertical separation indicator. This uses a low-powered transmitter governed by a sealed aeroid capsule, so that changes in altitude would vary the frequency of the transmitter. The varying frequency would be reflected on an indicator showing the vertical separation between the plane and other aircraft in all directions within fixed limits. Bourne believes this partly developed device may be the answer to the collision-warning requirement, but has asked for research by other radio technicians on other solutions to the problem.

With the aids described, Bourne believes air traffic can be handled in all weather in the same volume as it is handled today in most favorable weather conditions. An efficiently designed airport with dual runways can land planes at 50 second intervals on the landing runway while planes are taking off on the other runway at the same interval, making possible 140 movements of planes per hour under any weather conditions.

Gas Prices Cut

New lower ceiling prices in cents per gallon for three lower grades of aviation gasoline, 62-65 octane, 73 octane and 80 octane, effective Jan. 23, have been established by OPA for sales by refineries in Arkansas, Louisiana, and Texas, exclusive of El Paso. The grades are largely used by small planes and for testing aircraft engines at the factories.

Ceilings are lower than many of the Oct. 1941 "freeze" ceilings previously in effect but are in line with ceilings approved over the last year for individual refineries. Prices under the October, 1941, freeze were higher than is now justified with increased production, OPA said.

The new ceiling prices: For 62-65 octane, 7 cents, 7¼ cents and 7½ cents to Class I, II and III purchasers; for 73 octane, 7¼, 7½ and 7¾ cents and for 80 octane, 7½, 8 and 8¼ cents. All prices are per gallon for bulk lots, f.o.b. refineries or tanker terminals. Class I purchasers are refiners, the U. S. government and buyers purchasing for ultimate shipment to the Petroleum Administration for War District I, (Atlantic Coast and District of Columbia). Class II purchasers are resellers not included in Class I, while Class III purchasers are consumers not included in Class I.

The announcement made no indication that any reduction in retail aviation gasoline ceiling prices would be passed on to the individual buyer as a result of this lowering of bulk lot prices.

Radio for Chutist

Michigan CAP members report they have been experimenting with an interesting two-way radio communication arrangement for parachute jumpers who by its use can maintain communication with instructors on their way from the plane down to the ground. Five units were built and discarded before the present outfit, contained in a light metal cabinet 4 by 4 by 5 inches, was developed.

The microphone is adapted from a crystal lapel mike, now used as a throat mike. A length of flat braid, running from the jumper's boot up his leg to the set, provides the antenna. Jumper snaps on the set in "receive" position before leaving the plane and can throw the set to "transmit" position by a convenient lever which returns to receive position when released.

CAP Lieut. Arthur H. Copeland and Radio Technician Ed Pietrasik are credited with perfecting the set. First 'chute-to-ground conversation was carried on between Lieut. Ralph Berkhausen, jumper, and Lieut. James Allen on the ground.

CAP to End Target Operations Mar. 1

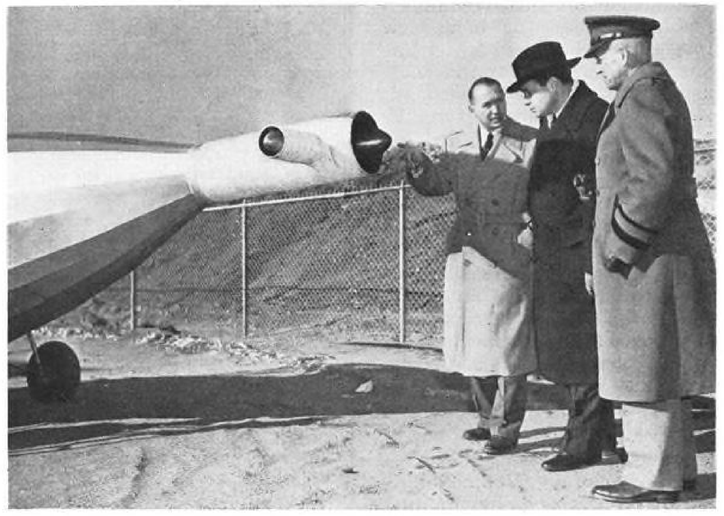
Civil Air Patrol will conclude its tow-target operations Mar. 1, Col. Earle L. Johnson, national commander announces. Operations at their height employed about 300 CAP members, most of whom were over age or otherwise disqualified for military service. Over 19,000 missions, totaling more than 44,000 airplane hours, have been flown with seven members killed, five seriously injured and 19 CAP planes lost.

Special reels were installed by the Army in CAP planes used to tow the sleeve targets. After successful trials in the fire of .50 caliber machine guns and 40 mm. anti-aircraft guns, the CAP pilots also towed targets for 90 and 120 mm. guns.

Flew at Low Altitude—The CAP planes were held effective because of their small size and slow speed, which when flying in low altitude, caused the target to follow the same course in the gun sights as that of a big plane flying high and fast. First CAP tow-target missions were flown by members of the Illinois Wing, at their own expense, early in 1942, at Ft. Sheridan, Ill., and later regular CAP tow target and tracking bases were set up in both the Eastern and Western Defense Commands for anti-aircraft artillery training.

