Aviation News

McGRAW-HILL PUBLISHING COMPANY, INC.

JULY 30, 1945

AAF Reveals Facts About the B-32: *The Army Air Forces has finally taken the wraps off the B-32, Consolidated Vultee's heavy bombardment plane. The use to which this newest addition to the U. S. air fleet will be put has not been disclosed.*

Washington Observer

TERMINATION REPORT—Report of the Office of Contract Termination is at the printers and should be out soon. Terminations resulting from V-E Day are barely reflected since the report goes only through June.

★

TOUGHER TERMINATIONS — Termination of aircraft contracts is more complex than for any other war industry. Reasons are: the industry is the biggest and more money is involved, more components and suppliers are involved, the industry's rapid expansion. In addition, cost plus fixed fee contracts are more difficult to settle than fixed price contracts and the aircraft industry has more of the former type.

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SURPLUS WARPLANES—It is now known to be the belief of high Surplus Property Board officials that all surplus combat planes will have to be scrapped, except those to be used for educational and other non-flight purposes. Prime reason is the feeling that jet propulsion developments shortly will make obsolete most current combat planes. Before any definite move is made toward scrapping, however, there is likely to be an attempt made to sell some combat types, merely to insure against criticism from Congress and other quarters. SPB officials believe the dollar return will be so low in comparison to original cost that objection to scrapping will be minimized.

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NO SURPRISE—A second look at the appointment of W. Stuart Symington, as chairman of SPB, makes it obvious that President Truman's recommendation for a single administrator should not have been surprising. Although quoted as saying, "No one stipulates to the President," when asked if he took the job on the condition he be made sole boss, Symington is believed to have known in advance of the President's recommendation.

CAA DECENTRALIZATION—Although approving in principle the CAA decentralization effected in the latest reorganization, some circles see in it a "buck-passing" maneuver. Already there have been instances of complaints regarding field decisions being returned with the admonition that Washington only sets policy, is not responsible for the actions of field officials. The Air Line Pilots Association is concerned over the decentralization because airlines, passing through two or more CAA regions, are thus subject to possible conflicting ruling of "autonomous" inspectors. ALPA would like a coordinator in Washington to reconcile such actions.

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INTEGRATION—There is a likelihood that a new organization will be formed to lead the airlines' fight against the integration proposal expected to grow out of the House Interstate and Foreign Commerce Committee's transport investigation. President William A. Patterson, of United Air Lines, has looked upon integration not unfavorably in the past. That fact might make the Air Transport Association side-step the issue, leaving the airlines opposed to the scheme to create their own spokesman, just as they did on the international policy issue.

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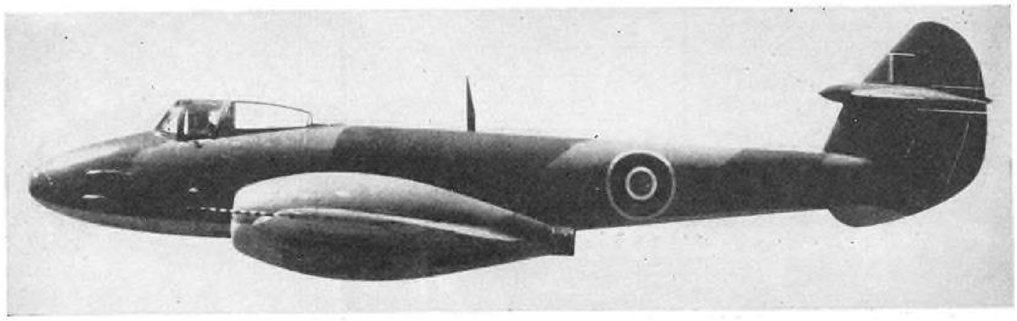
FEW JETS IN EUROPE—Air Corps procurement is being criticized by members of the Senate War Investigating Committee for reported slowness in getting jet-propelled planes into the European theater. The committee commented that by early spring the Germans had large numbers of jet planes in the air and were using them with considerable effectiveness. Members noted, they said, that only two American jet planes had found their way to the ETO, despite the fact that men in the field for over a year had sent warnings the Germans were preparing for a major jet plane offensive.

New photo of the RAF Meteor *twin-engine jet fighter in flight*



AVIATION NEWS

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CONTENTS

THE PHOTOS

Consolidated Vultee Aircraft Corp., Cover, 9; British Combine, 3; U. S. Navy, 7; North American Aviation, Inc., 10; U. S. Army Air Forces, 26, 27; United Aircraft Corp., 35; Acme News Photos, 34; National Airlines, Inc., 57.

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Washington Observer

NAVY REALIGNMENT—While recent realignment of top Navy air officers indicates a trend toward a more important role in naval policy for flyers, the same re-shuffle is seen as evidence that the Navy will fight with increasing vigor any move to set up a separate air force. Although the appointment of Vice Admiral Aubrey W. Fitch as superintendent of the Naval Academy is generally regarded as a victory for the Navy's "Flying Admirals," there are signs it was in a measure a defensive move to strengthen the Navy's case for its own air arm.

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ADVANTAGES, LIMITS—The appointment of Admiral Fitch is seen as due to high Navy feeling that all officers should be indoctrinated in the use of air—it's "advantages and limitations." It does not necessarily mean the Academy will institute large-scale flight training. In any event, results of Fitch's work will be further integration of naval aviation with the existing framework.

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NAVY ATTITUDE—Additional indication of Navy attitude on the separation question is seen in the comments of the new Assistant Secretary for Air, John L. Sullivan, at a recent news conference. Significantly, Sullivan emphasized that ficer who thought in terms of air and sea" as on his trip in the Pacific he talked "to no of- separate entities. He added that he did not see how the air arm could be divorced from the Navy.

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Industry Observer

▸Heavy cutbacks in Army and Navy fighters are imminent, Service officers say. With less Jap fighter opposition, our bombers are finding it easier to make raids without escort. Navy is about convinced that it will need few if any more new type planes, and that it can dispense with some types it is using now. There is a strong possibility that even the new secret Navy jet fighter of Ryan Aeronautical will be one of these.

▸U. S. authorities concede that the British are probably right in claiming that the new De-Havilland *Hornet* (lightweight *Mosquito*) is the fastest conventional twin-engine plane in the world. But they point out that the top speed of the single-engined P-47M, of which a few hundred were rushed to the U. K. to help combat the German jets, is in the 470-480 mph. bracket, while the top speed of the new *Mustang* (P-51H) has been announced as "above 460 mph." It is no secret to the aircraft industry that the *Mustang's* speed is well above that figure.

▸Engineers returning from Europe say German jet engine life was close to 20 hours, slightly inferior to some of our own installations in this connection.

▸Northwest Airlines, while studying data on the DC-4, DC-7, *Constellation*, and Boeing *Stratocruiser*, probably will hold off on any definite commitments until there are better chances for delivery. Another factor is possibility NWA will get a North Pacific route (it is optimistic on this score), in which case performance needs will vary from those of a carrier restricted to transcontinental service.

▸First direct service from Canada to France began July 21 when a C-47 left Montreal for Paris on a delivery flight, under the direction of RAFTC. The plane is the first of a fleet of passenger and cargo transports to be delivered to France for use in internal airline operations until French plane plants can produce their own commercial planes.

▸American Airlines System signifies the unified services of American Airlines, Inc., and American Export Airlines, Inc., although each will retain its corporate identity. Meanwhile, TWA spokesmen say they contemplate no change in name to Trans-World Airlines at this time.

▸Trans-Canada Air Lines has arranged under the Two Freedoms clause to use an alternate route between Toronto and Winnipeg through the U. S., including service stops at any Northwest Airlines airports, although no passengers or cargo may be transferred. Similarly, U. S. lines may use the TCA route north of the Great Lakes.

▸Trans-Canada has acquired its first DC-3's, three having been purchased from U. S. surplus agencies. Now being converted, they are the largest planes used by the line on its domestic cystem. The rest of the fleet comprises 25 *Lodestars* and 14 *Electras*.

▸Brewster Aeronautical Corp. has received from OPA notification of ceiling prices on aluminum frying pans which the firm will produce.

▸Monthly aircraft production, estimated at a billion dollars for July, will be cut back to a rate of $800,000,000 by December. Total 1945 scheduled output is $12.1 billion, with the remainder of the year as follows: August, September, and October at $900 million each; November and December at $800 milion each.

▸Reflecting war contract cutbacks, figures of Bureau of Labor Statistics show employment in aircraft and parts industries in May were 575,400, or 166,500 below the 741,900 of May, 1944. About 133,700 of the decline occurred between April and May of this year.

▸Employment of the aircraft engine industry in May was 192,700, or a drop of 62,700 from a year earlier. One-sixth of the decline, 10,800 workers, was between April and May, according to the BLS.

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Congressional Research Proposals Seen Vital To Air Industry Future

Critical procurement program immediately following war's end believed resting partially on effect of any experimentation program enacted; contemplated Federal agency to oversee research is main point of interest.

With a record of having progressed faster than nearly any other industry on the basis of consistent, ever-widening research, the aircraft industry last week watched with growing interest, tinged with concern, the several Congressional proposals for a Federal agency to oversee research.

Biggest question in industry circles was the effect enactment of any of the proposed bills would have on post-war military procurement; specifically, procurement in the critical period immediately following the war with Japan. Most studied opinion is that in that period the industry will need heavy experimental and development contracts.

▸ **Large Fund**—The contemplated research agency would require appropriations ranging from $35,000,000 annually, up. The industry wonders if a post-war, economy-minded Congress would consent to large military appropriations for research and development on top of the funds it would have to allocate for the overall research organization.

Thus, with a reservation for potential unfavorable trends, the aircraft industry favors the measures now being proposed for facilitating research after the war. In essence, these are:

▸ Research Board for National Security, set up in the National Academy of Sciences at the request of the Secretaries of War and Navy. It will carry on in the interim period between the dissolution of the Office of Scientific Research and Development and the establishment of a new department.

▸ S. 1285, a bill introduced by Sen. Warren G. Magnuson (D.-Wash.) to authorize a National Research Foundation—a companion bill HR. 3860, was presented to the House by Jennings Randolph (D.-W. Va.). Based directly on the report of Dr. Vannevar Bush, director of OSRD, it was referred to the Commerce Committee.

▸ S. 1297, a bill by Sens. Harley M. Kilgore (D.-W. Va.), Edwin C. Johnson (D.-Col.) and Claude Pepper (D.-Fla.) to create a National Science Foundation. This is based indirectly on the OSRD report and, at the request of Sen. Kilgore, was referred to the Military Affairs Committee.

In addition, there are a number of other measures pending, one of which, HR. 3440 — which has passed the House—would authorize a grant of $8,000,000 to the National Academy of Sciences for research in the interest of security.

Main difference between the proposals of Magnuson and the other three Senators, besides the name of the organization, is in the approach. A subcommittee of the Military Affairs Committee, headed by Kilgore, for months has been studying the German industrial potential, and now concludes: (a) the U. S. was dependent upon German scientific leadership; (b) this was largely due to patent systems, licensing, and cartel arrangements.

▸ **NACA Safe**—The National Advisory Committee for Aeronautics would be untouched by the passage of either of the bills. In fact, NACA was used as model for the agency suggested in the OSRD report. To the industry, this is a mixed blessing.

On the one hand, NACA has done some notable work; on the other, its failure to keep industry advised as to the results—possibly because of military restrictions—has resulted in costly duplication of NACA labors.

In addition, some industry quarters criticize NACA for doing too much development work, and

IN FOR OVERHAUL:
A U. S. Navy Martin Mariner *is pictured being hoisted aboard a seaplane tender for maintenance after a long patrol flight. Besides completely servicing the big planes, the tenders have recreational facilities for the pilots and crews who fly the patrol beats.*

not enough basic research—another situation that can largely be charged to the military as NACA performs assignments for the Army and Navy. Research for research's sake is nothing, the industry points out. The application of research to commercial and military needs is what counts. And that is a field in which industry should, and in the past has, functioned successfully.

Airport Parley Postponed

The Joint Airport Users Conference, sponsored by the National Aeronautical Association, has been postponed until August 20 and 21. Originally scheduled to be held last week, the conference was put off to permit additional time in which to expand the agenda, NAA said. The forthcoming meeting will be the third for the conference, which was organized last summer.

Helium Filled Tires Save Airliner Weight

Technicians of Goodyear Tire and Rubber Co. have reported the successful inflation of large airplane tires with helium instead of air, with consequent important weight saving.

They said it takes 92 pounds of air to inflate a 110 inch tire, but only 13 pounds of helium are required for the same tire. Weight thus saved on each tire is 79 pounds, or 158 for the two main wheels of a plane, plus the weight saved by using helium inflation for the nose wheel.

▸ **Costly Pounds** — Goodyear officials estimate that each pound of weight saved in commercial transport operation is worth $100 per pound, annually, in added passenger and freight revenue.

Heretofore, the rapid diffusion of helium through rubber has been an obstacle in the use of this gas for tire inflation. Introduction of synthetic rubber seal tubes has overcome this problem.

AVIATION CALENDAR

July 30—Executive Committee, International Air Transport Association, meeting in Paris.
August 2-3—Flying Farmers Meeting, Oklahoma A. & M. College, Stillwater, Okla.
August 6-7—National Requirements Committee Meeting, Brown Palace Hotel, Denver.
August 6-7—National Aircraft Standards Committee Executive Board Meeting, Brown Palace Hotel, Denver, Colo.
August 8-9—ACCA Airplane Technical Committee Meeting, Brown Palace Hotel, Denver, Colo.
Aug. 15—Meeting, International Air Transport Association, Montreal.
Aug. 16-17—Institute of Aeronautical Sciences, Meeting, Los Angeles.
Sept. 2—Interhemisphere conference on frequency allocations and revisions, Rio de Janeiro.
Oct. 2-6—Institute of Aeronautical Sciences, Air Transport Meeting, Washington, D. C.
Oct. 4-5—Institute of Aeronautical Sciences, Light Aircraft Meeting, Detroit.
Oct. 31-Nov. 3—Tentative depending on ODT regulations, 1945 National Aviation Clinic, Oklahoma City.
Nov. 16—Institute of Aeronautical Sciences, England Accessories Meeting, Dayton.
Dec. 17—Institute of Aeronautical Sciences, Wright Brothers Lecture, Washington.

AAF Release Data On The B-32

Disclosure this week of first data and photographs by the Army Air Forces of its new heavy, long-range bomber, the Consolidated Vultee B-32—originally called the *Dominator*—indicates that its characteristics coincide with requirements of the South Pacific air war rather than those in the Japanese main island areas being hit by the B-29.

Exact role of the B-32 has been in doubt for months, even in high military circles, and the number which will be sent into combat is still undecided.

▸ **Powerplant** — The high-wing, long-range bomber, with a low-drag Davis wing, has four double row, 18-cylinder, Wright Cyclone R-3350 engines, each producing in excess of 2,200-hp., and eacn with two exhaust-driven turbo-superchargers.

Later models, all of which are being built at Fort Worth, will have an improved R-3350.

The two inboard powerplants are equipped with reversible Curtiss electric propellers, largest on any production plane, which make it possible to land in less than 1,500-ft. with 110,000-lbs. gross, on the same runways used by *Fortresses* and *Liberators*.

▸ **Firepower**—The tricycle landing gear is fully retractable; dual 56-inch wheels retracting into the inboard nacelles. Firepower is described as comparable to the B-29 but conventional, rather than synchronized, turrets are installed. All fuel tanks and lines are self-sealing.

Range compares favorably with B-29. Use of artificially aged and stretched aluminum alloy saved over 4,000-lbs. per plane. Crew is eight men.

Design work began on the XB-32 in late 1941 and on the B-32 in February, 1943. The first 3 XB-32's were twin-tailed, but the AAF ordered extensive redesigning because of changing war conditions and availability of new equipment.

Pertinent Facts About the B-32

The B-32 is a high-wing, single-tail bombardment airplane powered with four 18-cylinder radial engines. The plane is designed to destroy land and naval objectives by bombs. There are two independent sets of flaps. The ailerons are provided with trim tabs operated by electric motors.

The B-32 fuselage is cylindrical or cigar shaped and carries a normal crew of eight. A front and aft cabin with a double bomb bay arranged in tandem in the center are provided.

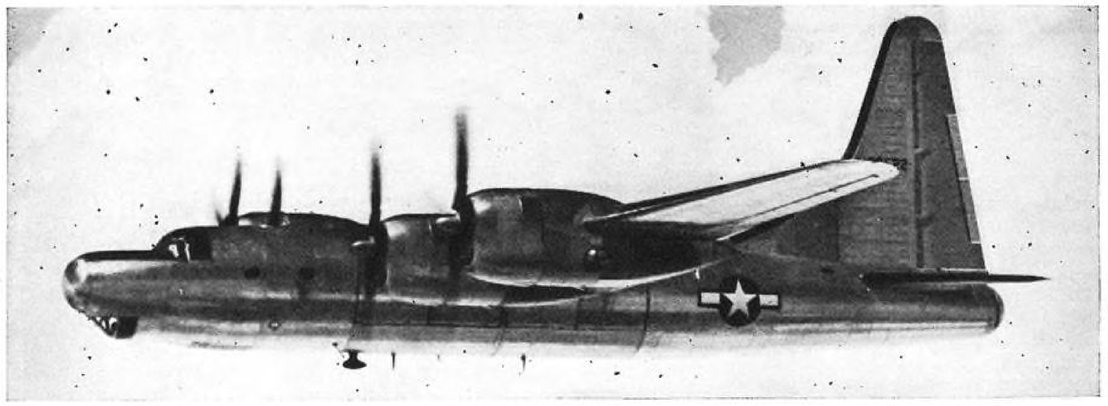
The main landing gear retracts forward into the inboard nacelles. The nose gear retracts into the nose well. Main and nose gear are fitted with dual tires.

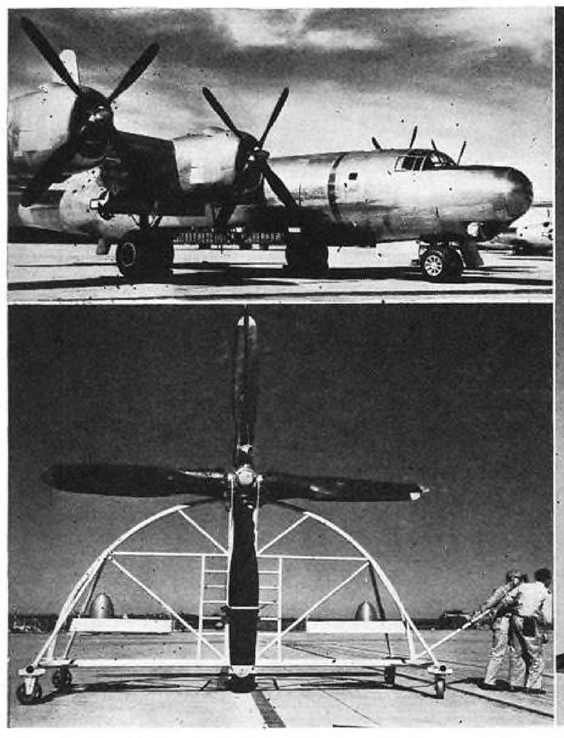
The airplane is designed for a normal gross weight of approximately 100,000 pounds with alternate gross weights of over 120,000 pounds.

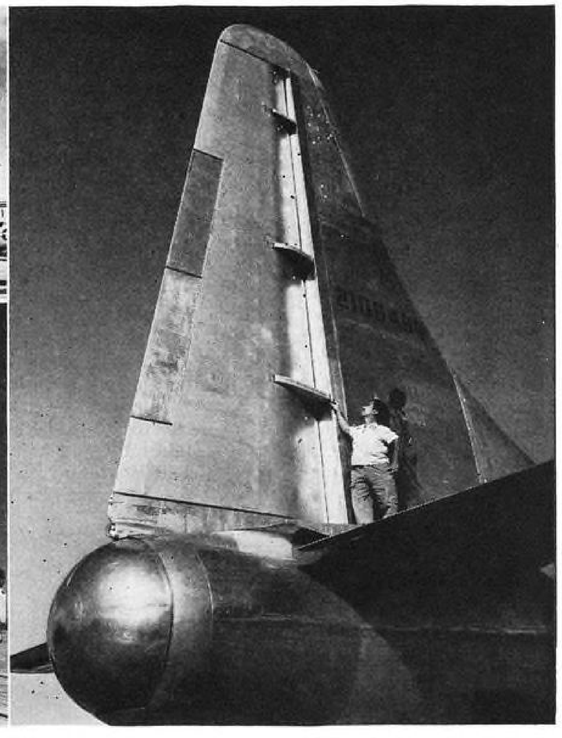
Army designation: B-32
Navy designation: None
Foreign designation: None
Manufacturer's designation: Model 33
Engines: Four (4) 2,200 hp. (military rating), Wright Cyclone 18 cylinder, equipped with eight (8) turbo-superchargers; 2,000 hp. (normal rating)
Wing spread (span): 135 feet
Length: 83 feet, 1 inch
Height: 32 feet, 2 inches in taxi position
Gross weight: 100,000 pounds with capacity crew and load
Empty weight: 60,272 pounds
Number of crew or passengers (or both): Eight
Aircraft: Heavy bombardment.
Landing gear wheels with tires: 56-inch dual
Nose wheel: 39-inch dual
Propellers (Four blade type)
Diameter .....16′ 8″
Wing Area.....1,422 square ft.