JET-PROPELLED GAZDA HELICOPTER:

Antoine Gazda, of New York, whose previous developments have been principally in connection with anti-aircraft guns, is designer of the new jet-propelled Helicospeeder *shown above. The tiny craft uses jet-propulsion for the main rotor, and also uses a jet at the tail for steering and to counteract torque, instead of another smaller rotor. Below, Gazda shows the jet propulsion tail to Gov. J. Howard McGrath of Rhode Island and Brig. Gen. Herbert R. Dean. Gazda reports his machine has "more speed, weight carrying capacity, stability and controllability" than any other orthodox helicopters.*



Non-Scheduled Operations Likely To Fill Local Service Needs

CAB investigation inclines Board to belief that operations will meet requirements better than regularly scheduled feeder lines; survey may pave way for extension of CAB control.

By DANIEL S. WENTZ II

Early uncertainty regarding the primary aim and probable results of the Civil Aeronautics Board's investigation of non-scheduled air services is giving place to a growing feeling that in the Board's view non-scheduled operations show greater promise for filling local-service needs than do scheduled feeder lines.

The Board's chief examiner, C. Edward Leasure, has stated that "following the investigation, non-scheduled air transportation will, for the purpose of regulation, either lose its separate identity or be given its place in the sun." The importance CAB attaches to non-scheduled aviation lends support to the belief that the investigation will pave the way for a considerable extension of CAB control.

Stressed By Pogue—The shift in CAB's emphasis from feeder routes to non-scheduled operations was highlighted by Chairman L. Welch Pogue in an address before the National Aviation Trades Association last month. His analysis of the potentialities of non-scheduled operations was preceded by unmistakable indications that in his view prospects for successful feeder line enterprises had been considerably exaggerated. "For some years, at least," Pogue declared, "I simply do not believe a scheduled air route stopping at small cities every few miles is going to offer very effective competition to the short-haul advantages of railroads, buses, and private automobiles."

He then characterized non-scheduled operation as "an opportunity for private enterprise, without benefit of mail payments bearing the character of a subsidy, to conduct a pioneering experiment of its own."

Mail Pay Cut Forecast—Current de-emphasis on feeder lines, related to a general government policy of economizing by limiting subsidy payments, was foreshadowed by Postmaster General Frank C. Walker last fall when he said that in his view "there will be few of the many proposals for local and feeder air service that will meet the searching tests of practicability and economy in competition with surface transportation having inherent advantages."

Non-scheduled air transport now is specifically exempted from economic controls established by the Civil Aeronautics Act by virtue of a general exemption order dating from 1938. Nothing in this order prevents certificated carriers from offering non-scheduled, charter or contract services, although the legality of such service to points not listed in the carrier's certificates has never been tested.

Regulation Urged—In designing its regulations, the Board may be expected to attempt to control non-scheduled operations conducted by one certificated carrier over the routes of another, especially where that would constitute competition.

CAR Revision

Flights by big planes such as Boeing's C-97, which can be expected with increasing frequency from now on, have emphasized to many observers in both air transport and aviation manufacturing the need for revision of Civil Air Regulations as soon as possible.

Some engineers express the opinion privately that CAR with respect to landing and takeoff requirements is far behind technical developments, and add that the necessity for military secrecy has kept even the Civil Aeronautics Board and Civil Aeronautics Administration in the dark as to some of the latest developments that out-date many of the existing regulations.

CAB Chairman Pogue, furthermore, has pointed out that some sort of regulation must be set up to prevent "an improper use of non-scheduled facilities to impede the development or to encroach upon the scheduled services," guaranteeing thereby that numerous one- or two-plane operators will not be allowed to hamstring the legitimate local service functions of established carriers.

The Board's jurisdiction is presently limited to common carrier services, although Leasure makes it clear that "the line of distinction between the various types such as common carrier, contract, charter, private, etc., is hard to define." He stresses the fact that, although "some seem to take it for granted that the distinction between scheduled and non-scheduled represents the final word in any so-called classification of types of service for regulatory purposes," the Board is not certain that this division is clear or even workable.

Clear Cut Decision Sought—At least one major purpose of the investigation will be to develop sufficient data to permit a clear-cut decision on this point.

The investigation will focus the attention of many aviation enthusiasts on non-scheduled activities as the one field in which a large number of one- or two-plane operators will find a chance to enter commercial aviation. The Board hopes that this group will be generously represented at the hearings.

CAB, like others in the industry, officially has no crystallized opinions on what distinctions should be drawn between various classes of carriers. In its search for precedent, it is looking to the work done by the Interstate Commerce Commission in classifying types of surface carriers for regulatory purposes. ICC has established three categories of classification — by type, route pattern and service, or type of commodity carried.

The Board will attempt in its investigation to measure the applicability of some similar classification system, probably far less complex, to air transport. Although ICC differentiates between scheduled and non-scheduled service in its classification pattern, the certificates it issues make no such distinction.

Examiners—The choice of examiners to conduct the investigation reveals the lines along which CAB is thinking. Curtis Henderson, a seasoned ICC examiner now on CAB's staff has been assigned to the problem along with William J. Madden, one of two examiners who made the Board's local-feeder-pick-up study.

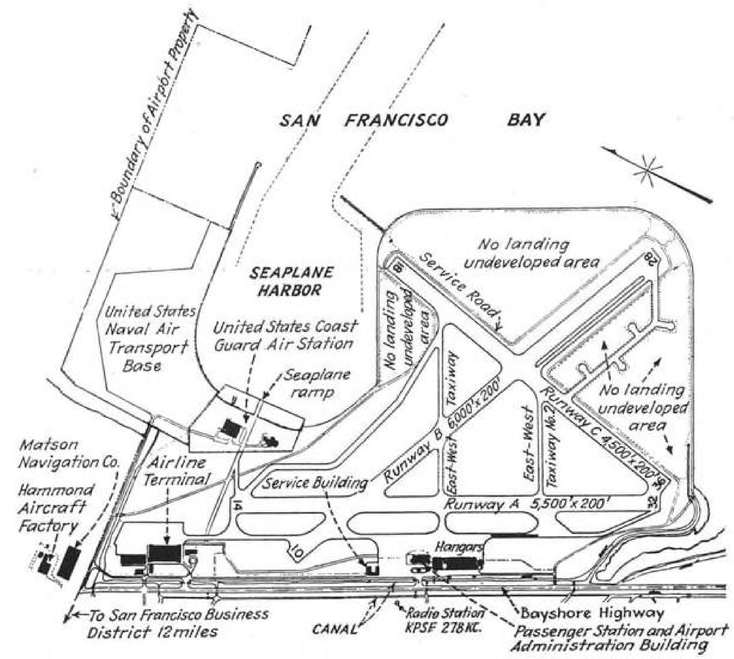
To permit more thorough preparation, the Board has postponed the date for opening the non-scheduled investigation hearings from Feb. 12 to Mar. 1.

Action on S. F. Port Bond Issue Delayed

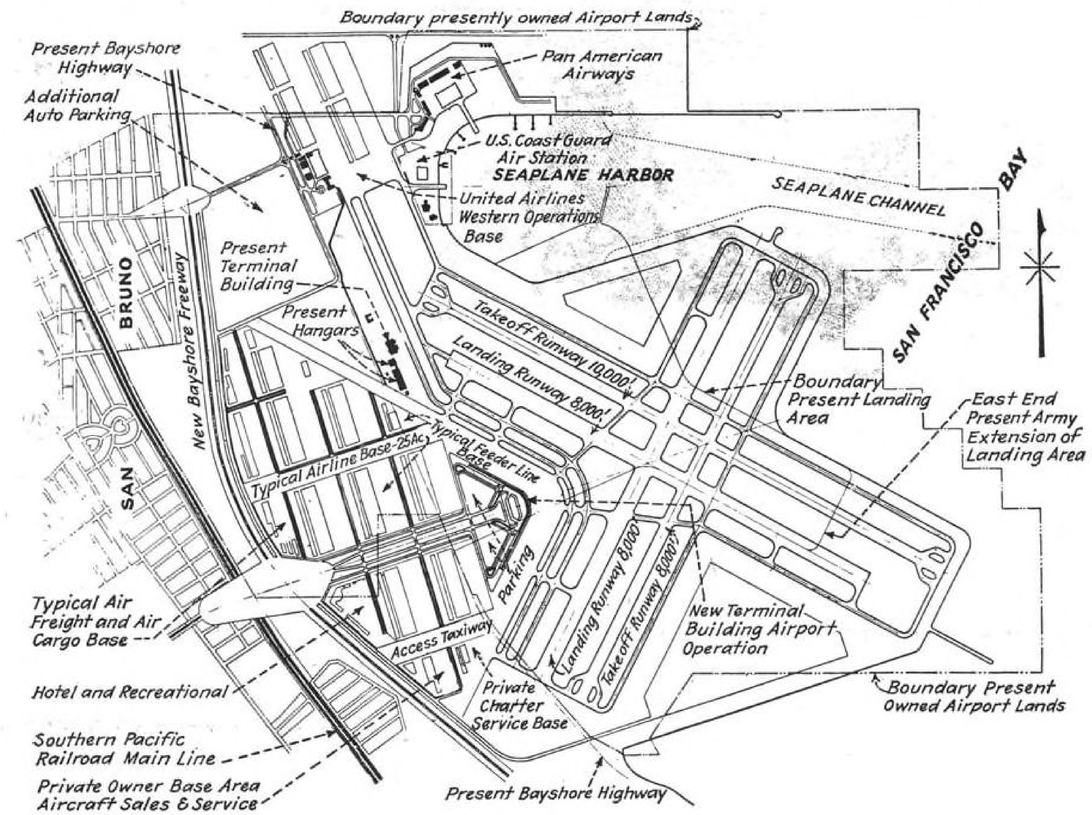
Supervisors hold up proposal for vote pending determination of extent to which state aid may be obtained.

San Francisco's Board of Supervisors has delayed action on a proposal that a $20,000,000 bond issue be voted on for expansion of San Francisco Airport, pending determination of the extent to which state aid may be obtained.