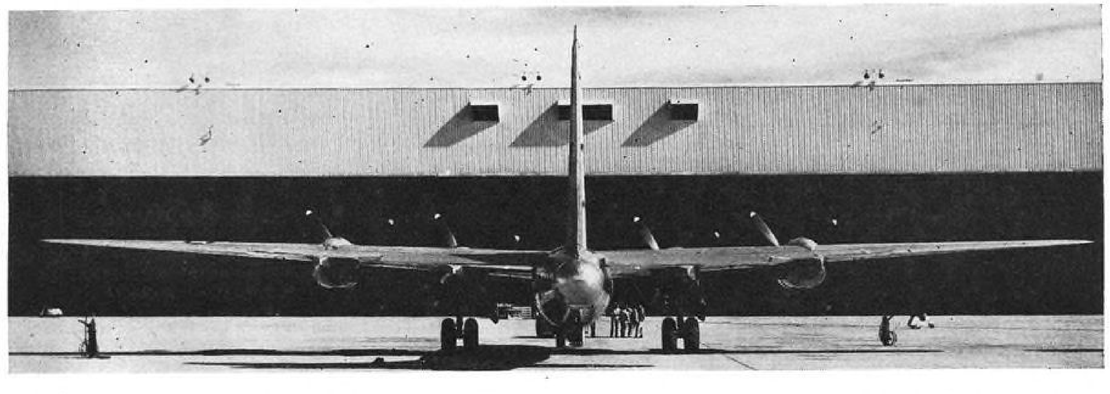
Fuselage
Maximum diameter..... 9′ 6″
Length .....83′ 1″
Distance—Nose tip to theoretical leading edge of wing on centerline of fuselage .....27′ 3″
Clearance—Fuselage to ground at main wheel.. 2′ 9.5″

Revealing Views of the AAF's B-32









Newest *Mustang* Ready For Japs

More power, speed, range, and strength built-in despite 700-lb. saving in weight.

North American Aviation has a new and speedier *Mustang,* 700 pounds lighter than its predecessor model.

While achieving greater speed, maneuverability, range and improving general performance in the new model, engineers strengthened the new *Mustang,* the P-51H, some 10 percent throughout, despite the reduction in its overall weight. The plane has a combat range of more than 2,000 miles, and a speed of more than 460 mph.

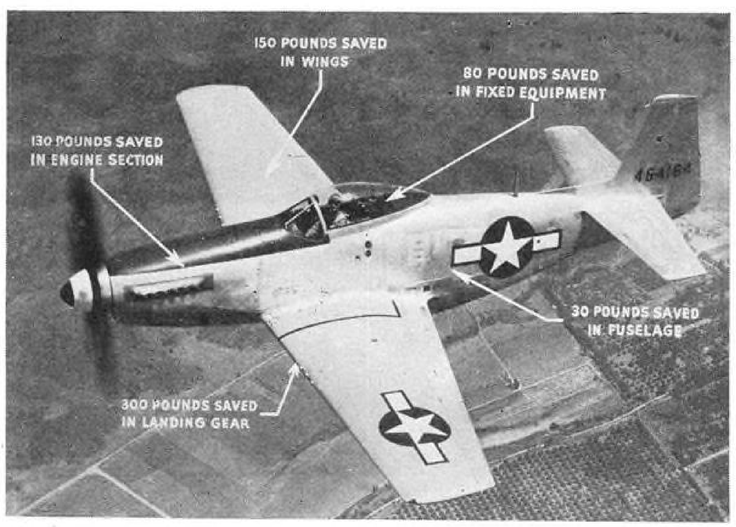
▸**Power Plant**—Generating better than 2,000 horsepower, the power plant section is developed around a Packard-built Rolls-Royce Vi650 engine, utilizing a fuel injection pump and a new four-bladed Aero-products propeller designed for higher engine horsepower.

The added boost gives the *Mustang* efficient operation up to 42,000 feet, and a rate of climb 26 percent faster than the earlier model. The engine mount is 40 percent lighter. Much of the weight saving was accomplished in this section.

Lighter-weight alloys, material-saving installations and advanced aerodynamic features account for further reductions. Electrical controls are grouped centrally to reduce wiring in the new *Mustang,* and the radio control panel has been simplified.

With an eye on pilot's problems and comfort for long missions, North American engineers set up an improved seat installation, better heating and ventilating systems and other accommodations designed to reduce fatigue.

▸**Firepower Retained** — Improvements incorporated in the P-51H were attained without giving up any of the *Mustang's* firepower. Fittings to carry 10 rockets under the wings are featured together with racks to carry bombs weighing up to 1,000 pounds, or extra fuel tanks are mounted on the ship. The *Mustang* retains six .50 caliber machine guns with increased re-



Where the Weight Went: *On the photo above, North American Aviation engineers have marked the points from which critical weight was removed to produce the newest* Mustang *version; P-51H.*

'Copter Liner

Besides the Navy model of the 12-place PV helicopter, announced last week (AVIATION NEWS, July 23) by the P-V Engineering Forum, Inc., Sharon Hill, Penna., the company is planning a commercial version of the 48-ft. 'copter. Production models of the little PV-2 one-place helicopter and a two-place version will follow soon.

PV is establishing a sales and service organization to handle commercial distribution of these models, and other more advanced designs now in various preliminary stages. The company asserts it will offer the most complete line of helicopters for post-war markets in this country.

liability, and simplification of service and maintenance.

The new *Mustang* was built by North American, in cooperation with the Air Technical Service Command in answer to the AAF's demand for a fighter with greater range, more speed and higher ceiling for Pacific operations.

Three Key Men Shifted In ATSC

Continuing shuffle of Wright Field personnel moves Gens. Wolfe and Bertrandias overseas, Col. Sims to Washington.

Continuing reorganization of Air Technical Service Command headquarters at Wright Field, Dayton, Ohio, under Maj. Gen. Hugh J. Knerr, commanding general, has resulted in transfer of three key men, two of them to overseas assignments, and other shifts in the organization.

Maj. Gen. Kenneth B. Wolfe, chief of engineering and procurement, and Maj. Gen. Victor Bertrandias, chief of maintenance, have been transferred to overseas assignments while Col. Turner A. Sims, chief of administration, has been transferred to Washington.

▸**Office Mergers** — Divisions commanded by General Wolfe have been reshuffled in the organization, so that engineering is now combined with maintenance to fall under the direction of Maj. Gen. B. W. Chidlaw, as a deputy commander. Procurement, now is placed with supply and readjustment under direction of Maj. Gen. Lester T. Miller, also as a deputy commanding general, and formerly chief of the supply division.

Replacing General Bertrandias as maintenance division chief, under Chidlaw, is Brig. Gen. Isaac W. Ott, returned from maintenance and supply commands in the European theater. Replacing Col. Sims is Col. Kenneth H. Bitting, until recently director of personnel for the U. S. strategic Air Forces in Europe.

Col. William A. Dana, former deputy chief of supply has been advanced to chief of supply, the place formerly held by General Miller.

▸**Plan Chief**—Maj. Gen. E. E. Adler, formerly chief of ATSC management control, has been named deputy commander in charge of plans. Posts of deputy commanders in charge of personnel and intelligence are filled by acting commanders, Cols. Ralph Nemo, and John M. Hayward, respectively, indicating that further changes may be anticipated in these posts.

Wolfe is best known for his development and production work on the B-29 *Superfortress,* first as production chief at Wright Field, later as head of a special B-29 project staff, and finally as first commander of the 20th Bomber Command, at the time operations were begun in the China-Burma-India theater and the first *Superfortress* raids were made. He won the Distinguished Service Medal for his work on the B29.

Bertrandias, a former Douglas Aircraft Co. executive, was a World War I flyer with Eddie Rickenbacker's 94th Pursuit Squadron, and in World War II served in the southwest Pacific with distinction; winning the Distinguished Service Medal and other decorations.

Sims has been at Wright Field since 1934, and is credited with development work on the controllable propeller and other aviation research work.

Military Field Light Requirements Jump

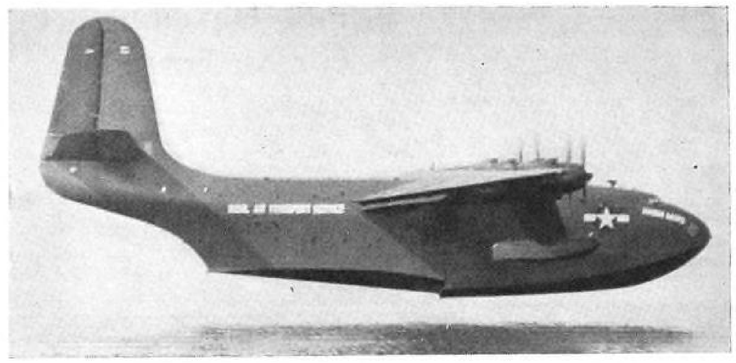
Military requirements for aviation ground lighting equipment have increased during the last quarter year and are expected to continue high, at least until the end of the year.

Members of the Aviation Ground Lighting Equipment Industry Advisory Committee told WPB officials that there was difficulty in planning continuous production because of gaps in military contracts.

▸**Buying Control** — Centralized procurement for military needs, established under Order L-235—revoked last April, will be continued by military directive. The Air Technical Service Command, Wright Field, acts as the central military procurement agency for the bulk of aviation ground lighting, excepting certain equipment for water landing areas procured by the Navy.

For civilian fields, the Airways Engineering division of CAA is procuring equipment under its own centralized system.

The industry is hopeful that existing specifications and drawings will be simplified and reduced insofar as practicable to a performance status. Elimination of detailed specifications will permit the industry to exercise its ingenuity in the development of equipment and will open additional opportunities during the reconversion period.



First Flight for New "Mars" Version: *The* Hawaii Mars *takes to the air on her maiden flight immediately after christening ceremonies at The Glenn L. Martin Baltimore plant.*

Peace Place Seen For Naval *Mars*

Navy believed ready to take all 20 JRM's ordered, even if war ends before final deliveries.

By BLAINE STUBBLEFIELD

About seven of the Navy's order for 20 Martin *Mars* JRM 72½-ton marine cargo planes are expected to be delivered by the year end. Informed sources say they believe Navy will take all 20 planes even if the war ends before all are delivered.

The Glenn L. Martin Company has just launched No. 1, the *Hawaii Mars,* 165,000-pound (gross weight) revision of the 128,000-pound original XPB-2M long range patrol bomber, which was later converted to a JRM and which has made a remarkable record in the Coast-Hawaiian service of NATS.

▸**Progress Hints**—Conversation at the launching indicated that No. 2 is out the door and ready to fly; No. 3 is "well along"; and No. 4 is "well under way."

It is estimated that production of the JRM's will be at the rate of about one per month or five weeks; thus completion of the remaining 19 would take at least 19 months. One unofficial report is that the Navy is set to take 10 units, come what may, and to consider the other ten later. The contract termination settlement on the elaborate make-ready and the low numerical *Mars* order would be very high.

Principal speakers at the launching, July 21, at Middle River, Md., were Rear Admiral L. B. Richardson, assistant chief of the Bureau of Aeronautics, and Martin. Mrs. De Witt Clinton Ramsey, wife of Rear Admiral Ramsey, former chief of BuAir now on duty in the Pacific, christened the flying ship and it was flown the same day.

▸**Airline Use**—Navy could use the estimated 35,000-pound unit payload capacity of the entire *Mars* fleet to good advantage right now in the redeployment of troops and shipment of critical supplies. One spokesman for NATS said that if Congress objects to maintenance of the anticipated fleet of 20 in peacetime, for "service of the Pacific islands," some can be declared surplus and sold to U. S. flag or foreign airlines.

Glenn Martin and friends of fly-

CAP Gets Fund

An appropriation of $500,000 for the Civil Air Patrol which was included by Congress, contrary to previous reports, in the recently passed military establishments bill, provides approximately one-fourth of the funds, for the new fiscal year, which were alloted to CAP last year.

However, a large part of last year's allotment went to finance CAP tow target units which have been discontinued.

▸**Passage Way**—The appropriation had been recommended by the War Department, and was deleted by the budget bureau; later it was restored by the House subcommittee in reviewing the bill and was included in the bill when it was finally passed.

ing boats in the Navy have tried hard during recent years to sell the waterplane idea to off-shore operators. So far as can be learned, no orders have been placed.

Martin and others hope that further demonstration by the Navy of *Mars* efficiency, safety and practicability, will bring about the adoption of seaplanes by some American operators.

Meanwhile, the British are accepting seaplanes for cross-water services and American waterplane men are saying that the Civil Aeronautics Board should require some U. S. routes to operate seaplanes to insure against this country being bested in the field by the British and others. A Russian observer, upon seeing the Hughes flying boat recently, is reported to have commented, "That's just what we want."

▸ **Job To Do**—The fleet of JRM's on order is mostly to do a job; emphasis is light on continued experimentation. The old *Mars* prototype did the pioneering in 325,000 miles of flight in 15 months, carrying 22,000 pounds per trip, mostly between Alameda, Calif., and Hawaii. Her efficiency was commended by Admiral Ernest J. King. She has been retired to training service.

The mass-production *Mars* has a single tail instead of two, and four-bladed propellers instead of three. The hull has been lengthened several feet to 120 feet 3 inches, and the height has been increased several feet to 44 feet 7 inches at the tail, on beaching gear.

A simplified booster control system has been provided, and flexible Mareng oil cells and wing tanks replace integral tanks. Whereas the old *Mars* had some limitations due to conversion, the new design has low-set main cargo doors which can receive jeeps and field guns, and cargo compartments are equipped with handling cranes.

▸ **"Unmatched"** — This design is stressed for loads greater than its present power can carry. Martin says he will install post-war Pratt & Whitney engines of much greater power to insure "a flying ship unmatched anywhere on earth for economy, load-carrying capacity, range and speed." Unofficially, but on good authority, it was said that the post-war re-powered design will gross 165,000 pounds. Current production is costing the Navy about $14 per pound.

P-80 Unveiling Set For Air Force Day

Shooting Star's public debut, Gen. Arnold to "star" on national observance of AAF's 38th anniversary.

Impressive flying demonstrations of the nation's military air power and public dinners in many communities throughout the nation will mark Aug. 1 as Army Air Force Day, in observance of the 38th birthday of the AAF.

New York, Washington, and Los Angeles are the centers of the most elaborate dinner programs planned, while Wright Field, Dayton, Ohio, is expected to present the most spectacular mass flights of the nation's top fighting planes.

▸ **The "Star"**—In honor of the day, the Lockheed P-80 *Shooting Star,* which the AAF calls "the fastest plane in the world," will be shown to the public for the first time, in flight or ground exhibitions, at points throughout the country.

Photographs of the plane are being released to the press for the first time on that date.

The day has been set aside by proclamation of President Truman declaring that "The U. S. Army Air Forces have demonstrated throughout the world the ability of air power to spearhead the attacks of our armed forces against our enemies and have materially contributed to the successful completion of the war in Europe."

▸ **Five "Stars"** — An address by General H. H. Arnold, commanding AAF general, at the New York AAF Day dinner, sponsored jointly by the Air Power League and the Wings Club, will be broadcast nationally and will be heard by radio at the other dinners being held simultaneously.

In Washington, the dinner, sponsored jointly by the Air Power League and the Aero Club of Washington, will have as its principal speaker Air Marshal Douglas Collier, RAF, of the United Nations joint chiefs of staff. The Army Air Forces band will play for the gathering.

In Los Angeles, a banquet with Clark Gable as chairman, and many stage and screen stars participating together with high ranking AAF officers, will climax the day with two aerial parades and demonstrations of West Coast built planes at the Los Angeles airport.

▸ **Sponsors** — National co-sponsors of the celebration are the Air Power League, headed by Charles E. Wilson and the Civil Air Patrol, commanded by Col. Earl Johnson. Local units and members of the two organizations have been asked to cooperate in sponsoring various local activities in observance of the day.

Air Force Day

General of the Army H. H. Arnold, commanding general, AAF, has designated Aug. 1 as Air Force Day, the anniversary of the Signal Corps order creating the Division of Aeronautics, Aug. 1, 1907, "to study the flying machine and the possibility of adapting it to military purposes."

▸ **Then**—The Division of Aeronautics, created 38 years ago was headed by Capt. Charles deF. Chandler, Signal Corps, with two enlisted men, Corp. Edward Ward and Pfc. Joseph E. Barrett, assigned for duty with the division.

▸ **Now**—From that beginning, the Army Air Forces has reached a peak personnel of more than 2,300,000 officers and men.

B-17 Output Halted Gen. Eaker Reports

Two indications of the trend of the air war against the Jap were disclosed last week by Lieut. Gen. Ira C. Eaker, depty AAF commander and chief of air staff, when he announced that all production of *Flying Fortresses* has been halted and that reduction in AAF personnel will be comparatively small.

Output of B-17's at Boeing and other companies making the *Flying Fortress* will stop, but it will not be necessary to increase the production of Boeing's B-29 *Superfortress.* Losses of this highly effective weapon, Gen. Eaker reported, have been less than one percent, whereas a 10 percent attrition had been estimated. The B-29 has five times the striking power of the B-17.

▸ **Enough Spares**—He said 12,474 *Flying Forts* have been built and that there are enough spare parts in this country to equip all those on hand. Some 4,000 have ben flown back from the European theater of operations.

Cutbacks on the B-17, scheduled through 1946, total 44,300 planes. Not all of these had been contracted for, but all were on the war production schedule. Gen. Eaker said the cutbacks would result in a saving of $7,600,000,000, in addition to 750,000 tons of steel and 900,000 pounls of aluminum.

Gen. Eaker told his first Washington news conference that the Air Forces will play such an important role in the program of Japan's defeat that there will be few personnel cutbacks. Out of approximately 2,400,000 men in the AAF, they will need 2,130,000. Already 40,000 men, in addition to crews, have been flown back from Europe. Approximately 50,000 have returned by water.

▸ **Tactics Revised** — The general said that a preliminary report of the effect of bombing in Europe has been submitted to the War Department by the Strategic Bombing Commission and changes in some tactics had been made as a result.

Operational work over Japan, he said, was more difficult than over Europe. However, overcast bombing devices have been perfected in the B-29 and crews are trained especially in this work. He reported that the *Superforts* are bombing from much lower altitudes than the 25,000 to 30,000 feet of the original attacks on Japan.

Toward Japan: *On the horizon, haze-shrouded, is the Pacific, from which approaching enemy planes would see this residential section in their search for Douglas Aircraft's Santa Monica plant. A-20's on the runway would scurry under cover upon an air raid warning, and the runway would appear as a farming plot.*

Douglas Camouflage Praised By Army

Obscurement of Santa Monica plant, no longer a military secret, is now being removed gradually.

"Finest example of protective obscurement in the world," Douglas Aircraft Company's camouflage of its attack-vulnerable Santa Monica, Calif., plant no longer is a military secret, and gradually is being removed.

Japan's Pearl Harbor attack gave the go-ahead to camouflage plans engineered before the Pacific war by Frank Collbohm, technical assistant to the Douglas vice-president of engineering, and H. Roy Kelley, Los Angeles architect.

Factory buildings, outdoor subassembly lines, parking lots and related buildings were covered with 4,489,000 square feet of chicken wire netting.

▸ **Built Homes**—Upon this foundation was built a "war housing" subdivision of homes and gardens, streets, and even small farms. Painted surfaces, amounting to 16,650,000 square feet, were given "tone down" coats to blend the village at all angles of viewing into surrounding residential and farm areas.

The factory's adjacent Clover Field runway vanished under a camouflage of painted "street" extensions and open "fields."

At a safe distance a dummy runway was installed, bordered by wood duplicates of the plant's main buildings as they appeared prior to camouflage.

▸ **Special Paint**—Warner Brothers Studios assisted in the development of the project by photographic testing of scale models, and special paint pigments were developed to resist disclosure of the camouflage by infra-red photography.

The Douglas "village" is believed to have been the first to use fiberglass, sandwiched between two layers of chickenwire, for the surface foundation. Standard practice previously had called for the lacing of chicken wire with burlap or adhesive chicken feathers.

Credit for being "the finest" was given the venture by the chief of the U. S. Army Engineers, and following its completion the Douglas camouflage was copied in other areas and studied by camouflage

Roof 'Village' Covers Boeing Plant

A roof-top "village" capable of accommodating 200 persons camouflages the Number Two plant of Boeing Aircraft Co., at Seattle, it was revealed last week with the approval of the War Department.