Backed by B. M. Doolin, chief engineer and manager of the airport, the plan proposes expansion of airport boundaries and relocation of a state highway, and development of complete facilities for domestic and foreign terminal operations. Plans call for dual



Projected Expansion Plans of San Francisco Airport: *These drawings show the present San Francisco airport and the plan of expansion for which a $20 million bond issue is requested. San Francisco's Public Utilities Commission describes the present airport as "structurally approximately two years ahead of any other West Coast airport."*



north-south runways of 8,000 feet length, an 8,000-foot east-west landing runway, and a 10,000 foot east-west takeoff runway.

▸ **Has Seaplane Harbor**—The present airport, representing an investment of more than $10,000,000, carries 4,500-foot, 5,500-foot and 6,000-foot runways. It also has a seaplane harbor now used by the Navy. A terminal for all airlines, it also is a maintenance and operations base for United Air Lines and Pan American.

Doolin told the supervisors the expanded airport will produce annual gross revenue of $1,097,532 against total operating costs of $815,600. Breakdown of his revenue forecasts follow: food and restaurant facilities, $101,150; public convenience services and retail stores, $96,150; utility services, $272,592; foreign and domestic scheduled air carriers, $262,240; personal aircraft, $118,400; ground area and structural rentals, $162,000; other income, $85,000.

NEA Resumes Montreal-Boston

Northeast Airlines recently resumed twice daily flights between Montreal and Boston. These flights, canceled early in the war due to lack of aircraft, are now being operated out of Dorval airport, Montreal.

Budget Asks Raise In CAA, CAB Funds

$6,905,299 increase requested, of which all but $199,777 would go to CAA.

An appropriation increase of $6,905,299 for the Civil Aeronautics Administration and Civil Aeronautics Board, of which all but $199,777 would go to the former agency, has been recommended by President Roosevelt in the budget for fiscal 1946, starting next July 1.

Proposed amounts are $42,487,000 for CAA and $1,725,000 for CAB, compared with $35,781,478 and $1,525,223, respectively, for fiscal 1945. Mr. Roosevelt mentioned the office of the administrator of civil aeronautics in his budget message as one of those for which increases were recommended "to prepare for the expected increase in workload."

▸ **$96,000 for 12 Planes**—CAB's expected expenditures include $96,000 for purchase of 12 planes, to be used by its safety men in investigating aircraft accidents, that was not part of the 1945 budget estimate. Six new automobiles also are to be purchased for nearby investigations, at $6,000 but the exchange of that number of older cars is expected to cut the figure to $4,800. Some increase in personnel also is contemplated, including 19 analysts in various grades, and additional trial examiners.

In CAA, a new amount of $425,000 is accounted for in an estimate for an airport advisory service to state and other public and private agencies. Another new item of $900,000 is estimated for maintenance and operation of aircraft under the administrator's office, with authorization to the Secretary of War and Secretary of Navy to transfer to CAA, without payment, not more than 55 surplus aircraft.

▸ **Administration**—For general administration, $2,728,000 is budgeted, compared with $2,666,718 appropriated for 1945. The budget lists $9,827,000 for establishment of air-navigation facilities, against $4,067,860 appropriated for the current fiscal year. For maintenance of air navigation facilities, the estimated amount is $24,300,000, against $24,475,163 for fiscal 1945, and for technical development, $613,000 estimated against $680,000 in current appropriations. Another drop is noted in the amount budgeted for enforcement of safety regulations, which has an appropriation for $3,332,737 for 1945 and is budgeted for 1946 at $3,112,000.

Estimate for maintenance and operation of Washington National Airport is $582,000, against $559,000 in 1945 appropriation.

N. F. Action Allays Bottleneck Fears

Newfoundland's withdrawal last week of the reservation attached to the two freedoms agreement by the United Kingdom puts at rest fears expressed in some U. S. quarters that Britain was trying to establish a bottleneck in Atlantic air traffic, but has not been unexpected in official circles. Inasmuch as the U. S. delegation at Chicago realized British administration of Newfoundland is probably only temporary, it was not disturbed to find the United Kingdom unwilling to commit the commission governing the former dominion.

▸ **Also Applies to Labrador**—Generally overlooked in the reporting of the Newfoundland action, however, is the fact that it applies also to Labrador, the administration of which rests with Newfoundland. While the statement noted that, under the two freedoms agreement, Newfoundland was entitled to designate airports to be used by foreign airlines, and declared such designation will be made in due course, it said the question of use of certain airports is in abeyance.

This is interpreted as being notice that dickering for Goose, the great military airport in Labrador, is not yet in order. Although Canada has a 99-year lease on Goose for military purposes, the matter of civilian use has been put off until the end of the war.

Douglas Completes DC-3 Reconversions

Company announces it is unable to take any more such jobs after finishing work on 17 aircraft.