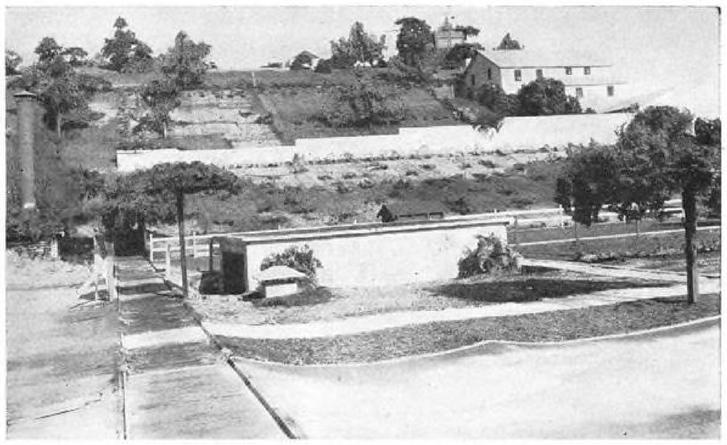
A make-believe community of 300 chicken-feather trees, canvas buildings, canvas roads and burlap dirt, the layout has 53 houses, automobiles, trucks, a service station, garages, a store. Although structures are usual lengths and widths, the height is scaled down. The walls and roofs hide a fire-fighting system of 67 sprinklers and 100 hydrants.

▸ **'Confuser'**—Despite its elaborateness, the 26-acre "village" was not designed to fool enemy pilots below 5,000 feet. While effectively hiding the big home of B-17's and B-29's above that height, main purpose of the camouflage is to create a split-second uncertainty on the part of an enemy bombardier which would result in faulty aim.

A million board feet of lumber was used in building the "wonderland." There are 500,000 feet of support wires, 555 tons of supporting steel structures, 1,150,000 square feet of chicken wire, and a mile and one-half of catwalks for guards and emergency fire protection. The "trees" are from 8 to 12 feet high.

The adjoining Boeing Field is also camouflaged into the surrounding landscape. Dark strips of oil-soaked earth simulate roads between six-inch-high "houses" of concrete blocks.

▸ **End In Sight**—With the release of details of the precautions taken to mask the Boeing plant, it is now expected that the tent city will be dismantled.



Innocent: *If a Jap sub lying off the Santa Monica, Calif., shore had lobbed shells into this hillside farm they would have dropped neatly into. (1) the private offices of Donald Douglas, president of Douglas Aircraft Company; (2) into assembly lines turning out mass production A-20 bombers and Army transports. The hillside slope follows the domed curve of the plant's biggest building.*

experts of allied nations.

It was so well done that Clover Field's tower operator frequently had to "red light" Army and Navy planes trying to land on the dummy air strip nearby, and men with flags were stationed on the real landing field to locate it for incoming pilots.

Capitol Opposition Faces SPB Change

There are signs of opposition on Capitol Hill to the proposal made by President Truman for a single administrator of the Surplus Property Board to supplant the present three-man board.

While the President stressed the importance which he attaches to an immediate revision of SPB by sending his recommendation to Congress from Potsdam, the coolness with which Congress received the request is indicated by the fact that both House and Senate went ahead with recess plans without discussing an extended stay in Washington to enact Mr. Truman's proposal.

▸**Reluctant Fight** — Congress wrangled for weeks last year over the single-administrator versus multiple-board issue and finally settled on the three-man compromise. Some members have expressed reluctance to reopen the controversy, although the President's recommendation already has done just that.

There was some resentment among some members over the President's approach in presenting his request. Mr. Truman commented on his belief that time had proved that now Secretary of State Byrnes—who advocated a single administrator last year—was right and that members of Congress who established a three-man board were wrong. There are indications that some members are ready to defend their position in favor of the three-man set-up.

Senator Elbert Thomas (D.-Utah) chairman of the Senate Military Affairs Committee which handles SPB legislation, ventured to predict to AVIATION NEWS that there will be no change in the three-man establishment.

▸**Bill Set**—Legislation incorporating President Truman's views on the matter will be introduced as soon as Congress returns from summer recess.

New Air Staff

Two top Army Air Force posts have been consolidated to leave five assistant chiefs of air staff instead of the original six. Operations, requirements and commitments, and materiel and services have been combined into supply and logistics. Lieut. Gen. Ira Eaker is the new deputy commander of AAF, and chief of staff.

Five generals who have seen service overseas head up the new air staff as announced:

▸Maj. Gen. Fred L. Anderson, Jr., assistant chief of air staff, personnel.

▸Maj. Gen. Elwood R. Quesada, assistant chief of air staff, intelligence.

▸Lieut. Gen. Hoyt S. Vandenberg, assistant chief of air staff, operations and training.

▸Maj. Gen. E. M. Powers, assistant chief of air staff, supply and logistics.

▸Maj. Gen. Lauris Norstad, assistant chief of air staff, plans.

Overseas Surplus Power Shift Nears

Final details are being ironed out for the transfer of authority and personnel for overseas disposal of surplus aircraft, from the Foreign Economic Administration to the Office of the Army Navy Liquidation Commissioner.

It seems evident that William W. Brinckerhoff, now chief of FEA's aircraft division, will be director of the aircraft division of the Commission. August 1 is the effective date of transfer.

▸**New Official?**—Discussions have been held on the question of having a high civilian official to act as liaison between the Commissioner and the aircraft manufacturing industry and air transportation industry. To date no one has been selected. If such an official should be brought into the Commissioner's office for aircraft, Brinckerhoff would still continue to direct the division on the operating level. The new man would direct policy and would represent the industry viewpoint to the Commissioner and explain activities to the industry.

Newly appointed executive officer for the Commissioner is Brig. Gen. Lehman W. Miller who replaced Col. Clark Kittrell, who will leave shortly for an overseas assignment with ANLC. General Miller, former military attache in Brazil, has been adviser to the Commissioner on South American surplus activity.

Continued announcements of new personnel can be anticipated with the aircraft division of ANLC increasing by some 30 people.

British Jet Veteran Dies

Squadron Leader A. O. Moffatt, of the RAF, senior test pilot of Power Jets Limited, producers of the original jet-propelled aircraft, was killed when his twin jet plane met with an accident during a demonstration flight at Whetstone, in Leicestershire, England, and crashed.

PRIVATE FLYING

★ ★

Shake-Up Of CAA 'Old Guard' Seen General Aviation Demand

Pilot, manufacturer, airport, and service operator spokesmen join in charging elder employees with maintaining outdated philosophy as shut door against progressive actions of Administrator Wright; General Inspection division is main target.

By WILLIAM KROGER

An attempt to convince top officials of the Commerce Department and CAA of the urgency of a wholesale shake-up in CAA is evident in the increasing signs of dissatisfaction with the agency among manufacturers, aircraft service operators, industry associations, and growing thousands of private pilots.

Common view is that changes in CAA regulations can never be particularly helpful until there is a similar change in personnel. Bitter criticism has been directed in private at both CAA personnel and policies for months. Those most immediately concerned—aircraft service operators and pilots—have been so fearful of punitive action possible under the autocratic system attributed to CAA they have been wary of speaking out.

▸**Lines Form**—But as more and more attacks appear in print, and the Non-Scheduled Flying Advisory Committee hears a growing number of complaints on methods and conduct of CAA inspectors, there is a determination among operators to bring the situation into the open.

Perhaps the greatest objection is that while recent revision of Civil Air Regulations has tended toward relaxation of some requirements, the men charged with administering those regulations have not changed. Their philosophy, it is maintained, is the same as it was 15 years ago.

Striking at this condition, an editorial in the July issue of *National Aeronautics,* published by the National Aeronautic Association, declares, "Mr. Wright (CAA Administrator T. P. Wright) has inherited to carry out his policies a great many men who have no intention of doing so."

▸**Civil Service Shield** — Asserting that "there is an Old Guard within CAA whose attitude is that while Mr. Wright proposes, it disposes," the editorial points out that Civil Service rules are partly responsible. Consequently, "men in CAA feel that while Administrators come and go, they stay on forever."

However, it adds, there are also Civil Service provisions to provide for the "untrue or the faithless Government servant. We would suggest that Mr. Wright . . . sit down with his staff and explain to them once more, fully and patiently, what the policies of CAA are. . . . If that does not work, we suggest that he examine those other rules."

In a similar vein, a recent newsletter of the United Pilots and Mechanics Association said, "It is high time the record of every division and section head is reviewed to determine whether he has been carrying out Mr. Wright's objectives.

▸**Supervision Ratio** — "It is high time to make some changes. A system which requires 11,000 employees to supervise the flying of 25,000 civilian planes cannot succeed with 100,000 or 200,000 planes. . . . CAA would need 44,000 to 88,000 employees."

Previously, *National Aeronautics* had asserted the proposed Part 03 of CAR — requested by CAA — would necessitate four times the present staff to administer.

One of the main sources of dissatisfaction with CAA's operations is the General Inspection Division, which is under the direction of Assistant Administrator Fred M. Lanter. Charges of capriciousness, indolence, vindictiveness are made against inspectors by operators.

▸**Duty Lapses**—The Non-Scheduled Flying Advisory Committee has received reports of lapses of from 60 to 100 days in inspectors' performing their duties. The operator of a CAA-certified flight school waited from last fall until this month for the assignment of a flight examiner although a school, upon designation, is supposed to be given an examiner.

Many instances have created the fear pilots and operators have of the inspection division. Although various organizations get high returns on questionnaires to pilots and operators, a CAA regional office queried 100 operators with-

PRIVATELY-BUILT MIAMI AIRPARK:

The Miami Aviation Country Club, awaiting only removal of wartime restrictions for a building program, is now operating for flight training. Two runways are in operation. In the foreground is U. S. No. 1, the main highway into Miami, eight miles south. In the background is Biscayne Bay, on which a seaplane base will be located. Multiple "T" hangars are now being built to house the more than 20 planes regularly based at the field. The club has made progress despite barriers thrown in its way by Miami officials and an element of businessmen, who oppose privately-owned airparks, want to force all operators onto public airparks. No public airparks have been started, although another private airpark has been stymied so far.

NATA Policy

National Aviation Trades Association's board of directors meeting, scheduled Aug. 7 in Kansas City, may bring a showdown on operations and policies of the association.

Objections, raised by many members in recent months, to "stands" taken by association officials are receiving serious consideration by the directors.

▸ **Stricter Rule**—One outcome of the meeting is expected to be a clearly defined set of association policies, laid down by the entire board of directors, to which the officers will be expected to adhere strictly in the future.

out a single reply. The old explanation is being heard again: "Operators are afraid to answer CAA questions. If they answer truthfully, they are bound to be critical and they are afraid of what will happen."

Administrator Wright has just issued revised instructions to regional officials. Some question these will be effective. They cite chapter and verse wherein CAA sub-officials have ignored orders from above, or action without advising their superiors. A recent appointment of field men to assume work in an entirely new sphere of activity was made public under Mr. Wright's name. Actually, Mr. Wright had no knowledge of the action until after it had been taken.

▸ **Another Foe**—The general dissatisfaction with CAA is prevalent, too, in the Non-Scheduled Flying Advisory Committee. Administrative Order 28, establishing the Committee, provided that the advice of the Committee should always be obtained before the adoption of new regulations, policies or procedures affecting private and non-scheduled aviation.

Despite this, the General Inspection division put out its safety regulation instruction No. 199, concerning the appointment of private pilot examiners, without the knowledge of the Committee. And this was done nine days before the Committee met to consider that very subject, among others. Mr. Wright was abroad at the time. The requirements of the division are stricter than those later recommended by the Committee.

Considered by some observers to be indicative of the entire philosophy of the inspection division is a provision in safety regulation No. 199, that "any Flight Examiner who compiles an unreasonably long record of approvals without any disapprovals should be investigated by the Inspector to determine the caliber of the students being recommended for approval."

▸ **Reverse Value**—CAA has already stated that examiners generally will be the instructors who teach the applicants to fly. Some private flying groups now wonder if CAA is putting a premium on inefficiency and if an examiner will have to fail arbitrarily one of his own students every now and then merely to protect his own status.

New Examiner Role Remains A Blank

CAA admits failure to appoint any special private pilot flight examiners despite "authorization" two months ago.

Although nearly two months have passed since an "instruction" went out to all CAA inspectors directing them to appoint private pilot flight examiners, Washington CAA officials admitted last week that not a single one has been appointed.

The admission made a virtual myth out of a CAA press release of July 23 which stated that the CAA "is authorizing" qualified men to give flight tests to private pilot applicants.

▸ **'Explanation'**—Asked for an explanation of the long delay, a CAA spokesman attributed it to failure to have the necessary forms completed at the Government Printing Office.

Observers viewed the delay, however, as probably another maneuver in the continuing duel between conservative and liberal factions, in and outside, of CAA over the regulation of private flying.

It is known that CAA's Non-scheduled Flying Advisory Committee came to Washington in June prepared to recommend far more liberal provisions for appointment of private pilot flight examiners than were promulgated in the June 4 instruction of Fred Lanter, assistant administrator in charge of safety regulation.

▸ **Quiet Action** — But, when the committee met, June 13-14, they found that Lanter's instruction had been sent out quietly the week before. Confronted with this instruction, which, if fulfilled, would at least partially remedy the situation in making it easier to get examinations for private pilots, the liberal group did not press its claim so vigorously.

Some of the liberals assumed, naively it now appears, that at least some of the new examiners would be named and ready to go to work when the new Civil Air Regulations affecting private pilots became effective, July 1.

It is understood that a large number of recommendations have been received from CAA field men, for appointment of individual examiners who are qualified even under the rules laid down by Lanter.

▸ **Washington Blame**—So, responsibility for the delay appears to rest in Washington, either at the overloaded Government Printing Office, or in the CAA Safety Regulation Office for failure to "expedite" the necessary forms which it requires, so that they would be ready when needed.

Harlow Buys Plans Of Interstate Planes

Sale of all airplane plans and production equipment of Interstate Aircraft and Engineering Corp., Inglewood, Calif., to Harlow Aircraft Co., Alhambra, Calif., was announced last week. As a result, Harlow will go into early production of post-war personal aircraft at Alhambra Airport, which it recently purchased from TWA.

Interstate's jigs and tools will allow immediate manufacture by Harlow of 65 and 100 hp. *Cadet* light planes.

▸ **Another Plane** — Harlow officers also anticipate production of a revised model of the all-metal low-wing Harlow monoplane, which was produced before the war and at the time showed high performance characteristics.

The purchase of the Interstate airplane line gives Harlow, in addition to the *Cadet* models two Interstate designs that were under development at the opening of the war. One is a folding wing monoplane somewhat larger than the *Cadet*. The other, which had not gone beyond the mockup stage, was a high performance two-engine personal airplane employing a highly-streamlined "teardrop" fuselage.

Interstate will stake its post-war future on the manufacture of aircraft accessories, soft drink dispensing machines, a hermetic refrigeration compressor, and one-cylinder, four-cycle, gasoline engines ranging from ¾ to 6 hp.

New Taylorcrafts Expected By Fall

"Quantity production" of the two-place side-by-side Taylorcraft Model BC12 is expected to be underway by September, Nash Russ, new Taylorcraft president, has announced. (Photos on Page 20).

Production has already started on both the two-place plane, and the much publicized Model 15 four-place Taylorcraft, full production of which is expected to be reached by December.

▸ **Prices**—The two-place plane will sell for $2,295, FOB Alliance, Ohio, while the Model 15 will sell for $3,550 to $3,995 depending on whether it has a 125-hp. or a 140-hp. engine.

The first plane to be offered is generally similar to the prewar two-place Taylorcraft but with new instrument panel and control wheels, an extra six-gallon fuel tank to increase cruising range, a one piece sunproof plexiglas windshield and other extras.

President Russ declares that while the price of the two-place model is the same as that of its pre-war predecessor, the customer is getting an additional $150 to $200 worth of new equipment and refinements. The four-place plane price range he asserts is more than 50 percent lower than the lowest prewar four-passenger plane.

▸ **Auto Level** — The price reductions, contrast very favorably with the automobile industry, Russ says, since a 20 percent advance in postwar automobile prices is planned.

Economy of operation and automobile-style comforts are emphasized in both designs, the company reports, with a gasoline consumption figure of more than 25 miles to the gallon for the smaller plane and a good 18 miles to the gallon for the family plane.

Canadian Air Clubs Get More Aircraft

A total of 72 aircraft were sold by War Assets Corporation, Canadian government surplus sales organization, during June for a total of $156,760. The sales included 45 De Havilland *Tiger Moths* to the Royal Canadian Flying Clubs Association for distribution, after repair and overhaul, to flying clubs throughout Canada.

This is part of the 215 *Tiger Moths* recently (AVIATION NEWS, July 16) sold to the association. Average price paid for the June sales group was $460.

▸ **Trainers, Transports** — Also 20 *Oxford V* trainers were sold at an average of $4,300 each, 6 *Anson IV* twin-engine transports at $5,250 each, and a Lockheed transport (type not stated) for $14,000.

Sales were made to Trans-Canada Airlines and to purchasers in Winnipeg, Iceland, Mexico and South America.

A Link trainer as well as spare parts were also sold during the month.

▸ **Total Sales**—This brings to 461 the total number of aircraft sold by WAC since its inception last autumn, for a sum of $1,537,000. Engines, instruments, parts and other components sold during the same period totalled $1,207,000, bringing total aircraft sales by WAC since its start to $2,744,000.

Briefing

For Private Pilots and Non-Scheduled Aviation

Fifth American woman glider pilot to attain a "C" soaring proficiency rating is Mrs. Virginia M. Bennis, 23 years old, of Hicksville, L. I. Mrs. Bennis, an employee of Republic Aviation Corp., and secretary of the Republic Soaring Society, is a member of the Airhoppers Gliding and Soaring Club, has been flying gliders three years. She won her "letter" with a 28 minute flight at Elmira, N. Y. recently.

"ERCOUPE" TO GRAND CENTRAL—Maj. C. C. Moseley's Grand Central Airport Co., Glendale, has signed an agreement to distribute "Ercoupes" for the state of California and is making arrangements for appointment of dealers in the territory. H. W. Hitchcock, Grand Central's assistant sales manager, will direct sales.

SAMPLE OF CURRENT TROUBLE—Sydney Nesbitt, Lear aircraft radio sales manager, reports that he succeeded in getting enough tubes of one particular type to complete Lear radio installations on 25 otherwise-completed new Grumman *Widgeon* amphibians. He sent out 171 telegrams, 33 letters and made 52 telephone calls in order to round them up. And while that trouble is something special, it's a sample of the grief which aircraft manufacturers are finding, in assembling hard-to-get components into complete new personal airplanes.

TRIANGLE OF AIRPORTS—Three nearby airports in the New York area which will offer private pilots facilities under the same management, as soon as restrictions on Long Island flying are lifted, are Trinca Airport at Andover, N. J., Westfield Airport at Rahway, N. J., and Rockaway Airport, on Long Island. Under the arrangement contemplated, flyers will be permitted to fly rented planes cross country from any of the three bases to another without returning the plane to the first base. Westfield and Trinca Airports are now operating.

48 NEW HANGARS—Construction of 48 new hangars, 10 of concrete block, and the others of prefabricated materials, was reported underway at three airports for private flyers in the Miami, Fla. area, last week. The Miami Aviation Center said 10 individual hangars were under construction, of concrete block, and that the center eventually expected to build 200. Embry-Riddle's Chapman Field was awaiting delivery on 20 prefabricated hangars, while Brown Airport was awaiting arrival of 18 prefabricated hangars. It is estimated there are now approximately 500 hangarless civilian planes in the Miami area.

YOUR PERSONAL PLANE—Generally sound advice to postwar personal plane buyers about planes, costs, airports, service facilities, and other factors in the private flying picture, are found in a new book, "Your Personal Plane," by John Paul Andrews, recently published by Duell Sloan & Pearce. Appended is the pre-war CAA airport directory, now quite antiquated and in some respects inaccurate.

PRE-FLIGHT TRAINING—Supt. Albert Luke of Lewis School of Aeronautics, Lockport, Ill., predicts use of the *Penguin* pre-flight trainer will become an integral part of school and college aviation courses, as well as an aid to actual flight training. His prediction follows experiments at the Lewis Chicago pre-flight school in which pupils were given approximately 10 hours of flight lecture and observation and showed value of the training in their later aptitudes and coordinations during actual flight training.

—Alexander McSurely

Lightplane Airport Bought By Nashville

James Gillespie, owner and operator of Gillespie Airways, has announced sale of his 225 acre airport to the city of Nashville, for $65,000. Gillespie will continue to operate his flight school repair base and aircraft sales center at the field until Sept. 1, when he will move to an undisclosed new location.

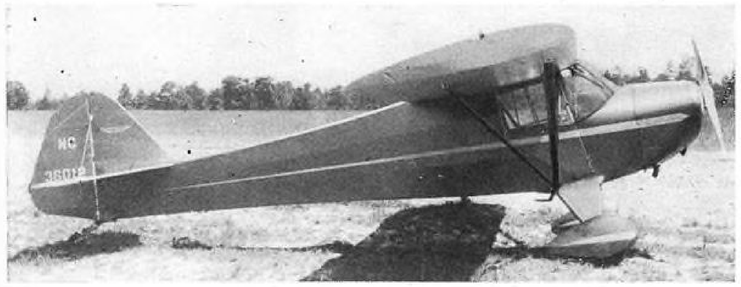
The field, purchased by the city of Nashville, is 2½ miles from the downtown section and fronts for more than two miles along the Cumberland River.

▸**Seaplane Base**—City plans for expansion of the field call for development of a recreational center, and a seaplane base on the river. The field adjoins Buena Vista Park, already owned by the city, which has a swimming pool, picnic grounds and other facilities.

Present equipment at the field includes a metal hangar housing 35 lightplanes, and an overhaul shop. There are two sodded runways 3,500 feet long, equipped with drainage tile. Proposed extensions would make each of the runways 6,000 to 7,000 feet long.

Under Gillespie's operation the field was one of the early Civilian Pilot Training Program airports and conducted, among other programs, the first experimental flight training course for high school students in the south, an elementary glider program, and a special course for ten women instructors, under sponsorship of the Tennessee Bureau of Aeronautics, which was a fore-runner of the national WASP training program.

▸**AAF Service**—The field also was the center for a flight training indoctrination course for approximately 21,000 Army air crewmen.



First Post-war Taylorcrafts: *Quantity production of the post-war Taylorcraft BC12 two-place plane, above, selling for $2,295 FOB Alliance, Ohio, is expected to be attained in September. The plane is a modification of the pre-war two-place Taylorcraft. The four-place Model 15, below, powered with a 125 or 140 hp. engine, will be in quantity production by December, selling at $3,550 to $3,995.*

Plane Thefts

Warning to airport managers and operators, to keep unauthorized persons away from planes hangared or tied down on their fields, was given in a recent bullentin form Sheldon B. Steers, Michigan aeronautics director. Although directed primarily to Michigan operators his warning carried an obviously national application.

Steers reported "within the past two weeks an airplane has been stolen from a regularly established airport, simply because no one was paying any attention to who flew away with what airplane." At the time the bulletin was issued the plane had not been recovered.

"The day is near at hand when this sort of thing may become common. We advise that every precaution be taken to keep unauthorized persons from tampering with aircraft on your field," the bulletin concluded.

Four Non-Flyers Hit By Propellers

Propeller accidents resulting from carelessness, and negligent supervision by pilots, caused serious injury to four persons, according to recent Civil Aeronautics Board reports. Briefs of the mishaps follow:

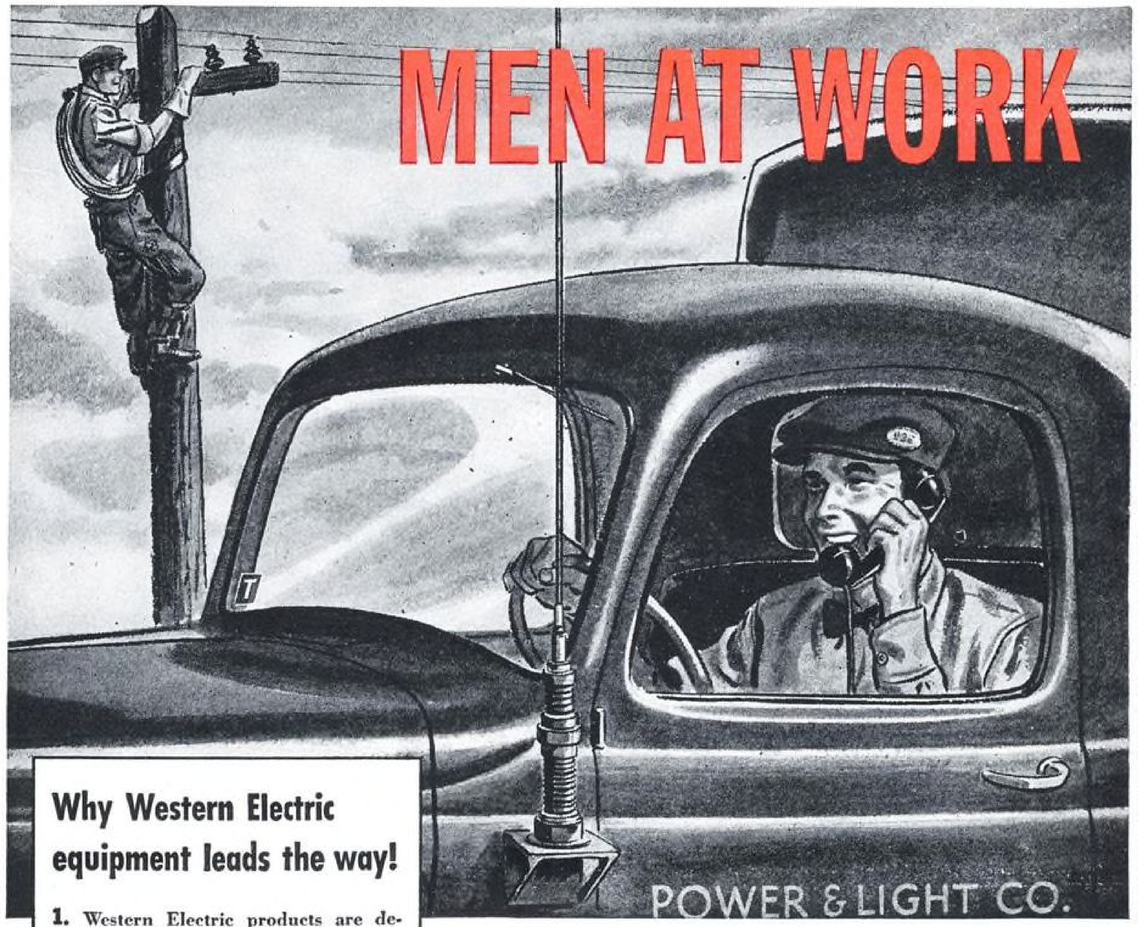
GAINESVILLE, TEXAS: Passenger William Bryant Trammell, Civells Bend, jumped forward over the wing struts of a Piper J3L-65 and into the path of its idling propeller, Dec. 16, 1944, at Commercial Airport. Commercial Pilot Tim Hoffer Osborn, who had just given a demonstration flight, saw Trammell jump, turned off the ignition and shouted, but Trammell had already moved into the propeller arc. Trammell, cut badly, stated that, in a rush to tell another boy it was his turn to fly, he took the shortest way and jumped over the struts, not thinking of the propeller.

CAB FINDING: Probable cause of accident was carelessness of passenger in not staying clear of an idling propeller after deplaning.

EAST ST. LOUIS, ILL.: Frank D. Thompson, Kansas City, Mo., received serious injuries when he stepped into a moving propeller after alighting from an Ercoupe 415-C, Dec. 24, 1944, at Curtiss-Parks Airport. Demonstration flight over, Thompson talked briefly to Commercial Pilot Jerry William Terrell, 31 (1,500 hours flight time), and then deplaned, getting out of the left wing. He started back over the trailing edge but changed his mind and stepped forward over the leading edge and into the propeller. Pilot, at the time, was conversing with a third party standing to the right of the plane.

CAB FINDING: Probable cause of accident was passenger's carelessness in stepping into the propeller. Contributing factor was pilot's negligence in not supervising the deplaning of his passengers.

POWELL, WYO.: Leo Harvey Pendley, 25, Powell, lost several fingers of his hand, Nov. 23, 1944, at Municipal Airport, when he submitted to an impulse to turn the propeller of a Luscombe 8A. A truck driver with no aviation experience, Pendley was engaged in removing oil drilling equipment from the airport. While walking by the hangar door he stepped inside, placed both hands on the propeller and gave it a pull. The engine started, and before Pendley could get out of the way of the propeller, it struck and sev-



Why Western Electric equipment leads the way!

1. Western Electric products are designed by Bell Telephone Laboratories—world's largest organization devoted exclusively to research and development in all phases of electrical communication.

2. Since 1869, Western Electric has been the leading maker of communications apparatus. Today this company is the nation's largest producer of electronic and communications equipment.

3. The outstanding quality of Western Electric equipment is being proved daily on land, at sea, in the air, under every extreme of climate. No other company has supplied so much equipment of so many different kinds for military communications.

Western Electric equipment leads the way!

Global war has spotlighted and proved to all the world the tremendous value of instantaneous communication by mobile radio telephone. In the air, on land and at sea, it has helped to get the job done faster and to save countless lives.

Men at work or men at play, in the years ahead, will find mobile radio telephone an equally efficient means of keeping in quick, easy contact with business headquarters or with home.

For more than a quarter of a century, Bell Telephone Laboratories and Western Electric have pioneered in the field of mobile radio. When manpower and materials become available, count on Western Electric for the finest equipment for mobile communications services.

Buy all the War Bonds you can . . . and keep all you buy!

Western Electric has specialized knowledge in all of these fields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MARINE RADIO

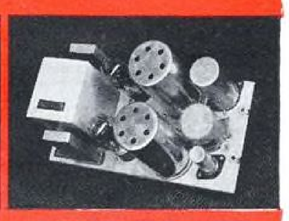

AVIATION RADIO


MOBILE RADIO


HEARING AIDS


SOUND SYSTEMS


VACUUM TUBES


COMPONENT PARTS

AVIATION NEWS • July 30, 1945

ered three fingers of his left hand. Student Pilot Agnes Evans, who used the plane, stated that she had turned the switch "off" and opened the throttle in accordance with instructions. The plane was equipped with dual ignition.

CAB FINDING: Probable cause of accident was action of an inexperienced person in turning an airplane propeller.

VALPARAISO, Ind.: J. W. Mather, East Gary physician, was seriously injured when he stepped into the path of an idling propeller at Urchel Field, Oct. 8, 1944. Private Pilot Edward George Wilks (102 solo hours), taxied the Piper J3F-65 to the parking line, at a small angle to the right of the waiting room. Dr. Mather deplaned from the right side and was apparently taking the most direct course when he walked into the revolving propeller. The pilot said he was looking at his watch, to see how much time he had used up when he heard the propeller strike his passenger.

CAB FINDING: Probable cause of accident was carelessness of the passenger in not keeping clear of an idling propeller. Contributing factor was the carelessness of the pilot.

IRON MOUNTAIN, WYO.: Commercial Pilot Charles W. Hirsig II, 34, Laramie (741 flight hours), died as a result of an accident in a Luscombe 8A, Jan. 15, during a cross-country flight. Hirsig took off from Laramie Municipal Airport for a flight to Iron Mountain to pick up a friend and search for cattle from the air. He circled Farthing Ranch at a low altitude, and then dived close to the ground. The aircraft was pulled up sharply to a nearly vertical attitude and, at an altitude of about 300 feet, it stalled and plunged to the ice-covered surface of a small lake below. Investigation disclosed no malfunctioning of the aircraft or engine.

CAB FINDING: Probable cause of accident was failure to recover from a stall which occurred while the pilot was flying recklessly at a low altitude.

New York Surveys Present Airports

State issues map showing location of 156 airports, 59 of which are in Class One.

Fifty-nine of the 156 airports in the State of New York are in Class One, with runways between 1,800 and 2,700 feet, according to the new airport map of the state which has just been issued by the Bureau of Aviation, State Department of Commerce. The map discloses 156 airports, of which 14 are under military control and not open to the public. Of the 142 civilian fields, 41 are municipally owned or controlled.

The map bears a minimum of printing, only those towns or cities having airfields being shown. The exact location of the airfield itself is shown rather than of the city. County lines, lakes and rivers are shown but are not labelled to avoid confusion.

"It is strictly an airfield map," declared Leslie A. Bryan, director of the Bureau of Aviation. "It is the first step in arriving at our master plan for airports of New York. This plan, as approved by Commissioner M. P. Catherwood, looks ahead ten years into the post-war era."

The next step in the State's aviation plan will be publication of a digest of laws affecting aviation in New York State.

The state's post-war plan calls for 250 airfields within the next ten years, with the great majority owned or controlled by municipalities.

"We are trying to make airport service available to every community of 1,000 population or more," said Mr. Bryan. "We feel that many of the present Army or Navy airports will eventually be available for civilian use and that many of the present smaller civilian fields will be enlarged."

New York ranked third in the United States in privately-owned planes on January 1, 1945, with 1,300 registered. It is estimated that 100 have been added since then, largely from surplus planes. —M. V. M.

National Air Program Set By Junior Chamber

Mobilization of public opinion, in support of small airport development, civilian pilot training, and aviation education is the goal of a program announced by the U. S. Junior Chamber of Commerce which will work through its 900 local organizations for these objectives.

Vernon Willis, Las Vegas, Nevada, has been named chairman of the USJCC national aviation committee to direct the program. The first of eight regional "mobilization" meetings to stimulate local organization action was to be conducted July 22 in Chicago, by Henry J. Kearns, USJCC president.

NEW HANGAR FOR WESTCHESTER:
This massive hangar, which will house 150 private planes, is to be erected at the Westchester County Airport, near White Plains, N. Y. Soundings have been taken and construction will start shortly. A number of private planes are now based at this field, which is also a sales center for RFC surplus planes.

Top Air Officials Sprouting Wings

CAB member soloes as latest in line of government aviation officials taking pilot training; indicates hiked lightplane interest.

When Oswald Ryan, veteran member of the Civil Aeronautics Board, soloed last week at Washington National Airport, he became the first member of the board to get actual pilot experience. But he won't be the last.

Student Dr. Warner—Dr. Edward Warner, vice-chairman, has already obtained his student pilot certificate in preparation for beginning flight training, and L. Welch Pogue, chairman, was expected to begin his late last week.

Increased interest of the board members in personal flying may do much to bring about an enlightened federal regulation of personal flying during the first critical post-war years.

Meanwhile Commerce Secretary Wallace has approximately 10 hours of solo flight, and William A. M. Burden, assistant secretary of commerce for air, has won his private pilot's license.

Ercoupe Emphasis—The fact that virtually all the flight training of the top officials is being taken in *Ercoupes*, may be expected to be reflected in a special interest of top government aviation officials in two-control spinproof planes, for the private flyer.

The proposed new Part 04 of Civil Air Regulations, already gives such a plane an advantage by placing it in a special category, although this proposal has been strongly opposed by Aircraft Industries Association technical engineers.

•

• Aeronautical products of the B. F. Goodrich Co. are displayed in a 24-page booklet issued by the company. It is a combined condensed catalog and buyers' guide with engineering data.

★ ★

NAL Airport Programs Assigned E. Ellis Bentley

Formerly general manager of airports for the City of Jacksonville, E. Ellis Bentley has been appointed airport and construction engineer for National Airlines. Bentley will be responsible for all National's airport construction, remodeling and changes. He is chairman of the aeronautical committe of Florida Engineering Society, a member of the American Association of Airport Executives, and president of the Jacksonville chapter of National Aeronautic Association.

Frederick W. Rohde, known as the first American to attempt a trans-Atlantic flight from Europe to America, has been appointed manager of quality control at Westinghouse Electric Corp.'s Aviation Gas Turbine division at South Philadelphia, Pa. Rohde joined Westinghouse from Jacobs Aircraft Engine Co., where he was chief inspector. He has also been associated with the Civil Aeronautics Administration, AAF, and various aircraft engine manufacturers.

Gen. Knudsen Elected To GM Corp. Board

Lieut. Gen. William S. Knudsen has been elected a member of the board of directors of General Motors Corp., from which he resigned as president in 1940 to head the Office of Production Management.

He was later commissioned a lieutenant general in the U. S. Army to serve as director of production for the War Department. General Knudsen has also been director of the Air Technical Service Command.

The directors also elected Col. Graeme K. Howard a vice-president of the corporation. Howard resigned as vice-president in charge of overseas operations in 1942, to become deputy chief, motor transport division, Quartermaster Corps. In February 1944 he was ordered to SHAEF and has since been placed on inactive duty. He returns to General Motors as European regional manager.

AIRLINE EXECUTIVE:

Carlene Roberts, one of the youngest women ever to be elected an assistant vice-president of an airline has been named to that post by American Airlines, Inc. Miss Roberts joined American as secretary to an officer in 1938. A year later she organized the movement of personnel and general headquarters from Chicago to New York when American's headquarters were changed to LaGuardia Field.

NEW NACA MEMBER:

Maj. Gen. Edward M. Powers is shown being sworn in as a member of the National Advisory Committee for Aeronautics by John Victory, NACA secretary. At right, Dr. George W. Lewis, vice-chairman, watches the ceremony. General Powers, Assistant Chief of Air Staff, Materiel and Services, replaces Maj. Gen. Oliver P. Echols on the fifteen-member, presidentially appointed, committee.

Maj. Rudolph W. Schroeder has been awarded the Distinguished Flying Cross at a testimonial dinner in his honor in Chicago. Major Schroeder was honored for high altitude flights 25 years ago which contributed greatly to the present technique of high altitude bombing. He entered the aviation corps of the Army in 1916 and a few years later became the Army's chief test pilot at Dayton. He tested the first turbo-supercharged engine and also was the first to test the use of oxygen in flight.

W. M. Morgan has been appointed district traffic manager for Braniff Airways in Oklahoma City. He will also continue as special representative of Braniff to the State of Oklahoma. For 14 years Morgan was connected with the Oklahoma Publishing Co., as national aviation and automotive representative.

R. O. Bullwinkel Named NWA V-P For Traffic

R. O. Bullwinkel, assistant to the president of Northwest Airlines, in charge of traffic for the past year, has just been elected to the new post of vice-president for traffic. Bullwinkel will direct all traffic and sales activities. In the transportation field for many years, he began his career in commercial aviation in 1936 when he was named traffic manager for the Alaska division of Pan American Airways. He left this post to join Northwest.

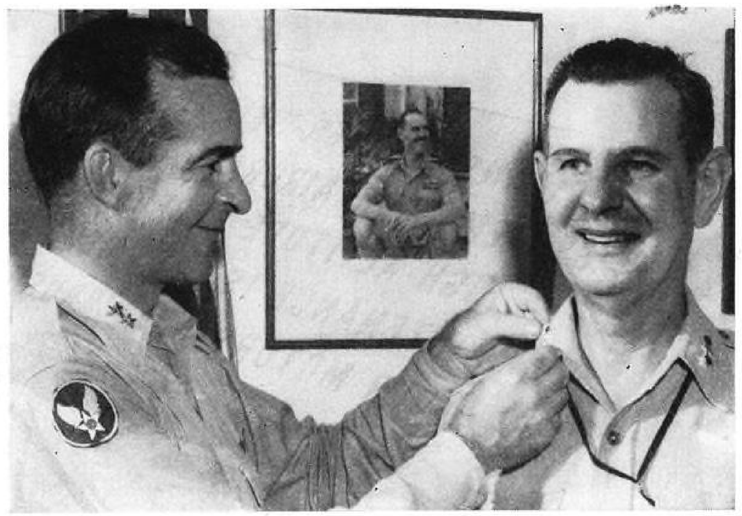
Joseph H. Cassen has been appointed supervisor of international information for American Airlines. Three years ago Mr. Cassen was closely associated with American's Mexican operations, having set up custom and immigration facilities for air traffic between the two countries upon its inauguration. In the interim he was on special assignment to handle international documentation of personnel assigned to American's Air Transport Command contract operations. Prior to joining American Airlines, Mr. Cassen was with the Chicago Motor Club and before that was with the American Express Company for 15 years, representing them in Europe and the United States.

George A. Irvin has been appointed assistant director of industrial engineering for Transcontinental and Western Air, Inc. Irvin has had wide experience in aviation manufacturing circles and joins TWA from Consolidated Vultee Aircraft Corps., where he has been chief industrial engineer at the Vultee Field division.

Mike Flynn, after 20 years with the *Wall Street Journal,* has joined the staff of Pan American Airways in charge of press relations in the Washington area.

Katheryn Anderson, former hostess of Mid-Continent Airlines, holds the newly created position of chief stewardess of Alaska Airlines. All flights made with DC-3 equipment will give stewardess service the company said.

H. T. Sagert has been appointed chief of aircraft radio customers service of Lear, Inc., in charge of the post-war market for aircraft radios.



ANOTHER STAR FOR STRATEMEYER:

Promotion of Maj. Gen. George E. Stratemeyer, commanding general of the Army Air Forces, India-Burma theater, to the rank of lieutenant general has been announced. His chief of air staff, Maj. Gen. Charles B. Stone, III, is pictured pinning on the third star. On May 31, General Stratemeyer relinquished his post as Air Commander of the Eastern Air Command which he had held since its formation on December 15, 1943. Previously he was deputy commander of the Army Air Forces under General H. H. Arnold.