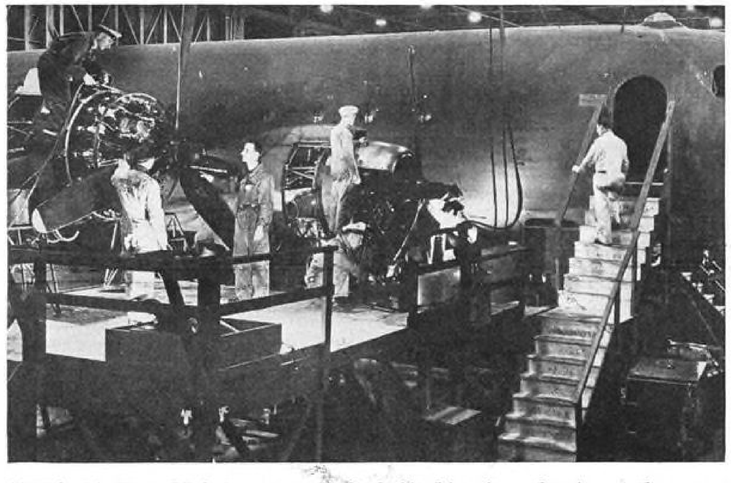
Douglas Aircraft Co., having completed recently the reconversion to passenger use of 17 DC-3's formerly in military service, has served notice that it will be unable to take any more such jobs. In the meantime, it is investigating other places where further work along the same line may be done, and will continue to offer cooperation in engineering and supervisory work.

Suggestion was made late last year that some reconversion difficulties could be avoided by diversion of new planes to airline use directly from Douglas' C-47 assembly lines. This plan is still in the talking stage, however. It would have to have approval by the Army, if desired by the airlines. Latest reports that the question of cost, whether lease or purchase, and other factors were considerations were so involved that the airlines have shown little if any interest.

The situation as to parts and equipment has tightened, but Douglas has built up a reserve and has a distribution base at Dallas, with others in prospect at Chicago and New York.

▸ **Airline Conversions**—Feeling at Douglas is that the domestic lines, particularly the big operators, can handle their own reconversion pretty well. Concern is expressed, however, over the foreign lines that have been allocated C-53's. To these, Douglas is offering standard DC-3 conversion kits within 75 to 100 days after receipt of orders.

Such kits include cabin flooring, ventilating system, interior fittings and lining, handrail and hatrack,



UAL's 24-Hour Maintenance: *United Air Lines' mechanics at the company's San Francisco maintenance base have a day and night job servicing and overhauling the C-54 transports used by the line in its trans-Pacific operations for Air Transport Command.*

lavatory, new style hydraulic Douglas seats, sound proofing, rear baggage compartment flooring, miscellaneous electrical installations, extensible dump valve chutes, and pyrotechnic equipment.

Approximate value of the kit is $8,000 per plane, delivered at the factory. It includes, however, no parts required for reconditioning. Estimate is that these average about $2,000.

Blame Ice in Crash

Icing conditions were the probable cause of an accident in which an American Airlines' DC-3 crashed near Centerville, Tenn., Oct. 15, 1943, according to an accident report issued by Civil Aeronautics Board last week. The plane was not equipped with wing or propeller de-icing equipment.

DC-4 Procedures Worked out by UAL

Company maps comprehensive plan for personnel training and plane upkeep in preparation for post-war deliveries of 50 DC-4's and DC-6's.

United Air Lines is working out maintenance procedures and training for post-war operation of 50 DC-4's and DC-6's for which the company has committed about $25,000,000.

Spare parts in addition to the 50 planes will be equivalent to about two planes, or four percent of the total. In all, the airline will stock about 2,500 items such as tires, brakes, starters, carburetors, instruments, worth $1,000,000.

Mechanics will be provided with information circulars, with maintenance hints and sketches, but mainly designed to stimulate conversation and interest.

▸ **Equipment**—First step in maintenance plans, according to F. A. Page, maintenance superintendent, is determining what will be needed in airport service station equipment—loading devices, trucks, wash stands, etc. Much of United's present equipment wil be suitable because it was planned ahead.

Sixty or more supervising mechanics from various United stations will be sent to Douglas plants for 30-day familiarization courses.

▸ **1,500 Miles Non-Stop**—DC-4's carrying payloads of six tons will have a range of over 1,500 miles non-stop compared with 365 miles for the single-engined Boeing 40's in 1927. Increasingly expensive stations will be fewer, be easier to supervise, and do a better job.

Emphasis is being put on design of the planes for easier maintenance, and for quicker service and less ground time to point up the airplane's chief asset—speed. Plans call for many access doors to fuel valves, lines, pumps and most working parts in plane and engines. Portions of leading edges, for instance, will be removable.

PAA Presents Case For Azores-Africa

Pan American Airways' case for a South African route via the Azores rather than the Caribbean-Brazilian-South Atlantic route it presently flies was the chief feature of Civil Aeronautics Board's South Atlantic case, which has closed after four days of testimony. The company attempted to show that the route it now operates under temporary certificates would be far less profitable than the Azores-Africa line it has applied for.

Company witnesses said Pan American would abandon the present route if certificated via Azores.

▸ **Other Cases Presented**—American Export Airlines and Pennsylvania-Central Airlines were the only other operating applicants who presented cases. Several steamship companies and U. S. Airships, an applicant for lighter-than-air routes, also were heard.

CAB Examiners William J. Madden and James S. Keith conducted the hearing. Mar. 7 has been set as the date for filing preliminary briefs.

Extension of MCA to New Orleans OK'd

CAB authorizes line to operate on AM 26 from Tulsa via Muskogee, Fort Smith, Texarkana and Shreveport.

An important extension of Mid-Continent Airlines' north-south system was granted by Civil Aeronautics Board last week in an authorization to operate on AM 26 from Tulsa to New Orleans via Muskogee, Okla., Fort Smith, Ark., Texarkana, Tex.-Ark., and Shreveport, La.

The line is certificated as far north as Minot, N. D., although because of the war it actually has Minneapolis-St. Paul as its northern terminus. Tulsa has been the southern.

▸ **KC-Tulsa via Joplin**—The line also received permission to serve Joplin, Mo., between Kansas City and Tulsa, and authority to bypass Tulsa and Muskogee on nonstop flights between Joplin and Fort Smith. Service to New Orleans is restricted to flights originating or terminating at Kansas City or points north, and at New Orleans.

The Board's decision in the Kansas City-Tulsa-New Orleans case also authorized Continetal Air Lines to serve Bartlesville, Okla., between Wichita and Tulsa on AM 43. Applications of Delta Air Corp. and National Airlines for the New Orleans-Kansas City link were denied.

▸ **Avoids Duplication**—The majority decision by Chairman L. Welch Pogue and Members Oswald Ryan and Josh Lee, found that operation of the route by Mid-Continent would avoid harmful duplication, permit the line to spread its operating costs, and provide more efficient equipment utilization. Mid-Continent, they state, will be able to offer single company through service between New Orleans and Minneapolis-St. Paul.

Members Warner and Branch filed concurring and dissenting opinions, disagreeing with the majority in several important respects. Dr. Warner held that the new route grant to Mid-Continent should extend only to Shreveport.

▸ **Branch Favors Delta**—Branch maintained that Delta should have been certificated from Shreveport, its present terminus, to Kansas City via Texarkana, Fort Smith, and Joplin. The route granted, he points out parallels Delta for 281 miles between New Orleans and Shreveport and Braniff for 97 miles between Tulsa, Muskogee and Fort Smith.

Branch criticized the financial ability of Mid-Continent, which is now receiving the second highest mail rate of any domestic carrier. "If Mid-Continent cannot break even without subsidy on route 48, which includes such cities as St. Louis, Kansas City, Des Moines and the Twin Cities, it will not be able to break even on the proposed route which offers much less in the way of potential traffic," he said. In the first eight months of 1944, Mid-Continent experienced a deficit of about $94,000 on AM 48.

Log of C-97

Boeing's C-97, big-fuselaged Army cargo version of the B-29, flew from Chicago to Washington in 10 seconds under an hour and a half on its recent record-breaking trip from Seattle to the Capital.

An hour after takeoff the ship was over Lake Coeur d'-Alene, Idaho. Two hours out it was south of Great Falls, Mont. The Missouri was crossed at Mobridge, S. D., three hours from Seattle. Lights of Chicago were visible at 4 hrs. 34 min. and five hours out of Seattle the ship was south of Toledo. Let-down was started just east of Pittsburgh. Six hours after the flight began the plane was 30 miles out of Washington and its pilot, Elliott Merrill, was talking landing with the Washington control tower.

Ban Burbank Field In Bad Weather

Lockheed Air Terminal, Burbank, Calif., has been placed under emergency ban against bad weather use by Civil Aeronautics Administration's sixth region headquarters since American Airlines' fatal accident there Jan. 10. TWA, United, American, Western, and Pan American use the terminal. The order closes the port if ceilings are under 2,000 ft. and visibility less than 2 miles by day and 3 by night.

After Jan. 10, A. N. Kemp, American's president, and high officials of other airlines met with Los Angeles' Mayor Fletcher Bowron to demand immediate action on the long-delayed development of Los Angeles Airport as an alternate terminal.

CAB Hears Export Acquisition Case

American Airlines, American Export Airlines, and Pan American Airways carried their struggle for supremacy in the North Atlantic before the Civil Aeronautics Board last week with oral arguments in American's proposed $3,000,000 acquisition of control of American Export. Attorneys for American and Amex pleaded for an early decision. Leslie Craven, Export Counsel, declared: "There is no reason why this case could not be decided now except for the selfish and destructive desires of Pan American."

The findings of Examiners Thomas L. Wrenn and Ferdinand D. Moran that decision should be deferred pending the Board's opinion on the North Atlantic route case was a main point of attack by Export and American attorneys, who accused the examiners of adopting the position advocated by Pan American, that the acquisition was inextricably bound up with the North Atlantic route case and should be decided simultaneously with that proceeding.

TCA-N. F. Air Accord

Newfoundland is reported ready to enter an agreement with Trans-Canada Airlines for international service, having decided on a "chosen instrument" policy, as has Canada.

The North Atlantic Airways and Air Transport, Ltd., companies promoted for international service to and from Newfoundland by V. S. Bennett, Newfoundland promoter, and backed by Canadian, U. S., British and Newfoundland money, have ceased to exist. Bennett expects, however, to operate some Newfoundland air service which will not conflict with the country's international air transport policy.

UAL Files New Passenger Tariff

United Air Lines has filed its promised new passenger tariff with Civil Aeronautics Board, proposing a reduction of 10 percent on all passenger fares and re-activation of the pre-war additional five percent discount on round-trip tickets, to holders of travel plan cards and for government transportation.