Headquarters will be in Grand Rapids, Mich.

Arnold G. Wehmann becomes editor of the American Airlines' publications, *Flagship World* and *Flagship News,* succeeding Jasper M. Rowland, resigned. Wehmann has been with advertising and sales firms and is former treasurer of the Massachusetts House Magazine Association.

Warren A. Peterson has been named supervisor of passenger relations for United Air Lines at Chicago.

Ralph W. Starkey, veteran executive of the Railway Express Agency, has joined PCA in the newly created post of director of cargo sales. He was manager of air express for Railway Express' eastern division.

John A. Parks has taken over the post of station manager for Pan American Airways' Mississippi Valley gateway in New Orleans, La. He has had many foreign assignments with Pan Am.

G. L. Koontz has been appointed traffic representative for Mid-Continent Airlines in New Orleans. Koontz has had previous passenger experience with railroads and bus lines.

TELLING THE WORLD

• Board of directors of Littelfuse, Inc., with plants at Chicago and El Monte, Calif., have appointed Russell G. Akin director of sales and advertising. Akin has been manager of sales and his appointment as director gives him full responsibility for Littelfuse sales plans both domestic and export. National sales offices are in Chicago.

• Kollsman Instrument division of Square D Co. has issued sketches of passenger cabin indicators in a folder. This folder is directed to airline executives who wish to "add extra passenger interest and enjoyment" to their flights.

• The first edition of the Combined Automotive, Aviation, Agricultural, Marine (AAAM) Service Equipment Manual is now being shipped to the majority of auto factories for redistribution to dealers. Containing 232 pages of up-to-the-minute service equipment information, the Manual will be sent to approximately 30,000 car dealers. Represented in the Manual are the bulk of all the service equipment manufacturers in the United States.

IT MEANS LIGHTER-WEIGHT ELECTRIC SYSTEMS FOR AIRCRAFT AND BETTER HIGH-ALTITUDE PERFORMANCE. MAINTENANCE IS LESS BECAUSE ALL YOUR MOTORS ARE "BRUSHLESS"!

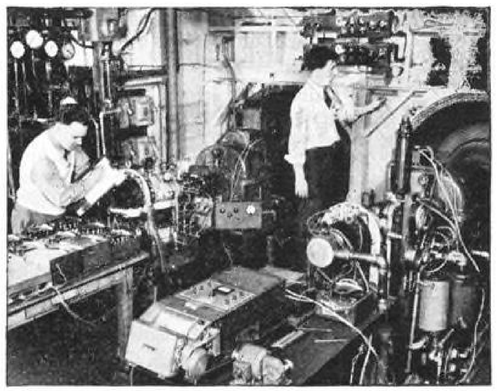
Now . . . 400 CYCLE A-C main power FROM THE MAIN ENGINES DIRECT

Another "impossible" job

has been whipped! Now, large, complex aircraft can have all the long-sought advantages of alternating-current main power. They can have it without the extra weight and nuisance of separate auxiliary engines, or d-c to a-c inverters.

ANOTHER G-E "FIRST"

The 400-cycle a-c system, first developed by G.E. with important co-operation from Sundstrand Machine Tool Company, offers a saving in weight over former systems that, alone, is highly significant. Added to this are the important advantages of having 400-cycle a-c motors throughout the ship. The elimination of motor brushes means elimination of the problems of commutation and brush wear encountered with d-c. Maintenance is reduced and simplified. You get better, more reliable performance at high altitude.

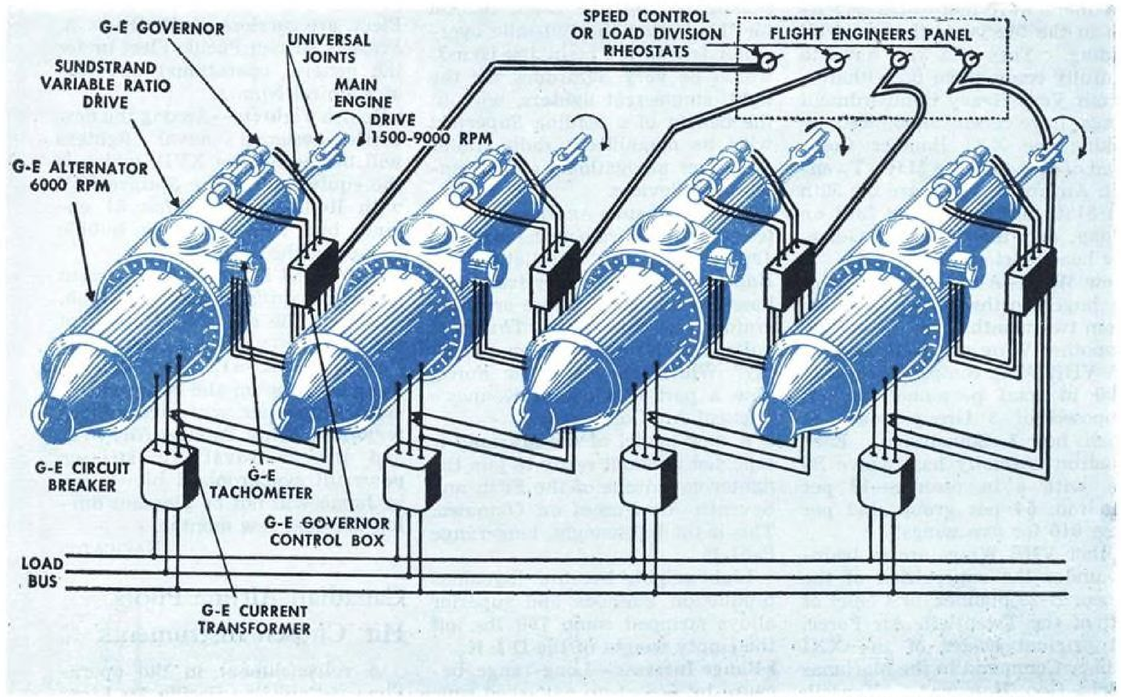


← **TEST LABORATORY** where the new G-E 208-volt, 400-cycle, parallel system was proved practical. Two 40-kva alternators are driven from 450-hp aircraft engines under typically severe conditions of varying engine speeds, fluctuating electric load, and line faults, and their successful parallel operation is a routine every-day performance.

Parallel Alternator Operation

Until now, there has been no way of driving alternators from the main aircraft engines at constant frequency, and paralleling them on a common power line. Engine horsepower on many planes may be 100 times the alternator rating. The individual engine speeds may vary over a 4 to 1 range, with very rapid acceleration. Yet the alternator on each engine must run at constant frequency, must parallel reliably, divide load equally, and maintain electrical stability despite disturbances. To do this, paralleled alternators must be driven, under all conditions, *within one or two mechanical degrees of perfect synchronism.*

Extensive tests, under severe conditions duplicating those encountered on modern bombers, have convinced critical aircraft engineers that an airworthy solution of this tough problem has been found. The sketch at the right shows, schematically, how the new system works. *Apparatus Dept., General Electric Co., Schenectady 5, N. Y.*



INTERPOSED between each engine and alternator is a hydraulic, variable-ratio drive developed by Sundstrand with G.E.'s co-operation. A G-E governor on each drive acts as a "master-mind," adjusting the drive to maintain constant alternator speed and to divide the load equally among the alternators. Circuit breakers (which will be remotely controlled from the flight engineer's panel) connect each alternator to the power line at the engineer's discretion. No special synchronizing controls or indicators are needed.

Accessories, such as voltage regulators, differential current relay, exciter ceiling relay, and reactive load-division transformers, are provided, although not shown on this sketch.

PRECISION PRODUCTS & ENGINEERED SYSTEMS FOR AIRCRAFT

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COMMENTARY

More Than 800 *Superforts* Poised For Jap Death Blow

Miscellaneous notes on Pacific air operations outline Very Heavy Bombardment organization, *Mustang* escort job, carrier based bomber use, new American and British planes.

When Tokyo radio announced that there were more than 800 B-29's in the Marianas they weren't kidding. They did not have to painfully count them up, either.

Four Very Heavy Bombardment Wings have been announced as making the XXI Bomber Command of Maj. Gen. Le May's Twentieth Air Force. These are the 58th and 313th on Tinian, the 73rd on Saipan, and the 314th on Guam, new headquarters of the XX.

▸**New Wing**—At the dedication of the huge Northwest air base on Guam two months ago, the arrival of another Wing was indicated.

A VHB Wing comprises roughly 5,000 in total personnel, and is composed of 3 Groups, each of which has 3 Squadrons. Each squadron normally has twelve B-29's, with 6 in reserve—18 per squadron, 54 per group, 162 per wing, 810 for five wings!

Other VHB Wings are in training under the supervision of the pioneer B-29 planner, first chief of staff of the Twentieth Air Force, and original leader of the XXI Bomber Command in the Marianas —Brig. Gen. Hayward S. Hansell.

▸**More Might**—When these begin arriving at Okinawa to operate under Lieut. Gen. Doolittle off some of the more than two dozen big airfields now being prepared on that fantastically busy air base, the 1,000-plane *Superfortress* missions will not be far away.

Escorting *Mustangs* based on Iwo Jima have a nice timing job to join up with the *Superforts* from the Marianas, but once they do, the team has the great advantage of having almost exactly the same figure as the most efficient cruising speed of each of its members—240 mph.

Sometimes the escort business works the other way around, with 50 or more P-51's (D's & K's) shepherded by one B-29. Reason for this is that the 750-mile overwater trip to the main Jap islands would be very hazardous for the light, single-seat fighters, without the benefit of a leading *Superfort* with its magnificent radio, radar and other navigational and storm-warning devices.

▸**Escort Team**—Another escort team has been raising havoc with Jap airfields and installations on Honshu since early July from new bases on Okinawa. These are *Liberators* and long-range *Thunderbolts* (P-47N) of Brig. Gen. "Tommy" White's Seventh Air Force, now a part of General Kenney's Tactical Air Command.

A new model of the *Mustang* is reported as about ready to join the fighter squadrons of the Fifth and Seventh Air Forces on Okinawa. This is the lightweight, long-range P-51 H.

Lightweight, because ingenious production methods and superior alloys stripped some 700 lbs. off the empty weight of the D & K.

▸**Range Increase**—Long-range, because by use of an advanced type of laminar flow wing and other improvements drag has been reduced and range increased to well above the 1,800-mile round trip capability of the present *Mustangs*.

The "H" is a triple-threat fighter, with six .50-cal. machine guns; 10 "zero-length rails" for HVAR (high velocity aircraft rockets), weighing 60 lbs., and far more effective than the 4.5 bazooka type rockets; plus two racks for 1,000-lb. bombs, or large drop tanks for extra fuel.

The new *Mustang* should be the fastest single-engine fighter in the world, but Britain's new *Spiteful*, projected successor to the *Spitfire* line, will have to be watched.

Reports have also come in about Marine pilots flying Mitchells (PBJ-1 J) off the 800-ft. flight deck of carriers of the *Essex* class, using jet-assisted take-off (JATO).

▸**Rockets, Too**—Besides their battery of eight .50-caliber guns in the nose, bomb loads up to two tons, these hard-hitting mediums carry four 60-lb. rocket projectiles under each wing for highly effective attacks against Jap shipping.

The second "J" of the designation indicates jet or rocket assisted take-off, as the D in the Marine *Corsair* (F4U-1 D) means day fighter, and the N stands for the night fighter *Hellcat* (F6F-3 N).

Joining with the Mitscher 58th Task Force (Spruance's Fifth Fleet) and the McCain 38th Task Force of Admiral Halsey's Third Fleet, are carriers of Sir Bruce A. Fraser's British Pacific Fleet under the general operational direction of Admiral Nimitz.

▸**British Fighters**—Among the new British-designed naval fighters will be the *Seafire* XVII, which is the equivalent of the *Spitfire* XIV with Rolls-Royce *Griffon* 61 engine, but with the new bubble canopy of the *Spitfire* XXII.

Top speed is probably 5 percent under the *Spit's*, or about 425 mph.

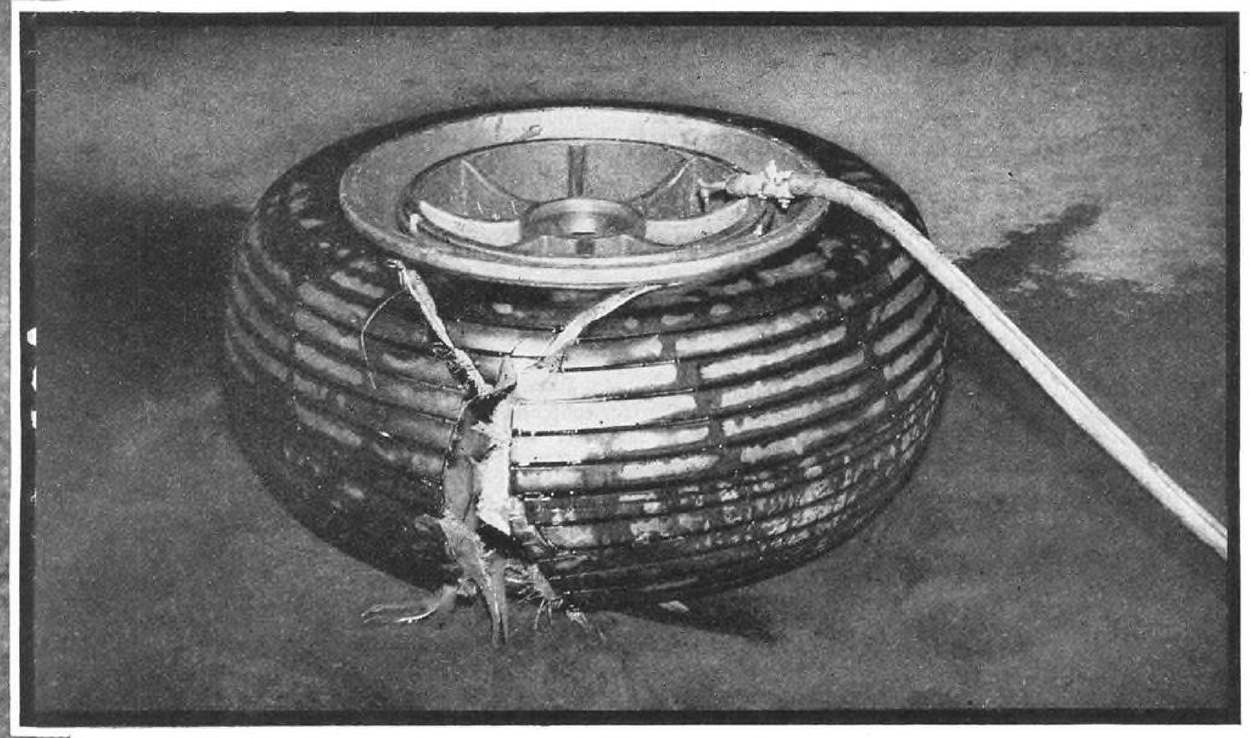
This is the announced speed of the U. S. Navy's new model of the *Corsair* (F4U-4), but this is thought to be on the conservative side. Altogether, with Army Strategic Air, Army Tactical Air, U. S. and British Naval Air striking powerful synchronized blows, life in Japan will not be pleasant during the next few months.

NAVIGATOR

Canadian Airline Pilots Hit 'Chosen Instruments'

A retrenchment in the operations of Canadian Pacific Air Lines due to the Canadian government's "chosen instrument" policy has resulted in the release of more than 50 pilots, it is charged by the Canadian Air Line Pilots' Association.

Little possibility for further employment in flying in the Dominion exists for these men, it is said, as Trans-Canada Air Lines is now hiring only ex-service pilots. Additionally, CALPA maintains, the Canadian system of staking off all trunk routes and international traffic for the government airline is not going to provide sufficient expansion to absorb the number of returning airmen who will want to continue in aviation.



Tire explodes at 635 . . .

Another example of "Building for today, testing for tomorrow"

OUR PHOTOGRAPHER waited hours to take this picture of a tire exploding. As a needle-like stream of water was forced into it, the internal pressure went up . . . to twice as much as the tire would normally need to take . . . three times . . . five times . . . six times.

Suddenly, at a pressure of 635 pounds, it exploded! The picture our photographer had awaited so patiently turned out to be mostly a geyser of water. But the smaller picture shows what happened. The bead and sidewalls, the parts most likely to fail, held until the tremendous pressure tore through the crown of the tire.

Such things shouldn't be done to tires except in test. This tire needed an extra safety factor for a special purpose. But pushing tires beyond endurance, and doing it scientifically, is one method of B. F. Goodrich development. We call it testing for tomorrow. Even ordinary passenger car tires are driven at 100 miles an hour, because they may someday have to operate safely at such speeds.

Airplane tires are tested at greatly multiplied pressures, because tomorrow's planes may require it. Nobody knows how flying conditions may change in the years ahead. But B. F. Goodrich expects to have tires and other aviation products that meet the conditions—no matter what they are!

Looking ahead—testing for tomorrow—enabled B. F. Goodrich to produce the first tire engineered and built especially for airplanes, and today more than 80 rubber and synthetic rubber products for airplanes are manufactured by the company. These include De-Icers for wings and other leading edges, bullet-sealing fuel cells, grommets, cushions for instrument panels and many others.

Our complete, fully-illustrated catalog is just off the press. Contains latest facts on all types of B. F. Goodrich products for planes. For free copy, write to The B. F. Goodrich Company, Aeronautical Div., Dept. A8, Akron, Ohio.

Skyway or Highway

B.F.Goodrich

FIRST IN RUBBER

German Aircraft Research Seen Far Ahead of Allies

Missions, returning from Reich, indicate 15-year superiority in aerodynamic research; jet transports were next on production list; undersea and liquid type rockets highly developed; winged artillery missiles uncovered.

Information pieced together from the returning military and technical missions to Germany indicates the branches in which German aircraft development excelled, and the reasons.

On the credit side of the Germans, this information indicates they were ahead of the United States on: jet engines, aerodynamic research, rockets, particularly liquid types; high velocity artillery using winged missiles; high speed torpedoes, supersonic and transonic research. An excellent quality and abundance of tools, both for production and testing, were also found.

Debatable Leadership—One U. S. aircraft authority contends that the German scientists were as much as 15 years ahead of the United States and allies in aerodynamic research, although this issue always touches off sharp debate whenever it is raised among aeronautical engineers and designers.

Some reports indicate the Germans were at least two years ahead in research on jet and gas turbine engines, although American engineers have made rapid progress in the last two years.

What was important on the German angle, however, was that they had jet engines in volume production, the Bavarian Motor Works having turned out several thousand BWM-003, and Junkers having produced many others, the Junkers-004. Those in production were no better, if as good as the present U. S. jets, but they were in volume production and they were good enough to work.

Victory Factor—There are some authorities who contend the German jet engine production was so far advanced that the course of the war might have been altered had not the AAF struck down German transportation when it did.

In Bavaria there were many jet engines awaiting shipment to assembly plants and only 200 miles away there were new Messerschmitt ME-262 and other jet fighters and bomber airframes ready to go once engines were installed. The blasted highways and railroads kept them apart.

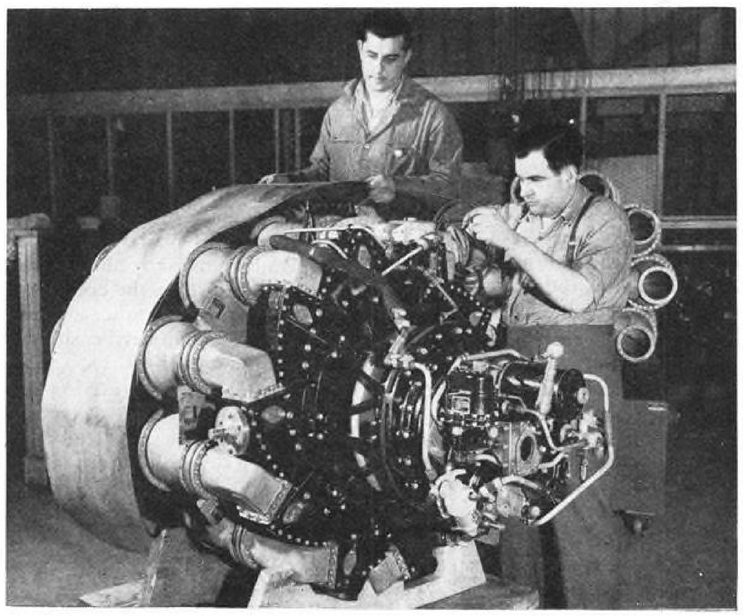
New jet engines still in the laboratories and design of new airframes indicated that soon the German would have had ready a huge bomber or transport that could be thrust across the Atlantic by jet, hours under present crossing time.