W. A. Patterson, United's president, emphasized that the reductions were not designed to attract new business but to "pass on to the public" the profits United has been experiencing.

▸ **Show Cause Orders** — Patterson stated United will oppose the recent CAB mail rate show cause orders. "The most benefit to the public," he declared, "will result in the substantial reduction in passenger fares such as United will put in."

Under the proposal, United's fare from Washington to the West Coast, for example, will be cut from the present $132.80 to $119.20 plus federal tax. Other system fares will be reduced comparably.

The reduction undercuts by 3½ percent a similar proposal advanced by American Airlines early this month.

ATA Maps Drive On State Regulation

Air Transport Association is expected to launch a drive shortly to combat state regulation of intrastate operations by air carriers in interstate commerce and proposals to eliminate existing fuel tax refunds and exemptions.

The former is of particular concern is such states as California and New York, where there are important operations between intrastate points. The latter, ATA claims, would boost the carriers' direct flying costs about 10 percent.

Boeing Gives Data On *Stratocruiser*

Boeing Aircraft Co.'s figures on the *Stratocruiser*, its new high-altitude, long-range plane of which the cargo counterpart set a new transcontinental record a few days ago, show direct flying cost data, with basic passenger arrangement, as follows:

▸ With 500-mile trip length, block speed of 274 mph, and payload of 20,750 pounds, an operating cost of 101.8 cents per airplane mile.

▸ With 1,200-mile trip length, block speed of 297 mph, and payload of 20,750 pounds, an operating cost of 92.7 cents per airplane mile.

▸ With 2,400-mile trip length, block speed of 304 mph, and payload of 20,750 pounds, an operating cost of 90 cents per airplane mile.

▸ With 2,785-mile trip length, block speed of 304 mph, and payload of 20,750 pounds, an operating cost of 92.4 cents per airplane mile.

▸ With 4,096-mile trip length, block speed of 272 mph, and payload of 14,015 pounds, an operating cost of 95.9 cents per airplane mile.

The 377-4 is designed for flights up to 4,200 miles, with reduced payload, and will operate at altitudes from sea level to 25,000 feet. The C-97, however, flew to Washington at 30,000 feet, with cabin pressure at 8,000-ft. altitude.

CAB SCHEDULE

Jan. 22. Prehearing conference on applications within the general area of Virginia, North Carolina, South Carolina, Georgia, Alabama, and Tennessee.
Jan. 22. Deadline for exhibits in the Pacific route proceeding. (Docket 547 et al.). Postponed from Jan. 12.
Jan. 22. Prehearing conference on TWA-C & S interchange agreement. Postponed from Jan. 19.
Jan. 23. Oral argument in Colonial Airlines' proceeding to fix mail pay rate for FAM 1.
Jan. 30. Briefs due in Great Lakes-Florida case. (Docket 570 et al.). Postponed from Jan. 10.
Jan. 31. Rebuttal exhibits due in Pacific proceeding. (Docket 547 et al.). Postponed from Jan. 26.
Jan. 31. Hearing in Texas-Oklahoma case before examiner Thomas L. Wrenn in Texas Hotel, Fort Worth, Texas. (Docket 337 et al.). Postponed from Jan. 8.
Feb. 1. Briefs due in West Coast case. (Docket 250 et al.). Postponed from Jan. 15.
Feb. 7. Exhibits due in North Central States case. (Docket 415 et al.). Postponed from Feb. 1.
Feb. 11. Tentative hearing in Pacific route case before Examiner Ross I. Newmann. (Docket 547 et al.). Postponed from Feb. 1.
Feb. 12. Tentative hearing date for investigation of non-scheduled air services. (Docket 1501.).
Feb. 19. Prehearing conference on Great Lakes Area regional case.
Feb. 20. Rebuttal exhibits due in North Central states case. (Docket 415 et al.).
Feb. 20. Exhibits due in National Airlines rate case. (Docket 824.).
Feb. 26. Prehearing conference on Mississippi Valley regional service case. (Docket 548 et al.).
Mar. 1. Hearing date for investigation of non-scheduled air services. (Docket 1501.). Postponed from Feb. 12.
Mar. 5. Hearing in North Central States case in Washington, D. C. (Docket 415 et al.).
Mar. 7. Preliminary briefs due in South Atlantic case. (Docket 1171 et al.).
Mar. 12. Tentative hearing date in National Airlines mail rate case for AM 31 and AM 39. (Docket 824.).
Apr. 3. Prehearing conference on applications for service in Middle Atlantic area.
Apr. 4. Prehearing conference on applications for new service between Boston-New York-Atlanta-New Orleans.
Apr. 23. Prehearing conference on Kansas City-Memphis-Florida proceeding.