Submarine Rockets—In another field, the Germans had developed high speed torpedoes and underwater rockets to a high degree and one of the outstanding developments ready for production was a high velocity artillery weapon that developed tremendous muzzle velocities. Upon leaving the smooth-bore barrel, the projectile became a winged missile which was reported exceedingly accurate over a long range.

The advanced stage of German research in high speed was particularly impressive to some American observers. At one point on the Austrian border there were two continuous flow supersonic wind tunnels being used in the development of high velocity projectiles. They were used not only for rocket fired projectile, but also for artillery fired missiles.

An interesting technique reported in this research was the photographing of air flow around the model with a complex and accurate optical instrument. It was placed inside the tunnel and recorded in continuous sequence the stages of airflow around the model.

Tools—Another characteristic of German development which has impressed other observers was the abundance of high grade machine



G-E JET ENGINE:
First picture of a jet engine released by the Army Air Forces shows technicians completing work on a G-E jet powerplant of the type used on lightning swift AAF planes. Still another engine, the Super G-E jet also is being built by General Electric. The front of the engine with its small starter motor and other connections is forward. Just inside the front cover shield is a compressor which whips air to combustion chambers.

tools. Many of them, particularly testing and inspection tools, had elaborate finishes.

Inspecting and testing was developed to a high degree, probably due to the presence of slave workers and the consequent possibility of sabotage.

Research Demands Increase In Britain

Amendments to tax laws regarding post-war aircraft development projects among many new calls for stepped-up attention to research.

Post V-E Day appraisals in England of that country's wartime industrial effort are developing the same call for a stepped-up, consistent research program that is apparent in the United States.

Among the suggestions advanced in Britain is one for an amendment to the tax laws to encourage greater expenditure by private industry on research.

While a similar move in the United States involves the method of carrying the research items on a company's books (AVIATION NEWS, July 16), a proposal by Lord Davidson, head of the Engineering Industries Association, would grant tax rebates only to those British firms which made the fruits of their research available to all industry.

Illustrative of the need for government decision on the matter is the revelation that one of the largest British aircraft manufacturers, de Havilland Aircraft Co., produced in three years approximately $250,000,000 worth of aircraft, engines, and propellers, but has left only about $500,000 for both reserves and distribution to shareholders.

With other concerns faced with similar low cash reserves, the need is urgent for measures making possible extensive expenditure on research, if British industry is not again to fall behind.

Although privately-financed aircraft research developed both the *Hurricane* and *Spitfire* before the war, a general deficiency in research increased both the cost and length of the war, it is charged in a recent report by the government's Select Committee on National Expenditure.

In addition, the document asserts, Britain was harmed because adequate steps had not been taken to maintain during the years of peace a nucleus of skilled men which could be expanded when war came.

***CORSAIR* ARMAMENT:**
This view of the Corsair *F4U-1 shows the installation of part of its armament, the 20 mm. cannon.*

Bendix Plans Post-war Baltimore Plant Projects

Post-war plans to use its two Baltimore plants in the manufacture of radio and electronic equipment, both for home and industrial use, have been partially revealed by Bendix Aviation Corp.

While expressing the conviction that programs being formulated will result in a post-war business for its Baltimore installations "many times greater" than pre-war volume, the company has not spelled out the effect on employment. Bendix Radio, and Fries Instrument division, before the war had a total employment of roughly 3,000, which has soared to approximately 13,000.

▸ **World Center**—However, Ernest R. Breech, company president, told a recent director's meeting, plans envision a continuance in peacetime of the city's wartime position as one of the world's important centers of research and development in electronics.

New Armor

A war-developed aluminum alloy combining lightness with exceptional strength is replacing steel as armor protection in B-29's. Reynolds Metals Company, creator of R301, the new metal, declares the ease of its fabrication also contributes to its usefulness in *Superfortresses.*

A composite alloy consisting of a high strength aluminum core clad on each face with corrosion-resistant aluminum alloy, R301 has a tensile strength of 64,000 pounds per square inch.

▸ **Varied Uses**—In addition to its use in aircraft, present and projected, the alloy has already been employed in construction of all-metal box cars, and is suitable for trucks and busses.

Monthly Pace Is Set For Conversion Plants

Conversion of 20 military transports per month for commercial use is anticipated by Douglas Aircraft Company at its four authorized conversion and overhaul centers.

To date the overhaul companies, which began setting up modification lines two months ago, have completed nine conversions. Grand Central Airport Company, Glendale, Calif., has delivered two, Timm Aircraft Corp., Van Nuys, Calif., two, Globe Aircraft Company, four. Canadair, Ltd. of Montreal has delivered one.

▸ **New Threat**—Some concern may be expected to be felt by conver-

sion companies over the life prospects of this phase of the aircraft industry in view of the fact that Douglas Aircraft Company now is in heavy production of Army C-117's at Oklahoma City and there is excellent prospect that in the near future large numbers, fully outfitted with airline seats, may be declared surplus and be released to airlines.

Mexican Plant Opened By Aireon Radio Corp.

Aireon Manufacturing Corp. has formed a Mexican subsidiary known as Aireon S. A. and has opened a pilot plant and sales office in Mexico City.

Randolph C. Walker, president, said the Mexican subsidiary has obtained a contract for a complete radio communications system for Compania Aereas de Ver Cruz. The equipment, which will be manufactured by Aireon at its Kansas City plants, is of the same type which the company has supplied for installation at airports throughout the world in connection with the war production program.

▸**Rail Project** — Aireon engineers are currently making a test installation of the company's railroad-radio-telephone equipment and space radio on the Mexican National Railways.

AAF Surplus Tires Sales Shift Shown

OPA price order reveals Commerce Department has taken over disposal; *Superfortress* tires set to go at $25.10.

Change in AAF methods of disposing of surplus airplane tires is revealed in an OPA order setting ceiling prices for such disposal by the Commerce Department's Office of Surplus Property.

Formerly, such tires were sold as scrap by the Air Forces, but they recently were declared surplus and turned over to Commerce in the belief they could be "converted" for use on farm vehicles. How the tires happened to wind up in Commerce—the disposal agency for consmers' goods—is a source of unofficial wonderment at that agency.

▸**Last Resort** — Most reasonable explanation is that Commerce's surplus property office includes an automotive tires and tubes division and presumably the cast-off aircraft tires were directed that way for want of any other likely disposal source. Officials, however, are plainly puzzled as to what kind of a farm machine could take a tire such as used on a heavy bomber.

Another feeling is that other agencies wanted to get "out from under" in the handling of such a politically touchy subject as tires —regardless of size. Initial cost of some of the tires ran into hundreds of dollars. In contrast, the highest OPA ceiling is $25.10 for a *Superfortress* tire.

Commerce will dispose of the tires only to in-the-trade distributors from its warehouses at Mogadore, Ohio, and Ontario, Calif. The initial lot to be affected by the new OPA ceilings totals 10,857 tires.

Restricted Air Data Readied For Public

Preparations are under way for the release of information on government scientific and technical developments during the war, which heretofore have been in the restricted class.

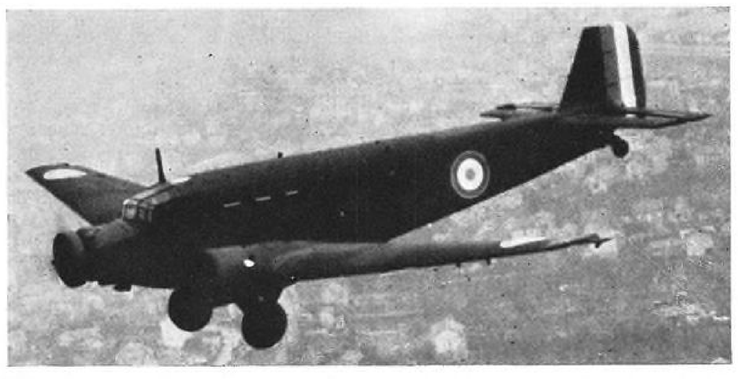
The facilities of the Office of War Information have been made available to the newly-organized Joint Board on Scientific Information Policy for the handling of such information. This joint board will be responsible for the organization and release of scientific and allied information for the Office of Scientific Research and Development, the War and Navy departments, and the National Advisory Committee for Aeronautics.

▸**Tate Chairman**—Chairman of the Board is Dr. John T. Tate, division chief, National Defense Research Committee, OSRD. Among the board members are Dr. George W. Lewis, director of aeronautical research, National Advisory Committee for Aeronautics.

The Joint Board has been created by concurrent action on the part of the Secretaries of War and Navy and Dr. Vannevar Bush, director of OSRD, with the consent of the chairman of NACA and the director of OWI. Its creation was in accordance with the recommendation of the Joint Committee on Scientific Information Policy, consisting of the Secretaries of War and Navy and the OSRD director, to study the prob-

FRENCH AIRCRAFT ON THE WAY:

The French aircraft industry is now working at about 30 percent of normal capacity on both new construction and repair work for the Allied air forces. Two of the craft reported in production are (above) the Latecoere *631, a 70-ton flying boat designed for transatlantic traffic and (below) the* Junkers *52 (French).*



lem of supplying the general public with authentic and useful information on wartime scientific developments.

Basic reports of the board will include such fundamental subjects as development of radar, rockets, metallurgy, jet propulsion, and aircraft design.

New Contract Halt Plan Used By Navy

Pre-termination agreement signed with Eastern Aircraft designed to settle industry problems in advance of cancellations.

A pre-termination agreement designed to settle in advance many of the problems involved in contract cancellation has been signed between the Navy and the Eastern Aircraft Division of General Motors Corp.

Looked upon with favor by the aircraft industry as a favorable development in sweeping away some of the uncertainties of termination, the Eastern Aircraft agreement is the first of its type negotiated by the Navy. It establishes alternative "stop work" points, covers method of taking inventory, classification of inventory, sales by contractor, treatment of completed items and agreed percentage of profits.

▸**Details Attended** — The agreement also deals in detail with the inventory sheets, the determination of the disposition of inventories and the all-important question of clearing the plant of components, special equipment and government-owned equipment.

One feature puzzling some industry figures is the inclusion of a provision that any new contracts awarded the company "may" be included in the agreement. Opinion is that production under new contracts, or the terms of such contracts, might make the pre-termination agreement inapplicable.

In announcing the arrangement with Eastern Aircraft, the Navy emphasized that it did not indicate the likelihood of early termination of Eastern Aircraft's contracts.

▸**Reconversion Aid** — The pre-termination agreement covers contracts for approximately $404,000,000 in undelivered airplanes and was designed to facilitate the settlement of war contracts and reconversion of a war contractor's plant to other production when the Navy no longer requires certain war materials.

The Navy may terminate the contracts with Eastern Aircraft division at any time it decides that additional airplanes of the type being produced there are no longer needed. In advance of cancellations, however, it has been possible to come to agreement on several basic questions, a plan suggested in the past by some aircraft company executives.

It was emphasized by the Navy that execution of the agreement does not indicate that there is necessarily a likelihood of termination of its airplane contracts in the near future.

Canada's B-29

Canada's Munitions and Supply Minister Howe has announced that the *Lincoln*, British equivalent of the B-29 *Superfortress*, will start rolling off the Toronto production lines of government-owned Victory Aircraft Ltd., early in September.

With the entire output slated to go to the RCAF for operation against Japan, a monthly goal of 20 of the huge bombers has been set. Prior to conversion to the *Lincoln* schedule, Victory had attained a rate of 30 *Lancasters* per month.

RETREAD FOR THE C-47:
Aircraft tires retreaded at the tire repair plant at San Bernardino ATSC show remarkable wearing qualities. This C-47 tire has made more than 100 landings since it was retreaded and appears capable of many more.

Variances In International Design Assailed

Long-standing differences in Anglo-American engineering practices and standards of measurement will be discussed at a conference in Canada this fall under auspices of the Combined Production and Resources Board, of which the United States, Canada, and Great Britain are members.

The board points out, for example, that it has been estimated that historically-based differences in the design of screw threads alone, in Britain and the United States, have added at least $100,000,000 to the cost of the war.

▸**Scrap Problem** — Aircraft engineers, while hopeful that something can be done to reconcile the differences, point out that changes would mean the scrapping of millions of dollars worth of machinery set to present standards.

From the United States, at the conference, will be representatives of the Army, Navy, Air Force, Bureau of Standards, and the American Standards Association, as well as from the automobile, aircraft and other industries. The National Standards Committee, which handles such matters for the aircraft industry, will be represented by the American Standards Association and will not have direct representation.

New Propeller Design Engineered In Canada

A new design for aircraft propellers has been engineered by the propeller plant of Canadian Car & Foundry Ltd., Montreal, and the company has been awarded contracts after exhaustive tests in the United States and Canada.

The wooden propeller evolves a new principle in propeller design and construction, sharply stepping up quality, durability and performance.

Three Billion Mark Passed By Aircraft Industry Assets

Wartime growth of manufacturers boosts holding to ten times peacetime level, Securities and Exchange Commission study of 1939-43 balance sheets shows; working capital is five times pre-war size.

Study by the Securities and Exchange Commission of "Balance Sheet Data, 1939-1943" of corporations filing annual reports under the Securities Exchange Act of 1934, or the Securities Act of 1933, presents an interesting picture of the tremendous growth that has taken place among aircraft and aircraft equipment companies during the war.

Assets for 31 aircraft and aircraft equipment companies at December 31, 1943, reached a total of $3,392,088,000 as compared with $327,939,000 for 28 companies at December 31, 1939, a growth of 10 times the pre-war total.

Working Capital—Of these total assets at the end of 1943, current assets aggregated $3,086,186,000 as against current liabilities of $2,621,284,000, while at the close of 1939 current assets of $233,223,000 compared with current liabilities of $152,045,000. Thus, working capital at December 31, 1943, of $464,902,000 was more than 5½ times the $81,178,000 reported at the close of the fiscal period ended 1939.

Balance sheet items making up current assets show interesting growths over the five-year period as disclosed in the following tabulation:

	Year Ended December 31				
	1939	1940	1941	1942	1943
Number of companies in each year	28	31	32	33	31
	(Dollar Figures In Thousands)				
Cash and cash items	$106,958	$355,514	$ 274,023	$ 612,748	$ 635,668
Marketable Securities	9,037	2,142	69,826*	154,505*	299,361*
Trade Receivables**	21,813	57,406	209,719	508,679	629,728
Inventories**	93,052	250,469	613,110	943,447	921,906
Other current assets**	2,367	23,831	89,564	293,658	599,521
Total	233,223	$689,363	$1,256,237	$2,513,035	$3,086,186

* Included in Marketable Securities are U. S. Tax Notes amounting to $65,012,000 in 1941, $131,930,000 in 1942, and $188,095,000 in 1943

** After reserves—unless company carried valuation reserves as liabilities

Dividends—The SEC survey indicates the companies maintained conservative dividend payments throughout the expansion period. Dividends on common stock, for example, totaled $19,255,000 for the year 1939, including $73,000 paid in stock. In 1943 this item had but little more than doubled to $39,091,000, including $591,000 in stock. Payments on preferred shares rose from $2,407,000 in 1939 to $3,899,000 in 1943. The course of dividend distributions may be seen in the following compilation.

	Year (Dollar Figures In Thousands)				
	1939	1940	1941	1942	1943
Preferred	$ 2,407	$ 2,506	$ 2,432	$ 4,036	$ 3,899
Common	19,255*	30,950	43,363*	37,831	39,091*

* Includes dividends on common paid in stock—$73M in 1939, $642M in 1941 and $591M in 1943

Earned surplus rose steadily over the five-year period from $37,205,000 in 1939 to $270,926,000 in 1943. In 1940 earned surplus was $165,547,000; in 1941 $241,678,000, and in 1942 $310,371,000.

Capital surplus was $73,298,000 in 1939; $90,367,000 in 1940; $98,166,000 in 1941; $103,365,000 in 1942; and $92,933,000 in 1943.

Individual Reports—Some of the individual manufacturing companies showed sharp growth over the period under survey.

Lockheed Aircraft Corporation, for example, grew from a company with total assets of $15,547,000 in 1939 to one with $265,460,000 in 1943. Consolidated Vultee Aircraft Corporation jumped from $10,029,000 total assets at December 31, 1939 to $393,531,000 at November 30, 1943. Douglas Aircraft Company, Inc., rose from $24,584,000 total assets in 1939 to $187,573,000 at the end of 1943. Curtiss-Wright Corporation grew from a company with total assets of $81,055,000 at the close of 1939 to one with $783,197,000 at December 31, 1943.

The Glenn L. Martin Company's aggregate assets were $31,361,000 as of December 31, 1939, but by the close of 1943 the item had reached $278,779,000. Other companies displayed similar growth. North American Aviation, Inc., jumped from $22,601,000 to $233,824,000 in the five-year period, while Republic Aviation Corporation rose from $5,033,000 to $67,474,000. United Aircraft Corporation showed a rise from $67,047,000 to $232,798,000.

Jacobs Engine Co. Files Fiscal Report

Jacobs Aircraft Engine Co., paid its president, C. J. Abbott, $30,883 for his services during the fiscal year ended Dec. 31, 1944, according to the company's annual report to the SEC.

Albert R. Jacobs, vice-president, received $27,966, during the same period, and J. Andrews Harris, 3rd, chairman of the board, $25,883. Donald F. Turner, another vice-president, got $22,916.

Under a contract for management services, which was terminated as of Dec. 31, 1944, the company paid the firm of Ford, Bacon & Davis, Inc., a fee and per diem charges for the services of certain of its employees, including Abbott and Turner, amounting to $103,924.

The Philadelphia law firm of Ballard, Spahr, Andrews & Ingersoll was paid $44,000 for legal services during the fiscal year, and the firm of Mathieson, Aitken & Co., $21,000 for accounting.

The company's sales amounted to $52,194,665 during 1944, the cost of which was $46,629,834, leaving a gross profit on sales of $5,564,831. Administrative, engineering, field service, advertising, selling, and other operating expenses amounted to $1,783,606, leaving a profit from operations of $3,781,225.

After making provision for federal and state income taxes, excess profits taxes, and provision for contingencies, the company showed a net profit transferred to earned surplus of $1,047,795.

Airline Spokesmen See Chaos In ODT Plane Pool Prposoal

Priorities system cited as capable of filling same needs in redeployment program; Senate group hears request that 1,000 Europe-based DC-3's be returned to solve problem; lines claim move would shatter efficiency.

By MERLIN MICKEL

Disclosure that the Office of Defense Transportation has discussed with the War Department the pooling of airline planes to aid in troop redeployment brought a general response, from air transport sources, that only chaos for the domestic air carriers could result from such a course.

In addition to the effect on the airlines, efficiency of such a move was questioned and the point was made that the priorities system could be utilized to attain the same result.

Army Decision—Statements last week before the Mead Commiteee by Col. J. Monroe Johnson, ODT director, were that such a step has not been decided upon definitely. Understanding is that the decision whether the Army shall use commercial planes under a pooling arrangement, similar to that in effect for Pullmans and coaches on the railroads, was left to the War Department. Under executive order, ODT has control over all civilian transport and would have authority to effect such a plan.

Authoritative sources indicate that about 75 percent of airline passenger traffic now is military personnel flying on priority, compared with 50 to 55 percent two or three months ago. A large part of this consists of men on leave, but priority officials point out that by substituting one type of military traffic for another, the program easily could be swung over to men being redeployed. It was conceded, however, that this might require some changes in airline schedules.

Johnson reported to the Senate (Mead) War Investigating Committee that the War Department has been directed to study the place of the civilian airlines and the Air Transport Command in troop redeployment in this country. He said ODT has a tentative plan that would call for pooling by the airlines of a given percentage of their capacity for the movement, expected to reach its peak by next February.

European 'Waste'—Members of the Committee outlined a proposal to bring pressure on the War Department to declare over 1,000 DC-3 type planes in the European theater as surplus, and have them brought to this country to help in redeployment, after senators in the group returned from a recent European tour with reports that the Army holds air transports in the ETO for non-essential courier and personnel uses.

One of these is Senator Mitchell (D.-Wash.), who contends these ships could be brought to the U. S. for short run redeployment movements. Mitchell said the Army also is using large transports, suited to trans-Atlantic flights, for short haul service in this country. The Committee expects to call ATC officers to testify during the current investigation.

Johnson reports that more than 50,000 men per month are being redeployed from Europe by air, the figure for June being 55,000. The ODT chief was enthusiastic about the suggested return of 1,000 DC-3's, which he said would be "very helpful." Whether they would be

Redeployment Rate

More than 1,000 men a day are now being flown into Miami in the redeployment program, with planes landing on an average of every 45 minutes.

Principal movement is by C-47's operated on the segment of the route from Trinidad. The men are then processed and moved by train to Camp Blanding in north Florida for final handling.

The operation — popularly known as the Green Project— so far has been handled without reported incident, with probably 400 planes being used over the South Atlantic route. It is expected to be stepped up still more, especially when North Atlantic weather hampers northern operations later in the year.