CAB ACTION

● The cities of Lubbock and Wichita Falls, Texas, received Civil Aeronautics Board's permission to intervene in the reopened portion of the Memphis-Oklahoma City-El Paso case. (Docket 503 et al.) Oral argument on this portion, dealing with service to Lubbock and Wichita Falls, was heard last week.
● Northern Airlines, Inc., was granted permission to intervene in the proceeding involving Northeast's application to consolidate domestic segments of AM 27, AM 65 and AM 70 into one route, to be known as AM 27. Northern, a feeder applicant whose case was heard in the New England regional proceeding, is backed by F. S. Willey, truck line operator.
● The Board received, but has not yet acted on, an application for approval of interlocking relationships resulting from various positions held by Robert V. Fleming, PCA director. Fleming also is a director of Capital Transit Co. and the Chesapeake and Potomac Telephone Co., both of Washington, D. C.
● In announcing postponement of the North Central States case exhibits exchange date from Feb. 1 to Feb. 7, Examiner F. Merritt Ruhlen says he will recommend dismissal of all applications on which exhibits have not been received by the latter date.
● The Board dismissed at the request of Western Air Lines and Francis L. Duncan applications by them for Alaskan routes which had been consolidated in the Pacific proceeding. An application of Olson Steamship and Navigation Co. for trans-Pacific routes has been consolidated with the case.
● The temporary certificate under which Chicago and Southern has been serving Little Rock between Pine Bluff, Ark., and Memphis, Tenn., on AM 53 has been rescinded by CAB. The carrier received permanent authority to serve Little Rock under the Board's decision in the Memphis-Oklahoma City-El Paso case. The same decision made Joplin, Mo., a permanent point on American Airlines' AM 30, and the Board has rescinded the exemption order under which American had been serving that city.
● The fact that Western Air Lines and Inland Air Lines are still separate legal entities was demonstrated in a CAB order last week which approved an agreement between the two companies providing for the lease of a Stinson airplane by Western to Inland.

Creating Demand for Airports

THE URGENT NECESSITY for presenting to the public a realistic attitude in justifying and supporting any national airport program was made evident by the National Aeronautic Association's Joint Airport Users Conference in Washington last week.

Although marred by the usual quibbling over the relative spending powers of state, municipal and federal governments, the conference, meeting so quickly after introduction of new aviation bills in Congress, contributed to a general clarification of the issues. Order was brought out of a chaotic jumble of unsorted information as the result of a careful analysis of national legislation and proposed uniform state legislation.

Several Western states will need constitutional amendments to obtain the kind of legislation necessary to conform to uniform state acts, but Minnesota's amendment which is already passed is indication that it can be done. The National Association of State Aviation Officials reports not only that bills essentially similar to the uniform act are being presented in every one of the 44 state legislatures which will soon be in session, but also that it believes chances for passage in all states are good.

NEVERTHELESS, the first plank in NAA's national landing facility program remains legislation. Because without it we shall find some states entering the post-war public works programs without authority to spend federal money on airfields in their jurisdiction, and we may see a recurrence of stone fences, rustic bridges and artificial lakes.

But education is necessary, and the reasons were never better explained than by NAA's manager, Lowell Swenson, in a direct and forceful warning that once the war is over aviation may cease to hold its lure, and the public may decide that it would rather have bridle paths and rustic bridges after all.

"There is still need to educate the public to the necessity of and the reason for increased and improved landing facilities," Swenson told the conference. "Will airport legislation be as easily passed? or will you hear the cry that roads are more necessary, that before the war there were 33 million automobiles in the country and only 25,000 airplanes? How much recognition is there of the fact that automobile registrations increased geometrically with the increase of road mileage? How much argument is there with the philosophy that aviation can develop only through a basic network of landing facilities?"

SWENSON EMPHASIZED that City Fathers and taxpayers' groups already are asking down-to-earth questions about the cost of landing facilities —both the original outlay and the upkeep. Some cities have passed bond issues. More have been defeated. Newspapers are beginning to interpret proposed public improvements in terms of so much additional tax burden on the individual.

"We can't afford to take for granted the public's attitude toward aviation. Everybody loves airplanes now. They are winning the war. But what is going to be the carry-over in affection? Is everybody going to love airplanes when the goad of war is removed, when dollars spent on aviation are not an easily identifiable life-saving expenditure? Let's recognize that it is going to be tougher, much tougher, to sell aviation in peace than aviation in war.

"The public must be sold on the long-term social and economic benefits of a national airport program. The public must be shown—not just told in glowing words and prophesies—that those benefits of landing facilities for personal aircraft are benefits for all, not just a minority, of the people.

"It must be disabused of the idea that 99 and 99/100s of the population is being asked to finance something for a few daredevils and wealthy sportsmen. That's a job for those concerned with aviation's developments . . . you cannot leave that to Uncle Sam. He may provide the money but he can not, and will not provide the demand for that money.

"People must be made to see in landing facilities an end to isolation, a place on the air map, a door to the outside through which will flow the most easily understandable thing in economic life: business. We've got to treat the taxpayer like a full-grown adult, who knows the facts of life. After the war, when the flush of victory has receded, and paying off the debts and not survival is the issue, try talking to people in beautiful, glowing optimistic word pictures about a sky filled with airplanes, and see how far you get. They may be your dreams, but it's the public's money."

Some missionaries of aviation's future are living in a world of fancy, but NAA is not one of them.

ROBERT H. WOOD

Official U. S. Navy Photo

EQUIPPED with new under-wing rocket boosters, Navy planes now take off, with substantially heavier loads, in one-third to one-half the normal run — a materially important factor in carrier and flying boat operation. In Navy talk, a plane so equipped is a JATO (from Jet-Aided Take-Off).

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