CONVERTED *FORTRESS* FOR SILA SURVEY:

This converted Flying Fortress *is being used by Swedish Intercontinental Airlines (SILA) in survey flights between Stockholm and New York via Iceland and Labrador. Five round trips are being made, with charter landing rights at New York granted by Civil Aeronautics Administration. American Export Airlines is U. S. agent for SILA during the survey period. The line plans to start regular service under a group arrangement with Norway and Denmark at an indefinite future date.*

C-54 Test Slowed

Certification tests of the Douglas C-54 have been delayed, and presumably will depend upon an airline-Army-Douglas agreement on the particular version of the C-54 to be selected for commercial production. CAA has been ready for more than a month to begin testing a C-54 for airworthiness.

operated by the airlines or ATC, in the event of their return, was undecided.

Airline sources foresaw manifold difficulties if the suggested pooling of airline planes goes through—difficulties which might result in complete disorganization of scheduled air transport. They say that:

- An immediate maintenance problem would arise, since mechanics would have to be concentrated at redeployment points. Parts and equipment would have to be gathered together.
- Presumably the bulk of the operations would be on east-west flights, which might run into a shortage of qualified captains for these transcontinental runs and necessitate a large number of familiarization flights.
- A new burden would be placed on airports, many of which already are pressed to capacity.
- Plane utilization, which is expected to average about 1,850 miles per day, per plane, by Aug. 1 on a country-wide basis, probably would drop sharply.

First Air Freighter Flight Cost Statement Made For C-82 Packet

Direct operating cost of under 7 cents per ton-mile, for non-stop trips up to 500 miles, announced as second production model for Army comes off Fairchild line; figures based on ATA system.

First announcement of direct operating costs on Fairchild's C-82 *Packet* was made recently as the second production model under Army contract came off the line. Running under 7 cents a ton-mile for non-stop trips up to 500 miles, the cost figures are also the first disclosed for a ship of this size.

The C-82 "flying boxcar" carries nine tons on a 500-mile trip and 6½ for 1,500 miles in military operations, where it is not subject to Civil Air Regulations. Capacity is 93 percent of the cubic content of a railroad boxcar.

ATA Measure — Fairchild's calculations, made by Air Transport Association methods, include no indirect or overhead items.

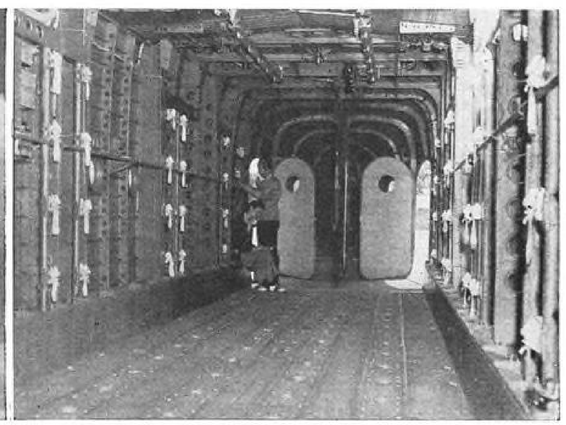
Direct flying cost range is from 6.63 cents per ton-mile for a 100 mile trip with a 16,113 lb. payload to 9.04 cents for a 1,200 mile trip with 9,533 lb. payload.

Considerable interest in the ship has been shown by airlines, although it is being built only for the AAF, for whose Troop Carrier Command it was designed.

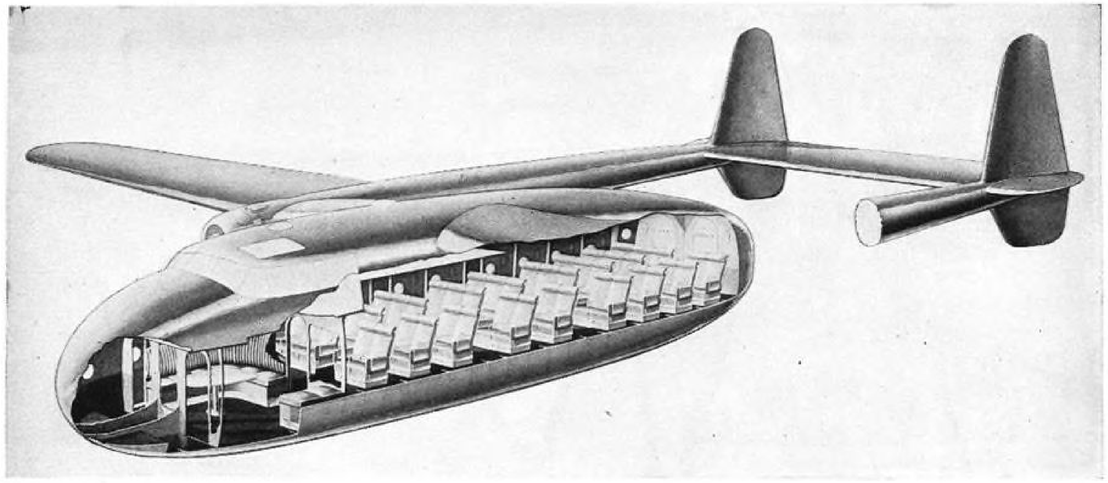
Dallas Production — Fairchild does not expect to turn out as many of the ships at its Hagerstown, Md., plant as will be built at Dallas by North American Aviation. The latter plant is larger, but at present is just tooling up, with the first *Packet* due in December.

The prototype first flew at Hagerstown last fall (AVIATION NEWS, Oct. 30, 1944). Fairchild's contract was doubled in June and changed to a fixed price basis from cost-plus-fixed-fee. The first production model was finished in May and flown to Dallas in June. The presence of North American in the picture means that minor changes can be made by the designing manufacturer at the source and passed on to the larger-scale producer.

Important feature of the plane, which weighs 28,000 lbs. empty and 50,000 loaded, is its ability to take off in 800 ft. at 42,000 lbs. gross weight. The plane originally was designed to operate in small South American landing fields, after the eviction of the German airlines. It was never used for that purpose, however, and instead has become what Fairchild believes is the first equipment actually designed for airborne warfare. It can carry 90 percent of the equipment of a standard triangular infantry division, and is large enough to accommodate trucks,



Outside and Inside the C-82: *Picture of the C-82* Packet *in flight shows how the box-like fuselage is carried between the twin booms. Interior view, looking towards rear, shows square construction. The two small "jump doors" for paratroopers are cut in the double rear doors which open to full width when the ship is to be loaded or unloaded. A side loading door is at the forward end of the cargo compartment.*



Possible "Packet" Passenger Version: *This cutaway drawing by Fairchild Aircraft Engineers shows the* Packet *fuselage as it might look if converted to passenger use. Seats are arranged to carry 45 day passengers. Baggage would go under the seats, which are above floor level. The nose, longer than on the C-82 cargo version being built for the Army, contains a lounge with bar and buffet in the fore compartment. The drawings are preliminary, and merely represent a suggested passenger arrangement.*

howitzers, tanks, and half tracks.

▸ **Clear Space**—Interior is squared and unobstructed. Floor is level at truckbed height. The ship has a tricycle landing gear, and its high tail surfaces permit the entire rear to be opened for quick freight handling.

It can carry 42 fully-equipped paratroopers, who can jump from a door in each side at the rear out of the slipstream and with no danger of striking the tail. Or it could be converted to a 34-litter hospital ship. It can be used to tow gliders.

How air ducts are built into the wings and tail surfaces to provide an anti-icing system that works on either or both engines, and the manufacturer says the *Packet* is the first ship to go into production with such a system.

▸ **Military Tests**—Weight and performance figures are based on preliminary flight tests with full military equipment. None are available on commercial operation under CAR, since the plane has not been fitted for such work although Fairchild officials believe such a change would be entirely practical.

Stalling speed is reported at 78 mph., with full flap and landing gear down, and a 42,000 lb. load.

▸ Crew is five for military and two for commercial operation. Two Pratt & Whitney R-2800C engines, with 2,100 hp. each at 2,800 rpm., provide the powerplant. Propellers are Hamilton Standard full-feathering hydromatic, three blades; 15 ft. 1 in. diameter. Landing gear is tricycle and fully retractable. Construction is aluminum alloy throughout with fabric covered control surfaces.

▸ Cargo compartment capacity: 2,870 cu. ft. Gross weight: provisional, 50,000 lbs.; design, 42,000 lbs. Empty weight, 28,000 lbs. Useful load, 22,000 lbs. Maximum payload, for 500 miles, 18,000 lbs.; for 1,000 miles, 15,500 lbs.; for 1,500 miles, 13,000 lbs.

▸ Cruising speed, over 200 mph. Takeoff run at sea level, loaded, 800 ft. Service ceiling, 25,000 ft. Single engine ceiling, 8,000 ft. Maximum range, 4,000 miles.

Packet Economy Statistics

Fairchild Aircraft engineers claim the direct flying costs on the C-82 *Packet*, shown in the table below, are the lowest for any existing two- or four-engine transport cargo operation for nonstop trips up to 500 miles. The figures do not include indirect or overhead costs, but cover cost of fuel and oil; plane and engine depreciation; overhaul and ground service; pilot and co-pilot pay; crew expenses, and plane insurance. They are based on 100 percent load factor.

SUMMARY OF DIRECT OPERATING COSTS

Trip Length	Block Speed (10 mph headwind)	Payload (tons)	Payload (pounds)	Cost per Ton-mile
100	155	8.06	16,113	$.0663
200	161	7.31	14,613	.0633
300	167	7.06	14,113	.0682
400	172	6.81	13,613	.0685
500	177	6.51	13,113	.0698
600	183	6.31	12,613	.0707
700	185	6.06	12,113	.0731
800	186	5.81	11,613	.0758
900	187	5.55	11,093	.0788
1000	188	5.24	10,573	.0822
1100	188	5.03	10,053	.0859
1200	189	4.77	9,533	.0904

TACA Leases *Lodestars*

TACA Airways has acquired 8 additional Lockheed *Lodestars* for use in Latin America and on the company's international routes to Miami and Mexico City. First of the planes is expected to go into service late this summer.

Two of the aircraft, obtained under lease from the U. S. Government, will replace Ford tri-motors being used on cargo service to mines in Nicaragua.

Unlimited Stalling Speeds Asked By 9 Of 11 Big Plane Builders

Post-war transport plans that fit current restrictions seen behind Lockheed vote for continued CAB stall control; Curtiss-Wright is other no-vote at Aircraft Industries meeting.

By SCHOLER BANGS

Nine out of 11 major U. S. aircraft manufacturers want no limitations on the stalling speeds of post-war air transports they will build.

A vote on the controversial issue of a stall speed limit, now set at 80 mph. in the Civil Aeronautics Board's Civil Air Regulations for transports given commercial certification, was taken by the industry last week for the first time, at a meeting in Hollywood, Calif., of the performance requirements sub-committee of Aircraft Industries Association of America's Airworthiness Requirements Committee.

▸ **The No's** — The two companies voting against elimination of the 80 mph. stall restriction were Lockheed and Curtiss-Wright.

The elimination will become effective if the Board adopts a revised version of Part 04 of CAR, now being circulated, and such a step was approved by Douglas, Boeing, Consolidated Vultee, Republic, Northrop, North American, Martin, Fairchild, and Beech aircraft corporations.

As a result of the divided vote, a committee report to AIA's National Airworthiness Requirements Committee at Denver, Aug. 6, and 7, will not include comment on stalling speed issues.

▸ **Separate Reports**—It was agreed that all companies at the Hollywood meeting prepare individual stall recommendations for formal approval of company executives and subsequent submission to CAB.

Heading the performance subcommittee, meetings of which were attended by 18 outstanding company engineers and aerodynamicists, was Dr. W. Bailey Oswald, chief of aerodynamics for Douglas Aircraft Co., Santa Monica.

The committee's stall vote, even though an informal action and one that may not appear in AIA reports, must be considered as an overwhelming indication of industry interest in high-speed, high-performance, transport models of high wing loading.

▸ **Lockheed Point**—It is no secret that, on the West Coast, Lockheed would gain a tremendous commercial advantage over Boeing and Convair if the present CAR 80 mph. stall restriction is continued.

Neither Boeing nor Convair's proposed big post-war transports will be able to carry full payloads and fuel loads without exceeding the 80 mph. stall limit.

On the other hand, Lockheed engineers assiduously have designed their post-war transports to meet existing CAR specifications. This is true particularly of the Lockheed *Constellation* and it may be assumed that Lochkeed's attitude during the committee meeting indicates that the massive Lockheed *Constitution*, now under construction for the Navy at Burbank, has been designed to operate commercially within an 80 mph. stall limit.

▸ **Other Issues**—While the stalling speed issue without question was the most critical aspect of the Hollywood Airworthiness Requirements Committee meeting, the airlines group felt that enroute rate of climb with one engine out should be .02 times the square of a plane's stalling speed, regardless of whether it has more than two engines. The new Part 04 would use this formula for two-engine planes, but for four-engine it would be .04 times the stalling speed squared.

▸ **Sliding Scale** — Manufacturers are understood to favor a sliding formula increasing with the number of engines. Airline representatives saw no reason that a better rate of climb should be required for a four-engine than a two-engine plane.

On the third point, the ATA subcommittee sees no need for a takeoff requirement with all engines running, although such a regulation is contained in the proposed revision and aircraft manufacturers reportedly favor it.

The subcommittee was unanimous in its attitude on the three questions, part of a three-day agenda in which the entire new version of Part 04 was discussed.

Airlines Form CAR Policy

Agreement on three main controversial points in connection with the Civil Aeronautics Board's proposed revision of Part 04 of the Civil Air Regulations on airworthiness requirements for planes in the transport category was reached by the airlines last week in Washington where the subcommittee on CAB of Air Transport Association's Aircraft Requirements Committee met.

The issues:

▸ Elimination of stalling speed restriction.

▸ Enroute rate of climb with one engine inoperative

▸ Takeoff climb requirements with all engines operating.

The ATA subcommittee, as was expected, favored the first of these. The stalling speed limitation is 80 mph. in the present regulations, but the revised version being circulated in the industry omits the restrictions. Those favoring its removal contend to retain it would prevent many of the new planes that will be up for airworthiness certification in the future from being operated economically.

CAA Abroad

The Civil Aeronautics Administration is planning to establish offices in London, Stockholm, and Lisbon during the current fiscal year, if funds are available, it was announced, following certification of North Atlantic routes by the Civil Aeronautics Board.

A fourth is to be set up in San Juan, Puerto Rico. Already on three airline routes, the city is expected to become a crossroads for further northbound and southbound air operations.

▸ **Inspector Posts**—Air carrier inspectors probably will be stationed in the foreign offices, and a general inspector may be placed in London to handle Army personnel applications for civilian pilot and mechanic certificates.

Altogether, CAA hopes to have offices at 17 foreign points two years from now, if Congress provides the money.

ments Committee conference, it covered only a portion of four days of subcommittee meetings for the review of all phases of the proposed Part 04.

Much of the work of the western conference consisted of rephrasing, for greater clarity of expression, in an engineering sense, various technical paragraphs in the proposed regulation. For the review of 04, and writing of recommendations not yet available for publication, the conference was divided among the following subcommittees in addition to that on performance requirements:

▸ Flight Loads Requirements—Roy A. Miller, chief of structures, Consolidated Vultee, chairman.

▸ Ground Loads Requirements—C. R. Strang, chief of structures and weights, Douglas, chairman.

▸ Power Plant Requirements — J. W. Young, chief of power plant section, North American Aviation, chairman.

▸ Pressure Cabin Design — J. F. McBrearty, chief of structures, Lockheed, chairman.

▸ Fire Protection—H. E. Hjorth, fire prevention, Douglas, chairman.

The conference was also attended by Eugene Norris, AIA director of technical service, Washington.

'Simplified' Cargo Service Offered

New York company, flying *Lodestars,* plans operation with no 'frills'; first cargo is penicillin.

An all-cargo air service, operating on a strictly fundamental basis with no deluxe features, was to be inaugurated last week by Air Cargo Transport Corp., of New York. Response to the company's initial advertising is reported to be sufficiently heavy to make a selective booking necessary. For the present time, say company officials, only cargo directly associated with the war effort will be handled.

Three Lockheed *Lodestars,* obtained from surplus, comprise the ACTC fleet at the present time, although application has been made for allocation of C-47's.

In line with the company's stated policy of offering "basic" air cargo service in its simplest form, the *Lodestars* have been stripped of every dispensable feature. The soundproofing has been removed and the floor reinforced. It is estimated that the planes can carry a payload of approximately 3,500 pounds, depending on the size of the fields to be used.

TWA GLASS CLOTH:

Transcontinental & Western Air is using Neoprene-coated Fiberglas cloth as supporting fabric for seats on all its commercially operated planes. Original tests were made on TWA's Stratoliners. *Photo shows the cloth in use in horizontal and upright sections of one of the passenger seats.*

▸ **Penicillin Shipped** — The first flights were on a contract for shipment of penicillin, according to company officials.

The operations base is at Roosevelt Field, L. I., where the company maintains its own ground crew.

The ACTC rate scale, based on the usual classes of commodity, is: Class 1, 55 cents per ton mile; Class 2, 45 cents; Class 3, 40 cents; Class 4, 30 cents.

H. Roy Penzell is president and treasurer of ACTC. It is understood that he has been identified with the garment industry. William L. Rome, secretary and general traffic manager of the new venture, was formerly traffic manager at Miami for TACA Airways. The ACTC offices are in the Empire State Building, 350 Fifth Avenue, New York.

Olympia 'Port 'Returned'

Relinquishing control assumed in 1942, Army engineers early this month turned over to the city commissioners of Olympia, Wash., 360 acres of the Olympia Airport originally owned by the city. All improvements made by the Army were included in the return of the property. The balance of 1,100 acres reverts to RFC as surplus property.

New Loading Plan Eases Cargo Task

Simplified naval procedure uses three men to load huge *Mars* in an hour; post-war use evident.

A cargo-handling plan that may give the airlines some pointers for their big post-war equipment has been worked out by the Naval Air Transport Service for the new 72½ ton Martin *Mars,* which, it is claimed, can be loaded in an hour and unloaded in half an hour under the new system.

Attractive feature of the NATS plan is that it requires no costly equipment and cuts paper work and manpower to a minimum. Basic features were developed by Lt. (j.g.) Douglas U. Stark, USNR, formerly with United Air Lines.

▸ **Pre-Packed**—As described by the Glenn L. Martin Co., the key to the loading system is preliminary arrangement of the cargo. Except for special articles, such as fragile cargo or bulky items, handling of individual pieces has been done away with. Regular cargo is checked and separated at a dock

Cargo Conflict

American Airlines' ever-widening experiments in air cargo operations have had an echo in a CAB proceeding involving application of American for approval of a director holding a similar position with surface transport companies.

The Board approved the role of Walter S. McLucas, of Detroit, as a director of American, a director of Pere Marquette Railroad, and a director of Detroit and Cleveland Navigation Co., finding that the degree of conflict of interest is "insignificant."

▸ **Dissenter** — In a dissenting opinion, however, Member Josh Lee referred to the majority's statement that the Pere Marquette is primarily a freight carrier (as opposed to American's major income being from passengers), and pointed out that the airline "has recently inaugurated a program for the development of air freight traffic in volume." Accordingly, he saw a potential conflict of interest. The majority opinion stressed that the Board's control over interlocking directorates is continuous and that, therefore, the McLucas case could be reexamined in the future, if necessary.

warehouse, then placed on nets on wooden flats which are marked copies of the cargo deck.

After the flats are loaded to uniform height, the net, specially built so there will be no movement of the pieces it contains, is tightened by a rope through eyelets, then tagged as to priority, destination, and a number corresponding to the flat. This and other information is listed on simple, standardized forms.

Estimates are that two hours are sufficient to check 30,000 lbs. of cargo from trucks to flats, even if several thousand items are included.

▸ **Wing Hoist**—Mechanical "mules" and trailers haul the netted cargo to the side of the ship. A hoist built into the wing picks the nets off the flats and swings them inside. Martin says three men, one outside and two in the plane, can load the entire ship.

The cargo hoist does not extend to fore and aft compartments, but "low-wheeled skates," part of the plane's equipment, are used to move the cargo into the more remote parts of the flying boat.

Transport officers at intermediate stations can tell by the standardized manifests what total weight off, weight through, and compartment weight reduction will amount to, and can thereby calculate plane balance and load allowable at the next station.

▸ **Cargo School**—Mass application of the system, which will assure centralized location control over each item along the route from the U. S. to the far Pacific, is being taught at an Air Transport School conducted by Martin.

PCA Earnings Point Way To High Year

The six months' earnings report of Pennsylvania-Central Airlines, indicates the industry will show substantial gains in operations.

PCA's operating revenues jumped from $2,275,180 for the first six months last year to $4,764,425 during the like period this year. Operating profit rose from $121,574 to $627,345, while net income increased from $66,463 to $411,549.

▸ **Plane Increase**—The company's average number of planes in operation in the 1945 six months was 18.1 compared with 7.6. Thus revenue plane miles jumped to 4,575,202 from 1,858,951, and revenue passenger miles to 73,461,714 from 31,932,392.

Insurance Policies Revamped For Growing Global Air Travel

New protection forms designed for both domestic and international trips; Associated Aviation Underwriters takes apparent "lead" in domestic coverage with Continental Casualty and U. S. Aviation Underwriters contesting foreign field.

Insurance companies this week laid the foundation for what is expected to be an ever-growing volume of airline passenger coverage, with new forms of insurance designed to take advantage of the expected increase in both domestic and international air travel.

Breaking of the log-jam on lowering the cost of domestic trip policies by the agreement between the Air Transport Association and Associated Aviation Underwriters (AVIATION NEWS, July 16) apparently set the stage for announcement of insurance applicable to world air travel.

Continental Casualty Co. recently began writing world-wide coverage, and United States Aviation Underwriters will begin August 1, same date fixed for inauguration of the Associated Aviation policy.

▸ **'Closed Field'**—Although Continental's and U. S. Aviation's coverage also extends to travel on domestic air carriers, insiders see little chance for those companies to do much business in that field. The Associated Aviation policy, worked out in conjunction with ATA after months of negotiating, will be sold at ticket counters, and quietly promoted by the airlines.

Associated Aviation's position is given support in the strong accent on world-wide features in the announcement of the new policies of Continental and U. S. Aviation. Like that of Associated Aviation, Continental's policy is trip insurance. Premiums are based on cost of ticket, with 25 cents buying $5,000 worth of coverage on any fare up to $150. Benefits are available up to $25,000 on one life.

The policy covers travel on any airline anywhere in the world. Also included are flights on British and U. S. military transport craft when fare is charged for civilians.

▸ **Two Sellers**—At present, Continental's policy is sold only at ticket offices of Pan American Airways and American Export Airlines, the companies for which the insurance was especially designed.

Significantly, the company asserts: "The new policy is also offered for domestic trips, providing a broader range of insurance coverage than heretofore available but at no increase in the premium currently charged for single or round trips between any two points in the United States."

In contrast to the revised trip insurance offered by the other two companies, U. S. Aviation is after business on an annual contract basis, with premiums of $1.40 per thousand and coverage up to $100,000. This is the same rate the group charges for travel on domestic air carriers.

▸ **Combat Covered**—Previously, the group had a limit of $25,000 on its individual "airsurance" policies, and coverage was limited to the Western Hemisphere. Now, while the $1.40 rate applies only to travel on U. S. flag airlines throughout the world, and to approved foreign carriers in the Western Hemisphere, a rate of $3.40 per thousand covers flights on any scheduled passenger airline; ATC, NATS and RAF Transport Command, even in combat zones.

In sum, the three new types of coverage are:

▸ Associated Aviation Underwriters—Trip insurance; 25 cents per $5,000; good for one-way passages within seven days (former premium based on number of hours in air); applicable to flights in U. S., 150 miles into Canada on TCA or U. S. airlines, and Hawaii; covers travel on ground to and from airport; sold at airline ticket counters.

▸ **Continental Casualty Co.**—Trip insurance; 25 cents per $5,000 on fare of $150, limit of coverage, $25,000; applicable to flights anywhere, domestically or internationally, and on any airline, including ATC, NATS and RAFTC; ground coverage on stopovers and to and from airport; reimbursement for medical expenses in amounts up to $50 for each $1,000 of coverage; sold at Pan American and American Export ticket offices.

▸ United States Aviation Underwriters—Annual policy insurance; $1.40 per $1,000, limit of coverage, $100,000; applicable for flights anywhere in the world on Ameri-

can-flag airlines, and in the Western Hemisphere on any approved airline; rate of $3.40 per $1,000 for flights anywhere in world on any airline, and on ATC, NATS, and RAFTC, and in combat zones; reimbursement for medical expenses of $50.00 for each $1,000 of coverage; sold by group and its agents.

As Associated Aviation's new policy was arranged through ATA, it becomes practically the "official" airline policy. That company is expected, therefore, to be "supreme" in the domestic field on trip insurance.

Internationally, Continental claims to have been the first domestic company to enter the foreign field with an accident policy, started last year.

▸ **Experience**—Against this, U. S. Aviation can measure experience in aviation underwriting dating back to 1928, and a group of 62 companies with assets totaling more than two billion dollars.

New Planes Double Delta Air Schedule

Delta Air Lines' report for the first six months of 1945 indicates that return of airliners from the Army and acquisitions from surplus will more than double the number of passengers it carried last year. Delta already has 32 flights daily, compared with 16 in 1944.

Number of passengers carried in the first six months of this year was 42 percent higher than for the same period a year ago. The figures are 123,203 and 71,303. Revenue passenger miles increased 41 percent, from 27,026,486 to 46,207,413; mail-pound-miles jumped 32 percent from 925,633,009 to 1,363,404,825; express-pound-miles rose 34 percent from 162,578,492 to 246,297,057. Express pounds were up 33 percent.

▸ **Another DC-3** — Flights were added gradually during this period as planes were returned by the Army. One more DC-3 is in process of conversion and will be added to the Delta schedules within six weeks.

The line is now carrying a heavy part of the westward redeployment traffic stemming from Savannah and Charleston, its eastern terminals, where bombers from the European theater are being landed.

Seattle-Tacoma Airport Nears Use By Airlines

Already delayed one year by material shortages, Seattle-Tacoma Airport at Bow Lake, Wash., probably will be in active use by major airlines by this fall.

The first airline lease for use of the field has been signed by Pan American World Airways, and similar leases were scheduled to be signed last Friday by Northwest and United airlines.

L. C. Reynolds, manager of World Airway's Pacific-Alaska Division, said his company will make the airport its major base for operations into Alaska.

The Bow Lake airport has been under construction for two years, and ultimately will replace Seattle's King County Airport (Boeing Field) as the Pacific Northwest's major air terminal and foreign port of entry.

CAB SCHEDULE

July 30. Hearing in American Airlines' Oklahoma City-Tucson Oklahoma City-Phoenix non-stop proceeding (Docket 1895).
July 31. Prehearing conference on Government Travel Discount Plan and Universal Air Travel Plan. (Docket 1939.)
Aug. 1. Date for exchange of rebuttal exhibits in the Cincinnati-New York proceeding. (Docket 221 et al.)
Aug. 1. Briefs due for Florida case. (Docket 489 et al.)
Aug. 4. Exceptions due in Hawaiian Case. (Docket 851 et al.).
Aug. 8. Further hearing on Rocky Mountain Case, Denver, Colo. (Docket 152 et al.).
Aug. 10. Briefs due in Southeastern States case.
Aug. 14. Hearing on Cincinnati-New York case. (Docket 221 et al.).
Aug. 15. Hearing at Anchorage, Alaska, on applications by Cordova Air Service, Inc. (Docket 1814 et al.)
Aug. 20. Hearing in Page Airways, Inc., economic investigation. (Docket 1896.) Examiner William F. Cusick. Place not yet set.
Aug. 20. Deadline for filing briefs in the Rocky Mountain case. (Docket 152 et al.) Extended from June 30 and July 23.
Aug. 31. Briefs due for Hawaiian case. (Docket 851 et al.).
Sept. 1. Exchange of exhibits in Great Lakes Area proceeding. (Docket 535 et al.)
Sept. 21. Exchange of rebuttal exhibits in Great Lakes Area case. (Docket 535 et al.)
Oct. 1. Hearing in Great Lakes Area prosippi Valley case. (Docket 548 et al.) sick. (Docket 535 et al.)
Oct. 1. Exchange of exhibits in the Mississippi alley case. (ocket 548 et al.)
Oct. 22. Rebuttal exhibits due in Mississippi Valley case. (Docket 548 et al.)
Nov. 1. Exchange of exhibits in the Kansas City-Memphis-Florida case. (Docket 1051 et al.)
Nov. 1. Exchange of exhibits in the Middle Atlantic case. (Docket 674 et al.)
Nov. 5. Hearing in Mississippi Valley case. (Docket 548 et al.)
Nov. 20. Rebuttal exhibits due in Kansas City-Memphis-Florida case. (Docket 1051 et al.)
Nov. 20. Rebuttal exhibits due in Middle Atlantic case. (Docket 674 et al.)
Dec. 3. Kansas City-Memphis-Florida hearing. (Docket 1051 et al.)
Dec. 3. Tentative hearing date in Middle Atlantic case. (Docket 674 et al.)
Dec. 3. Tentative hearing date in Kansas City-Memphis-Florida case. (Docket 1051 et al.).

CAB ACTION

The Civil Aeronautics Board:
● Granted Transcontinental & Western Air National Airlines, and National Aviation Trades Association permission to intervene in the Kansas City-Memphis-Florida case.
● Approved interlocking relationships of James Bruce as director of American Airlines and American-Hawaiian Steamship Co.
● Granted Alaska Airlines and Ray Peterson Flying Service permission to intervene in the Northern Airways case.
● Denied the City of Shreveport, La., permission to intervene in the Cincinnati-New York Case. Denied the petition of Colonial Airlines for reconsideration of the consolidation order.
● Dismissed Page Airways' application in the Mississippi Valley Case.
● Denied the petition of the City of San Antonio, Tex., for permission to intervene in the Florida Case.
● Granted the Cities of Cleveland and Akron, Ohio, permission to intervene in the Great Lakes Area Case.
● Consolidated for hearing the applications of Alaska Airlines, Inc., and Toussaint Air Service.
● Dismissed the petition of Ellis Air Transport and Alaska Coastal Airlines for revocation of Pan American Airways' temporary exemption on its Ketchikan to Juneau, Alaska, certificate.
● Dismissed application of Kodiak Airways, for a certificate and for exemption from the provisions of section 401(a) of the Civil Aeronautics Act of 1938, at the applicant's request.
● Granted Air Line Pilot Association permission to intervene in National Airlines' proposed acquisition of Caribbean-Atlantic Airlines, Inc.
● Approved agreement between United Air Lines and National Airlines for furnishing storage facilities at La Guardia Field, New York.
● Consolidated into one proceeding the applications of Braniff Airways, Chicago & Southern, and Parks Air Transport in the Great Lakes Area Case; dismissed the portion of Eastern Air Lines application proposing service between Detroit and Memphis, Tenn.; severed PCA's application from the proceeding, and dismissed the applications of American Airlines in Docket No. 1744 and severed from the proceeding Docket No. 1868.
● Severed from the Kansas City-Memphis-Florida Case the application of Eastern Air Lines, seeking consolidation of AM 10 and 40 for new certification as AM 10, and assigned it Docket No. 1971.
● Severed the portion of Pan American Airways' application requesting the elimination of all intermediate points except Galena in its Fairbanks to Nome certificate and assigned it Docket No. 1973. Consolidated into one proceeding the applications of Wein Alaska Airlines, Inc., to carry mail, persons and property between Fairbanks and Nome, via the intermediate points Tanana, Kokrines, Nulato, Golovin, and Moses Point.
● Consolidated into one proceeding the applications of Walatka Air Service, Nicholson Air Service, Peck and Rice Airways, Western Alaska Airways, and Alaska Airlines, Inc., proposing new or additional service within Alaska.

VHF Stations For TCA

Trans-Canada Airlines has started installation of a very-high-frequency ground radio network to eliminate static and interference, similar to work being done by the Civil Aeronautics Administration in the U. S.

TCA expects it will be about two years before it has a complete VHF ground-to-aircraft communications chain installed. The first four stations on the Montreal-Ottawa-Toronto route are to be ready

Cargo Venture Uses *Conestogas*

A new company, organized by a group of ex-Flying Tigers and headed by Robert Prescott, former TWA pilot, has purchased from the Reconstruction Finance Corporation 14 Budd-manufactured *Conestoga* planes and was to begin contract cargo, non-scheduled, operations coast-to-coast late this month.

Incorporated in Delaware as National Skyway Freight Corp., the company is expected to maintain headquarters in Los Angeles. Organizers are six former Army and Navy pilots, most of whom flew with Gen. Chennault's famed American Volunteer Group in China.

▸**Entire Output**—The 14 *Conestogas* were sold for $401,000, with an initial payment of $90,000 and the balance due in one year. They constitute the entire stock of serviceable *Conestogas* remaining in this country. Of the 17 built, one was sent to Brazil for the Rubber Development Corp., two are non-flyable and a fourth is unsuitable for use because of low-power engines.

One of the most unusual aircraft experiments of the war, the *Conestogas* are welded stainless steel, twin-engine, high-wing monoplanes originally constructed for the Navy by the Edward G. Budd Manufacturing Co., of Philadelphia. Shortly after details of the plane were released, last year, the Navy cancelled the contract and declared those built surplus.

Powered by two Pratt & Whitney R-1830 engines, the *Conestoga* has a gross weight of 33,-800 lbs. and payload of 10,400 lbs. Length is 68-ft. and span 100-ft. It cruises at about 165 mph. and has a top speed of approximately 200 mph.

▸**Quiet Operation**—Little information has been made available about the company proposing to operate the planes. The organizers apparently have wide experience. All have had airline training, and Prescott, as well as some of the others, flew for China National Aviation Corporation on the tricky route over the "Hump" from India to China.

Based at Los Angeles, National Skyway's initial run was scheduled to be across the country to New York.

in September. Transmitter-receiver ground stations are being installed on the highest hills on the route, but will not be available for station-to-station communication, which will be handled by telephone lines.

AA Fare Reduction Attacked by PCA

American Airlines' proposal to cut air fares an average of 7½ percent has been sharply assailed by C. Bedell Monro, president of Pennsylvania - Central Airlines. Urging a complete investigation and hearing, Monro declared in a letter to the Civil Aeronautics Board, that American's move, added to previous fare reductions, will, if the board approves it, "be destructive to many companies in the industry and will tend to create a chaotic economic condition."

He termed AA's motion, which would bring about an average fare of approximately 4½ cents a passenger mile, as "definitely and decidedly contrary to the public interest. In effect, he said, American "proposes to exploit for its own interests the benefits and security accorded it in recent years under the terms of the Civil Aeronautics Act, and now seeks to impose the economic self-sufficiency thus acquired, upon carriers in a less favorable economic position." He acknowledged that American's adoption of the proposed rate basis would force other carriers to a similar basis.

Alaska Lines Link To Boost Service

Three Alaskan air transport companies have coordinated their schedules to provide a maximum of service between Seattle and the Territory's key cities of Juneau, Anchorage, and Fairbanks.

The project has brought into close cooperation Alaska Airlines, Woodley Airlines, and Pan American Airways.

▸**Pan Am Key**—The new scheduling is keyed, northbound, to Pan American's daily departure from Seattle at 7:30 a.m. Four days a week the Pan American plane is met at Juneau by an Alaska Airlines DC-3 for continued flight to Anchorage. Woodley Airlines makes the Juneau-Anchorage connection on the other three days. Daily service between Anchorage and Fairbanks is maintained by Alaska Airlines.

Both Pan American and Alaska Airlines maintain offices in Seattle, the latter serving also as a joint ticket office for Woodley Airlines.

Faulty Engine Cited In Page Accident

Probable cause of an accident involving a Page Airport plane at Washington National Airport, which resulted in death to six passengers, was engine failure and a subsequent emergency landing under unfavorable conditions, CAB held last week.

Failure of one of the two engines of the Lockheed *Lodestar,* the Board found, was due to a cracked valve spring washer which had been condemned by the manufacturer but not replaced by the Army, which formerly owned the plane.

▸**Ditch Danger**—Contributing to the seriousness of the accident, was the 15-foot-deep drainage ditch in which the plane burned last April.

The Board's findings were based on a hearing held in Washington before W. K. Andrews, chief of the investigation section.

Andrews also conducted a recent hearing at Lamar, S. C., on the mid-air collision of an Army A-26 bomber and an Eastern Air Lines DC-3 near Columbia, S. C., in which a child was killed when one of the transport's engines was sheared off and the propeller knifed through the cabin.

Blind Turn—The hearing developed that the Army pilot was making a shallow turn and did not see the airliner.

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▸Air Transport Association sees present small-scale movement to the U. S. of an air edition of the *London Times* as a precedent for U. S. Metropolitan dailies who want to circulate in Central and South America, England, and Continental Europe and elsewhere after the war.

NAL'S 26-PASSENGER *LODESTAR:*

Pictures show exterior and interior of the Lockheed Lodestar *converted by National Airlines to carry 26 passengers, plus crew of three, on Caribbean-Atlantic Airlines' route in Puerto Rico. National, which has applied to CAB for permission to acquire control of Caribbean-Atlantic, removed the 14 regular seats and replaced them with upholstered benches along the side of the plane. Width to a passenger is 20 inches. Arm rests are at intervals and each seat has the usual safety belt.*

Lessons from German Research Policy

CRITICISM OF THE SENATE'S Mead Investigating Committee of the delay of the Army Air Forces in delivering jet combat planes to the European war can be constructive only in so far as it helps to correct any fundamental deficiency in a complicated research, development and procurement system.

Both Britain and the U. S. were lagging behind Germany's jet and turbine developments. The U. S. trailed the British. In robots and rocket bombs the Allies were hardly in the race at all. The usual counter-argument of the military in this country is that those other advantages which we did possess won the German war. But some of our best scientists who have inspected German aviation and robot-rocket development return somewhat shaken. Their estimates of the additional time Germany would have required to threaten seriously our ability to beat her vary from weeks to a few months. Our relative technical leadership was deteriorating rapidly.

American scientists and other experts who have visited Germany seem convinced that a principal reason for German excellence in new aircraft developments, for example, was the nation's attitude and policy on research and development.

The attitude on research differed in some marked respects from that here, where emphasis is on production. In the Reich, invention and experimentation were nurtured liberally by a state agency that sought out and encouraged scientists with an ideal, gave them the means to work, and rewarded them well.

This German policy was not a Nazi innovation. It was ingrained in the German general staff and was operating years before the Nazis gained control. Experimentation that resulted in the V-2 rocket, for instance, is believed to have started as early as 1928.

The quest by technical observers for reasons of German leadership in aerodynamics lead them to these discoveries:

Excellently equipped laboratories in scenic and resort areas, well dispersed and inconspicuous.

Finest equipment and sufficient for the research workers in these laboratories.

Extra rations, good pay, excellent living conditions for scientists.

Freedom from red tape such as cost accounting, onerous reports or inspections to prove progress or pledge results. Everything possible was done to relieve the scientist from distractions and worry to enable him to concentrate on the job at hand.

To their amazement U. S. observers found scores of these laboratories built for special projects. Many were in the scenic Bavarian Alps. Some were in the Thuringian Forests. Others were in Saxony resorts, or along the Baltic shore, though frequent bombing of that area had driven most of them south to mountain lake areas for conducting underwater experimentation.

In general charge of the German scientific program was a Ministry of Research, a civilian agency. The Army did not dominate it. Neither did the Navy nor Luftwaffe. The armed services benefited, however, from the common pool of knowledge and invention. So did commercial projects to the extent that the state considered such benefit to its interest.

The Ministry welcomed anyone with an idea, whether an unknown or an inventor of reputation, on the theory that sometimes crackpots chance upon a worth-while discovery. If one out of 10 made good, the investment was considered successful. This is in impressive contrast with reports that a Western aircraft manufacturer submitted a jet plane idea to the AAF five years ago and was promptly turned down, or that the brilliant young Hiller was told by Wright Field to finish his schooling before trying to get the AAF to help develop his new helicopter ideas.

Such an agency existed in Germany in 1928 when experimentation was undertaken with official encouragement of a then described "half-baked" venture of flying a rocket to the moon. The scientist who had this idea sought aid from the government. It looked incredible but they were given means to continue work on their idea. Some 10 years later the objective was modified from inter-planetary transportation to dispatching mail from Europe to America in a rocket-propelled case. Thus, when the war started, the basic principles of a rocket bomb were already well known to the Germans. Certain troublesome phases were assigned some of the mountain and seashore laboratory groups. It is said that a dozen of these units were at work on the project from time to time.

Finally, the results of these experiments and theories were assembled. Tests were made although interrupted frequently by bombing. Finally, the deadly V-2 was perfected, a ton missile flying at the speed of an artillery projectile to a height of 70 miles and accurate within a few square miles at a range of some 80 miles. At the time the underground Nordhausen rocket plant was captured, the accuracy of the V-2 was such that from a distance up to 2,000 miles it could strike within a mile radius of any objective. This missile was ready for production when VE-Day came.

Despite the difference between the Fascistic and democratic ways of life this research technique, under direction of our most distinguished civilian scientists, would have much to offer those who have the responsibility of formulating a national scientific and research policy for the future. Certainly essential objectives other than the obvious ones of coordination and ability are freedom from military and naval control, a perpetual attitude of open mindedness, and sufficient income to attract not only the scientists who already have made reputations, but those yet to make their mark.

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